

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).

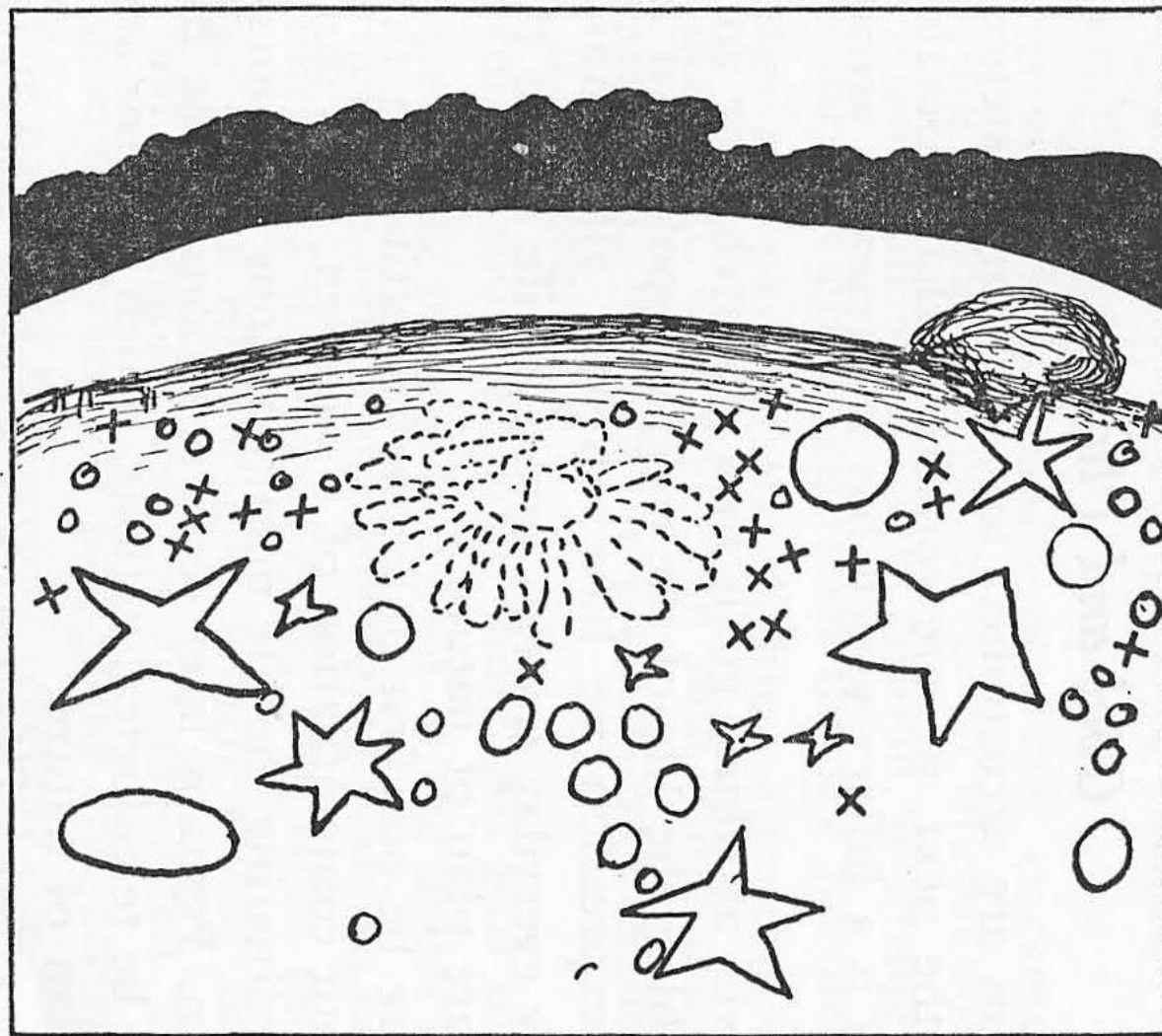
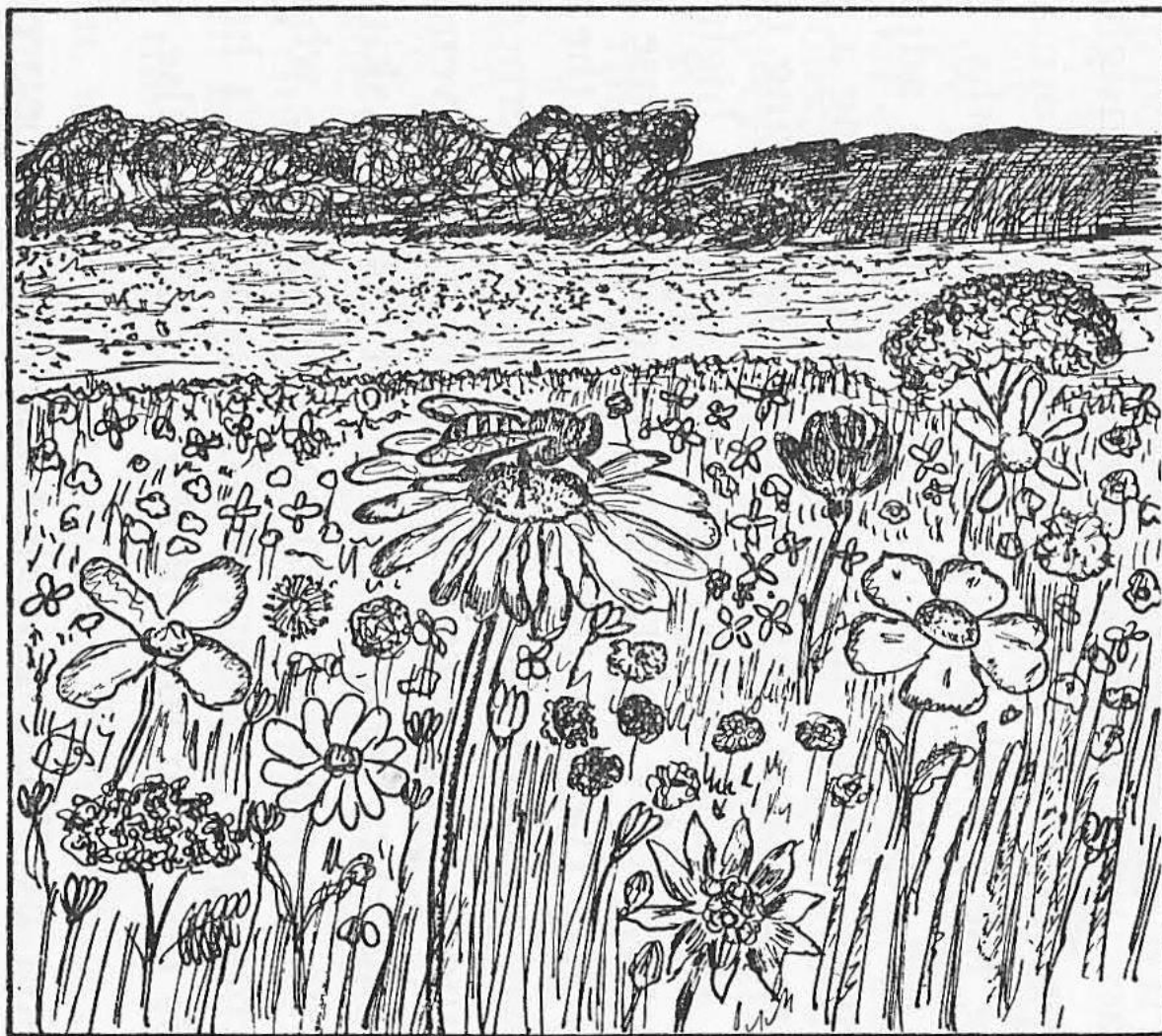


