Integrated environmental humanities and social sciences as 'transformative cornerstones’ of global change research design

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Overarching question

How can knowledge be organized and mobilized optimally to address the pivotal social-ecological issues of our time?

Within Nordic humanities we asked more specifically...

...how can humanities researchers apply their knowledge and expertise to the world’s most pressing issues.
The Future of the Environmental Humanities
September 24-27, 2015
What discourses and study areas have the Environmental Humanities brought together in this northern European context?
NIES’s research symposia, projects and other educational initiatives have included contributions from researchers in the following academic study areas (some already interdisciplinary) constituting the environmental humanities:

- Literature & Environment Studies / Ecocriticism
- Environmental History
- Science & Technology Studies
- Landscape Studies
- Cultural and Environmental Anthropology
- Media and Communication Studies
- Environmental Archaeology
- Rural and Urban Studies
- Human Geography
- Ecolinguistics
- Human-Animal Studies
- Historical Ecology & Historical Climatology
- Philosophy (environmental ethics and aesthetics)
- Religion & the Environment
- Landscape Architecture
- Tourism Studies
- Environmental Art
- Art History
- Environment and Development Studies
- Education for Sustainability
- Digital Humanities
- Ecopelemics
Unpacking assumptions

How do these disciplines and study areas relate to another?

How do they relate to the rest of the scientific/academic landscape?
Environmental Humanities are not a settled domain
3 competing uses of the term
Hackmann and St. Clair, *Transformative Cornerstones* visioning report. ISSC. 2012

Represent the kind of responsible, responsive and transformative* academic movement called for in the ISSC’s *Transformative Cornerstones* visioning document.
What might this look like?
"Integrated Environmental Humanities flower diagram, Phil Buckland and Steven Hartman"
What defines the center?

- Established disciplines and emerging communities of practice working together—a reintegration of knowledge communities
  - Not one discipline in the service of another as a kind of add-on
  - But experts from a range of knowledge communities addressing problems through co-formulation of relevant research questions
    - Problem oriented research
    - Coordinated disciplinary responses that involve
      - Complementary—not common—methodologies
      - Complementary—not identical—theoretical framings
What defines the center?

Not interdisciplinarity for its own sake or in the abstract

– Interdisciplinarity as an appropriate response to complex questions

Involving co-formulation of the research questions, co-design and co-execution of the research projects, and to the extent possible (not easy right now) co-dissemination of research
Why is this necessary?

Why now?

How possible is it really?
We are at a crossroads...
There are impediments.

(there are always impediments)
But there are hopeful signs.
IEM is a sub-project of IHOPE (The Integrated History and future of People on Earth). IHOPE asserts that humans are a part of the Earth system and are now agents in planetary change.

To offer viable paths for humanity’s future, our models, scenarios, and other visions must incorporate the full range of human experience and creativity by drawing on experiments in the laboratory of the past.

IHOPE is unique in its focus on how the human past can offer important knowledge on which to build an equitable future for our species and in its integration of perspectives, theories, tools, and knowledge from the social and biophysical sciences, the humanities, and various communities of practice.
Result of one year of cross-disciplinary workshops forwarding dialogue in the Mellon-funded European Observatory of the New Human Condition, Part of the Humanities for the Environment Initiative organized under the Consortium of Humanities Centres and Institutes (CHCI)

Ecocriticism
Environmental Philosophy
Environmental History
Climate Science
Human Geography
Human Ecology
Cognitive Psychology
Climate Science
Environmental Sociology
Non-academic partners (from industry, as well as public and private foundations)
IHOPE Circumpolar Networks
anchored by
Inscribing Environmental Memory (IEM)
Comparative Island Ecodynamics (CIE)

HfE Circumpolar Observatory
anchored by
Reflections of Change: The Natural World in Literary and Historical Sources from Iceland AD 800 to 1800 (ICECHANGE)

Project Bifrost
Interdisciplinary groups of scholars affiliated with NIES (the Nordic Network for Interdisciplinary Studies), NABO (the North Atlantic Biocultural Organization) and GHEA (the Global Human Ecodynamics Alliance) have been working to examine environmental memory in the medieval Icelandic sagas, with a prominent focus on historical processes of environmental change and human adaptation.

