

Chapter 47

Cognitive Semiotics

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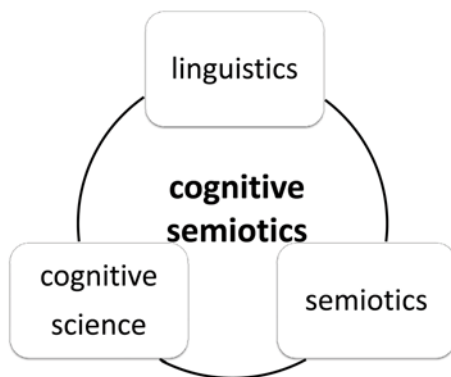
47.1 Introduction

Cognitive semiotics (henceforth Cogsem) is a new interdisciplinary, or rather transdisciplinary (cf. Sect. 47.4.5), field focused on the multifaceted phenomenon of meaning, “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). This admittedly broad definition should be further extended to include investigations of meaning making by nonhuman animals. As shown in this chapter, while Cogsem researchers may indeed focus on what is specific about human forms of semiosis, there is widespread agreement that this can only be properly understood in a comparative and evolutionary perspective.

Thus, Cogsem cuts through and stretches across existing disciplinary divisions and configurations. For example, it is *not* to be seen as a branch of the overall field of semiotics, defined in terms of either “domain” (in the manner of, e.g., biosemiotics, semiotics of culture, or social semiotics) or “modality” (e.g., visual semiotics, text semiotics) as it involves linguistics and cognitive science no less than semiotics. Not belonging to a single discipline, it is not a particular semiotic “school” (e.g., Peircean, Saussurean, Greimasian), and even less a particular theory. Unfortunately, these are common misinterpretations of the label “cognitive semiotics,” given its instantiation of the modifier-head construction. But labels, while useful for organizing both concepts and fields of knowledge, are not essential, and many de facto Cogsem researchers do not attach the label to their work.

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Fig. 47.1 The approximately equal indebtedness of cognitive semiotics to linguistics, semiotics, and cognitive science; it can be seen as both integrating and transcending these fields



At the same time, Cogsem is not just a new and fancier name for (traditional) cognitive science. The relationship between these two interdisciplinary matrixes is complex and deserves more attention than can be given here. There is considerable overlap between more recent approaches in cognitive science such as “embodied cognition” (cf. Sect. 47.2.5), and in a number of ways, the relationship between Cogsem and Cogsci is still open to negotiation, and some notes on possible convergence will be suggested (cf. Sect. 47.4.5). Still, cognitive science has from its onset in the 1950s adopted an explicitly *physicalist* (computational and/or neuroscientific) take on mind, connecting to the humanities quite selectively, with strong reductionist tendencies, viewing mind and meaning as ultimately physical phenomena (Dennett 1991). Cogsem is, as shown in this chapter, considerably more pluralist in its ontological and methodological commitments, and thus, with a firmer foot in the humanities than cognitive science. With respect to linguistics, Cogsem focuses on semantics and pragmatics, and is clearly influenced by ideas emanating from the linguistic school known as “cognitive semantics” (cf. Sect. 47.2.1), at the same time as it goes well beyond purely linguistic concerns. The fact that Cogsem owes as much to semiotics, as to linguistics and cognitive science, while also going beyond them, is displayed in Fig. 47.1.

The following two sections present a nonexhaustive survey of Cogsem research, aiming to give the reader a broad overview of the field. Section 47.2 briefly summarizes the research areas that Cogsem is most obviously related to: cognitive semantics, gesture studies, (language) evolution, semiotic development, and the embodied mind. Most of this research predates the emergence of Cogsem and can be seen as contributions to the establishment of the field. Section 47.3 summarily reviews the work of groups and academic institutions that explicitly refer to Cogsem, in many cases elaborating ideas mentioned in the preceding sections. The survey in these two sections allows formulating a number of generalizations on what Cogsem deals with and how it does so, which is the topic of Sect. 47.4. Finally, I return to the questions of why Cogsem is needed and what its ultimate contributions to science and society could be.

47.2 Contributing Fields

The fields of research briefly summarized in this section can be seen as forerunners of cognitive semiotics. At the same time, since the boundaries between Cogsem and these contributing fields are porous (cf. Fig. 47.1), at least some of the work and people concerned may just as well be regarded as belonging to the field itself.

47.2.1 Cognitive Semantics

Cognitive linguistics and its most prominent subfield cognitive semantics arose in the late 1970s in reaction to the dominance of formalist and modular approaches to language and cognition, such as Chomskyan linguistics and computationalist cognitive science. Unlike these, cognitive semanticists like George Lakoff, Ronald Langacker, and Leonard Talmy claimed that language is above all characterized by meaning, and that linguistic meaning is continuous with cognition and consciousness. At least in the earlier works, such claims were presented as part of a more general philosophical enterprise called “experientialism” or “embodied realism” (Lakoff and Johnson 1980; Lakoff 1987; Johnson 1987). Lakoff and Johnson (1980, p. 181–182) described this as being indebted to “central insights of the phenomenological tradition, such as the rejection of epistemological foundationalism, the stress on the centrality of the body in the structuring of experience, and the importance of that structure in understanding.” More recently, cognitive semanticists have employed an increasing batch of “hard” empirical methods such as neuroscience and corpus linguistics, leading to tensions with qualitative methods based on the use of intuition and introspection (Lakoff and Johnson 1999; Geeraerts and Cuyckens 2007). Still, given that the cognitive semantics tradition has always emphasized the richness and variety of human experience—bodily, social, and cultural—it has been possible to avoid reductionistic pitfalls, and to combine various methods in pluralistic frameworks (Harder 2010), often informed by phenomenology (Zlatev 2010). At least the following three theoretical concepts have enjoyed considerable influence, inviting various elaborations and extensions: image schemas, conceptual metaphors, and construal processes.

Based on ideas from Kant and Merleau-Ponty (1962/1945), Johnson (1987) proposed the notion *image schema* as “a recurring dynamic pattern of our perceptual interactions and motor programs that gives rise to coherence and structure to our experience” (Johnson 1987, p. xiv), and furthermore, that such schemas organize meaning in thought as well as in language. The most well-known examples are the schemas CONTAINER, PATH, BALANCE, PART–WHOLE, and FORCE. Such gestalt-like analog, nonpropositional structures allow reasoning (e.g., X is INSIDE Y, Y is INSIDE Z => X is INSIDE Z) without the need for formal rules. Thus, it is conceivable how they could “ground” more abstract thought and language in bodily experience. While there is considerable theoretical divergence concerning the na-

ture and role of the concept (Hampe 2005), and also concerning the meta-theoretical concept of *embodiment* (Ziemke et al. 2007), it is fair to say that much productive research would never have arisen without the original proposals.

