

Hasenkamp, Miao-ling; Sun, Zhanli

Article — Published Version

Rethinking human–nature relationships: Daoism’s contribution to transcultural sociotechnical imaginaries

The Professional Geographer

Provided in Cooperation with:

Leibniz Institute of Agricultural Development in Transition Economies (IAMO), Halle (Saale)

Suggested Citation: Hasenkamp, Miao-ling; Sun, Zhanli (2023) : Rethinking human–nature relationships: Daoism’s contribution to transcultural sociotechnical imaginaries, The Professional Geographer, ISSN 1467-9272, Taylor & Francis, London, Vol. 75, Iss. 2, pp. 269-277, <https://doi.org/10.1080/00330124.2022.2075404>, <https://www.tandfonline.com/doi/full/10.1080/00330124.2022.2075404>

This Version is available at:

<https://hdl.handle.net/10419/268764>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<http://creativecommons.org/licenses/by/4.0/>

Rethinking Human–Nature Relationships: Daoism’s Contribution to Transcultural Sociotechnical Imaginaries

Miao-ling Hasenkamp 

*Leibniz Institute of Agricultural Development in Transition Economies, Germany, and
University Rostock, Germany*

Zhanli Sun 

Leibniz Institute of Agricultural Development in Transition Economies, Germany

Humans’ imaginaries toward nature have profound implications for environmental governance and natural resource management strategies. Driven by relentless technological advancement, such imaginaries have undergone a series of transformations. Through a phenomenological and social constructivist perspective, this article aims to explore and explain the dynamics of transcultural sociotechnical imaginaries found in the connection between Western posthumanism’s relational perspective on humans, nonhuman entities, and agency, on the one hand, and the emphasis on human–nature unity in the Chinese Daoist tradition, on the other hand. We argue that, by displacing an anthropocentric and Eurocentric frame, such transnational deliberation efforts grounded in a relational, geo-centered, and mediated frame offer planetary viewpoints to tackle the vast challenges currently faced by humanity. This discourse provides an alternative way of thinking to approach current environmental governance and natural resource management practices in the context of the increasing interconnectedness and cultural plurality of globalization. Hence, this article suggests exploring the potentials of the ideas of dwelling, landscapes, new ecologies, and mutual embeddedness suggested by Daoism and critical more-than-human geography at a local scale, which will pave the way for pragmatic pluralism and cultivate new attitudinal dispositions and capacity for systemic change. **Key Words:** Daoism, environmental governance, human–nature relationship, postenlightenment, sociotechnical imaginaries.

The human–nature relationship (HNR) forms the nexus of human geography and the emerging sustainability science (Pattison 1964; Kates et al. 2001). The way it is perceived and framed has profound implications for environmental governance and natural resource management strategies. Although the shared sociotechnical imaginaries that see the design and fulfillment of scientific and technological projects as a major driver of modernity in promoting humans’ welfare, diverse views of the HNR in different cultural traditions have shaped different policy responses in tackling societal and environmental challenges. For example, divergent responses to the COVID-19 pandemic in the East and West can be attributed to the influence of different cultural values (Velamoor and Persad 2020; Anttiroiko 2021). As for environmental governance, anthropocentric management practices based on dualistic human–nature perceptions differ vastly from ecocentric practices that emphasize the intrinsic value of nature (Kortenkamp and Moore 2001; Nisbet, Zelenski, and Murphy 2009). Meanwhile, the disillusionment with the exploitation of the world brought by technological mastery found in the Western Enlightenment tradition has triggered a series of post- and transhumanist movements,

attempting to redefine the humanist project in relation to nature, particularly in light of transcultural dialogue with the other. Transhumanists’ pursuit of self-perfection through technological advancement might echo alchemy in folklore and religions in traditional societies. Similarly, the posthuman convergence agenda that describes the inextricable entanglement between humans and the world perceived as everything in shaping our lives is associated with East Asian Daoism’s pledge to align human behavior with the flow of nature. Such a transcultural dialogue aimed at overcoming the human–nature antagonistic relationship and creating a posthuman subject could pave the way for highlighting blind spots of socioeconomic practices rooted in Western human-centered thinking and providing new sociotechnical imaginaries (Jasanoff and Kim 2009; Wenning 2014; Ni 2020).

In this study, we address the dynamics and potentials of new transcultural sociotechnical imaginaries, particularly in terms of the role the Daoist tradition can play in the process of looking for solutions to govern and sustain the human–nature system. We highlight how the Daoist’s views can address the drawbacks and discontents found in the European modernity project, driven by human-

centered rationalist thinking. As both traditions have contrasting positions in terms of perceptions of the HNR, an examination of how these different perceptions interact with technology against the backdrop of posthuman convergence has the potential to weave compelling new sociotechnical imaginaries as powerful resources for policy action. Inspired by several philosophical and transnational critiques of environmental justice (notably posthumanism's relational perspective on humans and nonhuman entities), this study pursues two aims. First, we use several key aspects of phenomenology and critical geography to trace the changing HNR influenced by technology and science along diverse intra- and transcultural interactions, with a focus on socially constituted human experiences with nature (Bird 1987). Second, the study aims to uphold the relevance of transcultural sociotechnical imaginaries by presenting what Daoism can offer (e.g., uselessness and situated affectivity amidst more-than-human materialities and embeddedness activism; see Ho 2007; Kwek 2018).

