

The Communicative Mind

The Communicative Mind:
A Linguistic Exploration of Conceptual
Integration and Meaning Construction

By

Line Brandt

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P U B L I S H I N G

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by Line Brandt

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Research in cognitive semantics has clearly demonstrated the conceptual basis of linguistic meaning, most evident from the crucial role of imaginative capacities, such as metaphor, blending, the construction of mental spaces, and the evocation of myriad entities of a fictive nature.

—Ron Langacker, 2001

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INTRODUCTION

Introductory presentation and initial remarks on Cognitive Semiotics as a disciplinary foundation for the research project

Cognitive Science & the Humanities

The subject of the present book is meaning construction and the significance of enunciation for the structure and exchange of linguistic signs.¹ Based on interdisciplinary research in language and cognition, the book embodies an implementation of a new scientific paradigm in the cognitive sciences, namely the paradigm, emergent in the last couple of decades, of human cognition as being fundamentally *social*. What traits of the human mind make it possible for disparate human minds, with separate physical brains, to communicate with each other, and through this capacity bring our minds into alignment, enabling individuals to know the content of each other's thoughts – and even causally affect it? Bringing together a wide range of theories, in a wide array of disciplines, my research shows that language is shaped, at every structural level, by the fundamental premise of face-to-face interaction. Language and cognition are inherently structured so as to handle, not just co-presence or co-habitation, but the interchange happening in basic social situations of someone (an “enunciator”, a “speaker”) addressing someone else, in mutual awareness and attention. This basic situation of address is what is known in linguistics (cf. Benveniste) as “enunciation”. *The Communicative Mind* presents an unusual and thoughtprovoking investigation into the significance of *enunciation* for theories of language and mind within disciplines in Cognitive Science (CS) devoted to advancing our understanding of meaning-making processes in cognition. Viewed in sum, the conclusions arrived at point toward the need for extensive revision of certain paradigms in CS pertaining to meaning-making processes in

¹ *The Communicative Mind* is based on my doctoral work (Brandt 2010: “Language and Enunciation – A cognitive inquiry with special focus on conceptual integration in semiotic meaning construction”, Aarhus University).

cognition: If first- and second-generation cognitive science locate meaning in truth conditions, on the one hand, and in the body and the unconscious conceptual system, on the other, perhaps a third-generation cognitive science will locate meaning in *communicating minds and bodies*. The notion of a “communicative” mind thus betokens a heightened awareness of the speech situation as a significant – and indeed constitutive – factor in language.

My approach grows out of an interdisciplinary background in Philosophy, Linguistics, English Language and Literature, Cognitive Science and Cognitive Semiotics (developed in the 1990’s at the Center for Semiotics at Aarhus University). Common to all endeavors has been an interest in developing ways of approaching subjects in the Human Sciences from a cognitive perspective, and thus furthering and contributing to a meaningful integration of the cognitive sciences and the humanities.

The enterprise is naturally an interdisciplinary one, and the work presented here is interdisciplinary at various different levels – both within disciplines and across disciplines. An example of the latter is the introduction of experimental psychology, gestalt psychology and phenomenology into a line of argumentation addressing issues in a particular theory in Cognitive Linguistics (CL). In Chapter 3, a theory of time in human cognition developed by neuropsychologist E. Pöppel is brought to bear on hypotheses in Conceptual Integration Theory (aka Blending Theory). Building a bridge between neuroscience and psychology, Pöppel’s research on temporal perception (cf. section [3.2.1.3]: ‘Integration at different levels of consciousness’) presents a constructive opportunity for assessing the hypothesis that numerical identity, gestalted entities and whole narrative scenarios as well as a variety of advanced conceptual activities are constructed by the same cognitive mechanism, as proposed by Fauconnier and Turner (*The Way We Think*, 2002).

Furthermore, cognitive semiotics, my field of specialization, is, in and of itself, an interdisciplinary field of research. Setting itself apart from the more commonly known *cultural* strands of semiotics, cognitive semiotics encompasses a host of different disciplines providing an opportunity for studying the mind and the brain without leaving the Humanities, among them neuroscience, linguistics, philosophy, psychology, textual analysis and the study of (especially linguistic) signs in human exchanges. With its unique scope, and offering an opportunity for interdisciplinary research, the Center for Semiotics became a Danish frontrunner in what can be characterized as a *cognitive* branch of the humanities. Integrating semiotics and neuroscience without *reducing* the study of signs to the

study of neural processes, this scientific perspective provides a stimulating alternative to *reductive*, empiricist stances to cultural phenomena, on the one hand, and on the other to *relativist* positions in the humanities (see section [4.1]). (On Cognitive Semiotics as a disciplinary foundation for the research, confer the next section of the Introduction).

One way in which interdisciplinarity is fruitfully engaged *across* disciplines, which is characteristic of my approach to language and mind, is the integration of cognitive linguistics, philosophy and semiotics. Philosophy is present, though often unacknowledged, in cognitive-linguistic theories, and semiotics is, after all, the study of what linguistics is essentially about, namely the study of *signs*. Through this integration, it has become possible to find practical implementations of some of the avowed intentions and motivations among cognitive linguists, for criticizing contemporary linguistic theories (Chomsky's generative grammar being the most prominent example) that hitherto had remained a mere ideal without practical support. One such goal has been a bridging of the gap between semantics and pragmatics.

In an attempt to realize this long-standing ambition in CL to close the – empirically suspect – semantics-pragmatics divide (prevalent, for example, in generative linguistics), I devise an analytical methodology honoring the pragmatic factors of *enunciation* and *utterance meaning* as central features of language and as theoretically central concepts in linguistic analysis. The intensive work on phenomena related to enunciation (the *event* rather than *product* of language use, cf. Chapter 1) can be taken as an elaborate argument for the timely recognition of the intricate relation between meaning and communication; if an expression *means* something it is because *someone* (actually or potentially) *means something by it*. The adopted empirical approach has bearings on methodology as well. It influences the choice of data and the way the data is analyzed; I make a point of stressing the methodological benefits of analyzing units of meaning in their *rhetorical context*, and of working primarily with naturalistic data.

