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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 is 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 experiencable 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. etendue, sphere, matiere, specialite, terrain, competence, rayon, ressort:

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

> ...le domaine de ses connaissances
> La politique, c'est, par essence, le domaine des choses concretes (Mart, du Gard) Ce domaine est encore ferme aux savants
> Je ne puis vous renseigner, 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 experientiallv 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 they specify them (specific predicate schemas may 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 this difference, which is supposed to define conceptual metaphor.

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

One might be inclined to apply a deconstructionist reading: domain 'differing', from Jacques Derrida's French: 'differance'... 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, 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 analysis of modality, causality, conjunction, and conditionality is explicitly based on domanial 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 (here: 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. Taimy (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. 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.[2]

[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. 1 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 bio-physical 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.

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 merely 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.

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. A problem 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 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 are thus a basic division into a physical domain (D1), a social domain (D2), a mental domain (D3), and a speech-act domain (D4). The following interpretations of some uses of the English modal verb must are mine.[3]

[3] These examples are found in B. Kjserulff Nielsen (1998).

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

(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.

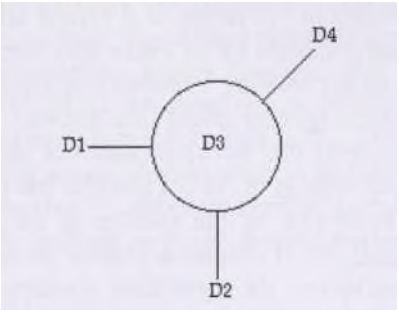
In all four cases, whether performative, epistemic, deontic, or narrative, there is a force and a barrier (lowered or raised), and the modal verb refers to it (cf. also the analyses in Brandt 1992). I am now less sure than Sweetser that the two purely external versions (1, 2) are 'root' meanings, and that the last two (3, 4) are constituted by metaphorical extentions. 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 alethic[5] D1 only, or in a deontic D2 only). There are gestures for accompanying (3)

[4] 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 characteristic of deontic modality in general.

[5] 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».

(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)[6]:



The circle is 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 container-like icons. D3 would then also be presented as a dimension of interaction, namely with 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); and we communicate with specific individuals in face-to-face situations (cf. expressive gestures); we also experience having feelings and thoughts (cf. gestures of tension). 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[7] as such should then be considered essential to the understanding of basic embodiment. To my knowledge, the four registers of gesture are in fact

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

[7] 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 languages comprises movements and bodily attitudes that express mental states (D3) in communication (D4).

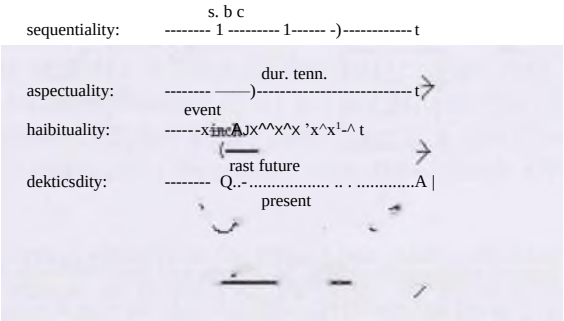
reasonably good candidates for being basic, elementary, and implied in all complex bodily activities.

According to this view, we are thus embodied according to different basic dimensions of reality. In one dimension, 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, there is an intentional world of collective acts that we attune to when participating in some doing. In still another dimension, 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, 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 time, and they are structured by schemas corresponding roughly to the following basic concepts that language recognizes:

D1: sequentiality (one thing after another)
D2: aspectualitv (begin—continue—finish; repeat, interrupt)
D3: hahitualitv (sometimes; often, seldom; always, never)
D4: deicticalitv (now—in the past—in the future)

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

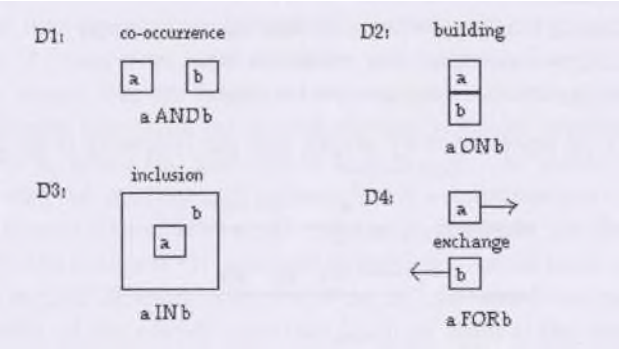


But locomotor (D1) and instrumental (D2) movements also express volition, attention, and affect (mood, emotion, interest), so a reasonable notion of gesture should, in my view, comprise the full range of bodily motor routines existing in all basic domains. This is what the term means here. But it may even be further extended and cover integrated actional sequences.

Sequentiality is directly related to locomotion (Dl). Aspectuality[8] (D2) is an inherent semantic property of telic acts (that can be interrupted significantly). Habitualily 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 meaningful other 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 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

[8] The standard stances of aspect are: inchoative, durative, and terminative — something "happening" begins, continues, and ends.

constructing (D2: new things with old things), remembering (D3: which things are where — in which containers), and giving and taking (some things instead of 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 domanial semantic organization of our experience at human scale.

