

Chapter 3

The Architecture of Semantic Domains

One does not stand in thin air
gaping at a tree as one does
in philosophical examples...

Eleanor Rosch

1. A geography of the life world?

The expression 'semantic domain' is a spatial metaphor. In this article, it will be argued that it also expresses a necessary notion in semantic analysis. Anything meaningful in a 'context', contexts supply relevant frames for the contents of our consciousness, and they thereby allow us to draw inferences from these contents. According to the view presented, contexts are structured within distinct semantic domains, which are grounded in bodily experience, not only in a basic sense, as referring to motor activities, but in the sense of a stable articulation of our life-world as an experienceable whole. The notion of semantic domain expresses this articulation in parts, regions, sorts of conceptual and practical behavior.

The term 'domain', from Lat. 'dominium', is attested in French in the 11th century, and has, in contemporary French, the range of meanings aimed at in semantics and everyday phenomenology, when speakers want to express the idea of there being distinct and differently regulated regions in the world of human experience, knowledge, and agency (Fr. synonyms: *monde, univers, champ, étendue, sphère, matière, spécialité, terrain, compétence, rayon, ressort*:

...le domaine public

...le domaine des puissances du hasard, des dieux et du destin (Valéry)

...le domaine de ses connaissances

La politique, c'est, par essence, le domaine des choses concrètes (Mart. du Gard)

Ce domaine est encore fermé aux savants

Je ne puis vous enseigner, ce n'est pas de mon domaine (Robert 1991)

The first opportunity to pay attention to the notion of semantic domains in the context of a cognitive and semiotic approach to the study of meaning in general was the claim made by G. Lakoff and M. Johnson (1980) in their new analysis of metaphors, namely that humans have conceptual systems grounded in bodily experience, and that there are *kinds* or *areas* or *domains* of experience underlying our concepts, so that abstract concepts are built by metaphors linking them to more concrete concepts:

We have found that metaphors allow us to understand one domain of experience in terms of another. This suggests that understanding takes place in terms of entire domains of experience and not in terms of isolated concepts. [...] These experiences are then conceptualized and defined in terms of other basic domains of experience [...]. This raises a fundamental question: What constitutes a "basic domain of experience"? (Op. cit. 117).

The authors continue:

Each such domain is a structured whole within our experience that is conceptualized as what we have called an *experiential gestalt*. Such gestalts are *experientially basic* because they characterize structured wholes within recurrent human experiences. They represent coherent organizations of our experiences in terms of natural dimensions (parts, stages, causes, etc.). Domains of experience that are organized as gestalts in terms of such natural dimensions seem to us to be *natural kinds of experience*.

They are *natural* in the following sense: These kinds of experiences are a product of

Our bodies (perceptual and motor apparatus, mental capacities, emotional makeup, etc.)

Our interactions with our physical environment (moving, manipulating objects, eating, etc.)

Our interactions with other people within our culture (in terms of social, political, economic, and religious institutions)

In other words, these "natural" kinds of experience are products of human nature. Some may be universal, while others will vary from culture to culture. (Ibid. 117-118).

However, these lines contain all of the information this primordial book gives about the subject. In Lakoff (1987), the term domain is not to be found in the index.

In R. Langacker (1987), an entire chapter (Chapter 4) is devoted to the study of *predicate domains*:

A context for the characterization of a semantic unit is referred to as a domain. (p. 147).

What Langacker refers to is the 'conceptual potential' (p. 149 sq.) that allows us to locate or configure a particular concept. Thus, color space defines a range of color sensations, and a particular color concept like [YELLOW] or [BLACK] can be identified as a restricted 'region' within this 'domain' (ibid.). This is an example of a 'basic domain'. Similarly, [WARM] and [COLD] are regions within a temperature domain. There are 'abstract domains', essentially equivalent to Lakoff's ICMS (idealized cognitive models); knowledge of the counting numbers (1, 2, 3, ...) constitutes a one-dimensional abstract domain; our ability to recite the alphabet is another abstract domain (A, B, ... Z). This notion of a domain is clearly distinct from that of an *experiential* semantic domain as the latter appears in metaphor analysis. Predicate domains are cognitive parameters or background set-ups that humans interestingly dispose of, once they have acquired them, as parts of their acquaintance with specific domains of their experience. Predicate domains are "scopes of predication" (ibid. 182), whereas predication itself is about subjects, experiential things, referents, that we relate to as being stable under predicate shifts and changes of qualitative identity: their numerical identity only requires a 'home address' in the realm of *realia* that we accept as constituting our world. Another simple way of characterizing the difference between predicate domains and experiential domains in semantics is to say that the former refer to our indefinitely manifold subjective equipment and cognitive accessories, whereas the latter refer to our apparently limited set of fields of interaction. Predicate domains are only relevant to the study of experiential domains in so far as these specify them (specific predicate schemas may thus be grounded in specific experiential semantic domains).

In Lakoff and Turner (1989, chapter 4), and in Turner (1996, chapter 7) a phenomenon called *The Great Chain of Being*¹ seems to do the job of interrelating experiential domains and ranging them in an order from lower to higher. In the metaphor analysis presented, the expressions 'source domain' and 'target domain' are default, but there is no attempt to directly elaborate a non-etcetera list or a hierarchy of relevant domains. In Lakoff and Johnson (1999), the expression 'domain difference' is in the index, but there is still no analysis of the nature of

¹ Cf. the American 'philosophical semanticist' A. O. Lovejoy's *The Great Chain of Being: a Study of the History of an Idea*, 1936.

this difference, which is supposed to define conceptual metaphor. One might be inclined to apply a deconstructionist reading: domain 'differing', from Jacques Derrida's French: 'différance'... M. Turner and G. Fauconnier (1998) now believe that this assumption, of domain difference, is invalid, and prefer to think that metaphors are better described in terms of one-sided conceptual integration networks of mental spaces ("the inputs have different organizing frames and one of them is projected to organize the blend", op. cit.). Therefore, the understanding of semantic domains is no longer considered a crucial issue. But even one-sided single-framing occurs between spaces of different categorial nature; there is thus still an issue to be settled. If some frames seem to overrule other frames, according to some sort of frame dynamics, then why does this happen? It still appears to be the 'domain difference' that accounts for the phenomenon. Turner (1996, p. 51) finds it plausible that our understanding of social, mental, and abstract domains (the term is extremely rare in his book) is formed on our understanding of spatial and bodily/stories, namely by projection of these spatial and bodily stories onto social, mental, and abstract stories. But this argument still presupposes that *there are* such 'social, mental, and abstract' domains, i.e. that they are already available, since they could hardly be *created* by these projections onto them. The question remains: *what* domains are there?

In E. Sweetser (1990), the analyses of modality, causality, conjunction, and conditionality are explicitly based on domainial structure. A metaphorical mapping from an external, sociophysical *semantic domain* (or world) to an internal, mental, and epistemic *semantic domain* (or world) explains the distinct senses of shared topological structure (there: force-and-barrier schemas) in root and epistemic modality. Sometimes this distinction is described in terms of three domains:

The above paragraph is not intended to imply that physical, social, and epistemic barriers have something objectively in common, at however abstract a level. My idea is rather that our *experience* of these domains shares a limited amount of common structure, which is what allows a successful metaphorical mapping between the relevant aspects of the three domains. (Op. cit. 59).

There is furthermore a *speech-act domain* to which modality can apply (ibid. chapter 3.4). Sweetser thus has an unfolding of maximally four basic semantic domains: a physical, a social, a mental, and a speech-act domain. However, the first two domains in the series are sometimes

merged – perhaps integrated – into one sociophysical domain (ibid. 52). The problem involved in this difficult distinction and possible integration concerns the interpretation of intentional forces in root modality versions of mainly causal force dynamic schemas inspired by L. Talmy (1976, 1981, 1988).

An important aspect of Sweetser's considerations is that domains have structure, some parts of which are shared, whereas others may not be. Here, 'structure' may refer to dynamic schemas and their figurative settings: stories, in Turner's sense, appear to be a plausible interpretation.

2. Towards an architecture of semantic domains

Domains of experience are also *semantic* domains in the sense that they are 'kinds of reality' that our beliefs implicitly *refer to* and that therefore make our imaginations meaningful. Experience and reference are supposed to follow the same semiotic principles of discrimination. Linguistic or other forms that express our imaginations are thus interpreted spontaneously as *meaningful in some domain*, if they are not rejected as being meaningless (everywhere). Basic semantic domains are neither language-dependent nor culture-dependent, but languages, cultures, and individuals may *fill* them differently to some extent. Semantic domains are constituted by human experience in the richest possible phenomenological sense; languages, cultures, and human semiotics in general are based on experiences and practices in a life-world constituted as a whole, and though it is perfectly possible to divide this whole arbitrarily into comparable segments – a task regularly assumed by natural philosophies and religions – it is also possible to identify genuine parts of it that remain stable under cultural variation. If such parts are identified, they qualify as universally given semantic domains. A domain filled differently by different cultures will still be the same domain, if we can find evidence of its staying the same notional and practical 'kind of reality', characterized by the sort of things humans do in it. Humans do not live in separated 'kinds of' life-worlds, we suppose, but rather in one human life-world with a cognitively necessary set of subworlds or domains that integrate into a phenomenological whole. This is the

assumption we will elaborate further here. The essential question will be how to grasp and model the composition of this phenomenological whole?

