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Cultural niche construction as more-than-human infrastructural landscaping



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Keynote lecture at symposium
**Multispecies Cultural Niche Construction
for Biodiversity Recovery**, Turku, April 16-17, 2025

www.co-evolvers.eu



Iconic species: Beavers

- › Growing recognition of ecosystem services delivered by beavers
- › Even in the context of urban hydro-management
- › However, cohabitation is fraught with tensions: Beavers are autonomous actors

Welden, E. A. „Conceptualising Multispecies Collaboration: Work, Animal Labour, and Nature-based Solutions“. *Transactions of the Institute of British Geographers* 48, <https://doi.org/10.1111/tran.12593>.

Lessons

Beavers create functional equivalences to infrastructure (grey vs green dams)

NBS and multi-species stakeholder approach: How can beavers get voice?

NBS engaging beavers is cultural niche construction by humans

Is “voice” only language? Rancière: Voice is action – political aesthetics

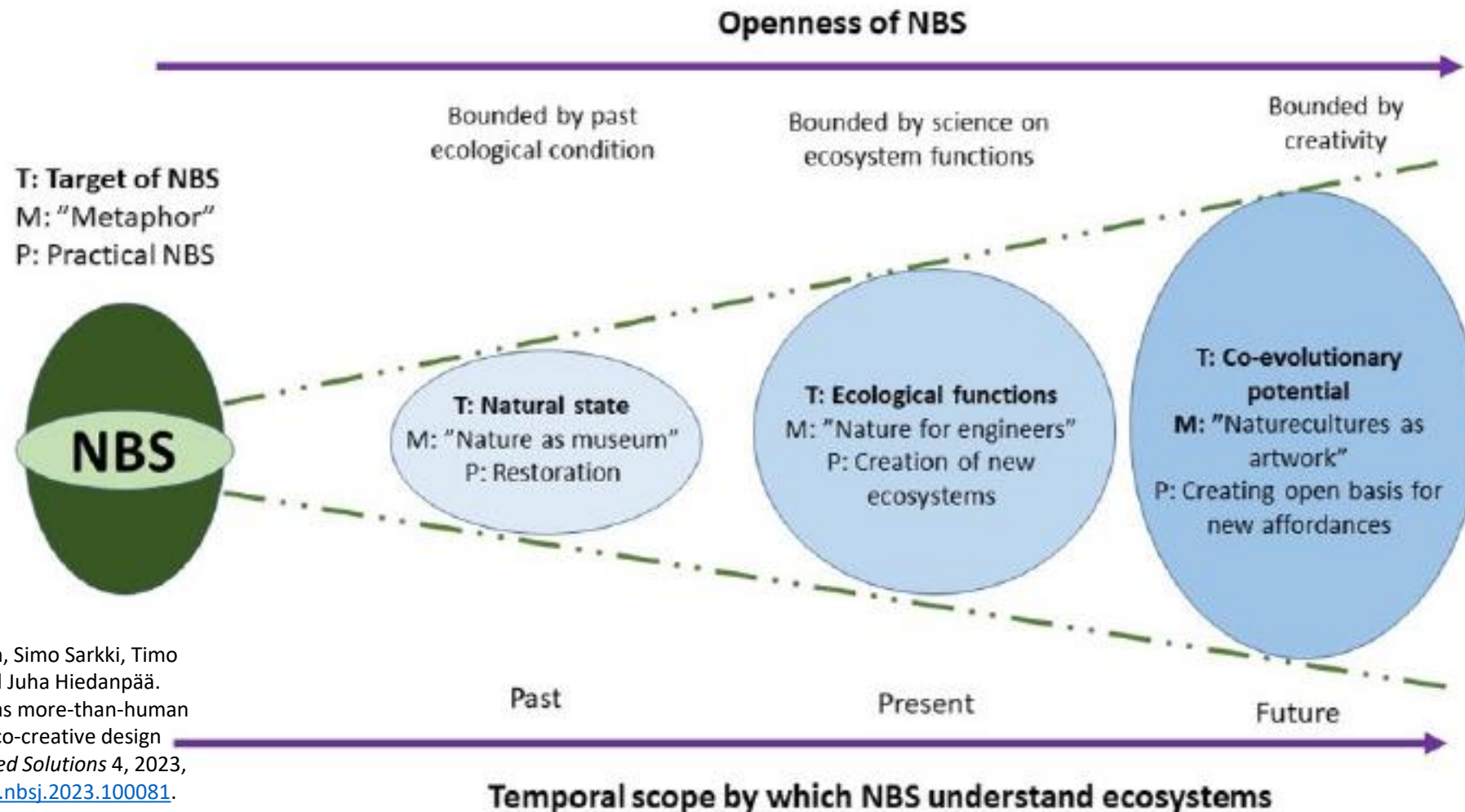
Can humans recognize beavers as equals? (Kant morphing into more-than human?)