As indicated, the last few decades have witnessed an increasing awareness of the social dimension of language (McNeill 2005, Tomasello 2006, Zlatev et al. 2008, Smith & Conrey 2009, Gallagher 2009, citing, among others, Thomson & Varela 2001, et al.)², moving away from the analytical, symbol-oriented first wave of the 'linguistic turn' toward a

² See also *Language and Social Cognition: Expression of the Social Mind* (Pishwa (ed.) 2009) and *Meaning in Mind and Society. A Functional Contribution to the Social Turn in Cognitive Linguistics* (Harder 2010).

more usage-oriented view, partly inspired by an accumulating corpus of work on shared conceptual structures underlying language and the cognitive turn in the Humanities, but also precipitated by linguists and philosophers in the late 50's and 60's taking an interest in what we *do* with language (Austin 1962; Benveniste 1966; Searle 1969), thereby challenging theories of language that aspire to separate pragmatics from semantics, disregarding the social – and situated – motivations of language as a means of *communication* and action. As Gallagher recently wrote in the *Cambridge Handbook of Situated Cognition* (2009), “[...] cognition is not only pragmatically situated but also always socially situated, not simply in the sense that the world is populated with others with whom we communicate but also in the sense that *this communication and interaction shape our cognitive abilities from the very beginning*. They push us to realize that cognition not only is enactive but also elicited by our physical and social environment; that it not only involves a deeply embodied and temporally structured action but also is formed in an affective resonance generated by our surroundings and by others with whom we interact.” (Gallagher 2009: 47-48, italics added) The “situated” view of human cognition as originating in embodied interaction with a physical *as well as social* environment is a relatively new development in cognitive science, which requires a thorough linguistic and philosophical investigation so as to be implemented meaningfully in current scholarly work on semantic and pragmatic aspects of meaning construction.

Benveniste, a key figure in developing the concept of “enunciation” (the act of addressing an addressee in the form of an utterance) in linguistics, dedicated a long section of his 1966 book to what he called *the presence of man in language*, directing attention to the subjectivity inherent in, and entailed by, the fact that language presents itself in the form of utterances, that is, to the *uttering* of sentences and the dimension of situatedness that this circumstance entails.

The common-sensical and yet somewhat theoretically novel view of language as inherently dialogical and socially conditioned finds support outside of linguistics as well, appearing as a perspective in neuroscience and in developmental psychology. The emergence of a “social neuroscience” is especially noteworthy, particularly the research on “mirror neurons”, supporting a view of humans as beings fundamentally attuned to interpersonal interaction and inspiring new hypotheses on the origin of language, cf. the hypothesis proposed in Gallese (2007), grounding meaning on the social experience of (observed and even imagined) action. As Gallagher has suggested, mirror neuron research may even indicate that the Other is more primary than the Self – contrary to the widely held

belief, e.g. in Theory of Mind (i.e. ‘theory theories’), that the Other is derived from the (primary) Self.

The primacy of intersubjectivity similarly finds support in psychology, which has a long tradition of observing babies reacting to physical arrays and giving cognitive interpretations of their reactions to stimuli, but which has recently turned toward the observation of the development of social intelligence as well, not just in the form of theory-of-mind experiments but specifically the intelligence involved in turn-taking interactions, cf. Trevarthen’s observations (cf. Trevarthen 1994, 1995, 1999) of vocally and gesturally implemented, markedly *rhythmic* dialogue-behavior in pre-linguistic infants, indicating attunement to communicational causality at a very early stage, and evidently preceding attunement to *physical* causality.

“The dynamic patterns of feeling in protoconversation in which the infant follows and joins in rapidly transforming expressive sequences, give the clearest evidence that each human mind is innately organized for intersubjective participation with the interests and feelings of another human mind.” (Trevarthen 1994) Trevarthen’s observations indicate that the very *uttering* of utterances – the rhythmic emission of utterances in anticipation of rhythmically unfolding turn-taking events – is even developmentally primary to syntax and semantics, and the conceptualization and vocal actualization of words needed for actual speech to occur. The referential function of language appears, in fact, to be secondary to the enunciational feat of addressing another person: “[...] the syntax of verbal expression in speech and text is derivative of, or built upon, a nonreferential process that regulates the changes and exchanges of motivation and feeling between subjects in all communication where cooperative awareness is being created.” (ibid.) In this sense, enunciation is a primitive, more basic even than ‘utterances’: at the core of language is *attunement to others*.

The ontogenetic primacy of the preoccupation with enunciation – and the anticipation of the enunciation of the Other – suggests that enunciation is not only central to the study of ‘meaning’ but that it is, in fact, *more basic than meaning construction itself*. Furthermore, it is food for thought, from an ontogenetic point of view, that the basic rhythmic turn-taking is mastered long before the infant starts exploring its physical environment. Apparently, even babies born two months prematurely can do it. From birth, the communicative mind spontaneously engages others in interactional events – an observation challenging the received assessment of intentionality as somehow derived from physical experience and of physical experience as being necessarily more “easily understood” than other forms of experience. Insights such as these contribute to a growing

body of evidence that the intentionally motivated pragmatic domain of *conversational interaction* is in fact not an abstract and “less accessible” domain in human ontology, as assumed for instance, in the work of Lakoff and Johnson – as assumed, in fact, in most – if not all? – departments of Cognitive Science around the world. In *Philosophy in the Flesh*, to take a representative example, *intentionality* is seen as the result of the *blending of two metaphors* (Lakoff & Johnson 1999: 216). The assumption is that all conceptualization is shaped by the infant’s experience of its physical environment.