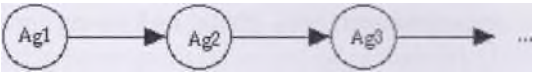
As mentioned, these illustrations are only presented here as indications of the sort of cognitive grounding that a theory of semantic domains might take into consideration. A complete catalogue of available knowledge of this sort would include evidence from gestalt and developmental psychology, studies 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. Taimy 1976, 1988).

One causal schema is propulsion (also called Caused Motion, or 'billiard ball' causation). Its probable domain address is DI, since only space and an object's change of location obtained by its 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 seared 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]

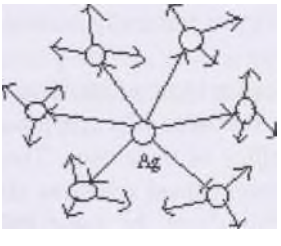
Schematic diagram proposal (Fig. 4):



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 dysphoric: 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]

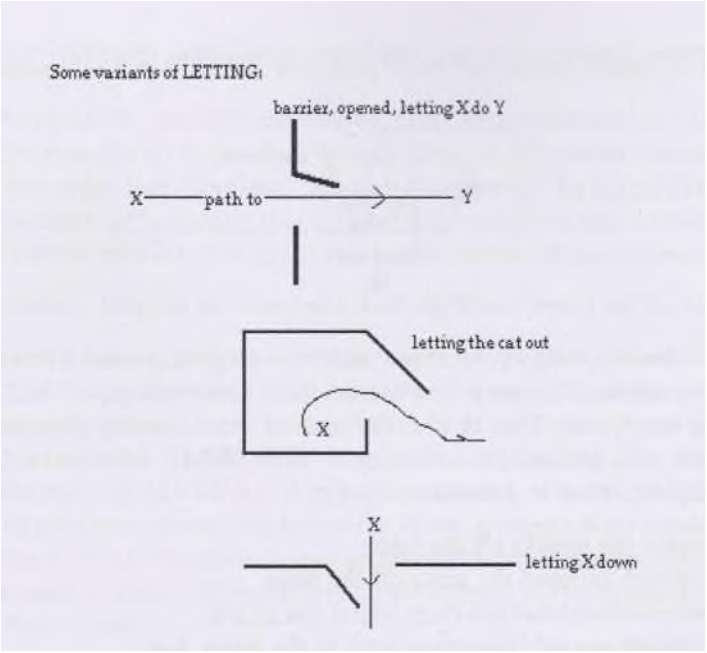
Schematic diagram proposal (Fig. 5):



Further on, there is a form known from force dynamics, but typical of intentional and expressive interactions (of D4), namely letting: causing things to happen or be the case by 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' (Taimy 1988). It has no inherent transitive dynamics, only an instantaneous force dynamics, in which the removal of a barrier 'allows' things to happen:

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]

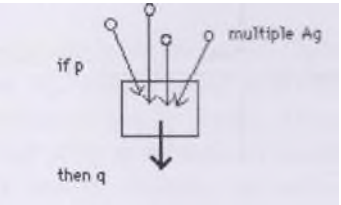
Schematic diagram proposal (Fig. 6):



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; the semantics of this causal format is always 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 is the last straw that breaks 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 propaganda 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 construction[9] 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:

[9] 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 Jose).

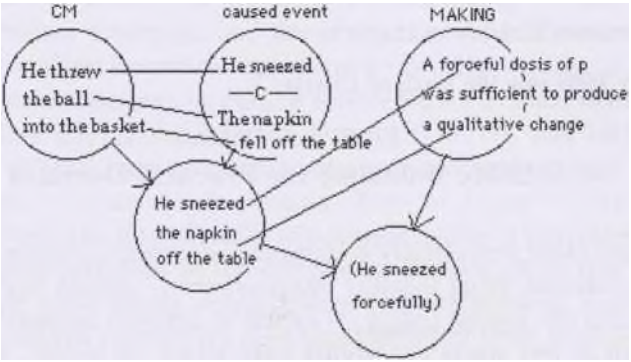
He sneezed [and therefore/so forcefully that] the napkin [went] off the table

The blend apparently uses the underlying propelling construction[10] 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 [wasl as if — shows that a critical making semantics is also implied. The second example of the list must mean:

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

The poor actor had to tolerate a certain dosis of laughter before deciding to withdraw. („Am I so 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.[11] The MAKING schema for causation has precisely the needed structure: in MAKING, it takes an amount of input above a critical boundary 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 better 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):



[10] 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 waved the tank into the compound.**

[11] In an advertisement, the restaurant Spiedo in San Jose (CA) quotes a newspaper review: "Spiedo grills its way to first-rate dining". Its cooking is so fine, when it comes to grilled dishes, that it deserves a top note. 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

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 simply conceptualized differently with different contents; my claim is that the four causation types here mentioned are grounded in the four basic semantic domains, respectively. But any schema can in principle be applied to any scenario, irrespective of the schema's grounding domain and of the domain of the scenario (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 tranfers 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, cf. 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 also, these domains are equally basic. So, metaphorical expressions of remarkable events like the following (D3 —» D1, French bois subject of voir as epistemic seeing) are perfectly normal:

Le bois de Vincennes, a Paris, a vu disparaitre pres de 4000 arbres en une nuit.
(Le Monde, 27.06.2000)

Here is a common English example[12]:

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 imaginations — mental 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

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 metaphoric 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 'caused motion' analysis of the construction.