Multi-species niche construction: a “body politic”

Maan Barua. Infrastructure and non-human life: A wider ontology. *Progress in Human Geography* 45, 2021, <https://doi.org/10.1177/0309132521991220>.

Houston, Donna, Jean Hillier, Diana MacCallum, Wendy Steele, und Jason Byrne. Make kin, not cities! Multispecies entanglements and ‘becoming-world’ in planning theory. *Planning Theory* 17, 2018, <https://doi.org/10.1177/1473095216688042>.

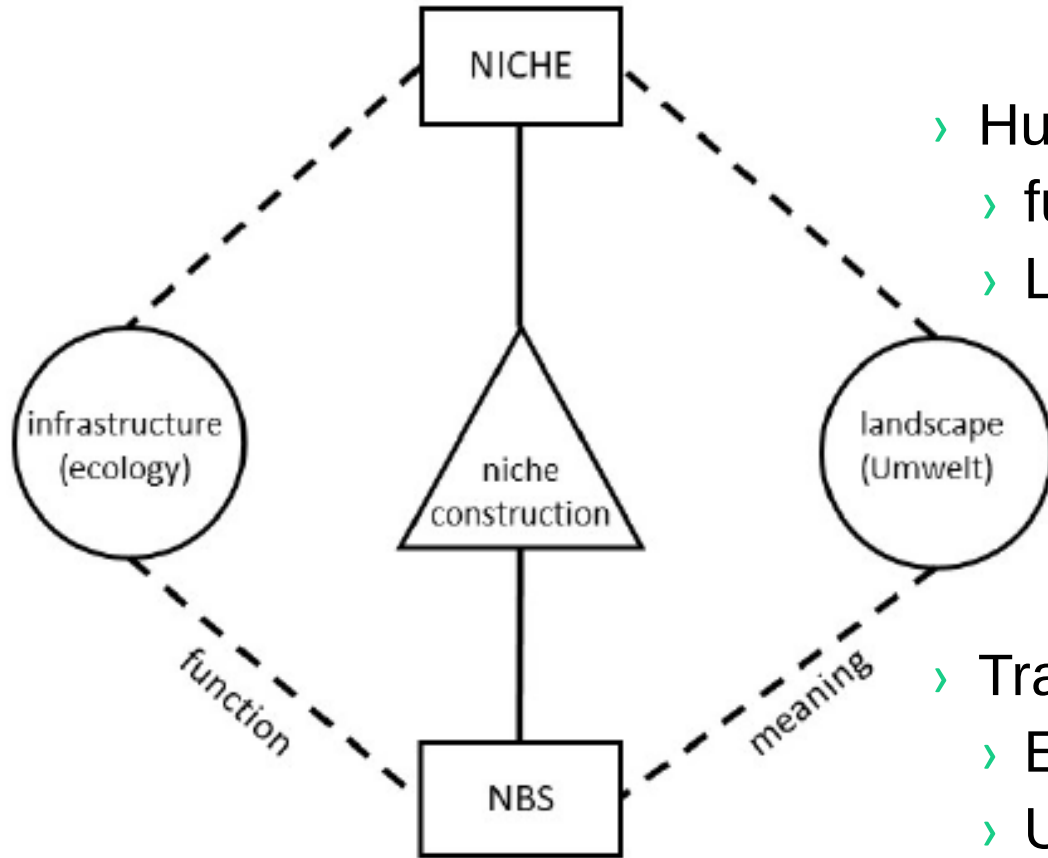
COEVOLVERS: From ecosystem services to coevolutionary Nature-based solutions