The prevalent *physicalist* consensus on the ontogenesis of embodied conceptualization, and, more generally, on the phylogenesis of human cognition, precludes the idea expressed in “Philosophical antecedents to situated cognition” (Gallagher, *supra*) that *communication and interaction shape our cognitive abilities from the very beginning*, an idea also expressed in “The Social Context of Cognition” by Smith & Conrey (2009), which calls attention to the emphasis in social psychology “on the social context of behavior – the fact that human behavior in general takes place in, and is adapted to, a rich and complex network of group memberships, personal relationships, social motives, and the socially constituted self. *This view represents a valuable supplement to the typical focus on behavior as situated in the physical environment* (e.g. Kirsh, 1995).” (Smith & Conrey 2009: 463, italics added) “Cognition almost invariably occurs in the context of other people: the web of face-to-face encounters, personal relationships, and social group memberships that make us who we are. These social entities not only very frequently constitute the content of our thoughts and feelings but also fundamentally *shape the processes underlying our cognition and behavior as well.*” (Smith & Conrey 2009: 454, italics added)

Similarly, Tomasello’s extensive research on social cognition brings awareness to the grounding of certain kinds of representations in semiotic interaction. In Warneken & Tomasello 2009, the authors emphasize “humans’ unique biological adaptation for social interactions involving shared intentionality”, arguing that events of cultural exchange motivate the development of (“dialogic” or “perspectival”) representations necessary for sharing and distinguishing different perspectives on things – a mainstay condition for language and thought: “The internalization of interactions in which cultural artifacts and practices are mastered leads to some new [i.e. species-unique] forms of dialogic or perspectival cognitive representations. These new forms of cognitive representations are *fundamentally social in nature*, involving both shared and differentiated perspectives on a single set of entities, so that one and the same entity may

be simultaneously construed in different ways, under different descriptions, for different purposes. Such perspectival cognitive representations are taken for granted in cognitive science – all theories of knowledge representation assume them as a matter of course – but in fact there is no evidence that any other species develops such representations [...]. Our proposal is that perspectival cognitive representations are an ontogenetic product resulting from humans' unique biological adaptation for social interactions involving shared intentionality, and that other species do not have such representations because they are not adapted for such social interactions.” (Warneken & Tomasello 2009: 476, italics added)

Taking as its central point of investigation the overlooked cognitive and linguistic phenomenon of *enunciation*, the evidence introduced in this cognitive-semiotic study of meaning and mind presents a number of challenges to widely held beliefs. One of these is the belief in bodily and environmental physicality as the sole source of schematization and conceptualization. The view of the mind as being also essentially shaped by its adaptation for social interactions has implications for this and other related issues, some of which are summarized below:

- The primacy of the physical domain. Physical experience is, in the empiricist tradition inspiring contemporary cognitive science, more “concrete”, more “basic” and more “easily accessible” than other forms of experience – than other ontological or “semantic” domains. This belief, in turn, is of influence to another contemporary dogma, which deserves more critical attention than it has so far been afforded³:
- The unidirectionality hypothesis: The belief that meaning flows *unidirectionally* from the physical domain to the domains of social activities and relations, of epistemic activities like reasoning, and of communicational or metalinguistic activity. The unidirectionality hypothesis claims that the source domains in metaphor are always more “concrete” than the target domains, and that, in terms of semantic domains, the direction always goes *from* the physical domain to other,

³ Relevant topics that have yet to be put into theoretical perspective include (but are not limited to): (1) an inventory of ontological (i.e. “semantic”) domains; (2) the possibility (or, conversely, the impossibility) of *transdomain schemas* (see also Walsh 2003), in addition to the directed transfer of structure (for which there is already ample evidence, cf. e.g. Talmy, Sweetser, Lakoff et al.) from a *root domain*; (3) the schematic transfer of structure *to* the physical domain from other domains, evident for instance in expressions that construe physical causality in terms of intentional causality (as in “This machine *refuses/does not want to* start”).

more “abstract” domains. Given the proposed “upward movement” of language from the physical to the “spiritual” (cf. e.g. W. Urban in *Language and Reality*, 1939), the abstract concepts of our social, interactional, emotional, and mental lives can be traced back to an origin in sensory-motor experiences of our physical environment.

Though counterexamples are sometimes documented – Lakoff & Turner, for instance, note that “It is common to speak of lines ‘converging’ or ‘meeting,’ as if they were moving” (1989: 142) (“meeting” is a social concept and does not merely indicate movement) – they are not documented as counterexamples.

Among the evidence presented here against the conviction that conceptualization is unidirectional there are examples of metaphors going from the domain of face-to-face interaction to other, allegedly more concrete, domains. Manifesting an evident propensity for non-physical domains to act as source domains in conceptual and expressive constructions of metaphoric meaning, these observations “speak against” the unidirectionality hypothesis, according to which all meaning is rooted in the physical domain.

- Anti-representationalism. For reasons only partly accounted for by the influence of behaviorist philosophy, the cognitive sciences witness a divide between representationalist theories, on the one hand, and on the other, theories that find the concept of (mental) “representation” philosophically suspect (see e.g. Johnson & Lakoff 2002). Semantics, in the latter (anti-representationalist) perspective, is not studied as a feature of communicative attunement, since semantic content is viewed primarily, or exclusively, as a biological matter concerning brain-environment interaction. In practice, cognitive analysis thus becomes equatable with the identification of activity in the brain, e.g. increased glucose utilization in particular areas or the release or suppression of dopamine during the performance of specific tasks. Similarly, in the distributed cognition approach (as in Hutchins 1995), the focus of the analytic framework is on the observable behavior of cognizers rather than on the structure of semantic contents in terms of experienced representations.
- The notion of *domains*, for instance in relation to metaphor. Some examples, to illustrate the problem: To investigate the processing of metaphor in the brain, for instance, one must first decide what counts as a metaphor, i.e. what data to admit (e.g. when setting up brain imaging experiments). The pertinent question, then, is how to identify a metaphor as opposed to other kinds of phenomena. The notion of domains is central in current theories, but the task of specifying what

actually constitutes a domain gets little attention. Experiments taking an offset in Conceptual Metaphor Theory (Lakoff & Johnson), to take an example, look for instances of structure being transferred from a “source domain” to a “target domain”. The conceptual structure MORE IS UP is said to constitute such an instance. One of the theoretical problems here, though, is that neither “more” nor “up” constitute experiential domains; these are schemas – schemas that are potentially active in all experiential domains (buildings, archery, argumentation, hunting, cooking, etc.).