If there were infinitely many cross-culturally stable semantic domains, any expressive form would need infinitely many interpretations in order to appear meaningful. If there were no way of ordering a list of domains, other than just alphabetically – that is, if any list of domains had to be randomly put together – then any project of *grounding* abstract meanings and concepts in concrete ones by tracking them back to sorts of *embodied* experience would be hopeless (cf. Brandt 1998). Then, the view of conceptual metaphor as a cognitive staircase to abstract notions would be absurd.

Instead, our interpretations of expressive forms are in fact most often fast and surely working processes. Etymology shows that abstract notional terms are often grounded in less abstract source domains, and metaphor is at least often a cognitive staircase by which the mind climbs from more to less embodied and more abstract notional meanings (cf. Lakoff 1996). Therefore, we need to explore this possible and probable non-chaotic order or *architecture of semantic domains* in a life-world perspective – although current discussions (cf. Hirschfeld and Gelman 1994) remain hesitant as to the general design of such an architecture.

2 Cognitive linguistics, and the cognitive sciences in general, are incompatible with cultural relativism and the forms of modern nominalism which are frequently found in current cultural studies, and often implied in the cultural views of hermeneutics, philosophy of language and analytic philosophy. The cognitive approach to meaning is in need of a moderately realistic phenomenological philosophy, less rigid and dogmatic than academic phenomenology, and more observational. I am referring to *human phenomenology* here in the sense of a possible account of the structures in meaningful human experiences, in so far as they can be accessed by observation-based analysis, including linguistic and semiotic analysis, and systematically compared to their contexts in terms of situations, interactions, and biophysical conditions. The *philosophy of such a phenomenology* may have to be characterized as non-reductive and therefore as 'methodologically dualistic': views from within and views from outside must be equally acknowledged in order to be compared and combined.

3. The basic semantic domains

In my view, research has to be both empirical and speculative. The speculative dimension of this research includes a concern for coherence in diagramming and modeling. The empirical dimension here concerns the use of arguments from observation and semantic analysis. One of the main problems of method in what follows is that the observations chosen for this presentation are fragmentary, illustrative, and therefore already somewhat speculatively interpreted. Some are linguistic, others psychological, anthropological, or even philosophical – all are of course intended to be semantically relevant, but there will be no satisfactory discussion of their accurateness in the framework of this article. I can only hope that the reader will finally see the project as built upon multiple inputs that express the intention to continuously include insights from various fields of contemporary research in the cognitive sciences.

A first step to take in the direction of establishing a view of basic semantic domains might be to follow a linguistic path, and to reconsider Sweetser's four domains (above). Modal expressions in language seem indicative of the existence of important natural conceptual distinctions guiding their polysemy. There is thus a basic division into a physical domain (D1), a social domain (D2), a mental domain (D3), and a speech-act domain (D4).³ The following interpretations of some uses of the English modal verb *must* are mine.⁴

- (1). D1: *Why must the baby catch measles just now?* (external, physical force)
- (2). D2: *We must see what can be done* (external⁵, intentional force)
- (3). D3: *He must be mad* (internal, epistemic force)
- (4). D4: *You mustn't do that!* (external-internal speech-act force)

3 Addressing semioticians, I have sometimes called D1 Nature, D2 Culture, and D4 Spirit – the latter term being somewhat provocative.

4 These examples are found in B. Kjærulff Nielsen (1998).

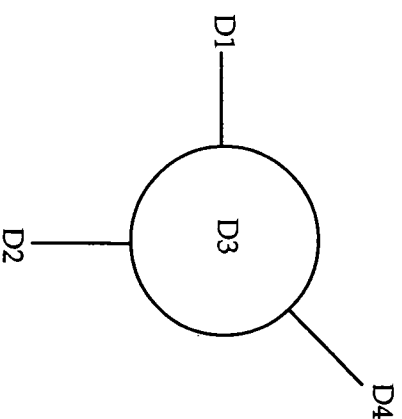
5 *This we must...* is no doubt internally felt by the speaker, but externally based as expressing a collective obligation (cf. *we*), external to the speaker in the sense that it refers to a social context. This ambiguity is a characteristic of the deontic modality in general.

(1) is a rhetorical question expressing irritation; someone might exclaim, in the same mode: "Why must you be so difficult?" Its modal force is ironically conceived as an obstacle rooted in physical nature. By contrast, (2) is a kind of mutual invitation, corresponding to: "Let us see...," expressing a shared moral obligation. The comment made in (3) refers to a person whose alleged doings make the speaker reason and conclude by an irrefutable force. In (4), which can be used and understood as an act creating a prohibition, the addressee might ask back: "Why?" The pedagogical speaker might then answer: "Because I say so!" All *must* examples express forces that influence states of things, but in different semantic domains. The negative *must* in (4) is a forceful barrier to the addressee's doing, and this barrier is embodied by the speaker in the *performative* act of 'saying so'. The positive *must* in (3) instead expresses an uninhibited *epistemic* flow from premisses to conclusion: the significant absence of a barrier. In (2), the speaker expresses a collective intention that the speaker endorses and invites the hearer to endorse with him, thereby creating an uninhibited *deontic* flow from the community to the actual speakers. In (1), the unwelcome event is ironically commented upon by a speaker who pretends to accuse destiny of having built a barrier on purpose in order to increase embarrassments – as an exercise of *narrative* force.

In all four cases, whether performative, epistemic, deontic, or narrative, there is a force and a barrier (lowered or raised), and the modal verb refers to it (cf. also the analyses in Brandt 1992). I am now less sure than Sweetser that the two purely external versions (1, 2) are 'root' meanings, and that the last two (3, 4) are constituted by metaphorical extensions. The most salient embodiment is in fact given by (4), where the internal motive is volitional and the external part of the force is gestural (voice, gaze, posture, facial expression). So, a new hypothesis on modality (of the *must* and *may* type, at least) might radically suggest that its 'roots' grow in D4, rather than in the sociophysical domain (1+2, or in an alethic⁶ D1 only, or in a deontic D2 only). There are gestures for accompanying (3) (a shake of the head), (2) (a nod and an opening of

arms), and (1) (e.g. nervous pacing). The gesture for (4) is directly a barrier-like posture. But leaving aside this special question, the modal unfolding at least illustrates our purpose. It allows us to present a view of the basic architecture of semantic domains.

There is a subject S, namely an embodied human person for whom there is an internal domain (D3) and a set of external domains (D1, D2, D4) of interaction with physical, social, and performative life-world surroundings. Let us suggest a first, simple diagram (Fig. 1)⁷:



The circle is (a container model of) the human subject, and the antennas indicate distinct directions of external interactions. This presentation is of course only mnemotechnical; it foregrounds the phenomenological dimension internal-external (only the mental domain is internal). In other presentations, the basic domains might just form an array of equally shaped icons. D3 would then also be presented as a dimension of interaction, which would be highly relevant when we consider the sort of reality we call memory.

However, if basic semantic domains are organized according to this distribution, it means that our neural wiring integrates the sensorial inputs into multimodal gestalts that show up in four distinct registers simultaneously: we orient ourselves in space (cf. gestures of *locomotion*); we attune to collective behaviors of doing (cf. *instrumental* gestures) in shared calendaric time; and we communicate with specific in-

6 The term *alethic* modality refers to forces and constraints imputed to physical reality, whether lawful or contingent. *All humans must die; Jensen can lift 200 pounds; elephants cannot fly...* Alethic meanings of modal expressions do not refer to reasoning and epistemic concluding, but to evidences given 'out there'.

7 Cf. supra, "Language, Domains, and Blending". The container-like design is only meant to facilitate imagination and avoid the idea of an arbitrary grid.

dividuals in face-to-face situations (cf. *expressive* gestures); we also experience having feelings and thoughts (cf. gestures of *intention*). As subjects, we know that these domains require different attitudes of us, and that our focus will always be on one or another of the events occurring in all of them at the same time. The study of *gesture*⁸ as such should then be considered essential to the understanding of basic embodiment. To my knowledge, the four registers of gesture are in fact reasonably good candidates for being basic, elementary, and implied in all complex bodily activities.