A similar assessment can be made on what is now known as *conceptual metaphor theory*, an extensive body of research based on the original *Metaphors We Live By* (Lakoff and Johnson 1980), that changed the traditional meaning of the term “metaphor” by claiming that metaphors are essentially conceptual “cross-domain mappings” used in thought, and only secondarily expressed in language. Some of these mappings have been argued to be “primary,” e.g., SIMILARITY IS CLOSENESS, and based on presumably universal prelinguistic experience (Grady 2005). Such universalistic implications have been controversial, provoking extensive cross-cultural and crosslinguistic research to test, for example, the universality of mappings from SPACE to TIME (e.g., Levinson and Majid 2013). Considerable variation has been documented, as well as the likely role of external representations such as calendric systems, but on the whole, multidisciplinary research involving language, gesture, and experimentation have supported the claim that explicit temporal concepts are structured in spatial terms.

A third way in which cognitive–experientialist semantics has contributed to a richer concept of meaning is by emphasizing that language does not relate directly to “objective reality” but to the way what the speaker wishes to say is *construed*. Langacker’s (1987) theory of cognitive grammar specifies a number of different aspects of construal such as *profiling*, where a speaker can choose to profile either the agent (1a) or the instrument (1b) by using it as a grammatical subject.

1. a. *The man* smashed the glass with a hammer.
- b. *The hammer* smashed the glass.

Another aspect of construal is *mental scanning*, which could be either (more) “summary” as in (2a) or “sequential” (2b)

2. a. He entered the room.
- b. He walked into the room.

Dynamic conceptual processes are also reflected in a widespread linguistic phenomenon, analyzed as “fictive motion” (Talmy 2000) or as “subjective motion” (Langacker 1987), reflected in the contrast between (3a) and (3b).

3. a. The mountain range goes from Canada to Mexico.
- b. The mountain range goes from Mexico to Canada.

While these sentences represent the same state of affairs, i.e., the spatial extension of a certain mountain range, they are arguably not synonymous, and linguistic meaning should include aspects of nonlinguistic cognitive processes of perception and imagination, without being reducible to them. Such issues have been pursued by a number of Cogsem researchers (Brandt 2013; Blomberg and Zlatev 2013; Blomberg 2014).

47.2.2 *Gestures*

The study of gestures—involving various degrees and kinds of iconicity, indexicality, and conventionality—has from the start called for a more or less explicit semiotic analysis (Kendon 2004). Efron (1941) and later Bouissac (1973) provided proposals for how such analyses could be made more systematic, in part through the availability of new technology for recording and analysis. During the 1980s, thanks to the concerted work of Adam Kendon (1980, 2004) and David McNeill (1992, 2005), “gesture studies” began to emerge as a more or less independent interdisciplinary field.

McNeill’s approach is explicitly psychological, with references to developmental and neuroscientific evidence, and links to cognitive linguistic concepts such as image schemas and conceptual metaphors (cf. Sect. 47.2.1). His longtime concern has been the treatment of gesture and speech as a single cognitive–semiotic system, though with a degree of division of semiotic labor: gesture being more “imagistic” and speech/language more propositional. In *Gesture and Thought* (2005), McNeill echoes Vygotsky (1962/1934) and argues for a broader concept of language, combining the more static and systematic aspects of Saussure’s *langue* with a more dynamic and imagistic side, made visible above all through iconic gestures. Recently, he has applied his multimodal theory of language to the classical question of language origins (McNeill 2012).

Kendon’s work is predominantly descriptive, but due to the fine detail in his analyses of “multimodal utterances”—involving spoken or signed language expressions along with gestures—his work has been at least as influential as that of McNeill. Originally working in ethology and then in the field of human interaction, Kendon adopts what he himself calls a “comparative semiotic” method. His studies of face-to-face interaction, alternate signed languages in Australian aborigines, and gestures of Neapolitaneans are considered classics in the field and are summarized in his monograph *Gesture: Visible Action as Utterance* (2004).

Cornelia Müller, head of the Berlin Gesture Center, is an inheritor of the different strands in gesture studies—from linguistics and semiotics to neuroscience and primatology. Her cognitive–semiotic orientation can be seen from an ongoing project, *Towards a Grammar of Gesture: Evolution, Brain, and Linguistic Structures*, which aims at “the development of fundamentals for a multimodal grammar and its neurological and evolutionary foundation within specific sub-areas” (<http://www.togog.org/en/>). Her work further concerns what is sometimes called “multimodal metaphor,” a topic on which she has collaborated with Alan Cienki (Cienki and Müller 2008).

47.2.3 *Semiotic Development*

Two of the classics in developmental psychology, Jean Piaget and Lev Vygotsky, each adopted a kind of cognitive–semiotic approach by investigating interrelations between sensorimotor skills, imitation, imagination, and communicative signs

Table 47.1 Levels of intersubjectivity in the first years of development, adapted from Bråten and Trevarthen (2007, p. 3)

Level	Capacities
Tertiary intersubjectivity From 2 years	Symbolic conversation with actual or virtual companions... leading to second-order abilities for mental simulation
Secondary intersubjectivity From 9 months	Objects of joint attention and emotional referencing are brought into play within trusting relations of companionship, sometimes leading to imitative learning
Primary intersubjectivity From birth	Direct sympathy with actual others' expressions of feelings in intimate reciprocal subject–subject contact

(Piaget 1962/1945); or between thought, “inner speech,” and the semiotic mediation of cognition and development by socioculturally transmitted sign systems (Vygotsky 1962/1934, 1978). In some (overpublicized) cases, their analyses contrasted, but given a broader perspective, they were more alike than different. This tradition of analyzing ontogenetic development underwent a significant renewal in the 1970s through the work, among others, of Trevarthen and Bruner (see below). Subsequently, however, the child’s mind was “modularized” and it became unfashionable to look for “domain general” capacities, stages, and transitions. Language and cognition were to be kept apart and studied separately.

Within the cognitive-semiotic approach to development body, affect, and socio-cultural environment all seen as indispensable for growing minds and languages. Colwyn Trevarthen’s long-term research and theorizing on infant and child intersubjectivity (Trevarthen 1979; Bråten and Trevarthen 2007) has been one of the key inspirations for this turn. In collaboration with Stein Bråten and others, Trevarthen has described the first years of development as characterized by increasingly complex layers or levels of intersubjective engagement with others in “trusting relations of companionship” (see Table 47.1). Inspired by Julia Kristeva, Lütke (2012) adds to these a zero layer of “primordial intersubjectivity” preceding birth; she conceptualizes the progression as one of decreasing corporeality and emotional markedness with increasing abstraction and referentiality. Stern (2000/1985) has likewise emphasized interpersonal relations and emotion, contributing to puncturing (if not tearing down) the wall between therapeutic and cognitive psychology—thereby making it possible to argue that emotional contact and sympathetic interaction serve as “the cradle of thought” (Hobson 2006).