We argue that, by displacing an anthropocentric and Eurocentric frame, transnational deliberation of sociotechnical imaginaries grounded in a relational, geo-centered, and mediated frame offers planetary perspectives to tackle the crisis of "the human." Such efforts, made possible by the increasing interconnectedness and cultural plurality of globalization, address the limits of current environmental governance practices. They also take seriously the ideas of dwelling, landscapes, new ecologies, and mutual embeddedness on a local scale, as suggested by Daoism and critical more-than-human geography, whose resources for rethinking the HNR have not yet been fully exhausted. Hence, the transcultural encounter proposed in this study paves the way for pragmatic pluralist thinking and cultivates new attitudinal dispositions and the capacity for systemic change.

To advance our arguments, we adopt hermeneutics and content analysis based on primary and secondary sources (e.g., the philosophical works of representative thinkers, empirical studies of ecological engagements, and policy reflections). The following sections first highlight the meaning of sociotechnical imaginaries shaped by technology and science from a phenomenological and social constructivist perspective. We then demonstrate how such imaginaries have evolved through intra- and transcultural reflections, and how Daoism's egalitarian agenda has inspired critical environmentalists and thinkers seeking to overcome the limits of Western rationalist paradigms and to highlight posthumanist movements' pitfalls of perpetuating Cartesian dualism while tackling technological and ecological challenges. The final section summarizes the study's claims and discusses their implications.

Understanding Different Human–Nature Relationships

Throughout human history, nature has been imaginatively constructed in various ways, including as an outward reality existing in itself, an immense reservoir of analogies, a mysterious (mother) earth nurturing and killing nonhuman and human beings (observed by primordial society), a kind of stimulant for human endeavors, and a visible universe containing images, signs, and resources for exploitation (both in the Chinese Daoist and European contexts). These imaginaries, reflected in different culturally specific stories and folklore, constitute an important mediating force in shaping the human experience of exploring and transforming the environment while pursuing humans' (instrumental) goals and dreams. With the development of science and technology, the controlling image of the European Enlightenment modernity project has become the defining model, both in terms of radically separating humans from their environment and of promoting the idea of the sacredness of nature (Williams 2010).

Such dynamics of technology's influence on the HNR can be approached from a phenomenological and social constructivist perspective by using the concept of "sociotechnical imaginaries" (Jasanoff and Kim 2009) as an overarching frame. This concept, as suggested by Jasanoff and Kim (2009), builds on "the growing recognition that the capacity to imagine futures is a crucial constitutive element in social and political life" (120). Several studies have recurred to this concept in highlighting how imagination can function as producing as a means of "systems of meaning that enable collective interpretations of social reality" (Jasanoff and Kim 2009, 122). For instance, Miller (2020) showed the realization of imaginaries of sustainability found in London's and New York's "smart city" projects. Meanwhile, existing studies have not drawn sufficient attention to the role of technology in changing the imaginaries of the HNR in a more culturally sensitive manner. Our study addresses this deficiency and proposes two approaches to shed light on possible sociotechnical imaginaries with the consideration of several culturally specific features. First, echoing Daoist thinking that views nature as a subjective power, radical phenomenology suggests taking seriously "the things themselves." That is, this approach offers an opportunity to investigate the "facticity" of human existence in relation to nature by contesting the ontological outlook of (post)humans as self-interested, autonomous subjects in the technological system. The human–technology relationship is regarded as a mediator in shaping the discourses of the HNR (Coeckelbergh 2011). Technology can thus be approached in three different ways: (1) embodiment (technology being part of us); (2) hermeneutic (as an in-between tool for

interpreting nature); and (3) alterity (being the other) relationships. In particular, this radical phenomenological method considers literary experience as an event of expanding the horizons of humans' imaginaries while pondering the world and reflecting on the meaning of humans' existence.

Second, symbolic interactionism, with its theories of action and agency (Blumer 1980), provides another powerful tool to highlight the dynamics of the HNR shaped by technology and culture. It assumes that the process of social interaction produces the meaning of things. Meanings are modified through an interpretive process that involves self-reflective individuals symbolically interacting with one another (Denzin 2004). Herein, *agency* constitutes the locus of action, "whether in the person, in language, or some other structure or process" (Denzin 2004, 81). *Human action* then produces experiences that are filtered and selected reflexively as meaningful imprints. What counts is the recognition of the place in which an autonomous, reflexive individual (re)constructs and assesses his or her actions in a meaningful manner. For instance, the concept of landscape is used to signify the symbolic environment created by a human act of conferring certain meanings on nature and the environment (Greider and Garkovich 2010). Attention is directed toward seeing how the physical environment is transformed into landscapes that "reflect people's definition of themselves and on how these landscapes are reconstructed in response to people's changing definition of themselves" (Greider and Garkovich 2010, 1). The strength of this phenomenological social-constructivist perspective lies in its sensitivity to the specificity of world phenomena in diverse contexts and scales. In the next section, we examine how it might be used to analyze transcultural encounters while dissecting the dynamics of the HNR as cultural resources for environmental governance.