FIG. 21

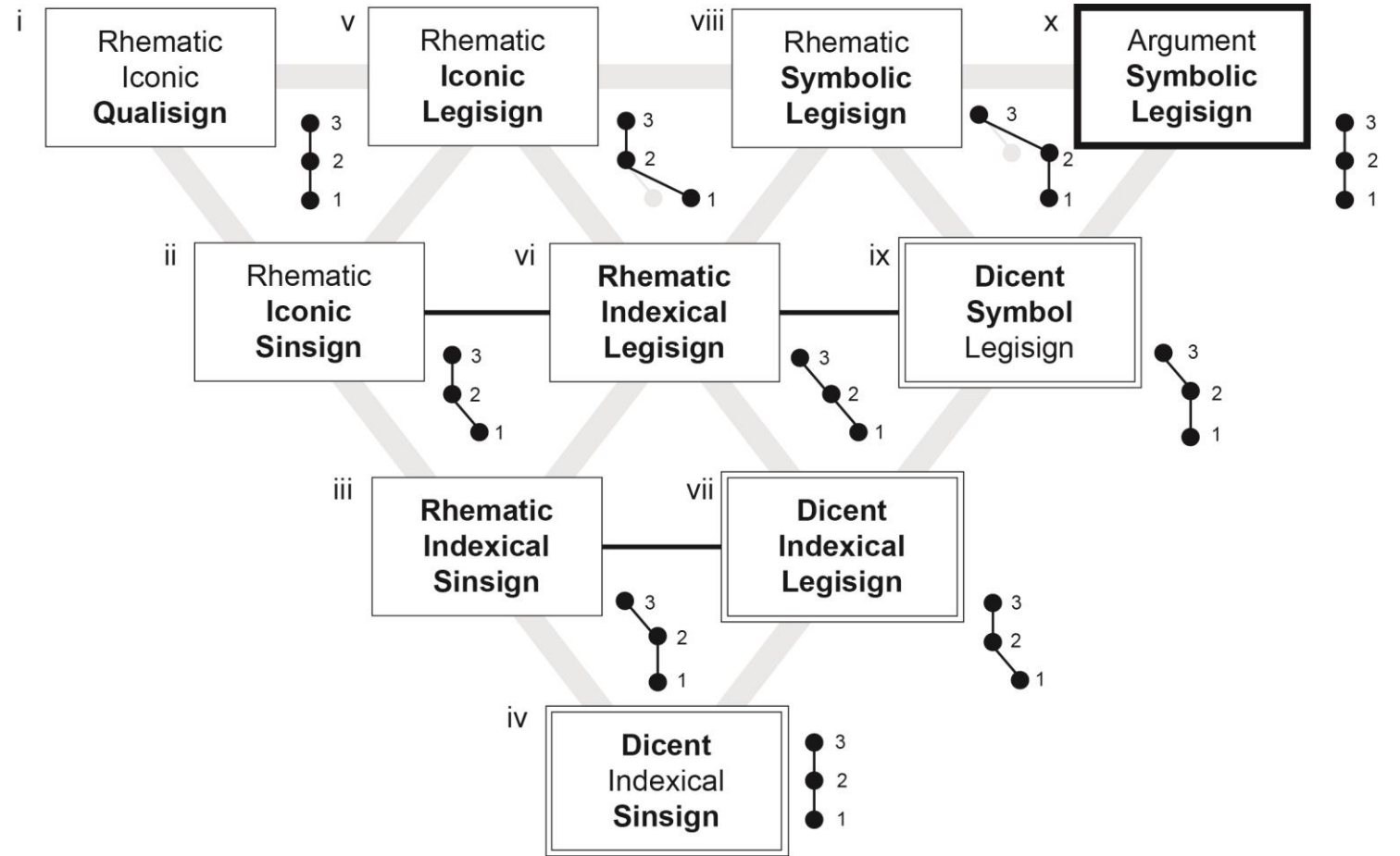
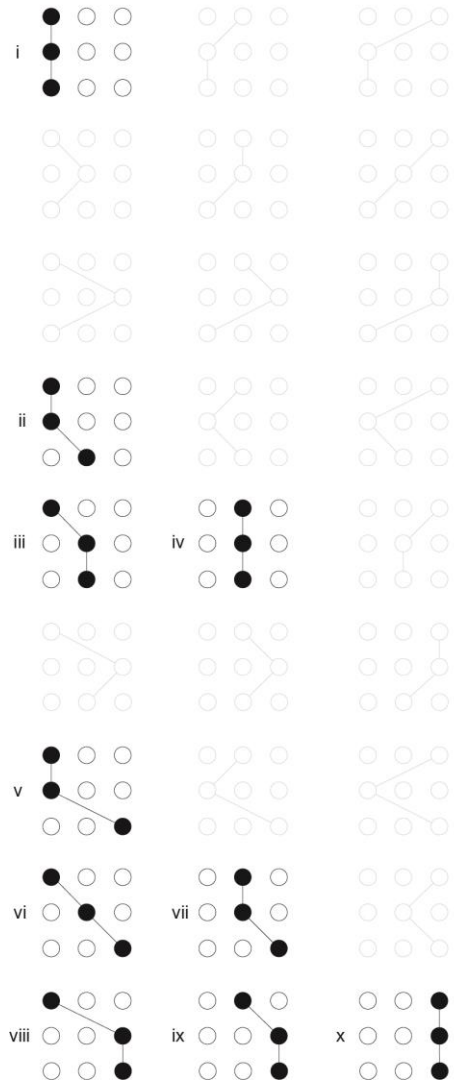
Environment and *Umwelt* of the honey bee



Albrecht Durer, illustration from *On Measurement*

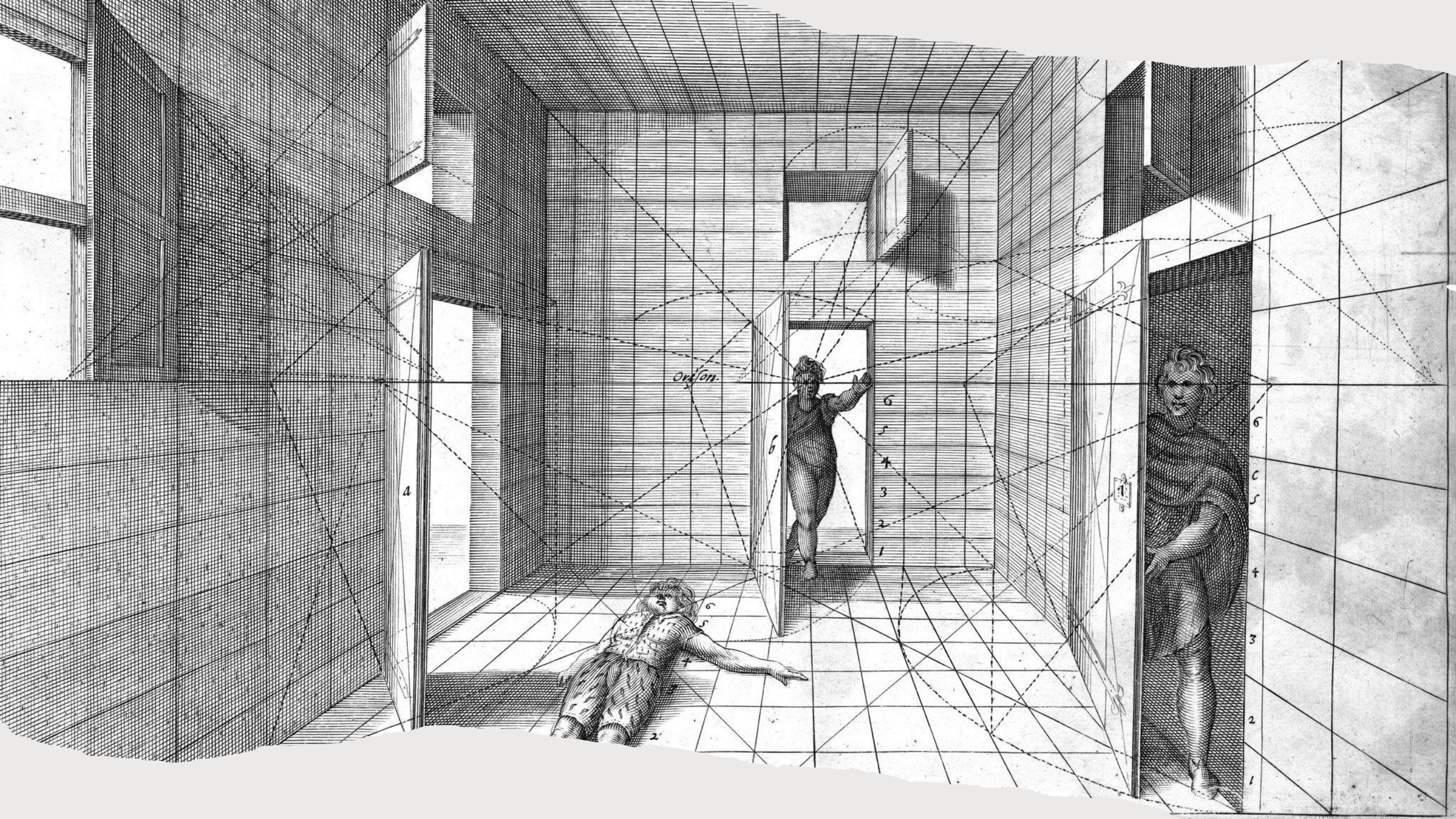


<i>a Quality</i> Firstness (1)	<i>a Brute Fact</i> Secondness (2)	<i>a Law</i> Thirdness (3)
Rheme <input type="radio"/>	Dicent <input type="radio"/>	Argument <input type="radio"/>
Icon <input type="radio"/>	Index <input type="radio"/>	Symbol <input type="radio"/>
Qualisign <input type="radio"/>	Sinsign <input type="radio"/>	Legisign <input type="radio"/>





The *Steinhaus* by Gunther Domenig



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 modulator dimensions.





