# THE COGNITIVE SPIRAL

Semiotic Freedom & Space

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2023 Biosemiotics Gathering

The Hitchhikers Guide to the Galaxy tells us that space is really - really - big.

"You just won't believe how vastly, hugely, mind-bogglingly big it is. I mean, you may think it's a long way down the road to the chemist's, but that's just peanuts to space"

(Douglas Adams).

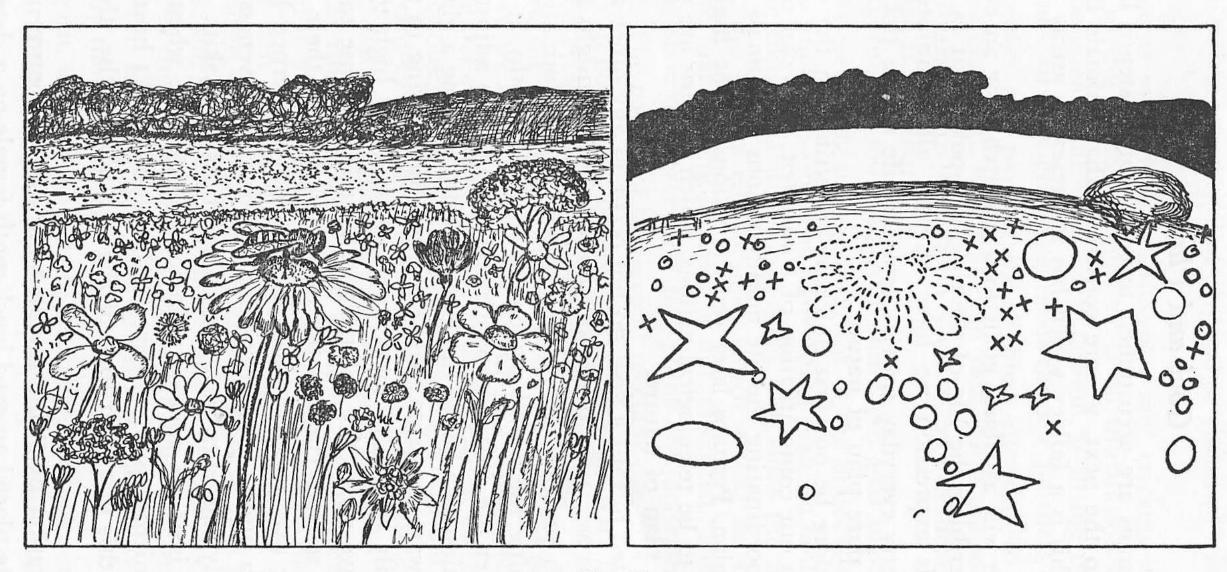
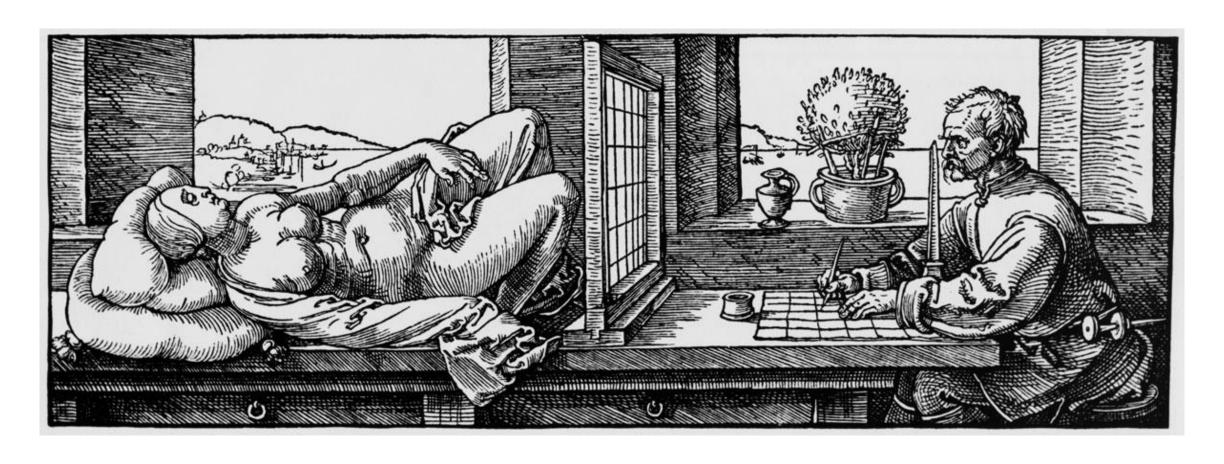
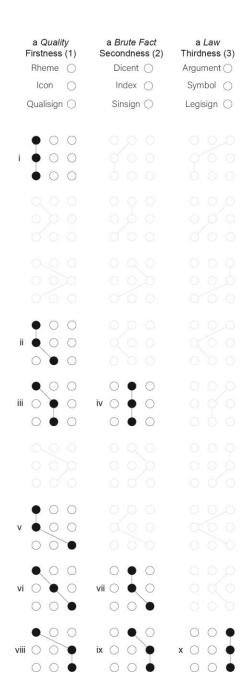