Tracing the Human–Nature Relationship Along Intra- and Transcultural Reflections and Encounters

Culture in the age of information technology can no longer be thought of as comprising "islands" or "spheres" that constitute particular ways of life. Within the multicultural conglomerate of the global village, the emergence of an altered cultural constitution has rendered classical boundaries (e.g., modernity vs. orientalism) elusive, thereby challenging both the indigenous perceptions of HNR and the prevailing thinking of modernity. The term *transculturality*, as Welsch (1999) put it, best represents this new form of (post)modern cultural conditions, in which mixes, permeations, and entanglement constitute the structure of individuals' identities and lifestyles. For

instance, the imminent transformation of the human body through genetic engineering–nanotechnology–robotics (GNR) technologies will inaugurate a posthuman future in which culture might either have to adapt to this process or sink into oblivion. From a broader historical perspective, the evolution of Western cosmological and metaphysical thinking has displayed an inclination to refer to non-European origins, thereby launching a dialectic process in reflecting on and challenging prevailing ways of thought, and helping stimulate change (Clarke 2002). The following two subsections show how such intra-cultural dialectic interactions within the European Enlightenment tradition occurred and how Daoism as an exotic attractor has helped shape transcultural sociotechnical imaginaries in support of critical post-humanist endeavors to overcome dualism and to pursue both human and nonhuman flourishing as an integrated proenvironmental agenda.

Disillusionment with Technology in the European Enlightenment Tradition

Technology has been a driving force in shaping the normativity, structures, and functions of the European modernity project, which is characterized by a progressive, dialectic process. It has proven to be a key reference for the industrial and technological expansion that has taken place across the globe. At the same time, the Enlightenment modernity project and its dominant paradigm—emancipation from and control of nature, technological rationality and reductionism, and the creation of a capitalist-driven second nature—have been subject to several stages of subjectivization and reification with several concurring claims and discontents.

First, the triumph of science and technology in discovering nature and improving human life generated the great nature–culture divide by shaping humans' perceptions of their selves and societies "as rather different from nature, and rather special" (Jones 2009, 309). In many ways, technology supports humans' yearning for demystifying and controlling nature, as seen, for example, in the photographs of the earth taken from space and the ensuing rise of cartography, geographic information systems, remote sensing, and physical geography. Some Enlightenment thinkers, such as Adam Smith, insisted that ethics must be derived from "man as man" and attempted to ground ethics in a "scientific" humanist approach.

Second, some atypical Enlightenment thinkers (i.e., the Romantics), such as Jean-Jacques Rousseau and Jonathan Wordsworth, underlined the importance of passion for nature. They embraced the idea of the "noble savage," admiring the lifestyles of native peoples as well as the idea of what Edmund Burke called "second nature," which suggests the cultivation of human nature by custom, habit, and tradition (Chandler 1984; Bruiger 2006). In the

second half of the nineteenth century, the construction of “second nature” as a projection opening onto a vast, wholly aestheticized landscape (e.g., the innovative symbolism in Charles Baudelaire’s poetry and Jules Verne’s scientific romance *Paris in the Twentieth Century*) was a compelling project for romantic writers, enabling them to escape the bitterness of bourgeois civilization (Benjamin 2006; Williams 2010). The triumph of “technological rationality” during the blossoming modernization of the twentieth century, however, has distorted the Romantics’ imagination of a new world with second nature. Instead, as the ideal of second nature has been driven by the pursuit of production as commodities, human activity has changed the earth’s surface by generalizing all capitalist relations with nature, thereby reinforcing the transformation of natural resources into organs of the human will over nature, or of human participation in nature (Moored et al. 2008; Smith 2010). The exaggeration of human activity at the expense of nature, for instance, has caused degrading effects on many small cities’ situations in the Global South. Despite political decentralization efforts, neoliberal governance shaped by the interplay of regional and local politics has failed to address the challenges faced by those cities, namely, environmental problems, underdevelopment, a lack of financial and human resources, and a lack of political clout (Véron 2010). Similarly, Genus et al. (2021) found that European energy systems continue to be subject to a techno-economic imaginary that has shaped not only the expectations of energy research and its conduct, but also the integration of social sciences and humanities research with energy policymaking, including its framing and policy focus.

Third, postmodernism and later the trans- and posthumanist movements, address the crisis of rationality and human alienation from nature as expressions of discontent with the failure of Enlightenment project (Watson 1984; Habermas 2014). They attempt to develop new sociotechnical imaginaries where human capacity can freely expand in a way that allows the construction of a sustainable transformation framework, including the introduction of methods such as the performativity of expectations by finding space and new approaches reforming nonhuman actors’ behaviors (e.g., urban water governance through sustainable drainage systems as less repressive disciplinary mechanisms; Benko and Philosophy Documentation Center 2005; Jones and Macdonald 2007). Unlike the human/culture–nature distinction, the political implications of the posthuman convergence as a process of becoming are found in how it incorporates nonhuman entities and agents into a political arena by opening up alternative sociotechnical and agricultural imaginaries, (re)shaping competing worldviews on this interface (Neimanis, Åsberg, and Hedrén 2015; Chen 2017). Nonetheless, despite

posthumanists’ endeavor to develop a material-semiotic mode of responsivity as one instance of gut sociability toward more-than-human beings, critics unravel the posthumanist convergence agenda, remaining trapped in Cartesian dualism that leaves humans relationally superior (Neimanis and Philosophy Documentation Center 2013; Kessler 2019).