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Theoretical framework



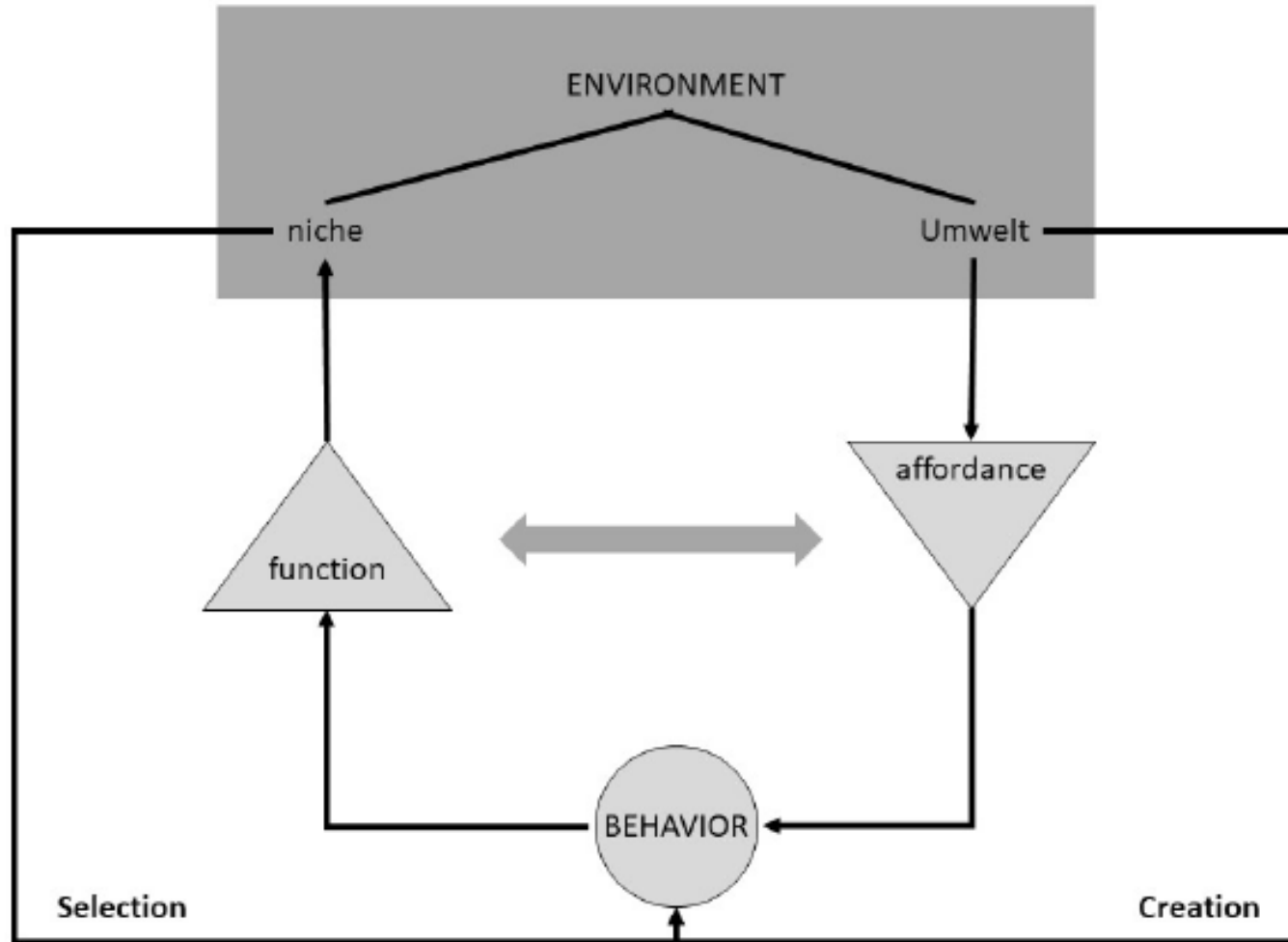
- › Human niche construction is bi-modal:
 - › functional: Infrastructure (grey and green)
 - › Landscape: assemblage of places
- › Transdisciplinarity
 - › Ecology, ecological economics
 - › Umwelt analysis: Life sciences and humanities (Jakob von Uexküll)