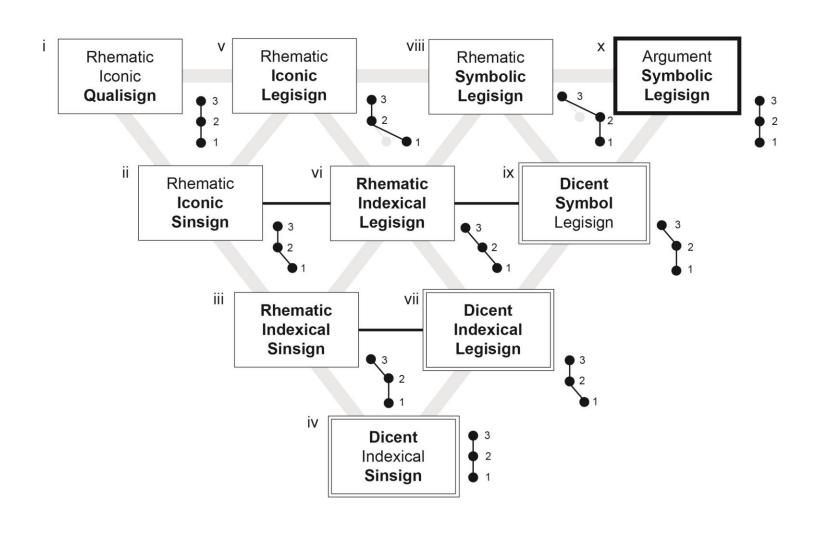
Fig. 21
Environment and *Umwelt* of the honey bee