Another problem with contemporary theories of metaphor – not just Conceptual Metaphor Theory, but also Conceptual Integration Theory (Fauconnier & Turner), Relevance Theory (Sperber & Wilson) and also Glucksberg’s attribution model of metaphor as well as Lakoff’s neural theory of metaphor, is that they fail to account for the emergence of meaning not already there in the “source”, or “vehicle”, prior to being applied to the target entity. This is evident, for instance, in the metaphor “This surgeon is a butcher”, since nothing in the experiential domain of butchery warrants an attribution of the surgeon as having acted ethically indefensibly or of being incompetent. This is one of the issues addressed in sections [3.1.2] and [3.1.3] which identify some of the problems in contemporary theories of metaphor and offer solutions.

In Mental Space Theory (Fauconnier 1994, 1997), *spaces* are intermittently referred to as “domains”. It is less than clear, though, what the notion of “domains” is actually meant to encompass – both when applied to mental space theory and in cognitive linguistics generally. Aside from a finite number of domains of phenomenal reality (ontological domains, aka ‘semantic domains’; *socio-physical*, *epistemic* and *speech-act* domains in Sweetser 1990) and a non-finite number of “experiential domains” (e.g. constituting source and target domains in conceptual metaphor), Fauconnier adds two further uses: “Mental spaces are the domains that discourse builds up [...]” (Fauconnier 1997: 34), and spaces, he writes, are associated with a certain “domain”: they may be Time spaces, Space spaces, Domain spaces, etc. (Let us assume that the domains in “Domain spaces” are experiential domains.) We thus end up with the somewhat confusing insight that there are (semantic) domains within which there are (experiential) domains feeding domains (read: mental spaces) associated with different domains (types of spaces, e.g. “hypotheticals” or “beliefs”). Add to this the identification of *schemas* as “domains” and we are up to five different senses, cf. Lakoff’s classification of

abstract, image-schematic structures as experiential domains. Accordingly, there is a domain of paths, a domain of barriers, a domain of bounded regions, etc. If all senses are employed at once, we thus get domains specifying domains structured by domains and containing content from specific domains grounded in domains. As demonstrated in the discussion of “mental spaces” in Chapter 3, terminological vagueness is likely to betray deeper issues.

Some discussions relate specifically to aspects of cognitive linguistics. Some of the topics addressed concern theoretical issues that have not been scrutinized before:

- Problems in the way *syntax* is approached in cognitive linguistics, e.g. with regard to ‘form’ vs. ‘function’ and to syntactic dependency. See section [2.1] on “fictive interaction” in grammar, and section [3.2.1.2]: an interdisciplinary critique drawing on cognitive, functional, stemmatic and generative syntactic frameworks of the “caused-motion construction”.
- Semantic construal and “fictive motion”. Section [2.2]: a critical discussion of the notion of “fictivity” employed in CL.
- Conceptual Integration Theory – its scope and limitations. CIT is stipulated to account not only for complex creative inventions of the imagination but for a host of phenomena at lower levels of consciousness, such as perception, object permanence, and the neurobiological effects constituting experiences of pain. These effects include for instance phantom-limb phenomena, which are likewise attributed to “conceptual blending”. All these phenomena, from basic perception, to integration of perception and memory, to advanced cultural endeavors like ritual behavior and commercial advertisement are hypothesized to rely on the same basic mental operation. In Chapters 1, 2 & 3, I raise the question of whether a unified model of mental space integration can accurately depict an array of phenomena as diverse as the founders theorize is the case and identify a host of inherent problems. Key theoretical notions are taken for granted, in CIT, without arguments for or against their aptness in individual cases, and certain terms are applied so widely that a firm grasp of their meaning is precluded. This is true even of the notion of “conceptual integration” – the defining phenomenon, hypothesized to constitute “a general cognitive operation”. Some problem areas:

“Mental spaces”. The expansive drift from studying semantic sense-making, accessible to conscious awareness, to the

inclusion of visual processing and aspects of cognition concerning the construction of (non-intentional) representations of the environment, makes certain imminent inquiries all the more relevant: What is the nature of the various forms of integration we can observe, and what are the means of observation? Are all forms of integration in human cognition best described as effects of the “blending of mental spaces”? What does it mean for a space to be “mental”, and what constitutes such a “space”?

It seems that incorporating insights from research outside the field of linguistics – not least gestalt- and neuropsychology – would be necessary in order to arrive at any useful definitions. Also it would be beneficial to take into account the scientific value of combining empirical evidence and philosophy, making explicit the hypothesized architecture of consciousness assumed as a basis for formulating these hypotheses of cognitive processing (and hence for the methodology employed). In its current use, the concept of “mental spaces” lacks theory-internal consistency as well as neural and psychological plausibility.

The blending diagrams. In Chapters 2 & 3, I question the proposed typology and the structure of the proposed network: e.g. the cognitive plausibility of the proposal that conceptual integrations can have an infinity of inputs.

The treatment of “identity” (its various senses are not differentiated). The blending mechanisms are believed to be responsible not only for categorization but also for prerequisites of categorization, among them: time, identity and causality (cf. Fauconnier & Turner 2002). I argue against this belief; it is illogical, for instance, that blending be the origin of the perception of numerical identity.

Perception. Blending is described in CIT as a causal factor in the perception of objects. I argue that blending is not involved in processes of perception. Part of the argument is based on Pöppel’s theory of how time (and, according to the argument made here, identity) is internally constructed in the brain, and how the automatic and compulsory binding mechanisms involved in basic temporal integration in turn affect cognition and behavior. With his insights on human temporal processing,

Pöppel offers an experimentally based theoretical challenge to a number of hypotheses within CIT, including, not least, the view of time as an emergent product of conceptual blending, and hence of imaginative space building as being prior to the construction of time and object permanence (cf. 3.2.1.3.2: ‘Temporal differentiation of integration levels’). If Pöppel is correct in assuming, in accord with the suggestion that “brain rhythms are causally implicated in cognitive functions” (cf. Thut & Miniussi 2009), that cognitive processes cannot be studied without their temporal dynamics, it seems a logical step for theories of cognitive processing to take the temporal dynamics of the studied phenomena into account. Pöppel’s theory is arguably at odds with some of the tenets of CIT, speaking against the hypothesis that all mental phenomena, including sensory as well as semantic event integration, “proceed from the same cognitive ability and lie on a common continuum” (Fauconnier & Turner 2002: 185), and showing that, rather than being a product of blending, time is *fundamental to cognitive processing*.