According to this view, we are thus embodied according to different basic dimensions of reality. In one dimension (D1), there is, we might say, a *causal* world of distances, gravitation, stationary and mobile objects and backgrounds, and we are moving around in it. In another dimension (D2), there is an *intentional* world of collective acts that we attune to when participating in some doing. In still another dimension (D3), there is a mental theatre showing us imaginations linked to each other and to what we externally experience by memory-based affective, epistemic, and *associative* connections, and we know that these imaginative thoughts, figures, and feelings really 'happen' within us, 'occur', whether we are awake or asleep and dreaming. And finally (D4), there is often a person in front of us that we react to by empathic and *volitional* mechanisms. 'Cause', 'intention', 'association', and 'volition' are not underscored as definitional criteria here, but only as typical properties of the inferential meanings of distributed modality (e.g.: what does it mean that something 'must' happen?).

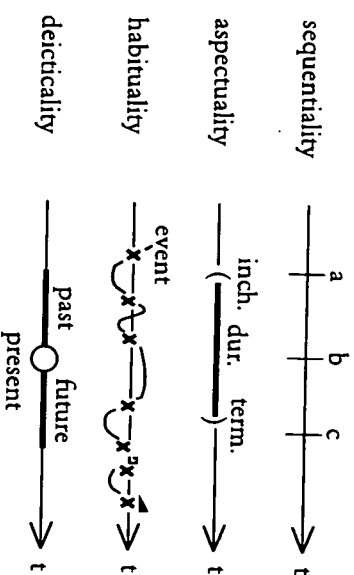
Things happen within temporal horizons. There are well-known standard schemas involved in the representation of the way in which things happen in time. And I claim that these standard temporal schemas, manifested by language, distribute over our four basic domains. Thus, there are different ways of experiencing and representing

8 The term *gesture* often refers only to expressive motor activity (D4). Other simple motor acts – like walking, grasping, etc. – are then just 'movements'. The so-called 'body language' comprises movements and bodily attitudes that express mental states (D3) in communication (D4). But locomotor (D1) and instrumental (D2) movements also express volition, attention, and affect (mood, emotion, interest), so a reasonable notion of gesture should, in my view, comprise the full range of bodily motor routines existing in all basic domains. This is what the term means here. But it may even be further extended and cover integrated actional sequences.

time, and they are structured by schemas corresponding roughly to the following basic concepts that language recognizes:

- D1: *sequentiality* (one thing after another)
- D2: *aspectuality* (begin – continue – finish; repeat, interrupt)
- D3: *habituality* (sometimes; often, seldom; always, never)
- D4: *deicticality* (now – in the past – in the future)

They may be represented by graphs like the following (Fig. 2):



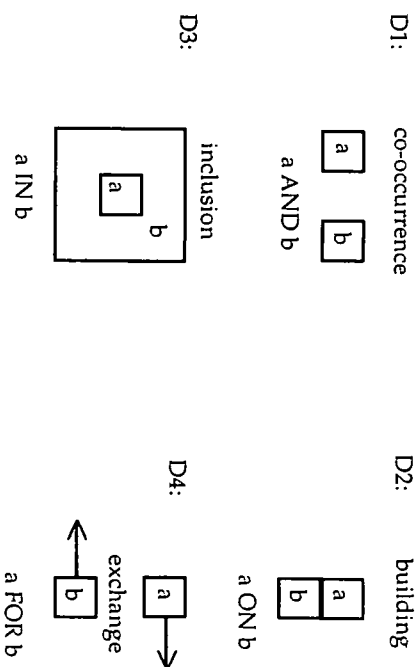
Sequentiality is directly related to locomotion (D1). Aspectuality⁹ (D2) is an inherent semantic property of telic acts (that can be interrupted significantly). Habituality is linked to epistemic evaluations of probability (D3). And deicticality is built into the structure of direct expressive address (D4). These temporal schemas might therefore be 'rooted' in those basic domains, in which they are incessantly reinforced. Most linguistic forms combine these types. Verbal tense morphologies, temporal adverbials, and temporal coreference-markers in general use more than one schema. Most other meaningful experiential phenomena likewise combine, integrate, and iterate the simple schemas. Musical rhythms clearly illustrate both the difference and the evident integrations we experience: D1 – the beats; D2 – the bars; D3 – the syncopations; D4 – *this* beat, *this* bar, *this* syncope.

On this basic level of the domain architecture, there are no reasons for postulating a hierarchy; ontogenetically, these domains seem to be

9 The standard stances of aspect are: inchoative, durative, and terminative – something intentionally "happening" begins, continues, and ends.

differentiated in early childhood and to stabilize as solid grounding dimensions in meaningful interactional and semiotic behavior. Moving around (D1), doing things with other people (D2), waiting and expecting (D3), and smiling or crying (D4) are distinct gestural activities and yield distinct sorts of perceptions for everyone however young.

Furthermore, spatial objects give rise to distributable relational schematisms on this basic level. As concerns elementary experiences of objects, we might consider the following set as typical (Fig. 3):



Object configurations, states, and events are differently schematized from domain to domain, since different skills are developed as related to observing and producing spatial co-occurrence (D1: many things in the same place), processual constructing (D2: new things with old things), remembering (D3: which things are where – in which containers), and giving and taking (some things instead of, or substituting for, other things).

People or persons are also differently *conceived* in different basic domains. There is, I claim, a distinct phenomenology of 'others' for D1: *everybody* without distinction (... can sense what I sense and can be where I am); for D2: *some* persons I know (... can be with me and help me do something specific); D3: the *ones* I love (... are in my heart forever), and for D4: the *other* I am facing and addressing (... who perhaps can understand me and with whom I sometimes can share my emotions). These quantifier-borne distinctions – *everybody*; *some*; *ones*; *other* – are of course by no means exclusive; but this distribution shows again the domainial semantic organization of our experience at human scale.

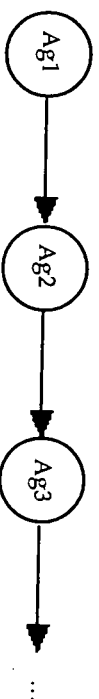
As mentioned, these illustrations are only presented here as indications of the sort of cognitive grounding that a theory of semantic domains might take into consideration. A complete catalogue of available knowledge of this sort would include evidence from gestalt and developmental psychology, studies of language development, gesture, theory of mind, cognitive anthropology, semiotics of human evolution, and much more. A realistic, or rather naturalistic (cf. Pachoud 2000) cognitive phenomenology is currently setting out to explore this level of experienced reality.

Let me just mention one more issue of basic semantic interest: causality and causation. Basic domains, as domains of experience, are naturally 'born' with principles of *causal intelligibility* of their own. They offer their own gesturally based causal schemas. But these causal schemas also easily substitute for each other in alternative understandings of the same phenomena. In support of the view of basic domains, it might be interesting to consider some schematic types of causation. All are represented in grammar by transitive constructions (cf. Talmy 1976, 1988).

One causal schema is *propulsion* (also called Caused Motion, or 'billiard ball' causation). Its probable domain address is D1, since only space and an object's change of location obtained by its spatial contact with another object's change of location are involved. Objects affect each other in a chain reaction by this simple principle, but only with a decreasing transitive dynamic effect: O1 → O2 → O3 → ... Thus:

*The ball hit the window and the sound of splintering glass scared the cat [basic]
 One domino toppled and all the standing dominos fell [basic]
 I do not wish to push him for payment [metaphoric]
 He kicked the bucket [idiomatic]*

Schematic diagram proposal (Fig. 4):

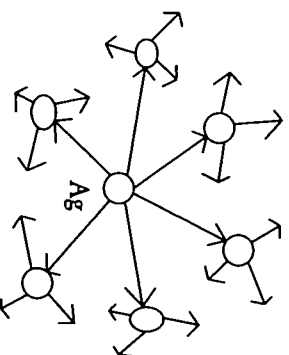


Another causal schema is *spreading* (unknown in cognitive literature so far). Its probable domain address is D2, since a radial group of transmitters is regularly involved, and space is perhaps primarily social. Things spread are most often invisible and immaterial (and often dys-

phoric: diseases, news, panic, rumors...). Spreading causes things to happen radially, but with an unpredictable, either increasing or decreasing transitive dynamics:

The disease contaminated the whole village
 His death was rumoured
 His name spread fear in every town [metaphoric]
 A broadcasting station [idiomatic]

Schematic diagram proposal (Fig. 5):

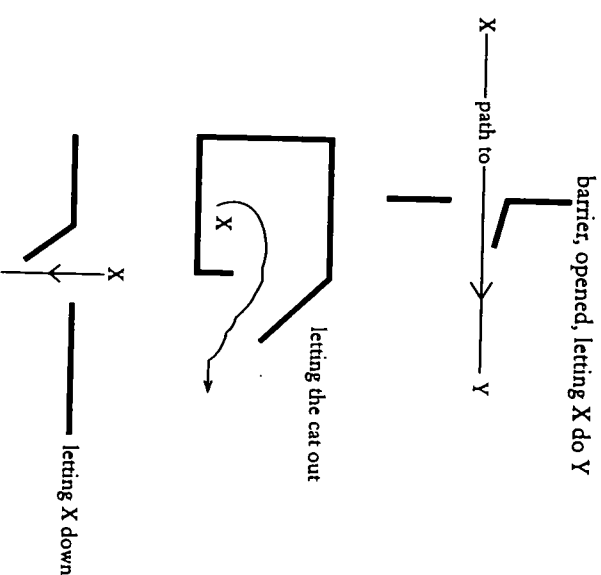


Further on, there is a form known from force dynamics, but typical of volitional and expressive interactions (of D4), namely *letting*: causing things to happen or be the case by willingly not opposing them. It has a triple agent structure: an affected instance (agonist) with a tendency to do or be something, a barrier opposing this doing or being (antagonist), and a remover of the barrier – the 'letting agent' (Talmy 1988). It has no inherent transitive dynamics, only an instantaneous force dynamics, in which the removal of a barrier 'allows' things to happen¹⁰:

Please let me kiss you
 He let the cat out of the bag
 Let me know what happens
 She let him down [metaphoric]
 His laissez-faire was a well-known fact [idiomatic]

Schematic diagram proposal (Fig. 6):

Some variants of LETTING:



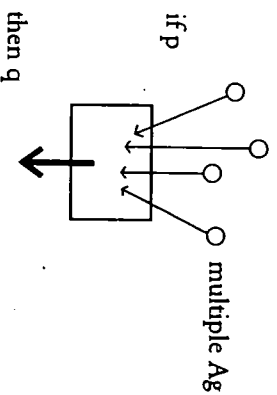
Finally, there is a basic form that we might call *making*. It has a very special aspectual structure involving iteration and a critical boundary triggering the effect. The cause is typically an accumulation of similar or different inputs, and the effect is a categorical change occurring in some object or field. Since the multiple inputs contrast the single output, cause and effect are separately categorized, separated and mediated by the idea of a specific 'causing device' that operates the shift from 'quantity' (small impulses) to 'quality' (big event). There is *no transitive dynamics*, but instead a *generalization* of what category of inputs produces what output category: an inter-category binding across the causing device seen as a significant black box, the idea of a regularity motivating expectations and a conditional probability. *If (enough) x, then (probably) y, since z* (there is an operative device *z* in the black box). *Making* is a causal schema suitable for long-term awareness, linking memory and expectation: an epistemic and thus a mentally given format of understanding (D3). The examples given here are idiomatic or technical. Idiomatic or not, the semantics of this causal format is always

¹⁰ Correspondingly, reinforcing the barrier will cause things to *not* happen.

accumulatively critical, as is the semantics of the word 'enough': how much does it take to make something...?

- One swallow does not make a summer (not enough)*
- It is a drop in the ocean (not enough)*
- The rain made him cancel the tennis game (at last: more than one drop is needed)*
- This was the straw that broke the camel's back (enough is enough)*
- Constant dripping wears away the stone (at last: enough)*
- They put articles in to make out a volume (at last: enough)*

Schematic diagram proposal, implicitly conditional (Fig. 7):



Making is often implicitly present in causal meanings expressed by constructions stressing the semantic *distance* between the input (the causing part) and the output (the effect, the result). This is also the case of the following strange transitive construction with intransitive or transitive verb, object, adverbial satellite, and nominal adjunct. Here is a small collection:

- He sneezed *the napkin off the table*
- The audience laughed *the actor off the stage*
- The police officers badged *their friend out of jail*
- The Iranians prayed *themselves back to the Stone Age*
- They are trying to propoganda *the people into the bar*
- Try to beat *some sense into their thick skulls!*
- He talked *the pants off the girl*
- He can talk *the skin off a snake* (hyperbolic)
- He could charm *rust off steel* (hyperbolic)
- His smile could charm *the coins out of a miser's pockets* (hyperbolic)
- What I would like to do now is ... fuck *your brains out* (American woman to British man in D. Lodge, *Therapy*)
- She drove *him out of his mind*
- I coloured *light back into my hair* (from a commercial)
- Eat *your heart out* (hyperbolic and idiomatic: "suffer in silence")

This construction¹¹ is grammatically obtained, according to blending theory (cf. Fauconnier 1997), by mapping sentences expressing 'caused motion', or *propelling*, like:

He threw the ball into the basket

onto separated causal complexes like:

He sneezed land therefore/so forcefully that| the napkin [went] off the table

The blend apparently uses the underlying *propelling* construction¹² as a bridge between the two distant parts. But the emphatic or hyperbolic meaning of the blend – not only: *and therefore*, but also (emphasis): *so forcefully that*, and often (hyperbole): *so forcefully that [it was as if] –* shows that a critical *making* semantics is also implied. The second example on the list must mean:

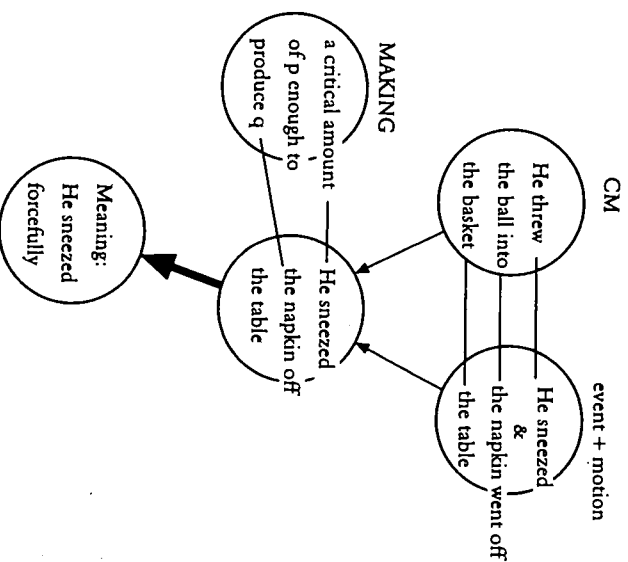
The audience laughed [so forcefully that] the actor [went] off the stage

The poor actor here had to tolerate a certain dosis of laughter before deciding to withdraw ("Am I that ridiculous? Ok, I quit!"). The meaning of this construction is emphatic or hyperbolic, and a semantic analysis of it must try to account for this dynamic aspect.¹³ The MAKING

- 11 There is in English a related construction using the lexeme *way* and intransitive verbs to express the idea of achieving something difficult and important: [...] *It is difficult to talk your way into first class these days.* (Flight attendant's remark). *Spiedo grills its way to first-rate dining* (advertisement, Spiedo is the name of a restaurant in San José).
- 12 Note that other sources are available: transitives like *guide*, *lead*, *lure*, *decoy*, *delude* (*into...*) which express semiotic control, structured by LETTING, rather than Caused Motion, would be just as suitable for the blend in some cases: *He turned the tank into the compound.*
- 13 In an advertisement (cf. note 11), the restaurant Spiedo in San José (CA) quotes a newspaper review: "Spiedo grills its way to first-rate dining". When it comes to grilled dishes, its cooking is so exquisite that it deserves a top rating. The 'way'-construction yields a sort of reflexive version of the 'caused motion' blend, and shows that evaluation is essential to it: to 'grill one's way to...' is to perform so well that... to show excellence and only thereby achieving the goal of being qualified as offering first-rate dining. The formula 'its way to' stresses the process and the difficulty of the goal, as if the referential verb 'grill' covered a hidden metaphorical verb, like 'fight' (against serious resistance, with a machete, through the jungle) or just 'make one's way' and brave difficult conditions. None of this dynamic information appears in the trivial 'caused motion' analysis of the construction.

schema for causation has precisely the needed structure: in the process of MAKING, a certain amount of input above a critical boundary is required to produce a result, and below the boundary there is no result. Therefore the occurrence of an important causal input can be signified by the occurrence of a result, even in cases where there is no such result in the situation referred to (the hyperbolic cases).

A slightly improved analysis of what happens in this construction is thus obtained by a set-up based on three inputs and two blends instead of one (Fig. 8):



In my view, the structures of the series of causation types – *propelling*, *spreading*, *letting*, and *making* – are all perfectly 'causal', and are all dynamic, but not according to the same causal and dynamic schematism. Causation is conceptualized differently with different contents; my claim is that the four causation types here mentioned are grounded in the four respective basic semantic domains. But in principle, any schema can be applied to any scenario, irrespective of the schema's grounding domain and of the domain of the scenario (the following is Talmy's example, where I find a transfer D4→D1):

The plug's coming loose *let* the water run out of the tank

There is, however, a slight metaphorical feeling about such transfers. In general, metaphorical transfers often happen within the basic array of domains. In these cases, they occur in all directions, I claim (and this is not a standard view, cp. Sweetser). I see no restricted directionality in the series D1–D4: meanings or schematic forms are not only transferred metaphorically from D1 and 'forward' to D4; metaphors can transfer freely between the basic domains. So, in this sense as well, these domains are equally basic. And metaphorical expressions of remarkable events like the following are perfectly normal:

Le bois de Vincennes, à Paris, a vu disparaître près de 4000 arbres en une nuit.
(Le Monde, 27.06.2000)

"The Vincennes forest, near Paris, has seen almost 4000 trees disappear in one night": D3→D1, i.e. the French *bois* is the subject of *voir* as epistemic seeing. This construction implies the presentation of a particularly salient content; saliency is rendered as vision without a competent viewer. Here is a common English example¹⁴:

The year 1500 *saw* the birth of Charles V.