One of the pioneers of cognitive science, Jerome Bruner, turned increasingly to the emerging cultural meanings of children—and away from the computational mechanisms of the mainstream. In *Acts of Meaning* (1990), he investigated the development of autobiographical memory (and self-concept) through the help of stories, marking the onset of a “narrative turn” in the field. In this vein, Nelson (1996) showed how the development of language is indispensable from cognitive development. From a related socio-cognitive perspective, Tomasello (1999, 2003) has rather focused on the development of joint attention, pointing, the understanding of communicative intent, and the first indisputable steps in the acquisition of language: from the production of the first words around 14 months, through the “vocabulary

spurt” around 18–20 months, to the first multi-word constructions. From the side of semiotics, child development has been insightfully addressed by Violi (2012), who has argued for an extended sense of embodiment, in which the body itself becomes enculturated, as well as “extended” through artifacts.

Such research has given us important insights on children’s semiotic development, and the main challenge for Cogsem would be to propose more integrative frameworks, in the manner of Piaget’s classical developmental theory (cf. Leninger 2012; Zlatev 2013).

47.2.4 *Biocultural Evolution*

There is an intimate relationship between the development of individuals and the evolution of species. One of the insights of the “new synthesis” of developmental and evolutionary biology (*evo-devo*) is that “all important changes in evolution are alternations in development” (Thompson 2007, p. 195). Modern concepts of evolution have moved beyond the (ex-) “modern synthesis” focused on gene selection, to consider that evolution can take place on other levels than genes such as individuals and groups, implying coevolutionary processes between (human) biology and culture (Richerson and Boyd 2005).

Several theoreticians with a background in neuropsychology and developmental psychology have addressed the perennial question of the “descent of man” within such an extended, biocultural perspective on evolution, often explicitly involving semiotic concepts. An important publication in the area is Merlin Donald’s (1991) *Origins of the Modern Mind: Three Stages in the Evolution of Human Culture*, presenting an integrated biocultural theory of human evolution. A key idea is that a domain-general capacity for skill learning, imitation, and gestural communication lies at the roots of uniquely human cognition and semiosis: “Mimetic skills or mimesis rests on the ability to produce conscious, self-initiated, representational acts that are intentional but not linguistic” (Donald 1991, p. 168). Language and speech evolved only later, partly through cultural evolution, without relying on innate adaptations. External representations gave way to writing in relatively recent history, making what Donald calls “theoretical culture” possible. Even from this brief summary, it can be seen that Donald’s approach is cognitive–semiotic: The goal is to understand not only the “origins of the modern mind” but how new semiotic layers have transformed that mind into the unique “hybrid” construction that it is (see also Donald 2001).

The role of artifacts, external representations and technology for “supersizing the mind” (Clark 2008), has been discussed for over a decade, and is on one level generally acknowledged. However, the more precise nature of this role has been the subject of controversies in philosophy (the “internalism vs. externalism” debate) and cognitive science (the status of the “extended mind”). It can thus be seen as a target area for future Cogsem research, such as that concerned with cultural niche construction (e.g., Sinha 2010).

Terrence Deacon's work in evolutionary anthropology relates explicitly to semiotic theory. His widely influential *The Symbolic Species: The Co-Evolution of Language and the Brain* (1997) draws on ideas from Peirce to propose that interpretative processes follow a progression of *iconism* (i.e., recognition), *indexicality* (space-time contiguity, as in the pairing of stimulus and response in classical conditioning), and most complexly—indeed, unique to our species—*symbols*. What Deacon exactly means by “symbols” has been a matter of much discussion, and he has recently provided a clarification: “To interpret the wax impression as a symbol of social position, one must also understand these social conventions, because nothing intrinsic to the form or its physical creation supplies this information. The symbolic reference is dependent on already knowing something beyond any features embodied in this sign vehicle” (Deacon 2012, p. 13). Thus, it is not arbitrariness per se that makes a sign into a symbol but culturally shared knowledge, which Deacon often describes as constituting a “web of symbolic relationships”—at least implicitly drawing on the structuralist tradition emanating from Saussure (Sonesson 2006). Deacon has also introduced the intriguing notion of *semiotic constraints* that are neither innate nor learned but a priori features of symbolic reference. Through such constraints, Deacon proposes to account for language universals such as predication and hierarchical structuring. A final key concept to his evolutionary theory of human origins is *relaxed selection*, which implies that rather than becoming more genetically determined, our brains have become less so: thus, more flexible and adaptive to the different cultural niches we live in.

Michael Tomasello must be mentioned as representative of this research area as well, with his important contributions directing experimental research in developmental and comparative psychology at the Max Planck Institute for Evolutionary Anthropology in Leipzig since the mid-1990s. His two major publications over this period, *The Cultural Origins of Human Cognition* (1999) and *Origins of Human Communication* (2008), have likewise proved influential. While Tomasello refrains from using terms such as “signs,” “semiosis,” and “consciousness,” his key concepts include symbols, joint attention, and shared intentionality, and it does not require much to see his theories in from a Cogsem perspective. Being heavily dependent on experimental results, Tomasello's ideas have changed over the years. Human cognition is no longer characterized by “understanding intentions” but rather by a combination of motivational factors for sharing (from food to attention and knowledge) and a cognitive capacity for maintaining *joint commitments*. In emphasizing the role of gestures in establishing a basis for language evolution, Tomasello's evolutionary theory is also quite similar to that of Donald.

There appears to be an emerging consensus that what is distinct to our species—both cognitively and semiotically—is a unique form of *sociality*. Still, few have attempted an explanation of the evolutionary conditions that would lead to this. Deacon (1997) has speculated that it could have been a change in reproductive strategy: from polygamy (typical among the great apes) to monogamy. This, however, is unsupported by the archeological evidence and at least controversial for the anthropological evidence: (serial) monogamy seems a much more recent, culturally transmitted, nonuniversal phenomenon. A more persuasive argument for

the evolution of a human-specific form of intersubjectivity is presented by Sarah Hrdy in *Mothers and Others: The Evolutionary Origins of Mutual Understanding* (2009). Reviewing the ethological, anthropological, and developmental psychology literatures, Hrdy builds up a case for the thesis that the crucial reproductive turn that occurred with *Homo erectus* nearly 2 million years ago was not to monogamy but to *alloparenting* or “cooperative breeding.” That would account both for the greater gregariousness of our species towards nonrelatives and the willingness of infants to bond and communicate with other than biological parents.