Blending/binding. Perceptual integration is normally described via a binding schema, cf. the notion of perceptual *binding*. Integration that occurs at the perceptual level of consciousness involves contours, chromatic qualities and other primitives that are “bound” to each other in the process and sent off as integrated wholes, so that when we perceive an entity we perceive all the properties at once. Fauconnier and Turner’s suggestion that this final, integrated result be identified as a conceptual blend is, I claim, unsupported and makes the posing of this methodological question highly relevant: If the neural binding involved in the construction of e.g. a display of visible objects is inaccessible to consciousness, as is manifestly the case (no amount of concentration will allow us to experience our own brains), how can the cognitive semanticist identify it and diagram the process (a methodology based on introspection)?

In cognitive linguistics, we find, on the one hand, descriptions of conscious and unconscious mental activity, and on the other, with an offset in these, physical and chemical events to which the analyst has no introspective access but which are observed indirectly, by the use of technological probes, and interpreted as indicative of conceptual activity. The authors do not commit to

one or the other of these levels of description, the reason being, I propose, that blending is conceived of as *transcending* them ([3.2.1.3.1]: ‘Identity and causality: Welcome to the “bubble chamber”’).

Syntax. I question the view of blending as the origin of grammatical constructions and that blending is even necessarily useful to the description of syntactic structure. The idea of *mental spaces* does not appear to add anything, neither in terms of providing theoretical motivation for the fact that syntactic constructions express semantic structure (i.e. for the construction itself), nor in terms of explaining how syntactic structures may fit particular experiences. There is no obvious reason why structural mappings, for instance in the case of caused-motion sentences, could not be diagrammed, and importantly, why they should not in fact occur, without being bounded by mental spaces. It is not clear how – or if – mental spaces are actually involved in syntactic integration processes.

Despite the stated ambition in Fauconnier & Turner 2002, the theory, as it stands, provides no avenues for testing either individual analyses of phenomena, nor the blending-binding hypothesis, nor the claim that blending is a general and ubiquitous feature of cognition (i.e. the “general mechanism” hypothesis: that blending be “fundamental to all activities of the human mind [...]”). My contribution, therefore, has been a critique of the theory based on what can be assumed to be agreed-on scientific principles, and some constructive solutions to the problems identified – based on the same examples as well as additional examples of the cognitive processing of linguistic meaning in various written and spoken genres of discourse. Among the results are a new typology of integrations and an analytic framework with a less inclusive scope: a semiotic theory of conceptual integration.

The extensive analyses throughout the book of empirical utterances in all kinds of discourse – including fiction (Ch. 4) and the deliberately non-natural language use of metrical verse (Ch. 5) – intimate an overall view of the meaning-making mind as relying to a considerable degree on the dynamics of imagination, and shows that the fundamentally *dynamic* nature of language, evident in various syntactic and semantic traits, is motivated by the enunciating conceptualizer’s anticipatory monitoring of the hearer’s *attention*, by a pronounced predisposition for framing of states

of affairs in terms of *forces*, and, crucially, by the inherently *temporal* aspect of conceptual processing.

A central and noteworthy characteristic of many of the linguistic phenomena recorded here is the circumstance that they are, in effect, *referential* only in an indirect manner (cf. Ch. 2, Ch. 3, Ch. 4), suggesting that a philosophy of language aiming towards naturalistic realism will need to acknowledge the pervasiveness of *non-actuality* in representation.

The direction of the overall project, and the scientific perspective manifesting itself in theoretical developments in each chapter and in novel angles from which to approach and critique existing theories, are – it is important to notice – made possible precisely by combining ideas across disciplinary territories, that is, by thinking up an interdisciplinary approach.

Cognitive Semiotics

At the university I went to in the 1990's, there was no linguistics department and no cognitive science in the Humanities. When I came across *Metaphors We Live By* (Lakoff & Johnson 1980), *Women, Fire, and Dangerous Things* (Lakoff 1987), and *Reading Minds* (Turner 1991), bearing the subtitle “The Study of English in the Age of Cognitive Science”, it opened up a whole new set of avenues. Having grown increasingly dissatisfied with the prospects of analytic philosophy of language and with the various theoretical manifestations of relativism I encountered in the human sciences, reading these books permanently changed my curriculum. I was elated to discover that my lifelong interest in language and cognition was now, in fact, the central concern in a burgeoning field of research, and decided to seek out stimulating input wherever I could find it. While finishing my MA in Philosophy and English⁴, I began making excursions off campus, seeking out talks and

⁴ At Roskilde University (RUC), I studied English phonology, phonetics and functional grammar, and following a year of graduate studies in Linguistics and Comparative Literature as a Fulbright Scholar at the University of Washington, I completed my MA in Philosophy and English at RUC, specializing in syntax, semantics and textual analysis. After obtaining my degree, and thanks to Gilles Fauconnier who was kind enough to invite me, I spent a year working on the diagrammatical modeling of the semantics of non-literal language use at University of California (San Diego) as a guest researcher in the Department of Cognitive Science (2001-2002). Benefiting from the rich teaching and research environment at UCSD, I had the good fortune to attend lectures by Liz Bates, V. S. Ramachandran and others, participating in research meetings and seminars, and

reading material on topics in cognitive studies. I followed lectures at the University of Copenhagen (e.g. Frederik Stjernfelt on metaphor theory and Elisabeth Engberg-Pedersen on sign language), and started making frequent trips to the Center for Semiotics (CfS) at Aarhus University to participate in seminars and research meetings. Here I came upon an academic environment that set itself apart in many ways. It was an institution with a different kind of agenda, and instead of scripted lectures, they offered seminars: interactive “sessions” of variable duration that, unlike regular courses, were attended by every researcher and student present at the Center, sometimes even by administrative staff. This alternative learning environment fostered a daring and inventive, rather than primarily receptive, attitude in participants, which was enlightening and, at times, electrifying. It seemed each assembly potentially carried the promise of new discoveries. In an atmosphere at once relaxed and intense, scholars from sundry disciplines congregated to learn from each other and get feedback on recent ideas. Everyone was encouraged to pitch in during the – often protracted – sessions that seemed genuinely motivated by the common goal of *finding things out*. This was how I had originally envisioned a *university*: as an institution with joint discovery as a primary objective. Buzzing with activity, the Center fostered an influx of “tourists” (as was the amicable term in the local vernacular – designating people with no formal affiliation to the institution) and of guest researchers from departments near and far (among them visiting research fellows Rick Grush and Tim Rohrer), whom the Center hosted, to the apparent benefit both of collective and individual intellectual progress. My engagement in the CfS community, from the mid-1990’s to the mid-2000’s, first as an intellectual tourist and later as a researcher and teacher, confirmed my belief in scientific success as being fundamentally dependent on the establishment of a research *community*.