Albrecht Durer, illustration from *On Measurement* 

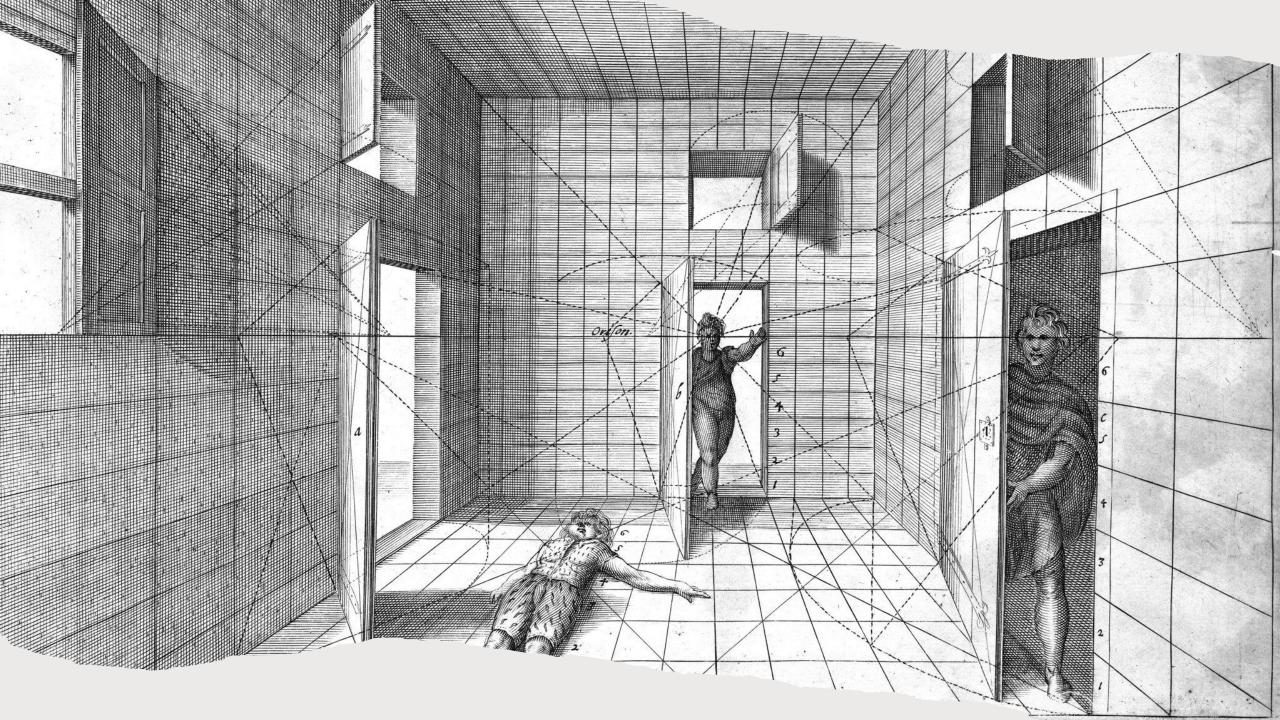






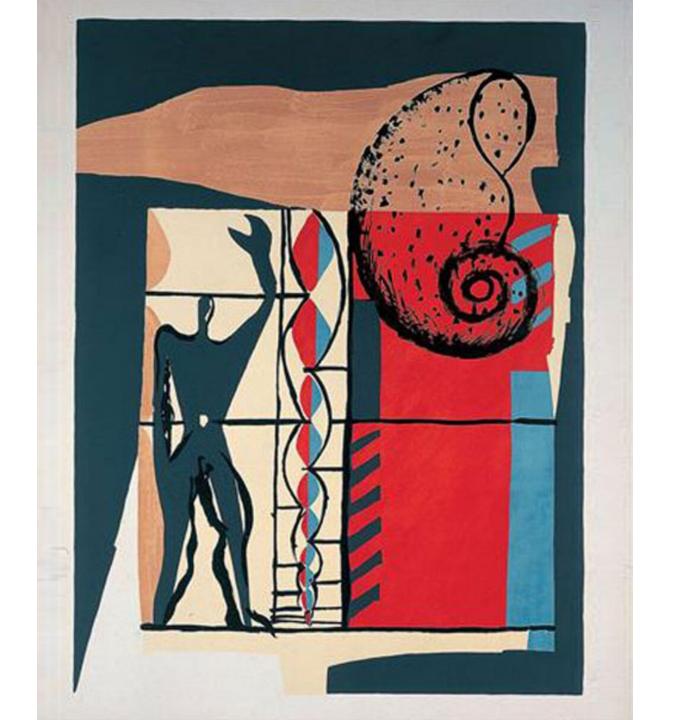


The Steinhaus by Gunther Doming



### Le Modulor

The Modulor is a measurement or proportioning system developed by Le Corbusier to put mankind back into the center of architecture and design. It is a recurrent proud human silhouette, which takes its place in the art and buildings conceived by Le Corbusier. Based on the golden ratio and the human proportions, it is an attempt of architecture, in the tradition of Vitruvius, to take a human dimension as a mathematical order. The "The Modulor", published by Le Corbusier in 1949, is one of the most important writings in architectural history and theory. The Modulor is used, for example, in the Unité d'habitation in Marseille and in the Convent La Tourette. Both of these architectural works by Le Corbusier are built according to modulor dimensions.