47.2.5 *The Embodied Mind*

In parallel with—and similar to—the rapprochement between the cognitive sciences on the one hand and “semiotics and the humanities” on the other, as outlined above, there has been a movement of integrating ideas and methods from cybernetics, theoretical biology, and phenomenology, at least since the publication of *The Embodied Mind: Cognitive Science and Human Experience* (Varela et al. 1991) by Francisco Varela, Evan Thompson, and Eleanor Rosch. According to the broad definition involving “integrating methods and theories” offered in the introductory passage, this tradition could even be seen as falling under Cogsem. Unfortunately—at least until recently—there has been little interaction between the embodied mind scholars and those more overtly involved in Cogsem. Perhaps this is due to the radically anti-representationalist stance in the early stages of the embodied mind movement, when the central concept was that of *enaction*: “a history of structural coupling that brings forth a world ... [t]hrough a network consisting of multiple levels of interconnected, sensorimotor subnetworks” (Varela et al. 1991, p. 206). Rejecting the excessive (unconscious) representationalism of standard cognitive science (i.e., cognitivism), the enactivists were suspicious of any concept that sounded similar to representation, such as that of *sign*. Their empirical focus was on the *direct experience* of perception and action and on resolving the “hard problem” of consciousness—not on sign-mediated meaning. More recently, however, with the addressing of topics such as mental imagery and enculturation (Thompson 2007) as well as gesture (Gallagher 2005), it has become obvious that the classical phenomenological distinction between *presentation* (in perception and action) and *representation* (in imagination or in external representations) needs to be respected and theoretically addressed. From the Cogsem side, phenomenologically oriented semioticians such as Sonesson (2011) have been making similar arguments, while focusing on the representational (e.g., pictorial) aspects of meaning. Given the mutually consistent, complementary, and anti-reductionist orientations of the Cogsem and embodied mind approaches, one should expect to see more interaction between them in the near future. Here, I only mention the names and work of a few prominent figures.

Varela played a key role in establishing the embodied mind paradigm. With his background in theoretical biology and in collaboration with Humberto Maturana, Varela coauthored some of the key texts of autopoiesis theory: “Our proposition is that living beings are characterized in that, literally, they are continually self-

producing. We indicate this process when we call the organization that defines them an *autopoietic organization*" (Maturana and Varela 1987, p. 43). For reasons that still need to be clarified, there was a rift between the two scholars around that time. Varela proceeded to elaborate the related notion of *enaction* (Varela et al. 1991) and, importantly, to link his biological theory with a deeper appreciation of phenomenology. In an oft-quoted paper, Varela (1996) formulated the research program of *neurophenomenology*, in which first-person data, obtained by experimental subjects trained to be aware of and reflect on their experiences—i.e., to “perform the phenomenological reduction”—was to be correlated with the third-person data of brain imaging. A number of insightful studies have used and elaborated on this framework (Lutz and Thompson 2003).

After Varela, Evan Thompson picked up the torch in formulating a new synthesis for *mind science*, culminating in his impressive *Mind in Life: Biology, Phenomenology and the Sciences of Mind* (Thompson 2007). The major theme of the book is “the deep continuity of life and mind,” expanding on the notion of autopoiesis as the minimal condition for both life and meaning and prefiguring the basic structures of consciousness, such as intentionality. Throughout the book, Thompson skillfully weaves together ideas and findings from “biology, phenomenology, and the sciences of mind,” addressing topics such as time consciousness, mental imagery, emotions, and intersubjectivity. On that last point—influenced by the work of the phenomenologist Dan Zahavi (2001, 2003), who has successfully argued that Husserl’s mature work (e.g., Husserl 1989/1952) included a rich analysis of “being with others” and the *lifeworld*—Thompson enriches the methodological pluralism of neurophenomenology, arguing the need for “second-person methods” in the study of consciousness and meaning. As spelled out below (cf. Sect. 47.4.2), such theoretical and methodological “triangulation” is characteristic of Cogsem research.

Meanwhile, Shaun Gallagher has elaborated upon a central theme of phenomenology, associated most often with Merleau-Ponty (1962/1945), by combining it with empirical and, above all, clinical research: that of the central role of the living body for all forms of experience and meaning. In *How the Body Shapes the Mind* (2005), Gallagher formulates experiential distinctions such as those between body schema and body image and between bodily agency and ownership, showing that by “front-loading” phenomenology in experimental research—rather than using it to interpret existing findings—one can achieve a productive interaction between first- and third-person methodologies. Gallagher has criticized the traditional “theory of mind” perspective on social cognition—both of the theory–theory and simulation–theory varieties—proposing instead an enactive *interaction theory* in which basic interpersonal understanding is the product of perception and action processes, while more elaborate understanding of others’ motives and goals is due to a shared familiarity with narratives—as also proposed by Daniel Hutto (2008). Together with Zahavi, Gallagher has published *The Phenomenological Mind: An Introduction to Philosophy of Mind and Cognitive Science* (Gallagher and Zahavi 2008), in which many of the basic ideas of phenomenology—along with empirical applications—are presented to a broader audience. This is something that Cogsem would clearly benefit from emulating.

47.3 Centers for Cogsem Research

47.3.1 “A Cognitive Approach to Semiosis”

Given that semiotics is usually defined as the study of *signs*, or more generally *meaning*, and furthermore given the polysemy (and current popularity) of the term “cognitive,” just about any semiotic theory—from those of Peirce and Saussure to Eco (1999/1997) and Hoffmeyer (1996)—could qualify as a “cognitive semiotics.” However, in the sense outlined in Sect. 47.1, Cogsem truly appeared only in the mid-1990s. A seldom acknowledged pioneer is Thomas Daddesio, whose major work bares the characteristic title *On Minds and Symbols: The Relevance of Cognitive Science for Semiotics* (Daddesio 1995). There the author sets out both a conceptual/methodological and an empirical goal for his project: namely, to “... 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” (Daddesio 1995, p. 2). In a highly informative historical overview, Daddesio shows how persistent attempts to “de-mentalize” notions such as sign, semiosis, and meaning in the twentieth century contributed to a separation between semiotics and cognitive science. While “computation” and “information processing” were the central concepts of the latter, there was not much to draw on for a cognitive approach to semiosis. Typically, Daddesio bases his cognitive–semiotic synthesis on ideas from cognitive semantics (cf. Sect. 47.2.1) and developmental psychology (cf. Sect. 47.2.2) related to notions such as schematization, (joint) attention, metaphor, and narrative. Daddesio deserves more credit than what his work has so far received for proposing this synthesis explicitly and, furthermore, for addressing children’s semiotic development insightfully.

