

Applying the Environmental Humanities

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Environmental issues require answers from science, society, and culture. How can we apply the humanities and arts to these issues while cultivating methodologies that value context-dependence, multiperspectivity, relativism, and subjectivity?



schweizerische akademische
gesellschaft für
umweltforschung und ökologie
société académique suisse pour la recherche
sur l'environnement et l'écologie
swiss academic society for
environmental research and ecology

Applying the Environmental Humanities | GAIA 27/2 (2018): 254–256

Keywords: arts and sciences, environmental problem-solving, environmental studies, humanities, interdisciplinary studies, transdisciplinarity

Environmental crises today confront humanity with complex challenges that involve all aspects of society, from capitalism and finance, law and justice, poverty and exclusion, to forced migration, globalization, and artificial intelligence. For many decades a rich scholarly literature has proposed solutions to environmental problems. While the “environmental sciences” are rooted in the natural sciences, adding hu-

manities and social sciences perspectives broadens the field into “environmental studies”. Under the umbrella of the “environmental humanities” (EH), environmental studies have recently gained new momentum by strengthening the role of the humanities and by developing new collaborations among arts and design, indigenous peoples, social activists, and natural sciences.

EH is a growing international movement that has led to the establishment of numerous new institutions, research initiatives, funding schemes, journals, and teaching programs (Heise et al. 2017, Forêt et al. 2014). Institutionalization, international coordination, and the growth of humanities-based environmental research has led to a key question: what do application and policy-orientation mean for the humanities? We respond by introducing an EH-based understanding of the science-society nexus, and by reviewing initiatives that deploy EH perspectives in academia, at the science-society interface, and in society. The article builds on a recent report of the saguf *Working Group of Environmental Humanities* funded by the Swiss Academy of Humanities and Social Sciences (Kueffer et al. 2017). The report reflects saguf’s vision of the role of the humanities in moving beyond disseminating sci-

entists’ achievements and studying how non-scientists perceive and sometimes resist scientific findings (Wäger et al. 2014, Stauffacher et al. 2013).

Rethinking the Science-Society Nexus

EH tests the compatibility of action- and policy-oriented objectives with epistemology and methodology in the humanities. The fine arts, humanities, and social sciences value pluralism and reflexivity, and use context, rhetoric and diverse forms of evidence as key notions that facilitate and celebrate multiple perspectives. This may require that we highlight rather than simplify the complexity of our relationship with nature. We may question the priority that the environmental sciences have granted to overarching syntheses and universal solutions. Rather than searching for the *shortest* path to the *best* solution to problems that have already been identified, problem-solving may involve open, exploratory, and experimental processes. EH scholars emphasize that we must learn to better appreciate a problem’s intractability. As a consequence, EH scholars may value a Socratic dialogue that promotes *questions* as well as *answers*. This attitude does not easily align with definitions of “applied science” that the environmental sciences use to solve specific problems and reach pre-de-

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efined objectives. Environmental humanists acknowledge and embrace uncertainty, subjectivity and relational knowledge. In challenging the ways in which environmental knowledge is produced and consumed, EH solicits the participation of indigenous communities, affected peoples, and marginalized peoples including some scientists while promoting participatory, transdisciplinary, real-word lab and action research. In order to succeed, EH scholars pay attention to the semiotics of knowledge and its social, cultural, psychological, emotional, and aesthetic dimensions. Environmental humanists also appreciate and utilize multiple media, ranging from film, visual and performance art, writing and song, to exhibitions, stories, design, and social events.

To enrich deliberations at the science-society nexus, the EH employ several strategies, which we present below: 1. Challenge existing institutions and paradigms. 2. Contribute to transdisciplinary forums that enable the co-production of knowledge between science and society. 3. Engage society in more egalitarian and nuanced ways. 4. Promote academic education at the intersections of the humanities, arts, and environmental sciences.

Integrating EH Perspectives into the Existing Academic System

Critical perspectives from EH can help review, develop or replace existing science-policy bodies (Turnhout et al. 2012). For this to happen, humanists and artists

must sit on steering committees, research councils, and expert panels, such as those that advise the IPCC, IPBES, *Future Earth*, or WBGU.¹ They must join groups of experts at the national and local levels who examine issues that transcend the natural sciences, such as biodiversity loss, climate change, energy transition, water management, food security, soil protection, urban and spatial planning, green economy, and sustainability.

EH builds on long-established critical perspectives within the humanities to challenge many paradigms in environmental research, such as dualistic thinking, anthropocentrism and human exceptionalism, generalized systems analysis, and unidimensional problem-framings. Acknowledging diversity of understandings in such fields as invasion biology or Anthropocene studies has led to innovations and discoveries (e.g., Kull et al. 2018, Lorimer 2017). Novel and useful outcomes can emerge, as demonstrated by the project *Justainability* of KTH Royal Institute of Technology in Stockholm, that has employed the notion of environmental justice and the involvement of grassroots initiatives to reframe sustainability.²

In the sustainability sciences, and for intergovernmental organizations and social movements, the international networking of local case studies has been a dominant strategy to bridge local and global scales.³ EH can enrich such multi-scalar networking with its own experiences: *European Network of Living Labs (ENoLL)* has for example

established a network of “open living labs”;⁴ Humanities for the Environment (HfE) has launched a network of observatories called *Archive of Hope and Cautionary Tales*;⁵ and *World of Matters* is an open access archive on the global ecologies of resource exploitation and circulation.⁶

A Transdisciplinary Laboratory Where Alternative Perspectives and Media Converge

The undisciplined knowledge⁷ of EH transgresses simplistic dichotomies and racial boundaries, often embracing relativism, marginal sciences, and subjective practices such as empathy, experiential knowledge, and experimental creativity. Such epistemologies require novel forums for knowledge co-production between science and society. A few recent examples help us make our point.