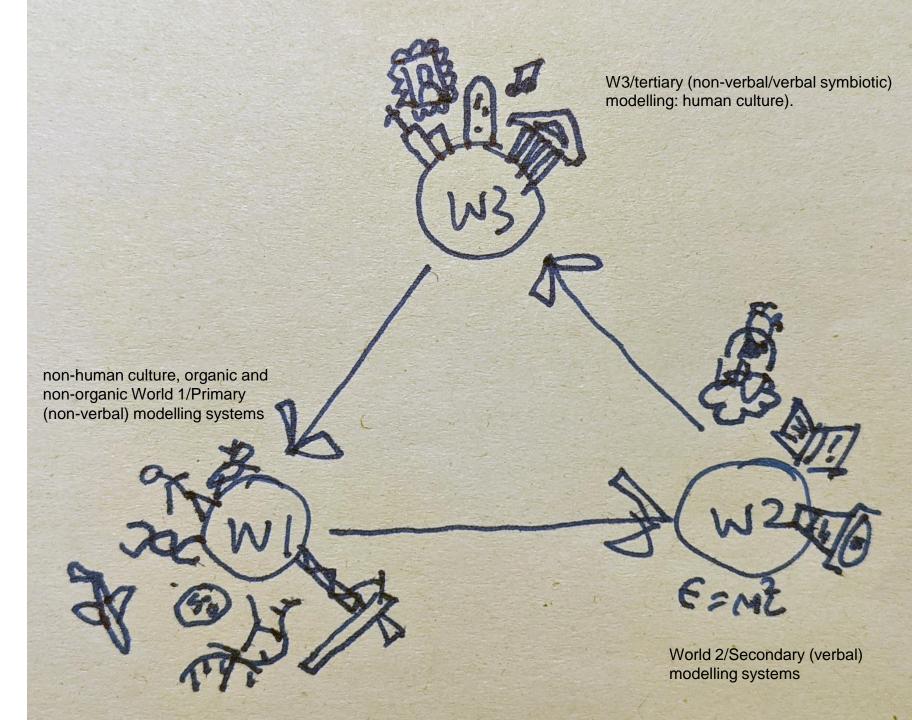




Sebeok distinguished humans from according nonhumans to communication capacity and possession of verbal and nonverbal faculties - with non-verbal being a primary modelling system, from which others have evolved. Verbal being secondary, and the capacity for both tertiary. A framework he correlated with three-world Popper's model explicate paradigms of semiosic worldmodelling.

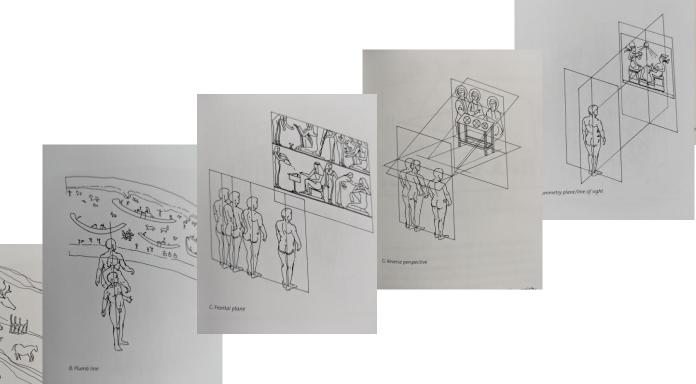
Sebeok, Thomas A. (1991). "In what sense is language a 'primary modeling system'?" In: *On Semiotic Modeling*. by Myrdene Anderson and Floyd Merrell (Eds.). De Gruyter Mouton, pp. 327–340.

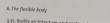
Cobley, Paul (2016). "Difference in Kind or Difference of Degree?" In: *Cultural Implications of Biosemiotics*, pp. 29–44.