4. Satellite domains: the practical domains

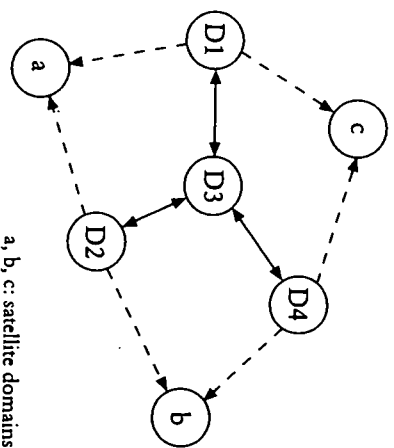
Metaphors and other semiotically composite and creative constructions, such as explicit comparisons, bring together imaginary formations – representations of thinkable scenarios: *mental spaces* – rooted in different semantic domains and produce more or less stable conceptual integrations, or *blends*. This is not the place for a discussion of the technical details of the theory of mental spaces (Fauconnier 1997, Fauconnier & Turner 2002), but let us assume that blends are obtained by such spaces as structured inputs linked by mappings, preferably or even exclusively *between two spaces*. Direct mappings between more than two spaces seems to be mentally chaotic. This means that *the source domains of the involved*

¹⁴ In a personal communication from Professor René Dirven, who patiently read and commented on a draft of this paper.

mental spaces are also being linked, or structurally attracted to each other by the blending processes they feed: binary integrations are thus expected to happen between the semantic domains.

This is in fact what I think the analysis of 'the social construction of reality' will eventually show. Basic semantic domains combine dually and form integrations that enrich cognition with an additional architecture of *satellite domains* which are experienced as naturally as the first series. Our attention is even predominantly drawn to this higher level, except perhaps for aesthetic experiences. According to the same principle of pairing and integration of domains as triggered by particularly frequent blending from dual inputs, stable satellite domains will possibly integrate further, obtaining still higher levels of experienceable meaning, all thus grounded in perception, but autonomously related to variously complex levels of behavior.

A simple pairing of all basic domains would yield six predictable satellite domains in the first generation, and then fifteen more in the third. It seems unlikely that our mental equipment should find such an increase in the number of distinctly meaningful semantic domains manageable. Instead, it seems likely in an evolutionary perspective that our communicative minds prefer disposing of *maximally abstract notional meanings at minimal combinatory costs*, i. e. obtained from as few lower domains as possible. The maximally vertical ascent from concrete to abstract meanings, and the simplest possible domain architecture, involving the smallest numerical expansion – namely none – is achieved by the mathematically monotonous pairing and re-pairing of three items, that is, for instance by only *pairing the external domains* (D1, D2, and D4).



a, b, c: satellite domains

This basic subset shares evident figurative and spatio-temporal properties of embodiment that might also favour the restriction. The 'bodiless' – though never entirely disembodied, since our mental self is still proprioceptive if also extremely plastic – mental domain (D3) will then be left out of consideration for satellite formation. Note that this move is risky and might prove fatally wrong; metaphors, comparisons, and other blends with a mental source concept are here considered not to be domain-productive. Compound expressions like 'dream kitchen', 'dream land', 'dream world', 'dreamboat', seem in fact semantically unstable, and often appear to inverse target direction, meaning thing-like fancies of the mind only, rather than dreamlike things out there, though perhaps sometimes they are both ('dream kitchen', 'dream husband'...).

The four basic domains are bodily grounded in gesture and gesturally realized interactions with a subject's immediately given surroundings. The first generation of satellite domains offers a set of anthropologically meaningful kinds of reality that a subject must recognize, even if they cannot be directly 'perceived'. These domains must instead be 'conceived' of as being real in the wider perspective of the activities that characterize any individual's concrete life. In *life*, we all have to distinguish the domains of Work, Love, and Worship: D5, D6, and D7, as follows.

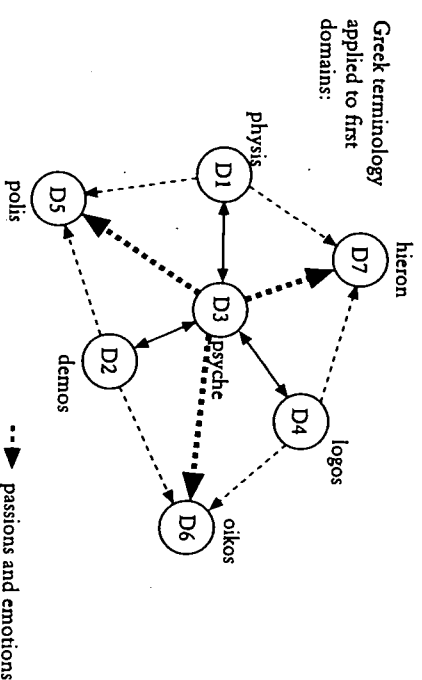
If, first, D1 and D2 integrate, the result is a notion of 'place': a portion of space stably supporting a group of people living and doing things there. Let us call such an integrated domain, D5, a *polis*. An inhabited territory, a 'land', where specifiable acts take place, is a typical content of this first example of a satellite domain – in fact a truly sociophysical domain, in Sweetser's sense. Subjects of our time have 'political' identities referring to D5, such as national passports.

Secondly, if D2 and D4 integrate, on the grounds of reinforced double experiences of interacting by instrumental attunement with persons as members of an active collective unit, a group, and also of expressive interacting with singular persons by empathic exchange, shared feelings, facial contact, and communication in general, then these 'familiar' persons are typically 'relatives': both 'colleagues' and intimate co-subjects, such as 'mates', and the supporting domain is that of kinship, family life, and domestic acts: this satellite domain, D6, is thus an *oikos*, a domestic domain. Subjects have 'domestic' identities referring to D6, such as family names. Kinship nomenclatures refer to this domain.

And thirdly, if D1 and D4 integrate, we get a domain address for experiences of participating in celebrative ritual acts, motivated by empathic interactions with 'others-as-everybody' in a setting of worshiped nature (e.g. burial ceremonies in cemeteries). Experiences of 'sacredness' and of the presence of supernatural beings or forces (Nature is a temple [...]). Baudelaire wrote) in specific places reserved for these elementary religious acts and feelings, are characteristic of this domain, D7, corresponding to what the Greeks called *hieron*. We might include in its range the participative experiences of ritual behaviors of all sorts. In principle, games, sports, ludic and theatrical behaviors, by which humans celebrate something like the intervention of contingent and 'fatal' forces, belong here. Sports teams, soccer teams for instance, are then seen both as collections of selected individuals and as a selected collective subject that the observers identify with affectively. Subjects have 'ethnic' identities regularly related to their commitment to some version of doings in D7.

Any existential description of 'a life' has to refer to things and events of D5, D6, and D7, that is, to elements that are meaningful in the objective and affective realities of Work, Love, and Worship. These realities feed back to our mental domains as determinations of our *affective states*. The complex area of affects can be divided into three sub-areas: passions, emotions, and moods. Our steady, collective *passions* (love, hate) select objects in D5, 6, or 7 (cf. political or professional ideals and idealizing passions; racial hate, erotic love; religious love and hate, etc.). Our less stable, more intimate, but still often shared *emotions* (cf. 'enjoyment', 'worry', 'care', 'likes' and 'dislikes', feelings of 'disgust', 'contempt', 'shame', 'grief' etc.) depend on specified events and scenarios of the same domains D5-7. By contrast, our even more frequently shifting individual *moods* may be regulated by simple states or events of the basic domains, D1: the weather (bright sunshine, cloudy and grey, dark and depressive...), D2: social integration or isolation, D3: nice or bad dreams, and D4: empathic contact and communication or failure of mental contact (from 'enthusiasm' to 'anxiety'). According to literary and other human accounts, the passional phenomenon of *love* has a particularly rich unfolding (including shifts to 'hate') and a complicated onset palette of *emotions* accompanied by turbulent *moods*. The study of human affectivity might in general profit from domain theory as concerns the study of semantic contents of affective states of different kinds. (Cf. the discussions in Ekman and Davidson 1994).