Ernst Mayr

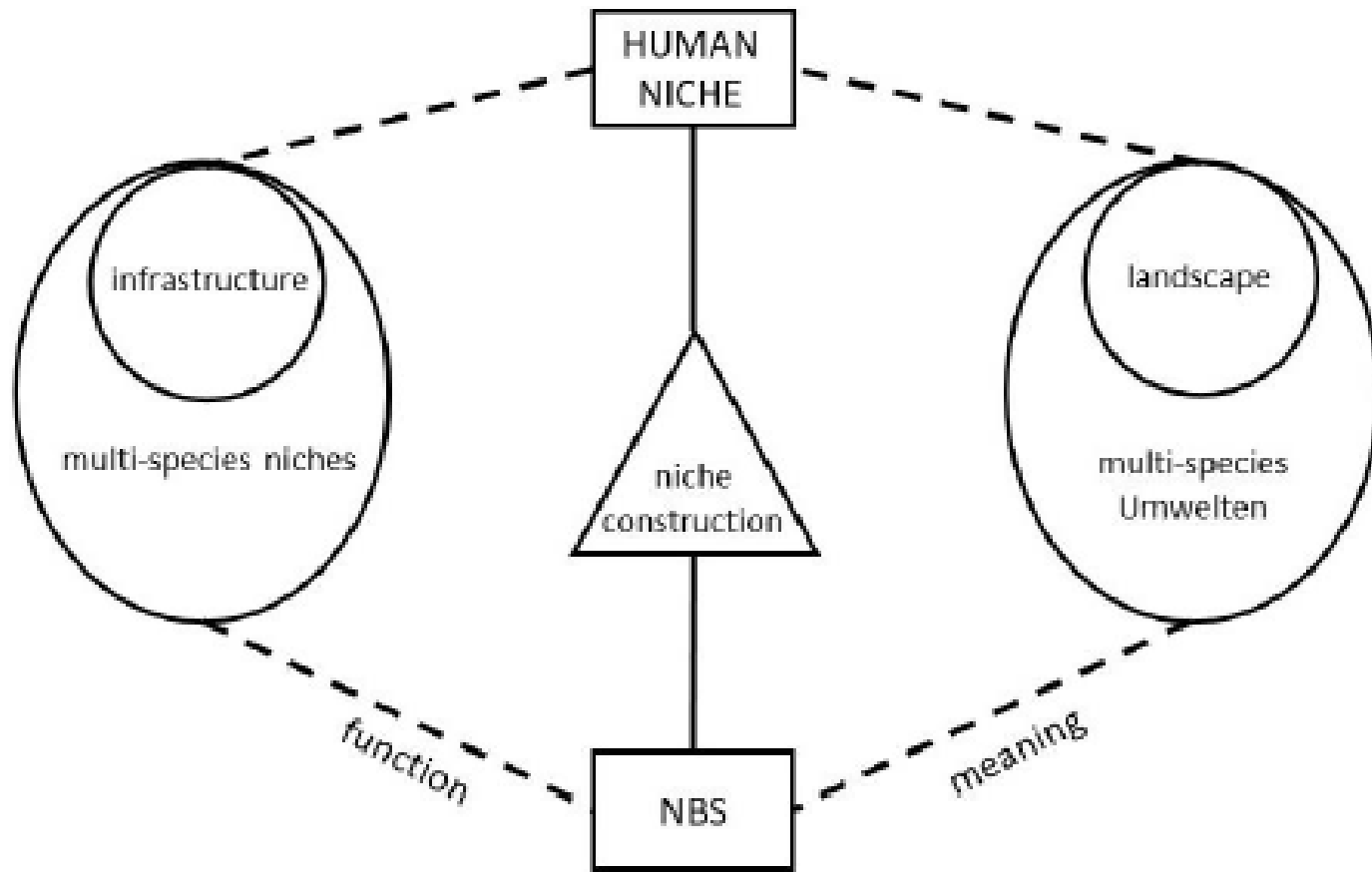
If I want to be shocking, I would say that the border line between the so-called exact sciences and the humanities, social sciences (Geisteswissenschaften) coincide with the border line between functional biology and evolutionary biology. (1999)

