

What is Cognitive Semiotics?

Lectures in Cognitive Semiotics, ENS, Paris 2012

Lecture 1



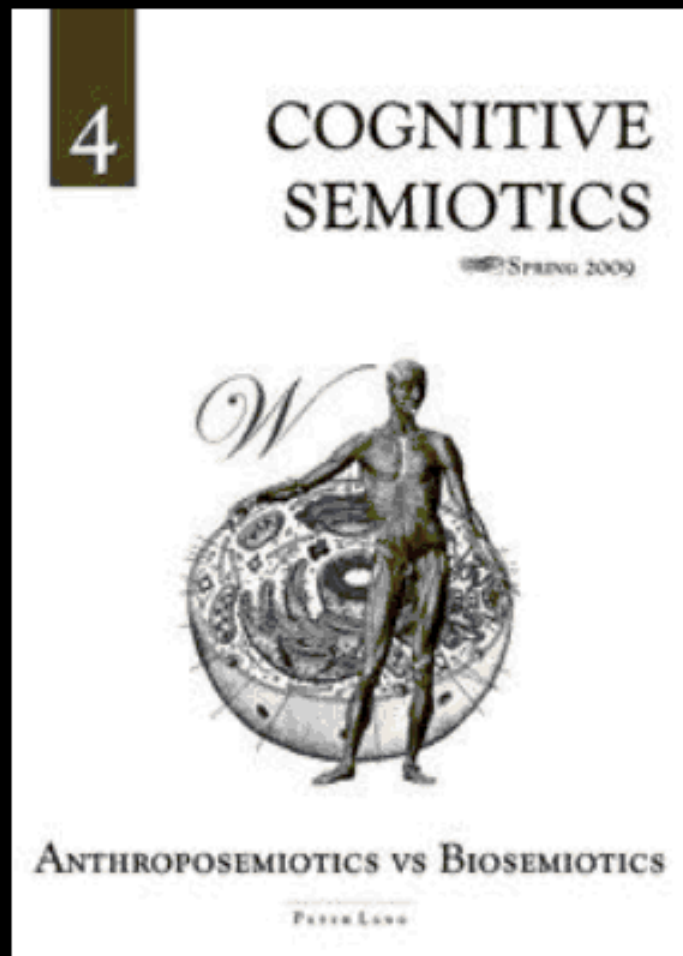
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Cognitive Semiotics

- **Not** a “**branch**” of the general field of semiotics, defined either in terms of
 - domain (e.g. biosemiotics, semiotics of culture, social semiotics...)
 - modality (e.g. visual semiotics, text semiotics)
- **Not** a particular “**school**” of semiotics (e.g. Peircean, Saussurean, Greimasian...)
- **Not** a particular “**theory**” (e.g. Existential Semiotics)
- **Not** necessarily called “**cognitive semiotics**” by some practitioners (e.g. Merlin Donald)
- **Not** a new (and fancier?) name for (traditional) **cognitive science**

Journal of Cognitive Semiotics

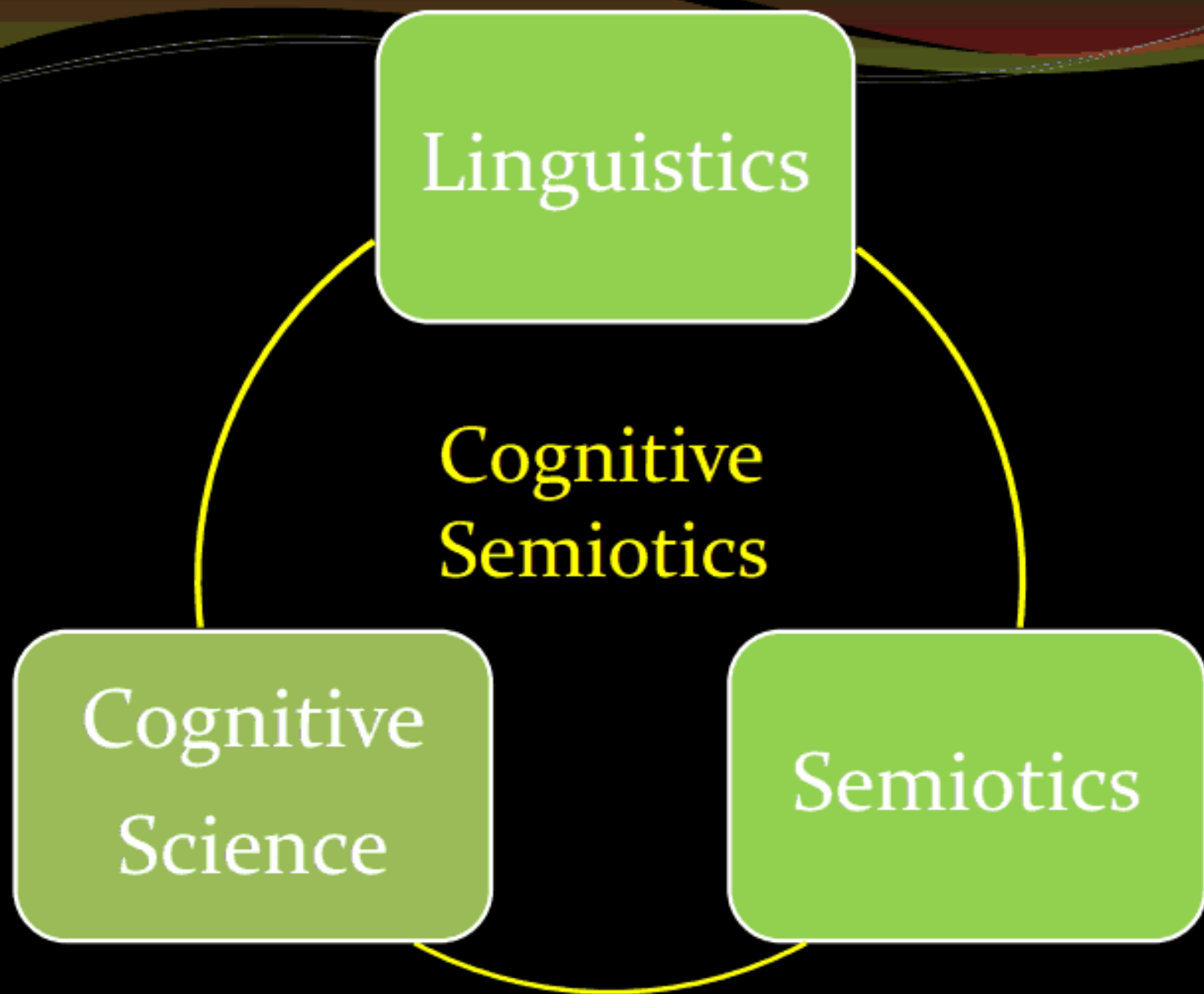


“... integrating methods and theories developed in **the disciplines of cognitive science** with methods and theories developed in **semiotics and the humanities**, with the ultimate aim of providing new insights into the realm of human signification and its manifestation in cultural practices.”

www.cognitivesemiotics.com

Begs questions such as:

- Which “theories and methods”?
- Why is it necessary to “combine” them?
- How is cognitive semiotics different from existing interdisciplinary fields? (e.g. cognitive science)?
- What kind of “insights” and how to they relate to central research questions?