In view of the contestation of binaries and the ceaseless quest to fulfill modernity’s ideal, several intercultural encounters have witnessed the emergence of novel approaches understood broadly as either pro- or antitechnology. Inspired by images, metaphors, and ideas from Daoist texts, phenomenological thinkers such as Martin Heidegger presented the idea of “dwelling,” which emphasizes the coconstitution of subject and object, self and environment. It anticipates a “poetic way of dwelling immanently within the world” (Nelson 2014), which upholds the “spontaneity” of living in the technological world, together with other beings (Cooper 2014). Furthermore, postcolonial theory problematizes the Eurocentrism of technological rationality and “the epistemic violence created by framing the Anthropocene as a universalizing and silencing concept” (McEwan 2021, 77). In a similar vein, postmodern feminism and posthumanists develop tools to address internal fractures within the humanities. For example, the introduction of the idea of “leakiness” is deemed to provide a compelling ground for postmodern ethics that radically questions dualistic schemes of thought (e.g., man/reason/culture vs. woman/matter/nature; Braidotti 2015, 2019). Finally, a series of prominent UK smart city initiatives might prove to be courageous forerunners by implicitly rejecting the strong normativity of traditional technologies of urban planning and adopting an ontology of efficiency and emergency that introduces initiatives as bundles of experimental local practices oriented toward societal reordering (Cowley and Caprotti 2019). Despite these new possibilities provided by the critical posthuman agenda and the tools it has developed, comprehensive ethics are still needed to help humans better tackle multiple technological challenges and interact with more-than-human entities in a digital world (Benko and Philosophy Documentation Center 2005).

Contribution of the Chinese Daoist Tradition in Shaping the Novel Terrain of Transcultural Sociotechnical Imaginaries

At a historical crossroads in which humans face multiple uncertainties and climate change challenges, efforts to resume such intercultural encounters and rethink what various non-European traditions have to offer in cultivating pluralist views of the HNR and promoting human and nonhuman flourishing as an integrated agenda are already overdue. Daoism, an indigenous Chinese religion and philosophical

tradition represented by the two thinkers Laozi and Zhuangzi, appears to be in a facilitating position to connect with posthumanist aspirations and fulfill those tasks. As noted by Stables (2017), despite those critical intracultural discontent movements against technological rationality in the Western (post)-Enlightenment tradition, the posthumanist's convergence agenda still remains trapped in entrenched binaries with the danger of lapsing into antirealism or ignoring the complexity of current realities. In this regard, the Daoists' doctrines and practices might provide a helping hand to address posthumanists' fallacy.

From a historical perspective, together with Confucianism, Buddhism, neo-Confucianism, and popular religious practice, Daoism as part of Chinese philosophical traditions represents a completely different worldview, one that is based on the ideas of harmony, human perfectibility, and system fit with nature. During its modernization process, however, modern China has increasingly adopted pragmatic approaches with worldly and utilitarian elements, leading to environmental degradation. Its experience with ecological disasters in the 1960s caused by building hydrological infrastructure like large-scale dams to control floods and irrigate farmlands has proved to be a serious deviation course against its own tradition (Marks 2011).

To date, Daoism (or Taoism) offers a cosmic landscape whose worldview upholds the core value of *Ziran* (meaning literally “that which is so of itself,” similar to the self-identification of deity [*causa sui*] in the Western monotheist tradition) and the idea of the unity of humans and nature (*Tienren Heyi* 天人合一). As such, it contrasts with European human-centric thinking, the legalism, and dominant Confucianism in the Chinese tradition, which is concerned with regulating a hierarchical social order. The last passages of Chapter 25 of Laozi's *Daodejing* (the founder of Daoism and his classical work) demonstrate how the Dao (the way) as a core concept of Daoism functions in connecting humans with the earth, heaven, and nature's rules:

Humans have the earth as their model,

The earth has heaven as its model,

Heaven has the Dao as its model,

And the Dao has its model from *Ziran* (*Dao fa ziran*).

Derived from this cosmological understanding of the HNR, Daoism prominently upholds noninstrumental values in terms of the use of technology. Its technological paradigm provides a cosmic landscape shaped by two contrasting but complementary and interdependent natural forces, black and white (*yin*

and *yang*) in the universe. *Yin* represents darkness, passivity, femaleness, coldness, and so on, whereas *yang* represents light, activity, maleness, heat, and so on. Their correlations and the varying degrees of the decreasing force on the part of *yin* and the correspondingly increasing force on the part of *yang* (or inversely) constitute nature's basic rules serving to guide human affairs. The dialectic logic of the *yin-yang* forces echoes posthuman attempts through destabilizing the limits and symbolic borders posed by the notion of the human and grappling with the meaning of coexistence with nonhuman entities and agency. Following nature's rules, this paradigm is thought to enhance the efficiency of human action and achieve well-being. One of Zhuangzi's stories illustrates the merits of this alternative conception of efficiency, which provides insightful implications for contemporary environmental governance.

The story involves Zhuangzi's warning against the danger of developing a “machine heart” (*jixin*) through the (over)use of technology. The story dates back to the spring and autumn periods (c. 771–476 BCE), and describes how a businessman suggested to a farmer that he use a mechanical device to replace primitive and labor-intensive irrigation practices. The farmer, however, countered with the argument that the usage of machines can lead to “machine heart” (i.e., the way humans think and act is changed by their technology use); thus, they chose not to use the device. This story opens up several issues about the character and role of technology in the Daoist tradition, which at first glance might appear to be technology-averse. Zhuangzi's message is clear: The use of technical devices is morally dangerous and could alter beliefs in and philosophy of nature. This story should not simply be interpreted as articulating Daoism's antitechnology position, however. Rather, Daoism places respect for the natural laws (i.e., Dao) at the forefront of guiding human behavior (Graham 2001).

