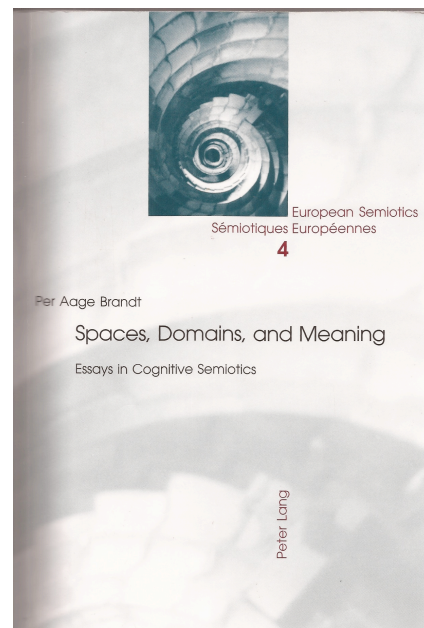


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SPACES, DOMAINS, AND MEANING

ESSAYS IN COGNITIVE SEMIOTICS



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PREFACE

Two separate trends in the study of meaning have been crossing each other's paths since the 1980s: the cognitive sciences and structural semiotics. One is as closely linked to neuro-psychology as the other is to phenomenology and aesthetics. But both aim at grasping basic, foundational properties of the human conceptualization of reality. None of them is particularly engaged with the militant nominalistic and relativistic schools of cultural studies, while both are open to, and even committed to, comparative cultural analysis and the analysis of such specifications and differentiations as occur across languages and cultures of our species. A common field of phenomena is open to contemporary research on meaning—comprising the conundrums of linguistic semantics, the vast field of behavioral studies, affective science, psychiatry, gestural semiotics, the study of signs and representations in discourse, in social life, in art, and in perception as such—and appeals to a host of disciplines and to experiential as well as experimental methodologies. The shared ontological claim—that meaning can be understood both in terms of the biology of our mind and as a highly 'spiritual' semio-sphere—might even cancel our classical needs for a unification of methods and terminologies, and for a unified philosophical view. Philosophers are often left perplexed by the flood of findings in this field of semio-cognitive studies; the wisest stance seems to be to postpone the sort of generalizations that traditionally nourish and distinguish the 'schools' of thought. The label Cognitive Semiotics is not a new school; it emerged as a straightforward nominal compound naming minimally the intersection and maximally the product of the main theoretical components in current research on meaning in this extended sense. This appellation also expresses a belief in an ongoing communication across faculties and former 'chapels' of knowledge, and a will to share ideas and projects which only contingencies can limit.

The rather heterogeneous papers constituting the essays of this book originated in the framework of the Center for Semiotic Research, at the University of Aarhus, during the last decade. Most of the ideas displayed here were discussed in various versions with colleagues from near and far, as well as with the students of the Center. I am profoundly indebted to George

Lakoff, Eve Sweetser, Rick Grush, Tim Rohrer, Leonard Talmy, Mark Turner, Gilles Fauconnier, Todd Oakley, Seana Coulson, Jean Petitot, Wolfgang Wildgen, Ernst Pöppel, Svend Østergaard, Peer Bundgaard, Lene Fogsgaard, and many other brilliant minds for their generous unfolding of insights and beautiful work, and their encouragement. I wish to thank our prodigious secretary Tina Friis for patiently organizing it all at the Center and making it compatible with daily life. Special thanks to my daughter and sharpest critic Line Brandt, whose challenges to the analyses and theories I am trying to elaborate have helped me more than words can say. And to Maryse Laffitte for not letting me forget my French, and for her love. I dedicate this book to my father Aage Brandt, who reads all I write with unwavering application and an expression of amused surprise.

The Danish National Research Foundation supported the Center for Semiotic Research in the period 1993 – 1998, in which the core of this book was written. It was completed while I was a fellow at the Center for Advanced Study of the Behavioral Sciences, Stanford, California. I am grateful for the financial support provided by the Getty Grant program # GRT021201-1FP and to both institutions, DNRF and CASBS, for their creative and encouraging contributions to the framing of contemporary fundamental research.

Stanford 2002 and Copenhagen 2003

The book sold out in 2006 and was not reprinted. The present electronic version presents some of the first graphic models (embellished and homogenized in the book), and it adds a chapter (16, the 'bonus track' of this edition), which was written while the book was in print.

PaaB, Villeneuve-sur-Yonne 2013

Spaces, Domains, and Meaning

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Chapter 1

THREE IMAGISTIC OPERATORS: METAPHOR, CATACHRESIS, SIMILE^{*}

"I must put my metaphoric skates on"¹

1. Preliminaries: imagism.

Meaning is anything we can communicate. We can communicate it, because we can think of it. But we do not have to think of it when we communicate. Most of what we express in order to communicate it is so deeply entrenched in our mind that it takes special training to think of it at all, at least in a systematic way. This specialization is called semantics: semantics is the vast discipline that studies meaning. Meaning has structural properties per se and these can be studied as aspects of our mental architecture. A particularly important property of meaning is that it can appear to our conscious minds by our 'inner vision'—we 'see' it without optically perceiving anything relevant to it, it is there as a proprioceptive 'view'. And a feature collateral to that is our capacity to 'see' what we or other people mean, by mentally looking at something else: by using an image, and thereby 'seeing something as something else'. This structural feature of the human mind may very well be responsible for most of what this sort of mind is doing in the world of cultures, societies, arts, etc.; we will call it imagism.

^{*} This study is based on a paper presented at the conference "Researching and Applying Metaphor II", May 29-31, 1997, University of Copenhagen.

¹ The Oxford-Hachette French Dictionary, 1994, entry metaphoric(al). Transl.: "Je dois, comme on dit, passer à la vitesse supérieure".

Imagistic² structures of meaning in language and thought are particularly difficult to study. They are so ubiquitous in our mind that we most often do not notice them at all, or else we see them everywhere and (mis)take them for the mind itself. Cognitive semantics shows that they are specific, but essential operators of the mind, i. e. of the human mental and neural equipment for experiencing and interpreting the world given to us, and for taking part in it by our acts, reactions, habits, and behaviors in general. To our knowledge, the most prominent imagistic operator is the structure literary and linguistic scholars call metaphor. Semantic literature about metaphor is abundant, from Antiquity to contemporary research in poetics, linguistics, philosophy, psychology, anthropology and social sciences. But still there are many aspects of its formal properties that we do not yet understand well. What follows is a brief observation on metaphor and two similar imagistic structures that are not often considered and compared to it. This brief note might thus be read as a minimal contribution to our understanding of imagistic operations on meaning, and of the meaning they operate on.

Two preliminary cognitive distinctions must be made concerning the nature of the items (meanings) we isolate and study in semantics.

One is well-known in linguistics; it establishes the difference between open and closed word classes. Either we experience by categorizing or by schematizing. When categorizing, we search for conceptual localization of an observed object; we seek to learn the properties by which we can recognize it. When schematizing, we inversely wish to find the ways in which an object leads to other objects. A category is typically rendered in grammar by a noun, a verb, or an adjective, whereas a schema is rendered by a preposition, a conjunction, a flexional element. I will use the overall term lexeme of the first series and the term morpheme of the second. Phrases and sentences integrate (open class) lexemes and (closed class) morphemes into semantic wholes, and it is a non-trivial task to separate them again in analysis.

² Imagistic, imagism semiotically refer to the efficient presence of imagery in the content of some sign, not to the iconic expression of a sign – which would then be an icon. Here, we correspondingly wish to speak of imagism in the content of language and consciousness.

The second distinction is semiotic and concerns two sorts of formal properties by which we cognize both lexemic and morphemic meanings. Our gestalt perception ascribes figurative form to them, in other words, the multi-modal quality we traditionally refer to as their 'appearance'. And our categorization of them ascribes dynamic form to their gestalts, i. e. the set of interactive qualities traditionally referred to as their 'being'. An /apple/ is figuratively spherical, reddish-greenish, hand-scaled; dynamically, it is firm, juicy, edible, tasty. In the metaphor that calls New York (target) the Big Apple (source), some of the figurative source properties 'apply' to, or map onto, the geography of the target, and some do not, such as 'hand-scaled'—but 'Big' seems to try to repair this problem. Also, some of the dynamic source properties are active; but they have to be interpreted by a relevance-inducing generalization (eat -> enjoy) in order to release the emotional inference of the metaphor.

In metaphor, the figurative affinity creates a drive toward dynamic affinity; the operation is understood, and the reception processing finished, when the 'interpretant' generalization releasing the dynamic inference is found.

In metaphor, categorized contents constitute target and source: one category is a property of another category. Likewise, when lexemes and morphemes combine in language, and when categories and schemas correspondingly integrate in our mind, both the figurative and the dynamic forms of these input items must also somehow merge. But schemas have weaker or simpler figurative forms than categories; therefore, they apply to many different categories, and mainly contribute to the result of integration by the dynamic aspect of the integration. Natural quantifiers like slice (verb -> nominal) can appear in a slice of an apple, or in the metaphor a slice of life. In both expressions, there is an idea of cutting and obtaining a flat cross section of an oblong object, whereas figurative ideas of color or surface shape of the cut etc. are inactive. The dynamic inference is clear, when the metaphor means: a very realistic scene (cut out of life directly). The schema is mereological (has part-whole structure), and the cutting motif further specifies the dramatic directness of the relation between part (scene) and whole (life).

The imagistic structures that operate in our mind differ significantly in respect to figurative and dynamic interaction. We might understand metaphor better by comparing it to two close parents: catachresis and simile.

2. Catachresis.

Rhetoric defines an imagistic type as catachrestic³, if source imagery imported from a different semantic domain⁴ does not substitute for a same-domain term in the target, but fills in where a 'direct' term is missing. Example: a table leg. The source item leg is of course a lexeme, but it has schematic properties as a body-part term, which is a particularly frequent form of part-whole relations. In this acceptance, it is on a short list of body parts that tend toward becoming a closed paradigmatic microsystem, in which it would be a morpheme.

This tendency of the source item to 'close in' on a morphological, schematic meaning when transferred is common to catachreses.

The so-called particles (cf. Talmy's 'satellites' in English) of the Danish language, mainly: ind(e), ud(e); op(pe), ned(e); bort(e), hen(ne), frem(me), hjem(me)⁵ refer to bodily motion and orientation in space. They are frequently found with motor intransitives (gå, stå, ligge [go, stand, lie] etc.). They also accompany motor transitives (bære, lægge, føre [carry, lay, lead] etc.). These particles frequently appear as verbal prefixes in abstract domains, provided the (body-motion or other) verb schemas implied include direction or

³ The term catachresis is used here in the French sense of an expression clearly imported from a domain which is different from the domain of the item it refers to and which has no literal designation. Examples, in French: les pieds d'une table; les ailes d'un moulin; une feuille de papier; les grandes artères d'une ville. In English, the terms source and target in metaphor theory are carachreses.

⁴ By semantic domain, we mean 'sort of things to refer to'; the problem of sorting these sorts is crucial to metaphor theory and to semantics altogether. See Chap. 3: "The Architecture of Semantic Domains".

⁵ Directionals and locatives of: in, out; up, down; away, along (inaccurate transl. of 'hen'), forwards (inacc. transl. of 'frem'), home. Hjem (home) is also still a substantive in Danish; this fact shows the possibility of there being a 'closing' process in the etymology of the schematic morphologies.

endpoint locus: a dynamic component⁶, and some topography⁷, namely a minimal figurative component. The particles, as well as their verbal extensions (cf. English: to carry out = accomplish), are used catachrestically to specify direction (ex.: ind-Ø) or endpoint (ex.: ind-e) by introducing a containment schema (ind/ud), a gravitational schema (op/ned), an evidential schema (bort/frem = inaccessible/accessible), or a travelling schema (hen/hjem=distal/proximal).

In catachresis, the dynamic meaning of the source material is more important than its figurative meaning. Catachreses easily combine with strongly figurative, substantial entities in whatever domain; catachrestic schemas can thus be seen as indications of types of forces in conflict.

In many of the standard compound catachreses, such as: table leg, headquarters, body parts⁸ appear in settings where they exclusively assume this dynamic meaning: the leg 'carries weight' and the head 'controls'. A table leg does not have to look like a real leg, and headquarters do not have to look like heads. The 'morphemic' body part does not assume a figurative meaning. The figurative⁹ properties of the compound are mainly those of the target: table, quarters.

Catachresis often occurs between open-class terms. But the source component then has or acquires a schematic reading, besides the categorial. In the French catachresis une feuille de papier, literally 'a leaf of paper', feuille has a part-whole relation to branche and then to arbre, tree. The source item feuille becomes slightly morphemic; so we find: feuille d'or (sheet of gold),

⁶ Thus, opstå (arise, come into being, lit. 'stand-up') has an inchoative aspect of 'stand' and a vertical pressure upwards.

⁷ Thus, opløse (dissolve, literally 'loosen-up') has a funnel-shaped topography, spreading 'upwards' what was formerly 'down' and concentrated, or gathered, or bound, when it was an existing something.

⁸ Body parts are frequently found in relational morphologies; they form a naturally closed set of animal or human bona fide bounded parts (Barry Smith's term) referring to the wholes of zoo-mereology.

⁹ My general assumption is that any item—thing, sign or idea—is both a figurative and a dynamic unit. I take this to be a universal cognitive property of anything we can be conscious of.

feuille de fer (sheet of iron), etc. Part-whole relations appear to often or always qualify source items for entering into catachrestic constructions.¹⁰

Catachresis may in fact be genetically related to the very phenomenon of closed classes: morphemes may be former catachreses. Morphology altogether, or some subsets of morphemes, may have grown out of catachrestic imagism. This structure would then have to be honored as one of the building blocks of grammar. But we would have to show that morphemes are generally derived from open class root lexemes, and that strong relational determinations like the mereological semantics we have observed are active whenever the ‘delexematization’ or ‘morphematization’ takes place. In itself a vast genetic research project.

Catachresis differs from metaphor in not triggering any inference distinct from its immediate dynamic meaning. If a sheet of paper is a leaf in French, this does not entail connotations of plant properties etc. For it is a leaf, the French speaker would claim—c’est une feuille, c’est tout... what else could it be?

3. Similes.

Similes are explicit comparisons. They lead language into argumentative discourse. In a post office, I found and bought two tokens —(1) and (2)—of this type of structure. Here are the texts of my two Danish birthday cards:

(1) I din alder er sex som en mikroovn... [inside the card:] den bliver hurtigt varm, og tyve sekunder efter siger det pling...

(2) Fødselsdage er som at spise fyldte chokolader! [inside the card:] ... man nyder dem mere, hvis man lader være med at tælle dem!¹¹

Here, A is LIKE B, in Danish: SOM. This comparative morpheme changes the semantic process in several respects. The first is that its semantic predicative

¹⁰ What is the dynamic meaning of ‘feuille de X’, one may ask. A thin, light, fragile, hand-scale object seems likely to qualify for this catachresis.

¹¹ ‘At your age sex is like a microwave oven... it gets hot quickly, and twenty seconds later it goes ping...’ - ‘Birthdays are like eating chocolates!... you enjoy them more if you don’t count them!’

source-target mappings must also be grammatically predicative (cf. ER SOM, ...is like...), and the second that the comparative parameters can be followed by an explicative phrase or clause (here the text printed inside the cards). A third difference, directly related to the first, is that comparisons do not rely on cultural entrenchment and can be created and well understood in ongoing communication.

In our two examples, the explicit comparison first seems gratifying, albeit slightly odd, but then the explanatory supplement delivers its deceptive message. A sort of humor springs from these frame shifts in referring to the age of the addressee.

The simile has a comparative protasis and a (facultative) explanatory apodosis. It may in fact be read as a sort of implicit speech act conditional: if you accept to see A as figuratively shaped by B, **fig(B) -> fig(A)**, then I can tell you something interesting about A by describing some selected dynamic properties of B, since you will then also be prepared to map those by inference: **dyn(B) -> dyn(A)**.

It has the sequential form of a riddle and a similar interactive character. In poetry,¹² similes sometimes let their dynamic inferences be implicitly given in the context and thus omit the explicit apodosis. These inferences nevertheless stay active, and often detonate significantly in the course of a careful reading.

Unlike catachreses, similes thus have strong immediate figurative transfers (in the protasis part), and emphatic mediate dynamic transfers (in the apodosis part).

Unlike catachreses and metaphors, they can be freely built in discourse. They are personal speakers' inventions that can postulate and present any however unexpected figurative projections, provided they are then explicitly or implicitly motivated in the context by transfers of suitable dynamic

¹² Poetry (and other condensed genres) often omit the morpheme LIKE, and still offer a simile, now looking like a metaphor, but apparently an arbitrary one: ... She was a spider; hairy, fierce, and prepared to eat her partner (abbreviated quotation from a short story by the Danish writer Mads Storgaard Jensen, Som en engel ind i himlen, 1996, p. 13). Note the absence of immediate generic inferential transfer from B, and the presence of the explicative apodosis, first figurative, then dynamic.

contents to the target. However, if this last condition is unfulfilled, we have a case of surrealistic simile—and perhaps of infinitely delayed apodosis.

The French poet Lautréamont: ...beau comme la rencontre d'un parapluie et d'une machine à coudre sur une table de dissection... (beautiful like the encounter between an umbrella and a sewing machine on a dissection table).

4. Metaphors.

If we consider the genetic relation between the three imagistic operators, we might suggest to think that similes are the primitives, which spread socially and pass from singular discourse through a generalized metaphor stage to the stage of grammaticalized catachreses, perhaps in the course of centuries or millenia. In metaphor proper, i.e. 'structural metaphor' (Lakoff, Johnson), which is what we are left with according to this analysis, an open class term or phrase is used as a predicate of another open class term or phrase—whatever the construction be: substitution, genitive linking, apposition, or predication. In this last construction, which has been taken as a conceptual formula for the metaphorical structure altogether: A is B, TARGET 'is' SOURCE, the predicative function—whether implicit or explicit—has its characteristic semantic effect on such an element B: it presents it in a generic key. Compare:

- (1) Achilles is a lion (generic predicate)
- (2) He put his head into the lion's mouth (generic genitive, idiomatic)
- (3) He walked into the lion's den (generic genitive, idiomatic)
- (4) ?Achilles is this lion (deictic predicate)
- (5) Achilles is the lion I told you about (anaphoric predicate)

(1), (2), and (3) can express metaphoric meaning, whereas (4) and (5) cannot. Only the generic source terms in (1), (2), and (3) transfer and convey an emblematic view of the target—a figurative meaning—and an attitude of bravery or fierceness—a dynamic meaning. The non-metaphoric predications in (4) and (5) have realistic, relative, particular lions, contrasting the imaginary, absolute, generic lion that (1), (2), and (3) have. This last lion appears to link its figurative and its dynamic properties so closely to each

other that we are almost seeing the category itself, rather than an instance of it, in the source. This generic mode is extremely important in metaphor. But note that the inference does not simply export the dynamic meaning of the lion category. Lions might be categorically fierce, but they are hardly (morally) brave. Animal metaphors often yield an intriguing moral inference that cannot just be linear import from their source dynamics. Instead, source and target dynamics cooperate. 'Fierce' in the source may metonymically express and thereby enhance 'brave' in the target. Another example of this complex inferential process:

(6) He is a chauvinistic pig [quote from a feminist novel]

The species porcus is naturally categorized as a domestic animal without morally and emotionally negative standard properties. But the generic pig is physically dirty; and 'dirty' may metaphorically or metonymically¹³ express and thereby enhance 'immoral' in the target. 'Fierce' is to 'brave' as 'dirty' to 'immoral': a physical expression of a moral quality.¹⁴ The result is a qualification of the target that highlights a property which is already in the target and pertains to the target domain. The target does not have to take on the source-dynamic property at all: Achilles is not necessarily fierce; and the male chauvinist may have high hygienic standards. What happens here is something else, though unnoticed in metaphor theory, namely that Achilles becomes generically brave, and the male chauvinist becomes generically, not just occasionally, immoral. What is transferred is genericity itself. In the dynamic part of the categorized meanings brought together in metaphor, a metonymic sign arrow flies from source to target, hits a property, and then highlights this dynamic property as now being generically present in the item

¹³ By a metonymic expression is here meant an item a that expresses an item b, on the condition that something in b can lead to a, and that the speaker knows that expressing a can make the addressee understand that the speaker means b for this reason alone, and on the condition that this is the case, i. e. that the speaker in fact means b by a.

¹⁴ But why should 'immoral' be expressed by 'dirty' at all, we may ask. Note that 'a dirty old man' is mainly an agent of unwanted sexual behavior. The expression 'a dirty old woman' does not work as a corresponding metaphor. The connection between 'dirty' and 'immoral' is probably sexual and works if the referential target is supposed to be a moral agent.

referred to. This is evident in animal metaphors, but in principle I claim that it is true of all sorts of metaphor and even only of metaphor.

Metaphor conveys genericity to a dynamic property of the target that the source metonymically selects in the target.

5. Recapitulations and conclusions.

Catachresis, simile, and metaphor are imagistic structures, which is equivalent to saying that they are semantic cross-domain operators of mapping and transfer. But they are different in what they make happen between the 'input spaces' that we have called source and target.

In catachresis, source and target are grammatically linked, typically in a compound construction. Their relation is entrenched in language and idiomatic, in a way such that the source schematizes the target. The source operates as a quasi-morpheme on the target.

In simile, source and target are only linked by the comparative rhetoric of a specific discourse. Their relation is so arbitrary that even hapax occurrences will count, and creative discourse can produce similes in expressive real time. They are pedagogical, in the sense that they can have explanatory adjuncts, apodoses, which explicate their predicative first part, or protases. If the apodoses are absent, their context will be more or less explanatory, and the interpretive delay will in both cases emphatically produce a transfer of substantial, framed, dynamic meaning from source to target.

In metaphor, source and target are regularly linked by a figurative mapping, and as we have seen, by a metonymic dynamic sign relation that brings about a transfer of genericity to an aspect of the target. Correspondingly, the target is particularized and emphasized, when it 'takes on' a metaphor. All evidence shows that the metaphor's target is seen predominantly as a pragmatically important theme, something problematic, dramatic, traumatic, or otherwise acutely relevant to speaker or hearer or both. Thus, metaphors are abundant in quarrels, as well as in political discourse.

Most metaphors are expressed by nouns and nominal constructions, but all

open class terms can do the job. A Danish right-wing exclamation heard in Parliament presents this verb metaphor:

Pengene fosser ud af statskassen!¹⁵

The situation that triggers the speaker's alarmed emotion is construed as one of a damaged container calling for immediate repair; the money in the National Treasury pours rapidly and violently out of a hole in this chest—it forms a torrential flow (fosser) escaping into nowhere (just 'out': ud...). The evident message is: we have to stop it! The source imagery is dramatic; wild natural forces (streams) are threatening us. We infer that a lack of control is making resolute human intervention urgent. In the target, this lack of control is highlighted by the untamed flow in the source, because the flow is a metonymic sign of the event that would let it happen. The lack of control is made generic by the metaphor, yielding the meaning: the rulers are generically unable to control our economy.

According to current theories of these semantic phenomena, catachresis and simile are kinds of metaphor. This may be a useful view if the aim of the study is to obtain an overall view of cross-domain structures, imagistic operations in general. It is less useful if we want to understand exactly how a metaphor operates, and what it achieves. By 'exactly', I mean: with an efficiency such that the resulting knowledge would help scholars of language and literature understand morphemes, lexemes, constructions, texts, poetry and rhetoric, or help scholars of cognitive science understand imagery, consciousness, mind, emotion, and communication.

A last remark: Imagistic constructions and construals occur between domains, and create a contrast between source and target as meanings in the sense of: semantic contents of two imaginary spaces pertaining to two differing domains. When this happens, one of the two spaces is necessarily referentialized, namely the 'target', whereas the other space is necessarily reduced to being the carrier of presentative imagery, namely the 'source'. The ontological status of the implied semantic domains—whether abstract or concrete, internal or external, embodied or disembodied, etc.—has no

¹⁵ 'The money is gushing out of the Treasury!' Heard in a political debate on national economy, as yelled by a conservative opponent at a social-democrat administration.

bearings on this structural distribution of the two spaces grounded in distinct domains. So both can be abstract or concrete. But one of the spaces always contains the state of affairs in some region of the human reality that the speaker intends and refers to—‘through’ the content of the other space. In other words, imagism singles out reality as a semantic property of targets. Imagism may even be the reality-maker par excellence of our minds. We ascribe reality to what we can see clearly and distinctly (as Descartes said), namely through efficient images.¹⁶

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¹⁶ Two correlative facts about psychosis corroborate this conclusion: 1) psychotic states in subjects imply a weakening of their feeling of reality; 2) psychotic states in

Chapter 2

LANGUAGE, DOMAINS, AND BLENDING^{*}

Linguistics is not what it used to be (thought of as promised to be: deeper and wiser than philology). It is no use now for linguists to build up a Coherent and Complete Structural Theory of Language, however formalized and elegant, if its referent—human language as it really exists, across all typological differences—is not a coherent, complete, and elegant whole, a system or a unified structure, but rather, as cognitive and semiotic studies currently tend to show, a fragile assemblage of local mechanisms, inseparably related to a much broader network of expressive and cognitive instances grounded in those parts of neural architecture that cooperate in creating the yields of consciousness: perception, categorization, attention, volition, affect, empathy, imagination, thinking, believing, doubting, participating in human interaction—and other miracles reported by human phenomenology.

It is no use either trying to settle philosophically the question of whether Meaning is the product of Language, or Language the product of Meaning, in principle, if the available evidence now supports both principles of production under different, similar or even equal conditions; the embodied mind lets language be an open neural relay in a multiply looping flux, but also occasionally a closed, self-feeding circuit of its own. If the reality of language is best understood in neural terms, then the study of language might seem to migrate from the Humanities to a different faculty in order to become a branch of biology. But in so far as the phonetic, syntactic, and

subjects imply a weakening of the capacity to produce and understand imagism, not only metaphor, but also simile, and catachresis. The latter fact might cause the former.

semantic forms in language are only accessible through introspection and intuitive, normative appreciation, and formal information can only be obtained through negotiable interpretations, this semantic and phenomenological part of linguistics at least stays humanistic. Or else we might need a new view of human sciences, as kinds of 'introspective biology'...

The methodology of language studies—whether linguistic or philological—as well as that of other human sciences includes an interpretive and a comparative component. Phenomena must be compared before they can be interpreted. But in order to compare, we must dispose of general notions of the things we intend to compare. So we need to generalize. But our generalizations depend on our interpretations. Interpretation, comparison, and generalization (ICG) are three inter-dependent operations whose circular logic we cannot escape. The only way out of the ICG circle is the search for realistic, neural and/or phenomenological universals that ground the very possibility of ICG activity, not within the methodological spell of their mutual reference, but in the larger ontological context of human consciousness.

One of the more promising ideas on the problem of achieving a realistic grounding of meaning is the idea that our human life-world is seamlessly assembled of material stemming from cognitively distinct basic areas of perceptive integration of sensory experience; these areas account for the possibility of metaphoric meaning, in which source and target material are recruited from distinct areas, but could account for an infinity of other basic puzzles in semantics: we refer to these phenomenologically ontological entities in terms of semantic domains¹⁷.

If we assume that human evolution is responsible for the formal sensitivity by which we pick up—grasp, retain and 'understand', i.e. categorize and schematize—experienced occurrences of the outer world, and for the linguistic representations by which we most often access and recall these 'experiences', then there should also be a regular connection between the constructions of grammar and the 'styles' or selective preferences of our

* An earlier version of this text was published in International Journal of Communication, Vol. VII No. 1-2, 1997. Ed. Bahri, New Delhi.

world-perceiving sensitivity. Such a regular connection would bridge the gap between expressive contents (in language) and really 'meant' meanings (in our world) and unfold a panorama of predominant semantic forms—including an encyclopedia of categories and a morphological maze of relational schemas—as well as a specification of the sorts of experience and interaction that may be their sources. These categories and schemas seem to be of many different types; but behind the infinite multiplicity of possible semantic 'fields' we nevertheless appear to find stable and universal cognitive differences in conceptualization. At a fundamental level, humans seem to process space, time, and identity differently. So we find a) semantic specializations dedicated to spatial figures and configurations; b) others dedicated to temporal force-dynamic event and action patterns; and c) deictic variations on identity such as assignation of properties or indication of viewpoint, focus, framing, scaling, and other ways to subjectivize, appropriate, identify, recognize things and beings across space or time. We then intend to relate these fundamental types of meaning to possibly different domains of basic human experiences 'with' the world, and basic human ways of inhabiting and specifying the unspecified world. In this sense, these domains will be both semantic and ontological. And in fact, it seems reasonable to suppose that human individuals are prepared for navigating in at least three outer 'world types', namely 1) NATURE: the macro-physical, material and gravitational, geo-, bio-, and zoological environment; 2) CULTURE: the collective horizon formed by groups of fellow human beings and densely informed by intentional and mimetic behaviors of all kinds, practical or symbolic; and last but not least, something like 3) SPIRIT¹⁸: the sphere of direct interaction with other minds by expressive contact, allowing for the sharing of thoughts and feelings with individuals in a face-to-face relationship. If we interrelate these two series (a-c and 1-3), we obtain a rather realistic view of the possible experiential grounding of a significant amount of semiotic forms. These (a-c) will be understood as developing in and emerging from such a set of domains (1-3), which are semantic in the sense that things referred to by representations are then 'meant' as entities pertaining naturally

¹⁷ Cf. Eve Sweetser 1990 and this author's review of the book in Journal of Pragmatics

25 (1996) 281-302.

¹⁸ No religious connotations are intended here. In French, esprit simply means 'mind'.

to a domain where they are meaningful: the primary meaning of a sign or an idea would be the meaning of its content in a context given by a domain from this basic set. The set of domains is ontological, to the extent that it constitutes a basic map of regions in the human 'life-world': perhaps a natural domain, a cultural domain, and a spiritual domain. Our generalizations may already have gone too far, but it is tempting to compare this triplet to that of the open word classes in most languages: nouns, verbs, and adjectives. Word classes might be directly domain-grounded¹⁹. To my knowledge, we dispose of no other grounding for them.