So far, we have suggested a domain architecture corresponding to the following extended diagram (Fig. 9):



The Greek terms are only suggested as illustrative indicators of what this model aims at grasping. Its dashed arrows go from the basic input domains to the three 'practical' satellite domains, obtained by dual integration. Since the mental domain ('psyche') does not feed into the satellites, it can instead be an affective anchorage of these practical ongoing; it develops a variable sensitivity to the practical events thus 'realized' as conceptualized. A personal *self* seems directly related to the psychic coordination of affects. The critical strata of human moods (euphoric/neutral/dysphoric) might in fact serve as classifiers and depositories of other affective experiences, such as passional commitments to particularly interesting objects (euphoric) and the opposite, i.e. emotional reactions to challenging situations (mainly or entirely dysphoric: anger, sorrow, contempt, disgust, fear...). Such an evaluative distribution is probably a prerequisite to memorization and subsequent recollection. Memories have built-in evaluations. There seems to be a domain-sensitive affective receptor in the human mind, perhaps a mechanism related neurobiologically to the selective procedure, involving the hippocampus, by which we retain or forget – a sort of gatekeeper of cortical memory.

Phenomenologically, our feeling of having a 'self' is a feeling of equilibrium or freedom of attention based on the possibility of maintaining affective neutrality despite all 'impressions': a feeling of 'staying cool' and being able to pay attention to phenomena of any domain. We can surely lose that feeling in states of passion or emotion, but most people appreciate finding it again.

5. More satellites: the exchange-based domains

There are more semantic domains to come. We would not be able to use gestural schemas or practical concepts for building higher-order notions like 'value', 'beauty', or 'justice', if we were unable to grasp in our thought the very generality of those notions. The idea I want to present here is that they are grounded in, and thus based on, practical acts, and that the first satellite generation based on practical acts is structured as semantic meaning-makers of intersubjective *exchanges*. In order to understand the semantics of exchanges as such, we need mental space and blending theory. But first of all, we need to develop this theory on a specific point: when structures from two input spaces map and blend, the process activates a generic schematic regulator or stabilizer to make sense of the blending. This regulator has to be inherently given, or 'prompted' by clues given, in the situation (the base space) where the semantic space work is done as a part of the involved agents' understanding of their present acts, in a third space. I shall call it the *relevance space*. It differs from the standard notion of a 'generic space' in Fauconnier's and Turner's theory in that it *adds* dynamic structure to the network. Exchanges would remain profoundly enigmatic without this framing and schematizing supplement to the blending process.¹⁵

In metaphor, there is a source space and a target space, and a blended space, where structure projected from both input spaces appear in a *figurative* medley, which is then *dynamically* interpreted by a mapping onto schematic material given in the relevance space. The result is an elaboration of the blend that makes it meaningful.

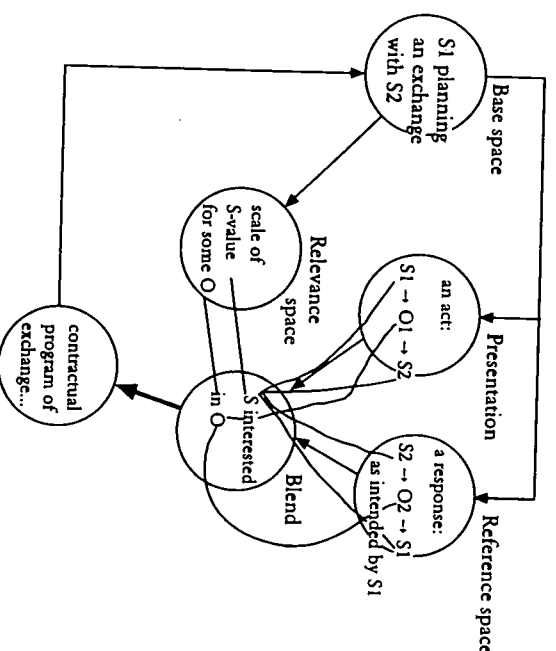
In situations of exchange, intersubjective and intentional practices are integrated, how human cognition manages to do this remains poorly understood, mainly because one person's thinking here directly involves another person's thinking, so that we need to develop the dimension of 'cognition-about-cognition' in order to achieve a viable model.

In an exchange where some object is transferred from subject to subject: $S1 \rightarrow O1 \rightarrow S2$, our analysis will have to include two imaginary instances, $S1$'s intended act of transferring to $S2$, and $S2$'s intentional

(mental and behavioral) response to this transfer, such as the setup of an inverse act: $S2 \rightarrow O2 \rightarrow S1$.

The 'dative' case in grammar expresses such an $S2$ position; $S1$ anticipates $S2$'s intentional response to some act of transfer and lets the representation of this response be the mental cause or motivation of the act. There are of course many forms of exchange within this 'dative'-driven framework. In all forms, however, the transfer itself structures one of the input spaces (the 'Presentation' space, in the Aarhus model), whereas the intended response structures the other (the 'Reference' space, in the Aarhus model). The difference between forms of exchange springs from the kind of schematism we use in the stabilization of a relation of relevance between this representation and the act. Common to all exchange blends is the merging of $O1$ and $O2$ into one object, which constitutes somehow the more abstract *value* of the input objects. (Think of kisses, handshakes, and reciprocal greeting gestures). If $O1$ and $O2$ are 'worth' each other, there is a genre of subjectivity that makes us evaluate them on a specific scale. The semantic nature of this scale determines the semantics of value.

What I wish to suggest here is that value is only possible because we can blend different imaginary objects into each other and 'hold' that blend as justified by a shared perspective of intentional subjectivity. The general design of the process is then in principle the following (Fig. 10):



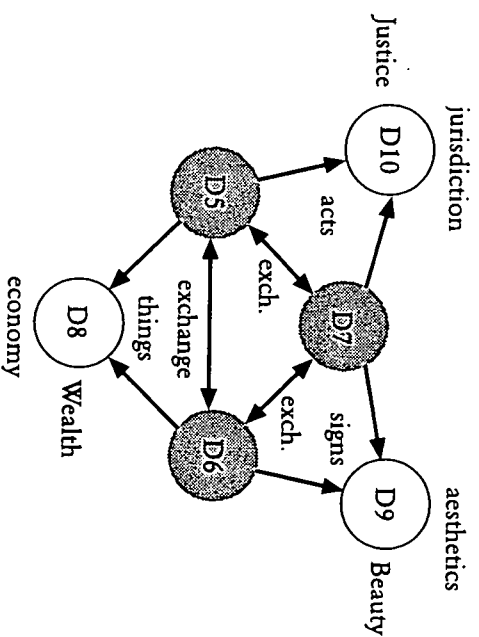
15 Cf. Brandt and Brandt, 2002 on the extended mental space network known as 'the Aarhus model'.

My second hypothesis here is that exchanges typically take place between subjects rooted in different practical domains. If S1, or S2, is 'in' D5, polis, S2, or S1, respectively, may be 'in' D6, oikos, and we will have an *economical* exchange: objects produced in D5 will be distributed and stored in D6, that is, appropriated and then owned by a subject of D6, and possibly further traded in D5 (now a 'market') against other stored objects: goods, tools, weapons... Wealth in general.

If instead S1, or S2, is in D6, oikos, and S2, or S1, is in D7, hieron (a priest, a divinity, an artist, a wizard...), the exchange is ritual and *aesthetic*, in the sense that the domestic subject will sacrifice (goods, etc.) to the sacred instance, which in turn will embellish oikos with its signs: icons, symbolic and indexically magic gestures, words, incl. names. Beauty in general.

Finally, if the exchange takes place between D5 and D7, it concerns *jurisdiction*. Acts are compared to each other and evaluated in the dimension of 'right and wrong': some are obligatory, others legal and tolerated, and some criminalized and punished, all of which happens in accordance with a normative codex, the Law. Justice in general.

The following graph adds these three new satellite domains that allow us to think in terms of exchanges and values (Fig. 11):



Most or all societies have markets, arts, and courts. These instances express its meta-practical domains. The categorization of exchanged entities (things, signs, acts) are recategorizations (from underlying domains)

that stamp value onto them. By the exchanges, they are raised one level in the hierarchy of domains. Their meaning changes from use-value to value of exchange, so to speak. The 'cultural life' of a society may essentially consist in its activities on this semantic level.

The reader might need a good reason for having to consider the hypothetical scaffoldings of a global and apparently pretentious theory of society and culture, in an analysis of semantic domains intending only to sketch out an explanation of the relationship between embodiment and abstract meaning. My meagre defense is that embodied semantics in fact must lead to such genetic considerations of social science and anthropology, if the cognitive hypothesis is to be taken seriously and literally. The main consolation here is that the ascent from gesture towards abstract notional meanings is rather vertical (proceeding by triplets out of triplets). Brains would probably protest against larger default domain sets that they would have to automatize: the ones focused on in this account are at least massively reinforced by everyday experience and appear to be compatible with the range of conceptual constructions that people are likely to use and handle in their lives and in their metaphors and categorizations. Theory has to be on good terms with the semantics of our phenomenology and our vocabularies. And there is no clear cut between cognition (low-level thought) and reflection (high-level thought).