[12] In a personal communication from Professor Rene Dirven, who patiently read and commented on a draft of this paper.

(Fauconnier 1997), but let us recall that blends are obtained by such spaces as structured inputs linked by mappings between two spaces. Direct mappings between more than two spaces would probably be mentally chaotic. This means that the source domains of the involved 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 any analysis of 'the social construction of reality' will 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. Adults' attention is even predominantly drawn to this level, except 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 again, obtaining higher levels of experienceable meaning, all still related to 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 (Dl, D2, and D4). This basic subset shares evident figurative and spatio-temporal properties of embodiment that might also favour the restriction. The 'bodiless' — never entirely disembodied, since our mental self is still proprioceptive if also extremely plastic — mental domain will then be left out of consideration. 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, rather than dreamlike things out there; or perhaps sometimes both ('dream kitchen', 'dream husband'...).

The four basic domains are bodily grounded on gesture and gesturally realized interactions with a subject's immediately given surroundings. The first generation of satellite domains offers a set of anthopologically 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, firstly, DI 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 have 'political' identities referring to D5, such as national passports.

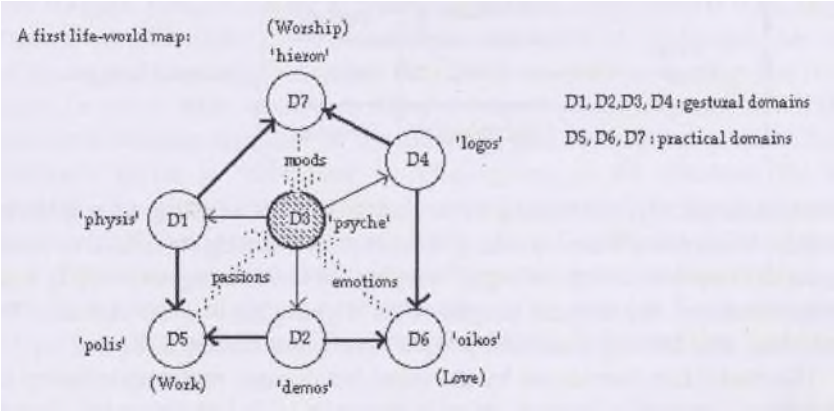
Secondly, if D2 and D4 integrate, on the grounds of reinforced double experiences of interacting by instrumental attunement with persons as members of an active collective unit, a group, and also of expressive interacting with singular persons by empathic exchange, shared feelings, facial contact, and 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 DI 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 worshipped nature (cf. burial ceremonies in cemeteries). Experiences of 'sacredness' and of the presence of supernatural beings or forces (Nature is a temple..., Baudelaire wrote) in particular 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, e. g. in soccer, are then both seen as collections of selected individuals and as a selected collective subject that the observers identify with affectively. Subjects have 'ethnic' identities clearly 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 items 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. Our steady, collective passions select objects in D5 (cf. political or professional ideals and idealizing passions). Our shifting, more intimate, but still often shared emotions (cf. 'enjoyment', 'worry', 'care', 'likes' and 'dislikes', feelings of 'disgust', 'contempt', etc.) mainly or basically depend on events and scenarios of D6. And our even more frequently shifting individual moods are regulated by commonal and ritual events of D7 (cf. mental states like 'grief', 'mourning'; 'enthusiasm', 'extasy'; 'anxiety').

According to literary and other human accounts, the affective phenomenon of love has a particularly rich unfolding as an emotion (including shifts to 'hate') and a complicated onset story of passion 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).

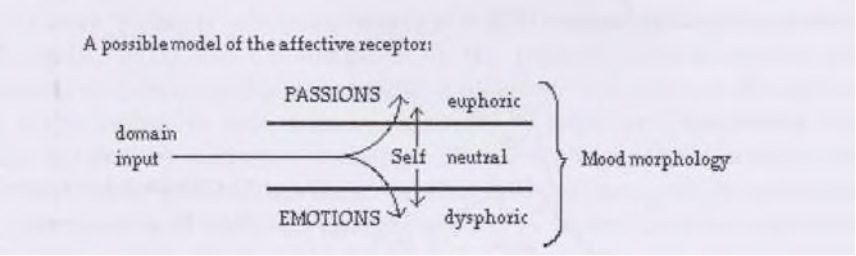
So far, we have suggested[13] a domain architecture corresponding to the following extended diagram (Fig. 9):



The Greek terms are only suggested as illustrative indicators of what this model aims at grasping. Its bold 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 receptacle of these practical ongoings; 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 momentaneous 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

[13] I am afraid this development—the introduction of practical domains and the affect types related to them—will appear to be a purely speculative enumeration. It was first, however, motivated by the study of everyday metaphors like: It was a blessing that I had brought my umbrella; he mothered the remark on me; the propaganda had done its work... (D7 on Dl; D6 on D4; D5 on D4). The open classes of languages have important amounts of terms (vocabularies) for items in these practical domains.

a prerequisite to memorization and subsequent recollection. Memories have built- in evaluations. There seem 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. A simple representation of the aspects of this device that are accessible to consciousness might be something like this (Fig. 10):



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 despite what is going on in some domain. We can surely lose that feeling, but most people appreciate finding it again.