Additionally, it is tempting to admit the existence of an inner or mental domain, in the same sense, in which still other schemas and categories are primary and can be grounded. Some categories and schemas seem to actually be 'born' mental. The category /dream/ is an example. So is the schema /x IS AS y/, i. e. the feeling of the affinity of forms, of which analogy is one of our names. Analogy underlies evaluation and characterization as to the metrical, affective, or epistemic value of things. Adverbs of manner, circumstance, condition, etc. are natural word class expressions of these phenomena pertaining to the mental domain.

Analogy is rarely restricted to interrelating only co-present entities, and in general, it involves memory. The mechanism by which we form blended 'mental spaces' in the framework of linguistic semantics, namely as sentence meanings, might elucidate this specific sort of schema. Analogy might minimally imply that categorial and schematic structures from one (let's say: thematic) mental space, containing some state of affairs in some domain, and categorial and schematic structures from a second (let's say: rhematic) mental space, containing some state of affairs in some other or the same domain, are mapped onto each other and then partly imported into a third space, where they blend and form the 'seeing something as something else' phenomenon. This peculiar operation is constitutive of the imagistic functioning of the human mind. It is probably also one of the most important conditions of practical thinking and learning from experience.

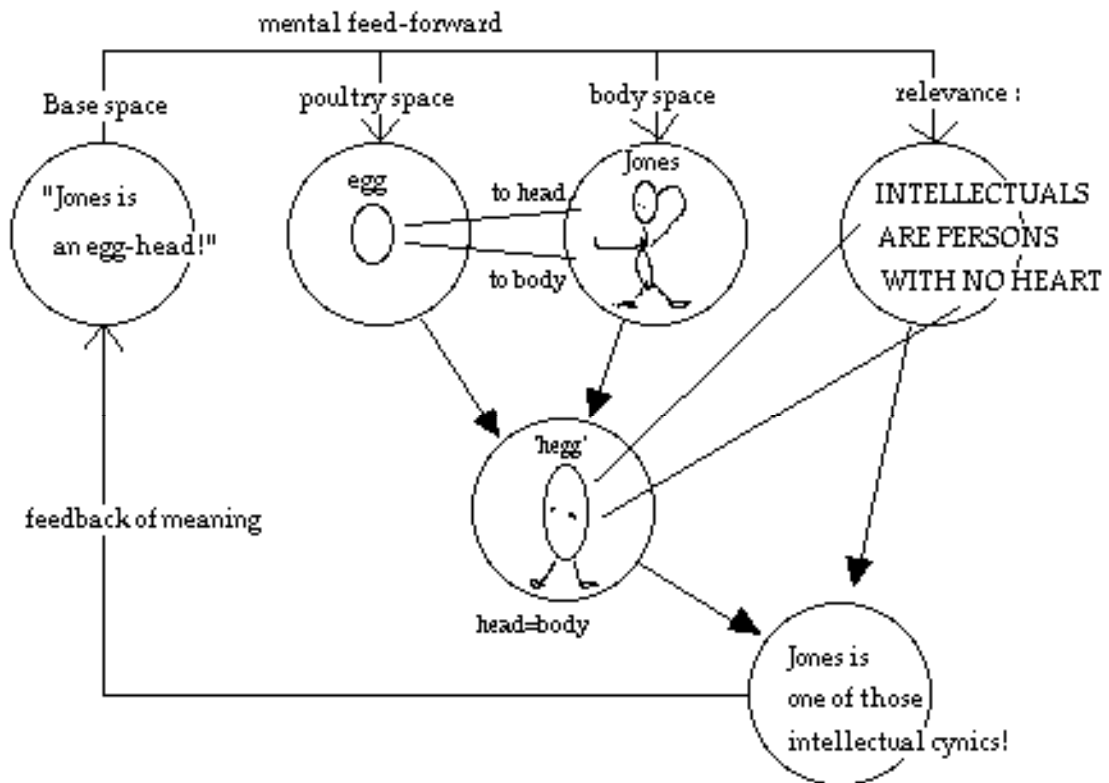
Let us consider a seemingly simple metaphoric case, a sentence containing a somewhat strange nominal compound in its predicate:

¹⁹ Original nouns as natural, original verbs as cultural, and original adjectives as 'spiritual', in terms of semantic domains.

“Jones is an egg-head!”

Someone makes this comment, after I have exposed Jones’ views, say, on current international politics. The egg-head construction has a mental mapping between a Poultry space (egg) and a Body space (head): a head resembles an egg. The positioning of egg in the X slot of X-head creates furthermore a mental blend of the two spherical items: a head is seen as an egg. But now Jones is (not: has) this blended item; Jones’ body, the whole of which the head was a part, in Body space, blends with the monster item, the ‘hegg’, if you will. So finally, Jones is a full-body scale ‘hegg’. He is seen as a person whose body trunk is one big egg-shaped head on two legs. This is what the sentence says. The relevance of this peculiar imagistic production is of course the evocation of the standard notion of an intellectual as a brainy person lacking a heart; the lack of this symbolic organ, housing humanity and emotional warmth, maps onto the surrealistic production, where the absence of a heart is an evident property of the trunkless body. So, Jones is criticized by this construction: he lacks something important, he is an inhuman and cynical monster. The expression is entrenched in the English language and can be found in its dictionaries. The notional idea of the heartless, brainy person, the intellectual, which the ‘hegg’ maps onto, finally blends into a lexical form whose meaning is this dysphoric moral evaluation of an intellectual.

The network of mappings and blendings going on in this mental production can thus be rendered by the following graph:



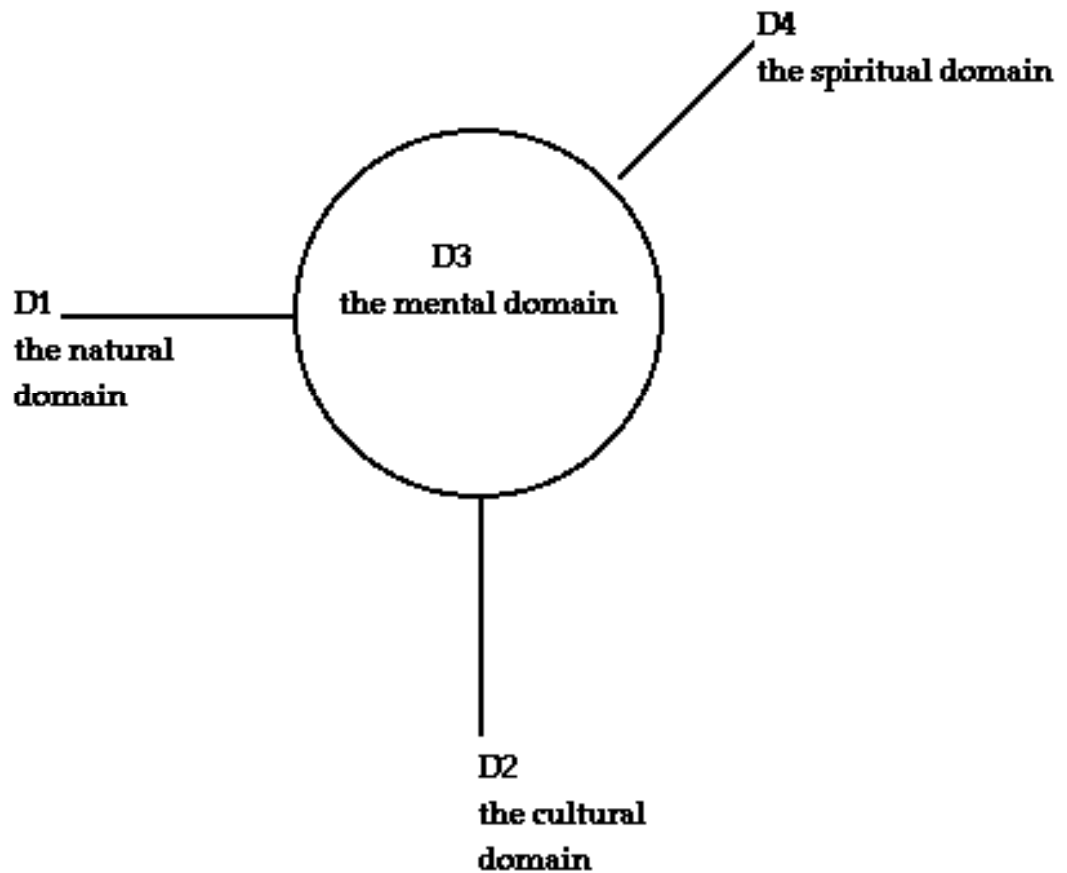
The double mapping of egg to head and to trunk is the metonymic phenomenon which gives rise to the Humpty-Dumpty vision. It frequently occurs in the unfolding of metaphoric imagery.

The imagistic and analogic structure here is in fact metaphoric, since the source space (poultry: egg) is grounded in a domain (NATURE) different from the domain (CULTURE) of the target space (the reference space, containing Jones and his body, incl. his head, but also his intellectual activities referred to). This figurative constellation further involves a generalization, and thus a relevance space (containing structure concerning intellectuals and their moral properties). As to Jones, our referent, he is evidently a person, and /persons/are a very special category: they can appear in any domain as primary entities. Persons are 'at home' everywhere, semantically speaking. They are semantic 'dummies'; perhaps no other category manifests this semantic behavior. The base space of ongoing communication, where the sentence is said by a speaker to a hearer, is a clear case of a scenario from the domain we called SPIRIT. But the MIND as a semantic domain is the ground of the mappings and the blendings that create the meaning of the sentence and the circular flow of the network.

The mental domain was alluded to in cognitive research, before the empathic, expressive, spiritual, communicational domain became a current topic in semio-cognitive theory (through research on 'Theory of Mind', referring to the subject's automatic assumptions about mental processes and states in other subjects). Therefore, the terminology used in this volume will refer to the semantic domains in the following order (with variable lexical labels): D1—the natural domain; D2—the cultural domain; D3—the mental domain; and D4—the spiritual domain. All domains are equally 'basic', in the sense that they are all plainly experiential sources of the forms that meaning is assumed to be based on.

Languages have specific preferences for certain constructions, whose networks and blendings will then underlie their lexicalizations and grammatical morphologies. But the point is that these preferences are all drawing categorial and schematic forms from the same universally basic semantic sources or wells.

The basic semantic domain panorama thus may be presented as follows:



This may in fact be how our neuro-phenomenological architecture 'thinks' we are primarily related to reality: it may be its inherent, embryonic 'philosophy'. It might be at least as interesting as our explicit, philosophical ontologies, and it might have the technical advantage that it feeds both the basic phenomenology of our shared or individual experiences as living subjects, and the basic linguistic semantics we need in order to analyze expressed meanings.

I shall now briefly draw attention to some possible semiotic and linguistic consequences of the view outlined.

1. As we observed in the egg-head example, a person can be abstractly, but figuratively, categorized by a Blend (in D3) using natural inputs (from D1). Abstract or new non-abstract terms might in general spring from similar processes. Etymology seems to follow certain paths in blending, not necessarily from the D1-pheno-physically concrete to abstracts of all kinds, and not necessarily following the direction D1->D2->D3->D4, but rather

extending from one blend to another, between domains or to and from the same domain.²⁰

2. Sentences as such, whether metaphoric or not, are very complex but massively entrenched blends of elements from different semantic domains, apparently unified as parts of a whole whose meaning is intended in only one domain. This whole integrates its parts according to a semantico-syntactic schema, a 'stemma'. It is highly probable that all such syntactic schemas share basic cognitive properties that make them be versions—constructions—of a semio-syntax that is as universal as the fact that language consists of sentences. The transitive structure of some of our doings as understood by our neural motor systems, the ditransitive (object and dative) structure of other acts, or the predicative structure of experiences of change, the passive, the ergative, etc., all structures that are important for our interaction, are of kinds that appear in our current accounts of causation, intention, influence, etc., and therefore in our narratives. During human evolution they seem to have created a generic morphological format that allows us to express dynamic scenarios: events, actions, states of affairs of precisely the sort that mental spaces contain. The generic format for this semantic organization—variably represented in grammarians' accounts of phrase structure in general (with its NPs, VPs, PPs, etc.)—may itself originally be grounded in a domain-bound experiential scenario. A relevant anthropological suggestion is thus that cooking has been the syntactic laboratory of our proto-verbal ancestors. The rich, complex, multiple doings pertaining to the preparation of food as practised within our species seem to exhaustively summarize the inventory of our construction types and syntactic frames²¹.

3. Morphology in general can be understood in terms of blending. Morphemes are schematic markers. These markers apply to lexical, categorial items or to syntactic frames. Categorial morphemes include nominal and verbal markers of number, gender, tense, mode, aspect. Syntactic markers

²⁰ Cf. French travail, work < Latin trepassium, 'flail', 'pitman'; so in French, /threshing/ D2 becomes travailler, /working/ D2, probably through comparison of any activity to this one, in respect of its emphatically expressive iterativity; in Danish, by contrast, /threshing/ (tærske) comes to mean 'beating up' (people and dogs) in respect of the same emphatic iterativity, tæske.

²¹ There can be many constructions in one syntactic frame, mainly by clausal embedding within sentences. An analogous procedure is used in the noble art of cooking.

include case morphemes, prepositions, conjunctions, quantifiers, satellite adverbs and other core adverbs.

Plural or gender morphemes are lexical blenders. A plural schema representing a 'swarm' of things (possibly primarily insects) appears in a first input space, while some other thing or idea (category) appears in a second input space. The single item in the second space is mentally mapped onto the points in the 'swarm' in the first space, and in a third, blended space the item is now a 'swarm' of items. It is multiplied. The result is only maintained and stabilized if this result can effectively be imagined: some items refuse the plural (esp. many notional meanings).²² Gender is but a variety of 'genre' in nominal perception, which can be understood in similar terms: there is a bio-semantic input (an animal schema: female/male/infant/...) and a second input with other nominal contents. A blend transfers the bio-semantics onto these contents and is stabilized, insofar as the result is imaginable (there are problematic cases like proper names).²³

Syntactic morphemes or markers are schematic specifiers of bindings holding between contents in two spaces. One input space contains a scenario that in some sense gives access to the 'theme', i.e. the content of the second input space. The morphemic schema itself specifies the sense in which the access is given. Examples: The cat ON the roof has a roof space and a cat space (theme). We access the cat 'through' a roof scenario (rheme). ON has a spatial superposition schema that projects onto the blend of roof and cat. Jack-IN-the-box originally has a box scenario space (rheme) and a Jack space (theme), and IN has a container schema that projects onto the blend of box and Jack; however, all this is now entrenched and imperceptible.

The conditional form if p, then q has a (rhematic) p-space and a (thematic) q-space, and IF has a conditional schema (p as a path among others to q) that projects onto the blend of p and q. So p is represented as an access to q. This analysis also holds for quasi-conditionals there's beer in the fridge if you are thirsty; your thirst gives you access to my fridge. The traditional view of syntactic structures as compositions of 'immediate constituents' should be

²² An analysis along these lines was proposed in Brandt 1992.

²³ Cf. the determiner analysis in Lakoff 1987, whose title recalls the comprehension of such a determiner category.

replaced by an architecture or topology of recursive access-to-access-to-X patterns, where X is the 'head of construction'.

4. Semiotically, the conception of syntax as a layered access pattern relates to the mediate experience of things that are too complicated for being 'apperceived' in one glance, such as states of affairs that link something 'appearing' (Latin: *sensibilis*) to a 'being' (*intelligibilis*). Signs are autonomous 'beings' in this sense—manifested by variable appearances—which are by themselves appearances of other beings. Firstly, in D1, the weather is full of indices (dark skies announcing the thunderstorm, then also a slight rumbling, some distant lightning, etc.), and so is of course the animal world (the sounds, smells, traces of animals), small presages or remainders of things to come or just gone, respectively. It takes learning to tell which thing or event 'means' which other thing or event, but our affective awareness and alert capacity prepare us for practicing and automatizing natural index reading. —Second, in D2, the attunement of individual gestures in view of their integration into collective physical acts requires intentional signaling and sensitivity to such signals, which are signs of a different type: in fact, these attunement markers are deontic signs equivalent to imperative orders, and they correspond to the semiotic type we commonly call symbols. A symbol is a cultural instruction, a gesture or instrument of control; it refers to what should be done by its reader and in the spatio-temporal context of the reader, including the presence of other symbols. So symbols develop a syntagmatic dimension different from that of indices. Whereas indexical compositions are causal, the combination of symbols is operative, as in calculus, recipes, computer programs, or navigation directions. —Third, in D4, things done or made for being perceived by a person you wish to inform and influence as to her thoughts and feelings are representations, images, icons. The faculty of iconic reading is specific to our species. It allows us to communicate exclusively, so to speak: without ordering or instructing each other in any way, but within a spirit of sharing a space or situation of possible things²⁴ that we can think of, represent by images, and show to each other, so that we can wonder and ask questions about unknown things (obscure parts of iconic wholes) as by pointing to

²⁴ C. S. Peirce saw this connection between iconicity and possibility. However, our sketch of a domain-based grounding of general sign types is by no means Peircean.

locations in global images. Our minds are thus prepared for collaboration and collective, 'distributed' cognition. Facial contact, facial painting, painting on surfaces, representing and showing by imitation are probably very deeply important semiotic prerequisites of the concept-building activities of our species. These imagistic and iconic activities, also called mimetic²⁵, are probably also constitutive in the evolution of human language, in so far as the materialized icon allows for simultaneously naming and phrasing (pointing to named things in a picture and theatrically copying the gestures corresponding to what happens or is done by some agent in the picture—as parents do when trying to intellectually stimulate their infants). Icons are thus inherently semantic in a linguistic sense. They refer to 'speakable' meanings. Such possible contents of language do not have to refer neither to physical existence nor to social control programs; they remain simply and basically imaginable. That our species thus seems to have developed a sign type dedicated to imagination only qualifies as a singular circumstance and justifies genuine philosophical astonishment: if language grew out of iconicity, as these considerations intend to show, then the mental domain, D3, deserves particular attention as the realm of visual phenomena that can be maintained and reproduced even when invisible, namely as images of the mind, accessible contents of consciousness. When we ingenuously say: "I can see what you mean", we do so because we can 'see' images, and what someone means is such an image. This metaphor is motivated by a truth: that our mind has inner vision so that it can inspect and report to our memorizing imagination the things that language means. Descartes' 'res cogitans' is such a faculty of 'seeing' beyond the visible. In the arts, inner and outer vision are both particularly active—and their connection in a sense refutes dualism: we see the signifier and the signified of the sign, and we see their semiotic unity as we would see a person and what that person is trying to tell us²⁶. Persons, works of art, and language are perhaps not only the basic sources of beauty but indeed the founding achievements of cultural cognition, abstract thinking, and meaning in general.

²⁵ Cf. Donald 2001, chap. 7.

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²⁶ We see X, and we see that P(X), as the syntactic translation of the visual duality has it.

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 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 experientiable 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 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 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 Being²⁷ 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. One might be inclined to apply a deconstructionist reading: domain 'differing', from Jacques Derrida's French: 'différance'... M.

²⁷ Cf. the American 'philosophical semanticist' A. O. Lovejoy's The Great Chain of Being: a Study of the History of an Idea, 1936.

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 (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. 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.²⁸

²⁸ 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

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.

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

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.

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).²⁹ The following interpretations of some uses of the English modal verb must are mine.³⁰

- (1). D1: **Why must the baby catch measles just now?** (external, physical force)
- (2). D2: **We must see what can be done** (external³¹, 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

²⁹ Addressing semioticians, I have sometimes called D1 Nature, D2 Culture, and D4 Spirit—the latter term being somewhat provocative.

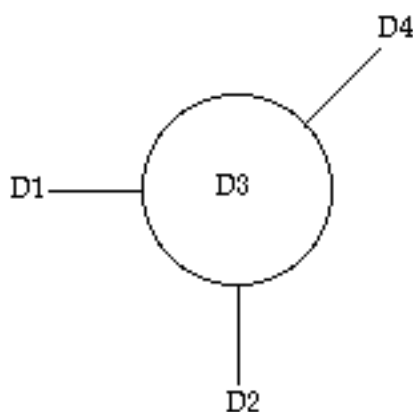
³⁰ These examples are found in B. Kjærulff Nielsen (1998).

³¹ 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.

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 alethic³² 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)³³:



³² 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'.

³³ Cf. supra, "Language, Domains, and Blending". The container-like design is only meant to facilitate imagination and avoid the idea of an arbitrary grid.

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 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 gesture³⁴ 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

³⁴ 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.

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

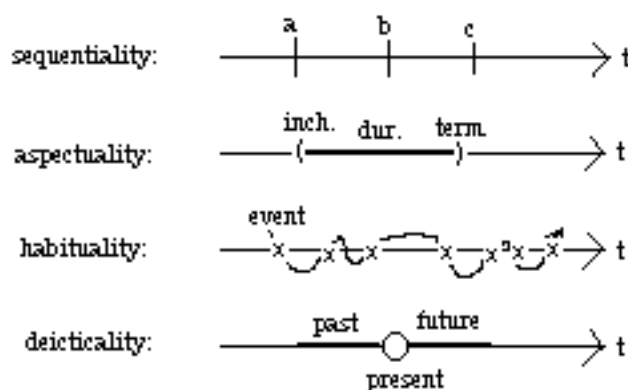
D1: sequentiality (one thing after another)

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):



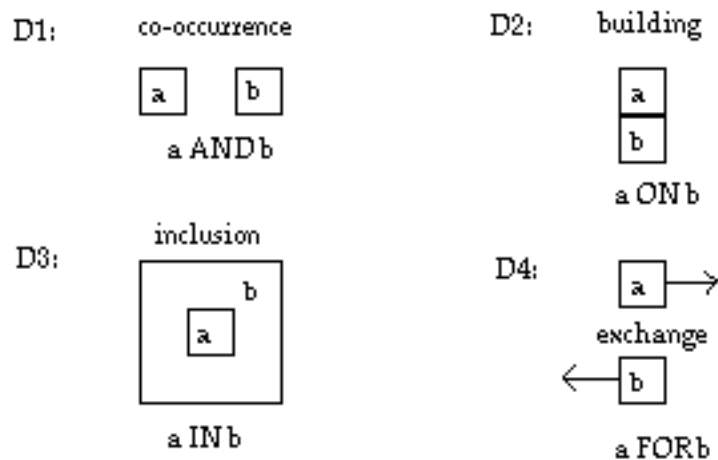
Sequentiality is directly related to locomotion (D1). Aspectuality³⁵ (D2) is an inherent semantic property of telic acts (that can be interrupted significantly). Habituality is linked to epistemic evaluations of probability (D3). And deicticality is built into the structure of direct expressive address (D4). These temporal schemas might therefore be 'rooted' in those basic domains, in which they are incessantly reinforced. Most linguistic forms combine these

³⁵ The standard stances of aspect are: inchoative, durative, and terminative—something intentionally “happening” begins, continues, and ends.

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 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:

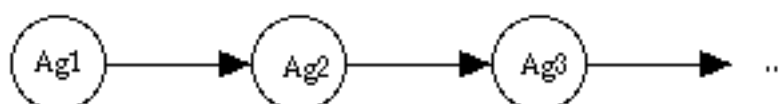
The ball hit the window and the sound of splintering glass scared the cat [basic]

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

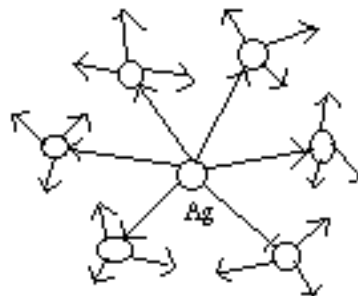
The disease contaminated the whole village

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 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 happen³⁶:

Please let me kiss you

He let the cat out of the bag

Let me know what happens

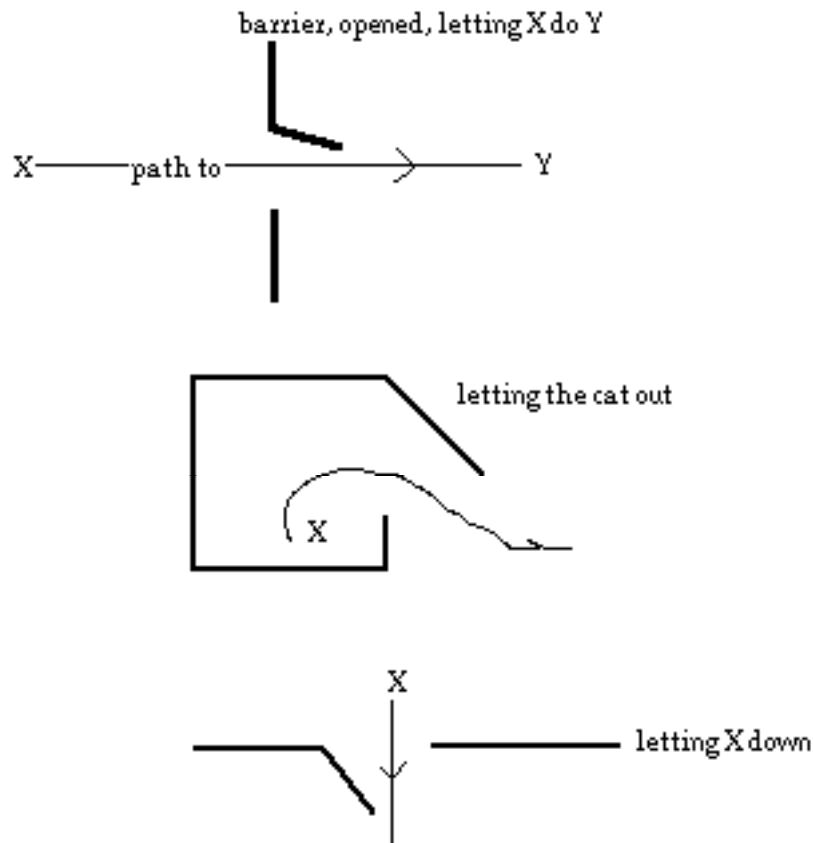
She let him down [metaphoric]

His laissez-faire was a well-known fact [idiomatic]

Schematic diagram proposal (Fig. 6):

³⁶ Correspondingly, reinforcing the barrier will cause things to not happen.

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 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)

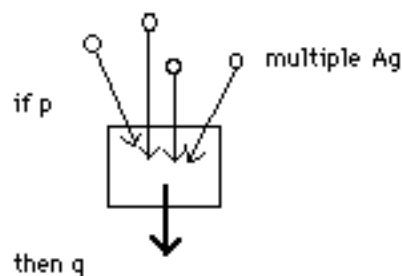
The rain made him cancel the tennis game (at last: more than one drop is needed)

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 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 construction³⁷ 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 [and therefore/so forcefully that] the napkin [went] off the table

The blend apparently uses the underlying propelling construction³⁸ 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.³⁹ The MAKING schema for causation has

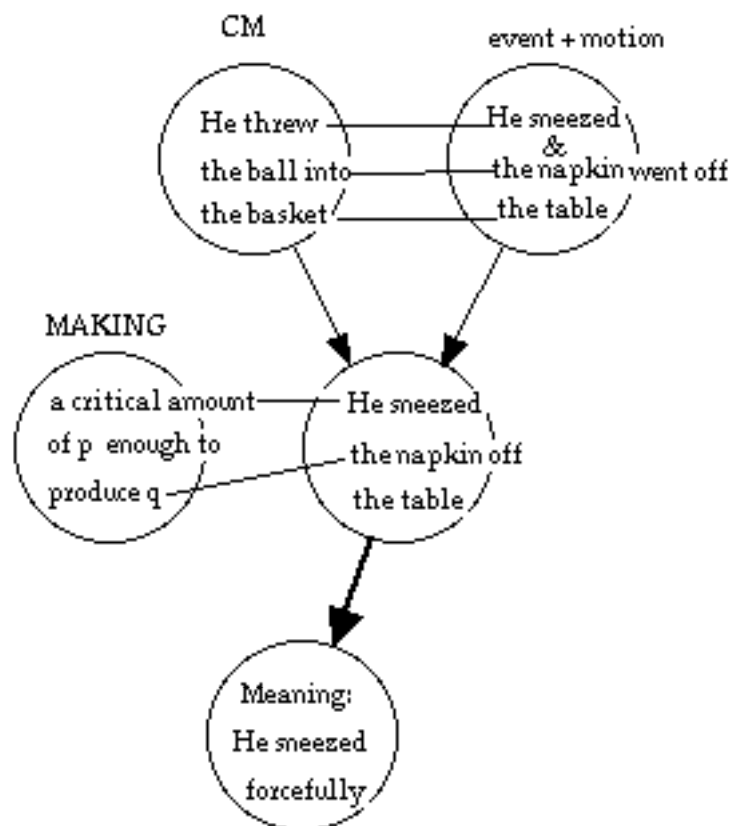
³⁷ There is in English a related construction using the lexeme way and intransitive verbs to express the idea of achieving something difficult and important: ...It is difficult to talk your way into first class these days. (Flight attendant's remark). Spiedo grills its way to first-rate dining (advertisement, Spiedo is the name of a restaurant in San José).

³⁸ 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**.

³⁹ 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 metaphoric verb, like 'fight' (against serious resistance, with a machete, through the

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

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.

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 example⁴⁰:

The year 1500 saw the birth of Charles V.