Based on this technological paradigm, Daoism advocates *wuwei*—that is, to let “nature take its own course” and to “go with the (natural) flow”—as a method and an attitude. It praises the virtue of “unassertive action” and “the art of doing nothing.” With the idea of nonaction, Daoism aims to avoid the pitfalls associated with the socially dominant paradigm of appropriation and control. Instead, it offers a novel *modus operandi* in which humans are asked to leave nature alone; to adopt a patient, gradual, and enduring attitude that is attentive to the local and the particular; and to be willing to develop environmental ethics with the ideas of “hybridity” and “diversity in unity” (Girardot, Miller, and Xiaogan 2001).

Recent environmental movements have returned to conceptual resources provided by the Daoist tradition that place economics within a wider socioecological fabric, emphasize efficient technologies,

challenge metaeconomic assumptions, and advocate systemic wisdom (Girardot, Miller, and Xiaogan 2001; Alexander 2008). Nature is regarded as a subjective power that informs human life (Miller 2013). In following this path, not only do humans need to “save,” “live in harmony with,” or even “get back to” nature, but they are also asked to be receptive to experiencing the world as being-under-way, to cultivate an ecological consciousness, and to introduce “deep ecology” that respects nature as it is (Cooper 1994; Nelson 2014; Zhou and Huang 2017). Several contemporary initiatives have adopted the idea of “unassertive action” (e.g., passive conservation strategies) to maintain the sustainability of ecosystems and restore biodiversity (Guerrero and da Rocha 2010; Benayas and Bullock 2012; Bechara et al. 2016). For example, the Half-Earth Project, with its proposal to leave half of the Earth’s surface as a human-free natural reserve to preserve biodiversity, partially echoes the philosophy of leaving nature alone (Wilson 2016). Furthermore, natural farming (Fukuoka 1985) and “zero budget” natural farming (Khadse et al. 2018) aim to completely end our reliance on chemical inputs by drastically reducing human interventions during crop growth. These practices seek to unite humans and nature, echoing, consciously or unconsciously, the Daoist tradition, which assumes that nature is inherently capable of recovering from human actions and influences (e.g., human-induced climate change; Weller et al. 1998). All these initiatives present a strong contrast with the proactive market- and technology-driven solutions, such as payment for ecosystem services to preserve natural resources, carbon capture and sequestration to mitigate climate change, and agricultural bioengineering to address the food security issue.

In particular, inspired by Daoism, alternative visions of the self in relation to nature and technology have opened up new spaces for transcultural dialogue, in which different imaginaries found in diverse indigenous knowledge systems can be shared. In so doing, the European Enlightenment’s modernity project struggles to renew its unfulfilled mission by adopting a postanthropocentric perspective, in which the identity of humanistic practices, including the design of environmental governance, will be reshaped by a posthuman subjectivity stressing “heteronomy and multifaceted relationality” (Braidotti 2015) rather than autonomy, objective rationality, and self-referential sovereignty.

Herein, the Daoist tradition can support the posthuman materialist agenda by critically reflecting on its decisions for possible paradigm shifts. It has its roots in relational ontological and epistemological paradigms: Nature is associated with multiple imaginaries, one of which is the human striving to achieve oneness and unity with nature. Both humans and nonhuman beings are viewed as equally active

and interactive agencies; this view echoes the naturalist and romantic passions for nature in the European Enlightenment tradition. This way of thinking can enable humans to elaborate on environmental ethics that focus on the local as well as the particular through cherishing the value of “diversity in unity.” In particular, it underlines the importance of the principle of unassertive action (*wuwei*) and suggests the adoption of the Daoist’s technological paradigm to guide human action.

In sum, the examination of the development of the HNR and how it is influenced by technology through transcultural encounters has revealed the potential of Daoist contributions to consequently pursuing alternative ecopolitics and methodologies in connecting with posthumanist ecocentric endeavors. The UK smart city initiatives have their counterparts in Daoism’s emphasis on the local and particular. Although it has a constant struggle with binaries, the increasing relevance of the posthuman relational agenda in the European (post)modern tradition, which pledges to change the scientific rules of species supremacy and rejoices in the radical otherness of nonhuman species as a source of wonder and new beginnings, unambiguously echoes Laozi’s and Zhuangzi’s advocacy of unity with nature. Such convergences and connectivity have often occurred in transcultural spaces driven by a common aspiration to save humans from their present predicament and uncertainty and to liberate them from the specter of human extinction vis-à-vis the multiple current environmental and technological challenges.

Conclusion and Discussion

This article aims to examine the changing HNRs influenced by technology and how Daoism as a non-European thought can contribute to shaping this process. We find the merits of transcultural dialogue in expanding humans’ sociotechnical imaginaries guided by Daoism’s rules and driven by posthumanists’ proenvironmental passions through experimenting with a new onto-epistemology. The methods it adopts include alternative paradigms for the idea of efficiency, deep and new ecologies (as found in the Daoist tradition), radical hermeneutics, mutual embeddedness (Tang 2019), and the ideas of how to redefine the self in relation to the digital environment and nature from a postanthropocentric perspective. The ensuing cognitive and paradigm shifts inspired by such efforts, as already found in critical geography and the emerging more-than-human geography (Panelli 2010) might further devise alternative governance systems capable of coming to terms with both global social and environmental changes.