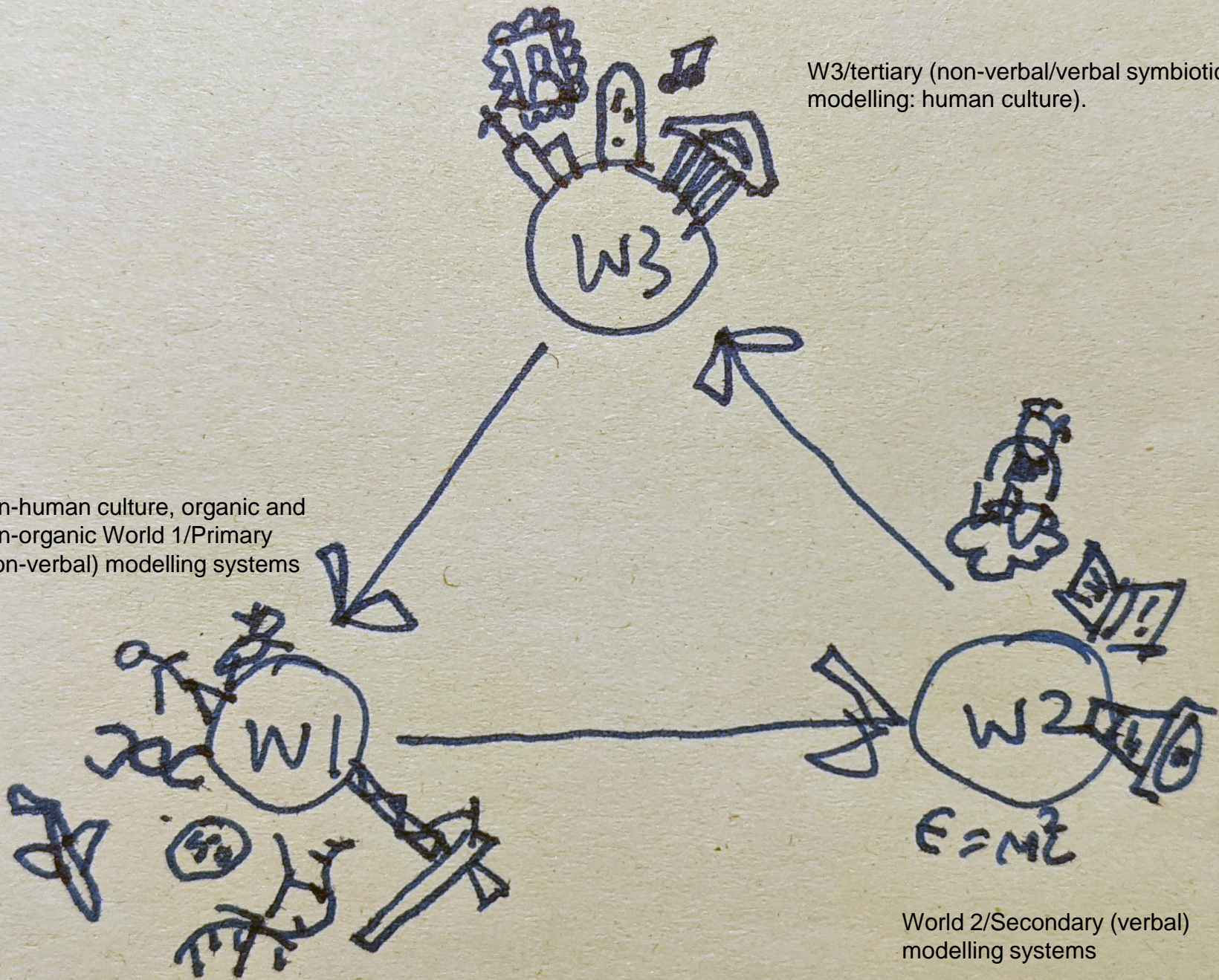
Sebeok distinguished humans from nonhumans according to communication capacity and possession of verbal and nonverbal faculties – with non-verbal being a primary modelling system, from which others have evolved. Verbal being secondary, and the capacity for both tertiary. A framework he correlated with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

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.

non-human culture, organic and non-organic World 1/Primary (non-verbal) modelling systems

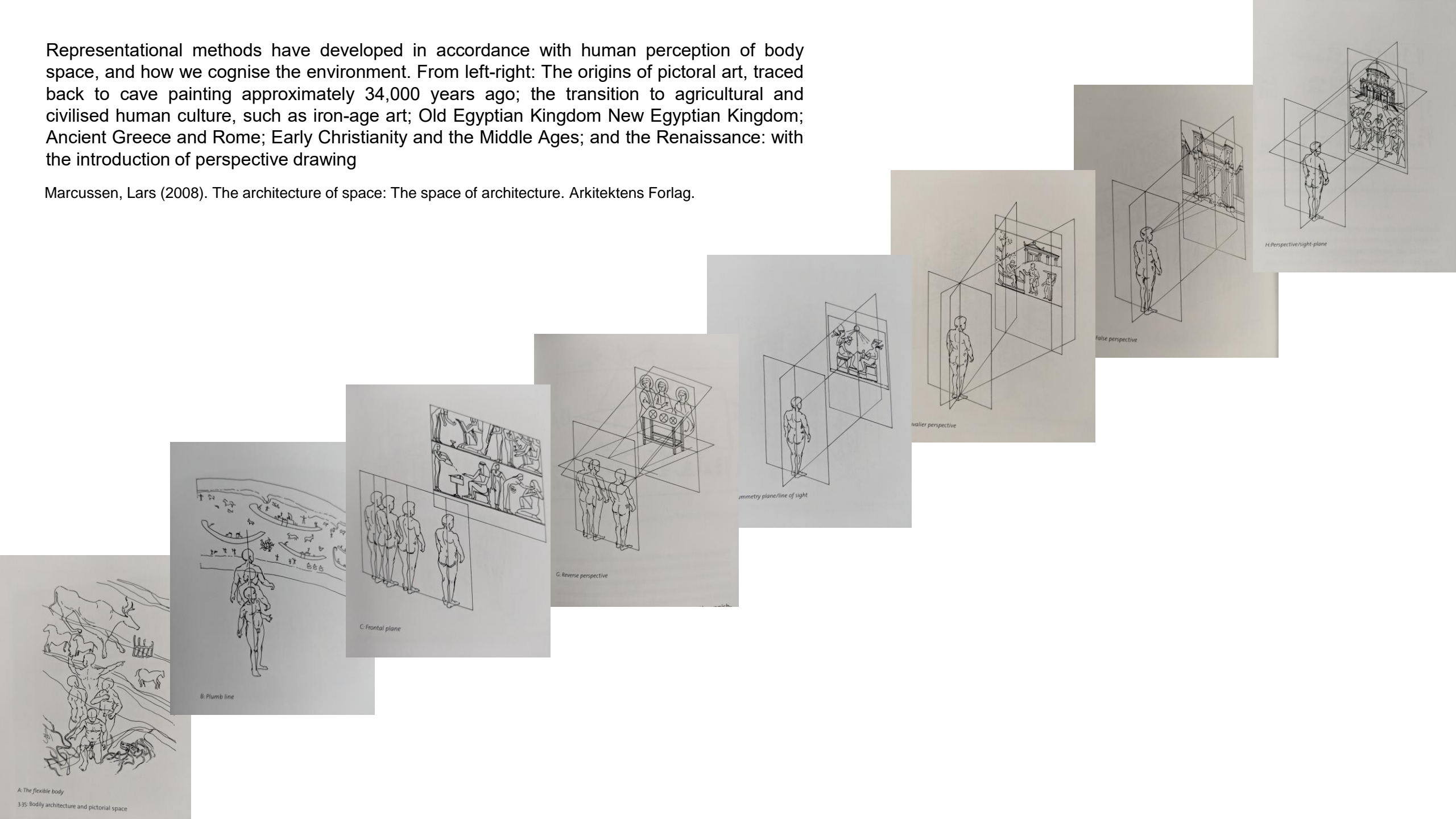
W3/tertiary (non-verbal/verbal symbiotic) modelling: human culture).



World 2/Secondary (verbal) modelling systems

Representational methods have developed in accordance with human perception of body space, and how we cognise the environment. From left-right: The origins of pictorial 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.