Semiotics

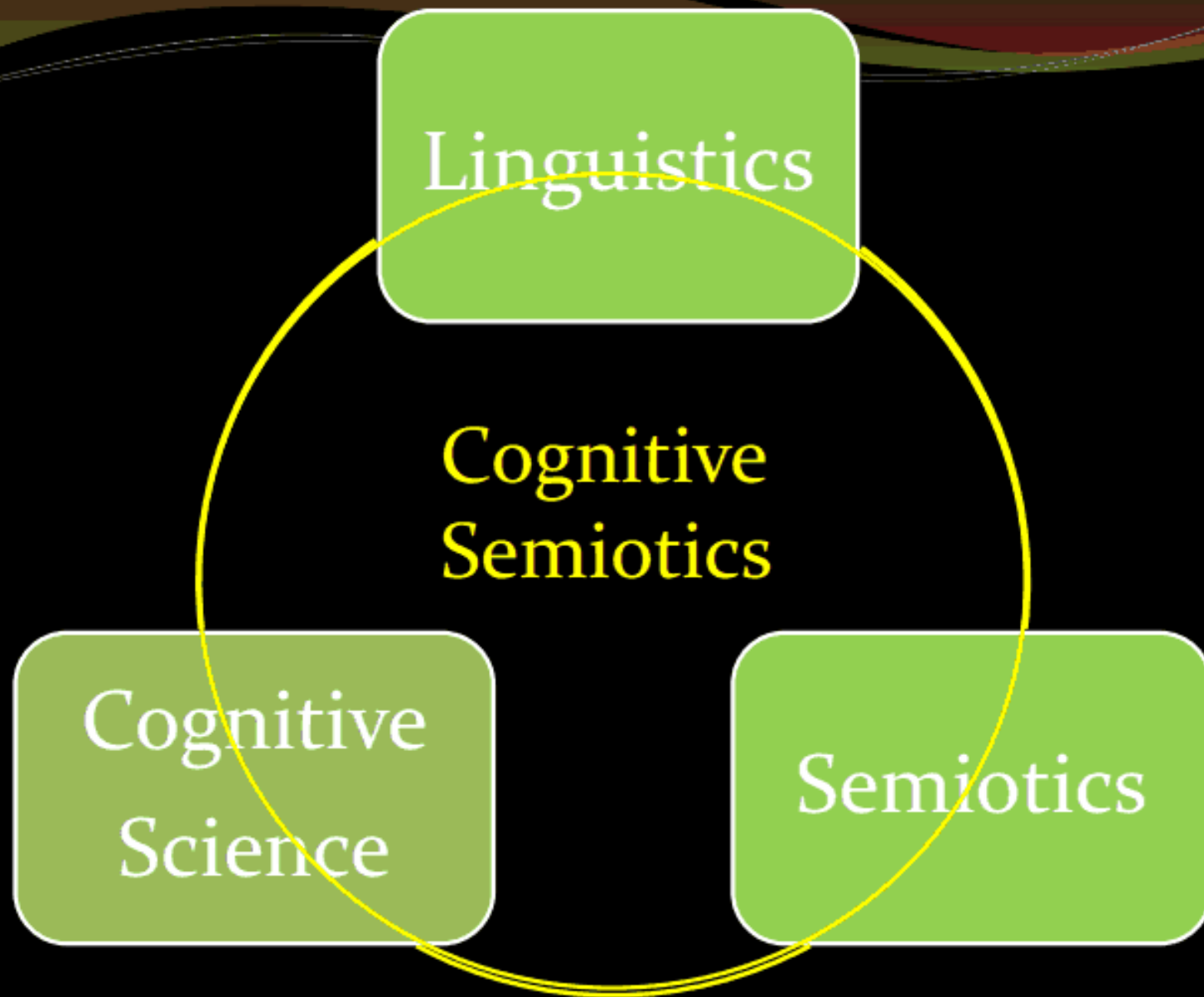
- ✓ A tradition concerned with the analysis of meaning (and communication) - from an experiential perspective
- ✓ Not concerned exclusively with language, but with different “semiotic systems” such as gesture, music and visual representation
- ✓ Interdisciplinary – but with a strong bias towards the humanities (most often maintaining the opposition nature vs. culture)
- A tendency to focus either on specific art-works (“ideographic science”) or all-encompassing (speculative) “models of meaning”
- Internally divided in “schools” (cultural semiotics, bio-semiotics, phenomenological semiotics...)
- No (or little) attention to scientific rigor, and systematic analysis of empirical evidence – while often accusing others (e.g. T. Sebeok on “ape language”)

Cognitive Science

- ✓ “The new science of the mind” (Gardner 1985)
- ✓ Systematic utilization of experimental and observational data, in combination with (computational) modeling
- ✓ Increasingly moving away from the “computer metaphor of mind” (“the embodied mind”, “the extended mind”...)
- A strong bias towards physicalism and/or computationalism (cf. “the hard problem of consciousness”)
- Difficulties in dealing with issues of value, subjectivity, norm, culture...
- Methodological individualism: “the mind/brain”
- Polarized on central notions: “representation”, “intention”

Linguistics

- ✓ Focus on what is most *obviously* defining of human communication, cognition and culture: language
- ✓ A tradition of systematic analysis of different kinds of evidence: intuitions, observations, experimentation
- ✓ Increasingly moving away from the idea of language as a self-contained system or “module”
- Definitional problems: what (exactly) is language, and where do the borders go with the “paralinguistic” (gestures, emotional prosody...)
- “Interface problems”: with cognition, “world-knowledge”, other communicative/cognitive systems...
- Proverbial division between “schools”: formal, functional, cognitive, enunciational, CA...





Overview of the lecture

1. Who is involved in the CS-project?
2. What are the fields of inquiry?
3. What are the common characteristics?
4. What are the ultimate goals – and the more specific research questions?

Zlatev (2012). Cognitive Semiotics: An emerging field for the transdisciplinary study of meaning. *Public Journal of Semiotics*, Vol IV/1.