At the same time, caveats concerning the question of who defines the frame of the worldview and establishes the criteria and norms of governance should not be ignored. At stake is the embracing of a pluralist onto-epistemological reasoning that encourages future research to engage in creative sociotechnical imaginaries through following Daoism's rules and the posthuman ethical imperative. Such research endeavors should continue to displace standardized mechanisms while tackling the multiplicities and materialities of human affairs, with the ultimate goal of redesigning sustainable environmental governance. The Daoist emphasis on the local and the particular (e.g., hybrid management) could possibly provide useful guidance for a well-socialized dualist mind to step out of its comfort zone and focus on the small-scale effects of global activity at the local level. ■

Acknowledgments

We sincerely thank the organizers and the speakers at the virtual session on Critical Geographies of Imagination and Environmental Governance at the 2020 American Association of Geographers (AAG) Annual Meeting for their constructive comments on earlier drafts. We also thank the anonymous reviewers whose critical but constructive suggestions helped improve and clarify this article. This work contributes to the Global Land Programme (GLP) glp.earth.

ORCID

Miao-ling Hasenkamp  <http://orcid.org/0000-0003-4438-9428>

Zhanli Sun  <http://orcid.org/0000-0001-6204-4533>

Literature Cited

- Alexander, A. 2008. Different paths, same mountain: Daoism, ecology and the new paradigm of science. *International Journal of Green Economics* 2 (2):153–75. doi: [10.1504/IJGE.2008.019997](https://doi.org/10.1504/IJGE.2008.019997).
- Anttiroiko, A.-V. 2021. Successful government responses to the pandemic: Contextualizing national and urban responses to the COVID-19 outbreak in east and west. *International Journal of E-Planning Research* 10 (2):1–17. doi: [10.4018/IJEPR.20210401.oa1](https://doi.org/10.4018/IJEPR.20210401.oa1).
- Bechara, F. C., S. J. Dickens, E. C. Farrer, L. Larios, E. N. Spotswood, P. Mariotte, and K. N. Suding. 2016. Neotropical rainforest restoration: Comparing passive, plantation and nucleation approaches. *Biodiversity and Conservation* 25 (11):2021–34. doi: [10.1007/s10531-016-1186-7](https://doi.org/10.1007/s10531-016-1186-7).
- Benayas, J. M. R., and J. M. Bullock. 2012. Restoration of biodiversity and ecosystem services on agricultural land. *Ecosystems* 15 (6):883–99. doi: [10.1007/s10021-012-9552-0](https://doi.org/10.1007/s10021-012-9552-0).
- Benjamin, W. 2006. *The writer of modern life: Essays on Charles Baudelaire*. Cambridge, MA: Harvard University Press.
- Benko, S., with Philosophy Documentation Center. 2005. Ethics, technology, and posthuman communities. *Essays in Philosophy* 6 (1):9–28. doi: [10.5840/eip20056115](https://doi.org/10.5840/eip20056115).
- Bird, E. A. R. 1987. The social construction of nature: Theoretical approaches to the history of environmental problems. *Environmental Review* 11 (4):255–64. doi: [10.2307/3984134](https://doi.org/10.2307/3984134).
- Blumer, H. 1980. The methodological site of symbolic interactionism. In *Everyday knowledge, interaction, and social reality*, 80–146. Wiesbaden: VS Publisher for Social Sciences.
- Braidotti, R. 2015. Yes, there is no crisis: Working towards the posthumanities. *DiGeSt: Journal of Diversity and Gender Studies* 2 (1–2):9–20. doi: [10.18352/hcm.412](https://doi.org/10.18352/hcm.412).
- Braidotti, R. 2019. A theoretical framework for the critical posthumanities. *Theory, Culture & Society* 36 (6):31–61. doi: [10.1177/0263276418771486](https://doi.org/10.1177/0263276418771486).
- Bruiger, D. 2006. *Second nature: The man-made world of idealism, technology and power*. Victoria: Left Field Press.
- Chandler, J. 1984. *Wordsworth's second nature: A study of the poetry and politics*. Chicago: University of Chicago Press.
- Chen, S. 2017. Global to village: Toward multiple conceptions of human–nature relationship: The “human–nature unity” frame found in a Chinese village. *International Journal of Communication* 11:18.
- Clarke, J. J. 2002. *The Tao of the west*. London and New York: Routledge.
- Coeckelbergh, M. 2011. Humans, animals, and robots: A phenomenological approach to human–robot relations. *International Journal of Social Robotics* 3 (2):197–204. doi: [10.1007/s12369-010-0075-6](https://doi.org/10.1007/s12369-010-0075-6).
- Cooper, D. E. 1994. Is Daoism “green”? *Asian Philosophy* 4 (2):119–25. doi: [10.1080/09552369408575397](https://doi.org/10.1080/09552369408575397).
- Cooper, D. E. 2014. Daoism, nature and humanity. *Royal Institute of Philosophy Supplement* 74:95–108. doi: [10.1017/S1358246114000034](https://doi.org/10.1017/S1358246114000034).
- Cowley, R., and F. Caprotti. 2019. Smart city as anti-planing in the UK. *Environment and Planning D: Society and Space* 37 (3):428–48. doi: [10.1177/0263775818787506](https://doi.org/10.1177/0263775818787506).
- Denzin, N. K. 2004. Symbolic interactionism. In *A companion to qualitative research*, ed. U. Flick, E. V. Kardoff, and I. Steinke, 81. Thousand Oaks, CA: Sage.
- Fukuoka, M. 1985. *The natural way of farming*. Tokyo: Japan Publications.
- Genus, A., M. Iskandarova, G. Goggins, F. Fahy, and S. Laakso. 2021. Alternative energy imaginaries: Implications for energy research, policy integration and the transformation of energy systems. *Energy Research & Social Science* 73:101898. doi: [10.1016/j.erss.2020.101898](https://doi.org/10.1016/j.erss.2020.101898).
- Girardot, N. J., J. Miller, and L. Xiaogan. 2001. *Daoism and ecology: Ways within a cosmic landscape*. Cambridge, MA: Harvard University Press.
- Graham, A. C. 2001. *Chuang-tzū: The inner chapters*. Indianapolis: Hackett.