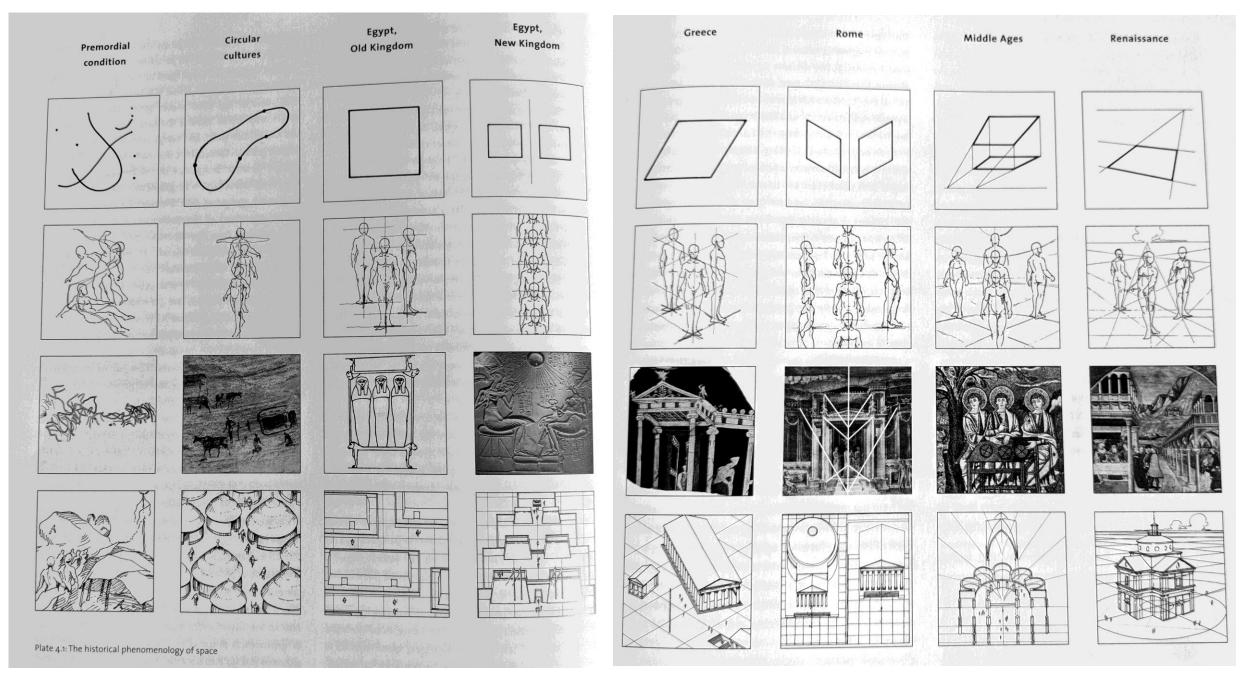


Representational methods have developed in accordance with human perception of body space, and how we cognise the environment. From left-right: The origins of pictoral art, traced back to cave painting approximately 34,000 years ago; the transition to agricultural and civilised human culture, such as iron-age art; Old Egyptian Kingdom New Egyptian Kingdom; Ancient Greece and Rome; Early Christianity and the Middle Ages; and the Renaissance: with the introduction of perspective drawing

Marcussen, Lars (2008). The architecture of space: The space of architecture. Arkitektens Forlag.







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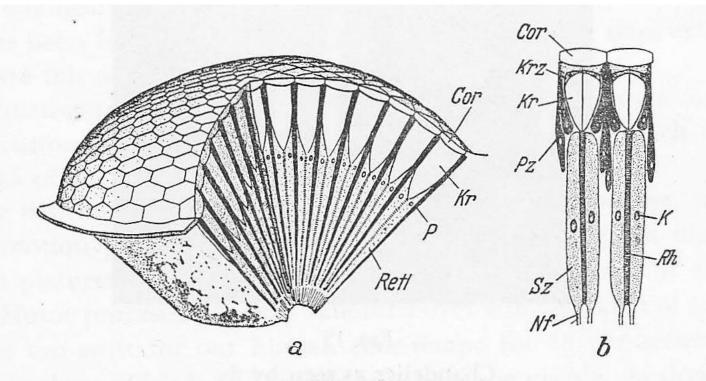


Fig. 11

Structure of the compound eye of a fly (schematic)

a: Whole eye, from which a section is dissected on the right
(according to Hesse)

b: Two ommatidia

cor: Chitincornea; K: nucleus; Kr: crystalline lens; Krz: lens cell; Nf: nerve fiber; P: pigment; Retl: retinula; Rh: rhabdom; Sz: visual cell



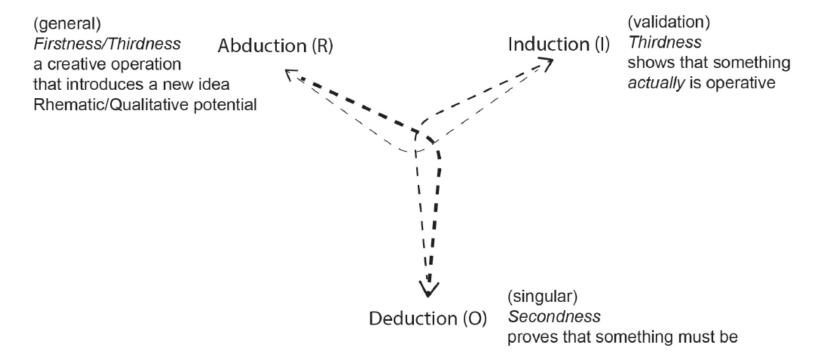
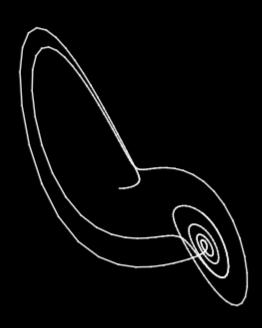
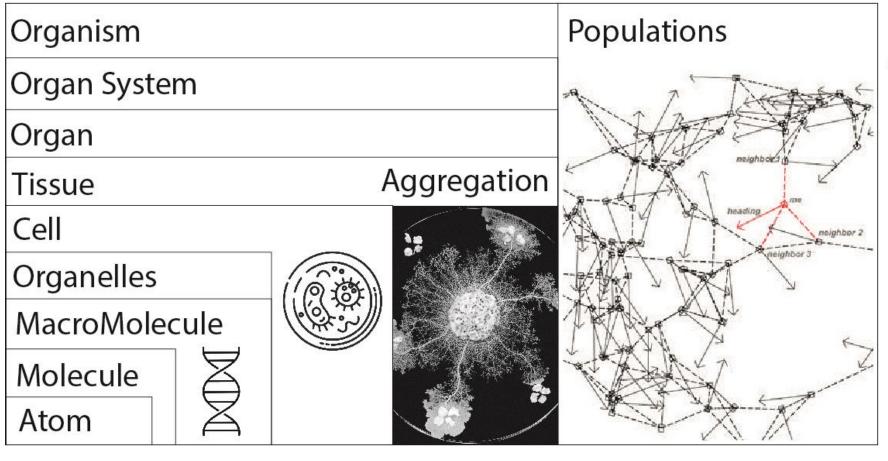