Delving deeper into cognitive linguistics and dynamic semiotics (to echo the AU motto)⁵, I had the pleasure of reaping inspiration from a wide range of scholars, including Seana Coulson, Terrence Deacon, Shaun Gallagher, Rick Grush, Karen van Hoek, Mark Johnson, Ernst Pöppel, Colwyn Trevarthen and other inspiring researchers visiting the Center, as well as a group of “regulars” who seemed equally excited to be there.

I moved to Aarhus in the fall 2002 after a first year of research at UCSD (the latter semester funded by a Ph.D. stipend from the Faculty of

following courses by Ron Langacker, Gilles Fauconnier, Seana Coulson and Ed Hutchins.

⁵ *Solidum petit in profundis*.

Humanities received primo 2002). In the years leading up to the move, during the period from early 1996 to the turn of the century, I attended a wide range of symposia and guest lectures at CfS. Of particular interest to me were: linguist Prof. Eve Sweetser on *Mental Spaces*, (May 96, Oct. 98); Winter symposium on *Mental Spaces and the Structures of Meaning* (Jan. 97); cognitive literary scholar Prof. Mark Turner: *A Mechanism of Creativity* (May 97), *Principles of Conceptual Blending* (May 97) and a 3-day seminar: *Varieties of Conceptual Projection* (June 97); philosopher Rick Grush: Seminar on *Neurocognitive Grammars* (spring 98); philosopher Tim Rohrer: Seminar on *Conceptual Metaphor, Conceptual Blending and the Embodiment Hypothesis* (fall 98); linguist Prof. Leonard Talmy: *Relating Language to other Cognitive Systems* and *How Language Structures Concepts* (Sep. 98); linguists Karen van Hoek & Seana Coulson: *Discourse and Cognition* (Dec. 98); Mark Turner: *Evolution, Brains, Symbols, and Descent of Meaning, (...) Figures, Schemas, and Constructions, and Concepts, Mental Operations, and Expression* (May 99); Tim Rohrer: *Seminar on Conceptual Metaphor* (spring 99); philosopher Prof. Shaun Gallagher: *Motor and Communicative Theories of Gesture* (Sep. 99); cognitive rhetorician Todd Oakley: *Toward a Grammar of Attention* (Nov. 99); neuropsychologist Prof. Ernst Pöppel: *A Hierarchical Model of Temporal Perception* (Nov. 99).

At the turn of the millennium I was busy finishing a thesis in cognitive semantics and literary studies, but continued to make occasional appearances at the Aarhus center. The high level of activity persisted.⁶ In

⁶ Up until the fall 2002, there were, in addition to the regular seminars, supplementary seminars on the Dynamics of Meaning Construction by visiting professor Gilles Fauconnier (Nov. 00); lectures in 2001 by Wolfgang Wildgen (Universität Bremen), Jean Petitot (EHESS), Larry Zbikowski (University of Chicago), Mark Turner (University of Maryland), Todd Oakley (Case Western Reserve University), Joshua Sabih (AU), Mikkel Holm Sørensen (IT Højskolen), Jesper Sørensen (SDU), Ole Thyssen (HH), Mikkel Bogh (University of Copenhagen), Bernard Baars (The Neurosciences Institute, San Diego), Frederik Stjernfelt (University of Copenhagen); symposium on A Cognitive Approach to Marketing Semiotics (Henrik Dresbøll); seminars on Conscious Access Models of Cognitive Function by Prof. Bernard Baars (May 02); lectures in 2002 by Frederik Stjernfelt, Michael Chandler (University of British Columbia), Chris Sinha (SDU), Jesper Sørensen, Helle Munkholm Davidsen (SDU), Wolfgang Wildgen, Jesper Mogensen (University of Copenhagen), Anders Hougaard (SDU); Thomas Ramsøy (Lions Kollegiet, Cph.), Shaun Gallagher (Canisius College, NY), Frieder Nake (Universität Bremen), Michael May (Dansk Maritim Institut, Cph.), Dan Zahavi (University of Copenhagen), Colwyn Trevarthen (University of Edinburgh), and Maxine Sheets-Johnstone (University of Oregon).

2000, the Center, which started out as an educational research seminar in 1989, had its proposal of establishing an MA program in Cognitive Semiotics approved, and in 2001 students started enrollment in the new program (beforehand students had the one option of enrolling at the BA level). The research program bore the title *General and Dynamic Semiotics* and was founded on a contract (1993-1998) between the Danish National Research Foundation and the Center for Semiotic Research (AU). The affiliated research group consisted of its founder, P. Aa. Brandt, and Peer F. Bundgaard, Anne Marie Dinesen, Lene Fogsgaard, Morten Lind, Steffen Nordahl Lund, Arne Thing Mortensen (my former MA supervisor in the Department of Philosophy at RUC), Helle S. Poulsen, Lone S. Rasmussen, Bent Rosenbaum, Chris Sinha and Svend Østergaard.