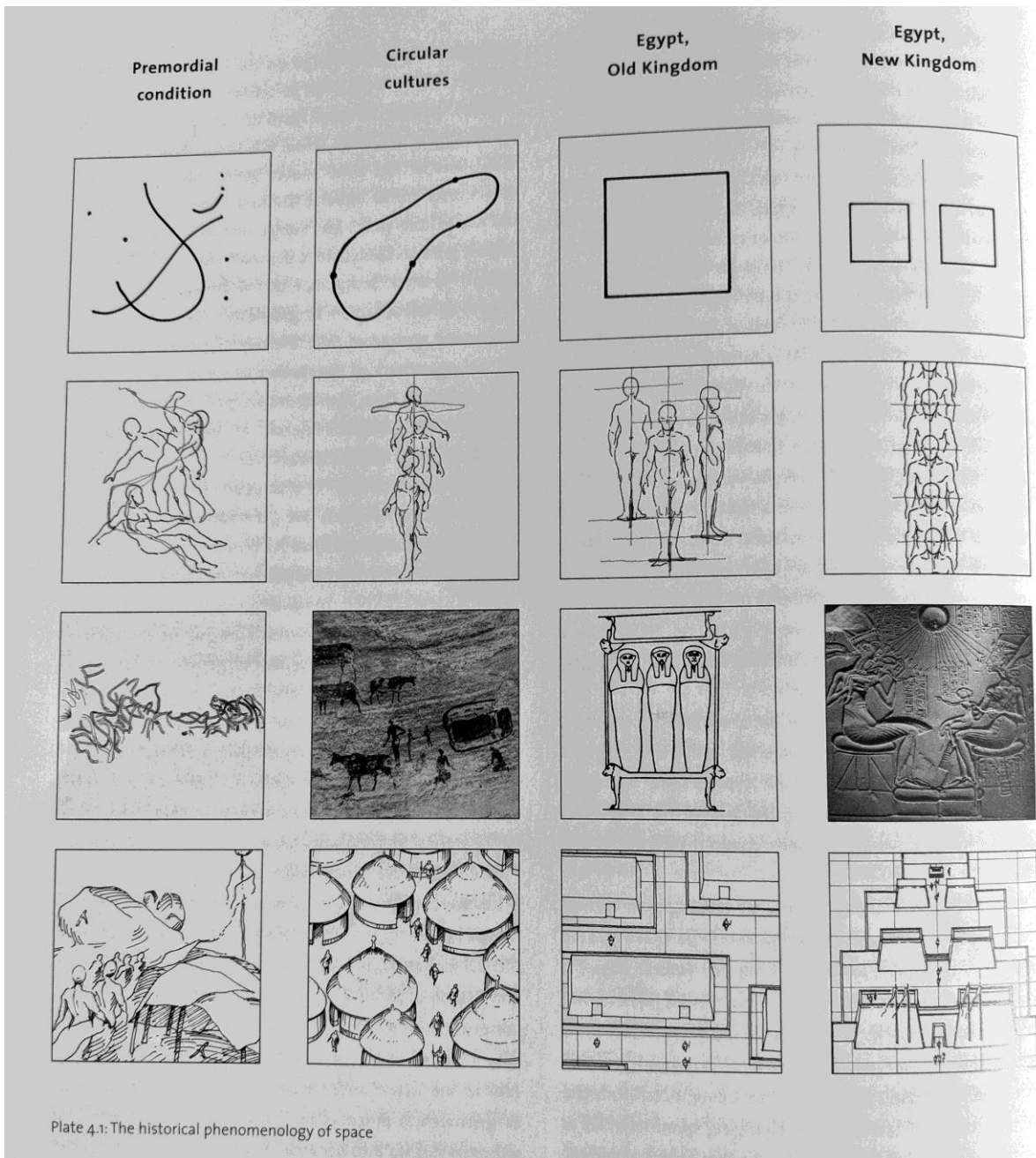
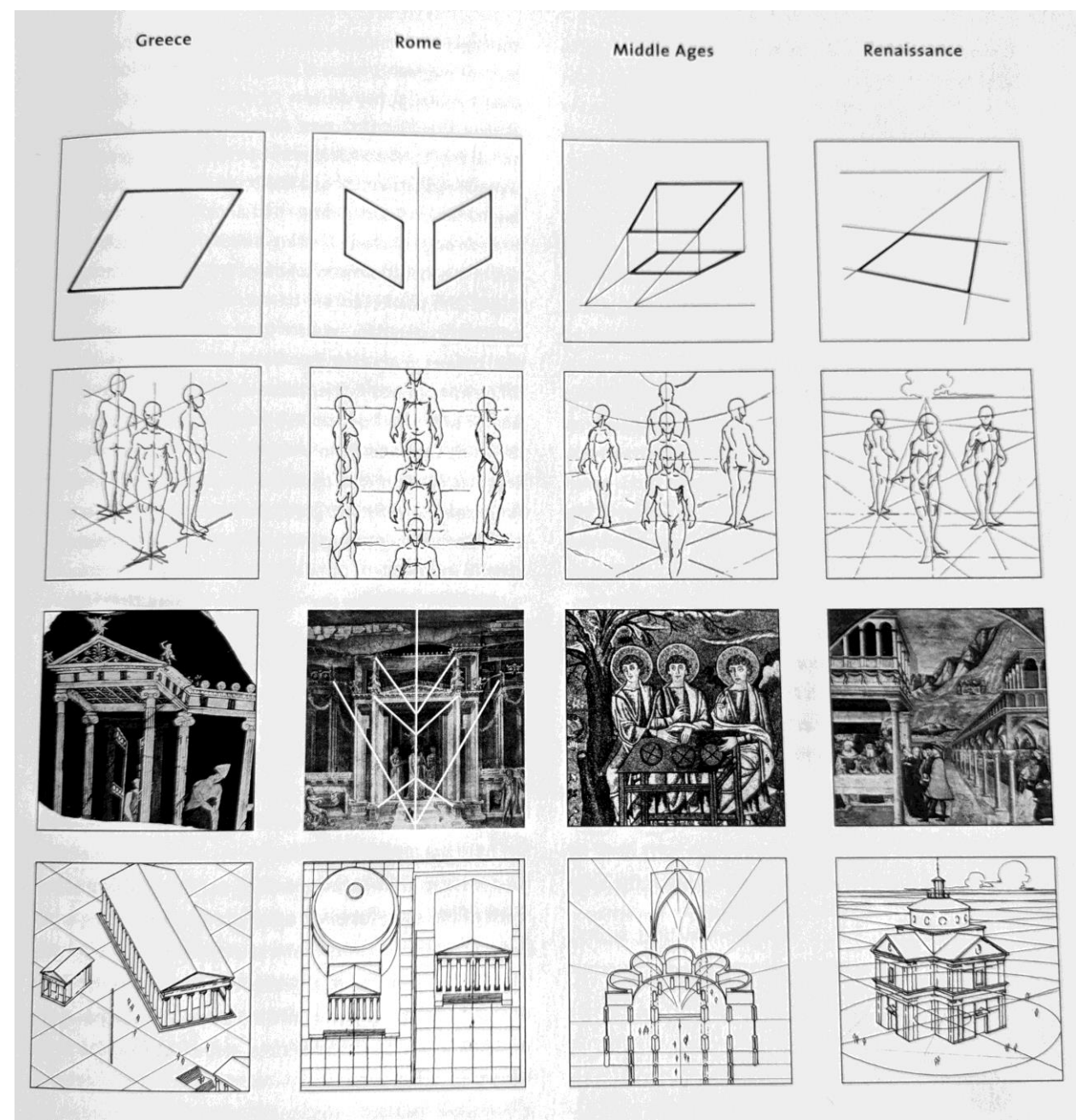