6. Discourses

The *gesture-based* domains (D1-4) provide, we suppose and stipulate, the morphological closed-class structures of language; they also provide the simplest syntactic phrase structures. Furthermore, the *action-based* domains (D5-7), or the first satellite generation, have basic-level categories expressed by open-class forms - nouns, verbs, adjectives - and syntactically develop full sentence forms, utterances, including markers of enunciation, genres of address, speech modes, politeness forms, etc. The second satellite generation of domains (D8-10) is *exchange-based* and develops more abstract, evaluative notions, non-basic-level categories, linguistically expressed by lexical derivations (denominal, deverbal, deadjectival lexemes; and compounds) and technical terminologies.

Writing, introducing non-spoken intonation and other forms of artificial or *symbolic* transformation of 'natural' speech: commercial forms (e.g. slogans), poetic forms (verse), and juridical forms (paragraphs) – all of which are based on comparison, norms, impersonal and object-oriented attitudes – are typical semiotic manifestations of this level of abstraction. Icons, numbers, signatures, in short: *objectified signs produced by special gestural skills*, become indispensable at this level of behavior. We think that our ancestors around 50,000 years ago were at this level. It would be difficult to believe that this could be achieved without the presence of language more or less as we know it¹⁶.

There is a third level of satellite domains, built on these symbolic grounds. It gives rise to three fundamental genres of *discourse*. Let us notice that most 'cultural studies' nominalistically start from this level of meaning, as well as 'social constructivism' and 'post-structuralism', in some respects following the (French) structuralists on this point. Their often debated and justly criticized relativism generally stems from the fact that *discourses are their simplest level of reference*. Simpler levels, namely the cognitively indispensable fields of research, where language is still 'incomplete' and pre-discursive, not yet fully monologic and abstract (i.e. abstracted from dialogic interactions and communications), and where meaning is still demonstrably embodied, are then considered culturally uninteresting, except for the study of pathological cases. The human 'spirit' apparently must rise to the level of *discourse* in order to deserve consideration as a *res cogitans*. This is also the stance of classical rationalism.

In discourse, language is no longer spoken: it is recited, in principle read aloud. Gestures are replaced by – or formalized into – styles. But the human body is not absent; it is still present as *presented*, staged, theatrically present. Fashion in clothing expresses this fact rather clearly. Fashion *par excellence* calls for a descriptive discourse (cf. R. Barthes 1967; A.-J. Greimas 2000), and it is a remarkable 'blend' of aesthetic and economic concerns. Urban architecture is another 'blend' of concerns

from the same sources, and it provides a stage for fashion, not only in Western culture. If we take a closer look at these discourse-bound presentations, we will (again!) find three major kinds of them.

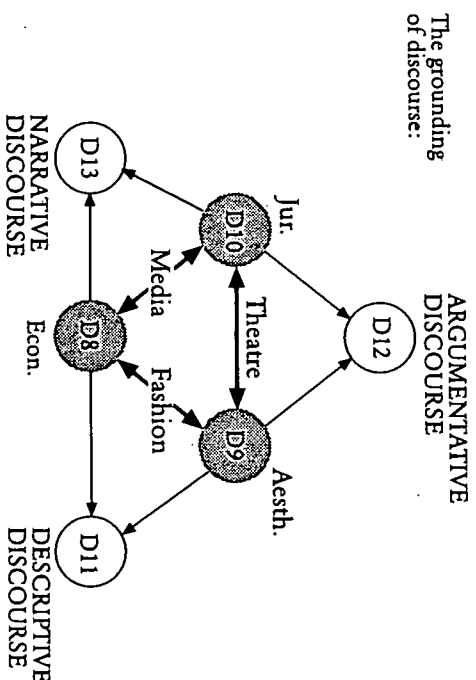
Human beings living in society are often bodily *presented for discursive representation* in clothing style, and the clothes generally and publicly signify a combination of the status (economic wealth, from D8) and the intended bliss or beauty (aesthetic value, from D9) of the persons wearing these clothes. This combination feeds into blends that trigger the genre of *descriptive discourse* as a new specific domain where everything else can also be 'observed' by minds taking the same contemplative attitude, and then be 'described' *monologically*.

Human beings living in society can also be literally staged and perform plays either in theatres or in other public places. This kind of bodily presence involves acting in simulated situations, scenes, where the aesthetic value of the 'play' meets confronting conceptions of right and wrong – artfully displayed as scenes of conflict. The presentations and performances of this kind have always been the allegoric input of *argumentative discourse*. Argumentation implies the attitude of an observer or a participant who transforms a drama into a notional debate. This blend (of spaces from D9 and D10) may be another source of monological discourse, the one that triggers Argumentation as a fundamental discursive genre.

Finally, humans living in society are often presented publicly as agents in scenarios involving a relation between wealth and crime or juridically problematic deeds: this is in fact the major concern of the critical media of a society (from the archaic function of rumour to the modern press. Here, the importance of the presentation and the media representation mainly depends on the rights and wrongs on the one hand, and the magnitude of wealth implied, on the other (cf. the genre of 'scandals'). The corresponding discourse evolves from archaic verbal broadcasting to modern high-tech mass media programs, but it remains stably *narrative* in its inner structure. *Narrative discourse* is possibly grounded in this embodied blend of juridical and economic meanings (from D10 and D8). The modern journalistic attitude develops as a specific 'narrator' position that minds can take to events in general.

¹⁶ Languages of tribal cultures seem to be morphological gold mines; this may be due to the regularity that cultures of great gestural expertise seem to develop highly complex morphologies, whereas modern languages reduce the range of morphology, giving privilege to syntax (and so does modern linguistics), perhaps due to culturally decreasing gestural expertise.

Structurally this new step in domain integration gives rise to the following, third satellite formation (Fig. 12):



We are still – somewhat ambitiously, it may seem – dealing with the grounding of meaning, here of notional meaning, as a cognitive issue, however socio-anthropological the theory may be in its scope. A linguistically interesting fact is that the utterers' enunciatonal attitudes, as descriptors, argumentators, or narrators, anchors the meaning of certain classes of transitive and communicational verbs, like *show*, *expose* (D11, descriptive), *argue*, *prove*, *reason*, *propose*, *suggest*, *convince* (D12, argumentative), and *tell*, *relate*, *divulge*, *inform*, *report*, *announce* (D13, narrative).

No intellectual communitary life would be possible without an unfolding of discourse genres. Description, argumentation, and narration seem to be their basic forms. Their agents are responsible for much of what can happen on simpler levels of experienced reality. And some agents of discourse risk their lives by their discursive activity alone. Dissidents are exiled, scolded, killed, and defamed.

7. The domains of knowledge

The last salient generation of universally motivated satellite domains in our phenomenological semantics grows out of methodological collaboration of discursive agents. This fourth level of meaning concerns the genres of knowledge that we fundamentally recognize. The highly complex doings implied are included in what we call '(re)searching', 'finding', 'representing', and 'criticizing'.

When *description* serves *argumentation*, it constrains its contents; and if argumentation in turn serves description, it allows for descriptions of hypothetical entities: the result is the alliance of empirical and speculative thinking we call *science* in general. Scientific methodology is as a minimum determined as a mutual service of the activities we have distinguished as description and argumentation. It probably takes on its exclusive and 'difficult' aspect because it leaves out narration. Scientific experiences are of course also adventures of discovery, but narrative stories of personal failure and success in science are essentially different from the impersonal content that constitutes the epistemic meaning of science as knowledge, and as distinct from any other contents of such stories. Spaces of description, D11, and of argumentation, D12, thus feed and blend into spaces of a new domain, D14: *science*, scientific knowledge, as a semantic satellite domain.

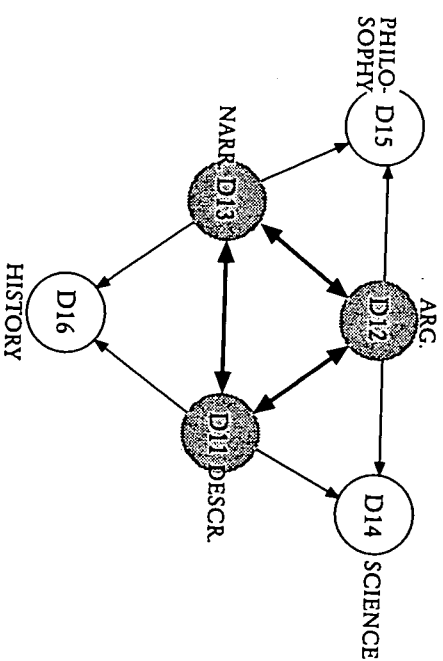
Argumentation alternatively serves (evaluative) narration, as in Kant's Practical Reason, notably so in Ethics. And narration serves argumentation, notably by delivering the 'examples' that Pure Reason needs in order to philosophize on anything other than itself: this reciprocal collaboration is what creates the genre of knowledge we call *philosophy* (practical and theoretical). Does it really leave out description? Many philosophies claim to be descriptive. But compare philosophy of language to linguistics; in their respective accounts of what sentences are; you will possibly agree that the former sets aside systematic description as a discipline in its own right. Compare phenomenology to anthropology, in their accounts of human behaviors; the result is analogous. Philosophy of course refers to any other domain and can inherit the scientific insights by which such other domains are framed. And so can all genres of knowledge; but it does not depend on those insights or the doings that created them. Spaces of argumentation, D12, and of narration, D13, feed into spaces of a D15: *philosophy*, philosophical knowl-

edge, philosophical believing and doubting, as a distinct semantic satellite domain.