4. Satellite domains: the practical domains.

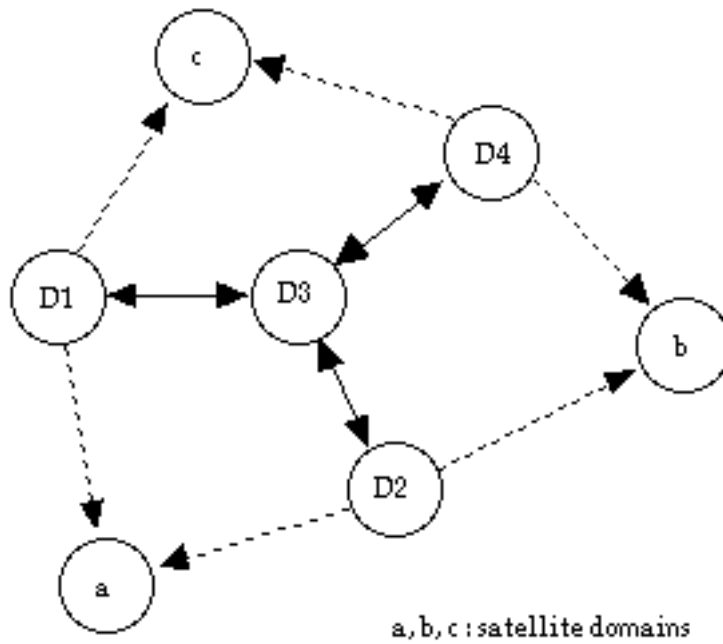
Metaphors and other semiotically composite and creative constructions, such as explicit comparisons, bring together imaginary formations — representations of thinkable scenarios: mental spaces — rooted in different semantic domains and produce more or less stable conceptual integrations, or blends. This 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

⁴⁰ In a personal communication from Professor René Dirven, who patiently read and commented on a draft of this paper.

mappings between more than two spaces seems to 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 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).



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 on 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 specifyable 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.

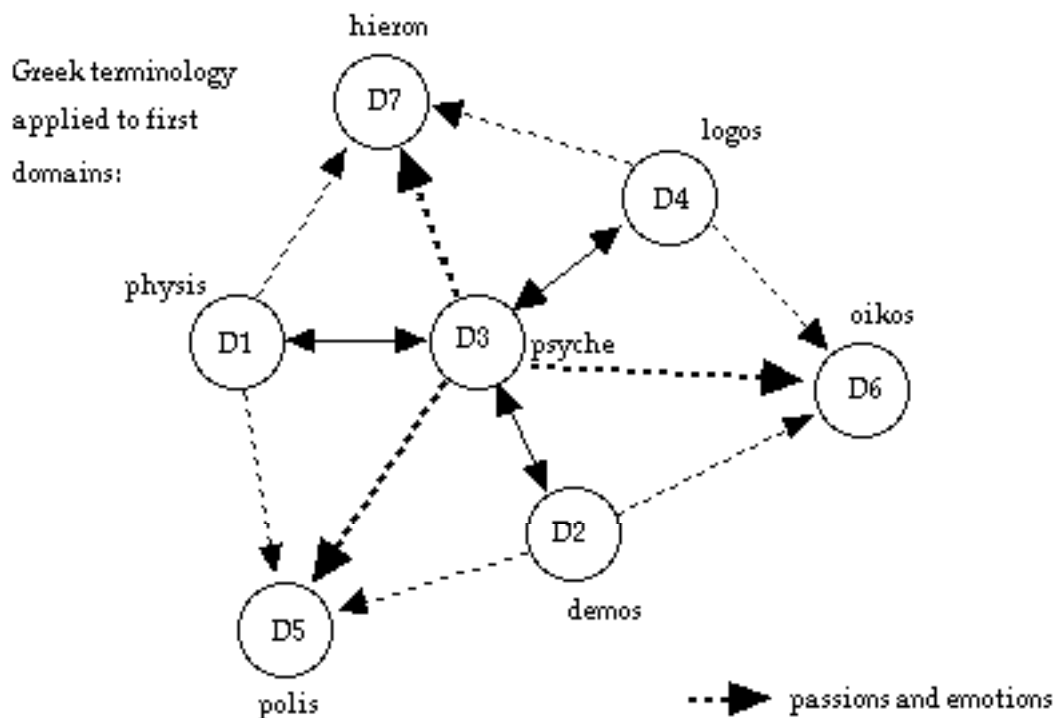
Secondly, if D2 and D4 integrate, on the grounds of reinforced double experiences of interacting by instrumental attunement with persons as members of an active collective unit, a group, and also of expressive interacting with singular persons by empathic exchange, shared feelings, facial contact, and 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 worshipped 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 ongoingings; 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 passionate 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, is 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.⁴¹

⁴¹ Cf. Brandt and Brandt, 2002 on the extended mental space network known as 'the Aarhus model'.

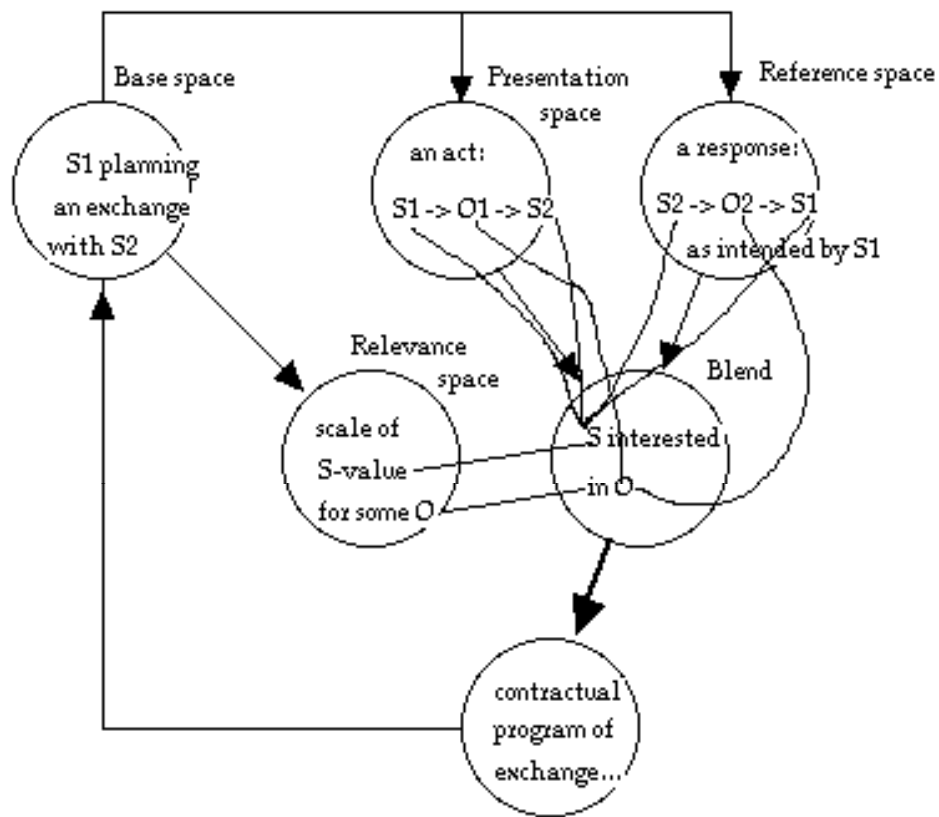
In metaphor, there is a source space and a target space, and a blended space, where structure projected from both input spaces appear in a figurative medley, which is then dynamically interpreted by a mapping onto schematic material given in the relevance space. The result is an elaboration of the blend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

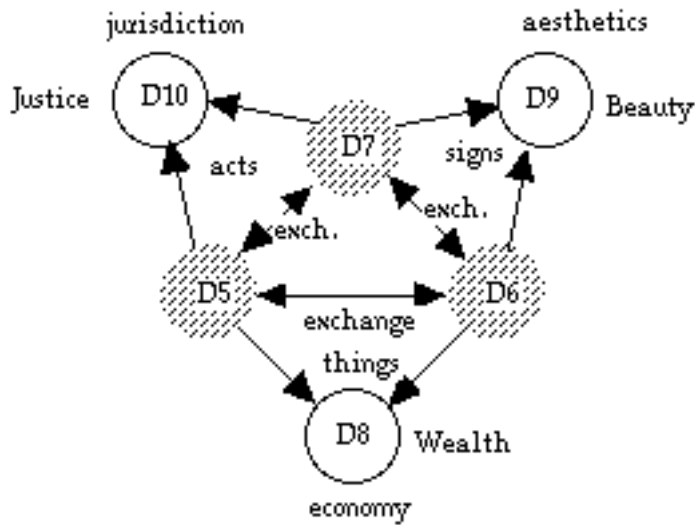


My second hypothesis here is that exchanges typically take place between subjects rooted in different practical domains. If S1, or S2, is 'in' D5, polis, S2, or S1, respectively, may be 'in' D6, oikos, and we will have an economical exchange: objects produced in D5 will be distributed and stored in D6, 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 it⁴².

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 raise to the level of

⁴² 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.

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.

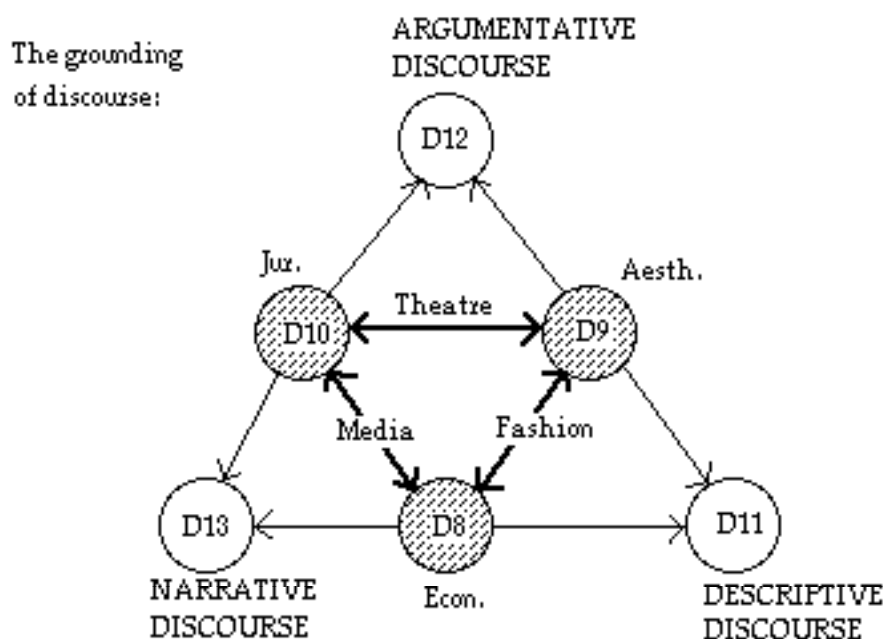
Human beings living in society are often bodily presented for discursive representation in clothing style, and the clothes generally and publicly signify a combination of the status (economic wealth, from D8) and the intended bliss or beauty (aesthetic value, from D9) of the persons wearing these clothes. 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.

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' enunciations, 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 community 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 content 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.

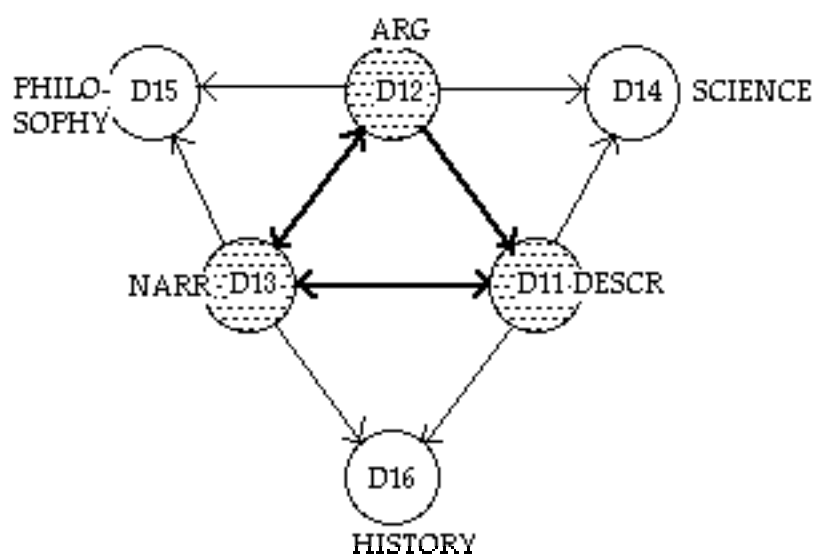
Argumentation alternatively serves (evaluative) narration, as in Kant's Practical Reason, notably so in Ethics. And narration serves argumentation, notably by delivering the 'examples' that Pure Reason needs in order to philosophize on anything other than itself: this reciprocal collaboration is what 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 knowledge, 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 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 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.

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ON CAUSATION AND NARRATION⁴³

1. The current semantic account of causation is insufficient.

The standard account of embodied causation in cognitive semantics — the grounding reference to 'caused motion' (e.g. in Lakoff and Johnson 1999) — is surprisingly poor as concerns its view of causal structure, and is also a model that might deserve Mark Turner's gentle critique of analytic objectivism (cf. Turner 1994). Causation is seen as just one of those things that happen out there, and we just happen to witness it and attend to its meaning, which is to be truly there and to happen, but not to have a specific structure. In that view, we see that something (C) causes some situation (S1) to change and become some other situation (S2), or, say:

$S1+C \longrightarrow S2,$

or simply: $S1 \text{ ---}C\longrightarrow S2$

or even simpler: $C \longrightarrow E$ (the cause causes some effect)

We then only want to identify C as a responsible entity, not to know what it is structurally doing. The doing itself is then just a gap bridged by the idea of the 'doer', the 'Agent', as if this Agent were 'causing motion', like making whoopee. On this account, the causal C corresponds to a void diagrammatic arrow from the box S1 to the box S2; its metaphoric source is an active 'body'; and its meaning is to be rendered by a metaphor rooted in the simplest possible bodily activity — a locomotor or instrumental gesture of moving (something) and (thereby) causing its motion — thereby producing 'caused motion'. The examples are therefore preferably 'sporty': billiard balls, basket balls, and balls in general, are moved by some force conceptualized by analogical reference to instrumental gestures of throwing, pushing, etc. The principle of embodiment is not supposed to help us understand our cognitive capture of the dynamic and figurative structure of the change, but only to

⁴³ This text is based on a paper read at the Winter Symposium, January 2000, of the Center for Semiotic Research, University of Aarhus: Structures of Causal Meaning.

describe the way we cover the mystery with an alphabetic sign, C. Causation is identified with agency, the undescribed act of an Agent. However, this hitherto undiscussed conceptual metaphor, CAUSATION IS AGENCY, can only operate if Agency has some minimal narrative source structure, e.g. the following: an Agent Ag selects a mobile Object O1 in S1 (Jensen takes a hammer) and applies it to another object O2 in S1 (and bangs it against the window), the latter object being stationary (a surface, a volume, a container, or a location) or mobile (a moth, a hunter's prey). Ag, O1, and O2 are then the core components of the agentic scenario, and the embodied Agentivity consists in somehow bringing about the decisive inter-objective encounter (French—Greimasian—arrows for 'control'):

$$\text{Ag} \rightarrow (\text{O1} \rightarrow \text{O2})$$

Jensen applies a hammer to the window, thereby shattering it... We see the control, but where is the shattering? We have only seen the transporter, the transport, and the result: Ag goes to O1, and makes O1 go to O2. The Agent brings the objects into contact. The objects brought into contact are doing the rest of the work. The structured process is covered by nominal instances: an Agent, an Instrument, a Goal. Now we know who is responsible (Ag), and what thing (O1) affects what thing (O2), but still not what happens, or if anything happens at all. Causation as a cognitively accessible process is left undescribed by such nominal sequences. The cognizer is presumed not to approach causal reality, not to 'touch it' with his cognition, but only to signify its saliences at a distance with the nominals of a conceptual metaphor. The overall idea:

$$\text{C} \rightarrow (\text{S1} \rightarrow \text{S2}),$$

— a cause makes someone recategorize a situation S1 as becoming a new situation S2 — is covered by the embodied idea:

$$\text{S1}[\text{Ag} \rightarrow (\text{O1} \rightarrow \text{O2})].$$

But the core process:

$$\text{someone thinks: } (\text{O1} \rightarrow \text{O2}) \rightarrow (\text{S1} \rightarrow \text{S2})$$

— i.e. some contact of salient objects makes a situational difference — is left untouched. But why does it make a difference (S1 → S2) that (O1 → O2) happens? Why is there a 'new situation' after the inter-objective event? Why is

the situation S recategorized? The only solution to the problem I can find is that (S1 → S2) is thought to happen as a consequence of (O1 → O2), because C=Ag is understood as bringing about (O1 → O2) in order to obtain (S1 → S2), or else at least as knowing that somehow the change (O1→O2) will or might lead to the change (S1 → S2), and as anticipating this outcome. In these cases, causation proper is nothing but an interpreted mental state in the Agent, which makes the Agent responsible for, 'guilty' of, an effect S2.

If this theory of causal cognition were sufficient, there would be no causal object cognition. There would only be causal subject cognition, focusing on intentions, 'blind' somehow-knowledge, anticipations, hopes, fears. Humans would have to think in the following terms: "I have no idea of what is going on out there, but it works just like the things I do myself — things just happen, you just bring them about..." In the clearest cases, I know that I want to do something, and then I 'take' something to do it 'with', and then it is done. A paraphrase of this would be a conceptual metaphor like: CAUSATION IS BLINDLY IMPLEMENTED VOLITION. This idea may be plausible. Intention may in fact be the cognitively primary, grounding source of causation. But my point here is that this account does not suffice as an analysis.

2. Causal meaning occurs subsequent to our wondering.

The above subjective model or prototype of causal meaning is justified in so far as Agents, even inanimate ones, are in fact often cognized as mentally active and volitional beings. But it is still insufficient in many respects.

First of all, it assumes that causal understandings are blind (cf. the 'somehow', supra).

Second, it assumes that they 'read' forwards in time, prospectively, as actions do when being planned — action is then the implicit model or prototype of causation (cf. the notion of 'Agent', imported from case theory in syntactic linguistics). But instead, I claim, causal meaning predominantly occurs, in epistemic cognition, as a response to interrogative attention, which works backwards, retrospectively. Causal meaning is then the imaginative answer we give to the question: why?, when our expectation is deceived by observation. Some situation at t1 was expected to lead to a trivial variant at t2, but did not; we then, at t3, want to know what happened instead, between t1 and t2. At t1, there must have been something more going on than just the situation we were relying on and thought we knew; something else must have been actively present there, since the variation t1 → t2 differs significantly

from what we had expected. In this retrospective view, causal cognition consists in applying automatically and ad hoc some 'causal factor' to the t1 state of affairs, if the t2 state of affairs is not evaluated at t3 as an acceptable result of the initial situation at t1 alone. This causal factor must be some available, autonomous entity, which has to be or, at least, have been able to affect the structure of the initial situation dynamically, and the imagined result of its intervention must significantly resemble the observed state that now (at t3) makes us wonder.

We might thus consider causal thinking, whether cognitively automatic or reflexive, as a Peircean abductive process. There is a Problem at t3, a Given (minor) Premise at t1, and a Hypothetic extra (major, causal) Premise at t1+ δ which would yield the problematic Result at t2 and thus de-problematize it, if we believe in the Hypothesis, the Given, and the sufficient identity of the imagined Result and the observed Problem.

In still other words, and in terms of conceptual integration networks and mental space theory, the situation that makes us wonder why something is the case is a Base Space of wondering (W?, at t3) which builds a network of spaces by which we construe the causal inquiry. The new situation at t2 is the immediate object of wonder, namely the changed situation S2; let us call this component the presentation⁴⁴ space (Input 1). The former situation, at t1, namely S1, which motivated our frustrated expectations, is our reference space (Input 2). There are many mappings between Input 1 and Input 2. Some of these connect qualitatively and numerically identical things, whereas others connect qualitatively different things that are still numerically identical. Among these last things are precisely those that made us distinguish the presentation and the reference. But these numerically identical

⁴⁴ The immediate object of our wondering is a 'presentation' in the sense that it presents the something, the former state of affairs in a remarkable, surprising, unexpected way. 'Presentation' in this sense corresponds to an everyday notion of representation (Vorstellung). Thus, in Danish, the outraged parents discovering that the children's room is a mess, might exclaim: "Hvad skal det forestille?!", literally: What shall that represent?! [meaning: What is this supposed to 'resemble'?] — as if they were to interpret an abstract painting. By a 'presentation' I mean "a state of affairs S1 which stands iconically for and is derived from and refers to another state of affairs S2 in such a way that it takes substantial interpretation (by relevance) to determine what state of affairs S2 it (S1) stands for, or to understand exactly how this state of affairs (S1) is derived from and related to that state of affairs (S2)".

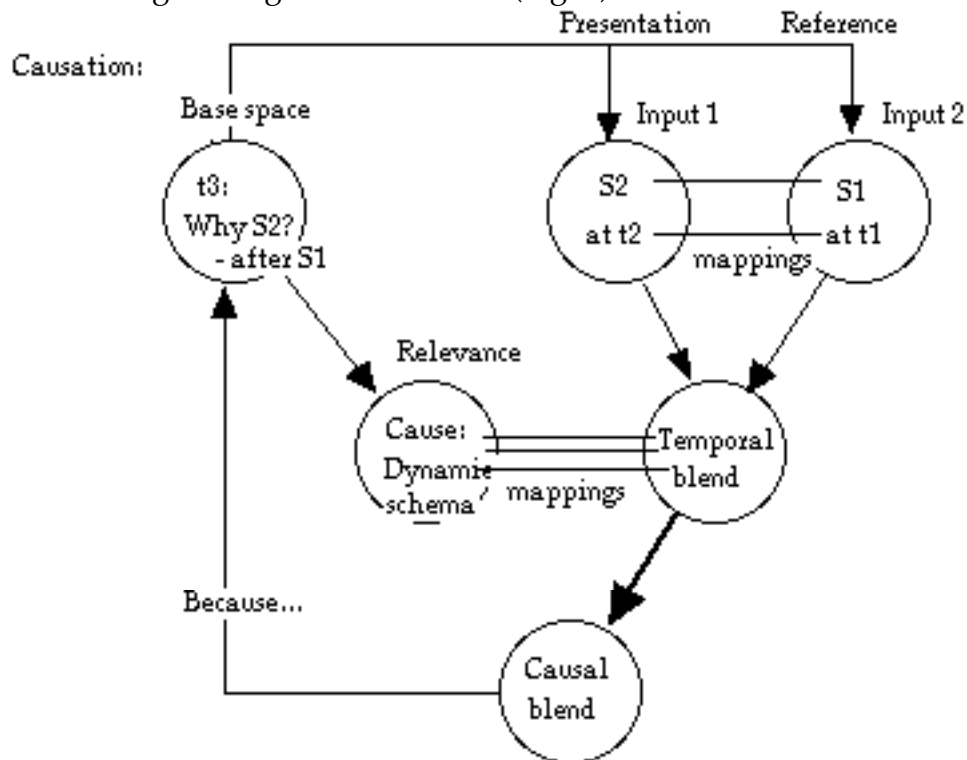
things that are qualitatively different are not only connected by the mapping. They are also connected by the conceptual category we call time, which allows us to experience their sameness through temporal change. In this experience, we superimpose their two versions and obtain a blended version comprising as a continuity the qualitatively different aspects of their numerically identical being — we transform in the blend their temporal distance into a spatial layering by which we can look through their new aspect towards their former aspect⁴⁵. In this cognitive process, the mapping between Input 1 and Input 2 thus triggers a conceptual integration which offers us a blended version of the presentation and its reference, a Temporal Blend. In its turn, the Temporal Blend activates, precisely by its transparently layered structure, a third instance, namely the dynamic factor that forced the reference to appear through this presentation — the factor that makes Input 1 a relevant presentation of Input 2, or, in other words, that makes it relevant for us to consider Input 1 as a presentation of Input 2, since this instance forced Input 2 to become what we have in Input 1. The third instance is what made Input 1 the result of Input 2, or caused Input 2 to become Input 1. This instance, the Relevance Space, thus contains the Cause of the change.

A Cause is a dynamic schema of a process. It has typical initial conditions, a typical structure of intervention, and a typical result structure. The content of the Temporal Blend has to map onto these components of the dynamic schema of the Cause. Note that whereas the inventory of references and of their presentations is infinitely rich, the inventory of Causes is radically poor: a finite set of dynamic schemas is applied to an infinity of cases. The Temporal Blends we have are an 'open class', whereas the Causes we map them onto are 'closed class', to use a linguistic analogy. This last mapping connects the forms of the Temporal Blend to the forces of an abstract dynamic schema in the Cause (such schemas probably all have empirical sources in the evolution of the human mind⁴⁶). Our minds then integrate forms and forces into the intelligible phenomenon of forms equipped with

⁴⁵ When old friends meet after a 'long time no see' interval, they will experience this qualitative difference in the ageing of the other, and they will experience the numerical identity as a purport of the first experience: "[you are] still the same after all these years..."

⁴⁶ If we attribute a mishap to an 'evil spirit', we probably apply an archaic idea of a sort of invisible animal (since animals are typically better at hiding than humans) to the undesirable result.

forces and changed by the forces of other forms. This happens in the Causal Blend triggered by the mapping between the Temporal Blend and the dynamic schema chosen as a relevant Cause of 'what happened'. What I am saying corresponds to the following network of spaces, which shows a general design of cognized causation (Fig. 1):



3. Causation and intention.

This network is a general model of causation as such, as an epistemic process in natural logic. Specific causal schemas all enter, as specific versions, into the causal factor space (the Relevance space). They map onto structures in the Temporal Blends and 'explain' what happened between S1 and S2, in the 'interval' that this blend has made thinkable. The Causal Blend is a possible content of the belief that cancels the surprise and the wondering in Base Space.

Note that in the standard sports examples of Caused Motion, what really changes a situation is not, for example, that a player happens to throw a ball into a basket, but that the circumstances make this event eventually be acknowledged and count as a relevant 'goal' in the game. The real changer is the counting instance (in the Relevance), not the Agent player alone. The agentive gestures in S1 must map onto the generic categorizations of the acts of the game (in the Relevance) in order to produce 'new situations' S2. The

word new means such a generic recategorization. In that case, the gesture is blended with the causal account and becomes an act. This act, not the gesture alone, makes the difference. All games have this blended reading of the event series, which is why there are sports referees, and why a non-initiated observer may not understand the events in a game at once. The sports examples in cognitive literature on causation deserve readings that include this difference-making instance of relevance. The skilled player, by contrast, expects the blending to occur: he anticipates the entire network (and sometimes has to quarrel with the referee).

The proposed model might be validly generalized: speech acts are expressive gestures that sometimes have force — namely 'speech-act force' — and then cause new relationships to occur: they are dynamized by ritual patterns as Causes. By contrast, pure locomotor and instrumental gestures need only physical force in order to become efficient acts. Sports acts need both physical and ritual causes. Different doings are understood by different sorts of knowledge. Different causes are rooted in different semantic domains, from where they can be metaphorically exported (the rain 'stopped' the tennis game); such domainial differences might account for the occurrence of what we experience as different types of causality.

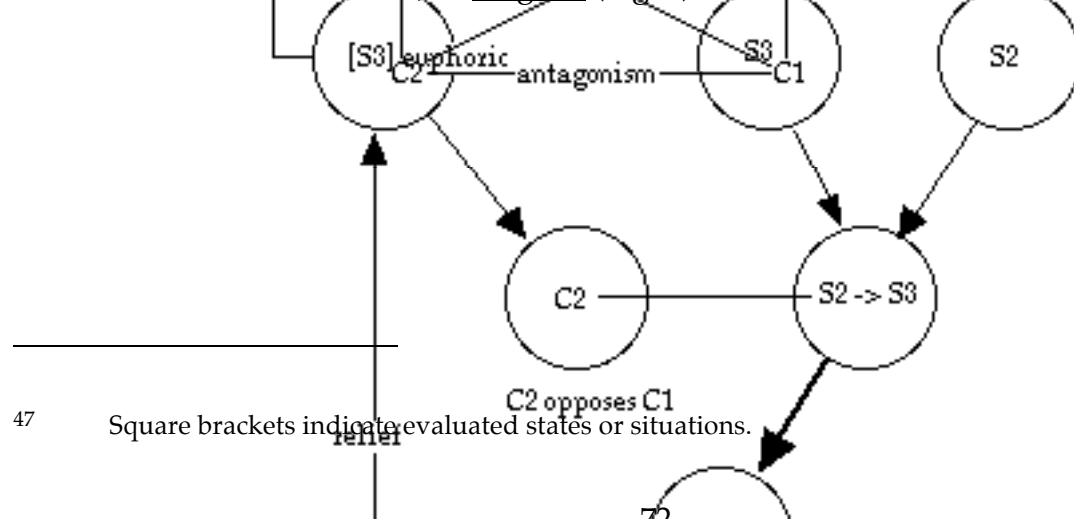
There is not necessarily a gestural Agent in a causal structure. When there is, it may be seen (cf. the basketball player) as an intentional 'summoner' of the structural changer, a 'magician' who calls upon the Causes of the universe by producing prospectively some evidently 'relevant' loco-instrumental gesture implying object control (cf. the cook putting the meat on the frying pan). This prospective object-controlling operation is then understood by the Agent and by some observers as an anticipated causal retrospection, which is then a characteristic of intentional doings. Simple loco-instrumental gestures (like to go, to bring, to put), are preferentially understood as being intentional in this sense, even when they are obviously not, because our cognition uses the entire network. The causational network is what makes prospective planning and knowledge-based acting possible by allowing us to anticipate the epistemic causal retrospection.

We might say that intention is inverted causation, and that, paradoxically, the intentional inversion creates the forwards reading of causation; causation proper reads backwards.

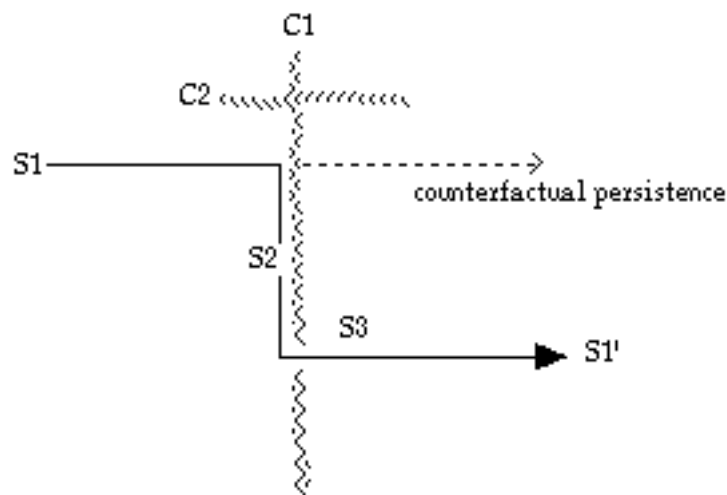
3. Narrative chains of causation: Diegesis.