Plate 4.1: The historical phenomenology of space



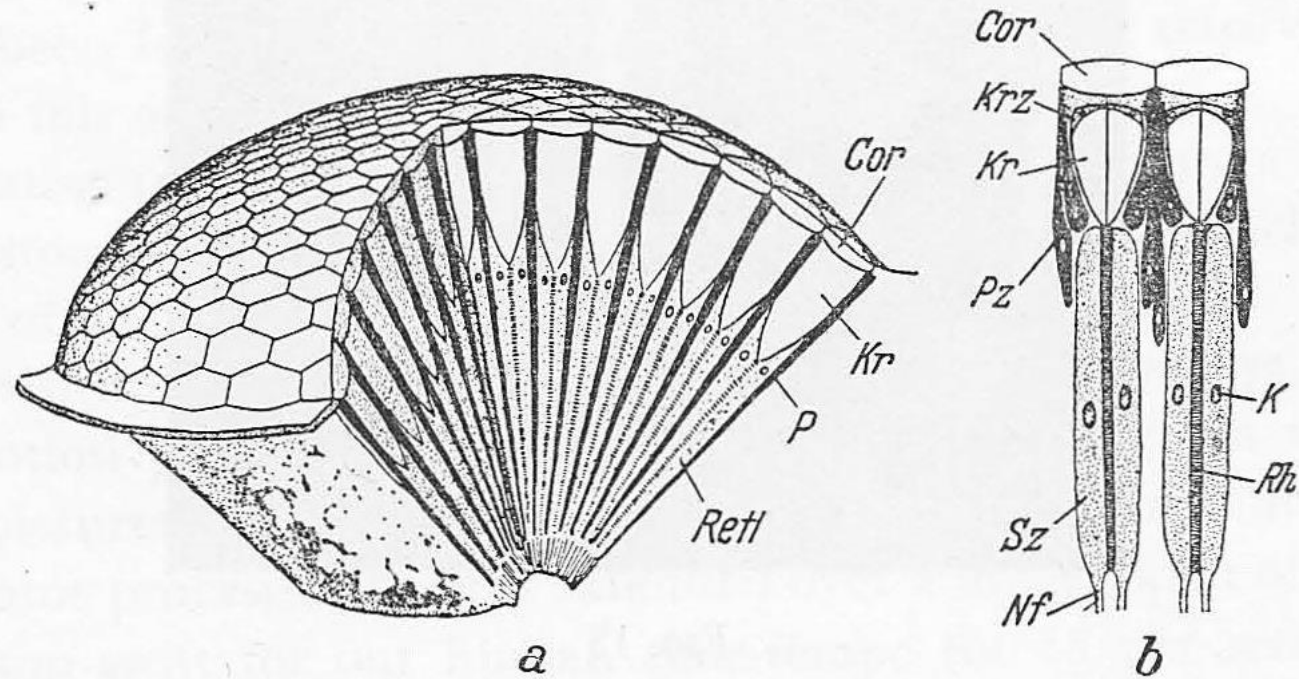


FIG. 11

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



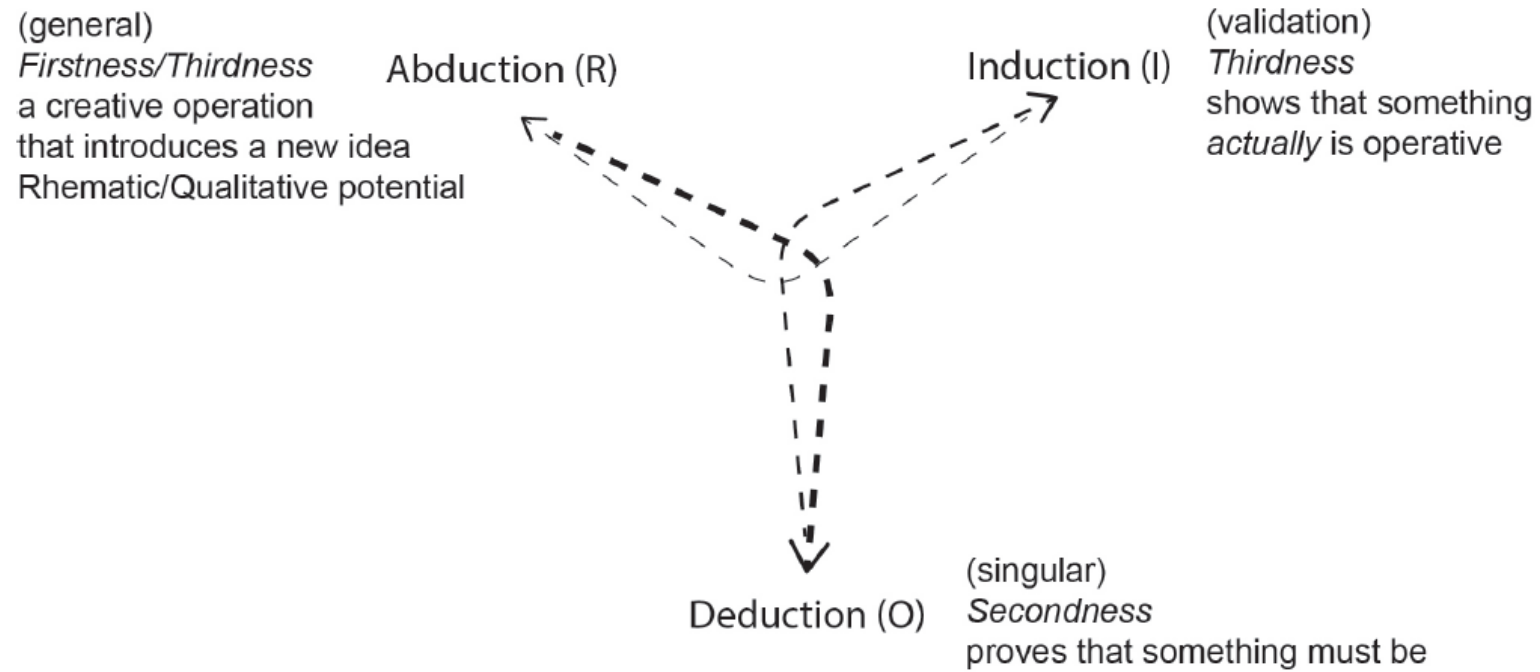
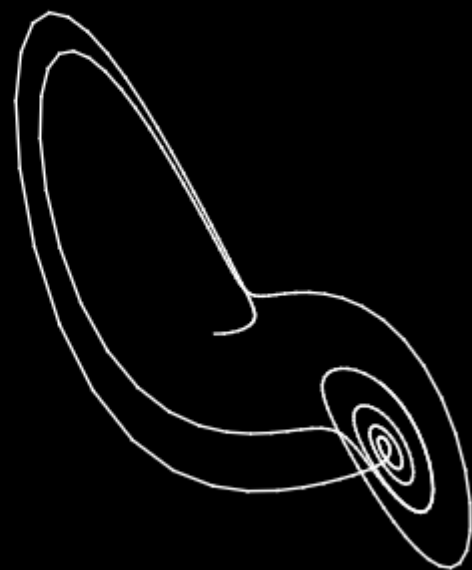
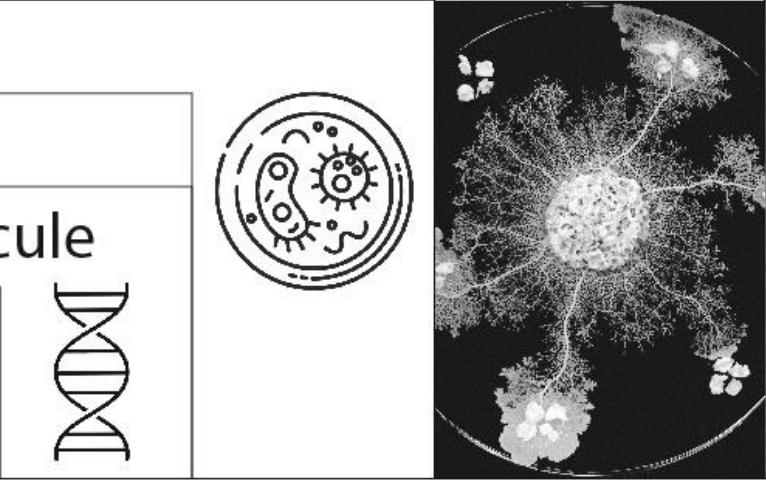
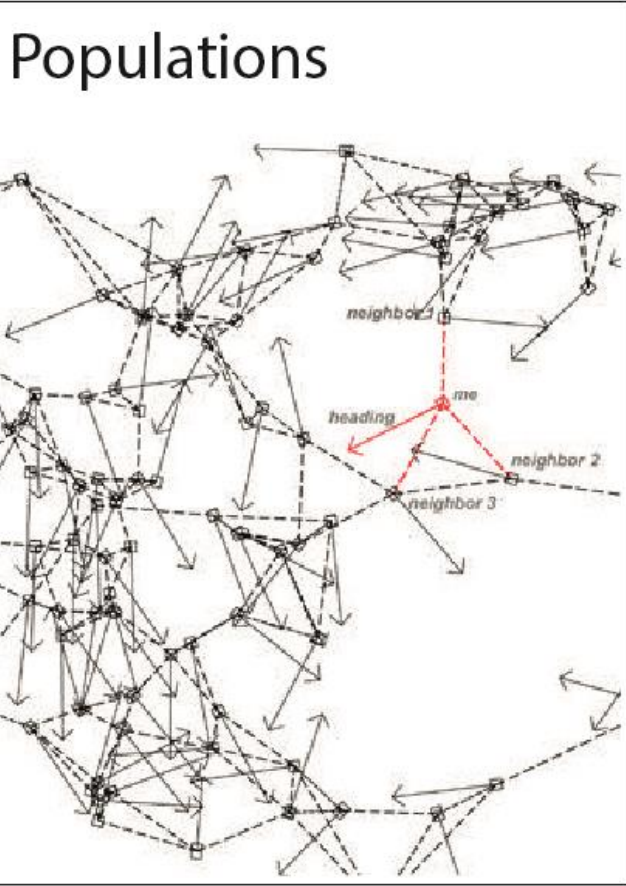


Figure 4.8: Abduction is a process: whereby abduction, being productive, creates, deduction predicts and induction evaluates; forming a cyclic iterative model of reasoning. Abduction, in terms of the Interpretant, is of Firstness, Deduction of Secondness and Induction Thirdness.



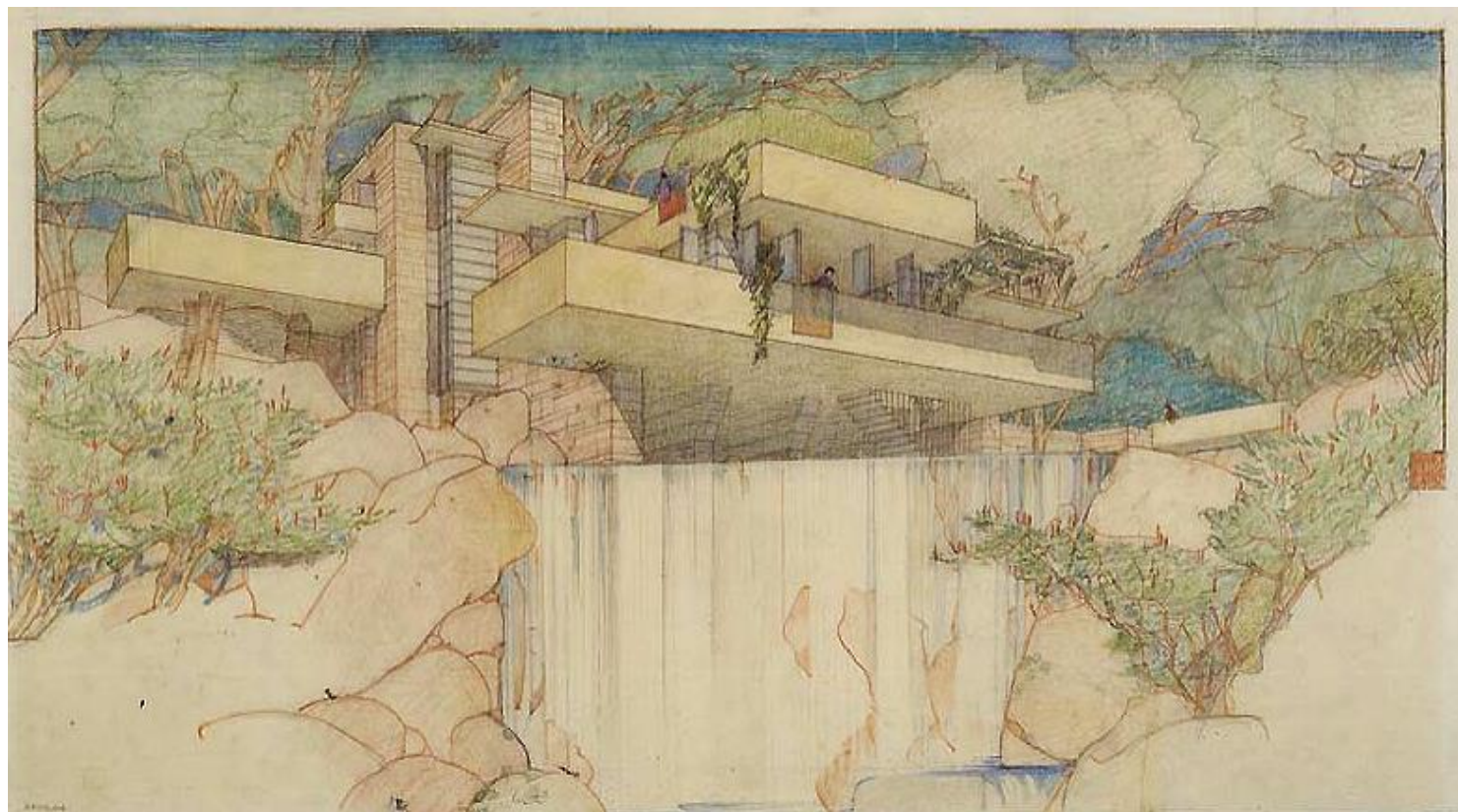
Organism	Aggregation
Organ System	
Organ	
Tissue	
Cell	
Organelles	
MacroMolecule	
Molecule	
Atom	