The medieval *Sagas of Icelanders* constitute one key corpus, among other literary and documentary corpora, investigated in this initiative.

The project brings literary scholars (saga scholars and ecocritics), anthropologists, archaeologists, historians, geographers, digital humanities specialists and geosciences as well as life sciences researchers together in a set of overlapping sub-projects.
Narrative evidence of what can be called *environmental memory* can ... give us key insights not only concerning past perceptions of the environment, but also concerning how memories of past environments and environmental change can influence societies’ abilities to adapt to vulnerabilities and rapidly changing environmental conditions.
The project undertakes a systematic analysis of weather, climate and other environmental information in Icelandic literature - encompassing historiographic, literary and normative documents from the early medieval period to ca. 1800. Past environmental impacts, extreme events, and human adaptations to environmental changes can provide valuable points of comparative reference for present and future change. Research questions concern the development and transmission of local environmental knowledge, the emergence of native ideologies of nature and environment, the development of land and resource use systems, and the influence of human-environmental relations on societal structures.

Disciplines integrated include: literature (ecocriticism and saga studies), environmental and agricultural history, cultural anthropology, environmental archaeology, medieval studies, historical climatology and historical ecology, human and physical geography.
Myvatn – from the vantage point of Skútustaðir
A Sustainable Bird Story

30,000 waterfowl visit to breed
Since 1850 AD, 10,000 eggs harvested per year.
Only a few eggs from each nest; adult birds not killed.

Mývatn has a few flies
...which feed many ducks and trout

How long has this gone on?

- Massive concentrations of egg shells are found in Mývatn archaeological sites dating to first settlement (c.875 AD)
- Electron Microscope analysis of excavated bird egg shell proves that most eggs came from ducks
- Kesara Anamthawat Jónsson, Arni Einarsson & Megan Hicks expand the story: large collections and deep stratigraphy, sp. Level ID.

Modern and recent historic sustainable management of waterfowl in Mývatn extends back to first settlement- over 1100 years! Local TEK on the millennial scale, bioscience, archaeology, ethnography, and local ecological knowledge combine synergistically.
More research is needed that considers long-term perspectives and spans periods of known change. This can help us to understand the significance of 'path dependency' and how rigidity traps can develop; why history (past decisions) matter and how adaptations that have utility in one set of circumstances can become a liability in another.
Bifrost | The Future is Now
Bifrost
A Research-Media-Arts Public Engagement Project

The project is a collaboration among working media artists and environmental researchers to promote public awareness of environmental issues – their causes, risks and consequences.

Bifrost seeks to communicate powerfully the human stakes involved in Climate Change through a coordinated multimodal approach, using parallel communicative channels, immersive art platforms, educational interventions & other creative forms of public engagement in the agora.
Multimodal public education for sustainability
an innovative model bridging science, arts and civil society

**Channel 1:** Indoor Documentary Installation
(Digital re-presentation)

**Channel 2:** Urban Projections
(Digital mockup)

**Channel 3:** Outdoor Documentary Installation
(Digital mockup)

**Channel 4:** Live Public Event
(talks, panel discussions and interactive workshops)

**Channel 5:** Off-site Components
(website hosting #climatethought, scientific ethnographies, video testimonials and mini-documentaries)
What do we need?

research infrastructure investments to enable genuine interdisciplinary and transdisciplinary work

science policy initiatives that recognize and work to remediate the structural limitations that impede integrated knowledge production

-- evaluation measures that take the realities of inter-/transdisciplinarity seriously

-- cross-disciplinary immersion through problem-/case-/theme-focused field schools and research schools

research and educational policy initiatives and investments that bridge sectors and reinforce connections truly integrative in ambition and scope
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