Semiotics Encyclopedia Online, Entry: Cognitive Semiotics
<http://www.semioticon.com/seo/C/cogsem.html>

1. Who?

Research groups involved in establishing
cognitive semiotics

A (seldom acknowledged) predecessor



- **Thomas Daddesio** (1995) *On Minds and Symbols: The Relevance of Cognitive Science for Semiotics*
“... demonstrate both **the feasibility and utility of a cognitive approach to semiosis** by setting forth a cognitive theory of symbols, which I will then **apply** to a particularly difficult area of inquiry, **the development of symbolic communication in children**” (ibid: 2)
- Currently at Slippery Rock University, Pennsylvania

Center for Semiotics, Aarhus

- **Per Aage Brandt:** *Spaces, Domains and Meanings. Essays in Cognitive Semiotics* (2004). Ideas from “dynamic semiotics” (René Thom), combined with “cognitive semantics” (construal, force dynamics, schemas), most often applied to language.
- **Fredrik Stjernfeldt:** *Diagrammotology* (2007). A synthesis of Peircian and Husserlian ideas (mostly on iconic signs), with applications to “semiotic thresholds” and the “signifying body”; a second focus on multiculturalism





ADSKILLELSSENS POLITIK

MULTIKULTURALISME
— IDEOLOGI OG VIRKELIGHED

JENS-MARTIN ERIKSEN & FREDERIK STJERNFELT

Andens 181 og Andens

Jens-Martin Eriksen, Frederik Stjernfelt

LES PIÈGES DE LA CULTURE

Les contradictions dénoncées
du multiculturalisme

MetisPresses

Center for Semiotics, Aarhus

- **Peer Bundgaard**: “image schemas”, “force dynamics” (*Routledge Companion to Semiotics*, 2009), Husserl and language, aesthetic cognition
- **Svend Østergaard**: *Cognition and Catastrophes: Studies in Dynamic Semiotics* (1998); More recently integrating ideas from developmental psychology and “enactive” cognitive science.
- **Line Brandt**: enunciation theory and cognitive semantics, subjectivity in language, iconicity (*The Communicative Mind*, in press)
- **Kristian Tylén & Riccardo Fusaroli**: social interaction, “extended mind”, experimental methodology, brain imaging.



Heart Rate Synchronization in a Collective, Creative Construction Task

Kristian Tylén & Riccardo Fusaroli

Center for Semiotics, Institute for Aesthetics and Communication & Center for Functionally Integrative Neuroscience, Aarhus University

How does coordination on a joint task affect human physiology? In this study, we measured heart rate synchronization between participants engaged in individual and collective LEGO construction tasks. We found that participants synchronize their heart rates both in individual and collective trials. However, the mechanism differ in the two cases: In individual trials, participants' heart rates synchronize due to the physical affordances of the task, just like two drummers separately practising the same song. In collective trials they synchronize due to social entrainment over time.

From poster at CogSci 2012, Sapporo

Department of Cognitive Science University of Case Western Reserve Cleveland



- “... studies art, design, music, language – both as grammar, as text, as literature, and as speech and discourse – sign structures and communicative *meaning production* in general, differentiated and variable within the unifying potential of the human mind – and applies to this effect a comparative methodology that can be characterized as semiotic in a cognitive perspective: as a *cognitive semiotics*.”
<http://www.case.edu/artsci/cogs/CenterforCognitionandCulture.html>
- **Todd Oakley**: *From Attention to Meaning: Explorations in Semiotics, Linguistics, and Rhetoric* (2008)
- **Per Aage Brandt** (relocating from Aarhus in 2006)
- **Mark Turner**: Fauconnier, G. & Turner, M. (2002). *The Way we Think. Conceptual Blending and the Mind's Hidden Complexities*.
- **Merlin Donald**: evolution, consciousness, external memory

Centre for Language, Cognition and Mentality, Copenhagen Business School



- **Per Durst-Andersen:** *Linguistic Supertypes: A Cognitive-semiotic Theory of Human Communication* (2011) Reconciling the trichotomies of Peirce and Bühler, with a good deal of linguistic data, and some psychology.



- **Søren Brier:** *Cybersemiotics: Why Information is Not Enough* (2008) Combining Peircean semiotics and (second-order) cybernetics, with an evolutionary focus, and strong epistemological ambitions: a framework for unifying all domains of human knowing.



- **Victor Smith:** linguistic communication in interaction with other semiotic resources such as pictures and sensory impressions (Smith, Møgelvang-Hansen & Hyldig 2010); the FairSpeak project (involving stakeholders)

Centre for Cognitive Semiotics (CCS) Lund University



<http://project.sol.lu.se/en/ccs/>

Current staff of CCS (2012)

1. Mats Andrén (Linguistics, Gesture Studies)
2. Daniel Barratt (Experimental Psychology, Film studies)
3. Anna Redei Cabak (Cultural Semiotics, Film studies)
4. Gerd Carling (Historical Linguistics)
5. David Dunér (History of ideas, Interstellar communication)
6. Arthur Holmer (Typological Linguistics)
7. Anastasia Karlsson (Typological Linguistics, Prosody)
8. Lars Kopp (Cognitive Science, Vision Research)
9. Elainie Madsen (Primatology, Experimental Psychology)
10. Joel Parthemore (Philosophy of Mind, Cognitive Science)
11. Tomas Persson (Primatology, Cognitive Science)
12. Michael Ranta (Semiotics, Aesthetics)
13. Gunnar Sandin (Architecture, Semiotics)
14. Chris Sinha (Developmental Psychology, Linguistics)
15. Göran Sonesson (Semiotics), Research Director
16. Jordan Zlatev (Linguistics, Cognitive Semiotics), Deputy Research Director

Centre for Cognitive Semiotics (CCS), Lund University

“Two general hypotheses are characteristic of our research environment: (1) that the specificity of mankind is not found in verbal language alone, but in the means of conveying meaning more generally; and (2) that part of this specificity has emerged in historical time, without the need for any special biological adaptations. We divide research within CCS into 5 themes:

- Theme 1: Evolution of cognition and semiosis
- Theme 2: Ontogenetic development of cognition and semiosis
- Theme 3: Historical development of cognition and semiosis
- Theme 4: Cognitive-semiotic typology
- Theme 5: Experimental semiotics”

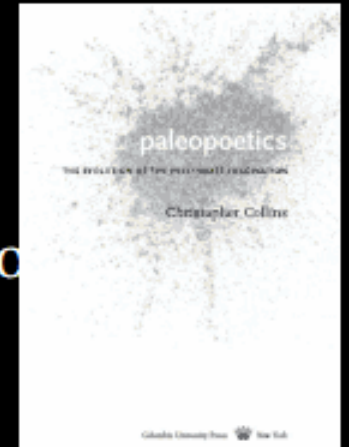
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2. Fields of research