The distinction introduced by the extended domain map may relate to a core principle in linguistics, namely the distinction between closed word classes and open word classes. The domains grounded in gestures and directly embodied interaction with our surroundings might give rise to the stock of morphological meanings schematized as contents of pronouns, prepositions, particles, conjunctions, number, gender, person, tense, aspect, case, modality and other closed class morphemes in language. The practical domains might instead be the grounding address of the contents of the elementary open class entities of a language, categorized according to prototype formation: nominals, verbs, adjectives, and syntactic constructions. In this case, we might get a clue to the different avatars of closed and open class structures in dyslexias, aphasias, brain lesions, and mental diseases, which often affect gesture: closed class structures are related to the paradigmatic posterior parts of the 'speech areas' of the left hemisphere and probably to the basic gestures and schemas, whereas according to Luria (1987), syntagmatic organization, syntactic fluency, as well as all kinds of 'kinetic melodies' included in skilled movements and the gestural sequencing in complex doings, are related to the anterior parts of the speech areas; when these parts are damaged, so are both syntax and skilled behavior (non-fluent aphasia). When posterior parts are damaged, by contrast, syntax is preserved, but paradigmatic structure is not (fluent aphasia); relational information ('on', 'under', 'before', 'after', etc.) is not processed, and basic gestural schemas seem impaired. A fine-grained study of

morpho-gestural correlations along these lines might be based on the assumption of levelled domain differences and corresponding differences in embodiment.

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 is that they are grounded in exchanges of practical acts. In order to understand the semantics of exchanges, 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, there is a generic schematic regulator of the blending, and this regulator, which 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, is a third space; I shall call it the relevance space. It differs from the standard notion of '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.

Let us for a moment dive into mental space analysis in order to understand this point more fully. First, we will consider the design of metaphor networks, second that of categorization.

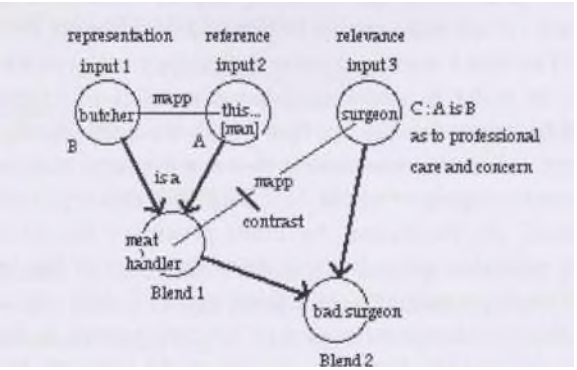
A metaphor (A is B. by C) has three inputs, A, B, and C, not only two as earlier assumed; it has a 'source representation' space (input 1: B) and a 'target reference' space (input 2: A), and then, as just mentioned, a contextual 'relevance' space (input 3: C, specifying in what imaginable respect A is B). The structure in this third space selects the categorical and schematic properties that make the representation relevant to the referent.

Take the well-known example:

This surgeon is a butcher!

— possibly uttered by an angry post-surgery patient looking at his clumsily configured scar (Grady e. a. 1999). The grammatical subject of this predicative construction has both a space-building link to the situational referent, namely the demonstrative pronoun: This.... and one to the categorical and schematic relevance space of a surgeon. The metaphor does not tell us to consider all surgeons as butchers, but only this one. The metaphor does not recategorize the profession of the person referred to, but uses the category butcher for evaluating his skill or sense of responsibility, not as a butcher, but as a surgeon. Here is

what happens: the butcher 'costume' he wears in the first blend maps by contrast onto the surgeon's technical and moral default properties. Then the contrast is 'overcome' by a second blending in which the man's butcher-like lack of care and concern for the patient's body is projected into a space where the man is in fact a surgeon (and not an usurpator), and therefore should have what he has failed to show that he has (care and concern). He is therefore a bad surgeon, and this is what the metaphor means. Fig. 11 summarizes this analysis:



The first input space (the B part of the metaphor) represents a practical doing (of D5). The second input (the A part of the metaphor) has a singular person. What is the domain of a person, we might ask? Persons are cross-domain entities that can be determined by any domain. Persons are probably even the only such cross-domain entities (this is then a fundamental principle of the life- world). Persons are thus determinable — the 'pronouns' of life, so to speak.

The third input anchors — or grounds, in a Peircean sense[14] — this metaphor in a much more complex satellite domain (D14, cf. section 7, below) of professional performance based on medical science and ethical norms. The person who is the referent in input 2 is represented as a simpler-domain (D5) performer of a supposedly complex-domain (D14) activity, and thereby he is blamed. If a customer in a butcher's shop says, admiringly:

This man is a real surgeon!

the praise follows from the inverse orientation of the domain transfer.

[14] The notion of «ground» in Peirce's semiotic thought is difficult. Here it may be compared to I. A. Richards' (1965) «ground», distinct from «vehicle» (cf. source) and «tenor» (cf. target) in his analysis of metaphor. In both cases, an underlying, implicit regulator of the A-B composition is intended, and in both cases, it is contextual. The only interest in 1) calling it relevance and 2) seeing it as a mental space is that 1) its pragmatic roots are stressed, and 2) its structural and schematic content is stressed.

