

# The hippocampal case for Waymaking: how reframing memory and navigation alleviates traditional mind/body dichotomies

**Introduction:** The past hundred years of research relative to the hippocampal formation illuminates a new approach to understanding cognition, one that allows us to understand *remembering*, *acquiring knowledge*, and *navigating* as nested behaviours of a continuous process. This process is defined here as Waymaking. It frames **cognition as an embodied activity that arises, habituates statistical regularity, and evolves as a body makes its way through an ongoing encounter**. This framing alleviates traditional problems of subject/object dichotomy and shows that the hippocampal formation may provide a heuristical model towards approaching the study of mind and body continuously.

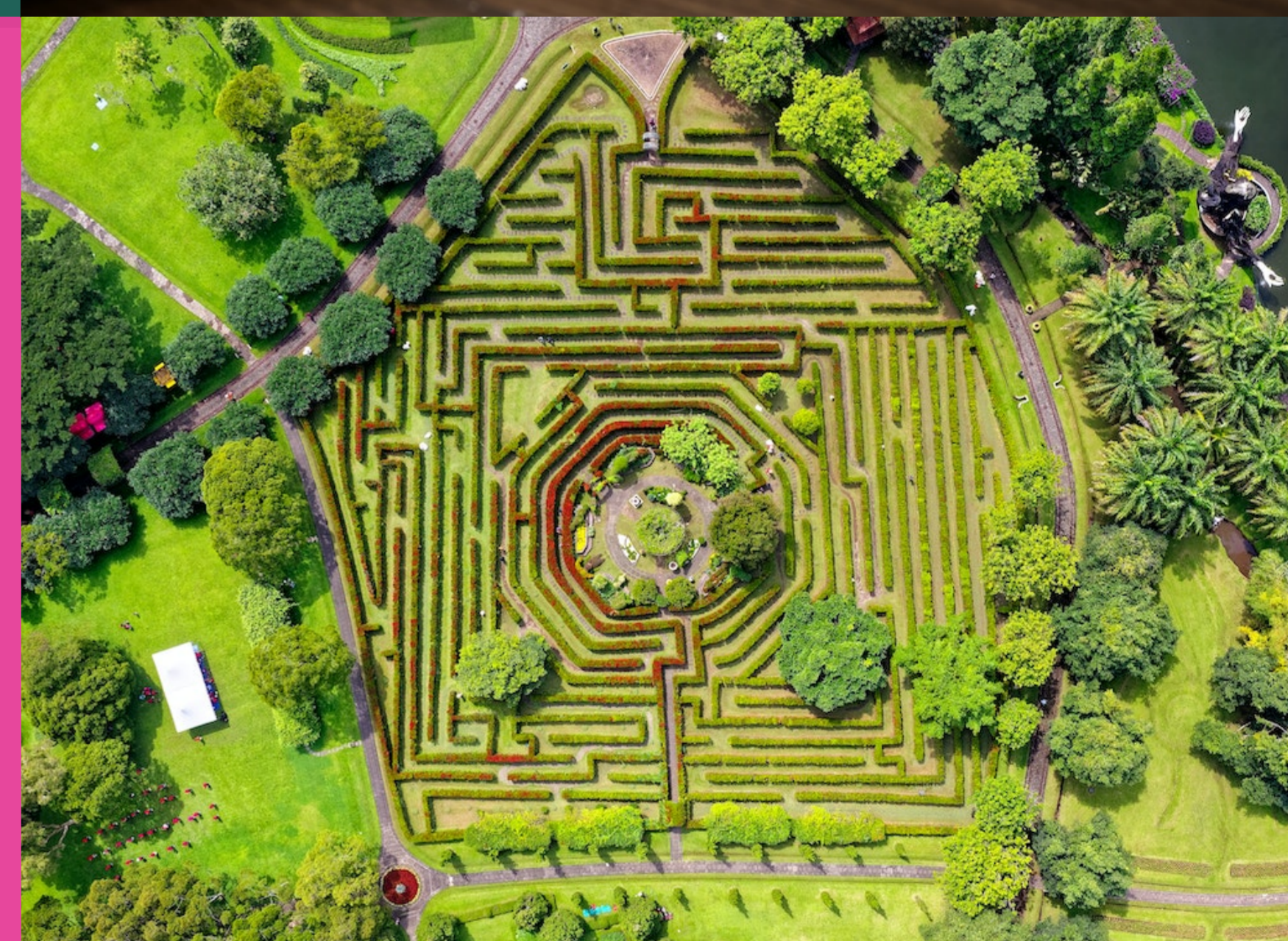
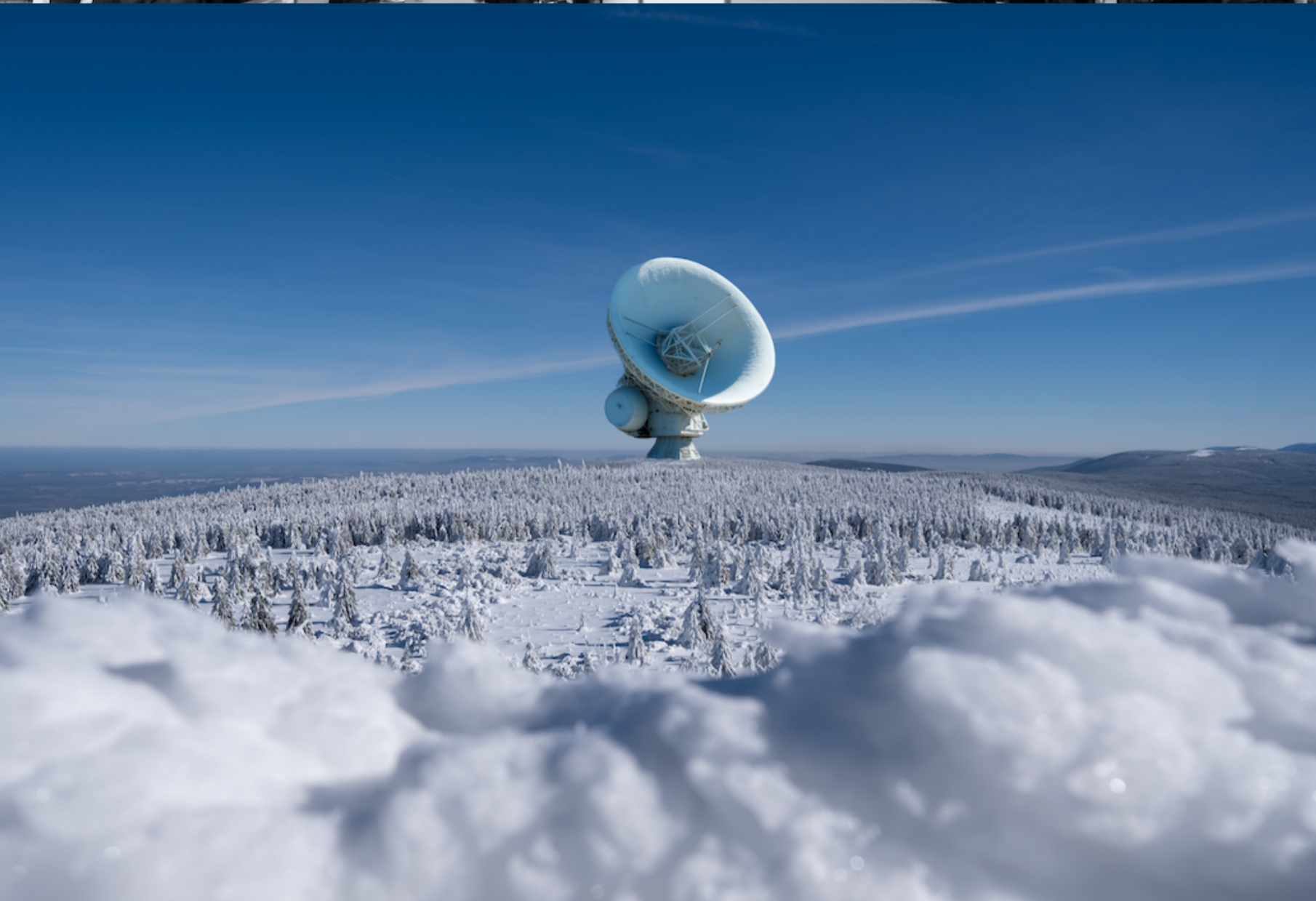
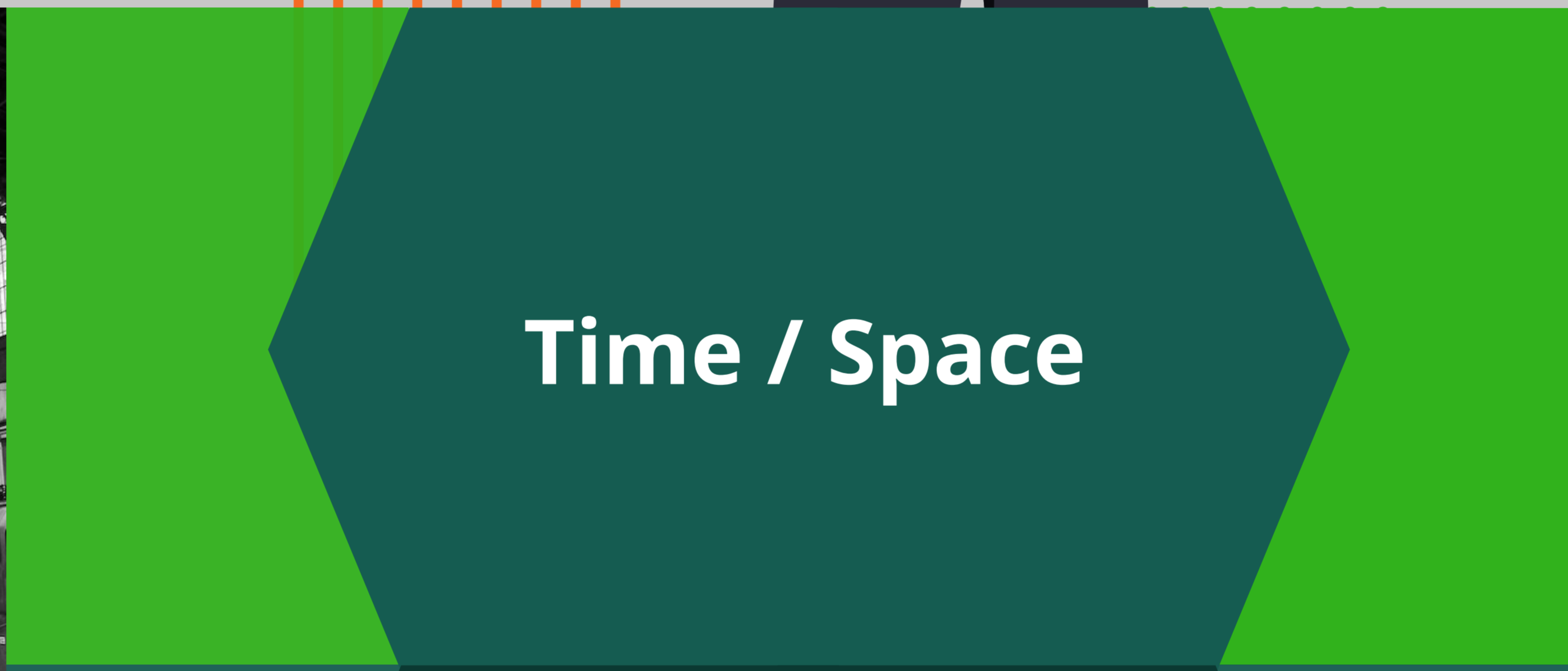
Andrea Hiott [andrea.hiott@uni-heidelberg.de](mailto:andrea.hiott@uni-heidelberg.de)