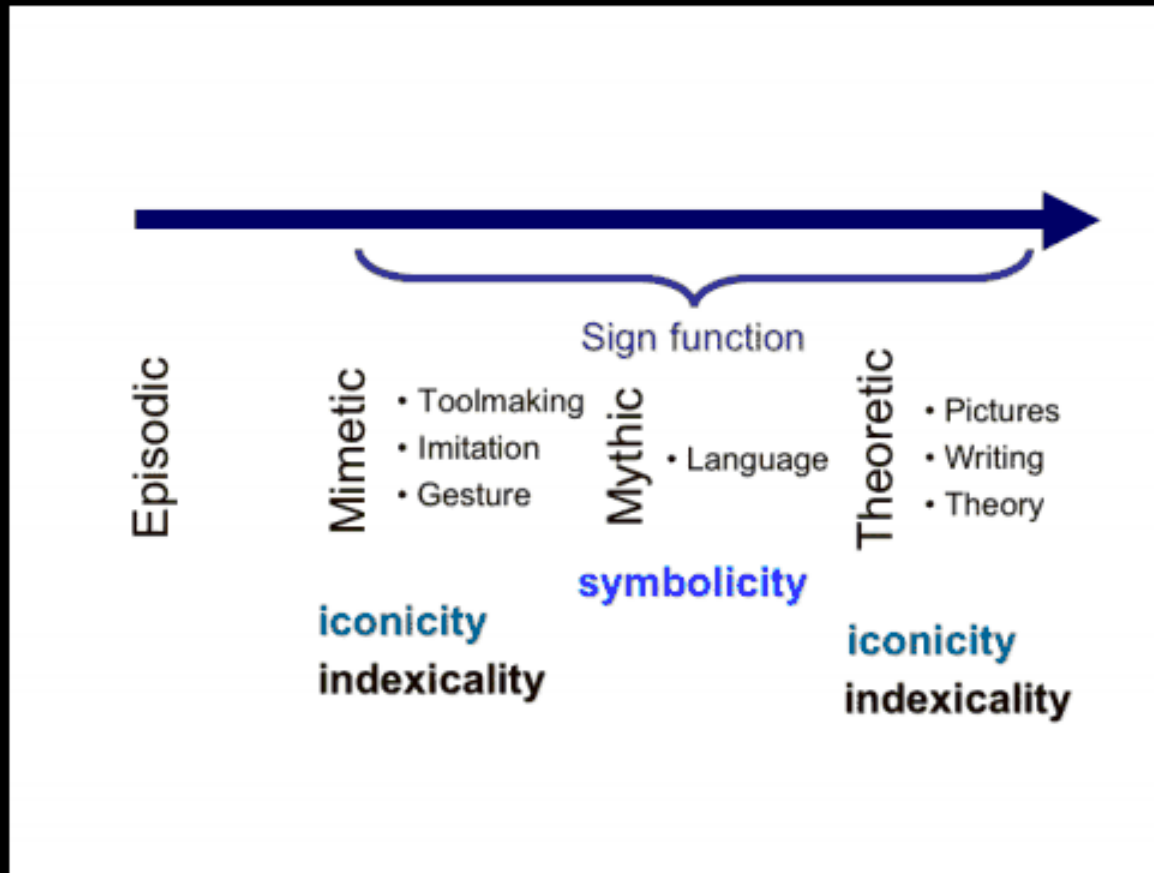
1. Bio-cultural evolution
2. Semiotic development in ontogeny
3. Gesture and multimodality
4. “The embodied mind”

Bio-cultural evolution

- **Merlin Donald:** *Origins of the Modern Mind* (1991), *A Mind so Rare* (2001), An integrated bio-cultural theory of human cognitive evolution
- **Christopher Collins:** *Paleopoetics: The Evolution of the Preliterate Imagination* (2013): Extending to aesthetics and literature
- **Terry Deacon:** *The Symbolic Species: The Co-evolution of Language and the Brain* (1997), An original application of Peircean ideas to human cognitive and linguistic evolution.



Donald's model and semiotics



Merlin Donald's (1991) stages of cognitive-semiotic evolution related to semiotic concepts (Sonesson 2007)