- Greider, T., and L. Garkovich. 2010. Landscapes: The social construction of nature and the environment. *Rural Sociology* 59 (1):1–24. doi: [10.1111/j.1549-0831.1994.tb00519.x](https://doi.org/10.1111/j.1549-0831.1994.tb00519.x).
- Guerrero, A. C., and P. L. B. da Rocha. 2010. Passive restoration in biodiversity hotspots: Consequences for an Atlantic rainforest lizard taxocene. *Biotropica* 42 (3): 379–87. doi: [10.1111/j.1744-7429.2009.00584.x](https://doi.org/10.1111/j.1744-7429.2009.00584.x).
- Habermas, J. 2014. *The future of human nature*. Hoboken, NJ: Wiley.
- Ho, P. 2007. Embedded activism and political change in a semiauthoritarian context. *China Information* 21 (2): 187–209. doi: [10.1177/0920203X07079643](https://doi.org/10.1177/0920203X07079643).
- Jasanoff, S., and S.-H. Kim. 2009. Containing the atom: Sociotechnical imaginaries and nuclear power in the United States and South Korea. *Minerva* 47 (2):119–46. doi: [10.1007/s11024-009-9124-4](https://doi.org/10.1007/s11024-009-9124-4).
- Jones, O. 2009. Nature–culture. In *International encyclopedia of human geography*, ed. R. Kitchin and N. Thrift, 309–23. Amsterdam: Elsevier.
- Jones, P., and N. Macdonald. 2007. Making space for unruly water: Sustainable drainage systems and the disciplining of surface runoff. *Geoforum* 38 (3):534–44. doi: [10.1016/j.geoforum.2006.10.005](https://doi.org/10.1016/j.geoforum.2006.10.005).
- Kates, R. W., W. C. Clark, R. Corell, J. M. Hall, C. C. Jäger, I. Lowe, J. J. McCarthy, H. J. Schellnhuber, B. Bolin, N. M. Dickson, et al. 2001. Environment and development: Sustainability science. *Science* 292 (5517): 641–42. doi: [10.1126/science.1059386](https://doi.org/10.1126/science.1059386).
- Kessler, N. H. 2019. Posthumanism's material problem. In *Ontology and closeness in human-nature relationships: Beyond dualisms, materialism and posthumanism*, 35–88. Cham: Springer International Publishing.
- Khadse, A., P. M. Rosset, H. Morales, and B. G. Ferguson. 2018. Taking agroecology to scale: The zero budget natural farming peasant movement in Karnataka, India. *The Journal of Peasant Studies* 45 (1):192–219. doi: [10.1080/03066150.2016.1276450](https://doi.org/10.1080/03066150.2016.1276450).
- Kortenkamp, K. V., and C. F. Moore. 2001. Ecocentrism and anthropocentrism: Moral reasoning about ecological commons dilemmas. *Journal of Environmental Psychology* 21 (3):261–72. doi: [10.1006/jevp.2001.0205](https://doi.org/10.1006/jevp.2001.0205).
- Kwek, D. H. B. 2018. The importance of being useless: A cross-cultural contribution to the new materialisms from Zhuangzi. *Theory, Culture & Society* 35 (7–8):21–48. doi: [10.1177/0263276418806381](https://doi.org/10.1177/0263276418806381).
- Marks, R. B. 2011. Chinese communists and the environment. In *Radicalism, revolution and reform in modern China*, ed. C. Lynch, R. B. Marks, and P. G. Pickowicz, 105–32. Lanham, MD: Lexington Books.
- McEwan, C. 2021. Decolonizing the Anthropocene. In *International relations in the Anthropocene: New agendas, new agencies and new approaches*, ed. D. Chandler, F. Müller, and D. Rothe, 77–94. Cham, Switzerland: Springer International.
- Miller, J. 2013. Daoism and development. In *Handbook of research on development and religion*, ed. M. Clarke, 113–23. Cheltenham: Edgar Elgar.
- Miller, T. R. 2020. Imaginaries of sustainability: The techno-politics of smart cities. *Science as Culture* 29 (3): 365–87. doi: [10.1080/09505431.2019.1705273](https://doi.org/10.1080/09505431.2019.1705273).
- Moored, K. W., W. Smith, J. M. Hester, W. Chang, and H. Bart-Smith. 2009. Investigating the thrust production of a myliobatoid-inspired oscillating wing. *Advances in Science and Technology* 58: 25–30. doi: [10.4028/www.scientific.net/AST.58.25](https://doi.org/10.4028/www.scientific.net/AST.58.25).
- Neimanis, A., and Philosophy Documentation Center. 2013. Morning sickness and gut sociality. *Janus Head* 13 (1):214–40. doi: [10.5840/jh201413110](https://doi.org/10.5840/jh201413110).
- Neimanis, A., C. Åsberg, and J. Hedrén. 2015. Four problems, four directions for environmental humanities: Toward critical posthumanities for the Anthropocene. *Ethics & the Environment*, 20:67–97. doi: [10.2979/ethicsenviro.20.1.67](https://doi.org/10.2979/ethicsenviro.20.1.67).
- Nelson, E. S. 2014. Technology and the way: Buber, Heidegger, and Lao-Zhuang “Daoism.” *Journal of Chinese Philosophy* 41 (3–4):307–27. doi: [10.1163/15406253-0410304005](https://doi.org/10.1163/15406253-0410304005).
- Ni, Z. 2020. Reimagining Daoist alchemy, decolonizing transhumanism: The fantasy of immortality cultivation in twenty-first century China. *Zygon* 55 (3):748–71. doi: [10.1111/zygo.12634](https://doi.org/10.1111/zygo.12634).
- Nisbet, E. K., J. M. Zelenski, and S. A. Murphy. 2009. The nature relatedness scale: Linking individuals' connection with nature to environmental concern and behavior. *Environment and Behavior* 41 (5):715–40. doi: [10.1177/0013916508318748](https://doi.org/10.1177/0013916508318748).
- Panelli, R. 2010. More-than-human social geographies: Posthuman and other possibilities. *Progress in Human Geography* 34 (1):79–87. doi: [10.1177/0309132509105007](https://doi.org/10.1177/0309132509105007).
- Pattison, W. D. 1964. The four traditions of geography. *Journal of Geography* 63 (5):211–16. doi: [10.1080/00221346408985265](https://doi.org/10.1080/00221346408985265).
- Smith, N. 2010. *Uneven development: Nature, capital, and the production of space*. Athens: University of Georgia Press.
- Stables, A. 2017. In search of the environmentalist way: Beyond mending the machine. *Educational Theory* 67 (4): 417–33. doi: [10.1111/edth.12263](https://doi.org/10.1111/edth.12263).
- Tang, W.-S. 2019. Town-country relations in China: Back to basics. *Eurasian Geography and Economics* 60 (4): 455–85. doi: [10.1080/15387216.2019.1686407](https://doi.org/10.1080/15387216.2019.1686407).
- Velamoor, V., and E. Persad. 2020. Covid-19: Cultural perspectives. *Asian Journal of Psychiatry* 53:102439. doi: [10.1016/j.ajp.2020.102439](https://doi.org/10.1016/j.ajp.2020.102439).
- Véron, R. 2010. Small cities, neoliberal governance and sustainable development in the Global South: A conceptual framework and research agenda. *Sustainability* 2 (9): 2833–48. doi: [10.3390/su2092833](https://doi.org/10.3390/su2092833).
- Watson, S. 1984. Jürgen Habermas and Jean-François Lyotard: Post-modernism and the crisis of rationality. *Philosophy & Social Criticism* 10 (2):1–24. doi: [10.1177/019145378401000201](https://doi.org/10.1177/019145378401000201).
- Weller, R. P., K. Bol, M. B. McElroy, C. P. Nielsen, and P. Lydon. 1998. From heaven and earth to nature: Chinese concepts of the environment and their influence on policy implementation. In *Energizing China: Reconciling protection and economic growth*, ed. M. B. McElroy, C. P. Nielsen, and P. Lydon, 473–99. Cambridge, MA: Harvard University Press.
- Welsch, W. 1999. Transculturality: The puzzling form of cultures today. *Spaces of culture: City, nation, world* 13 (7): 194–213.
- Wenning, M. 2014. Heidegger and Zhuangzi on the non-human: Towards a transcultural critique of (post)