Figure 4.8: Abduction is a process: whereby abduction, being productive, creates, deduction predicts and induction evaluates; forming a cyclic iterative model of reasoning. Abduction, in terms of the Interpretant, is of Firstness, Deduction of Secondness and Induction Thirdness.



# **Ecosystems**







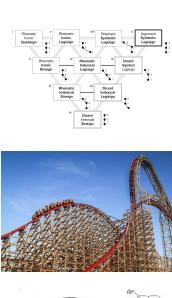




## Of signs & space:

the effect [of an object] comes to have significance (some value) beyond the qualities and properties of the object. It becomes "other", having meaning beyond its embryonic nature possessing expressive "form", or symbolic meaning, and value such that it may be deemed to have propositional value. A distinction between the organismin-its-environment (i.e. of animal Umwelten, which are indexical) and human life, which is symbolic (Kull 2009a; Kull 2009b). Contra to Newton and Kant space is not universal but a product of perception. Whilst space is a matter of, or for, all organism's it is unique for each. A framework, or scaffold, that enables organisms to discern position and relevance of what lies outside themselves, growing or emerging out of a network of relations (in Uexküllian terms, function-cycles) of causality and change. It is this informational aspect, determined by "a difference that makes a difference", that makes space a "form of intuition", or law of nature. It is not precise, geometrically speaking, but an approximation, by which representations of sensations and images describing the organisation and interrelation of things relative to a percipient congeal and become meaningful. Space is thus purposeful, functional, associating (and synthesising) the percipient with its surrounding-world. Through distinction of those things of the world that have value or are of significance to a percipient. A coalescence between whatever is going on outside of the percipient (the surrounding-world) and its inner-world. Space is thus an interface through which we connect with the external world, that bonds and defines action and behaviour.

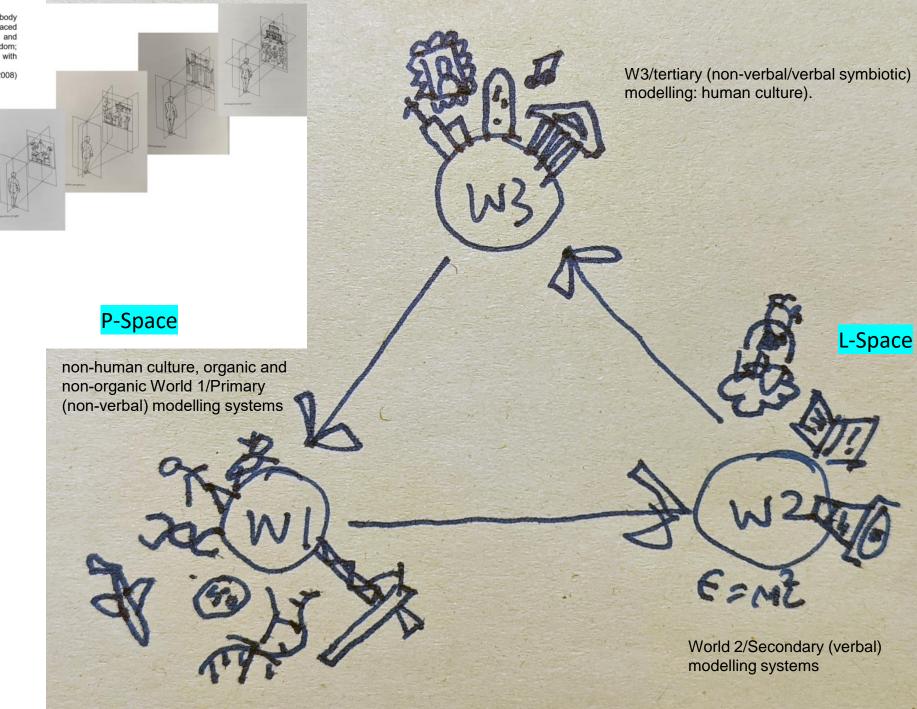
(Ireland forthcoming....soon I hope)