47.3.2 Center for Semiotics (CfS)

Around the same time, Cogsem emerged at the Center for Semiotics (CfS) in Aarhus, Denmark (<http://www.hum.au.dk/semiotics/>). The center’s long-term research director, Per Aage Brandt, had in a number of publications combined ideas from the “dynamic semiotics” of René Thom with ideas from cognitive semantics (cf. Sect. 47.2.1), applying his cognitive–semiotic theory to the analysis of puzzling linguistic phenomena such as subjectivity, iconicity, metaphor, and fictive motion. A major publication is *Spaces, Domains and Meanings: Essays in Cognitive Semiotics* (Brandt 2004). Line Brandt (2013) extended some of these ideas, while also drawing on the French linguistic tradition of “enunciation.”

The work of another long-term member of CfS, Svend Østergaard, shows the growing influence of a cognitive—in the sense of psychological—approach to meaning. In *The Mathematics of Meaning* (1997), Østergaard discussed narration and temporality—as reflected in the classical literary works of Borges and Proust—seeking

parallels with fundamental properties of mathematics such as infinity. More recently, Østergaard has turned to ideas from developmental psychology and the study of face-to-face interaction.

Together with Kristian Tylén and Riccardo Fusaroli, a “dynamical account of linguistic meaning making” is being pursued, where the researchers combine ideas from dynamical systems theory and distributed cognition with corpus linguistic and experimental methodologies. Language is seen as a coordinative activity, where symbolic patterns are aligned and negotiated to facilitate and constrain social coordination (Tylén et al. 2010; Fusaroli and Tylén 2012). The work of these and other researchers at the center (e.g., Wallentin et al. 2011) explicitly combines ideas from linguistics, semiotics, experimental psychology, and neuroscience, thereby demonstrating that Cogsem is ongoing practice and not just a programmatic enterprise.

Still, not all Cogsem research needs to be experimental, as shown by the work of Peer Bundgaard in his articles on image schemas and force dynamics (*Routledge Companion to Semiotics*, 2009), on Husserl’s theory of language (Bundgaard 2010), and aesthetic cognition. Frederik Stjernfelt likewise pursues a purely qualitative tradition of conceptual analysis, though not in the narrowly linguistic sense, including interpretations of Peirce’s ideas on icons and above all diagrams, linking these to Husserl’s phenomenology (Stjernfelt 2007). At the same time, both Bundgaard and Stjernfelt apply their semiotic analyses to empirical phenomena of concern for Cogsem, such as the psychology of aesthetics, mental imagery, animal communication, and human gestures.

CfS was the first academic institution offering an M.A. program in Cogsem (both in name and content): “Cognitive Semiotics is first and foremost an interdisciplinary program which draws on neuroscience, philosophy, logic, linguistics, anthropology, cognitive science and literary theory” (<http://www.hum.au.dk/semiotics/>). The program has an impressive number of students and guest lecturers, and contributes to the reputation of CfS as a vanguard of the field. Still, an “emerging paradigm” can hardly be confined to one or two (geographically close) institutions.

47.3.3 *Centre for Cognition and Culture (CCC)*

At the beginning of the millennium, Per Aage Brandt relocated to Case Western Reserve University, where the Department of Cognitive Science was headed by Mark Turner, one of the authors of the influential cognitive–semantic theory of *conceptual blending/integration* (Fauconnier and Turner 2002). This can be seen as an extension of conceptual metaphor theory (cf. Sect. 47.2.1) in the direction of Cogsem. Todd Oakley, the current chair of the Cognitive Science Department, integrated cognitive linguistic concepts with a thorough investigation of the role of attention processes in his monograph: *From Attention to Meaning: Explorations in Semiotics, Linguistics, and Rhetoric* (Oakley 2008), analyzing a wide range of empirical phenomena.

Together, Oakley and Brandt established the Centre for Cognition and Culture (CCC), which “...studies art, design, music, language—both as grammar, as text,

as literature, and as speech and discourse—...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>). Perhaps the most notable fruit from their collaboration was the birth of the journal *Cognitive Semiotics*, which began to appear in 2007 (<http://www.cognitivesemiotics.com/>). A number of volumes were published, devoted to specific topics such as agency, consciousness, and cognitive poetics, featuring prominent authors from the cognitive sciences and the humanities. However, there were difficulties with the initial publisher resulting in irregular appearance, and low readership rates. As a result, negotiations were undertaken so that from 2014, the journal *Cognitive Semiotics* appears in new form and under a new publisher, and managed by a new editorial board, with Peer Bundgaard as editor in chief (<http://www.de-gruyter.com/view/j/cogsem>).

47.3.4 *Centre for Language, Cognition, and Mentality (LaCoMe)*

Another Danish interdisciplinary group—departing from linguistics while expanding to visual communication, gesture, and behavioral studies on consumer preferences—was established in 2007 at the Copenhagen Business School, with Per Durst-Andersen as research director. Søren Brier joined the group, coming from a background in ethology and cybernetics and bringing in an evolutionary and system-theoretic perspective. Brier’s book *Cybersemiotics: Why Information Is Not Enough* (Brier 2008) presents an ambitious attempt to achieve a synthesis of Peircean semiotics and second-order cybernetics, with the aspiration of unifying various domains of human knowing: from those of the physical and biological to the subjective/personal and the intersubjective/cultural.

Per Durst-Andersen recently crowned a long period of research in “language, cognition, and mentality” with a theoretical synthesis, *Linguistic Supertypes: A Cognitive-Semiotic Theory of Human Communication* (2011). At the center is a linguistic sign concept inspired by the trichotomies of Peirce and Bühler. Durst-Andersen proposes that the grammatical meanings of any particular language tend to orient towards one of the three semiotic poles: *reality*, *speaker*, and *hearer* and thus that all languages can be characterized as belonging to one of three “linguistic supertypes.” This controversial proposal is supported by a good deal of linguistic data, as well as references to research within cognitive psychology. Empirical studies—e.g., on predicted cognitive differences between speakers of the different language types along the lines of “linguistic relativity” research—are underway.