The Haus der Kulturen der Welt (HKW) in Berlin has run a successful *Anthropocene Curriculum* project for several years.⁸ Recently several hundred scholars and students from various fields and professions interacted for nine days at two large-scale Anthropocene Campuses. The *Artists in Labs* program of Zurich has facilitated artists’ residences in scientific teams,⁹ and we can imagine scientists spending time at artists’ ateliers. These interactions may lead to public events such as the *Zurich Laser* series in which artists and scientists discuss a topic in public.¹⁰

Artistic and cultural environments, such as museums, theatres or films,¹¹ approach an issue through slow, deep, and nuanced analysis. The *Anthropocene Slam* of Madison¹² and Bruno Latour’s theatre plays on climate change policies (*Gaia Global Circus* and *Cosmocolluss: A Global Climate Tragic Comedy*¹³) illustrate this approach. We also see an increase in the use of graphic novels and animations to depict complex societal issues.¹⁴ A skillful story excels at empowering listeners and involving a variety of audiences. An example is *Climate Garden 2085*,¹⁵ a public experiment designed in Zurich in 2016 to share with the public stories about climate change; this future-garden installation included talks by scientists, art performances, and theatre for children.

1 www.ipcc.ch, www.ipbes.net, www.futureearth.org, www.wbgu.de

2 <https://www.kth.se/en/abe/inst/philhist/historia/ehl/projects/justainability>

3 See, e.g., <http://unsdsn.org>, IUCN’s *World Environmental Hubs*, www.rcenetwork.org, transitionnetwork.org, goodanthropocenes.net

4 www.openlivinglabs.eu

5 <https://hfe-observatories.org>

6 www.worldofmatter.net

7 www.ces.uc.pt/undisciplined-environments

8 www.anthropocene-curriculum.org

9 www.artistsinlabs.ch

10 www.laserzurich.com

11 <https://www.globalecofilmfestival.com> (figure 1, p. 256), www.carsoncenter.uni-muenchen.de/events_conf_seminars/contentbox-green-vision/index.html

12 <http://nelson.wisc.edu/che/anthroslam>

13 <https://www.br.de/radio/bayern2/sendungen/hoerspiel-und-medienkunst/hoerspiel-latour-kosmokoloss-klima-erdball100.html>

14 www.larevuedessinee.fr

15 <https://blogs.ethz.ch/klimagarten>



FIGURE 1: *Global Eco Film Festival* in Zurich: film can be a medium that facilitates deliberations about environmental issues among scientists, students, artists, humanists, and the public.

Engaging Society

Environmental humanists are aware that the line between objectivity and engagement (or non-engagement), and between facts and values is blurry or non-existent and can be negotiated in different ways. They have broadened their options and ideas by including communities or countries whose voices have been silenced, and by assuming leading roles in advocacy and activism. They have complemented investigative journalism, uncovered the strategies of climate change deniers, and exposed the interest groups that attempt to weaken evidence and promote fake or alternative truths. Various scholars have led direct actions, while others have contributed to a better understanding of effective forms of activism. Communities have tapped researchers' expertise and have become involved in university projects, such as the policy briefs and handbooks of the *ENTITLE Network*,¹⁶ or the *Ecological Economics from the Ground Up* handbook and online courses of *EJOLT (Environmental Justice Organisations, Liabilities and Trade)*.¹⁷ Curated blogs are another tool to engage a public audience.¹⁸ Examples of activist research can be seen in the *Militant Research* program at New York University¹⁹ or in artist Aviva Rahmani's *Blue Trees Symphony*.²⁰ Art-

ists' and filmmakers' work have accompanied the Dakota Access Pipeline struggle.²¹

Teaching

Educational activities offer great potential for applying EH. At many universities, students in the humanities, fine arts and social sciences do not have access to training in environmental issues. In return, EH perspectives could be added to core curricula and made mandatory in the natural sciences and engineering. Through their reflexive tools, the EH are superbly positioned to develop interdisciplinary courses (Eigenbrode et al. 2007). A critical humanist and an ecologist have recently attracted students from both architecture and the environmental sciences to a class they co-taught at ETH Zurich (Scott and Kueffer 2018). To reflect on urban ecology and planning, they used theory in the humanities, arts, and ecology, while exploring with their students new approaches to science, design, and public policy. There is also a need to prepare the next generation for social and environmental entrepreneurship.²² By embracing challenges that define the 21st century, humanists are in a crucial position to contribute to teaching programs on such themes as social justice and sustainability.²³

Conclusions

Responses to environmental problems are primarily social and cultural issues. In the coming decades, and much faster than we believe, we will need to fundamentally change our ways of thinking, belief systems, social interactions, and economic structures. Our cultural norms have until now been rooted in false assumptions of endless resources and accepted international inequalities. We must design new conventions to build a fair and global society that reckons with a finite planet while negotiating multiple crises. This extraordinary transition demands that we question the current framing of expert knowledge in order to develop forms of knowledge production, representation, and use that are more inclusive, diverse, and action-driven. EH aims to utilize methodologies, epistemologies and values from across the range of human experience to understand and address our environmental problems. In a time of fake news and environmental inaction, it is high time to enlarge our set of skills to take full advantage of our talents and creativities.

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21 See, e. g., https://www.nytimes.com/2016/12/16/movies/standing-rock-sioux-tribe-filmmakers.html?_r=0

22 See, e. g., www.kaospilots.ch, www.sciencespo.fr/public/en/academics/master-arts-politics

23 See, e. g., <https://www.fus.edu/academics/undergraduate-programs/majors/social-justice-and-sustainability>