## Mind

## Body

**Methods:** Building a heuristical model from research in the tradition of hippocampal studies relative to memory, navigation, and knowledge acquisition (Eichmann-Tollman-Mosers-Buzsáki) this philosophy traces a gradual shift away from traditional philosophical dichotomies of mind/body towards a scaled approach whereby words like *cognition*, *mind*, *body*, *memory* and *landscape* nest together in a continuous multi-dimensional process as **ongoing statistically-regular action and reflecting on the patterns of that action**. These activities are measured according to position as, i.e., mind or body, memory or navigation, and while those metrical systems cannot be reduced to one another, they are also inseparable.

**Results:** This philosophy of mind shows that gradually, over the past century, hippocampal research has uncovered the means for reframing cognition as continuous with the processes of actions such as walking, driving, and searching. Reframing this research clarifies the waymaking paradigm and **illuminates connections in research across traditional dividing lines around representation, behavior, and part/whole mereology**. In other words, mind is to body as memory is to navigation: the hippocampal model shows us how to understand these as **irreducible metrics for a dynamical process**.



**Discussion:** This rearranges current questions relative to mind and body, suggesting we might better understand mental disease and physical disease not as different phenomena but as nested levels in a common process. Doing this alleviates traditional dichotomies and releases unused potentials in past and present research by showing that whether one is making a physical change or a mental change, one is tweaking the same process, but doing so in ways that are irreducible to one another-- in other words, **'mind' & 'body' are unique metrics for assessing and balancing the same process**. And these metrics are positional.

**Select Bibliography:**

J. L. S. Bellmund/P. Gärdenfors/E. I. Moser/C. F. Doeller: Navigating Cognition: Spatial Codes for Human Thinking, in: *Science* 362/6415, 2018, S. 1–11.  
 Buzsáki, G. (2019). *The brain from inside out*. Oxford University Press. <https://doi.org/10.1093/oso/9780190905385.001.0001>  
 H. Eichenbaum: The Role of the Hippocampus in Navigation is Memory, in: *J Neuroscience* 01.04.2017, doi: 10.1152/jn.00005.2017.  
 A. Hiott: Ecological Memory: the Spatiotemporal Commons of Physical and Conceptual Navigation, Master Thesis 2022, doi: 10.13140/RG.2.2.18290.79046  
 John O'Keefe/Lynn Nadel: *The Hippocampus As a Cognitive Map*, Oxford 1978.  
 E. C. Tolman: Cognitive Maps in Rats and Men, in: *Psychological Review* 55/4, 1948, S. 189–208, <https://doi.org/10.1037/h0061626>.

Andrea Hiott  
 Universität Heidelberg  
[www.andreahiott.net](http://www.andreahiott.net)

[andrea.hiott@uni-heidelberg.de](mailto:andrea.hiott@uni-heidelberg.de)  
[www.ecologicalorientation.com](http://www.ecologicalorientation.com)

grateful acknowledgement to:



Northhoff Lab @ u Ottawa