On the initiative of P. Aa. Brandt – the research director – and benefiting, to a substantial degree, from the organizational talents of Tina Friis (functioning as the CfS secretary), as well as the assistance of Jens Peter Tofte (functioning as financial manager and graphic designer), the Center organized a number of activities: conferences, research training, international collaborative undertakings, publications, research meetings and seminars (in semio-linguistics, general semiotics, psycho-semiotics, techno-semiotics, aesthetics, narratology, philosophy and theo-semiotics), as well as annual winter symposia and annual summer seminars in Italy – in collaboration with faculty at the University of Urbino.⁷ Every year a busful of semioticians headed south in the campus van, and yet more by trains, planes and automobiles, off to enjoy days of stimulating lectures and nightly gatherings at the central *piazza* bar near the Duke’s palace. Semiotics may be gratifying in and of itself, but doing semiotics in a majestic renaissance town endowed with culture and wildlife is better yet: “a palace that instead of rising within a city’s walls contains within its own walls a city can only be Urbino” (*Invisible Cities*, Italo Calvino).

Historically, cognitive semiotics grew out of dynamic semiotics (cf. the title of the aforementioned research program). These branches of semiotics stand in contrast, for example, to *cultural* semiotics (as is commonly practiced for instance in the US). Dynamic semiotics is based on ideas developed in mathematics (cf. René Thom’s concept of a “catastrophe” as a transition from one state to another) and is oriented toward comprehension of universal structures in cognition in terms of

⁷ In later years, summer seminars were held on the island of Bornholm, Denmark: a 2003 PhD summer symposium on ‘Perspectives on Language and Text in Cognitive Semantics’ with Eve Sweetser, and, in 2004, one on ‘Perspectives on Poetics and Textual Analysis in Cognitive Semiotics’ with Mark Turner, Christopher Collins and Monica González.

forces acting on forms. As stated in the original program presentation, dynamic semiotics is a “recently developed paradigm in semiotic modelling, mainly built on Catastrophe Theory – a mathematical means of grasping *forms* as stable structures of morphogenesis. Intelligible states, events, acts, processes and beings in general, are understood formally in terms of *force* topologies. Form is dynamically represented as based on conflicts opposing forces. The material substratum of these forces is unimportant, whereas the dynamics of their local configuration determines the emergent forms that constitute the intelligible phenomenon.”

Dynamicity, in its different senses, concerns the *structural* content in phenomenal experience and is the central issue in Svend Østergaard’s book on “cognition and catastrophes” (the specifying subtitle, in English translation, is *studies in dynamic semiotics*), see Østergaard (1998). One sense is *temporal*, cf. Langacker’s observation that there is temporality in conceptual construal. Dynamicity may also refer to conceptual *animation*, as in Talmy’s “cognitive dynamism” (as compared with cognitive staticism).⁸ A third aspect of dynamicity has to do with the dynamics of *forces* (as compared with *figural* imagery). Force dynamics is described in Talmy (1995) as “a system of concepts built into the semantic structure of language and seemingly other cognitive systems, in which a body can have an intrinsic tendency toward rest or toward motion, another body can oppose that tendency, the first body can resist that opposition, the other body can overcome that resistance, where a stronger object can block a weaker one or force it to move, and where a weaker object can hinder or act in vain on a stronger one.” Briefly put, it is “the general and language-based conceptual system pertaining to force exertion, opposition, resistance, and overcoming”, cf. Talmy (1991).

Sharing Talmy’s interest in “narrative structure in a cognitive framework”, Østergaard emphasizes the importance of how we conceptualize scenarios and represent them linguistically. The inherent dynamics in the world, according to the view presented in his 1998 book, determines, or in a weaker sense, *motivates*, the conceptual structures by means of which the cognitive agent may refer to the world. Dynamic structure emerges out of the interaction between the neurobiological processes in the cognitive individual and the physical processes in the environment. The emergent structures are neither neurobiological nor physical, but are, as Østergaard points out, *phenomenological*. Østergaard therefore speaks of an *emergent phenomenology*.

⁸ Cf. Talmy 2000, Vol. I, p. 171.

There are two levels of reality: the morphology (form) of experience, characterized as phenomenological structure, correlated to an external phenomenology inherent in situations. Østergaard describes the correlation of the two levels as a self-reinforcing feedback relation between information from pheno-physics, on the one hand, and projection from cognition, on the other (the cognitive system's construction of e.g. virtual viewpoints in the perception of objects). There is thus a non-arbitrary relation between the external world and mental constructions. In phenomenological terms, the physical environment appears as a result of the convergence between consciousness and transcendent reality (i.e. reality transcending processes of cognition, cf. Husserl). Geometrical, topological and dynamic structure is inherent to the phenomenological as well as the physical world, and these (e.g. topological) structures are identical to the information that generates the cognitive schemas through perception.

The term pheno-physics (borrowed from P. Aa. Brandt) refers to an aspect of phenomenal reality: the pheno-physical level contains a 'physics' which is objective and mathematically representable, as is classical physics, but unlike microphysics ("geno-physics") it is phenomenologically accessible. The conceptual understanding of forces and dynamic processes that is expressed linguistically is not identical to a (e.g. Newtonian) physical conceptualization of the same phenomena. The cognitive processes "transgenerate" the topological information before the information is projected onto the phenomenological world. The phenomenological viewpoint presented implies a form of ontological realism that emphasizes the structural stability of natural and conceptual processes. This is of significance to the way in which agents are able to represent entities and events – an ability which, Østergaard explains, is facilitated cognitively by the organizational capability of (neurally implemented) cognitive schemas: configurations in the mental representation of the speaker that are independent of the figural content of temporal and spatial forms. Cognitive schemas are abstract representations of dynamic processes. Their phenomenal form is *independent of* the physical nature of the dynamics; they are non-figural and non-specific and in this sense *abstract*.

Note that this particular understanding of schemas is different from other uses, e.g. "schema" in the sense of physiological, procedural knowledge or in the sense of a situational script (cf. Fillmore) which is figural and more specific (e.g. a "restaurant script" detailing probable events inherent in a type of situation). The schematic form is the form by which the cognitive system generates stable representations of temporal and spatial processes, and other sorts of processes. The schemas that

organize the conceptual level of language are likely to be rooted in the physical domain, though have other sources as well, most prominently enunciation, communication, and abstract social processes – perhaps *intentional* behavior as such. An example mentioned is the speaker's intention to mark a viewpoint in relation to the content of the expression (presumably for epistemic or emotive purposes). Conceptual constructions are thus also determined by communicative strategies, including, for example, the subjective agendas motivating the *foregrounding* or *backgrounding* of content, and the choice of viewpoint a speaker applies to a state of affairs – a viewpoint that can be construed independently of the structural properties of the state of affairs considered in and of itself. Østergaard also mentions deictic constructions, which have to be interpreted in relation to a speaker's viewpoint.