Narration and description likewise collaborate and serve each other, thereby possibly giving rise to the genre of knowledge we call *history*. The history of something must describe it and account for descriptively relevant changes through time by a narrative act of sequencing. History admits contingency, chance, as an explanatory resource; argumentation does not. Of course historians argue; but only to decide the philosophical or scientific interest of their essential narrato-descriptive constructions, which other forms of knowledge cannot produce. If narration and description in a historical account are as perfectly integrated as culturally possible, such an account gains authority in its own right. Therefore, science, philosophy, and history can interact and learn from each other: they are distinct and at the same semantic level of human reality. Spaces of narration, D13, and of description, D11, feed into spaces of a D16: history, as an autonomous semantic satellite domain.

This last storey of our domain architecture offers a particularly clear-cut set of notional families of meaning, the main genres of our forms of knowledge (Fig. 13):

The genres of knowledge as a domain structure:



The scope of contents extends as domains integrate: there is a *world* history, there are sciences of *nature*, and a philosophy of *being* altogether. These scopes seem maximal in human experience, including affective

intuitions. Only theologies may go beyond this level; it probably remains unclear even to believers what they are about.

There are certainly a lot of even higher constructions and domain integrations. Nevertheless this is probably the final semantically stable storey, the highest possible level of experienceable reality that we spontaneously agree to distinguish as a set of natural domains serving as semantic 'addresses' of representations, references, and relevances. There are also an immense lot of transversal domain integrations, but they do not appear to survive the vanishing of specific mental space blendings that support them. On the other hand, back-propagation of specific spaces from higher-order domains to lower ones is frequent: narrative fictions are space products of D13 or D16 (cf. the genre of historic novels) or D15 (philosophical novels), imported into the domain of works of art (D9), or into the domain of sacredness, as myths or legends, or religious doctrines (D7), or into the basic mental domain, as psychotic fantasies (D3). In these domains of reception, they may – just to complicate things – meet back-propagated space products of philosophy, science (cf. the genre of science fiction), and so on.

The categoric distinction of spaces and domains helps us understand the possibility of such semantic operations and combinations, which owe their high probability to the *high stability* of the architecture of semantic domains: when we analyse the composition of a given semantic product, however 'intertextual', by decomposing its blends, by 'decompressing' it, we are able to separate its inputs in so far as we are able to guess where they were 'born'. This is, locally, what any metaphor analysis is doing.

We ought to return to the inaugural cognitive studies of metaphor on these new grounds and show that metaphor *concepts* are superordinate semantic indicators of domain addresses. An extended array of metaphor types, distinguished by their domain differences, should then appear. I am sure that many new insights, specifications, problems, rectifications, and veri- or falsifications would result from this straightforward project.

8. Conclusion

It would certainly be pretentious to claim that the specific semantic domain architecture modeled in this presentation must be the ultimate answer to the question of how we manage to structure our life-world and distribute its kinds of experiences and practices into intelligible semantic domains that make communication and thought possible, that is, meaningful.

It may seem, and be, highly problematic to derive – not ‘generate’, please – this vertical architecture of semantic domains from a basic level by following dual integrations only, and considering only equal-level input domains; leaving out D3 in basic derivation also looks strange to many of my first readers, whom I hereby want to thank warmly for their valuable, whether encouraging or sceptical, remarks.*

The claim made is, however, that there *are* such domains and such levels, rising from *gestures* through *actions* to *exchanges*, and from there through *discourses* to *knowledge* forms.

The two last storeys or levels are verbally and symbolically practised, but we might admit that even symbolization, and especially ‘research’, is a bodily doing. Never does the human Geist appear as a pure spiritual being, or else it appears such through all its stages and levels of embodied existence, right from the newborn’s first gestural evidence of being a *res cogNitans*.

Bibliography

- Barthes, Roland, 1967, *Système de la mode*, Paris: Éditions du Seuil.
- Brandt, Per Aage, 1992, *La charpente modale du sens. Pour une sémiolinguistique morphogénétique et dynamique*, Doctoral Thesis defended in May 1987 at the Sorbonne, Amsterdam, Philadelphia and Aarhus: John Benjamins and Aarhus University Press.
- Brandt, Per Aage, 1993, *Dynamiques du sens*, Aarhus: Aarhus University Press.
- Brandt, Per Aage, 1995, *Morphologies of Meaning*, Aarhus: Aarhus University Press.
- Brandt, Per Aage, 1998, “Domains and the Grounding of Meaning”, paper presented at the AELCO, First Congress of the Spanish Cognitive Linguistics Association, Alicante; published by (ed.) R. Dyrven: LAUD, Linguistic Agency, Series A: General & Theoretical Papers, no. 464 University-G. Essen.
- * Line Brandt, Peer F. Bundgaard, Ole Kühl, Hans-Erik Larsen, Mikkel Wallentin, and Svend Østergaard.
- Brandt, Per Aage, and Brandt, Line, 2004, “How to make sense of a blend”, Center for Semiotic Research, University of Aarhus (www.hum.au.dk).
- Ekman, Paul and Davidson, Richard J. (eds.), 1994, *The Nature of Emotions. Fundamental Questions*, New York, Oxford: Oxford University Press.
- Fauconnier, Gilles, 1997, *Mappings in Thought and Language*, Cambridge: Cambridge University Press.
- Fauconnier, Gilles and Turner, Mark, 1998, “Conceptual Integration Networks”, *Cognitive Science* 22 (2).
- Fauconnier, Gilles and Turner, Mark, 2002, *The Way We Think. Conceptual Blending and the Mind’s Hidden Complexities*, New York: Basic Books.
- Grady, Joseph, Oakley, Todd, and Coulson, Seana, 1999, “Conceptual Blending and Metaphor”, in (ed.) Steen, G. & Gibbs, R., *Metaphor in cognitive linguistics*, Amsterdam, Philadelphia: John Benjamins.
- Greimas, Algirdas Julien, 2000, *La mode en 1830. Essai de description du vocabulaire vestimentaire d’après les journaux de mode de l’époque*. Thèse pour le Doctorat ès Lettres présentée à la Faculté des Lettres de l’Université de Paris (1948), Paris: Presses Universitaires de France.
- Hirschfeld, L. A. & Susan A. Gelman (eds.), 1994, *Mapping the Mind. Domain Specificity in Cognition and Culture*, Cambridge: Cambridge University Press.
- Kjærulff Nielsen, B., 1998, *Engelsk-Dansk Ordbog*, 6. ed., Copenhagen: Gyldendal.
- Lakoff, George and Johnson, Mark, 1980, *Metaphors we live by*, Chicago and London: The University of Chicago Press.
- Lakoff, George, 1987, *Women, Fire, and Dangerous Things. What Categories Reveal about the Mind*, Chicago and London: The University of Chicago Press.
- Lakoff, George and Turner, Mark, 1989, *More than Cool Reason. A Field Guide to Poetic Metaphor*, Chicago and London: The University of Chicago Press.
- Lakoff, George, 1996, *Moral Politics. What Conservatives know that Liberals don’t*, Chicago: The University of Chicago Press.
- Lakoff, George and Johnson, Mark, 1999, *Philosophy in the Flesh*, Chicago and London: The University of Chicago Press.
- Langacker, Ronald W., 1987, *Foundations of Cognitive Grammar*, Vol. 1, Theoretical Prerequisites, Stanford: Stanford University Press.
- Pachoud, Bernard; Petitot, Jean; Roy, Jean-Michel; Varela, Francisco, (ed.), 2000, *Naturalizing Phenomenology. Issues in Contemporary Phenomenology and Cognitive Science*, Stanford: Stanford University Press.
- Richards, I. A., (1936), 1965, *The Philosophy of Rhetoric*, Oxford and New York: Oxford University Press.
- Robert, Paul, 1991, *Le petit Robert 1*, Paris: Dictionnaires Robert.
- Rosch, Eleanor, 1999, “Reclaiming Concepts”, *Journal of Consciousness Studies*, 6, 11–12
- Shibatani, Masayoshi (ed.), 1976, *Syntax and Semantics*, Vol. 6: *The Grammar of Causative Constructions*, New York: Academic Press.
- Sweetser, Eve, 1990, *From etymology to pragmatics. Metaphorical and cultural aspects of semantic structure*, Cambridge studies in linguistics, Cambridge: Cambridge University Press.
- Talmy, Leonard, 1976, “Semantic causative types”, in Shibatani (ed.) pp. 43–116.
- Talmy, Leonard, 1988, “Force dynamics in language and cognition”, *Cognitive Science* 2.