The much discussed domain difference in metaphor thus runs between the domain of its source, input space 1, on the one hand, and the domain of its target, corresponding to input spaces 2 and 3, on the other. Since the last two spaces — of reference and of relevance, respectively, in my terminology — have the same domain address, they are classically, but perhaps inappropriately, seen as only one 'target' space. But they form two spaces. One space (A, input 2) singles out and foregrounds deictically the singularity, the numerical identity, of the questioned entity, here a specific person; whereas the other (C, input 3) specifies the scope of the utterance categorically and includes relevant schematic knowledge about the sort of situation in which the metaphor is used and where it takes on its critical meaning as an evaluation. The relevance space, whether implicitly or explicitly given by the linguistic or pictorial manifestation of the metaphor, will therefore specify the domain from which the referent is seen in the first blend of the metaphor. The critical meaning of our example would change, if the relevance were, say, religious sacrifice:

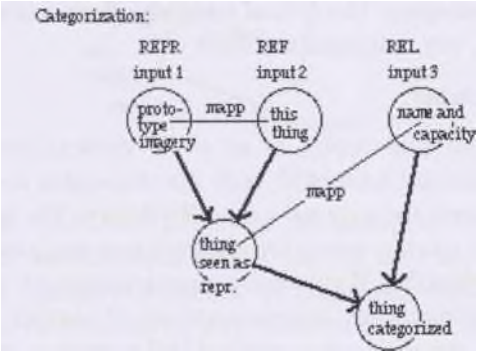
This priest is a butcher!

I think that analytic philosophy, as an art of 'context-free' thinking, might have affected the issue and motivated both the dual-input network analyses in mental space theory and the original 'A is B' theory. We might, by contrast, recall Ch. S. Peirce's ternary semiotics and rephrase the metaphor network as a 'semiosis': A (the object) is B (given by a representamen) in respect of C (an interpretant. whose ground is its domain address). C may of course be another network, as the American philosopher noticed. All mental spaces can be regarded as possible outputs of former blendings, more or less entrenched.

Let us leave metaphor for a moment and take a brief look on categorization. The same elementary network structure is present in categorization (cf. Rosch 1999). In terms of conceptual integration, input 1 has prototype imagery, input 2 has the current singular entity — thing, event, relation, etc. — undergoing categorization, and input 3 has the determination of what the entity referred to can or should do and is or should be relevant to in certain contexts that trigger the act of categorization itself: naming attributes not only a word for the entity, but also a capacity. This is the most important part of meaning construction; entities are referentialized (referred to) only in the context of experienced situations, or in situations of discourse, by transposition. As Rosch puts it: "...it may be that contexts or situations are the unit that categorization research really needs to study." (Op. cit. 72). This contextual or situational determination, I claim, must include the attribution of a domain address in order for the category to be meaningful (e.g. a 'hammer', an instrument of D5: carpentry and related practices); categorization determines by relevance the domain address or status of the categorized entity. If the categorized entity is used further as a metaphorical

representation of something 'else', i. e. something of a different domain (e.g. Nietzsche wanting to 'philosophize with a hammer...'; philosophy is a high-order domain, D15, cf. §7, below), it keeps its own formerly established domain status in the metaphor. Metaphor does not change the domain status of the representational input, but categorization does. Before having undergone any categorization, a phenomenon can have no domain status. After categorization, it can be recategorized and thereby change domain status. Categorization establishes the name, the capacity, and the domain of the categorized. Here, relevance really rules — it stamps creatively a qualitative identity upon the categorized. In metaphor, it only allows an evaluation.

Here is a corresponding five-space graph of the phenomenon of categorization, as I suggest to see it (Fig. 12):



For example, body parts are available in the physical domain DI, but are distributed over the basic domains when categorized: a hand or a head have prototypical imagery given by body perception. But their names and their capacities are first learned as relevant in the domain of instrumental gestures (D2) and the domain of face-to-face relations (D4), respectively. Legs are categorized in D1 as related to locomotion. The trunk of the body is probably understood as a container of feelings and other mental occurrences (D3); but it comprises the head in this respect, so the 'inner head' follows the trunk (D3). This double status of the head (D3/D4), or rather its recategorization from D4 to D3, might explain its privileged position as a sort of prototypical sign: a signifying surface (D4) and the locus of signified 'contents' (D3).

Other body parts then seem to be able to follow the same pattern of recategorization based on their relation to the 'mental' trunk, and are thus also seen as mental extensions. Just as we have:

> **The head of the department** (both its representative 'face' and its responsible decision maker)

we will then have:

All hands on deck! (=men on duty)
The ship was lost with all hands (= all souls)

and the host of body part-to-person metonymies in various domains, all of which therefore stress the mental aspect of the person. The reciprocal gesture of handshaking for saluting or agreement is experienced as a form of mental contact; even more so (since the head is implied) is the reciprocal gesture of kissing.

Let's give the singer a big hand! (applause)

is an expression both of saluting and of agreement (appreciation).