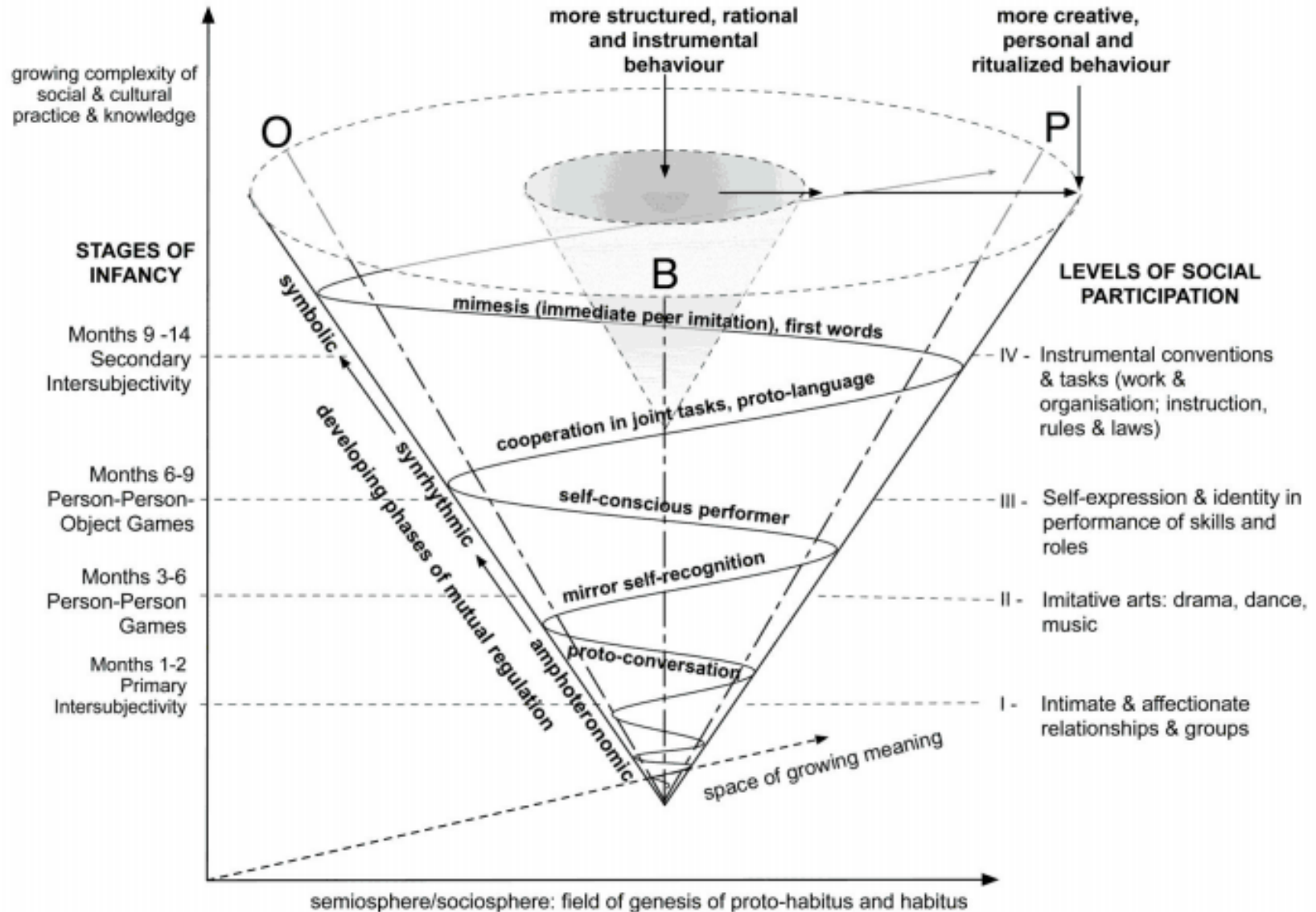
Semiotic development

- **Lev Vygotsky** and **Jean Piaget**: the (dialectic) “classics” of modern developmental studies
- **Colwyn Trevarthen**: (primary) intersubjectivity and musicality in preverbal development

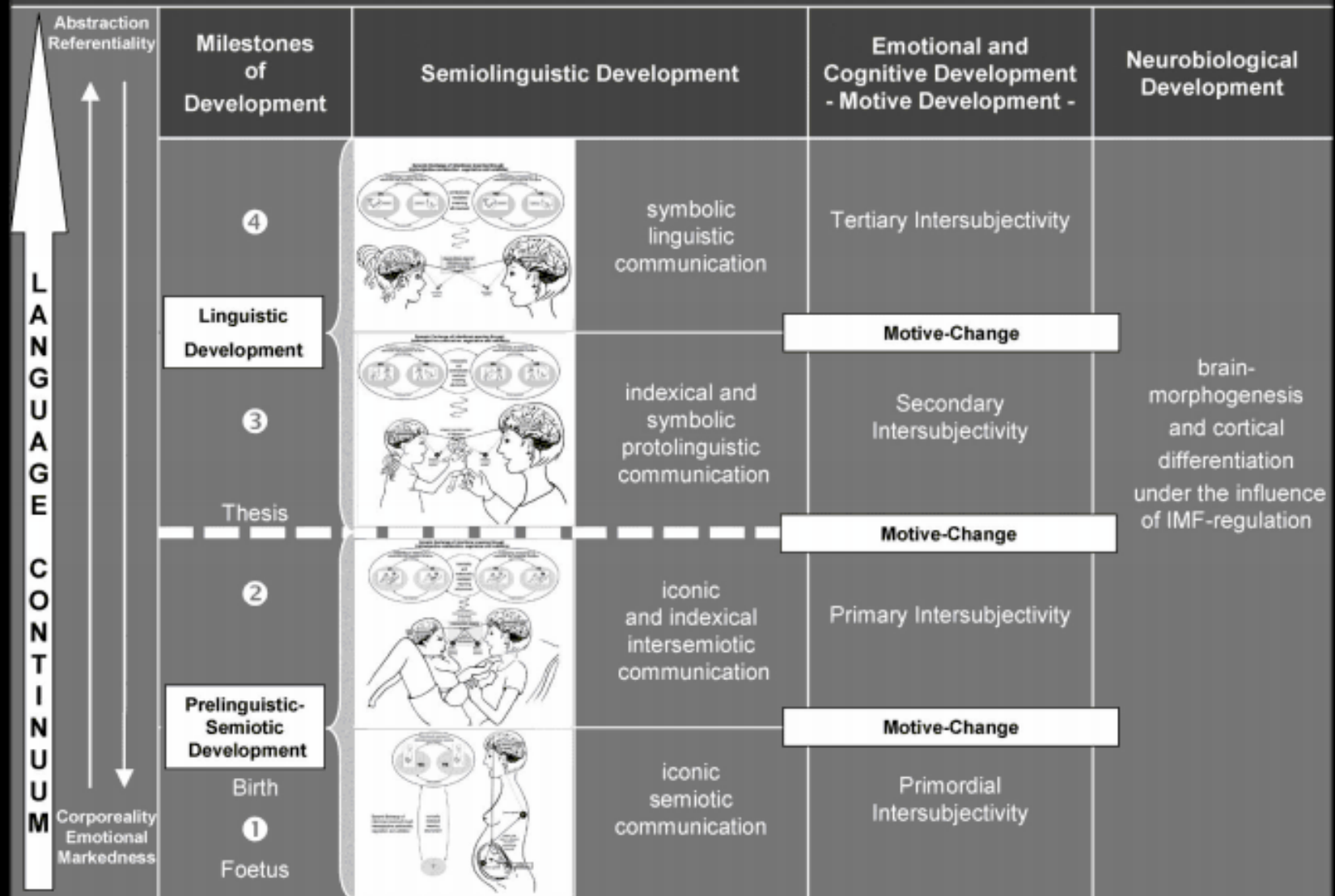


- **Michael Tomasello**: joint attention, pro-social motivation and “common ground” as basis for the emergence of uniquely human communication
- **Chris Sinha**: “epigenetic socio-naturalism” applied to spatial concepts, artifacts, language





Intersubjectivity as Primary Organiser of Language Development



From Lüdtke (2012)

Gesture and multimodality

- **Adam Kendon:** *Gesture* (2004), Perhaps the best overview of the study of gesture, with sensitivity to contextual and cultural details, but very little theory.
- **David McNeil:** *Gesture and Thought* (2005): Dialectical interactions between speech and gesture as complementary modes of representation of meaning; somewhat speculative.
- **Cornelia Mueller:** “Gestural Modes of Mimesis: Mimetic techniques and cognitive-semiotic processes driving gesture creation” (in press). Combining description with attempts at explanation, using a cognitive-semiotic approach.
- **Mats Andrén:** *Children’s Gestures between 18 and 30 months* (2010). Original synthesis of Kendon-style description, with cognitive-semiotic concepts and terminology. Qualitative and quantitative analyses.