The third prominent member of the group Viktor Smith combines a “top-down” approach characterizing much linguistic theorizing with a “bottom-up” understanding of how linguistic communication functions in interaction with other semiotic resources such as pictures and sensory impressions (Smith et al. 2010). Smith’s point of departure is the lexicon in its capacity as a key element of human language, and a powerful tool for interacting with and shaping the world. His concern for bridging Cogsem matters to “the real world” is manifest, e.g., in the FairSpeak project,

focusing on the communicative potential and fairness of product packaging design. In this project, legal normative, experiential, and behavioral aspects of food labeling and marketing are being brought together, with the aim of improving producer–consumer communication (Smith et al. 2009, 2011).

47.3.5 *Centre for Cognitive Semiotics (CCS)*

The Centre for Cognitive Semiotics (CCS) at Lund University started as a 6-year program (2009–2014), bringing together researchers from semiotics, linguistics, cognitive science, and related disciplines on a common meta-theoretical platform of concepts, methods, and shared empirical data (<http://project.ht.lu.se/en/ccs/>). A staff of 10–15 senior and postdoctoral researchers and a larger number of affiliates have coordinated their research under five interrelated themes—evolution, ontogeny, history, typology, and experimental psychology—adopting a Cogsem approach to each specific topic. For example, the typology theme deals not only with linguistic typology but also with patterns of correlation in multiple “semiotic resources” such as speech, writing, gestures, pictures, music, and cultural artifacts.

The research director of CCS, Göran Sonesson, has written: “I have been involved with phenomenological cognitive semiotics from the very start of my career without knowing it—or rather, without using the term” (Sonesson 2009, p. 108). Sonesson’s writings since the late 1970s, in particular his comprehensive monograph *Pictorial Concepts* (Sonesson 1989), can indeed be seen as forerunners of Cogsem in several respects. In particular, he has consistently argued for the primacy of perceptual meaning over other kinds of meaning—including signs—and elaborated a definition of the sign concept on the basis of phenomenological notions such as experienced asymmetry and differentiation. At the same time, Sonesson has maintained that the study of meaning cannot be purely “eidetic” or “autonomous” but must also be based on psychological studies. For the purposes of his analyses of pictorial signs (his specialty), he often refers to Gestalt psychology as well as the ecological psychology of the Gibsonian tradition.

Still, Cogsem cannot be based only on a meta-analysis of the results of the cognitive sciences; for it to come into its own, it should go hand in hand with them to motivate specific empirical studies. In this sense, Cogsem research at Lund University got underway during the first years of the millennium, thanks to collaboration between Sonesson and researchers from linguistics such as the present author and cognitive scientists, such as Tomas Persson, a primatologist who applies Cogsem concepts to the study of visual perception and pictorial competence in nonhuman primates (Persson 2008).

My own road towards Cogsem has been guided by the conviction that language—its nature, evolution, and development—cannot be understood outside the context of a more general approach, taking both meaning and mind seriously. Influenced by the work of Merlin Donald (cf. Sect. 47.2.4), I have elaborated the concept of *bodily mimesis*, arguing for its central role in both evolution (Zlatev 2008) and

development (Zlatev 2013). I have also struggled with the proverbially “hard problem” of consciousness, in its relation to language. In agreement with Sonesson, I see phenomenology as providing tools to address the complex interrelations between bodily experience, sociality, and language (Zlatev 2010). Consistent with the work of Thompson (2007, see below), I have formulated a macroevolutionary hierarchy called *The Semiotic Hierarchy*: the autopoiesis of *living systems* is at the basis of all meaning in the universe, followed by the emergence of *conscious experience* (at least with mammals), which on its side is a precondition for the evolution of *sign use* (emerging with *Homo erectus*) and *speech* (in our own species). The model is fundamentally biocultural, with cultural processes playing a leading role in the evolution of language.

A number of empirical studies on *mimetic schemas* and children’s gestural development have been carried out at CCS (e.g., Zlatev and Andrén 2009). Andrén’s (2010) *Children’s Gestures between 18 and 30 Months* is an example of a successful Cogsem synthesis: a detailed description of five Swedish children’s gestural repertoires in the tradition of Kendon (cf. Sect. 47.2.2), with semiotic concepts serving to delineate gestures from action and “body language” on the one hand and from signed language on the other. Quantitative analyses show patterns in the developmental trajectories of pointing, iconic, and emblematic gestures with respect to speech and the use of physical objects. The study substantiates claims for an intimate interrelation between parallel development of speech and gesture.

For reasons of space (and fairness), the research of all CCS researchers cannot be summarized here. To give a flavor of the variety of subjects pursued, I mention the research by Arthur Holmer and Anastasia Karlsson on prosody and information structure, Sara Lenninger on the development of children’s understanding of pictures, Anna Cabak Rédei and Daniel Barrett on visual perception and emotion, Gunnar Sandin on the affordances and signs of city architecture, Joel Parthemore on enactive concepts, Michael Ranta on visual narratives, and Johan Blomberg on motion in language and experience. If successfully integrated—the major challenge to CCS—such research can serve as the basis for a viable Cogsem tradition at Lund University, supported by recently established M.A. and Ph.D. programs.

47.4 Characteristics of Cognitive Semiotics

On the basis of the overview in the previous two sections, it is possible to discern a number of characteristics of Cogsem research. These can serve to narrow down the broad definition of Cogsem as “integrating methods and theories developed in...cognitive science with methods and theories developed in semiotics and the humanities” presented in the introduction. At the same time, they are not meant to serve as a definition in terms of necessary and sufficient conditions. Rather, they should be seen as characterizing a prototype-based definition and not every Cogsem researcher should be seen as committed to all five features.

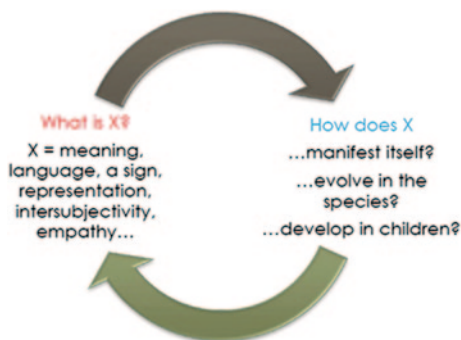
47.4.1 Conceptual–Empirical Loop

In a broad and trivial sense, all research involves both conceptual and empirical issues. However, semiotic theory is particularly concerned with explicating difficult higher-order concepts such as *meaning*, *sign use*, *representation*, *language*, and *intersubjectivity* along with their interrelations. It is anything but trivial to bring in empirical research that both contributes to such an explication and, at the same time, benefits from it in a way that produces new insights. It is such a feedback loop between conceptual issues and empirical investigation that is one of the central characteristics of Cogsem, as shown in Fig. 47.2.