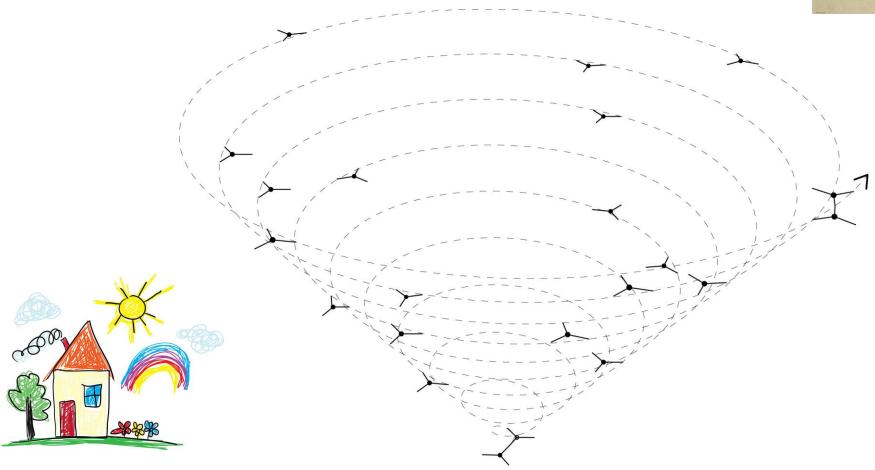


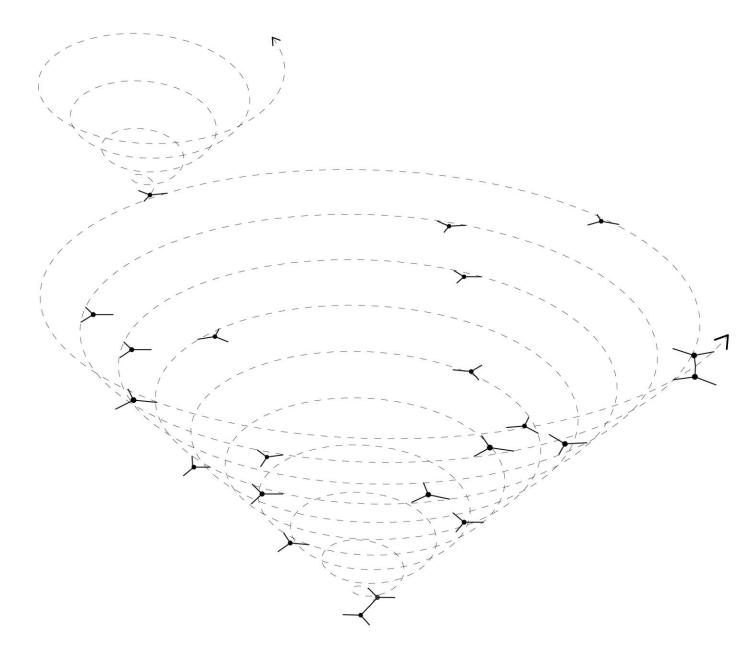


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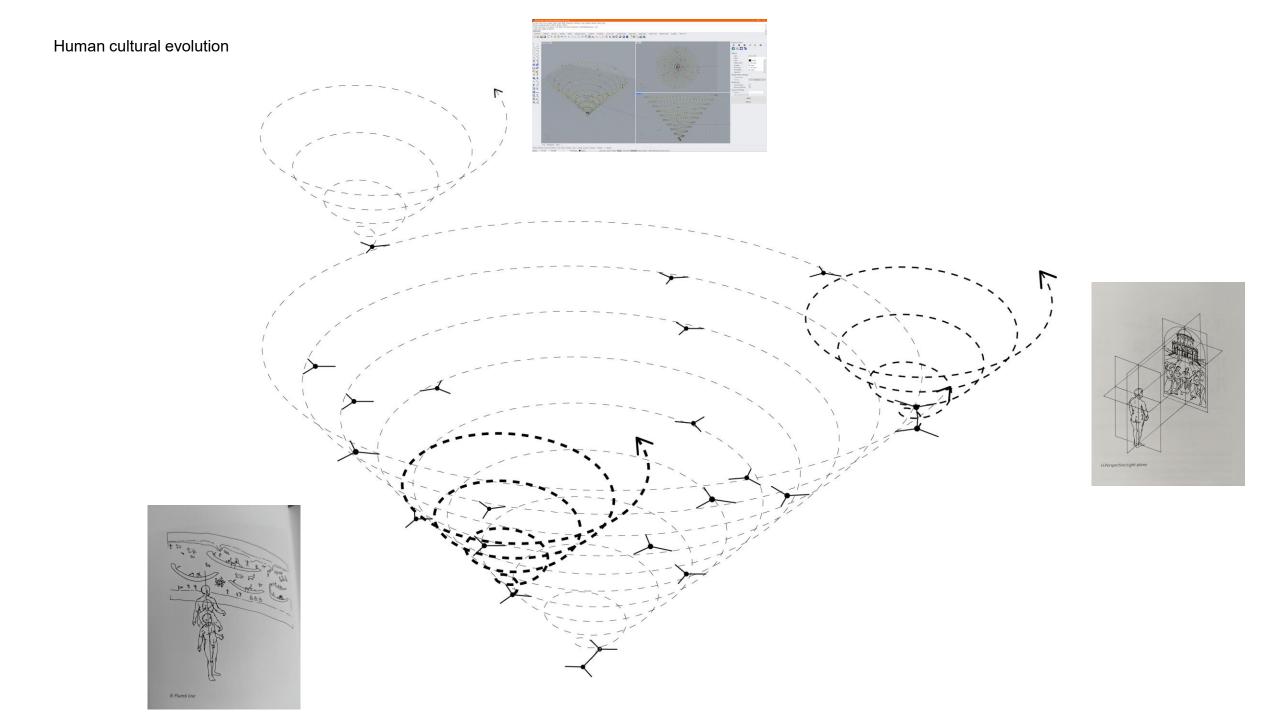


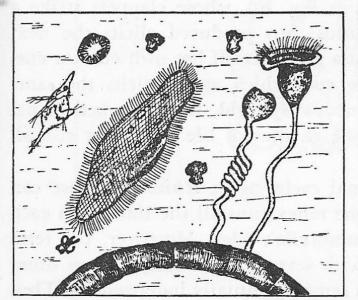