The mental meaning of the hand is essential to the meaning of hand-shaking, which is often a direct expression of agreement as to the value of things exchanged. When hand is used as a verb, the mental meaning of this body part seem to pass onto the 'handed' objects:

H**and me your knife, please.**
He handed down the estate to his descendants

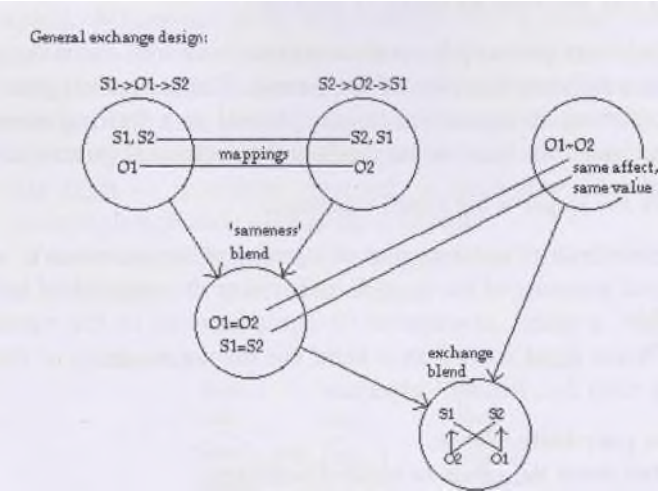
To hand down, in. on, out, over is both to cause an object to change location or ownership, and to communicate mentally: to give. The ritual hand-shaking prepares or seals a reciprocal giving. In other words, a mental blending is involved in all forms of 'handing...', and therefore in giving and taking.

I hope to be making plausible that exchanges, even abstract, are bodily grounded. When exchanges happen, they are regulated by relevant judgements. I shall argue that these are juridical, aesthetic, or economic; most or all societies therefore have courts, arts, and markets. These instances are in fact meta-practical domains. The categorizations of exchanged entities are recategorizations that stamp blended value onto them. The pre-categorized entities stem from the practical domains. By the exchanges, they are raised one level in the hierarchy of domains. Their meaning changes from use-value to value of exchange, Marx would have said. But Marx was wrong about the inner semantic logic of exchanges, since he did not see its human grounding in intersubjectivity (even if he came close, in the first book of Das Kapitał).

A general design might describe the semantic process of exchange in the following way (Fig. 13).

First, a figurative blend accounts for the (hand-shaking based) imaginary fusion of the subjects that assume the roles of both giving and taking, and the imaginary fusion of the objects given and taken into one blended object. Second, a relevance space grounds this imagination in the idea of coinciding evaluations on both sides, based on the (of course differently motivated) 'feelings' of the subjects. The final blend constitutes an experience containing the meaning of an

exchange: a finite quantity of 02 'matches' 01, because the exchanging subjects identify with each other as relative 'losers' of their object.



In order to give something, a subject must first have it. In the practical domains of societal life, things can be 'had' as obtained by work (in D5, polis), as possessed inherently (in D6, oikos). or as attributed by the divine in some sense (in D7, hieron). Things are either exchanged within these domains or between them — thus transported from one domain to another by virtue of an exchange involving two domains. Only in the case of such inter-domain exchanges, the attribution of abstract value takes place and is performed by explicit acts of validating judgment. Humans call this important performance jurisdiction, aesthetics, or economy. Whereas exchanges are 'wild' and only implicitly regulated (strictly interpersonal) within the practical domains, they are 'lawful' when they connect them. I cannot but state this observation as a postulate here, but I intend to present evidence for its general validity at a later occasion.

Let us first consider the semantics of economic exchanges. In fact, people carry objects from D6 to D5, namely their tools and weapons, in so far as they can 'own' them (in D6) and 'lend' them (in D5) to the collective doings of their work. Inversely, they carry objects from D5 to D6, namely the 'goods' produced, found, extracted, somehow obtained, and now bound for accumulation and exchange. Exchange of 'goods' is a complex doing, which connects polis and oikos in any culture. Things obtained can be appropriated and 'owned', and then exchanged for other things wanted. The 'a for b' schema is inherited (in D6) from D4, as we have observed in a simple case. Now, entities exchanged will be 'cognized' as crossing each other in a blended space (cf. the Buddhist Monk and other examples in Fauconnier and Turner 1998); they are seen as each other's

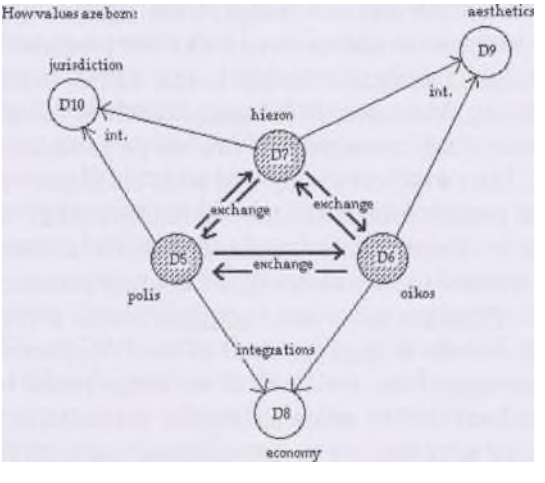
counterparts, and the exchanging subjects mirroring each other will optimize the number and quantity of counterpart objects in the scope of mutual appropriation and loss, with a possibly empathic view to maintaining possessive wealth on both sides through the substitution of objects. This shared sense of possessive optimality, experienced in acts of exchange, grounds a notion of property-based value. The practice of exchange thus constitutes situationally the notional meaning that makes the attribution of value possible. Economy is based on such a meaning: 'equivalent' entities do not need a pre-constituted principle such as a Marxian 'general equivalent' imported into the act of exchange, in order to appear as commensurable, but instead they create value when exchange itself makes them appear as substitutable in the phenomenological scope of an optimized blend. Economy is a new domain (polis, oikos: a new sense of 'political economy', D8) based on such phenomena and built by integration of two underlying domains (D5 and D6). Equivalence, hence value, is an emergent property, based upon conceptual integration, not upon pre-established genericity. A 'market' is a blending laboratory where value is obtained and communicated.