All who have been involved in the study of phenomena such as imagination, gesture, metaphor, etc. will know that it is anything but trivial to combine conceptual and empirical analyses of their nature. There is a natural pull, one could say, to treat these as *meaningful phenomena* and explicate their features, constituent structures, types, etc. by engaging in systematic conceptual/eidetic analysis. On the other hand, psychologists tend to rush to “operationalize” the concepts, formulate hypotheses, perform experiments, and arrive at theoretical conclusions. But the outcome has often been that behind the same terms (e.g., “imagery,” “motion,” and “symbol”), very different, and often diffuse, concepts have been lurking, with resultant cross talk both across and within disciplines.

How is Cogsem to avoid this? The answer lies in formulating concrete research programs such as neurophenomenology that not only state programmatically that the “methods and theories” of the humanities and sciences need to be integrated but also actually go ahead and “do it.” Looking at the examples of Cogsem research summarized in Sects. 47.2 and 47.3, we can see that in nearly all cases, some version of the conceptual–empirical loop has been already employed: in the analysis of the emergence of signs in children (Daddesio 1995), of mental imagery (Thompson 2007), of children’s gestures (Andrén 2010), or of subjectivity in language (Brandt 2013).

Fig. 47.2 The conceptual–empirical loop



47.4.2 Methodological Triangulation

At the heart of my own conception of Cogsem is the kind of methodological “triangulation” shown in Table 47.2 (Zlatev 2009). Rather than argue on the proper methods for investigating the object of study, as has been done for over a century in linguistics (e.g., whether or not to use native-speaker intuitions), or define fields on the basis of their respective methods (philosophy as “first person,” ethnomethodology as “second person,” classical sociology and experimental psychology as “third person,” etc.), the goals of methodological triangulation are (a) to acknowledge the validity of all methods within their respective domain of inquiry, (b) to acknowledge the epistemological priority of first- and second-person methods in the study of meaning (since what one wishes causally to explain must first be understood as well as possible, in order to avoid the cross talk mentioned above), and (c) to integrate the three kinds of methods in the same project.

From this perspective, the problem with the “classical” humanities has been a resolute rejection of third-person methods in the study of cultural world as “objectivist” and distorting of the phenomena. While much can be said in favor of such a critique, the steady progress of the sciences, including the study of the so-called mind/brain, has given such an attitude a distinctly old-fashioned—if not reactionary—flavor. But on its side, (natural) science has tended to be myopic and dogmatic and has, unsurprisingly, hit a wall in extending the Galilean method to issues of value, meaning, norm, and consciousness. It has also performed first- and second-person methods *implicitly*, often without being aware of it: You will not find sections on the use of intuition and empathy in the “methods” section of experimental psychology textbooks.

The challenges to success in practicing such nonreductive unification of knowledge are many—not the least institutional. Cogsem runs the risk of being caught in the cross fire between the traditionalism of the humanities and the hubris of the sciences. But on the positive side, Cogsem could make a contribution to “mending the gap between science and the humanities”: the subtitle of the last book of the evolutionary scientist Stephen Jay Gould (2003).

Table 47.2 The central task of cognitive semiotics: integrating methods, derived from each of the three perspectives, in the study of particular semiotic phenomena, along with their interrelation

Perspective	Methods	Usually applied to
<i>First person</i> (“subjective”)	Conceptual analysis Phenomenological methods Systematic intuitions	Perception Mental imagery Norms (in language)
<i>Second person</i> (“intersubjective”)	Empathy Imaginative projection	Other persons and “higher” animals Social interaction
<i>Third person</i> (“objective”)	Detached observation Experimentation Brain imaging Computational modeling	Isolated behaviors (e.g., spatiotemporal utterances) Biochemical processes

47.4.3 *Influence of Phenomenology*

Another common aspect to most Cogsem research, including that summarized in the preceding two sections, is a greater or lesser degree of indebtedness to the philosophical school of phenomenology, as founded by Edmund Husserl at the beginning of the twentieth century. There are multiple schools and types of phenomenology, but the basic idea is to *depart from experience itself*, and to provide descriptions of the phenomena of the world, including ourselves and others, as true to experience as possible—rather than constructing metaphysical doctrines, following formal procedures, or postulating invisible-to-consciousness causal mechanisms that would somehow “produce” experience.

There is continuity between the epistemological challenges of Cogsem, and those dealt with by Husserl nearly a century ago, leading him to develop phenomenology as a possible resolution to what he called the “crisis of European sciences,” caught between the extremes of positivism and relativism. The emphasis on perspective in Table 47.2 was meant as a reminder that all knowledge is relative to a subject—or an “observer” as Maturana likes to phrase it, though his epistemology overestimates the roles of language. This does not entail any form of “monadic” subjectivism for at least three reasons. First, we do not live in separate bubbles made up of “representations,” but in a meaningful lifeworld, co-constituted through our perceptions and actions. This is obvious for cultural meanings, such as those of language, but it applies also to the most basic layers of perception (e.g., of color). Second, even the most subjective experience is communicable—on the type if not token level—“to sympathetic others” (Bråten and Trevarthen 2007). Third, accepting that the structures of experience as elucidated by phenomenology are “prefigured” in the principles of life itself—as argued by Thompson (2007) and others—opens the way towards a naturalization of phenomenology without the reductionism that usually goes with that term.

Apart from an affinity in its epistemological foundations, Cogsem has benefited from phenomenology with respect to specific topic areas: the earlier mentioned distinction between presentation and representation, analyses of imagination and “picture consciousness” (Stjernfelt 2007; Sonesson 1989, 2011), of the interrelations between the living body (*Körper*) and the lived body (*Leib*; Gallagher 2005), of intersubjectivity (Zlatev et al. 2008), etc. What would seem to be a natural next step is to take stock of the more dynamic “genetic” (individual) and “generative” (cultural) developments of phenomenology, including analyses of *time consciousness* (understood as the fundamentally temporal nature of all experience), *passive synthesis* (opening the door to analyses of the “unconscious”), *sedimentation* (i.e., of cultural knowledge), etc. That would be consistent with the otherwise strong emphasis on dynamics, prevalent enough to deserve to be listed as a characteristic.