“The social world within reach”

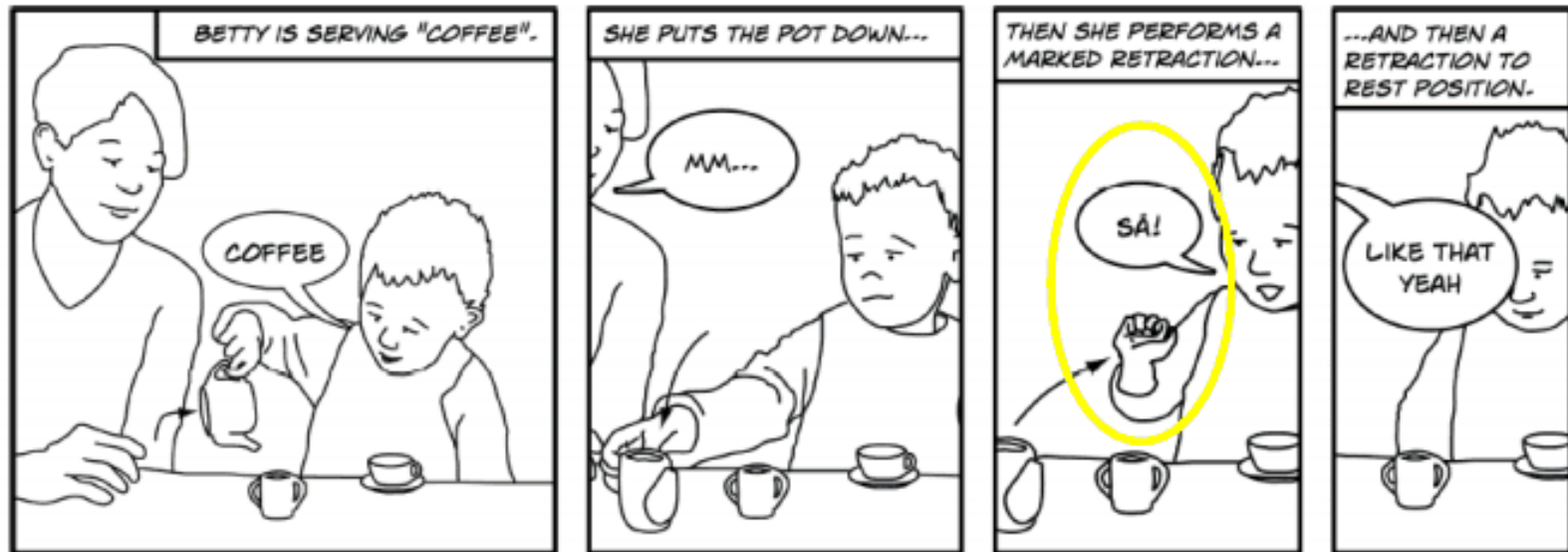
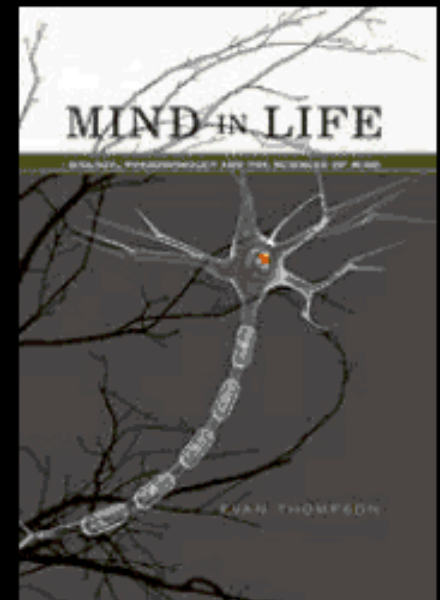
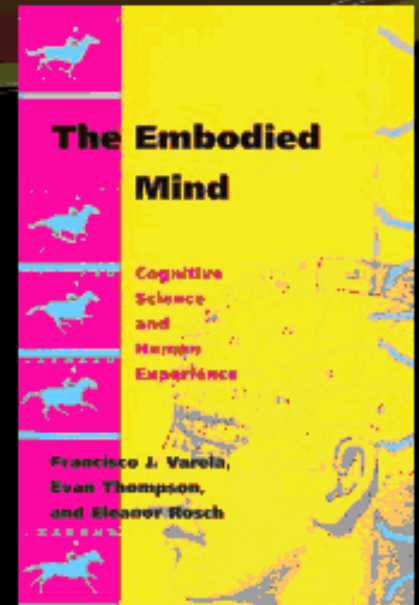


Figure 3: Betty (aged 24 months) is 'serving coffee'.

From Andrén (2012)