Niche construction



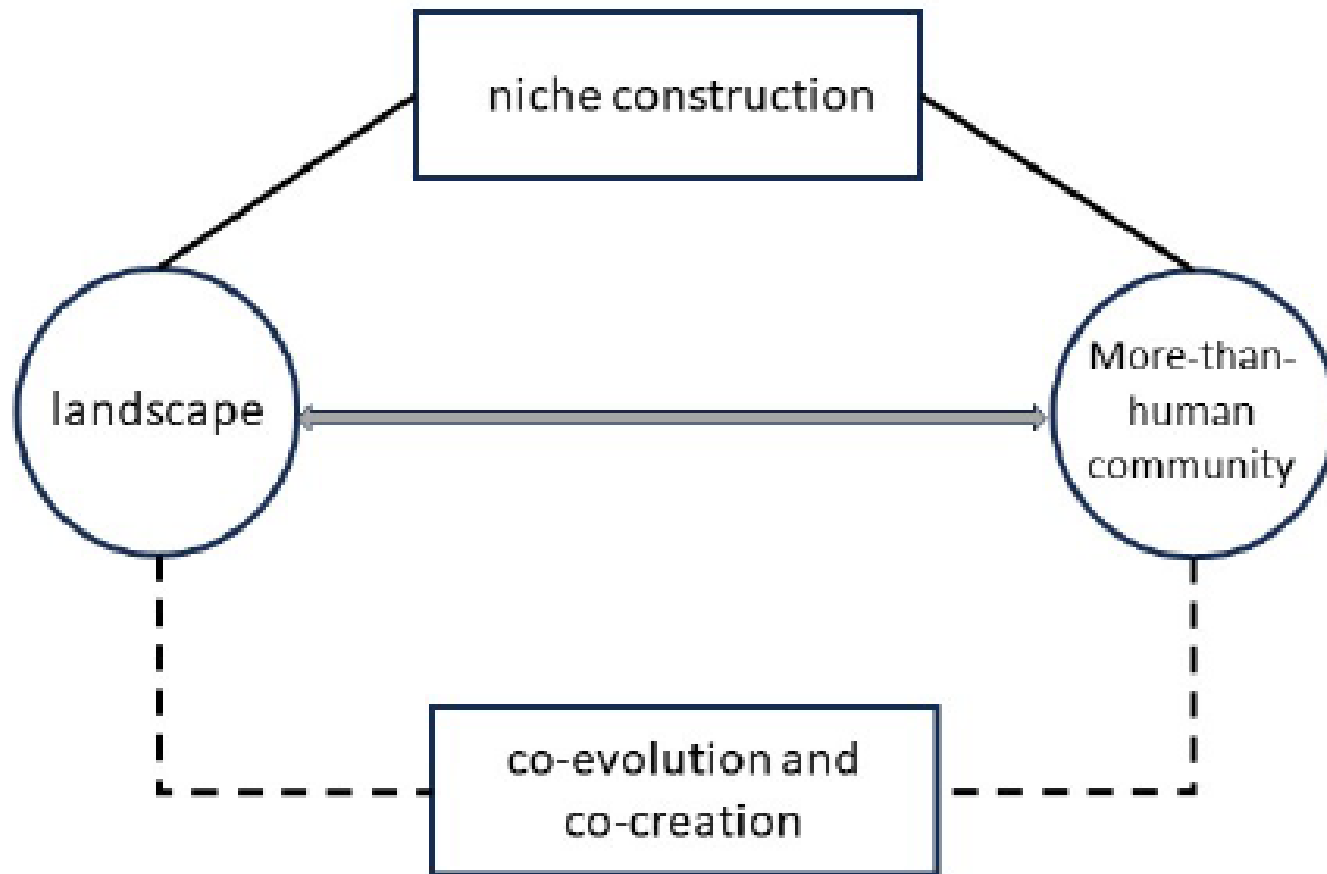
- › Selection: Emergence of function – **exaptation** (Gould)
- › Creation: Emergence of meaning – Umwelt **affordances** (von Uexküll)