47.4.4 *Meaning Dynamism*

At the risk of using a notion that has reached almost fetish status during the past decades (“everything changes, nothing is static”), one can make the generalization that

Cogsem studies meaning on all levels—from perception to language, along with the various forms of “external,” cultural representations (theater, music, pictures, film, etc.)—primarily as dynamic *processes* rather than static *products*. Though the latter can be a convenient descriptive shorthand (e.g., of the “lexicon” of a language, or the “repertoire” of gestures in a community), nearly all Cogsem researchers have made the point that viewing meaning in purely static, structural terms is insufficient for understanding the essentially relational, subject-relative, and (often) interpretive nature of semiosis. Unsurprisingly, various formulations have been used to capture the dynamic nature of meaning: *sense making* (Thompson 2007), *meaning construction* (Oakley 2004), *linguaging* (Maturana 1988), etc. It may also be reminded that the CfS scholars used the term “dynamic semiotics” prior to adopting “cognitive semiotics.” Thompson (2007) refers to the framework that he is developing as “embodied dynamism.”

There are at least six different timescales to the dynamic semiotic processes under study:

- a. *Microseconds* in the study of the emergence of the moment-to-moment experience of meaning(-fullness) as in vision or speech.
- b. *Seconds* in the study of the production and understanding of meaningful wholes such as scenes and (oral and gestural) utterances.
- c. *Minutes* in the development of a particular social interaction, or “enchrony” (Enfield 2011).
- d. *Days, months, and years* in the study of semiotic development in ontogenesis.
- e. *Decades and centuries* in the study of cultural-historic processes, as in language change and sociogenesis.
- f. *Millennia* in the study of biological evolution (i.e., phylogenesis).

The levels on which these processes apply are also various, from those of “subpersonal” processes in brains to conscious experience in individuals to co-constructions of meaning in dyads and groups to changes in whole populations and environments. These are fairly standard timescales and levels, not specific to Cogsem. Perhaps what could be seen as criterial for a Cogsem approach to any particular phenomenon (e.g., visual perception, gesture interpretation, or identity formation) is not to focus on a single timescale—and corresponding epistemological approach—but to consider several scales and levels in relation to one another, as discussed explicitly by Andrén (2010).

47.4.5 *Transdisciplinarity*

In the opening line of this chapter, Cogsem was preliminarily defined as an “interdisciplinary, or rather transdisciplinary, field” focusing on mind and meaning, with some family resemblance to cognitive science. Judging from the background of Cogsem researchers mentioned in this overview, we can see representatives of (1) *semiotics*, whether or not it should be seen as a single discipline; (2) *linguistics*, above all from cognitive semantics; (3) *psychology*: mostly developmental, but also cultural, cognitive, and comparative; (4) *anthropology*: biological and, hopefully,

cultural, despite its deeply ingrained resistance to “biologism”; (5) *enactive cognitive science*: including neuroscientific and dynamic modeling approaches; and (6) *philosophy*, above all, in the phenomenological tradition.

These are almost the same list of disciplines that combined forces to define cognitive science in the 1960s. But as stated in the introduction, the new synthesis of Cogsem is quite different. For one thing, the “components” of Cogsem are often viewed as antagonistic to those that participated in the synthesis of cognitive science: so one finds cognitive versus generative linguistics, epigenesis versus nativism, enactivism versus cognitivism, and phenomenology versus physicalism. At the same time, such oppositional thinking—and thus opposing Cogsem and Cogsci—is much too schematic. After all, we are all participants in ongoing processes of dynamic transformations of society, technology, and attitudes towards knowledge. While cognitive science may be currently more academically established than Cogsem in terms of associations, journals, academic departments, and educational programs, it has not evolved into a self-sufficient discipline and remains in essence an *interdisciplinary program* with various constellations crystallizing as “paradigms” for a limited period of time: Varela et al. (1991) portray its brief history as passing through the stages of cognitivism, connectionism, and enactivism. With some goodwill, Cogsem could even be seen as a fourth stage/generation of cognitive science.

More important for the self-definition of Cogsem, however, is whether it should involve a lower or higher degree of interdisciplinarity. A higher degree is often called *transdisciplinarity*, especially by those who see “interdisciplinarity” as a temporary coalition between members of different fields when something of considerable complexity is addressed (e.g., the brain as studied by neuroscience or evolution as studied by sociobiology) but without seriously affecting the participant disciplines or the broader field of knowledge. In contrast, 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” (*Transdisciplinarity, Wikipedia*). From such a perspective, Cogsem can be seen as a true transdisciplinary field since *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,” in the words of Gould. As I wrote with some rhetorical flourish some years ago: “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, p. 253). To the extent that Cogsem lives up to the challenge of providing a coherent worldview, uniting “biology, phenomenology, and the sciences of mind” (in the words of Thompson) and even offering a foundation for the systematic study of fields such as visual art and music, it would deserve the label “transdisciplinary field.”

Another feature often seen as crucial for transdisciplinary research is “the inclusion of stakeholders in defining research objectives and strategies in order to better incorporate the diffusion of learning produced by the research. Collaboration between stakeholders is deemed essential—not merely at an academic or disciplinary collaboration level, but through active collaboration with people affected by the research and community-based stakeholders” (*Transdisciplinarity*, *Wikipedia*). It is fair to say that, so far, Cogsem has not achieved this, though there have been encouraging first attempts: Smith’s work with producers, consumer rights advocates, and legal experts in the FairSpeak project; work in Aarhus on multiculturalism. Areas of crucial social significance, in which Cogsem—with its participatory approach to knowledge—should be able to involve stakeholders from areas such as atypical development (e.g., autism), sex and gender, animal rights, and religion: notably, all highly “sensitive” domains characterized by polarized views. An approach such as Cogsem, which professes to take first-person experiences seriously, would be beneficial in these mine-laden areas.

47.5 Conclusions

The fact that similar ideas—and even the term “cognitive semiotics” itself—have emerged in different places over the past decades is hardly a coincidence. At some risk of exaggeration, Cogsem can be seen as called for by historical needs, such as those suggested in this article: the need to unify or at least to “defragment” our worldviews, the need to come to terms with increasingly higher levels of dynamism and complexity, the need to understand better—and thus deal with—the dialectical relationship between individual freedom (autonomy) and collective dependence (sociality), etc.

In other words, if cognitive semiotics did not exist, we would need to invent it. Its potential as a transdisciplinary field integrating our understanding of life, mind, language, and society is considerable. Furthermore, it can help integrate the participating disciplines internally—above all psychology and linguistics, divided as they are in conflicting subdisciplines that treat their objects of study (i.e., mind and language) in, respectively, biological, mental, and sociocultural terms. To emphasize again: Cogsem is not a branch, school, or theory of semiotics, the latter understood as a self-contained discipline. It can make equal use of ideas from Peirce, Saussure, Jakobson, Greimas, von Uexküll—or from anywhere else—to the extent that those ideas are productive for empirical research, leading to *new insights* into the nature (and culture) of human beings, as well as other meaning-seeking and meaning-making beings.

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