If two different processes can be represented by the same verbal unit, it indicates that they are structurally stable at the phenomenological level, such that they may be grasped (epistemically speaking) by application of the same structurally stable form.

The dynamic schemas do not represent physical processes in physical space but cognitive structures employed to stabilize and represent dynamic processes independently of their ontological form. The discernment and diagrammatic explication of these schemas is a central task in dynamic semiotics. Inquiries, naturally, set in at the level of manifestation, and are consequently instigated by examination of linguistic and narrative constructions of dynamic event sequences in various (not least literary) types of text.

Aside from the notion of schemas, the notion of *scenarios* is of importance. The cognizer selects a framing for some aspect of phenomenal reality and represents it (e.g. linguistically) as a dynamic whole. As a dynamic whole, a scenario involves some form of (latent or realized) agency.

To be present means for a cognitive agent to be present *in a scenario*. One scenario can be the background of another; a scenario is typically understood in relation to another prior, future or hypothetical scenario, which influences perceived saliences, and the semantic pregnances invested therein, and constrains agency. Scenarios are endowed with temporal depth and have intrinsic narrative potential. The cognitive agent must engage in phenomenological analysis of a given dynamic scenario in order to localize the parameters, i.e. the variables that can be causes of change – intentional agents, physical forces etc. – and he must have a mental representation of the relation between parameters and represent possible salient changes that the parameters can cause.

Østergaard's exposition on the morphodynamics of human experience (see also the work of René Thom and Per Aage Brandt, Jean Petitot, Wolfgang Wildgen et al.) ultimately conveys an evolutionary perspective on language structure (as being dependent on the condition that a biological individual acts in relation to other individuals in a social environment; semantics and pragmatics are hence seen as two sides of the same coin) and on conceptualization: certain aspects of the structure of the (natural as well as cultural) content world have been selected for (cf. the emergence of *schemas*) in order to yield behavioral patterns that optimize the conditions for survival.

The schematics of cognition continues to be a central concern in what has become known as Cognitive Semiotics. The term 'cognitive semiotics' was coined by E. Holenstein (cf. the 1992 interview republished in *Kognitiv Semiotik* 2003) and became the descriptive header of a research and seminar program at the Center for Semiotics in the late 1990's. It was adopted by P. Aa. Brandt during the Roman Jakobson conference in Copenhagen in 1996, and came to stand for a branch of semiotics integrating European philosophy, semiotics, and American cognitive science, from neuroscience to semantics (cf. Brandt 2003: "Toward a Cognitive Semiotics").⁹

Cognitive semiotics being a relatively novel development, it may not be familiar to all, and a rudimentary characterization might be useful as a preliminary measure to embarking on the following chapters. As with other categories, cognitive semiotics is radially structured and there may be variations concerning individual traits (analogously, "birds can fly" is usually a true statement – but then there is the penguin...). As stated in the "Cognitive Semiotics" (CS) entry in the *Semiotics Encyclopedia Online*¹⁰,

⁹ Aside from a growing interest in neuroscientific research, one could also observe an increased occupation with mental space theory and its apparent utility e.g. in linguistics (Sweetser et al.) and literary studies (Turner, Oakley). The aforementioned article by P. Aa. Brandt (published in 2003) was, tellingly, succeeded by an article by Fauconnier & Turner called "Conceptual Blending", and the seeds of the work on *blending* presented in my dissertation (Brandt 2010) were sown in seminar sessions at the Center where practical analysis of concrete examples (paintings, texts, etc.) made it evident that further theoretical development was required. At the end of Østergaard's 1998 book (*supra*) he poses the question of how to link up morphodynamic content and a cognizer's viewpoint, which he suggests could be related to mental space and blending theory. I suppose this idea is to some extent realized in the present research project, though it is by no means exhausted by these efforts.

¹⁰ Semioticon.com [accessed 2012].

“one can make the generalization that CS studies meaning on all levels – from perception to language, along with the various forms of ‘external’, cultural representations (theatre, 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 CS scholars 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), meaning construction (Oakley), languaging (Maturana), etc.” The following five characteristics are elaborated in the encyclopedic entry: “productive combination of theory and empirical research, methodological triangulation (including first-person methods), influence of phenomenology, dynamism of meaning, and transdisciplinarity.”

Cognitive Semiotics (henceforth CS) is an emerging interdisciplinary matrix of (sub-parts of) disciplines and methods, focused on the multifaceted phenomenon of meaning. It is characterized by the ambition of “...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”, as stated on the home site of the journal *Cognitive Semiotics: Multidisciplinary Journal on Meaning and Mind* [cognitivesemiotics.com¹¹]. This admittedly already broad definition could be further extended to include investigations of “non-human signification”. As shown below [ibid.], while CS practitioners indeed focus on what is specific about human forms of meaning-making, there is widespread agreement that this can only be properly understood in a comparative and evolutionary framework. / Thus understood, CS cuts through and stretches across

¹¹ The journal *Cognitive Semiotics: Multidisciplinary Journal on Meaning and Mind* was founded at Aarhus University in 2005 and with funding from Case Western Reserve University and the support of Per Aage Brandt, Todd Oakley (Department of Cognitive Science, CWRU) and Peter Lang Verlag was developed into an international, peer-reviewed journal with an extended editorial board (the editorial manager at the time, Jes Vang Poulsen, and I remained on board as co-editors). Since the publication of its inaugural issue on “Agency” (2007), the journal has published a number of themed issues on topics such as “Consciousness & Semiosis”, “Cognitive Poetics”, and “Semiotics as a Cognitive Science”, and on the initiative of its new editorial board (2012) will renew itself as *The Journal of Cognitive Semiotics*, a biannual publication dedicated to research in cognitive science, semiotics and beyond.