Problematic thinking thus uses a 'backing-up' of temporal succession by retrospectively introducing causes. Causation is born in the past. Narrative accounts of causal events are in fact preferably 'told' in the past tense. This is probably why the narrative mode of discourse is prototypically the past: Once upon a time... there was an [S1]⁴⁷ and then, because of [C], an [S2] happened. The initial situation [S1] is pre-problematic, and the altered state [S2] is problematic. [S2] is a problem, in basic narratives, because it is an existential challenge to someone — it is dysphoric, whereas [S1] was neutral, normal, just unproblematic, not euphoric. There is then a need to remove the problem, to produce a return to [S1] by an intentional act whose realization will be euphoric — euphoria is obtained dynamically by the removal of dysphoria, it does not exist statically as a 'positive pole' opposing a negative pole. The intended act aims at obtaining a change S2 -> S3, in such a way that, euphorically, [S3] = [S1] by the disappearance of the cause that provoked S2. The intended act will thus have to find a counteractive cause. The dysphorizing cause C1 must be stopped by a euphorizing cause C2. C1 caused harm, and C2 is a remedy that would help. In the dramatic instant when the harm is done, and there is not yet any help, while some possible Hero wonders how he might proceed, both the retrospective network of the harm (Negative catastrophe) and a prospective network of the help (Positive catastrophe) are active, and the first is embedded in the second (Fig. 2), the space architecture thus forming a double network of general 'problem solving':

The analytic question is of course how to model the opposition of the causes. This question concerns the relevance spaces of C1 and C2, but also the Base Spaces of evaluation — [S2]-dysphoric and [S3]-euphoric — because it cancels the first — and its classical answers ignore both the causal dynamics and the evaluative dialectics. One classical version is the following (Greimasian) account of a narrative circuit, or diegesis (Fig. 3):



Instead, diegesis might also be seen the following way. There is an initial situation S1 which is expected to yield a trivial S1' by the simple course of time, but is barred from this by some causal interference. S1 was supposed to 'last', but meets a barrier and cannot continue. The barrier represents a difficulty and yields a crisis, S2. C1 is an obstacle to the persistence of S1. C1's specific structure may be immediately obvious in Base Space or may be revealed at a later occasion, or it may remain concealed. For the moment, it only has to be signified as 'some significant causal intervention': a barrier. An additional, reparatory, causal force C2 is then introduced, which neutralizes C1 — a barrier meeting the first barrier and lowering or weakening it significantly, so that S2 is overcome and becomes an S3, which reinstates S1 in the shape of an acceptable S1'. The story S1->S2->S1', integrated in the blending architecture, and understood in Base Space, will then be the following (Fig. 4):

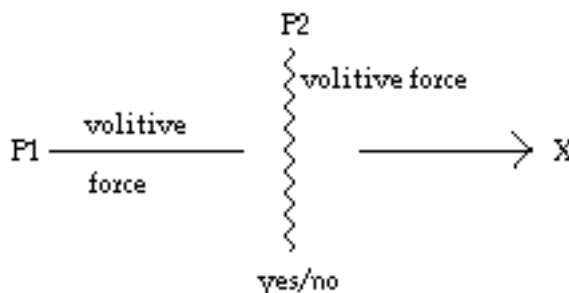


Situations (S) are then diegetically perceived as wholes that travel continuously and linearly through time — S1->S1' — but whose fatal lines bend and decline so as to form discontinuous trajectories and thereby significantly distinct spaces — S1 -> S2 -> S3 — when significant changes occur; their routes then form broken lines, and each break means a dynamic 'catastrophe', a causal event. A person in S2 is in 'trouble'. C2 brings him 'out of trouble'. To be IN trouble is to be in S2. IN refers to a 'trouble space' (rather than to a container, as believed by some cognitivists).

4. Letting, making, and mereology.

In a diegetic, narrative framework — defined by the co-presence and interaction of causes, causation is foregrounded, and causes are barriers. Narrators, narratees, and persons in the S-series, whether Patients or Agents, in principle share this minimal understanding of diegetic, causal, and intentional meaning, as a sort of existential common sense. Changes are shifts in barrier force, brought about by other barriers that control the first. So when some S1 is stopped by a barrier C1, this catastrophe corresponds to a negative conjuncture of what we usually call the LETTING schema, since it has a direct verbal representation in many languages involving a meaning of 'stepping aside' or opening one's grip (English: let, French: laisser, German: lassen, Spanish: dejar, Portuguese: deixar, Danish: lade...).

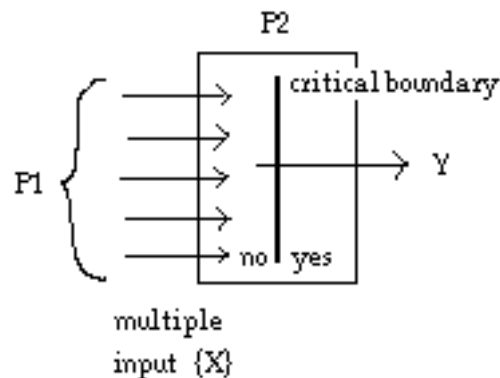
The prototype of LETTING might be the following generic, intersubjective and most often inter-volitive scenario. One person P1 is doing or wants to do something (X) and another person P2 is in a position to stop him, but chooses not to do so: he lets him do or continue to do X. P2 is or controls a barrier opposing P1. P2 then steps aside or lowers the barrier. Or P2 maintains or raises the barrier: negative letting, 'not letting X happen'. Example: P1 says: "Please let me go!" – P2 ponders his answer.



In our former terms, C1 does not let S1 'go on'. A person P1 in S1 might well try to influence a person P2 who is or controls the barrier. P1 will then try to MAKE P2 lower the barrier and let S1 'pass'. In physical descriptions, there might not be any persons in the scenario, but the dynamic setting and the needed MAKING will conceptually stay the same. Or there might be a P1, but no P2; the barrier is then an object that P1's MAKING will have to affect. Whether there is a person P1 or not, there is some agentive source of influence on the barrier, and after a while (S2), the schema may work (the barrier is lowered). Example: Gutta cavat lapidem [the drop hollows the stone]. This MAKING schema calls for a closer study.

The prototype of MAKING might be the counter-volitive scenario. P2 does not want to do what P1 wants him to do (Y), but P1 insists, by ({X}) begging, promising, threatening, compelling, arguing, etc., and finally makes

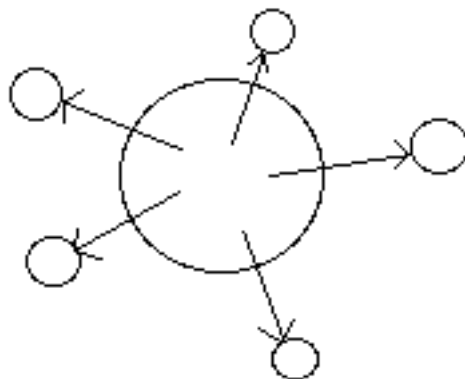
P2 do it. This is the 'causative' formula in language. The schema has a multiple input {X}, that 'makes' the addressed entity (P2) cross a critical boundary (the iterative input softens its resistance) and trigger a result behavior Y. Note that there is often a considerable distance in time and space between {X} and Y, and that the internal criticality (resistance) of P2 is not necessarily known to P1. Example: P1 is insistingly knocking on P2's door, and after a while the door may open.



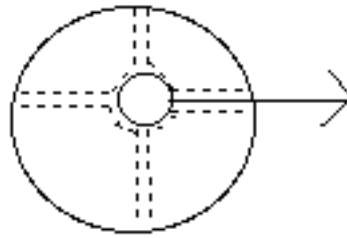
In S2 (above), P1 can thus 'make' P2's barrier C1 open, creating a situation S3 characterized by Y.

The lowering (opening, removal, etc.) of a barrier is often figurativized in the form of weakening or destroying an object. In these cases, the barrier is conceptualized as an obstructive object which is a whole, and Y is conceptualized as a change of this whole that deteriorates it. MAKING thus has a mereological result scenario, which is linguistically specified in the corresponding verbs of MAKING. Let us consider some possibilities. The object O is an efficient whole, and Y affects its efficiency:

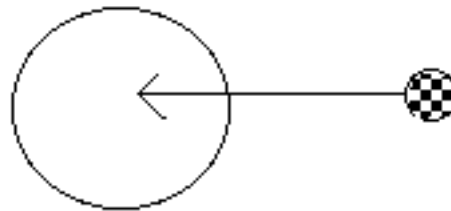
Y1 Destroy by dividing, splitting, spreading, dissolving, disrupting O. (Versus create, assemble):



Y2 Deactivate by taking away a vital part from O. (Versus complete):



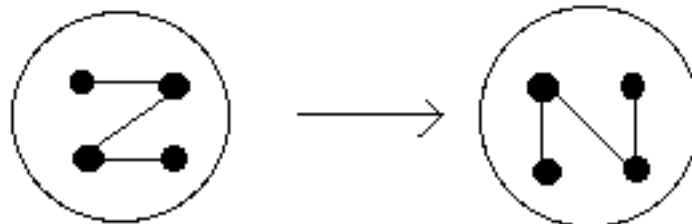
Y3 Disturb by putting into O an incompatible item. (Versus purify):



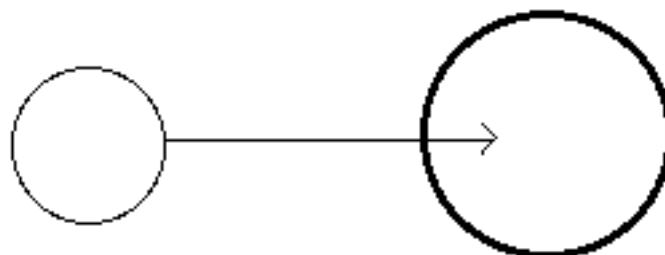
Y4 Damage by indenting, impairing O. (Versus repair):



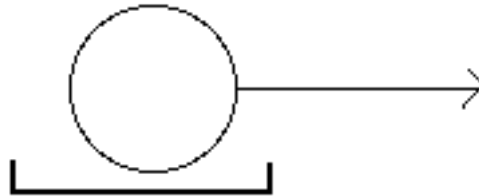
Y5 Confuse by modifying structures in O, e.g. by inverting or otherwise pervert internal relations or wirings. (Versus rectify):



Y6 Isolate by encapsulating O. (Versus release, relieve):



Y7 Remove O from the field of efficient operation; carry away; virtualize.
 (Versus install; actualize — as when the ball goes into the basket in the game
 of basketball: the basket is a field of efficient operation, since O 'counts' there):



There might be more ways to intervene negatively, but probably not many. The 2 x 7 basic forms of Y are explicit versions of the 'result scenario' Y of MAKING.

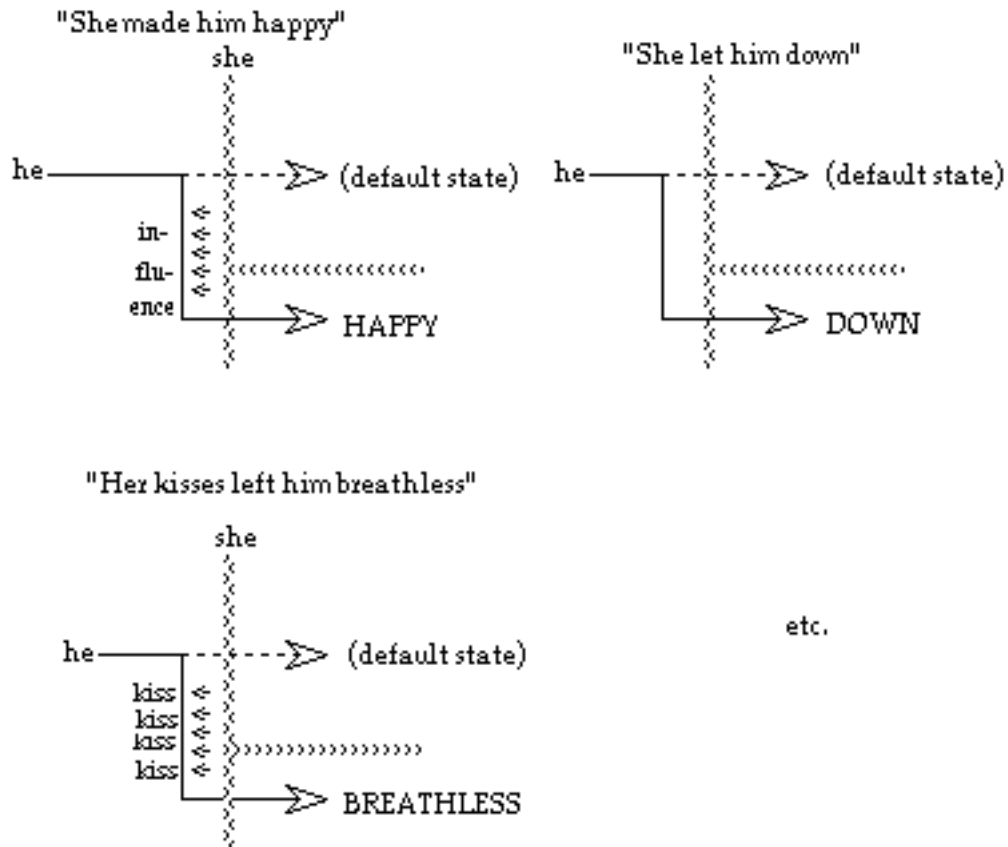
The inverse result forms correspond to the states of a whole that would be qualified as unaffected and therefore (still) integer (Y1), active (Y2), undisturbed (Y3), uninjured (Y4), well-wired (Y5), free (Y6), and competent (Y7).

Two further remarks on LETTING and MAKING.

1. Predication: This schematic inversion yields a new understanding of a general linguistic fact about resultative predication in the semantics of both LETTING and MAKING. It is suggested that the 'making' of a persistent 'not-letting', followed by a 'letting', creates a so-called trap structure, a bifurcation of the barrier C1 which defines a resultative predicate field.⁴⁸

⁴⁸ The predicate can be a nominal category, cf. "Your love has made a beggar out of me" (lyrics), or an adjectival state, cf. "She made him happy". The predicative construction with the verb leave clearly contains a 'making' and a 'letting' sequence, cf. "Her kisses left him breathless".

Predicative schemas:

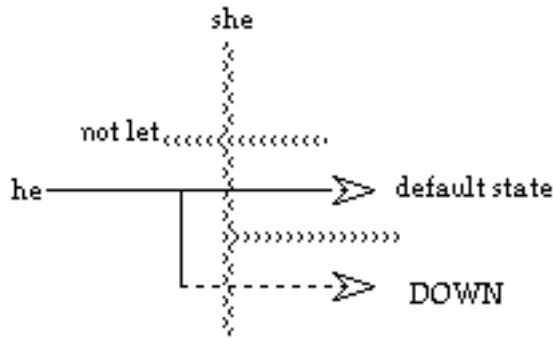


In language as in thought, predication (subject–predicate forms, including metaphors) may universally be based on causation and trap-field dynamics.

2. Causative constructions: these are transitive instances of causation, and simple forms appear to be either positive, by 'making', or negative, by 'letting'. Negative causation introduces a modification of a cause by a cause:

"He did not let her let him down"

Here, one barrier is barred by another barrier, so the barred barrier is conceptualized as a flow:



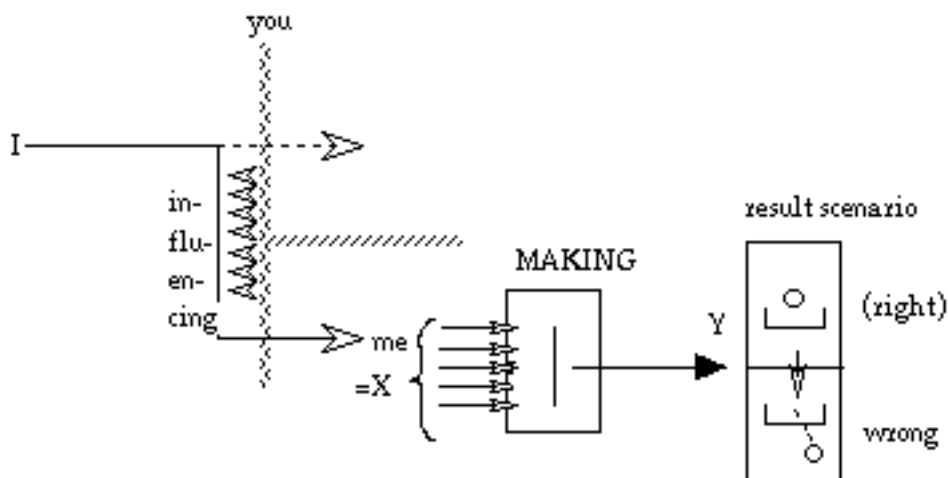
The predicative state is now counterfactual, whereas the default state is maintained by the elimination (barring) of the primary barrier.

The positive case is frequently found in French:

"Tu m'as fait faire une erreur"

"You have made me make a mistake"

This construction may be schematized by a combination of 'influencing' and 'making':



Causative forms are particularly important in the semantics of intentional interaction. Combinations like these are highly active in narrative imagination, and technical diagrams describing machines of all kinds can be shown to manifest a similar concatenation and embedding of dynamic schemas.

5. Conclusion.

Causation is essential to narration as such. Narration is in turn essential to causation, in the sense that our species learns causation naturally under narrative, narratively dramatic and narrable, circumstances, before doing so in laboratories of physics. But modern scientific thinking makes our minds 'window' and model singular instances of occurring change, and then generalize the observed regularities without taking their experienceable contexts into consideration, except for didactic purposes. This windowing technique has taken us from cognitive folk theories of causation to much stronger, scientific, notions of pure causality, but has also allowed us to forget or neglect the notions and concepts by which we still 'live' and feel in everyday life. A cognitive and semiotic approach to causation has to study this neglected aspect of the philosophically much revered category. As scientific knowledge develops in the human world, narrative causation is denarrativized. But when the social deeds of scientifically obtained technology are evaluated, causation is renarrativized. The future of our cultures and maybe of our species may depend on the destiny of causal knowledge as understood in both ways. Our world is both an intentional life-world and a physical universe of inanimate causes, and the nature of our decisions will depend on the narratives we accept. Rationality is essentially a matter of understanding causation. The latter enterprise is therefore a vital concern for all minds that care for thinking, life, and the connection between them.

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THE SEMANTICS OF DIAGRAMS*

I. Diagramming

In dynamic semiotics, as well as in cognitive semantics, modeling is still more frequently based on graphic accounts of phenomenologically given meanings, rather than on descriptive prose or logical formalizations. Naturally intelligible and cartoon-like drawings, apparently of all kinds, tend to satisfy the basic descriptive needs of these investigations better than do rhetoric or formal logic. They are 'models' and are technically specified as 'diagrams'⁴⁹. Thus, diagrams are becoming an increasingly important part of semantic analysis; they appear to yield a better access to our semiotic and cognitive conceptualizations. However, diagrams, as well as metaphors, comparisons, and other imagistic forms, also represent a methodological problem, since very little is solidly known about their formal properties. We do not quite know why diagrams help us understand things, only that they do, and somehow tell us enough to be considered useful. Their services are mostly intuitive. But elaborate analytic understandings and spontaneous intuitions about the structure of things experienced may be essentially identical in their elementary procedures, grounded in the architectures of the human mind. Both the technical understandings of diagrammatic analysis and the pre-understandings of its object seem to use cognitive schemas; the advantage of diagramming is therefore not obvious. This advantage may simply be due to the down-scaling⁵⁰ we are led to in diagramming. It yields a fruitful reduction of details and a comfortable synoptic view of the object. But I think there is much more to be said about the cognitive effect of diagramming. It is a sort of natural mathematics of the mind; it grounds abstraction in the embodied human world, and it has internal principles of optimality.

* Plenary lecture at the Congress of the Nordic Association of Semiotic Studies in Copenhagen, November 2000.

⁴⁹ Greek διαγραμμα, το: a) 'contour', b) 'geometrical figure', c) 'musical schema', d) 'list', e) 'edict'. From the verb διαγραφω: 'draw', 'describe', 'write down', 'overwrite', 'delete', etc.

⁵⁰ A 'model' is a down-scaled version of something, a diminished mode, Lat. mod-ellum.

I shall discuss what I believe to be basic types of diagrammatic expressions. These types appear to form a relatively short list. Our mental equipment for diagramming might in fact form such a short list. My selection from it includes: arrowing (graphic archery); channeling (cooking); partitioning (distributing); and binding (domesticating).

All diagrams appear to share a semantic and semiotic design. This design can be represented as a network of mental spaces and then includes blending and dynamic schematization. Here is a brief account of the design of this molecular mental space network, as I presently see it.

II. Representation

In all expressed or internalized representations, there is a basic enunciative situation, a scenario or space (a semiotic Base Space) in which the diagramming is done by communicating persons or by the cognizer 'thinking to himself'. The expressed or mental graph of the diagram – as the 'signifier' of any other semiotic event in Base Space – is a complex 'space builder' that sets up a series of mental scenarios or spaces. The stepwise integration of these mental spaces constitutes the meaning of the diagram. This 'space building' happens as an automatic semiotic process in human sign users and is structured by a default design which can be found wherever we represent things instead of perceiving them (thus: in communication, and when remembering, expecting, thinking, imagining). There is always (1) a Presentation Space (or Image space) showing HOW we mentally see the thing, then (2) a Reference Space (or Topic space) showing WHAT it is we are attentive to, and finally (3) a Relevance Space showing WHY we presently see the thing in that particular way.

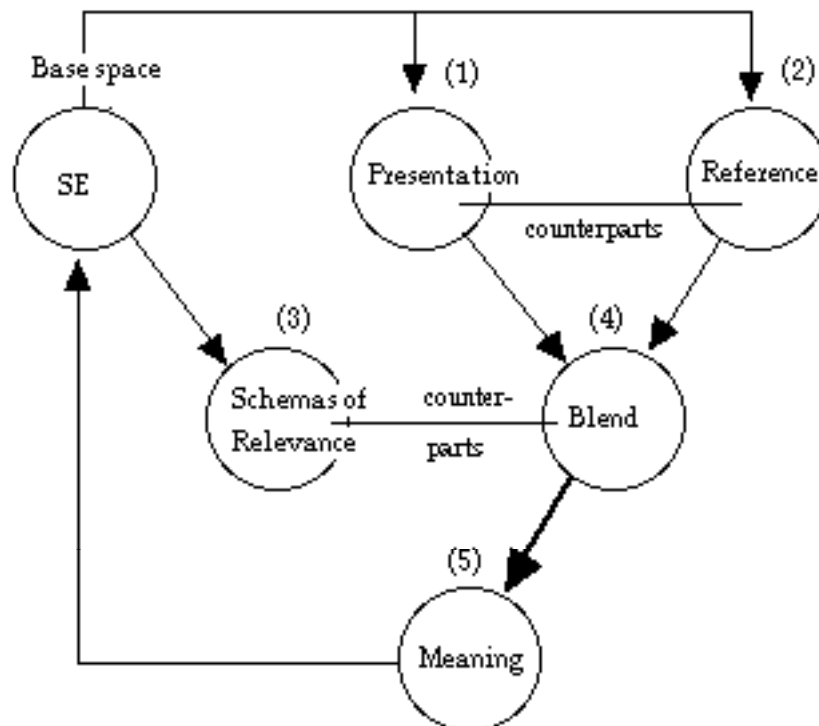
(1) and (2) have counterpart connections to each other and integrate in a blend (4), and this blend has counterpart connections to and integrate with (3) in an elaborated version of the blend, conceivable as a second blend (5). This network is triggered from Base Space, and the final blend (5) projects back to this Base Space its content as being the meaning of the semiotic event (SE) that triggered the mental process ((1)-(5)). Semiotically, the SE in Base Space contains 'prompts' for a triple reading by which it:

- (1) offers an iconic content (cf. the Source in metaphor), a Presentation;
- (2) suggests a symbolically given content (cf. the Target in metaphor), a Reference;
- (3) forms an indexical supplement highlighting certain structures in (4), a schematizer of Relevance.

The classical 'sign types' are probably based on this input space series, which is canonical.⁵¹ The representational faculty of our minds distinguishes these types, as if it disposes of a semiotic 'filter' that would distribute contents into the three mental spaces: the presentational, the referential, and the relevance-making input space.

The basic mental space network for a representation can be diagrammed in the following way:

Representational network of mental spaces:



This is technically an elaboration and a modification of the model proposed by the creators of conceptual blending theory, Gilles Fauconnier and Mark Turner. The present version stresses the importance of introducing, in the cognitive analysis, a specific Input Space for Relevance, containing the contextually relevant conceptual and dynamic schemas (3) that stabilize the figurative first blends (4) in virtue of its mapping onto the content of these blends (not to the primary inputs), and that project distinct dynamic meaning into a final blend which therefore does not only merge the schemas inherent in the first input spaces, but also account for the characteristic emergent meaning in non-primary spaces – this emergent meaning in blends being a major discovery of the conceptual blending approach to semantics.

⁵¹ The sign types are differently related to the basic semantic domains, cf. supra, "Language, Domains, and Blending".

I intend to show that this understanding of the cognitive integration and its processual network yields a plausible analysis of simple diagrams.

III. Types

1. Archery

Drawing an arrow from X to Y is a simple and common way to do a diagram. It will signify any oriented process originating in X and ending in Y⁵². The graphic arrow is an icon, whereas obviously X and Y are letters and therefore symbols. The arrow is 'drawn', whereas X and Y are 'written'. The simple diagram combines drawing and writing:



Note that the diagrammatic arrow is not a portrait of its own source, the corresponding hand weapon. It conflates the missile and its entire path; it substitutes a line for a ballistic curve; it neglects the difference between hitting and missing; and it does not include a bow or any other propelling device at the initial, nor a figurative target⁵³ at the terminal point. Nevertheless, it iconizes an idea of propulsing some entity from one location to another. But it only exploits the figurative form of the flying part of the weapon and the dynamic concept of a triggering impulse in one place, an oriented locomotion, and a forceful impact in another place: the 'caused motion' concept (cf. supra) seems to coincide with the meaning of this diagram. It tells us that something going on at the source 'points to' and determines something else happening at the target end of the path.

In view of the conflation of missile and path, the grounding phenomenological origin of this graphic formula as a whole might be the mental experience of pointing, rather than the bodily experience and idea of shooting – the experienced intentional link between the eye and the animal aimed at by the archer in the moment of concentrated attention preceding and preparing the shooting.

⁵² Cf. the logical implication $p \Rightarrow q$. The proposition p shoots off its truth value that hits q and only affects it if p 's value is /true/. Then q 's value will be equally /true/. The influence is only assured if the arrow is 'loaded' (poisoned) with the substance /true/; otherwise, the arrow does not affect the prey logically. – A different interpretation of logical implications, as conditional channeling schemas, is offered below.

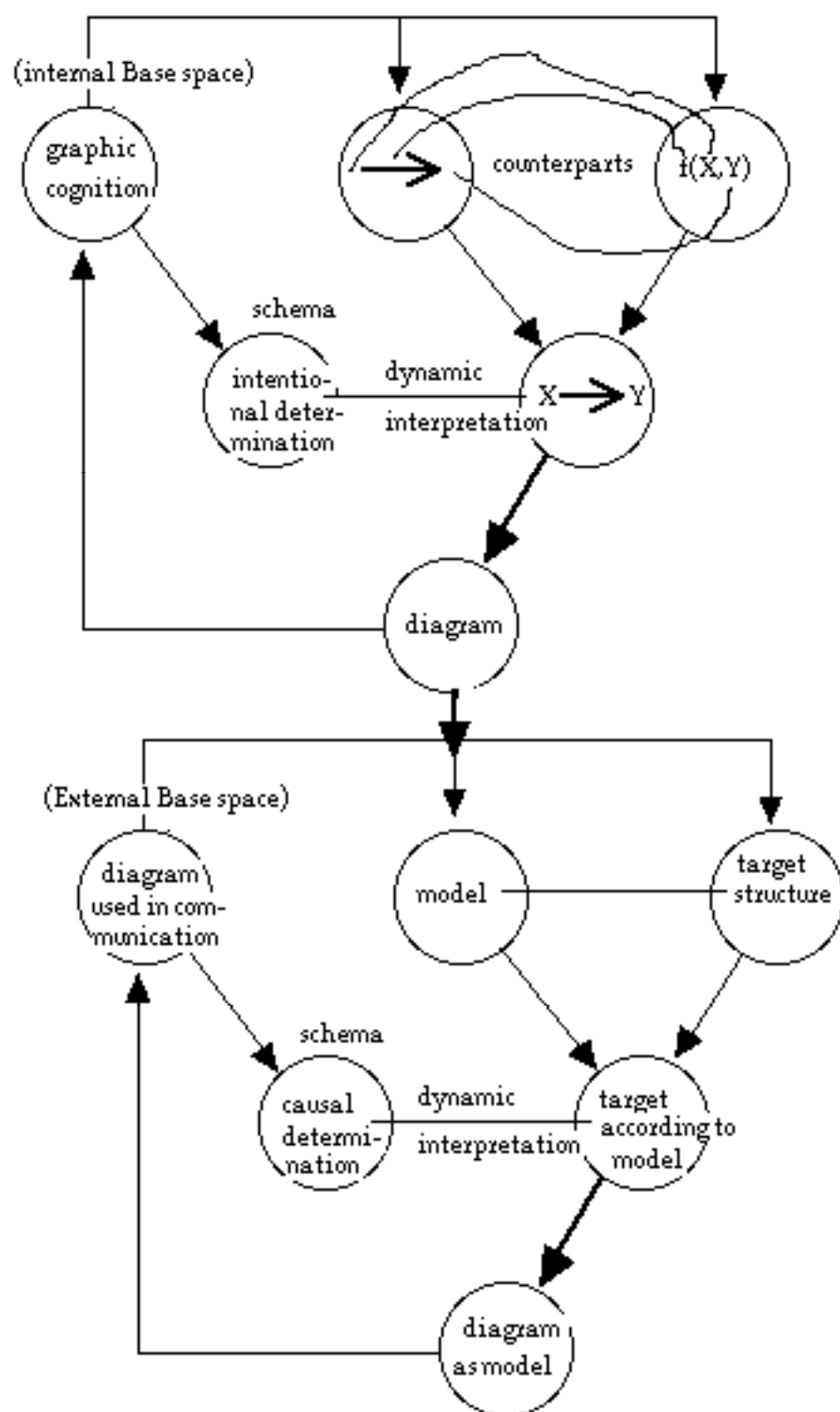
⁵³ Conceptual Metaphor theory uses precisely this mental diagram for describing the oriented relation between 'source' imagery and 'target' topic in metaphoric structure.