Ecosystems



Biosphere

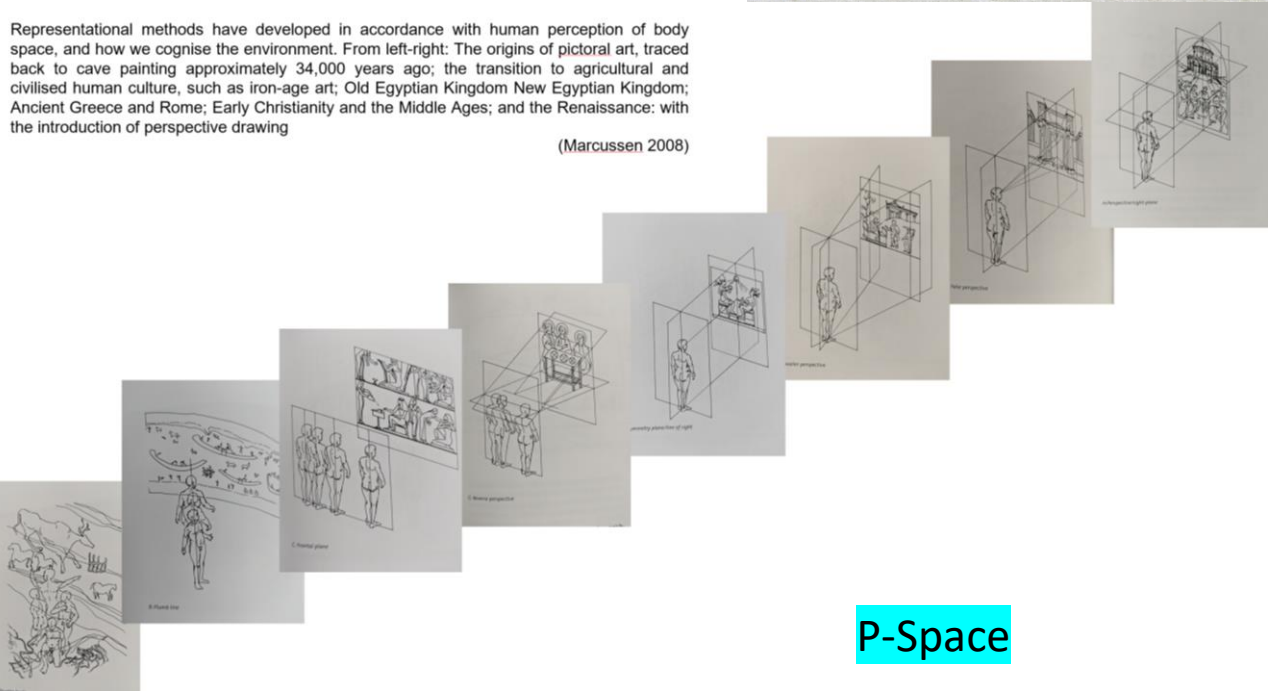






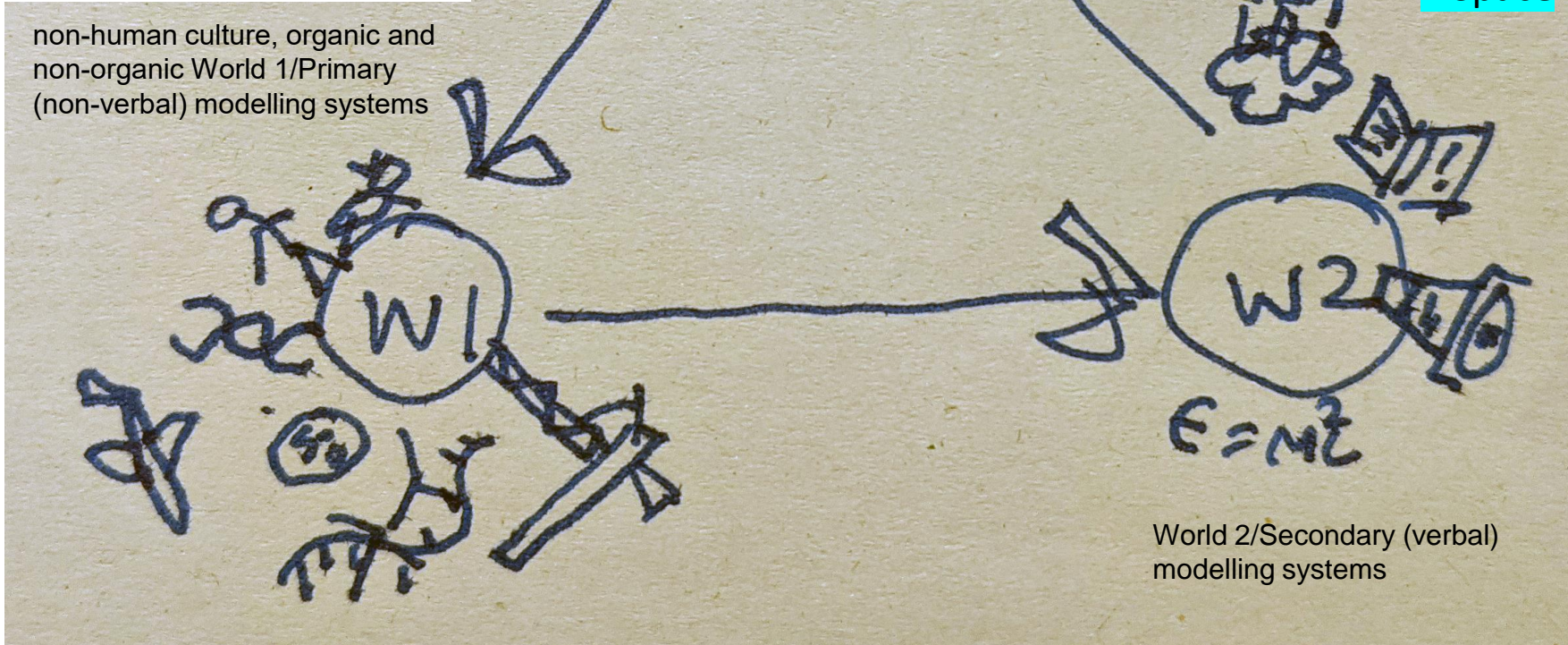
Representational methods have developed in accordance with human perception of body space, and how we cognise the environment. From left-right: The origins of pictorial art, traced back to cave painting approximately 34,000 years ago; the transition to agricultural and civilised human culture, such as 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 2008)



P-Space

non-human culture, organic and non-organic World 1/Primary (non-verbal) modelling systems