Multi-species niche construction



- › Human cultural niche construction creates affordances for other species

Landscapes as body politic



- › Landscapes as assemblages of places that embody more-than-human communities

Infrastructure and Nature-based governance

“Nature-based governance grounds governance mechanisms in embodied more-than-human practices with normative force”

Sensory governance: Material governmentality → Infrastructure coevolves with the formation of habitus (or, habits: Bourdieu plus pragmatism)

Niche construction co-creates infrastructure as Umwelt assemblages:
AESTHETICS (Richard Prum)

John Ruskin



› What is the “gothic”?

- › 1. Savageness.
- › 2. Changefulness.
- › 3. Naturalism.
- › 4. Grotesqueness.
- › 5. Rigidity.
- › 6. Redundance.

› Who is the “gothic artist”?

- › 1. Savageness or Rudeness.
- › 2. Love of Change.
- › 3. Love of Nature.
- › 4. Disturbed Imagination.
- › 5. Obstinacy.
- › 6. Generosity.

From Bauhaus to more-than-human gothics?



Bauhaus building, Dessau



Margam castle





Timothy Morton

- › Ruskin 2.0?
- › “All art is ecological”
- › Beauty as embodied experience of “alreadiness”
- › Transcending the Kleistian trap of rational control (as ethical commitment)
- › “You don’t have to *be* ecological. Because you *are* ecological.”

The creators

fieldoperations

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. Thus, a true ecological landscape architecture might be less about the construction of finished and completed works, and more about the design of “processes,” “strategies,” “agencies,” and “scaffoldings”—catalytic frameworks that might enable a diversity of relationships to create, emerge, network, interconnect, and differentiate.⁴⁶

Interspecies design

<https://www.interspeciesdesign.co.uk/interspecies-toolkit/>

Interspecies Design

A Speculative Design proposal

Interspecies Toolkit Interspecies Activity Cards Design Blog Equine Eyes



The Interspecies Design Toolkit is a Speculative Design proposal designed to complement and critique the Microsoft Inclusive Design Toolkit to explore the politics and rhetoric in Inclusive Design and Animal Computer Interaction. The project takes the form of an Interspecies Design Toolkit, and a range of Activity Cards which can be used to help workshop participants better understand how to design for and with nonhuman animals.

This project is designed based on a collection of ideas and practices drawn from Animal Computer Interaction, Animal Architecture, Posthumanist discourse. The project draws on the work of human animals (scholars, designers and thinkers) such as Clara Mancini, Steve North, Michelle Westerlaken, Hanna Wirman, Anne Galloway, Patricia Pons and Donna Haraway.

Interspecies design

<https://ecolopes.org/>



Grobman, Yasha J., Wolfgang Weisser, Assaf Schwartz, Ferdinand Ludwig, Roy Kozlovsky, Avigail Ferdman, Katia Perini, u. a.
„Architectural Multispecies Building Design: Concepts, Challenges, and Design Process“. *Sustainability* 15, 2023.
<https://doi.org/10.3390/su152115480>.

Interspecies design

<https://wiki.deepdesignlab.online/notes/cj0pg19bdnegrhbtllloje8u//>



Practices: More-than-human mapping

Building infrastructure requires mapping

Human mapping is appropriative and disembodied

Disembodiment is disenfranchising non-human species (and many vulnerable humans)

Affordance mapping, emotional mapping, behavioural mapping...

COEVOLVERS; Virtual nature tool and participatory mapping (Team Hutton)

Mapping soundscapes and smellscapes (Team Cagliari)



Outlook

- › Multispecies niche construction requires more-than-human design and implementation
- › “landscaping” means designing and sustaining human places that offer an exuberance of affordances for other living beings
- › The criteria cannot be functional since we are ignorant about the key parameters, present and future
- › Hence, multispecies niche construction is guided by an “Aesthetics of care” (Saito) – ritual as a primordial form

Thank you for your attention!

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