- humanism. In *Asian perspectives on animal ethics: Rethinking the nonhuman*, ed. N. Dalal and C. Taylor, 93–111. London and New York: Routledge.
- Williams, R. 2010. 12 Second empire, second nature, secondary world. In *Urban assemblages: How actor-network theory changes urban studies*, ed. I. Fariás and T. Bender, 269–90. London: Routledge.
- Wilson, E. O. 2016. *Half-earth: Our planet's fight for life*. New York: Norton.
- Zhou, W., and G. Huang. 2017. Chinese ecological discourse: A Confucian–Daoist inquiry. *Journal of Multicultural Discourses* 12 (3):272–89. doi: [10.1080/17447143.2017.1348505](https://doi.org/10.1080/17447143.2017.1348505).

MIAO-LING HASENKAMP is a Visiting Fellow at the Political and Administration Sciences/Centre for Eurasian and

Russian Studies (ZEUS), University Rostock, 18055 Rostock, Germany. E-mail: miao-ling.hasenkamp@uni-rostock.de. Her research interests include international relations, comparative political systems, and policy analysis with a focus on human rights, development, migration, and gender studies.

ZHANLI SUN is a Senior Researcher in the Department Structural Change, Leibniz Institute of Agricultural Development in Transition Economies (IAMO), 06120 Halle (Saale), Germany. E-mail: sun@iamo.de. His research interests include the human–environmental systems, in particular on the spatial patterns and drivers of land systems change, complex system thinking and modeling, spatial data analysis applications, Bayesian networks, agent-based modeling, and rural and agricultural development.