There is, in collective, cultural life, another type of exchange happening between the domain of experienced sacredness (D7) and the domain of domestic practices (D6). Ritual objects are 'brought home' from D7 to D6: altars installed, walls decorated with sacred icons, etc. Ritual behaviors are widely copied in the domestic settings, and kinship status is thereby interpreted in terms of hieron: as hierarchies. Inversely, offerings are brought from oikos to hieron. sacrifices are made, goods are dedicated to and reserved for sacred practices. The sacred tokens and pledges 'cross' the sacrificial offerings in this traffic, and both are affectively significant as values. Worship and intimacy blend into a notion of authority, whereby transcendent and immanent realities merge and become one experience of beauty. Art is in fact a typical example of what circulates between the temples and the homes of people. Works of art have fundamentally sacrificial meaning (D6 —> D7) and are domestically worshipped as transcendent tokens (D7 —» D6). They are interpreted transcendentally and enjoyed immanently as particularly sensuous: sensual. Beauty appears as an aesthetic notion in this context. There is correspondingly a domain of aesthetic evaluations (D9), phenomenologically and transculturally springing from the level of exchange-based meanings. Most of what is called 'cultural life' in modern societies is related to this domain.

The domain of acts that serve subsistence, polis (D5), is also directly connected to the domain of sacred acts, hieron (D7), by routines of exchange. Products of work feed the clergy and other transcendent rulers, who in return sanction social orderings as hierarchies (again) and acknowledge institutions, genres of activity, methods, working conditions, and results. In ancient societies, religious service and banking were often related (cf. the sacred custody of gold deposited in the temple area of Delphi, in Ancient Greece). The origin of money

is probably to be found in this relationship; precious metals were used for embellishing the divine effigies and were therefore felt to be suitable expressions of acknowledged things, in measurable quantities. Banks and temples were, and in many societies still are, associated, and banking activities are still transcendent doings dependent on 'trust', 'confidence', 'hope', and similar future-oriented attitudes. Sacred and metallic expressions of 'monetary value' flow back and forth between D5 and D7; things and acts are evaluated and negotiated, and abstract notions of 'right' and 'wrong' develop out of these transactions. A domain of jurisdiction (D1O) ritualizes instances of comparative judgment, where immanent doubts require transcendent assistance. Acts can now be judged legal or criminal, and social agents be punished according to criteria distinct from individual emotions (such as: anger —> revenge). Justice is thus a kind of value in line with beauty and property; legal, aesthetic, and economic values are all grounded on kinds of cross-domain exchange. But the practices that specifically take care of these values can develop autonomous instances and institutions, and can develop notional meanings that easily become semantically autonomous, because the grounding practices of exchange create a higher level of domains (D8, D9, D1O) by regularly integrating meanings from the grounding domains.

The architecture[15] we venture to stipulate, trusting that these considerations will prove valid, might be diagrammed as follows (Fig. 14):



[15] As to architecture, Rene Dirven asks pertinently if cathedrals, temples, etc., are not both of hieron and of polis, and are thus paradoxically facts of jurisdiction! Is my account therefore arbitrary and incorrect? I think that the Bible that witnesses still swear by in court, and the inquisitions of former times, as well as all alliances between the Church and the political rulers, testify to the fact that religious power, not the practices of sacredness, is both of hieron and of polis!

The reader might need an excuse 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. The author regrets this as much as any reader. The meager excuse is that embodied semantics in fact leads 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. Brains would probably protest against larger domain sets that they would have to automatize; the ones focused on in this account are at least massively reinforced by everyday experience and should 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 equal footing with the semantics of our vocabularies. And there is no clear cut between cognition (low-level thought) and reflexion (high-level thought).

6. Discourses

The gesture-based domains (Dl-4) provide, we suppose and stipulate, the morphological closed-class structures of language; they also provide the simplest syntactic phrase structures. If categorization could work without relevance- contextual determinations of situational or other more complex meanings, and only on the grounds of perceptual gestalts, these gesture-based domains would provide full-fledged open-class categories as well. But the action-based domains (D5-7), or the first satellite generation, do have basic-level categories expressed by open-class forms, 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 therefore develops evaluative notions, non-basic-level categories, linguistically expressed by lexical derivations (denominal, deverbal, deadjectival; compounds) and technical terminologies; writing, introducing non- spoken intonation and other forms of artificial or symbolic transformation of 'natural' speech: marketing forms, poetic forms, and juridical forms — 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, and in general, objectified signs produced by special gestural skills, become indispensable on this level of behavior. We know that our ancestors around 50.000 years ago were on this level. It would be difficult to believe that this was achieved without the presence of language more or less as we know it[16].

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 structuralist 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 communications), and where meaning is still demonstrably embodied, are then considered culturally uninteresting, except for the study of pathological cases. The human 'spirit' must raise 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. Clothing fashions express this fact rather clearly. Fashion par excellence calls for a descriptive discourse (cf. the French structuralists like 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 look closer on these discourse-bound presentations, we will, surprisingly enough, find three major kinds of them.