# Species development





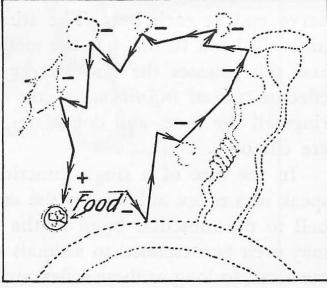


Fig. 15 Environment and Umwelt of the Paramecium

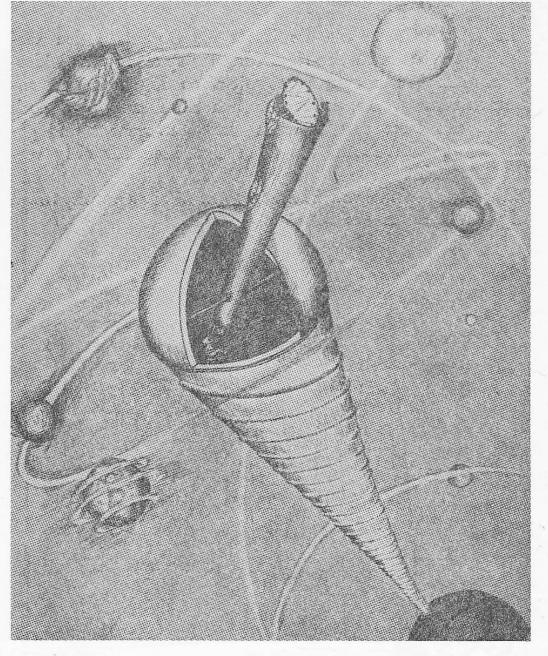


Fig. 53 The astronomer's Umwelt

# THANK YOU FOR LISTENING

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