The diagram is a graphic composition serving as an analytic presentation of the causal properties of some structure that it refers to, unfolded either in order to explain it, if it exists, or to construct it, if it is intended to exist in the future. The diagram constitutes a network in the above sense; furthermore, the presentational input to this network has an internal network composition which specifies the 'archery' type. What we are seeing: $X \longrightarrow Y$, is a combination, a counterpart mapping, and a blend (4) of (1): the arrow icon **(slot)** \longrightarrow **(slot)** , and the endpoint symbols as variables of a function (2): $f(X, Y)$. And the meaning (5) of this is the result of integrating an intentional, attentional pointing schema in (3), cf. the network graph, above.

In the relevance-making schema in (3), I suggest to think that the hitting is anticipated in the aiming. The phenomenology of anticipation contains a (possibly magical) idea or feeling of immediacy and continuity of cause and effect: the 'wanting to hit' becomes an imaginary line or flow running in the interval, from the subject to the object, and producing the hitting. A stream, rather than, say, a billiards ball. In the anticipatory experience of pointing, and thus in the schema, the kinetic figurativity of the global event (4) merges with the intentional dynamics of control or affectation by transfer of efficient power. So X affects Y as 'noesis' affects the 'noema', in Husserlian terms: necessarily, irresistibly, inherently – like thinking and thought: intentionally.

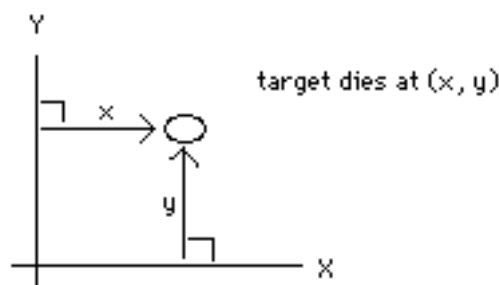
In that case, The general structure of embedded networks can be said to offer an intentional representation of a causal representation:

Diagram as mental space network:



X and Y in (2) are adjacent letters of the alphabet. Variable sets like (p,q), (a,b), (i,j) etc. are all local sets taken from some non-final⁵⁴ region of the closed phonographic list. The algebraic idea is that if proper names are pure sounds for greeting someone, then inversely any written sound symbol may substitute for a greeting sound, a 'name' for something (if names are sounds, then sounds can be 'names'). The result is pronominal: 'something' (X) and 'something else' (Y) in its immediate neighborhood. The symbolicity of X and Y thus substitute for what we hear people refer to: this and that, things and adjacent things. Dit og dat, as the Danish say. Entities of some same order, which therefore can interact.

Arrows can have relative quantity and direction (vectors). Quantity (length of arrow) may here encode force of determination; distant animals require forceful shooting, following intense mental concentration. The length of the diagrammatic arrows would measure distance in terms of relative 'strength'⁵⁵. The imagery of functional coordinates could thus be cognitively derived from strategies of hunting, or from warfare: archers attack an approaching prey or enemy in a double defile, both frontally (stopping the animals or the troops) and from the side (killing them). The frontal and the lateral arrows cross in a right angle. Classic battle orders are rectangular arrays, since right angles optimize the shooting, if the target is moving.



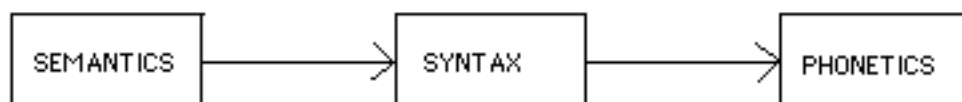
The 'function' $y = f(x)$ would describe the cooperation of the X-archers' and the Y-archers' row, when the target (f) moves, and the functional curve would describe the path of the moving target. However this may be, the historically decisive combination of arithmetic symbolism and geometric iconism in the development of analytic geometry appears to be semiotically influenced by the way functions can be cognized through 'diagrammatic archery'.

⁵⁴ To my knowledge, the last Danish letters (æ, ø, å) are never used in arrowing diagrams.

⁵⁵ The etymology of 'string', 'strong', and the Danish 'streng' (nom. "string", adj. "severe", originally "strained") might in fact refer to the bowstring.

2. Channeling

When whole words are used in diagrams instead of letters, we often find them surrounded by blurbs and boxes, as if lexical meanings needed containers, e.g. in the following simple, well-known theoretical model of the components of language:



A categorial specification like this represents a transition from pure non-figurative symbolicity (p, q) to ordinary nominal vagueness, which has the disseminating radially of categories (tending to spread), and apparently therefore calls for containment, provided by the figurative boxes.

These graphic containers introduce the idea of 'sinks', and reinforce the liquid interpretation of the arrows, now as icons for one-way channels, oriented conduits. They transform or rather specify the arrowing diagram as a channeling diagram – a 'flow chart'. Something qualitative happens in the sinks. We often describe processes that change or produce things step by step by such channeling diagrams.

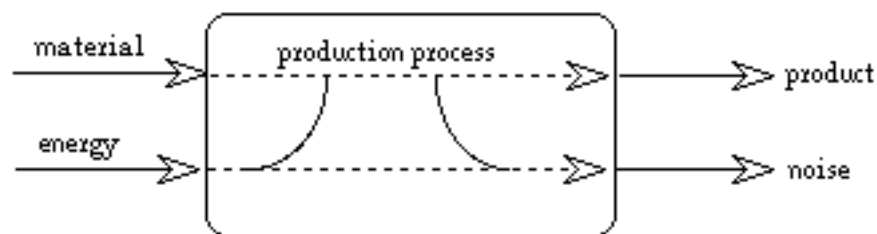
In contrast to the pure diagrammatic arrow, the relevance schema of channeling diagrams might be grounded in cooking experiences, rather than in hunting. When we cook, we use containers and pour something more or less liquid into something else, and so forth. Or we can pour liquids back and forth. The direction is indicated by the arrows, which are now oriented (channeled) streams.

Machine diagrams are cognized as robot kitchens. Flows channeled by tubes and running into containers or sinks, sometimes stopped by barriers or filters, sometimes divided by bifurcations, or unified by joints. A channeling system is a map of paths and circumstances. All channeling diagrams have events inserted in the flow: propellers ('pushers': motors), attractors ('pullers': gravitation, or local forces, like magnetism), repellers (barriers), and transformers ('modifiers' by which a flow can meet another flow and a qualitative change can take place). Event markers are often symbolic emblems, container labels, or instructive icons (as in the following example). The channeling diagram is an intentional or organic plan for explicitly causal chains of modification, a dynamically articulated, syntagmatic space of paths

(that let things flow: LETTING causation⁵⁶) and operative stations along the paths (where changes are made: MAKING causation). Machine or organismic diagrams, and probably all channeling diagrams, have input instances (energy and material supply), instances of intended outputs (results), and control parameters for optimization of function (proportions of result, cost, noise) and minimization of malfunction.

These diagrams typically have artifacts or organisms as their referents (2). Their relevance schemas often include an optimizing quantitative dynamic, a sort of economics, which opposes the system's tendency to maximize energetic and material consumption and unwelcome output (noise), while minimizing intended results.

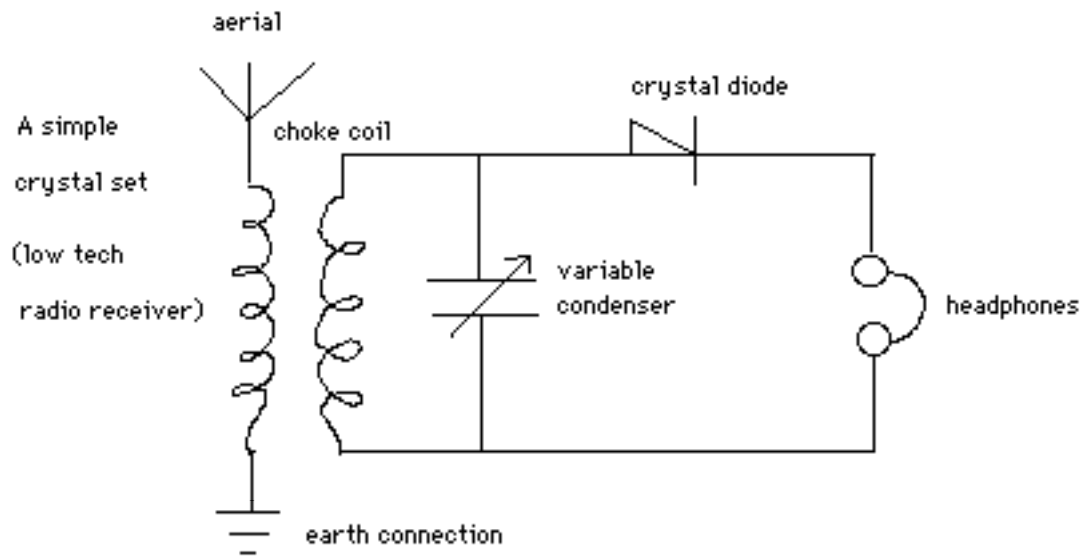
Economics of programmed flows:



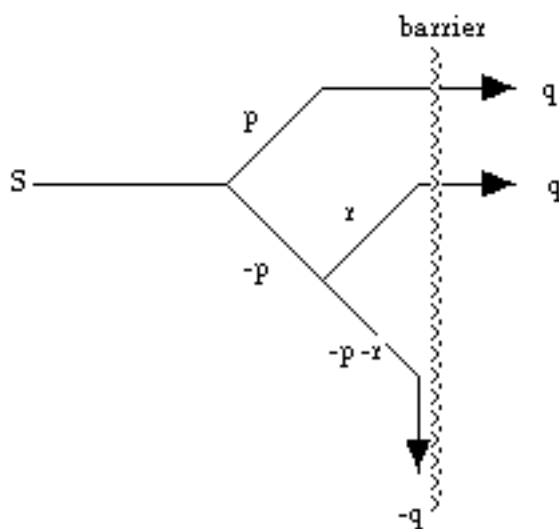
Econ(ma, en, no, pr) would be the standard function of equilibrium to evaluate.

'Flow-charts' representing such planned and ordered processes, e.g. in organic bodies, industrial plants, computer programs or electronic devices, are examples of things represented normatively by channeling diagrams. The following low-tech pocket crystal radio was standard in my boyhood, and always worked optimally (no energy consumption, no pollution, fine results):

⁵⁶ Cf. supra, "Causation and Narration".



In many cases, structures of natural logic and logical connections in language can be rendered cognitively by channeling diagrams. Conditionals in terms of protases and apodoses – 'if p then q' – are then conceptualized as 'p leads to q', and 'non p only exceptionally, if r, leads to q'. Here, the circumstances p and q are separated by a barrier, and two bifurcations account for the three results:



S is a cognitive subject 'having' p or not p, and arriving at 'having' q according to which paths is followed. The secondary bifurcation introduces the exception r.

3. Partitioning

Other diagrams or diagram components have graphic icons of wholes and parts (mereology). They seem inspired by the cutting of surfaces (and territories?) or volumes (of animals? with knives?). The standard properties of

such a mereological space include strong self-identity or sameness of parts, categorial difference of separated parts, and their synecdochal participation in the partitioned whole.

There might again be a grounding practical scenario related to activities of dividing things, territories or animals. Partitioning diagrams, also called 'cake diagrams', visualize proportional distribution of values of many sorts, and are used extensively in social administration and control. Parts of these 'cake' wholes can be moved separately and recombined. The relative visual size of the parts (pieces, bits, slices) expresses quantitative importance relative to their whole (cf. percentage diagrams, e. g. budget illustrations).

Parts are so strongly self-identical that they can leave their whole and still be what they were. When a part is removed from its whole, it can become a whole itself, and the remaining ex-whole can heal up again without the lost part (cf. the budget example). The inherent dynamism of this last phenomenon seems clearly organic: wholes are conceptualized as living structures, bodies, and parts are limbs or organs; in the last case, they can 'float' freely within the whole (concentric circles), and sometimes be connected by arrows or strings as in institutional 'sociograms'. Partitioning is then contaminated by arrowing and binding.

Wholes can also stay incomplete and not heal up, and they can even be void (cf. empty sets, and the notion of zero, or the quantifier pronoun "nothing", designating a whole with no parts).

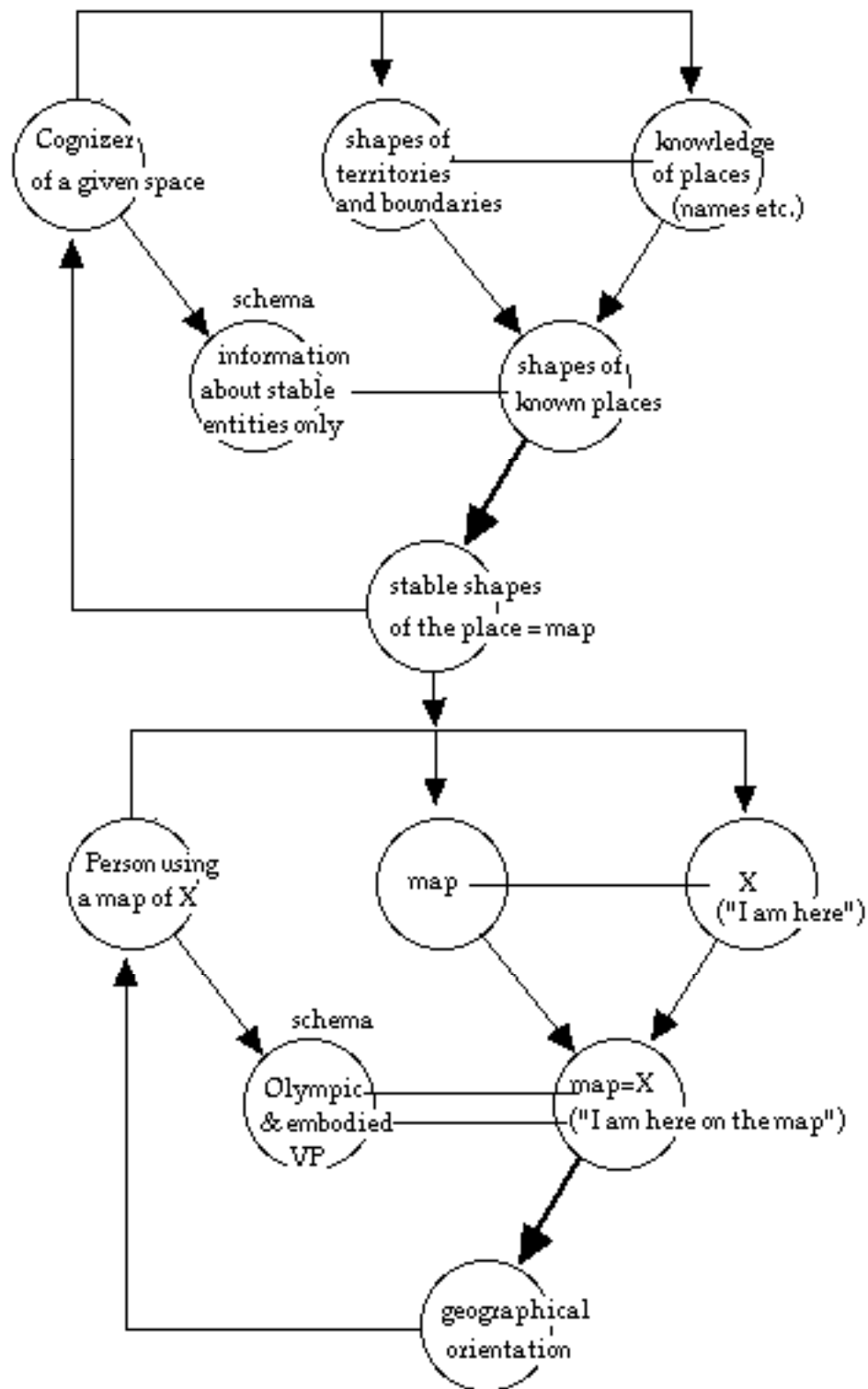
Parts can leave their original whole and become parts of other wholes. They can do this either as individuals or as categories. If they do it as individuals, we get 'identity mapping' between their two addresses. If categorial parts go into distinct wholes, they can be categories of individuals there, and these individuals will then be 'counter-parts' of those included in the first wholes. We use this mereological possibility whenever we compare things.

The Mental Space Network model is itself based on mereological diagramming: mental spaces are conceived as wholes, and between them they can have counterpart connections (mappings) and identity mappings. The process of blending is a very special mereological phenomenon, seen in this perspective. Parts from distinct wholes combine outside these wholes, and the mind creates brand new wholes around their extra-holistic contact – thus forming new 'baby spaces', blended spaces that will grow, if they find nourishment in available schemas, i. e. if their contents find counterparts in available relevance spaces. In that case, they stabilize and form what we

experience as new, emergent meanings. Otherwise, they just perish, as most of the products of our fantasizing minds fortunately do.

Partitioning diagrams include maps, if we accept to let the respective qualitative shapes accompany the quantitative proportionalities of the part-whole composition be shown in the presentation.

The meaning of a map:



Maps⁵⁷ – road maps, political maps etc. – are literally based on 'mapping' and counterparts. They are thus very directly related to mental

⁵⁷ Latin *mappa*, French *nappe*, Eng. also *nap-kin*, a piece of cloth that covers a table, etc. The idea of a surface or an extended substance covering something else is present in most of

space and blending structure. On the internal level, there is a known place or territory in the reference space (2) and a hand-scaled model surface in the presentation space (1). Then, from (2), variable amounts of categorial facts about the place are mapped onto the iconic properties of the surface in (1) with some granularity. Shapes and contours of various sorts of spatial facts are mapped. Mobile objects in (2), such as vehicles, animals, people, books ... , are not mapped in (1)⁵⁸. Some stationary entities in (2) known by names (typically: urban localities) are rendered by symbolic dots. Then a selection of the symbolic elements of (2) – names, numbers – and the iconic elements of (1) are projected into a blend (4), made relevant by the existence of counterpart connections with a schema of stable circumstances affecting bodily locomotion⁵⁹ (3), and the model becomes a navigation map (5). The relevance schema on the external level is peculiar. It is experientially deictic and thus has a first person, thinking: “Suppose I am here now and that I want to go somewhere, then what will be my first move?” and simultaneously it is epistemic: “What would this move look like if seen from a stationary viewpoint from where a sufficient spatial frame is accessible?” – the schema is interestingly imported from enunciation in language⁶⁰, where a first person can refer to himself both from within (‘experience’) and from without (‘truth’). Thus, the person looking at a map can say: “I am here now” and point to the graphic surface while also meaning to be in a specified place in the real spatial world. The subject projects himself onto the blend of model and territory, and now is in both places indistinctly, otherwise the semantics of the map would not work. Locomotion and enunciation have the same cognitive structure (double viewpoint), and we have to conceptualize both in order to account for this ‘geo-graphic semantics’.

the metaphors, cf. in French: Des nappes de brumes dormantes s’étirent (Martin du Gard); nappe volcanique, “ancienne lave qui s’est étendue sur une vaste surface”. – This etymology suggests that the map is or was conceived as a representation by imprinting contact of what is underneath, below it, as to contours and relief.

⁵⁸ This is why the famous idea of the auto-referential status of maps is invalid: a map of the world does not contain this map, even if this map is in the mapped world. But if maps were stationary and infinitely fine-grained, the auto-referential analysis would be valid.

⁵⁹ A road map needs a concept of locomotion in stationary circumstances, in order to be intelligible.

⁶⁰ Cf. *infra*, “From Gesture to Theatricality”.

4. Binding

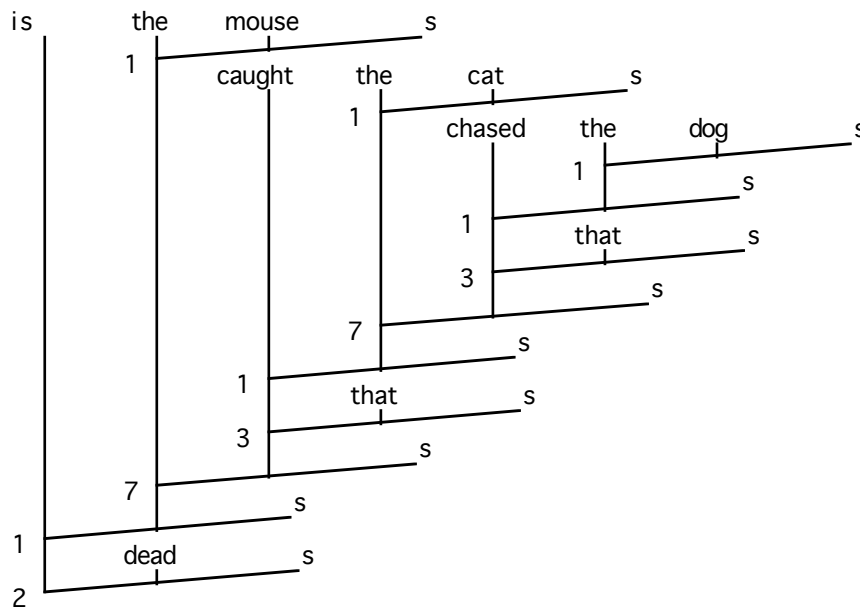
A fourth form of imagery uses lines drawn between items P, Q, ... and interpret them as binders (ropes, ties, strings, links). P and Q may just be linked to each other, while both stay mobile (cf. a human couple, or a man 'with' a dog on a leash). If P is stationary, while Q is mobile, the mobility of Q depends on the length of its tie to P: then Q 'depends on' P.

Nodes from one to many strings create 'dependence trees', often characteristically presented in a vertical layout (whereas arrow diagrams prefer horizontal layouts). Tree structures are binding diagrams (cf. phrase markers, classifications). Bindings regularly express control, hierarchy, power, rank and status (cf. genealogies). Among the standard properties are: restricted mobility or freedom of the dependent elements, and asymmetrical co-presence of the elements (Q, R only with P, if P is 'higher'), hence accompaniment and instrumentality.

The grounding motivations for this type of relational notions and diagrams might stem from scenarios of domestication (animal husbandry; draught animals; tied hostages, prisoners, slaves...). Object assembly, e. g. in the fabrication of tools or buildings, is another likely experiential source.

Binding diagrams may be structurally centered – as 'bundles' – or centerless – as 'webs' (and links), 'networks', 'chains'. Their nodes may be labeled (interpreted, defined) or unlabeled (undefined). Centered bindings are most often labeled, cf. diagrams of institutional structure, whose nodes are typically instances of specified responsibility. Here is a different example, from linguistics: a centered and node-defined sentence diagram from stemmatic grammar⁶¹:

⁶¹ Cf. *infra*, "Semio-linguistics and Stemmatic Syntax".



(The mouse that the cat that the dog chased caught is dead).

The dynamic schemas underlying binding diagrams are those present in verbs like hold and pull. The 'holder' is independent: free to release, to let go; whereas the 'held' entity is dependent, bound, and only free until "the rope tightens"⁶². The freedom of the dependent entity is limited: it is a constrained field of possibility.

The modal concept of possibility (and impossibility) can in fact be understood as based on this diagrammatic concept. Organizing fields of possibility in societal life is a basic concern of human search for laws and legality, for relational stability in socio-cultural communities. The French metaphor le lien social [the social bond] reminds us of the contractual role of binding. The notion of 'contract' (cf. French: le contrat social) builds directly on this diagrammatic type (cf. the literal sense of 'contraction'). One abstract aspect of binding may be the notion of possession: what is 'mine' is 'bound' to my body or person and the stable and stationary circumstances that I am myself 'bound' by, and thus 'depends' on me and on what I 'depend' on. The general schema implied in binding diagrams might be a possessive dynamics of 'ownership'.

⁶² The notion of Freedom is thus a 'binding' idea.

III. Final remark

There are probably many other cognitive devices implied in diagramming, but little is still known about them, although the list or set of devices seems to be finite. The explicit uses of diagrams are important for scientific imagination and modeling, for technical designing, formal logic, social planning, machine control, and goal-oriented communication and thinking in general. They are all probably rather direct graphic expressions of the intuitions that our memory-bound mental processing is based on. Therefore, their structure may instruct us, not only of human drawing and writing styles, or of the semiotics of graphic representation, but also of the way we think, whenever we think of relations. They offer us a privileged access to analytic and inventive aspects of our mental selves, and to the imagistic realm of the mind where meaning seems rooted.

Basic activities like hunting, cooking, partitioning, travelling, and domesticating seem to be among the atavistic behavioral sources of the semiotic forms we find in abstract, formal thought as well as in everyday communication. We cognize essentially by diagrams, whether we draw them or just think of them. Our species, we might say, is homo diagrammaticus.

And the dynamic schemas we find relevant to the interpretation and stabilization of other blends might well be mental diagrams of precisely this sort. Diagrams are then, perhaps, the schemas of schemas.

MENTAL SPACE NETWORKS AND LINGUISTIC INTEGRATION*

1. Introduction: Mental Space Networks

It will here be assumed that the reader is acquainted with standard works of the last fifteen years on mental spaces, the analytic tool or theory originally introduced by Gilles Fauconnier (1984) and later elaborated by the same author (1997) and by Mark Turner (1996), as well as by these pioneers in collaboration, and by a host of cognitive semanticists⁶³, including this author, who have used it in grammar, pictorial semantics, narrative analysis, analysis of poetry, and text analysis at large.

It will be assumed that this analytic tool or theory has not reached its definitive state, and that what it tries to grasp is not yet fully understood. There are in fact a number of open-ended issues in it, and we will discuss some of them in this paper. Analytic experiences through these years have led to a need for clarification of at least the main principles of this particularly fascinating tool for modeling structures of meaning that occur across a wide range of semiotic manifestations, not only in communication and expressively organized thought, but also in gesture and imagination.

An essential principle of mental space network (MSN) analysis is that input spaces are not always undecomposable primitives, but can sometimes, even often, be seen as pre-compressed networks. Output spaces can thus be inputs to new networks, and can then be mentally decomposed into the networks they are outputs of. Any mental construction is to be understood as a complex MSN architecture, corresponding to integrative processes in the mind that semantic research will elucidate. These processes and architectures must be following regular and rather canonical designs, since, as it seems to be the case, they are not necessarily revised and rebuilt for communication only, but do instead actively and meaningfully use the same formats both in spontaneous thought and in spontaneous inter-human communication, which

* This essay contains ideas presented to the AELCO Conference in Madrid, and some other suggestions made in the congress on “Linguagem e Cognição”, Ass. Portuguesa de Linguística, Braga, both in May 2000.

⁶³ Cf. S. Coulson and T. Oakley, *Cognitive Linguistics*, 2000, special issue on Conceptual Blending.

can be very fast processes and still allow a completely smooth decoding. This is also the assumption that leads us to view e.g. the forms of language as a 'window' to the forms of mental organization and processing of meaning: the semantic structures of thought and expression in humans are probably in principle the same.

Mental processes that organize basic meaning are fast working routines, compared to reasoning, arguing, syllogistic rhetoric – though not compared to multi-modal gestalt integration in perception. They run automatically, independently of special attention and volition, but their components and perceptive properties can be grasped by conscious thought, if we train our minds to 'pay attention' to them. Linguistic communication shows us that even rather complex semantic architectures are 'basic' in this sense. Their layered integration seems to work according to pre-established network formats whose compression occurs automatically in the mind⁶⁴. We should therefore consider the basic blending network, which apparently constitutes such a format, and try to understand the dynamics of its default composition.

2. The basic format

Let us start by studying an example, a metaphor picked up in the author's context.

In an everyday dialogue, a recently divorced man hears from a friend that his ex-wife is speaking ill of him. He then says with a discreet sigh:

"She is just scattering the ashes of our love..."

There is a Base space in which the dialogue is taking place. This Base space has the global story of the speaker's marriage and recent divorce, the local story that the man has just heard, and a parallel background story of the interlocutors' friendship. Semantic referents are taken from this stock and activated in the MSN.

The utterance refers to what preceded the divorce: "...our love..." It thereby builds a Reference space containing the story of the speaker's marital and post-marital life, including the slander.

The utterance also builds a Presentation space where someone is generically "scattering ashes" as in a funeral ritual. It is understood that the

⁶⁴ Cf. the large bits of compressed thought or knowledge that we can refer to by pronouns like it, that, this idea, etc.

speaker's ex-wife is not literally doing this, but that the comment is a metaphorical interpretation of something she does do, and that the interlocutors are aware of. The semantic domains are distinct: funeral rituals do not belong to the same semantic domain⁶⁵ as marital life, even if there are points of semantic contact, such as the wedding ritual.

In the metaphor, the agent of this activity of "scattering ashes" in Presentation space is mapped onto the ex-wife and her purely verbal activity in Reference space. The corpse reduced to ashes in Presentation space is mapped onto the abstract entity "love" in Reference space; so this love is "dead" and is being buried and mourned. Emotionally, the implicit grief is mapped onto the implicit act of aggressive slandering. This is of course a contrastive mapping, containing an opposition (*de mortuis nihil sine bene*, but here rather *nihil sine male*). Furthermore, the two mental spaces involved are inputs to a Blended space, into which their contents are projected, and in which the ritual gesture in the Presentation space and the verbal activity in the Reference space merge figuratively: the two iterative acts (scattering, i. e. spreading, and slandering) are now one and the same. One act "is" mentally the other act: doing one thing "is" doing the other thing. The conceptual metaphor formula in George Lakoff's version – A IS B – uses the copula in the same sense of non-referential predication, made mentally possible by the blending operation. The speaker and the hearer of a metaphor know that the identity only holds in the blend. Nevertheless it holds, in this space, at least as long as it takes to share an idea or an evaluation, an inference that seem to emerge in the blend. Some conceptual pairs of categories seem to be cognitively active when the inferential spark occurs, as is the case here, since HUMAN RELATIONS ARE PERSONS is a metaphor concept underlying our blend [a love story is an embodied human person]. However, we are not only asking what makes the metaphor possible, or legal (as an analytic philosopher might do), but also what it means and why. Here, the underlying conceptual pair is irrelevant as an explanation. We need to see what makes the blend meaningful, what motivates it and supports its non-arbitrary choice of 'source' presentation for this 'target' referent.