The Embodied Mind

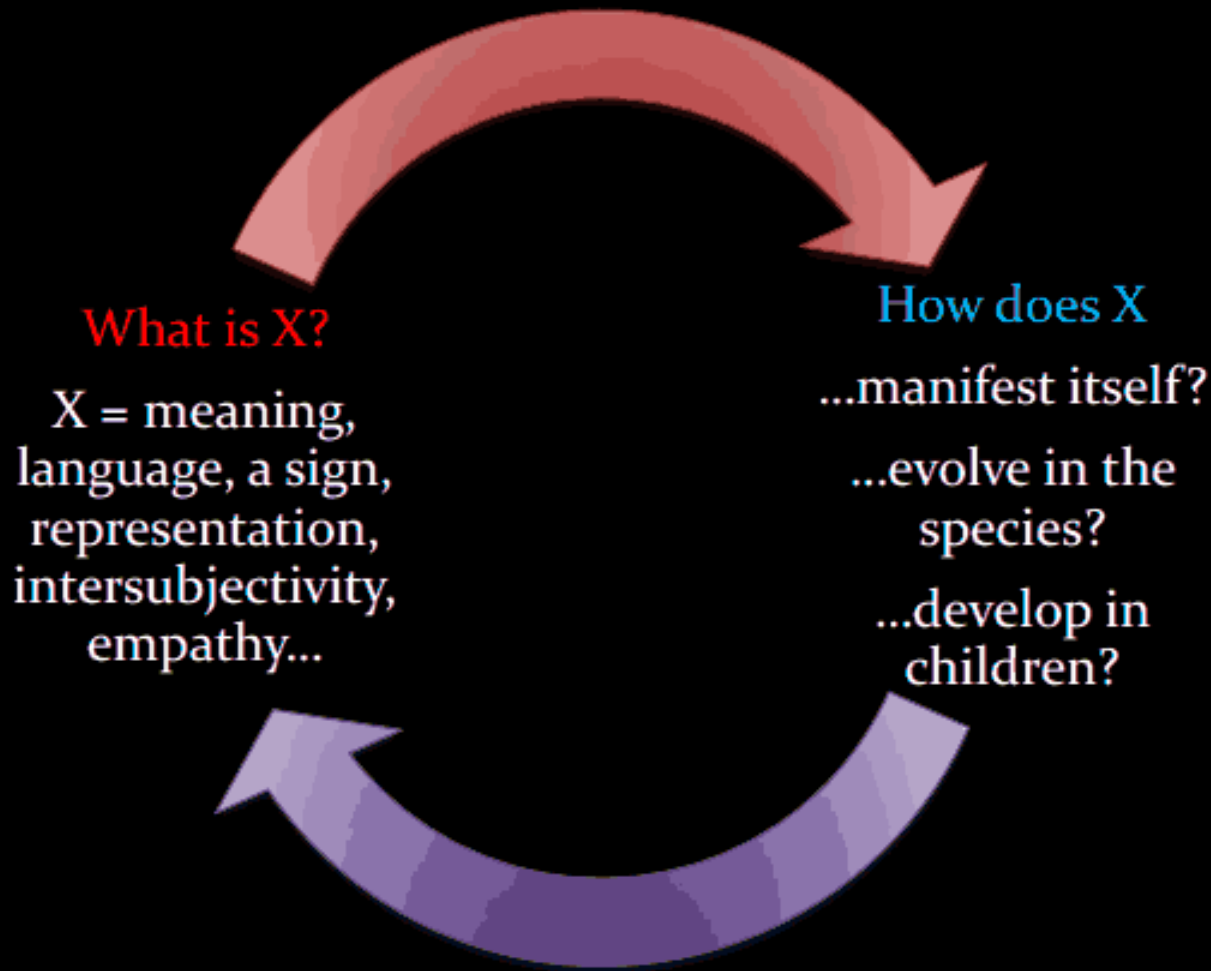
- **Francisco Varela:** “What is cognition? ... Enaction: A history of structural coupling that brings forth a world... [t]hrough a network consisting of multiple levels of interconnected, sensorimotor subnetworks.” (Varela, Thompson & Rosch 1991: 206)
- **Evan Thompson:** *Mind in Life: Biology, Phenomenology and the Sciences of Mind* (2007). A brilliant synthesis, developing further the ideas from autopoiesis and (neuro)phenomenology, but very little on mediated experience (cf. the final chapter is on enculturation).




3. Features of Cognitive Semiotics

1. Conceptual-empirical (virtuous) loop
2. Methodological triangulation
3. Influence of phenomenology
4. Dynamism of meaning
5. Transdisciplinarity

1. A conceptual-empirical loop



2. Methodological triangulation



Perspective	Methods	Usually applied to
<i>First-person</i> (“subjective”)	<ul style="list-style-type: none">* Conceptual analysis* Phenomenological methods* Systematic intuitions	<ul style="list-style-type: none">* Perception* Mental imagery* Norms (of language)
<i>Second-person</i> (“intersubjective”)	<ul style="list-style-type: none">* Empathy* Imaginative projection	<ul style="list-style-type: none">* Other persons (including “higher” animals)* Social interaction
<i>Third-person</i> (“objective”)	<ul style="list-style-type: none">* Detached observation* Experimentation* Brain imaging* Computational modelling	<ul style="list-style-type: none">* Isolated behaviours (e.g. spatiotemporal utterances)* Biochemical processes

3. Influence of Phenomenology

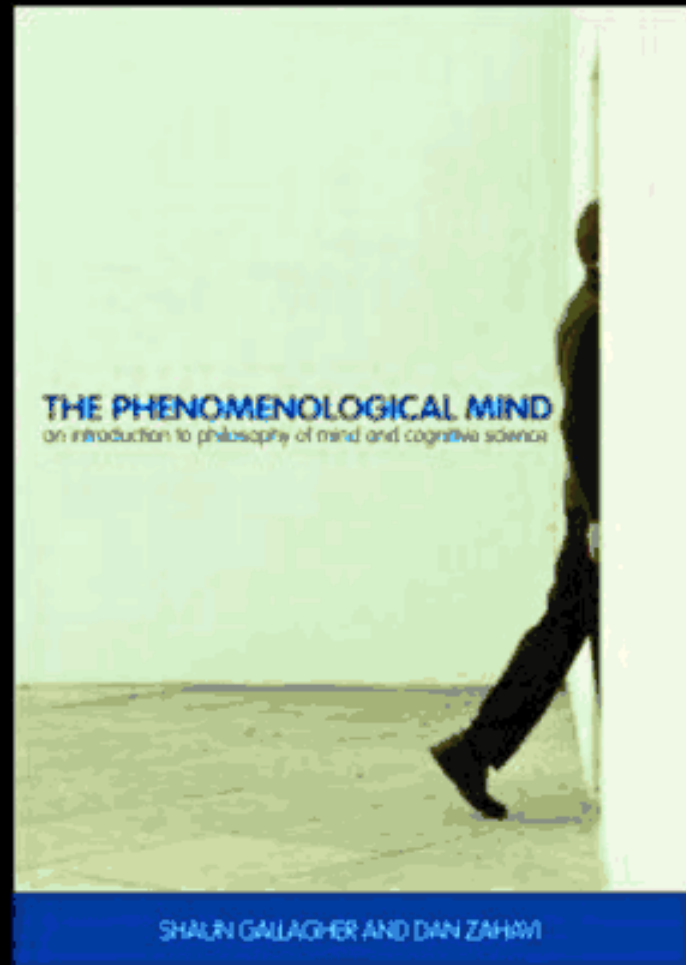
Some recent introductions:

R. Sokolowski (2000) *Introduction to Phenomenology*

D. Zahavi (2003) *Husserl's Phenomenology*

D. Moran (2005) *Husserl, Founder of Phenomenology*

S. Gallagher and D. Zahavi (2008) *The Phenomenological Mind*



3. Influence of Phenomenology

Perspective	Method (family)	Level	Phenomena such as
First-person ("phenomenological attitude")	Reflection	Consciousness	Agency Mental imagery Intent Teleology
Second-person ("natural attitude")	Empathy ("Projective /participant observation")	Social interaction	Normality Typification Conventionality Correctness
Third-person ("scientific attitude")	Experimentation ("Detached observation")	Physical bodies and processes	Frequency Causality

Kinds of Phenomenology

Static phenomenology:

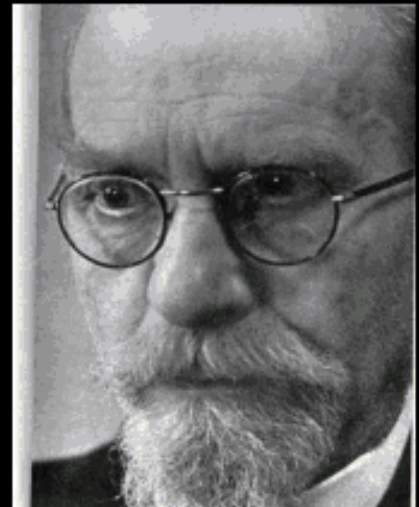
- phenomenological reduction, epoché
- noetic/noematic correlation
- presentation vs. re-presentation
- picture-consciousness

Genetic phenomenology:

- the living/lived body
- time-consciousness
- passive synthesis

Generative phenomenology:

- The primacy of the lifeworld (*Lebenswelt*)
- Intersubjectivity
- “Sedimentation” and tradition



4. Dynamism of meaning

- **Primacy of process to product** (and even knowledge): *energeia* (Coseriu), *sense-making* (Thompson), *meaning construction* (Oakley), *linguaging* (Maturana)
- The productive use of **dynamical systems theory** for
 - co-relating the dynamics of neural activity and consciousness (Freeman, Varela)
 - transitions in ontogenetic development (Bates, Elman)
 - evolutionary processes (Thompson, Deacon)

4. Dynamism: time scales

- *Microseconds*: the emergence of the moment-to-moment experience of meaning(-fullness) as in vision or speech (e.g. Varela)
- *Seconds*: the production and understanding of meaningful wholes such as scenes and (oral and gestural) utterances (Gestalt psychology)
- *Minutes*: the development of an episode of social interaction (“enchrony”, Enfield 2009)
- *Days, months, years*: semiotic development in (e.g. Piaget)
- *Decades, centuries*: cultural-historic processes, as in language change and sociogenesis (e.g. Heine & Kuteva)
- *Millennia*: biological evolution (e.g. Donald)

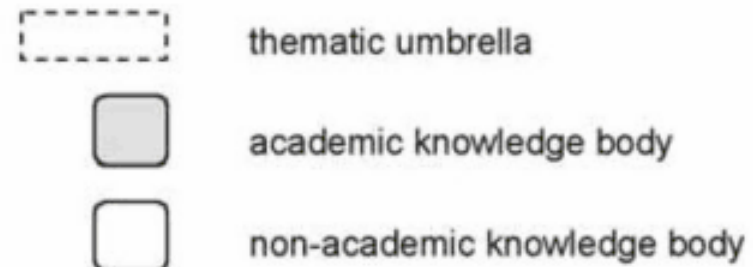
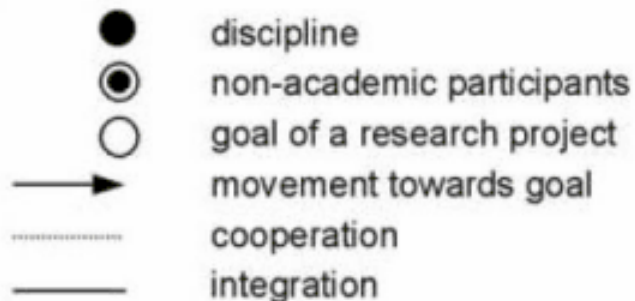
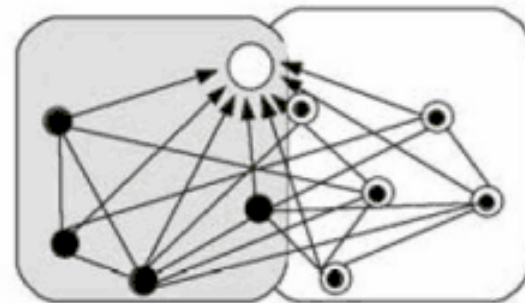
5. Transdisciplinarity

- “concerns that which is at once *between the disciplines, across the different disciplines, and beyond each individual discipline*. Its goal is the understanding of the present world, of which one of the imperatives is the overarching unity of knowledge” (Wikipedia, cf. Nicolescu, *Manifesto of Transdisciplinarity*, 2002)
- *meaning* does not constitute a specific empirical domain but rather cuts “between and across” disciplines. What has so far lain “beyond” is a coherent approach that “mends the gap between science and the humanities” (Gould 2003)

5. Transdisciplinarity

transdisciplinary

- Crosses disciplinary and scientific/academic boundaries
- Common goal-setting
- Integration of disciplines and non-academic participants
- Development of integrated knowledge and theory among science and society



© Tress 2005

5. Transdisciplinarity: the involvement of “stakeholders”?

- Animal caretakers and animal rights advocates (DeWaal, Savage-Rumbough)
- Therapists and parents in autism (Hobson, Trevarthen & Frank)
- Producers, consumer rights advocates, and legal experts in the Fairspeak project (Smith et al 2009)
- Ethnic minorities in identity and integration issues (Carling)
- Practitioners in religion and spirituality (Varela)
- **CS is amenable to a participatory approach since**
 - **all these involve issues of meaning(fullness)**
 - **a purely “objective”, third-person perspective would be blind to the full nature of the phenomenon in question.**

4. Why Cognitive Semiotics?

From ultimate goals to specific research questions

A unified worldview

(without reductionism)

- “Mending the Gap between Science and the Humanities”
(Gould 2003)



Defragmentation

“Our conception of *meaning* has become increasingly fragmented, along with much else in the increasing ‘postmodernization’ of our worldview. The trenches run deep between different kinds of meaning theories: mentalist, behaviorist, (neural) reductionist, (social) constructivist, functionalist, formalist, computationalist, deflationist... And they are so deep that a rational debate between the different camps seems impossible. The concept is treated not only differently but *incommensurably* within the different disciplines.” (Zlatev 2003: 253)

Meaning = Life (+ Culture): An outline of a unified bio-cultural theory of meaning

A proper understanding of language

- A truly *general* linguistics requires a pluralistic, multi-level conception of language as:
 - A system of social norms (“a social institution”)
 - Embodied social interaction
 - Linguistic knowledge, at various degrees of consciousness
 - A biological substratum, subject to Darwinian evolution
- How do we integrate these “levels”?

From “new insights” to research questions

- “... with the ultimate aim of providing **new insights** into the realm of human signification and its manifestation in cultural practices” (Journal of Cognitive Semiotics)
- Such an open-ended goal needs to be complemented with more specific questions - and at least in part: with **novel answers**.

My research questions

- **Conceptual**: what is meaning, consciousness, culture, sign-use and language - and what is their basic interrelation? (Lecture 2)
- **Evolutionary**: how did human-specific culture and language evolve? (Lectures 3-4)
- **Developmental**: how does the human mind, communication and language develop in childhood? (Lectures 5-6)
- **Semantic**: Why are human languages not (completely) arbitrary sign-systems? (Lectures 7-8)

Merci de votre attention!