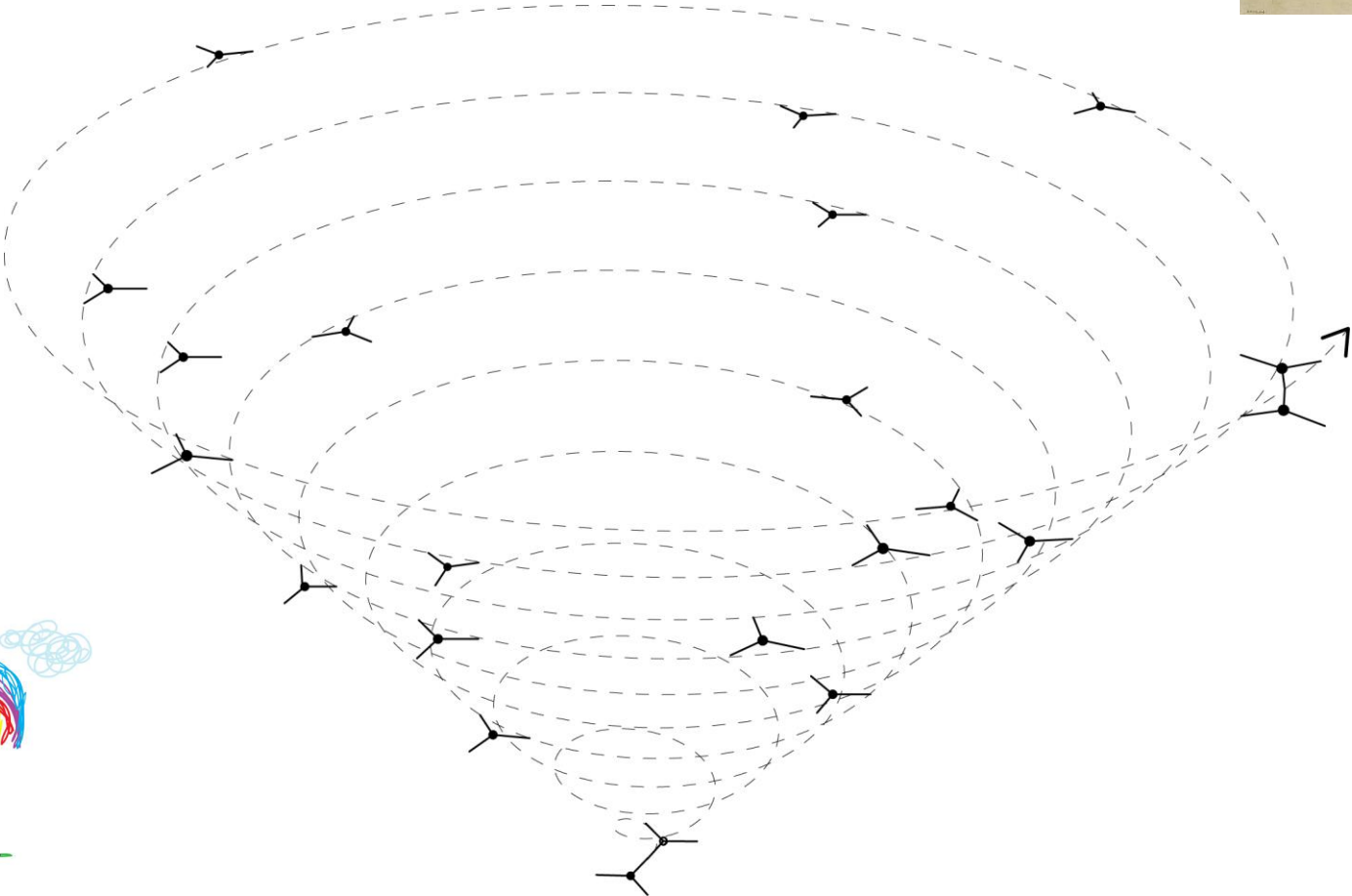


L-Space

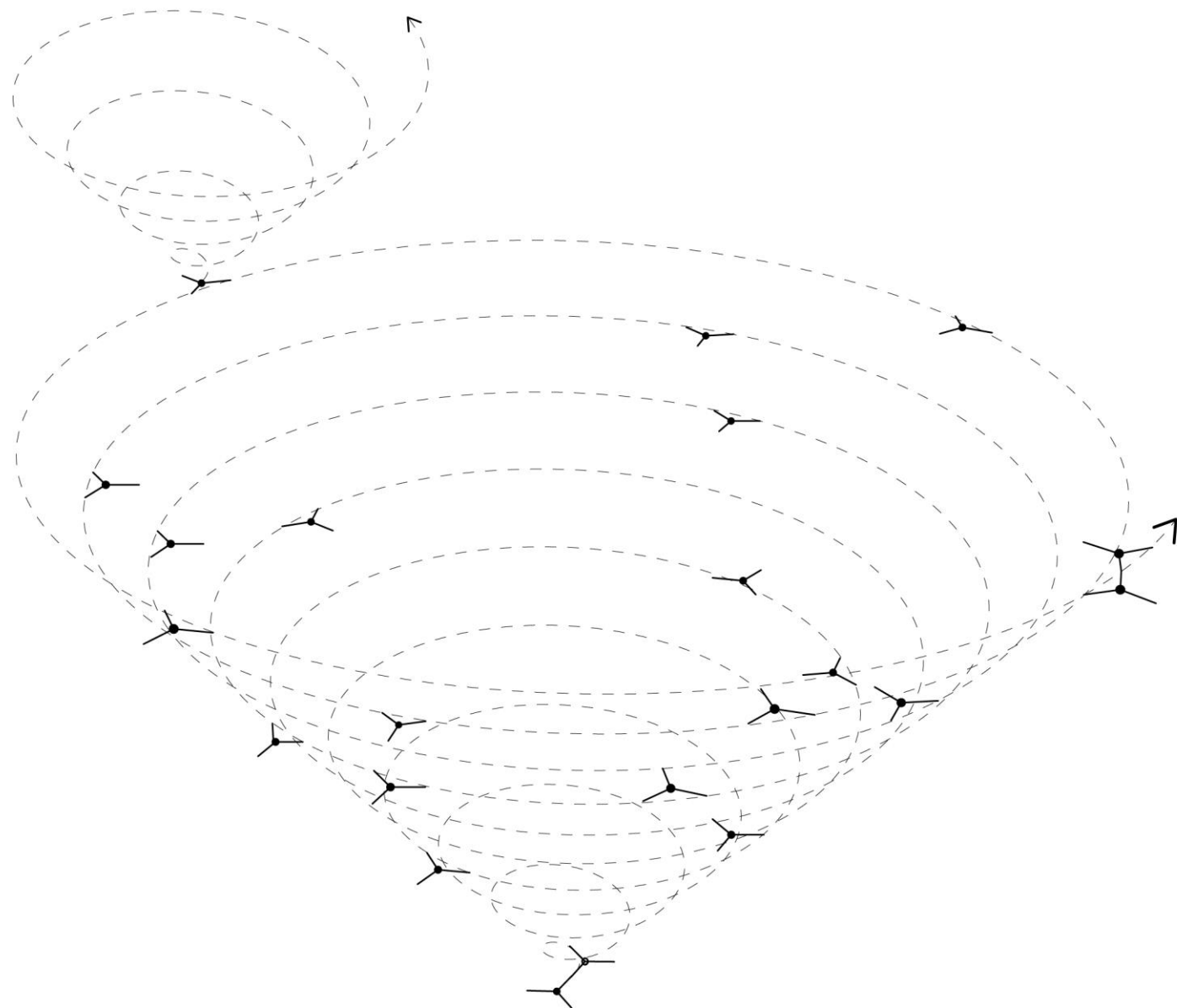
W3/tertiary (non-verbal/verbal symbiotic) modelling: human culture).

World 2/Secondary (verbal) modelling systems

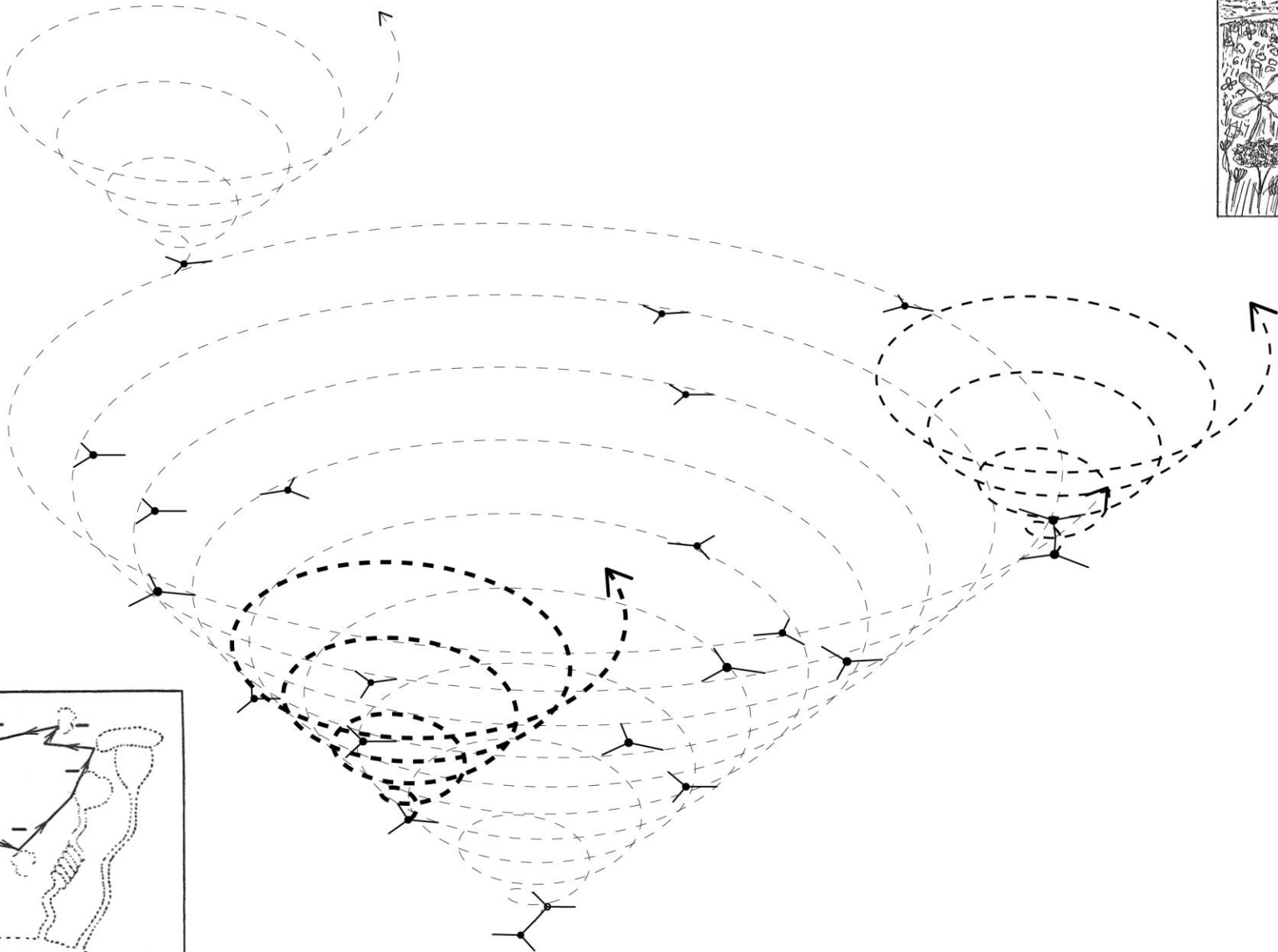
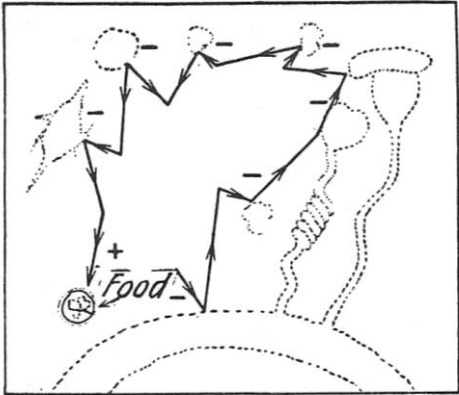
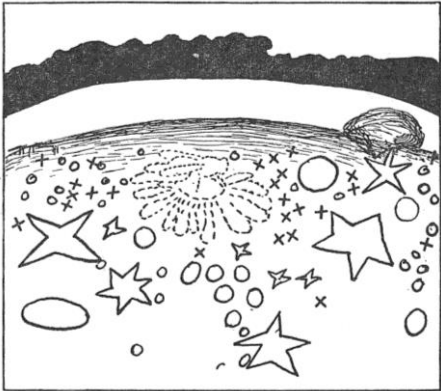
Individual human development