A general remark: the conceptual A-IS-B formulas can never explain the intended meaning of the metaphors they apply to, but in fact can only rate the semantic plausibility of the source-target pair.

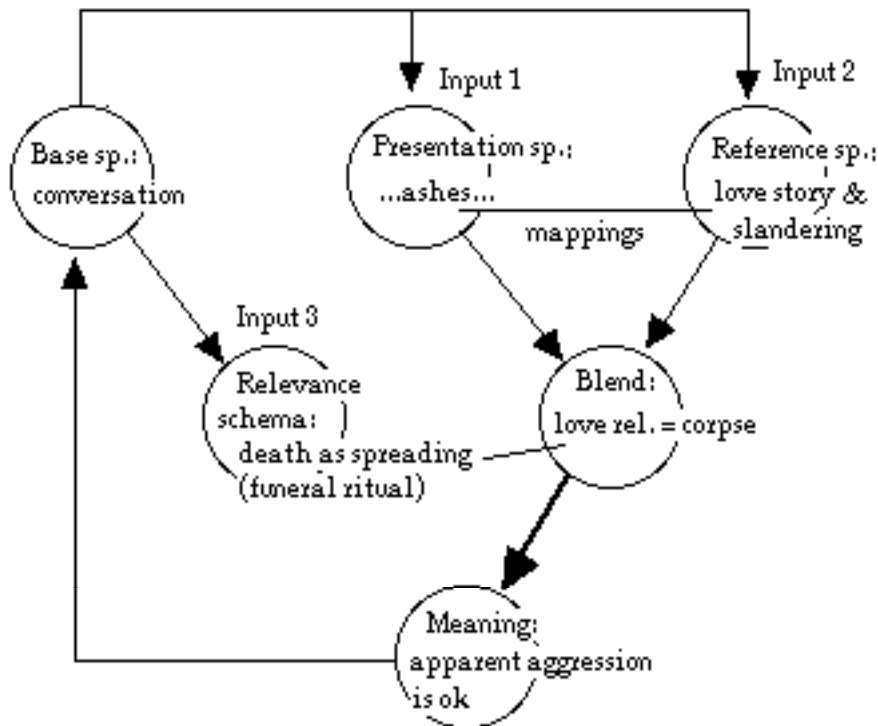
⁶⁵ Cf. *supra*, "The Architecture of Semantic Domains". The scattering of ashes is a ritual, a funeral act, and thus a sacred category (D7), whereas a love story as such is a domestic category (D6).

Note the speaker's adverb: "... just..." The agent's referred act is being seen by him as less important and more normal than perhaps assumed by the worried interlocutor; the ex-wife is 'just' doing what is normally done in such situations. There is no need to worry. What was presented in a given frame is re-framed; just and expressions like nothing but... are re-framers. She is just scattering... Attention is drawn to the metaphoric verb that expresses this re-framing.

In the blend, the activity is as important as its object. The ex-wife is scattering the ashes of an imaginary 'marriage-corpse'. The ashes evoke cremation; the 'fire of love' has died out—[paradoxically, love is fire and is also the burning volume]—and has left these traces for the final ceremony to honor the departed, by ceremoniously scattering them. Scattering – schematically: causing irreversible diffusion and multiplication of something compact – is always conceived with emphasis and emotion; spreading rumors, slandering, is an evil thing to do, and should give rise to anger; spreading the ashes of a corpse is instead a ritual expression of grief. But both forms of spreading share this causal schema of dissemination or scattering, whose ambivalence is possibly due to the conflict of prominent versions such as: sowing, producing beneficent growth, versus contaminating, producing epidemic disease... and the ambivalent schema here lets a scenario of mourning reframe a disturbing scenario of wrongdoing. The evoked emotion of grief lets the ex-partners both be mourners. So, the shared spreading schema neutralizes the negative meaning of the verbal act (as an offense) by – somewhat surprisingly – also seeing it as a display of respectful remembrance.

The polysemic causal spreading schema is operative as the content of a separate mental input space – which I propose to call a Relevance space – that maps onto the 'marriage-corpse' blend and stabilizes it by interpreting its motivation in terms of ritualizing a significant emotional transformation. This transformation is what makes the 'marriage-corpse' blend relevant at all, in the ongoing communication. The re-framing operation is thus the result of 1) a mapping occurring between the blend and this schematic content of Relevance space; and 2) a projection of the merged act from the blend and of the schematic meaning, from Relevance space, into a second and final blend, in which the emotional transformation is the pragmatic 'message'. This message is what the utterance means, and what is in fact projected back to Base space as the only aspect that the speaker intends the hearer to understand in what is said.

Fig. 1: A metaphor network.



A similar MSN characterizes all metaphors⁶⁶. In metaphor, the difference between Presentation space and Reference space is particularly clear, because these inputs stem from distinct semantic domains. My audacious claim,

⁶⁶ But only when the semantic domains of the two primary inputs, those of Presentation space and of Reference space respectively, differ, do we get metaphor. Turner's and Fauconnier's pioneer version of this analysis has no generic characterization of the spaces of a network (such as: Presentation, Reference, Relevance). Instead it has a difference in framing (single-framed vs. double-framed, or one-sided vs. two-sided blends) as a specifier of metaphor. It has furthermore a rather enigmatic Generic space which is supposed to contain some generalizations over structure found in the two input spaces. The MSN presented here is more phenomenological: only the semantic 'pockets' that must be active in order to yield the experiential result, and only such 'pockets' as are necessarily experienced in view of this result, are accounted for. The Generic properties may be there as formal generalizations of the constants of the initial mappings, but these generalizations do not fulfill the phenomenological requirements for being reported as contents of a mental space, because they play no role in the dynamic schematization that leads to the 'emergent meaning' of the network and therefore are not relevant for on-line understanding of the meaning of a MSN; they may instead be the analyst's justifications of its mappings in terms of occurring regularities underlying these mappings.

however, is that this six-space network constitutes the canonical design of MSN compositions at large, and thus a default, fast-working, elementary 'molecule' of complex, more extensive, and nested networks.

A MSN is, I claim, a stable format of semantic integration as such. It takes up what multi-modal perception, i. e. sensory integration, also called binding, or Gestalt formation, makes available for the mind, and it prepares and precedes the much less entrenched notional integration that takes place in reflexive, syllogistic or otherwise explicit reasoning, such as discursive argumentation.

A striking example of the two sets of mappings in this network (Inputs 1<->2 and Figurative Blend <-> Relevance space) is offered by a rather strongly context-dependent American joke⁶⁷ on presidential affairs of the 1990ies:

"If Clinton were the Titanic, the iceberg would sink".

The straight-forward first set of mapping counterparts is:

the Titanic<—>the president Clinton;
the iceberg<—>the Lewinsky scandal;
the Titanic sinks<—>Clinton steps down.

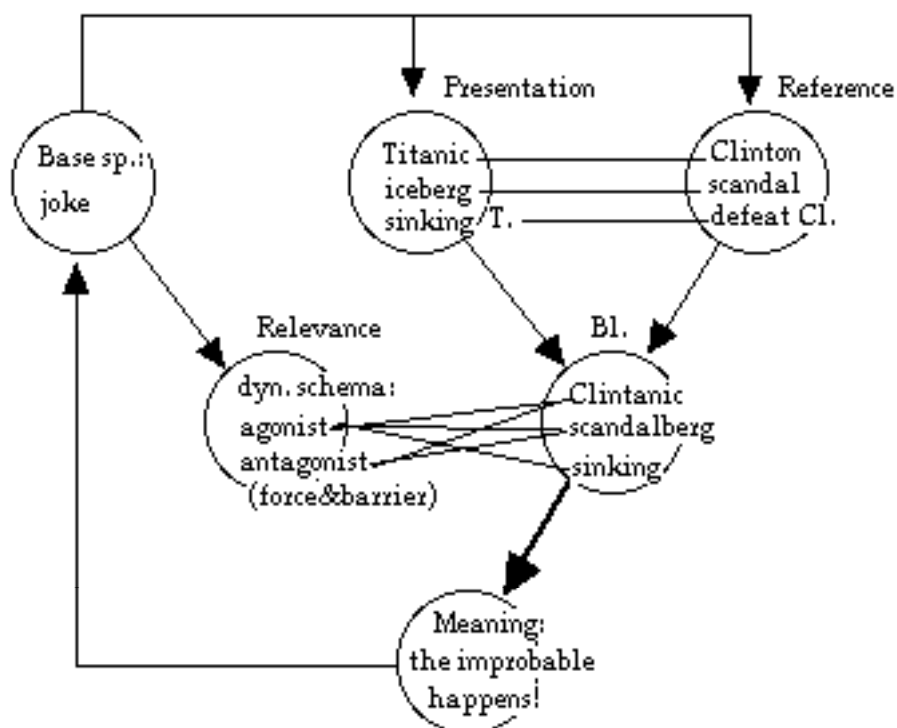
Then an imaginary blend is supposed to occur in which a 'Clintanic' meets a 'scandalberg', and something happens. The second set of mapping counterparts connects this blend and an appropriate barrier schema (cf. Sweetser 1990, Talmy 2000) in Relevance space, offering a mobile agonist hitting an antagonistic barrier and going down.

But in the text of the joke, surprisingly, the iceberg sinks, so, surprisingly, Clinton stays president. This strange outcome – including the surprise – can be explained by a crossing of the second mappings, so that the presidential ship Clintanic is now seen as the antagonistic barrier that makes the agonist iceberg sink – something icebergs moreover never do! The emergent inference is the emphatic surprise, felt by the speaker, at the 'impossible' result of the conflict.

Humor is often – maybe always – based on apparently counterindicated mappings.

Fig. 3: A counterfactual comparison.

⁶⁷ Turner and Fauconnier, 2002, pp. 221-222.



3. Linguistic Integration

As mentioned above, MSNs (semantic integration) are fed by perception, memory, imagination, and communication (fast sensory integration). In their turn, they feed into higher notional processes (slow notional integration). But since communication demonstrably feeds the blending processes directly, and since language is eminently involved in both communication and blending, as can be seen from linguistic 'space-building', it seems reasonable to consider linguistic structure itself as realistically relying on mental processes that use the same semio-cognitive format.

Construction grammar (Brugman, Goldberg, Croft e. a.) defines a 'construction' as a pairing of form and meaning, 'form' being a grammatical format, and 'meaning' being a conceptual structure of some kind. We might compare this general idea to Saussure's linguistic sign, which binds a signifier to a signified (Fr. signifiant, signifié), and which does not distinguish between words, phrases, and sentences in this respect. The 'form' is the signifier, and the 'meaning' is the signified. All signs are constructions, and constructions are nothing but variously extended signs. The most convincing argument in favor of this general view is, I think, the all-covering extension of phonetic form in spoken languages. Instead of having different expressive codes for different semiologies, as in animal communication, human languages universally use one and only one phonological shaping of the phonetic

substance, whatever be the functions and contents of language use, or of the cognitive processes involved (see below, component 3a). We could have developed one phonemic shaping for performative speech acts, another for story-telling, a third for pronouncing proper names, and so on. Instead we cover the entire range of possible intentional acts involved in communication by a single system of formally significant sounds relevant for syllabic production. We use this system when expressing lexical roots as well as morphemes, we use it when importing lexemes from different languages, and the system is almost entirely automatized in the individual speech reception and production. This 'form' was what Ferdinand de Saussure meant, and semio-linguists in general mean, by the term 'signifier'. Louis Hjelmslev referred to it as the 'form of expression' (versus the 'substance of expression'). By contrast, syntax is silent. Syntactic form is not an extension of phonetic form. The notion of syntactic form does not refer to sequences of sequences of syllables called 'words', but to totally different phenomena: sentences. Sentences are essentially distinct from words, so the notion of construction will have to be distinct for the two linguistic categories. The 'phrastic' (French: *phrastique*) phenomenon is distinct both from the phonetic string of words 'in' the sentence and from the constellation of themes that make up the meaning 'of' the sentence. It is neither phonetic nor semantic. It is grammatical, and it requires us to rethink the notion of construction as distinct from a Saussurean phono-semantic pair. Linguistics still needs to pay substantial theoretical attention to the originality of the phrastic⁶⁸ in order to obtain a more profound understanding of grammar than that which reduces it to either word order or world knowledge. For instance, to be the subject of a verb does not mean to be linearly located to either the left or the right of a word called the verb. Nor is it to be the agent of an action represented by the verb. Subjecthood is a grammatical property that cannot be reduced to anything other than this focus-binding extension that the verb has, especially when it is finite. A verb is the 'head' of a phrastic whole or body, X, the core organizer of a scenario that informs us about some semantic reality Y; which means that Y is a mental space, and X is a different semantic space and a form of mentally accessing Y, of presenting and conceptualizing it (applying focus, scope, scale, etc.). In this sense, the conceptualizer accesses Y through Y. And in a sense, X is predicated of Y. In other words, the constructional form X accesses the constructional meaning Y. The sentence is a phrastic relation

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I first used this term, and tried what I am re-trying here, in Brandt 1973.

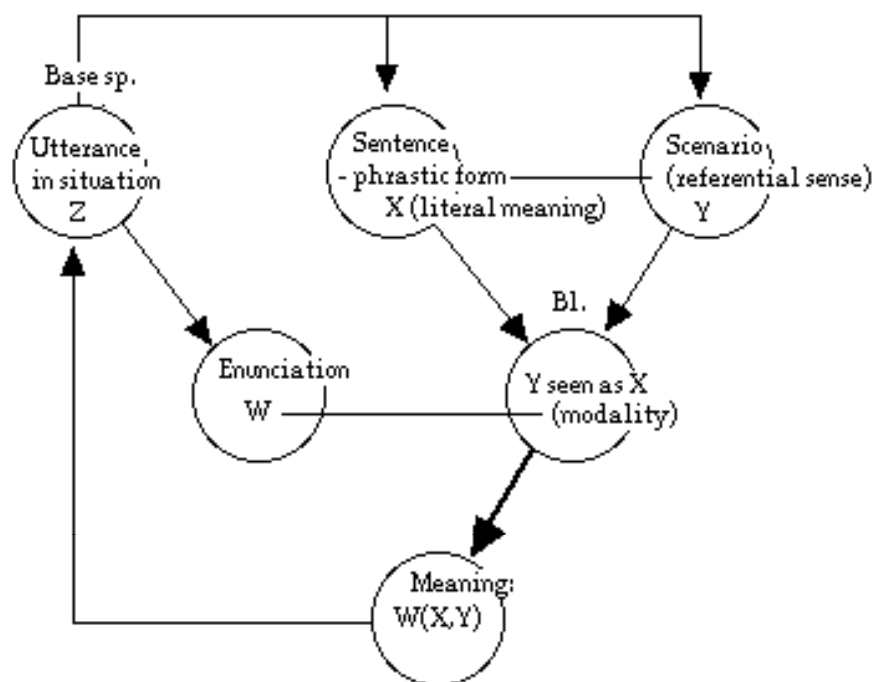
holding between X and Y – a relation that can be understood in terms of mental spaces, and perhaps even not in any other way.

Presuming that the study of language must include analyses of sentences, technically speaking: of phrastic constructions, and that it should, in addition, include some theoretical reflections on the sort of cognitive concepts that make phrastic constructions possible, I would like to present some basic developments of the connection that this interpretation of constructionalism establishes between general grammar and mental space networks. The ambitious perspective of these modeling developments is a new view of the architecture of language.

We will consider four steps in the process of linguistic integration.

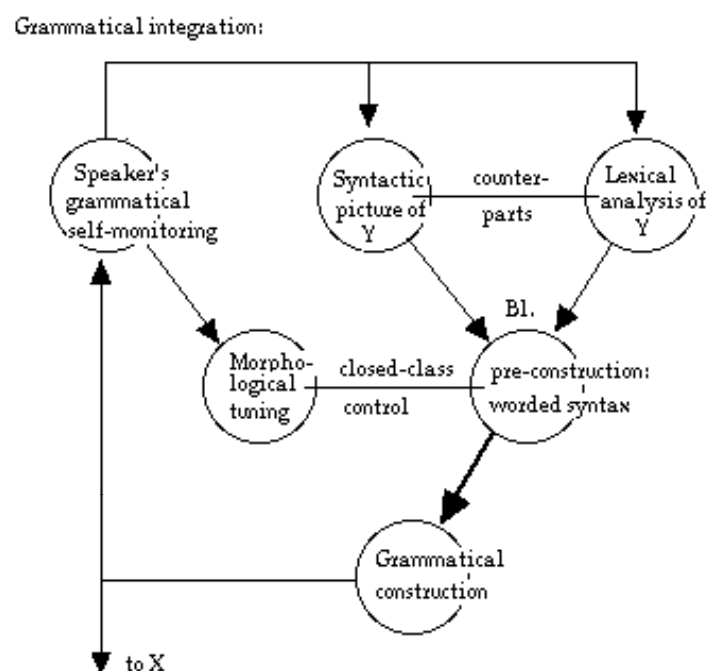
1. If there is, in an uttered sentence, a phrastic form X, then, by necessity, there is a meaning Y, to be understood when the sentence is uttered in some situation Z. This means that Z is a Base space, X is a Presentation space, and Y is a Reference space. The metaphoric sentences we have studied above are examples of this. In the XYZ-network, there is moreover a Relevance space W whose content maps onto the XY blend and lets X be an instance of the speaker's attitude to his theme Y and to his addressee; W specifies the enunciations structure of the utterance, including the addressee-role.

The network of phrastic integration, also called 'construal', is thus the following (fig. 4):



2. The grammatical input X to this network which describes the semantics of reference (phrase $X \leftrightarrow \text{theme } Y$) as a mapping-and-blending relation controlled by an enunciative setting (W, including metaphor detection) can then be studied as a separate network structure. On this purely grammatical level of integration, there is an internal Base Space, namely the speaker's mental monitoring of grammatical 'sounding-right-ness'⁶⁹, accounting for auto-correction during the speaking or writing process. Input 1 is a syntactic space of semantically preformed constituency structure, and there is an Input 2 space of lexical choices for X. Constituents and lexemes are counterparts in the mapping preparing the integration in the Blend, and parts of this integration are counterparts of the morphological congruity regulator, an instance that sanctions the relevance of the lexico-syntactic integration and contributes to the sentence by blending morphemes and word order⁷⁰ into it. The final blend will feed back, through the speaker's monitor, into the input spaces, in a loop that ends when all clausal embeddings are structured. This network is the core instance in grammatical integration.

(Fig. 5):



⁶⁹ When we mentally monitor our own speech, we notice details of grammatical structure, but not simultaneously details of our enunciation: we can focus either on our 'utterance space' or on our 'monitor space', but it is difficult to do both – and occurring grammatical errors are probably due to this switching problem.

⁷⁰ Morphologies and word order rules are closed class phenomena and are interrelated: morphemes form sequences, linear patterns that determine the correctness of sentence-structured strings.

When, additionally, constructions blend, this grammatical network ‘holds’ one sentence structure X while processing another, X’, and then superimposes the new on the former, under a new supervising Relevance mapping⁷¹. The result is a sentence inheriting structure from both X and X’. This happens particularly often in idiomatic expressions and sayings, as well as in many hyperbolic forms, including the English Caused Motion construction, which offers a strange satellite-and-transitive syntax despite the (often) intransitive valence of its verb:

He sneezed **the napkin off the table**;

He talked **her ears off**;

—or in the common Dative constructions that blend a give-based ditransitive syntax with that of an instrumental transitive verb:

She cooked [i. e. ‘gave’] **him** an egg.

This is a normal phenomenon in networks, since they are back-feeding processes, rather than unidirectional assembly lines.

A ‘syntactic structure’ is a stemmatic⁷² composition of some kind – predicative, transitive, intransitive, active, passive, medial, etc. – offering slots for the lexical items (words) to fill, according to possibilities that the normative, morphological grammar then regulates while linearizing it.

3. There is, according to this view, a phrastic level of integration and a grammatical level of integration. The output of the latter is a major input (X) to the former. This double structure is the main design of linguistic meaning that any situation of language learning will reveal to the student.

In addition to the main design, we now need to consider the possible pre-organization of our syntactic constituency and of the lexical inputs.

3a. The lexical fillers of syntactic constituent slots in grammatical sentences are ‘words’, whatever that means. A characteristic property of ‘words’, in this natural and non-sophisticated sense, is to have phonetic expressions, and thus to be signs: phonetic signifiers over semantic signifieds. But these signifiers are distinctive, in the structural sense that the sequence of sounds that constitute them is articulated into sound elements, ‘phonemes’

⁷¹ Cf. “The Architecture of Semantic Domains”, for a comment on these constructions.

⁷² Cf. infra, “Semio-linguistics and Stemmatic Syntax”.

and phoneme clusters, that only tolerate minimal deformation, beyond which the signifying function of the sequence is distinctly modified – either the word meaning disappears altogether, or the word's identity is replaced by that of another word (cf. Hjelmslev's 'commutation test'), or the word's meaning undergoes schematic variation (the phonemes involved then constitute a morpheme).

Let us imagine a pre-grammatical Base space, in which a speaker – infant, non-native, or linguist – exercises pronunciation, alone or with an informant. In so doing, he builds an Input space containing the intended sound productions and the resulting phonetic sequences that seem to map onto variants of a word's category-related meaning (Input 2). There will then be a blend, in which he holds the phono-semantic pairs that make sense (according to himself or the informant). These phono-semantic pairs, which are 'words', interrelate in different ways, form contrasts, homonymies, synonymies, etc. These interrelations are primarily chaotic, but can be gradually ordered by the introduction of morpho-schematic parameters that identify dimensions of class-specific variations (number, gender, case, tense, mode, aspect, etc.) and make it possible to recognize stable radicals and possible variations. The morphologically interpreted 'word', whose meaning was mobilized by the external Base space in the first place, will then feed into the Reference space of the grammatical network. (Fig. 6):

3b. Words that go into grammatical structures are pre-structured entities, form–meaning patterns stabilized by conceptual schematic covariation relations⁷³. And likewise, their syntactic integration is pre-structured by a specific network accounting for the syntactic format that appears in the grammatical network as its Input 1, offering the constituent structure whose slots of constituency they are going to fill. There is a corresponding Base space of gestural dramatization; the syntactic performer acts in front of an addressee as he would do if performer and addressee did not share any spoken language – his gestures would comprise a series of bodily movements and poses, then a pause for interpretation, then another series, and so on. This articulation of the gestural flow into an interpretable series of finite sequences of expressive events is essential to pure gesture semiotics, but it is still active in linguistic communication, which can be regarded as a superimposition on gesture, the way a song is superimposed upon a dance. This grounding gestural theatre of syntactic integration will build a Presentation space displaying the intended drama itself, whose scenes contain intelligible tableau-like configurations of ‘actants’ and ‘circumstants’ (as L. Tesnière proposed to say) that modify each other in different ways. Their mutual modifications form a cascade – a structural hierarchy of modifiers modified by other modifiers – which in each instance ends the way the gestural ‘message’ would end. As a whole, this actantial scene or episode represents a referential content in a particular form, mode, style, etc.; what the syntactic ‘signer’ must wish to communicate is that something occurring in some semantic domain – an event, an action, a state, a process, an object configuration, or even a belief, a problem – is ‘like this’: like the shown syntactic whole. The syntactic whole is an icon of how the referent is seen, that is, what the referent ‘is like’, according to the sentence. The network of the syntactic integration is often confused with that of the phrastic integration (supra), but the most prominent difference is that the syntactic referent is imaginary and purely formal, whereas the phrastic referent is intended by the speaker as real and substantial in some semantic domain. The imaginary referent is syntactically informed by the network, and the result is the syntactic input to the grammatical network, where lexical meaning blends into it.

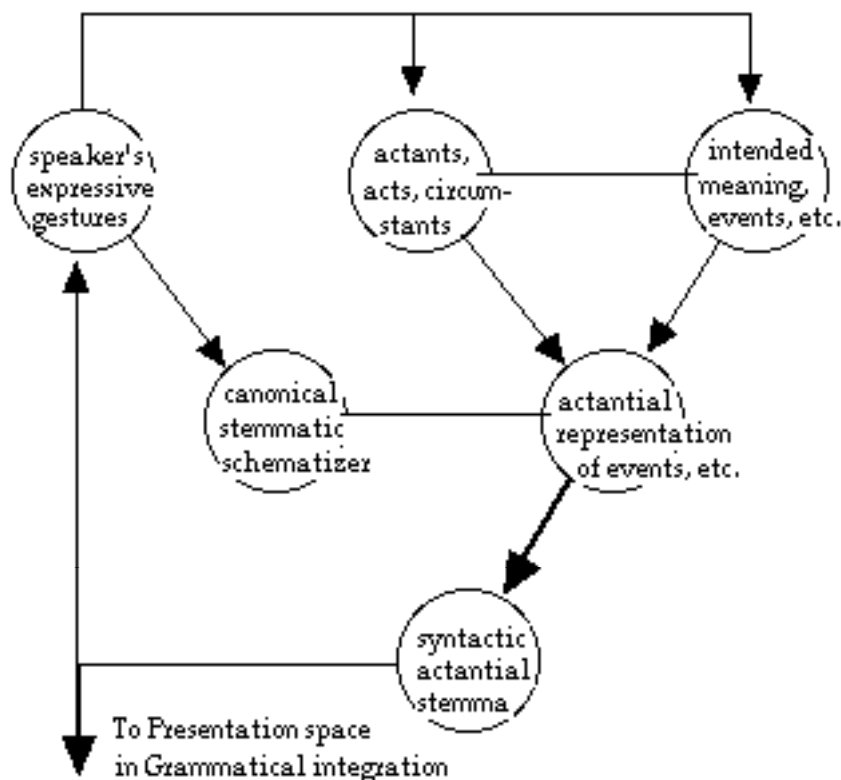
⁷³ If we call grammatical structures constructions, it leaves the term construal for the pragmatic, phrastic structuring, by which things are in fact ‘construed’ through linguistico-phenomenological blending.

In this context, the Cartesian argument once presented by Noam Chomsky⁷⁴ should still be taken seriously: it is an essential property of language that the same grammar can be used for 'speaking about' everything we can possibly 'think about', and that it does not need to change its syntax in order to change the topic. The entire human world including all states of affairs in all semantic domains is rendered by sentences whose syntactic properties do not depend on their topic. Why is this so, and how is it possible? Just like there is no specific phonology for specific topics, there is no specific syntax for them⁷⁵. The only possible explanation is that there is in fact a generic and canonical stemmatic design for syntactic functions (such as predicativity, transitivity, intransitivity, satellite or case driven directionality, adverbial-circumstantial meanings of different but not infinitely many sorts, relative, completive, and adverbial nesting of clauses, paratactic conjunction, etc.) of all types and for all purposes (events, actions, states etc.). Languages do not introduce new syntactic functions for new situations or thoughts – for example in order to describe new invisible micro-physical processes. Instead, they swiftly adopt available narrative and metaphorical concepts developed in describing macro-physical things. My claim here is that the generic stemmatic design for syntactic functions constitutes a schematizer that has to map onto and integrate with the actantial representation of our mental contents in order to let them be experienced through possible and relevant syntactic structures. The syntactic integration proposed, which feeds into the Presentation space of the grammatical network, corresponds to the following network (Fig. 7):

⁷⁴ This argument has been emphatically rejected and violently scorned by cognitive linguists of the semantic and anti-modular orientation. However, it has not yet received the attention it deserves.

⁷⁵ The best counter-examples I can think of are 1) meteorology and impersonal constructions: It rains; 2) interpersonal relations and ditransitive constructions: giving someone something. In these cases, original semio-syntactic 'islands' in evolution (or ontogenesis) seem to have contributed to a common stock of now generally available semio-syntactic structures.

Syntactic integration:



As to the decisive theoretical ingredient in this network, the generic schematizer that controls the universally cognitive stability of syntactic structures, the very assumption of its existence is still heretic in construction grammar, but this is perhaps due to the misunderstanding that such a generic syntactic instance would have to be semantically void – since it is compatible with all meanings. Now this is precisely the point of the Cartesian remark: we possess a cognitive device that applies to all meanings and makes them constructible, and this device is itself semantic⁷⁶. Anti-Cartesian linguists might find it philosophically difficult to believe that there can be a pre-structured case-like semantic syntax of not yet perceived or conceived phenomena (cf. ‘all meanings’), and that such a phenomenological syntax can even be coherent, as E. Husserl once suggested it is.

The mechanism in question is not a calculus-like formal generator of symbolic expressions, but rather an ordered neuro-cognitive procedure for

⁷⁶ How can there be a determined semantics of a yet undetermined content? The semantics of an undetermined imaginable ‘something’ is the cognitive semantics of a mental space as such: as mental and as a space of something imaginable. This is one of the deepest implications of a general theory of mental spaces.

immediate situational construal in what psychologists call 'working memory' – a mental routine known to all translators, who will agree that you can grasp a composite meaning and its components without disposing of a wording of its constituents.