Human beings living in a society are often bodily presented for discursive representation in clothing fashion, and the clothes generally and publicly signify a combination of status (thus economic wealth, from D8) and beauty (thus aesthetic value, from D9) of the clothed persons. 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 thereby be 'described' monologically.

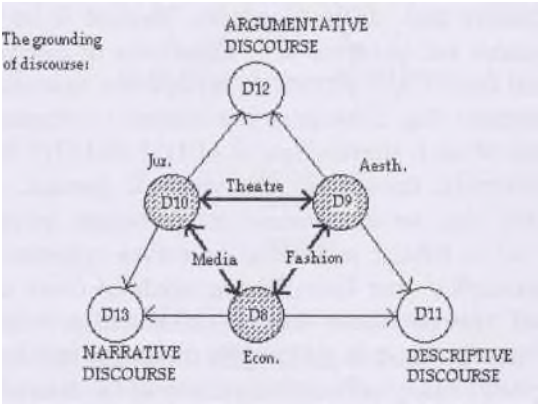
Human beings living in a society can also be literally staged and perform plays in theatres or in other public places; this kind of bodily presence involves acting in simulated situations, scenes, where the aesthetic value of the 'play' meets the dilemmas of confronting conceptions of right and wrong — displayed as in law-suits, trials, but also artfully. The presentations and performances of this kind have always been the allegoric input of argumentative discourse.

[16] Languages of great age seem to be morphological gold mines; or rather, 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 decreasing gestural expertise.

Argumentation takes the attitude of an observer or a participant who transforms a drama into a notional debate. This blend (of spaces from D9 and D1O) 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. No aesthetics is involved; instead the importance of the presentation and the media representation 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 simple rumour towards mass media programs, but remains stably narrative in its structure. Narrative discourse is possibly grounded in this embodied blend of juridical and economic meanings (from D1O and D8). The journalistic attitude develops as a specific 'narrator' position that minds can take to events in general.

What happens structurally is thus the following, third satellite formation (Fig. 15):



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' enunciational attitudes, as descriptors, argumentators, or narrators, anchors the meaning of certain classes of transitive and communicational verbs, like show, expose (Dll, descriptive), argue, prove. reason, propose, suggest, convince (D12, argumentative), and tell, relate, divulge, inform, report, announce (DI3, 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 there lives by their discursive activity alone. Dissidents are exiled, scoulded, killed, or celebrated.

7. The Domains of Knowledge

The last 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'.

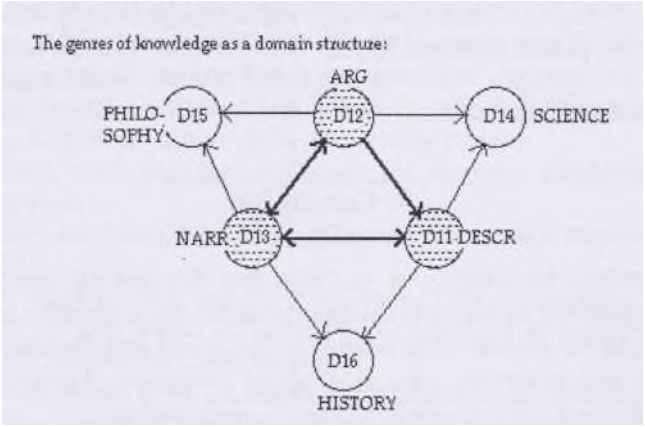
When description serves argumentation, it constrains its contents; and if argumentation in turn serves description, it allows for descriptions of hypothetical entities; the result is the alliance of empirical and speculative thinking we call science in general. This paper pretends to be a modest example of such an alliance. 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 content of science as distinct from any other contents of such stories. Spaces of Dll and D12 feed into spaces of aD14: science, scientific knowledge, as a semantic domain.

Argumentation also 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 but itself: this two-ways directed collaboration is in fact what creates the genre of knowledge we call philosophy (practical and theoretical). Does it 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 they 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 D12 and D13 feed into spaces of a D15: philosophy, philosophical knowledge, philosophical believing and doubting, as a distinct semantic domain.

Narration and description also 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 primordial narrato- descriptive constructions, which other forms of knowledge cannot produce. If narration and description in a historical account are as perfect as possible, nothing else can devalidate it. Therefore, science, philosophy, and history can learn from each other: they are distinct and on the same semantic level of human reality. Spaces of D13 and Dll feed into spaces of a D16: history, as an autonomous semantic domain.

This last storey of our domain architecture offers a particularly clear-cut set of notional families of meaning, the main genres of humanly accepted forms of knowledge (Fig. 16):



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 unstable domain sketches; but this is probably the last semantically stable storey, the highest possible level of experienceable reality that humans spontaneously agree to distinguish as natural domain 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 is frequent: narrative fictions are space products of D13 or D16 (cf. the genre of historical 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 meet 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 already what any metaphor analysis is doing.

We ought to return to the inaugural studies of metaphor now and show that metaphor concepts are superordinate semantic indicators of domain addresses. An extended array of metaphor types, distinguished by their B and A-C 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 ultimative 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 discouraging, remarks.[17]

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

The two last storeys or levels are 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

[17] Line Brandt, Peer F. Bundgaard, Ole Kuhl, Hans-Erik Larsen, Mikkel Wallentin, and Svend Ostergaard.

all its stages and levels of embodied existence, right from the new-born's first gestural evidence of being a res cogNitans.

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