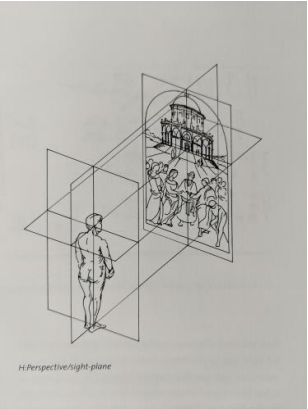
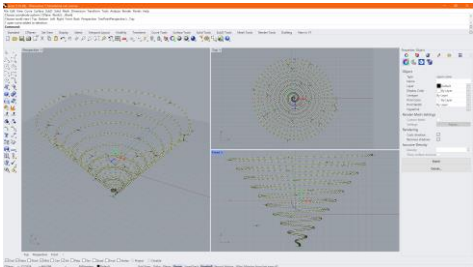
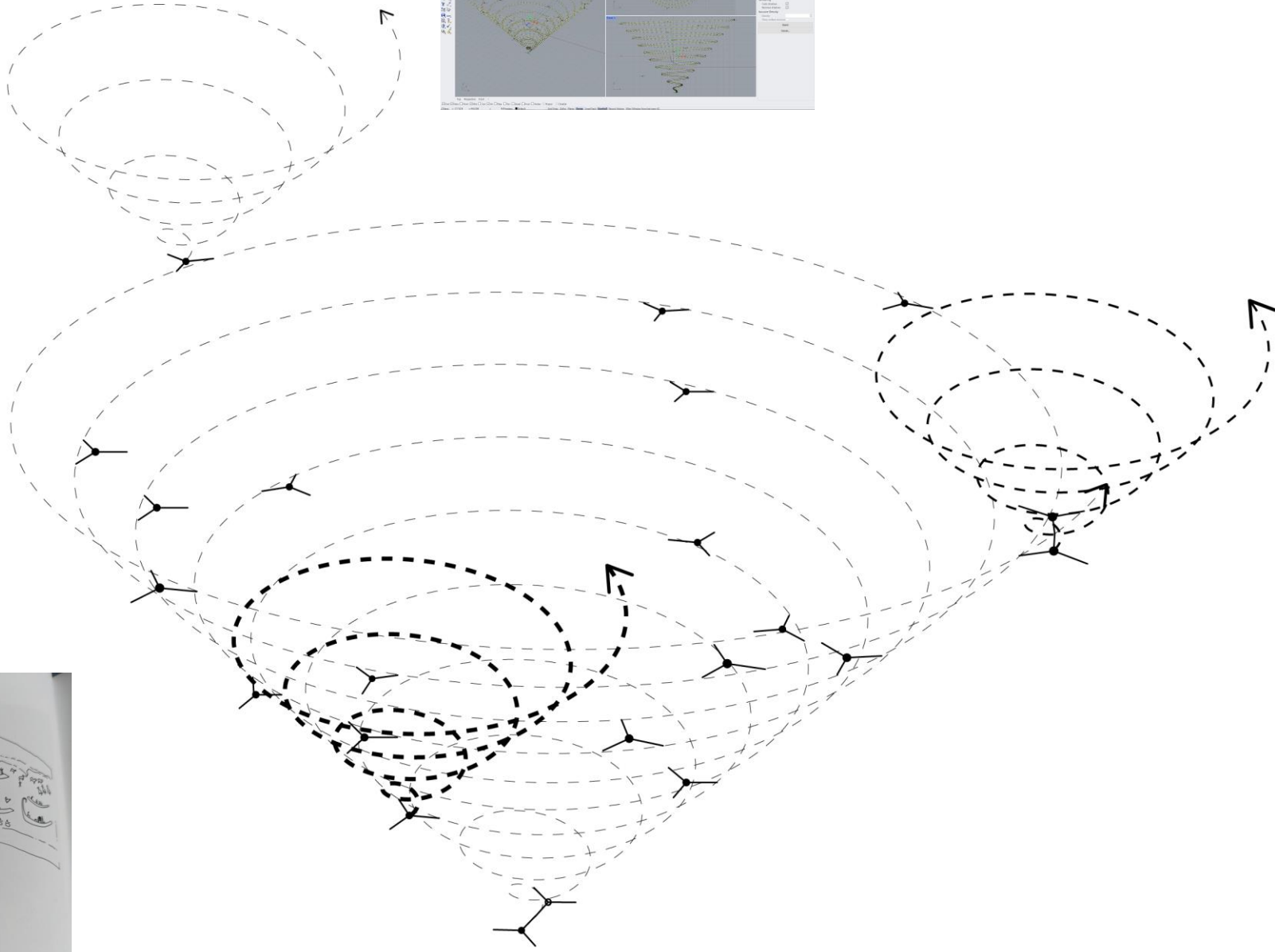
Evolutionary development



Species development



Human cultural evolution



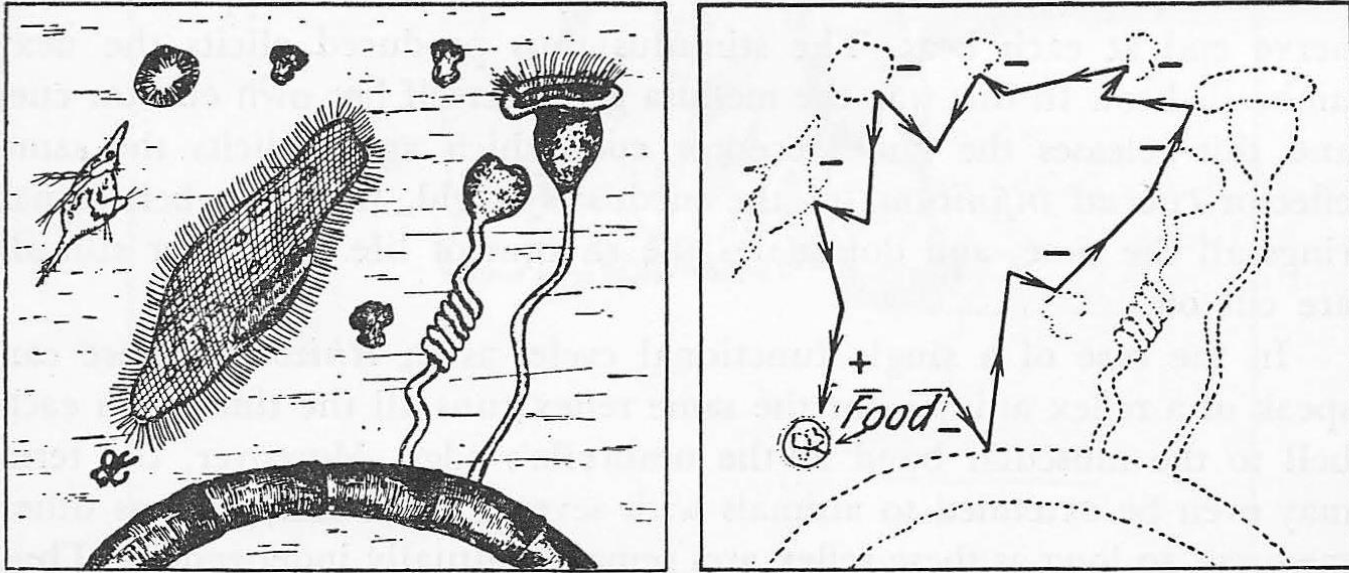


FIG. 15
Environment and *Umwelt* of the *Paramecium*

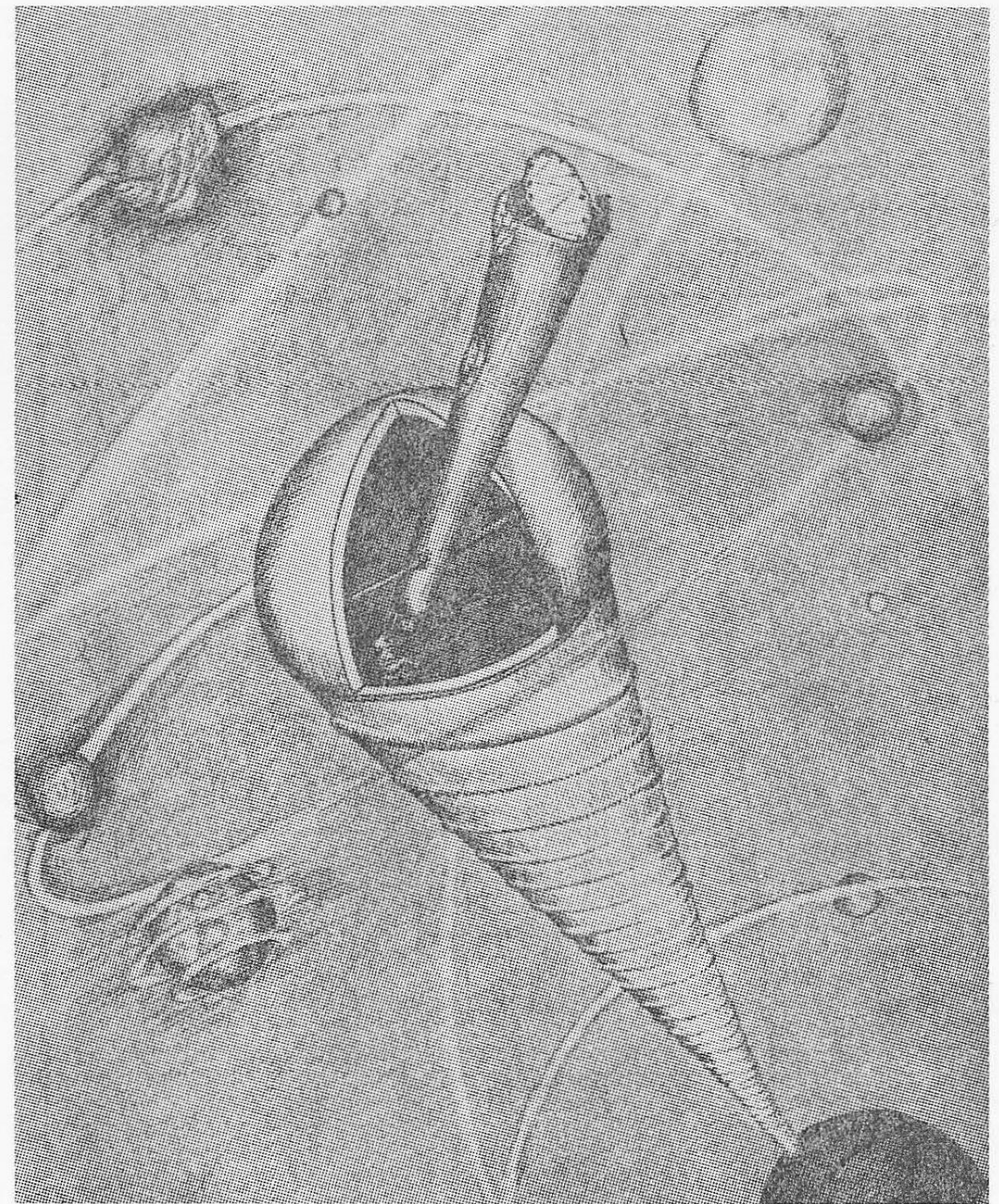


FIG. 53
The astronomer's *Umwelt*

THANK YOU FOR LISTENING

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