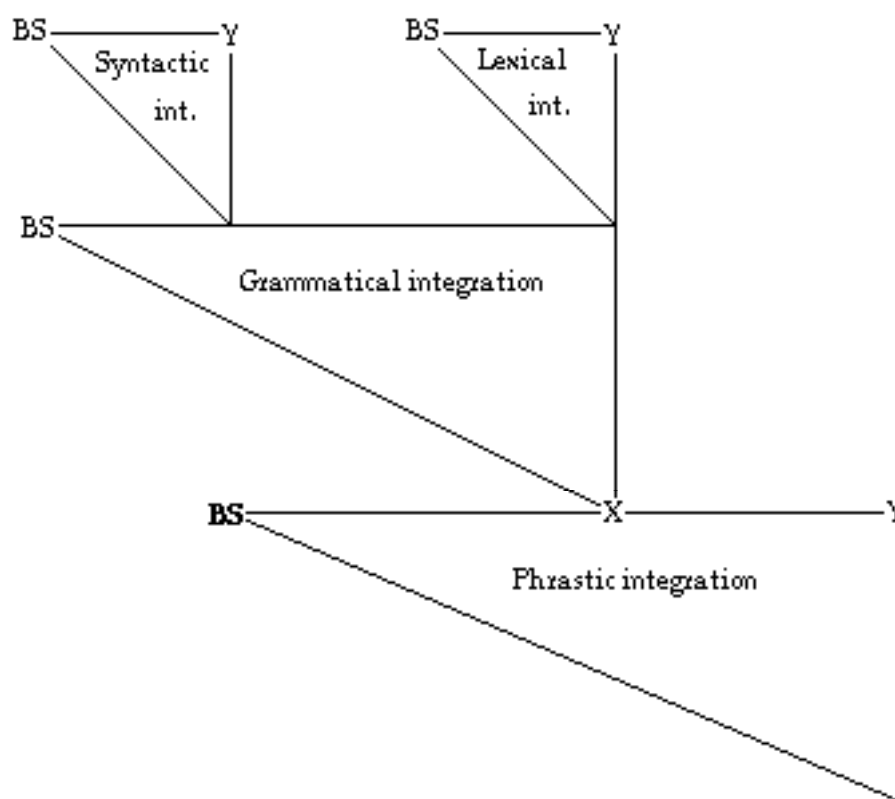
It might seem that this sketch of a general theory of the mental space networks involved in language processing (production, reception) takes the linguist back to modular conceptions and should therefore be regarded as problematic a priori. The four networks considered (1, 2, 3a, 3b) distinguish aspects of what we could call 'the meaning of language' – as a 'system' – that fundamentally correspond to aspects of the experience of language as 'used', and they hereby distinguish four shades of the speaker's and the addressee's activity, namely: (1) communication by the exchange of utterances; (2) mental monitoring and evaluation of grammatical sentences; (3a) pronunciation and recognition of linguistically relevant sounds; and (3b) gesturing in order to express structure, and understanding expressive gestures. Language can be consciously accessed in these four fundamental ways, and they give access to four different conceptual processes involved in language activity. These conceptual and practical doings of speaker and addressee are included in the Base space components of the analyzed networks. There is probably an expressive standard circuit of these basic instances, performed by the speaker in the following order: communication -> gesturing -> pronunciation -> mental monitoring -> communication, etc. Variations and variable linguistic skills characterize these parts of the process differently, as any study of on-line errors in spoken or written language will show.

The four aspects are 'modules' in so far as they are considered to be separate instances in a hypothetical linguistic architecture of integration. But we do not need to think of them in terms of an industrial assembly line. What the above suggestions convey is rather the idea that there is in our minds a general grounding process of conceptual integration by specific semantic operations of mapping and blending that connect consciously accessible and distinguishable mental spaces into networks, and that connect specialized structuring processes in our linguistic minds along the same lines. The instances of integration we can experience and semantically analyze, and the connections we can theoretically stipulate are in principle the same.

Both in linguistic phenomenology and in its neural ontology, semantic SYNTAX and semantic LEXICOLOGY really do blend into GRAMMAR, which is determined by the semantics of enunciation in any linguistic

performance, and these integration networks therefore do give us a view of the entire linguistic competence:

Linguistic integration:



The general point is that the phrastic Referential content (Y) is referential both in the syntactic and in the lexical integration; this content is thus reprocessed through the upper networks and then finally reappears in the matrix network.

The only non-semantic component of this architecture seems to be 'grammar'. However, the integration of sentences and words must be sensitive to normative genres, so it may be relevant to see it as a general matter of style: there are unmarked styles of non-emphatic social discourse 'in' a given language, and there are marked styles of emphatic idiolectal uses, including poetic forms of grammatical disintegration. These phenomena are socio-stylistic variations on a 'semantics of speakers' – grammar indicates the speaker's position on a polar scale from central (unmarked) to marginal (marked) status in a linguistic community. Style in language is of course distinct from enunciation.

Enunciative patterns are globally important to textual meaning. They are regulators of the most compact integration in linguistic performance: that which makes us blend language with extra-linguistic reality. This final integration is also the one that makes us feel that language is a compact, indivisible whole; but we do not have to truly believe in that impression.

4. Concluding remarks

Cognitive linguistics as we currently know it is mainly a conceptual playground of renewed semantic curiosity and local developments in the modeling of hitherto unnoticed particularities related to human representations of different sorts.

One of the important discoveries made is that of what we might call the Natural Human Surrealism manifested by the many-faceted process of blending. The claim made in the present essay is that a slight revision or rather a minor re-elaboration of the current semantics of mental spaces and conceptual integration allows us to face the major challenge to cognitive linguistics as a theoretical discipline – namely to achieve a plausible over-all view of human language as such and as a non-chaotic process (a ‘system’ in an organic sense) of mentally accessible facts of integration, a view that would have to be compatible with neurological, psychological, philosophical, and evidently also literary results, data and research.

Linguistics can never pretend to any absolute theoretical autonomy as regards methodology and ontology. But it can certainly maintain its classical vocation as a discipline dedicated to gaining knowledge about the general architecture of form-related meaning and meaning-related form in the genre of cognitive semiotics that once gave rise to notions of logos, reason, and that still seems to be the privilege of our species.

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SEMIO-LINGUISTICS AND STEMMATIC SYNTAX

1. A strong claim.

The grammar of a natural language is its capacity to form sentences. These finite units of virtually infinite discourse are composite, i. e. syntactic, wholes, whose parts are determined in two ways: as 'functional roles' and as 'word classes' (lexical elements). There is no one-to-one correspondence between functions and word classes in a language; words inflect according to their assumption of multiple functions, and a function is compatible with multiple word flections. An important portion of the morphological signs in a language is dedicated to the 'insertion' of words in functional slots. This double determination of the parts of the syntactic whole is irreducible, because sentences and words are distinct linguistic fundamentals. Both are semantic: words have 'meanings', but only when integrated in sentence-functional 'meanings' do they come to 'mean' what the speaker intends when saying what he 'means'.

The practical account called a grammar of a language (a 'school grammar') intends to describe how words – lexical and morphological entities – enter a sentence in that language through this functional phenomenon called syntax. Linguists do not generally agree on any theory of syntax, despite the many attempts made throughout the twentieth century, but grammarians nevertheless often agree on the functional structure of a given sentence in the language they describe. Syntax therefore appears to be a natural property of language and a phenomenon that we can be immediately conscious of when sentences occur.

In linguistic perception – both the speaker's auto-perception and the hearer's allo-perception – aspects of syntactic structure are directly apprehended in real time. Therefore syntax is often described in terms of concatenated functions, like a sequence of notes in a melody. It is often rendered linearly, as if these functions simply followed each other and their linearity constituted the essence of their syntactic interrelations. We get descriptions such as: subject (noun phrase) – verb – object (noun phrase) –

preposition – noun phrase (prepositional phrase); or NP V NP PP. The latter style of notation, used in cognitive linguists' writings, e. g. as a shorthand for constructions like the famous 'caused motion' blend⁷⁷, is in fact a historical remnant of early generative grammar, which believed in linearity as a structural principle for pre-transformational 'kernel sentences'. The reintroduction of such untheorized linearistic assumptions of generative or school grammar in current cognitive linguistics manifests its lack of theoretical courage or attention to syntax as well as its predominant interest in semantics. But since linear sequences, 'strings', do not per se constitute structural coherence in language (which is not calculus, built on strings of symbols), we will still have to explain syntactic structure.

It is clear that the theory of conceptual integration (blending) cannot replace a theory of syntax. The process of blending does not in any way account for the existence of 'phrases' – verb phrases, nominal phrases, etc. – or 'functions' – subject-of-finite-verb, object-of-verb, datives, genitives, etc. If some or even all constructions are blends of other constructions, then both the input constructions and the blended ones must be structured by the same conceptual principles underlying their perceptual linearity.

As Descartes⁷⁸ rightly and pertinently stated, the grammar of a human language is not determined by the specific meanings of its utterances – these

⁷⁷ E.g.: He stunk me out the room; a blend of: He stunk and He forced me out of the room. The blend is only possible, if there is a possible causal connection between the input sentences. The inputs are implicitly supposed to contribute structure to the blend, but it is not clear what structure they are bringing.

⁷⁸ Noam Chomsky's Cartesian Linguistics (1966) was based on this essential insight found in René Descartes' Discours de la méthode (1637), Port-Royal's Grammaire générale et raisonnée (1660), and other related rationalist and universalist works (Gérard de Cordemoy), but unfortunately got its implications wrong. Sentences in a human language do not depend structurally on what they are about, therefore they are context-free and creative, and so – according to the generativist – their structure (or syntax) cannot be semantic and must be purely combinatorial. But the structure in question can indeed be semantic, if there is a semantic structure compatible with all specifications. Such a semantics is called phenomenology in philosophy, and it is also currently assumed to exist in the theory of mental spaces – a mental space is in itself a semantic entity compatible with any semantic content that we can single out cognitively and think or speak of. Chomsky's The Architecture of Language (2000) repeats the insight and the error ("...how can you have infinite use of finite means?", p. 11).

enigmatic entities we call sentences. Grammatical structure only depends on the structure of the thoughts we express, and Descartes agrees with contemporary cognitive scientists in seeing these thoughts or conceptualizations as sufficiently independent of the real things they sometimes are about as to make it acceptable to generalize about human cognition as such. Rationalist philosophy is the historical origin of the cognitive sciences of our time. Human thought is free and creative, and so is language; both seem only to be bound by their grounding embodiment. In all situations, humans will use their sensory-motor neural systems not only to bodily act and react, but also to think and feel, and to express inner processes such as imagination. There are two main forms of embodiment. Firstly, when we categorize things in time and space, we use naming as a natural part of the implied mental act. Naming exploits our capacity to bodily produce acoustic form and to monitor and control it by auditory auto-perception. So phonetics is in fact a natural part of our categorization and ordinary use of categories for things. Secondly, when we unfold our stories about the categorized or categorizable entities we wish to create shared attention around, we dramatize by gestures the doings and beings of these entities. Narrative contexts for categories are naturally found in our experience of their instantiations. The dramatic gestures that serve our storytelling are our primary syntactic expressions. Additionally, we are even able to phonetically call upon our categories while showing by gestures what they are doing, and whatever else we have to say about them. Speech and gesture are now coordinated, so that we can bodily present both categories and stories simultaneously in communication. This non-trivial achievement is precisely what makes it possible to integrate words in syntactic phrases and clauses and to arrive at sentences. The basic 'logic' of this syntactic integration is identical to that of our narrative gestures: it is our basic semantics of syntax – as semantically informed as the expressive register of gesture. It inherits from gesture its articulation into local meanings that modify each other, and its pulsation by short hierarchical clusters separated by closures (full stops).

So when syntax gets 'worded', we both convoke categories and perform narratives; the semantics of things and the semantics of stories locally integrate. The complex mental and bodily activity that achieves this does so by integrating gesture and phonation. We know from stutterers and foreign

language learners that this operation is still a difficult and fragile neural process, and that it is more easily obtained when singing, chanting or rapping, i. e. when narrative gesture and evocative naming integrate in musical song lines. The earliest poetry probably coincides with the earliest forms of linguistic performance of our species; singing may even have preceded speaking in the evolution of language. Rhetorical uses of language – public speeches, newscasts, advertising, speech acts of some solemnity ("I hereby..."), etc. – still involve a form of chanting.⁷⁹

The claim here is thus that sentence constructions follow a generic cognitive design that in broad outline determines their constituency and intelligibility. This design accounts for the so-called syntactic functions, and it mediates between the linear manifestation of sentences and their multi-dimensional content: it makes syntax an editing channel, an instance of mediation, between the sound and the meaning of language. Its structural architecture is a prefiguration of the semantics expressed, and also contains information specifying a finite set of possible linear manifestations. It explains the possibility of effortless, fast processing of language, even when contents are non-trivial and not all words are familiar. It accounts for linguistic creativity in the Chomskyan sense, both in production and reception.

This generic design is referred to here as the stemmatic design of sentence syntax. The most important property of this 'stemmatics' is that it is canonical. There is, according to the view presented, a finite series of possible constituents, or canonical complements, which appear in a canonical order (when and if they appear). Both this order and the complement types are determined by an overarching semantic plan, a conceptual scenario construction, which is postulated as universal.

A claim this strong could seem an utterly preposterous or neck-breaking enterprise in contemporary linguistics. It would only be justifiable through extended comparative analysis, and the pilot studies carried out so far⁸⁰ remain local. The grammatical analyses that have motivated the technical

⁷⁹ Cf. oral greeting forms ("Good morning, Mr. Smith!" – "How are you, Mrs. Brown?"), performed at an interpersonal distance of about two meters or more. They are still sung.

⁸⁰ A first stemmatic analysis of modern French syntax appeared in P. Aa. Brandt 1973. New analyses of English, Spanish, and Danish have been elaborated by the syntax team of the Center for Semiotic Research at the University of Aarhus, but remain unpublished. A useful

generalizations so far are based on straight-forward grammatical readings of texts and attempts at examining different constructions in languages known to the analysts and searching for occurrences that do not match the structural predictions of stemmatic theory. The methodology of this project is mainly that of a syntactic phenomenology – trained grammarians may be more sensitive to syntactic structure than average speakers, but should optimally arrive at the same results as these – and a simple comparative control of consistency – same constructions should be analyzed in the same way. Experimental grammatical teaching based on stemmatics has shown that stemmatic-syntactic training can enhance foreign language skills substantially. This effect might indicate that the stemmatic approach taps into a syntactic ‘nerve’ in our linguistic minds.

There are evidently still many unsolved problems in semio-syntactic analysis (semantically informed functional modelling) along these stemmatic lines. And anyway, a Theory, in the classical sense of a complete doctrine, of Syntax is hardly a reasonable goal to strive for in the contemporary context of comprehensive human sciences covering research on all aspects of our behavior, extending from poetics to biology... Nevertheless, a coherent view of syntax in a cognitive framework is still required, and it remains, as in the days of L. Tesnière⁸¹ or of the generativists, an important task to develop the study of the structural meaning of sentences.

2. Stemmatic structure.

All sentences are syntactically articulated wholes, and the parts into which they are articulated are all connected to this whole by some functional and thereby meaningful relation. The syntactic wholes have no unconnected parts. The task of a syntactic analysis is to study these connections. I call the network of connections constituting the syntax of a sentence its stemmatic structure. A stemma is, as the Greek term suggests, a 'binder' and a genealogical principle of linear 'descent'. It has a 'head' and a 'stem' to which 'complements' are bound in a regularized way. The stemmatic head of a sentence is its finite verb. The head of a nominal phrase is its determiner

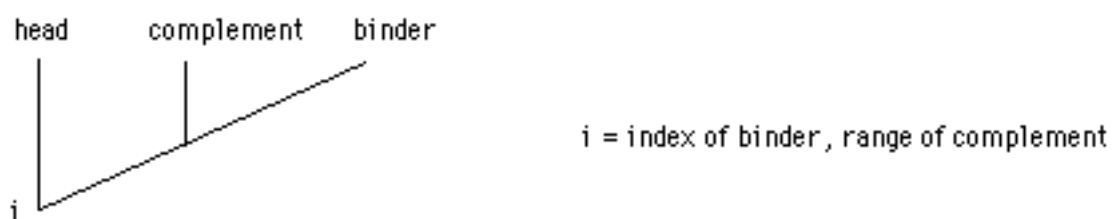
software program for stemmatic analysis was written by Bo Pedersen and Jens-Henrik Skovgaard in 1996; it was used when writing out the examples of this essay.

⁸¹ The term stemma is Lucien Tesnière's suggestion (1965).

morpheme (article, pronoun, or even a zero). Other stemmatic phrases are headed by adverbs, adjectives, and nouns (in nominal compounds).

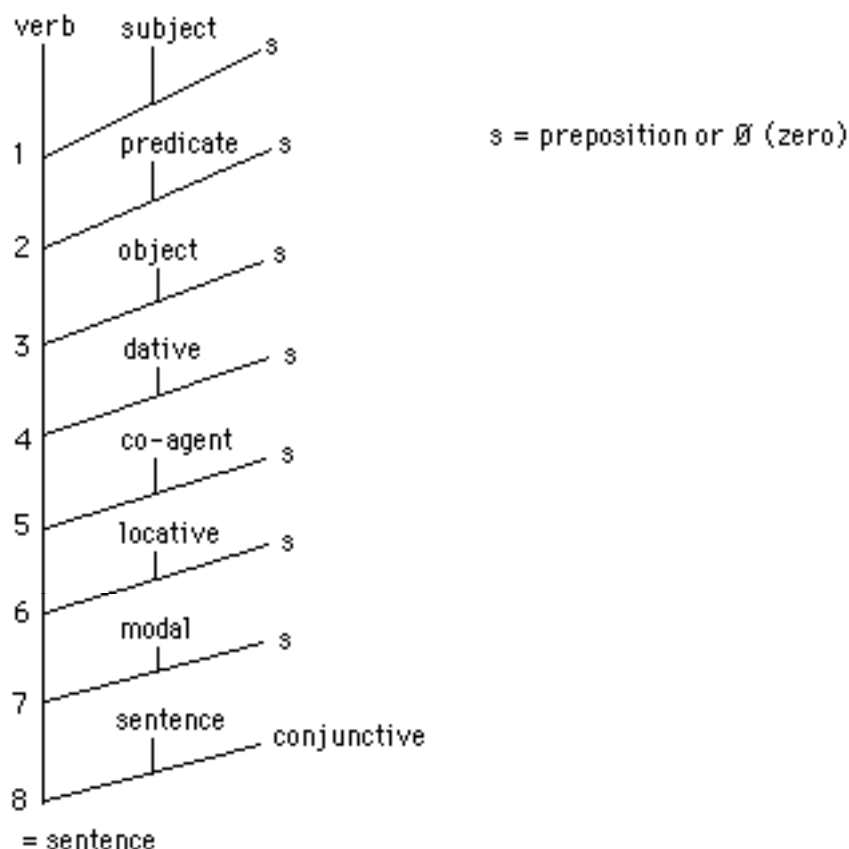
It is an important characteristic of the stemmatic architecture of syntactic meaning that stemmata of all kinds share the same canonical set of possible complements. All stemmata can basically take the same possible complements, but the richest unfolding is universally found in VERB-headed stemmata.

The elementary unit is the binding stemmatic node, which is currently written as follows (other representations are most welcome, and parentheses are sometimes preferable):



What happens semantically is that the heading concept is determined (modified) in some respect by the complement concept. The binder may be manifested by a morpheme, whose form then indicates a specified binding.

The verbal standard stemma is an ordered rhapsody of 'school grammar' phrases. It has maximally only eight complements, each of which has only one implementation (filling), if any. Binders are symbolized by a slot mark, here: , if there is no binding morpheme. A slightly simplified version of the general disposition is the following recursive format:



The complements are either Ø (zero), verb-headed structures like the main stemma (matrix), or other phrases – mainly nominal, or single words (often adverbs). All constructions can be described in terms of this extremely simple stemmatic account of a scenario corresponding to an event or an act in general – we might think of it as a ‘scenario scanner’. These complement nodes {C1-8} are thus determined by standard semantic components of an elementary situational understanding, modifiers that phenomenologically form a cascade of determinations: C8 is an information about 1-7, C7 is about 1-6, C6 is about 1-5, C5 is about 1-4, C4 is about 1-3, C3 is about 1-2, and C2 is about 1.⁸²

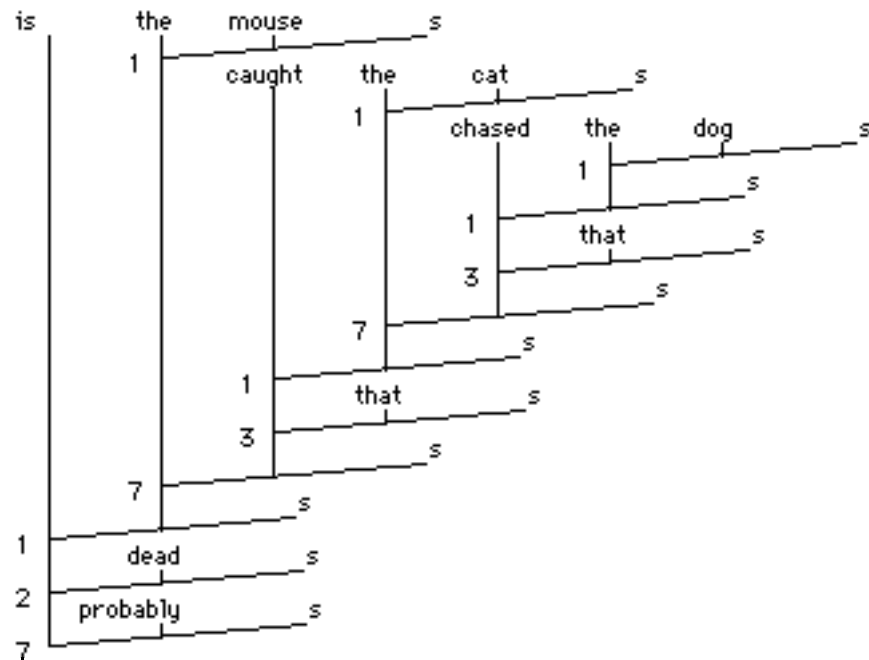
Let us begin the exemplification with a complicated case. Structures may look like the following graph of a double relative embedding, found on a grammarians desk:⁸³

⁸² We might also think of this cascade as a concentric structure of semantic predications.

⁸³ Stemmas are easily written out using the program mentioned above. Such graphic aid substantially facilitates the syntactic transcription of natural texts, e. g. extended literary prose, by which richer samples of syntactic constructions in a language can be obtained than by copying examples from grammar books. Stemmatic representations render the full complexity of real prose, but manually writing these representations out soon gets too

The mouse that the cat that the dog chased caught is probably dead

(The linearization of this implausible stemmatic structure raises the subjects (C1) and the relative pronouns C3 to the left of their respective heads. The rest of the structure is linearized according to a basic principle: head–binder–complement).



The semantic charge of the eight nodes connects the stemma to three scenarios or spaces, showing 1) the mouse's present state, 2) what the cat did to the mouse, 3) what the dog did to the cat. The intriguing issue of understanding how semantic space embedding works might be elucidated by comparing the temporal ordering: {(3; the dog) -> (2: the cat) -> (1: the mouse)} to the syntactic embedding. The lowest level of semantic imagery (the dog's scenario) takes the antecedent item (the cat) from the next higher level and fills it into its C3-slot; then the second level (the cat's scenario) follows the cat into this slot and takes the mouse from the highest level with it to fill its corresponding slot; and finally the mouse takes its state with it, so that time flows inwards in the resulting semantic embedding of the mouse scenario in the cat's scenario which is now in the dog's scenario. The past is then a surrounding circumstance of the present. Understanding the death of

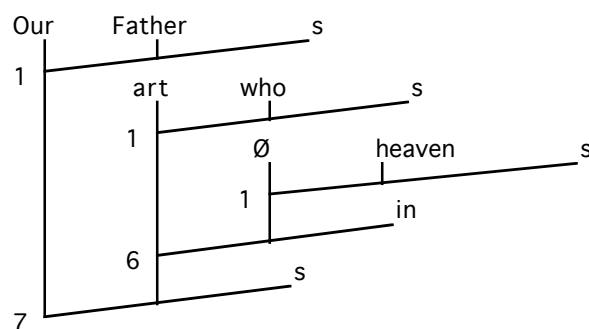
ackward and troublesome. Tesnière showed an example of stemmatized prose in the preface of his treatise, a dedication of his book to his children.

the mouse is reading its scenario from its surrounding scenarios. Syntactic embedding thus represents surrounding semantic frames of the matrix scenario (the mouse...). Syntactic and semantic embeddings are closely related, here in fact by being inverse.⁸⁴

Stemmatic analysis applies directly to manifested structures and does not imply underlying 'deeper' structures. The integrative semantic operations are supposed to be performed directly by the formal organizations that sentences grammatically manifest. Structural variations yield semantic variations. So, in this case, we could have had, e.g.: The dog first chased a cat, and this cat then caught a mouse; this mouse is probably dead now. Here, coordination and the anaphoric determiners are active, temporal sequencing is explicit, and the meaning of the global utterance is quasi-identical to that of the stemma. But the story is no longer told backwards and can use forwards oriented (cataphoric) temporal adverbs that affect the narrative viewpoint, but not the narrated event series.

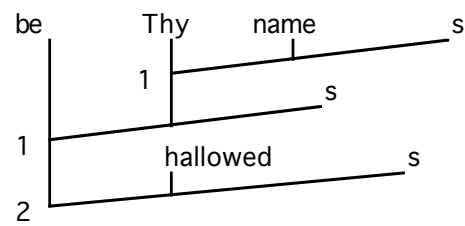
Here is a more realistic example, a famous Christian prayer in two languages:

**Our father
Who art in heaven,**

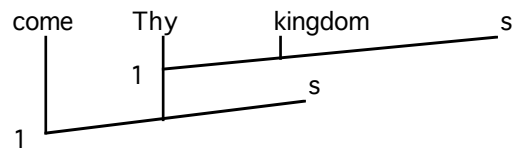


⁸⁴ The generative account of the relative embedding would yield the opposite result: semantics follows syntax, since the relative pronoun is not an active attractor of the antecedent, but a passive dummy, the trace of a deletion. Our attitude is instead that 'surface structures' should be trusted as such; they inform us on what is really going on in language. There are only 'surface' structures, so the indication 'surface' is superfluous.

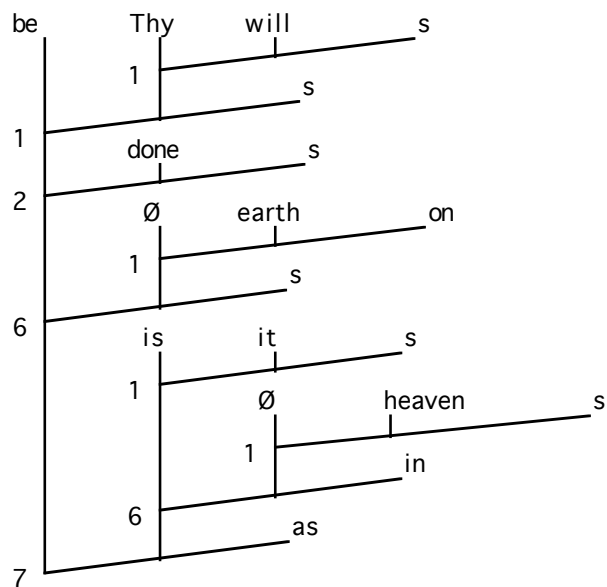
Hallowed be Thy⁸⁵ name;



Thy kingdom come;

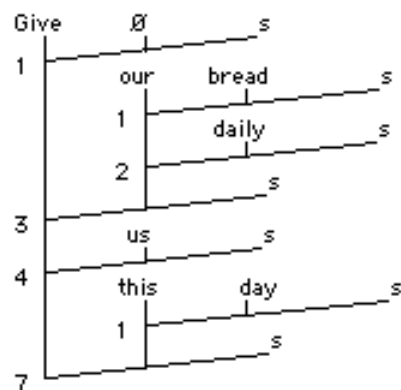


Thy will be done on earth as it is in heaven.

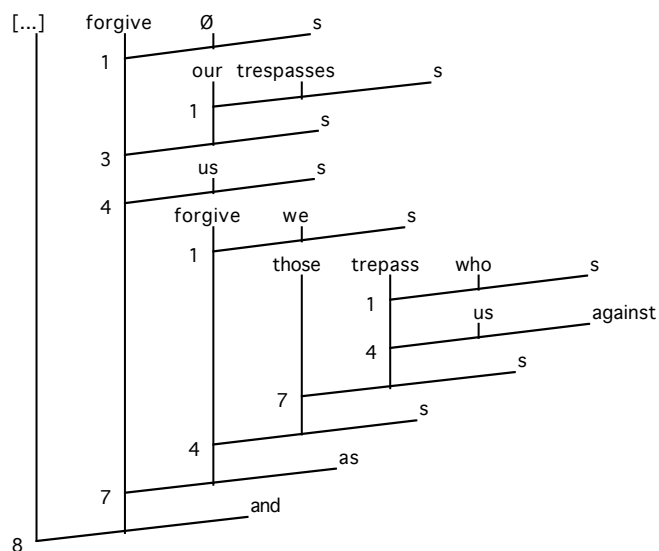


⁸⁵ The initial clause is a vocative nominal phrase (embedding a relative verbal clause), whereas the second is an optative verbal clause. The vocative stemma is semantically linked

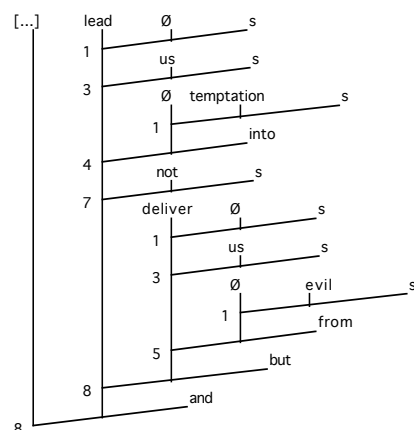
Give us this day our daily bread;



and forgive us our trespasses as we forgive those who trespass against us;

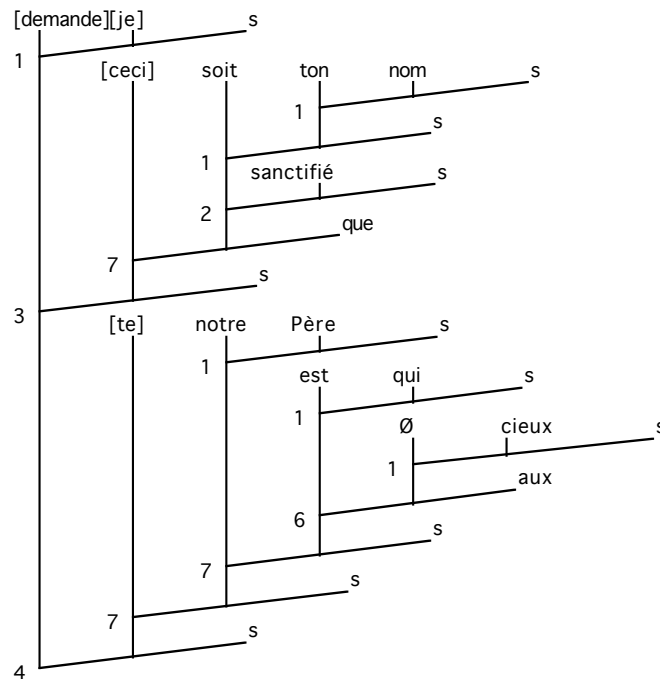


and lead us not into temptation, but deliver us from evil.



to the optative by the genitive pronoun thy (your) and by the optative modality of this verbal clause.

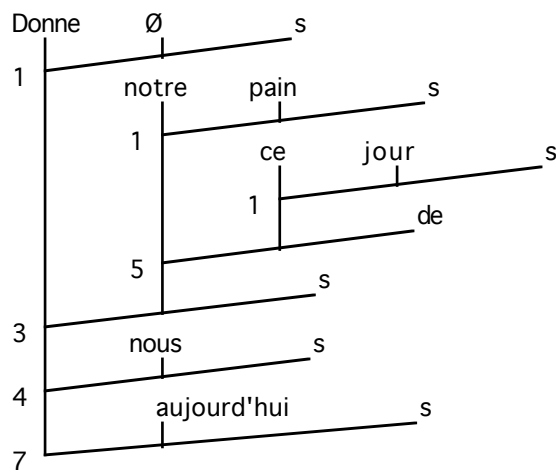
Notre Père qui es aux cieux, que ton nom soit sanctifié,...



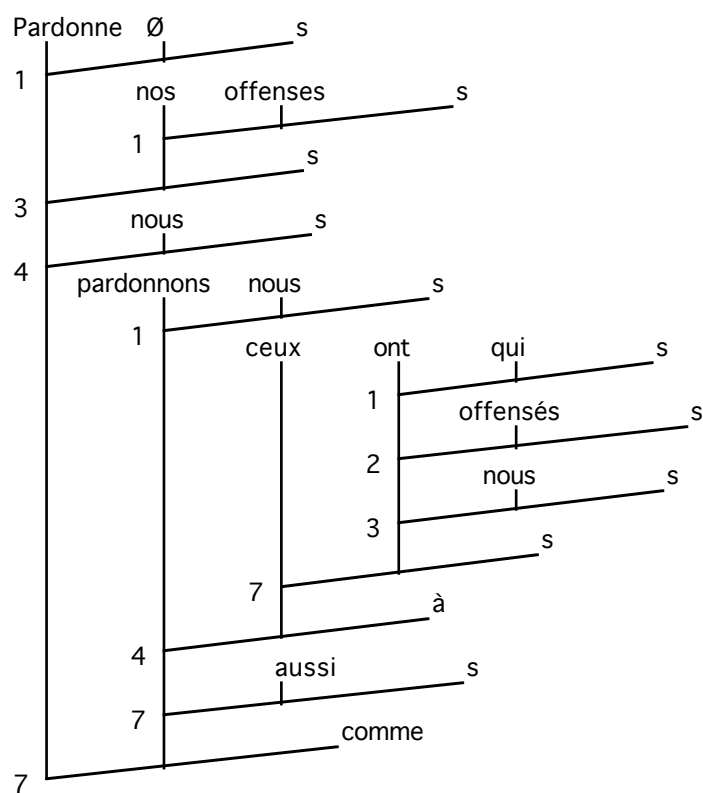
Ø [ton nom soit sanctifié] que
1 Ø vienne ton règne s
1 s
1 que
7 Ø soit ta volonté s
1 s
1 faite s
2 la terre s
1 sur
6 [elle est faite] Ø ciel s
1 au
6 comme
7 que
8 ,
8 ,

130

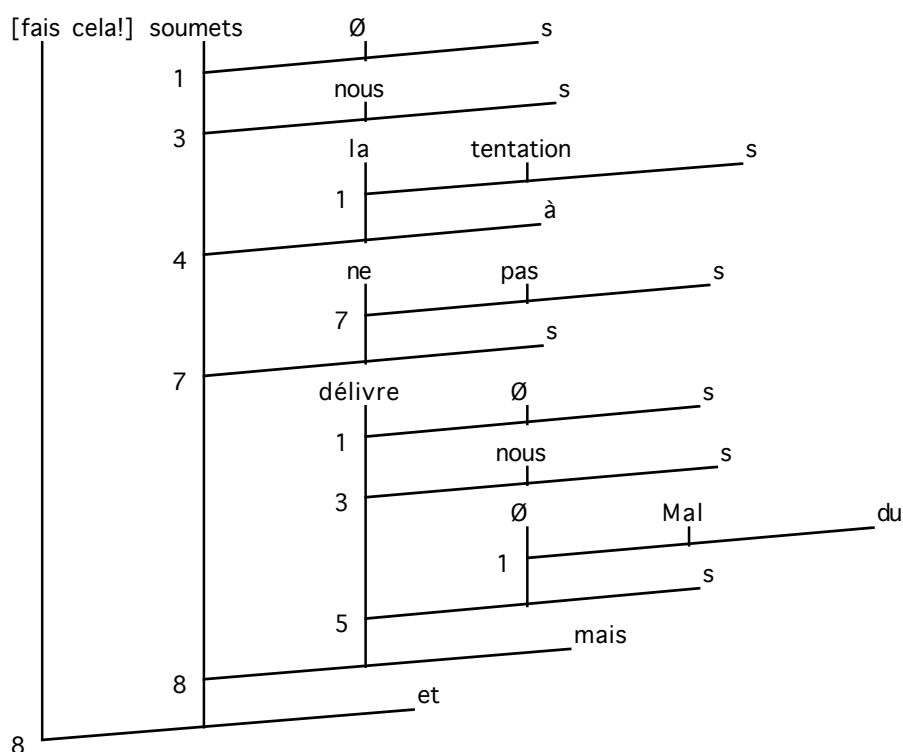
Donne-nous aujourd'hui notre pain de ce jour.



Pardonne-nous nos offenses comme nous pardonnons aussi à ceux qui nous ont offensés.



Et ne nous soumetts pas à la tentation, mais délivre-nous du Mal.



The stemmatic information given by head and complements C1-7 feeds a scenario modalized from the speech act stance (cf. the vocative and the imperatives), and the coordination of scenarios occurs by C8 (and certain punctuation or gesture markers).

C4 and C5 often form a to – from oriented path schema (cf. the meaning of the last French sentence and its à – de) based on the inherent meanings of the directional node 4 and the projectional node 5.

C5 also comprises the passive agent, the active instrumental, the comitative and the 'stylistic' indication of manner.

C6 and C7 indicate framing circumstances: location in some space (C6) and realization at some time (C7), which is the same as epistemic 'weight'.

Relative clauses are considered epistemic determiners (C7) of their nominal antecedents (cf. Our Father, who...). Some relative clauses are also explicative (parenthetical) and introduce additional meaning referring to the verbal matrix of the nominal antecedent. For example, it is relevant to mention the geographical location of Our Father, because his will is already done where he is, in heaven, and the request is now that it be done as efficiently or truly on earth as well.

Genitives are inter-nominal indications of provenance (C5) or a host of similar meanings related to the projective node meaning (cf. *notre pain de ce jour*).

Stemmas and strings of the same sentences are openly interrelated – by a one-to-many projection in both directions. This openness explains of course the difficulty of designing mechanical grammatical parsers. Natural parsing in syntactic perception and monitoring is guided by the mental context of semantic networks that further specify the stemmatic, 'semio-syntactic' scenarios by contextualizing them in discourse or speakers' situation. But the possibility of semantically understanding (writing and reading) literary texts – in poetry and fiction – which do not offer contexts of this sort, testify to the forceful restrictions that must be efficient in the process of linguistic reading, thus translating strings into stemmas and letting stemmas be semantic instructions for building imaginary wholes structured as narratives, descriptions, deliberations, or other coherent and articulated mental objects. The literary reading must in fact be literal, and complete an act of semantic construal, before it lets the reader perform an interpretive act of semantic generalization, and so do justice to the text's possible artistic quality. This aesthetic evidence – of reading as preceding interpretation – shows us that such a process of structural reduction must necessarily be happening.

Stemmatic syntax is, I claim, an important part of the human predisposition to language acquisition. Coding and decoding syntax must use the same format, though perhaps not in exactly the same way. The speaker (the utterer) must mentally translate 3D ideas into 2D stemmas in order to achieve 1D strings of linear phonetic or graphic signifiers. This 'efferent' process constitutes a dimensional funnel', so to speak, and may be distinctly studied as involving two steps, 3D -> 2D: stemmatization of scenarial meaning; and 2D -> 1D: linearization of stemmatic meaning.

The inverse, 'afferent' process by which we translate 1D strings into 2D stemmatic meanings and then these structures into scenarial meanings has to involve strategies of delinearization 1S -> 2D that all parsing depends on, converting the sentence-as-a-string into a sentence-as-a-stemma (or a limited set of possible stemmatic readings), and then a conceptual stance, 2D -> 3D, of destemmatization, through which we transform the semantics of the stemmatic construction into a mentally visible whole.

The four conversions or projections seem to be equally important parts of the processual reality of language. Whereas current versions of construction grammar tend to reduce the view of language by postulating a

direct conversion 1D <-> 3D (cf. the definition of 'constructions' as form-meaning pairings), I think the 2D stage must be taken into serious consideration, both as a linearizable and therefore phonetically informed instance and as a destemmatizable and therefore semantically informed instance. The stemma could in this sense be a plausible reformulation of the 'construction'. It follows that grammar and linguistics in general need to reconsider syntax; otherwise it will hardly be possible to understand how we manage to make sense, and even to 'exchange ideas', by exchanging sequences of sound.

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1. Introductory remarks on literature as art

It will be assumed that literature is a form of art – the art form that uses language as its means of expression. There are ordinary and literary uses of language. Ordinary uses integrate linguistic expressions into utterances in interactive discourse: situation-framed linguistic communication with pre-set speaker and hearer roles, pragmatic rules, and frame-dependent constraints on meanings of words, constructions, and rhetorical phrasings. Literary uses of language are non-discursive, in the sense of not involving these roles, rules, and constraints; instead they inherently and locally develop formal principles of style and composition, facilitated precisely by the absence of determined speaker (writer) and hearer (reader) roles and of rules based on situations external to linguistic expressions. These literary linguistic expressions, whose constraints are thus internal instead of external, are commonly referred to as texts.

If literary texts can mean anything at all, despite of this condition of absent – or rather, de-specified – pragmatic context, and in view of the grammatical underdetermination of language, this must be due either to supplies from internalized situational framings or to the way in which language is connected to the inherent semio-cognitive 'coherence makers' of the mind. There are strong reasons to believe that the latter of these explanations is the better one. In fact, the structure of literary enunciation is not pragmatically naturalistic, it is not similar to speaker-hearer relations in discourse, but autonomous and original in important respects, such as voice and view: the imaginary voice we mentally hear in textual enunciation does not have to carry affect, and the imaginary view we have of things told does not have to reflect human restrictions of certainty and knowledge (it can be omniscient, 'olympic', and enjoy access to information on any state of any affair). Since the aesthetics of literary writing thus does not reflect external

conventions of communicative behavior, but instead indeed reflects internal conditions of meaning construction, literary texts yield privileged evidence of the cognitive semantics of humans, the very 'semantics of the mind', of which linguistic semantics is an important, but probably not constitutive part.

But a semio-cognitive approach to literature as art is also committed to the challenging concern of gaining knowledge about the literary experience of meaning as such: the aesthetics, or poetics, of writing as an art form. Roman Jakobson's famous poetic function⁸⁷ was such an attempt. Formalists of his tradition – such as the French Oulipo writer and scholar Jacques Roubaud⁸⁸ – have seen a direct relation between the literary and the literal in this sense: when "Il pleut" only means just what the words say, and absolutely nothing else (not something like: "it is raining now in Paris and therefore we should change our plans for the immediate future ..."), then the sentence is a literary text. Literal meaning is literary meaning. Now, literal meaning is a most peculiar and precarious phenomenon, almost an experience of non-sense. A 'message' about some topic, but in which the topic is part of the 'message' instead of being its referent, is no longer a message, it is no longer a predicative structure, but rather a predicate to itself, an instance of 'frozen intentionality', lacking the referential direction that makes it intentional at all. This strange experience exists and is predominant in the phenomenology of aesthetic perception. We are invited to try examine it and try to understand it better.

We know that this phenomenon of 'frozen', literal meaning is related to the experience of form, which implies another surprising semiotic fact, namely that the attentional direction expression -> content in the reception of texts is reversed or at least doubled by an inverse orientation of attention: content -> expression. Expression becomes what we call form, when it is seen from 'inside', non as an entry but as an exit from the content of its text, and

* Paper presented at the Winter Symposium 2001: ART AND COGNITION of the Center for Semiotic Research, University of Aarhus.

⁸⁷ Jakobson 1960. It is truly the most surprising of the listed 'functions': it refers to the message, not to the instances of sender, receiver, code, context, or contact. The 'message' left alone in the semiotic setting corresponds to something like a meaning without agents that 'mean' it.

⁸⁸ Jacques Roubaud 1995, p. 77: "La poésie dit ce qu'elle dit en le disant".

thus perceived as an expressive shaping of a semantic material. As the form of such a substance, Aristotle would have said. The formally oriented attention (of literary writers and readers) apparently switches back and forth between the levels or spaces of expression and content, or between textual presentation and textual representation. This oscillation in fact seems to occur when letters (French: les belles lettres) get – simultaneously – literal and literary.

Literary quality as such, supposedly still a sort of Beauty in the universal aesthetical sense, seems to depend on the oscillation between presentation and representation: if the writing of a text appears to the attentive and expert reader as being the processual result of an attention to form, as involving such a 'back-firing' of content to expression, in the mind of the writer, then the text is aesthetically 'better', in the sense of more beautiful (even if modernists never talk like that), than if not.⁸⁹

A curious observation is that when this happens – when a text is praised as good literature – the text itself is also experienced as being more 'lively', 'vivid', as being a better expression of something like 'life', than otherwise, or directly as being 'alive'; a 'bad' text is correspondingly a 'dead' text. This evaluative metaphor concept (WORKS OF ART ARE ORGANISMS – inferences: good is alive, and bad is dead; aesthetic quality is the physical beauty of living beings) invites us to seek a cognitive grounding of the experience: how can a work of art be counterfactually experienced as a 'living' thing? How can it truly come to be experienced in a way that motivates this metaphor?

Here are some clues to a further exploration of this 'semantics of beauty'. Life is an organic state of things to which human cognition is particularly sensitive, as we know from the studies of infant recognition of moving objects. For a thing to be alive is basically to behave intentionally, and thus to induce intentional interaction. We interact with living beings by treating them as agents capable of changing their behavior and their motivation at any given time. They are therefore experienced as more 'difficult', more demanding and challenging, than causally monotonous 'dead' objects and artifacts. Our brains even appear to process their

categorization more slowly. They probably activate special semio-cognitive dispositions and prepare us for instant and on-line interpretation and interaction. They are singular⁹⁰, and linguistically designated by proper names. So are works of art (bearing titles, and signatures).

Instead of interpreting their behavior by mobilizing entrenched frames and routines, we stay alert and activate open and interrogative, empathic attitudes, and we prepare to react by intentional behaviors of our own, i.e. by mobilizing our own singularity. This is perhaps the reason why works of art are valued at all: when they are 'alive', they make us feel alive ourselves. They wake up our own possibly dormant singularity. In literature, the formal perception of the literal, or the foregrounding of the 'poetic function', and the 'difficulties' of the text in general, create an affective state in the reader, a state that does not follow from the representation of affect in its content or even from the possible affective simulacra in its enunciation – the 'temperature' of its voices, the scope of its viewpoints, etc. – but must be the consequence of its 'literalness', its foregrounding of form.

This semiotic relation of reverse 'reference' from content to expression is evidently not a matter of 'referring', of reference, in any ordinary sense. Surprisingly enough, there is even no standard term or notion available for its denomination. Since the oriented relation from expression to content is called "meaning" (a "means" b), the Danish linguist Louis Hjelmslev, who was very fond of forging terminologies, proposed⁹¹ to call the inverse relation "meaning" as well ('expressional' meaning⁹² vs. content meaning; in Danish: udtryksmening vs. indholdsmening ...); but such a solution does not so much contribute to our enlightenment as it does to glossematic terminology. The mysterious phenomenon remains. Singularity, intentionality, beauty, and the notion of form, are linked together in the experience of inversion of the sign,

⁸⁹ The reader's literary evaluation is inseparable from his evaluation of what appears to have been going on in the writer's mind. Of course this statement is rather controversial; but inter-human interpretation is naturally based on empathy.

⁹⁰ Meaning both: there is only one token of this type, and: you better be prepared for surprise. The singular is: unique and bizarre, capricious. Singularity isolates an individual from the category it belongs to, so that categorial predictions about its behavior do not hold.

⁹¹ In his Prolegomena to a Theory of Language, Ch. 13.

⁹² In Ferdinand de Saussure's unpublished papers (Saussure 2002),

which now is read as pointing from content towards expression. Style in language, style in general, stylistics, and stylization in art, rituals, performative acts, in short: all formal aspects of social life, might be extensions of the same inverse reference. But still we don't know how to analyze it further. Do the semiotically relevant neural pathways run backwards, maybe, so that instead of meaning we get 'anti-meaning'?

2. A hypothesis: Form and the Aesthetic Sign

Nerves probably do not process backwards. If the direction of the reading process from expression to content were mapped straight-forwardly onto the orientation of impulse transmission from dendrites to axons in neurons, we would never get poetic functions. We may have to conceive of these neuro-cognitive processes in slightly more sophisticated terms. It is reasonable to assume that expressions and their contents are first neurally and mentally distinct and then integrated, when signs, discourses and texts are created. There is then, in terms of the theory of mental spaces and conceptual integration (cf. note 7, *infra*), a text and a reader who has a perceptive experience, which makes him set up mental spaces for content and expression; and there is a semiotically constitutive mapping from signifying expressions in one space to signified contents in another space. A sign relation is a mental entity in its own right, and it appears autonomously in a third mental space where signifiers and signifieds meet as arguments of this relation or function: so despite of being posited initially in distinct spaces, expression and contents will now additionally be conceptualized as united: they unite in a blended space (of Hjelmslevian 'expressional meaning', cf. above) where signs are envisioned. The sign relation (ERC: Expression – Relation – Content) is thus a special 'mental space network'. In this network, there is a Base space of ongoing communication; there is a Presentation space of expressions; a Reference space of contents; a mapping between expressions and contents, and a Blended space of relations binding expressions and contents (sign relations, also called: signs). These relational compositions are unstable, because their meaning can only be clearly apperceived in so far as the genre of communication (the exchange in Base space) is determined. Therefore, an external regulatory instance, structured as a schema, now maps

onto the unstable blend and interprets it, either as one of a large set of pragmatic events or as an aesthetic event. This genre-specifying (generic) regulator occurs in what I shall call a Relevance space. Finally, the textual sign and its generic interpretation merge in a second blend, where it is fused with the object of exchange schematized as relevant – e. g. the text ‘is a poem’.

The schematic regulation is crucial to our issue. The difference holding between ordinary and literary uses of language, as between functional and artistic communication, is, as we have noticed, related to a difference in external framing: art occurs, so to speak, when pragmatic de-specification of relevance is followed by a wholly distinct sort of relevance, which implies a ‘naked’, elementary⁹³ contact of self and other as intentional and organic, embodied minds, and not as holders of social status or professional authority etc. This non-pragmatic sort of relevance is, I believe, ethical. My basic claim here is that it contains a schema, and that this schema is responsible for our experiences of form, as an aesthetic window to meaning. The schema is a semiotics of the face-to-face relation between people exchanging gazes, utterances, gestural signs – and feelings of mutual responsibility for possibly helping and harming each other. The basic ethical contact between people is such a de-specialized encounter of what we can summarize as their faces. The primordial establishment of this contact, however, is aesthetic, in that it initiates the feeling of beauty in general: the beautiful is originally a characteristic of certain intentional beings that let or make us feel this naked contact; ‘nakedness’ and ‘love’ are important aspects of an underlying erotic phenomenology, which makes us idealize these objects and drape them in the photonic and transcendent robes of passion: their faces or surfaces are experienced as ‘radiant’, ‘luminous’, ‘glorious’, etc. Let us explore the structure of this strange effect.

we find the same idea: “Il est faux (et impraticable) d’opposer la forme et le sens. Ce qui est juste, en revanche, c’est d’opposer la figure vocale d’une part et la forme-sens d’autre part”.

⁹³ An elementary mental contact in this sense is a symbolic relation between minds. It is established when the shared object of attention is some kind of expressive form, plasticopictorial presentation, literalness, numerical organization (as in music), etc. This is a cognitive regularity, and one that religion universally exploits.

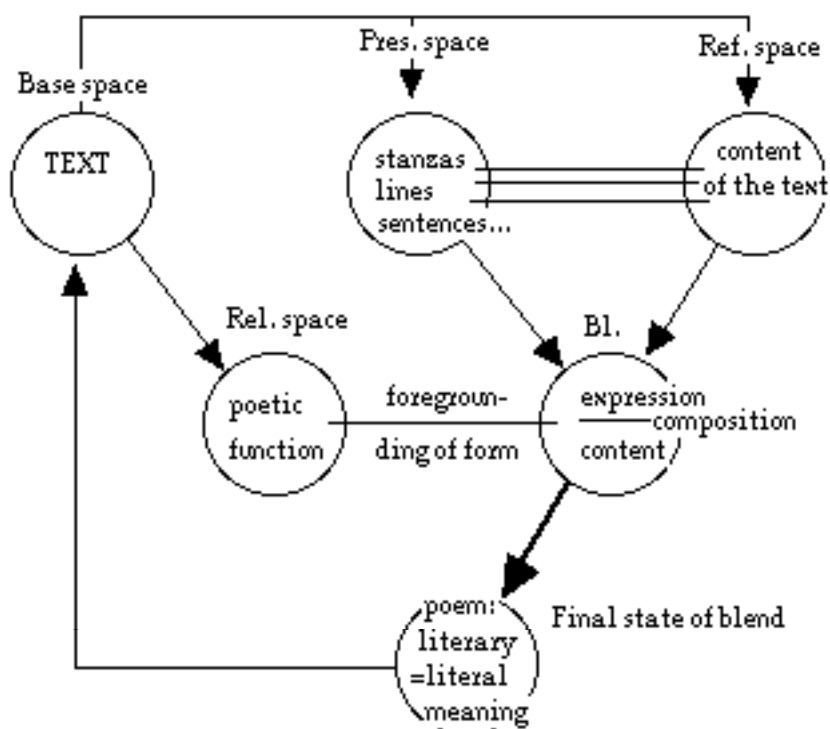
In the aesthetic mode, expression and content still integrate, but instead of being absorbed by content in the blend, expression is now foregrounded. This is in fact precisely how we experience others, other human beings, if we focus on their singularity. They are then 'subjects'; they have expressive faces, and there are hidden meanings, motivations, motions, and emotions 'behind' these faces, in their minds. An expressive surface in general might prototypically be such a face. A face of a person is perceived as intensely singular, when the mind it 'covers' is perceived as being intensely mentally active. The perceived living subject is an integration of these two equally intense aspects (face, mind: being alive and being a singular, intentional being). The facial singularity of such a being 'means' its underlying mental activity, say, its intentionality, and this intentional presence has its only possible signature in the singularity of the face. The face 'means' the mind, but the mind that the face 'means', also 'intends' this face. The foundational – pre-pragmatic – experience of subjecthood in others, in persons facing us, has thus precisely the attentional oscillation we find in the semiotics of art. The hypothesis this leads to is that the experience of subjecthood is the schema that regulates the aesthetic experience of meaning and form.

Let us try to model this idea. There is thus, in inter-human communication, a process of semantic production shared by the participants, who experience each other's subjecthood (subjectivity in the face-mind sense) as involved in the construction of an identical meaning; their singularities contrast, while their minds collaborate. The pure experience of communicating is firstly an encounter of contrasting singularities (in an anchoring Base space), and secondly, it is perceived as the connected minds' creating or building – outside of the place of their encounter, as it were – a conceptual integration network⁹⁴ that has the following default structure. There are events and objects in Base space that are perceived as signs of imaginable topics to think about (Space builders). They make the subjects set

⁹⁴ Cf. Mark Turner and Gilles Fauconnier, 1998. The design of networks modelled in that article and in other works by these authors – a four-space array – differs from the one proposed here, which is an extended network and includes a Relevance space. The network here describes a mental process pre-organized as a semiotic flow beginning and ending in Base space.

up Mental spaces for these topics and hold them, so that one subject can feel that they are as reel or present for the other as for himself. One of these spaces contains structure that has counterparts in another, and these two spaces are thus linked by a mapping of these counterparts. Spaces are linked by mapping in pairs, not in triples etc., because the mapping is directional: it runs from one of the spaces towards the other, namely from a comment towards a topic, or from a predicate to a subject, or from a metaphor source to a metaphor target, and in general from the presentation of something to the thing referred to by the presentation. The ground-breaking discovery of Fauconnier and Turner is that there can be still another mental space into which selected structure from the spaces linked by mapping are projected and integrated conceptually in a distinct, 'blended' scenario, often much less realistic than the content of other spaces in the network, and where some of the counterparts merge, so that referential items 'are' now the counterparts that present them. In fact, whenever Mental spaces activated by semiotic Space builders (such as linguistic phrases) in a Base space give rise to a mapping from a Presentation space to a Reference space and then to a conceptual integration by which their contents are partly merged in a Blended space, the figurative result is a potentially new imaginary creature, but is still an avatar of the referent, a figurative version which will only be perceived as intelligible, if it is interpreted dynamically by an appropriate schema of Relevance. A consistent part of the structure in the blend must map onto the structure of this relevance schema, if the blend is to be stabilized as meaningful in the minds of the communicators. In this case, the figurative structure of the blend and the dynamic structure of the schema providing the possible 'relevance' of the construction will finally conceptually integrate and form a final state of the blend. The figurative and dynamic unity of this blend is generally what is experienced by subjects as the 'meaning' of the signifiers in their Base space.

In the following graph, there is a 'text' in a Base space, in casu a poem by Charles Baudelaire, printed and known to a community of writers and readers. This text contains semiotic space-builders that activate a semantic process describable in terms of mental spaces and networks of such spaces. This network shows the overall principle that readers must anticipate in order to read a text as a 'poem' (Fig. 1):



By form in the secondary mappings, I mean merged expression-content units that correspond to generic expectations as to how expressions should distribute over contents, and contents be represented by expressions, in specific lyrical formats, such as 'genres', here: the sonnet.

Let us study an example.

Two very attentive readers, Claude Lévi-Strauss and Roman Jakobson, demonstrated exceptional skills in formal perception when analyzing Charles Baudelaire's sonnet Les chats [The Cats] (1847, included as LXVI in Les fleurs du mal, 1857) in an article mainly addressing anthropologists⁹⁵ interested in structural methodology. A comment on this 'structuralist' work of textual analysis and a supplementary cognitive-semiotic⁹⁶ reading by this author was published in 1998⁹⁷. Here is a sketch of yet another reading of the Cats.

3. The Magical Mystery Tour

⁹⁵ Roman Jakobson and Claude Lévi-Strauss, 1962.

⁹⁶ This term was perhaps first used by Elmar Holenstein, 1992.

⁹⁷ Brandt, 1998.

The poem, as printed in Les fleurs du mal (Flowers of Evil), section Spleen et idéal, reads:

LES CHATS⁹⁸

**Les amoureux fervents et les savants austères
Aiment également, dans leur mûre saison,
Les chats puissants et doux, orgueil de la maison,
Qui comme eux sont frileux et comme eux sédentaires.**

**Amis de la science et de la volupté
Ils cherchent le silence et l'horreur des ténèbres;
L'Érèbe les eût pris pour ses coursiers funèbres,
S'ils pouvaient au servage incliner leur fierté.**

**Ils prennent en songeant les nobles attitudes
Des grands sphinx allongés au fond des solitudes,
Qui semblent s'endormir dans un rêve sans fin;**

**Leurs reins féconds sont pleins d'étincelles magiques,
Et des parcelles d'or, ainsi qu'un sable fin,
Étoilent vaguement leurs prunelles mystiques.**

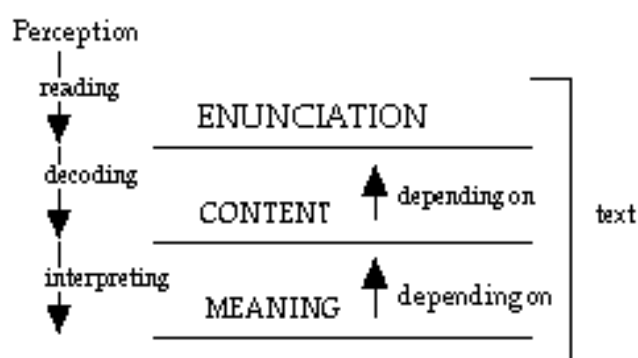
A poetic text – and a literary text in general, however complex – is an architecture of three semiotic storeys: it has a preliminary and global setting of voice and view within the cognitive structure of linguistic enunciation; it has a semantic body of descriptive, argumentative, or narrative content; and finally, it has a compositional 'écriture' which determines an interpretively

⁹⁸ Valerie Grünwald, *Flowers of Evil*, 1999, translates the poem rather literally, as follows:

Cats // Fervent lovers and scholars austere/ Both come to love in their maturer years/ Cats, gentle, strong, pride of the home,/ Like them sedentary and afraid of draughts. // Friends of learning and of sensual pleasure,/ Cats seek the fearful silence of the night;/ And Erebus's coursers would they be/ If they could bend to servitude their pride. // Dreaming, they take the noble attitudes/ Of the great sphinx stretched out in solitude,/ Seeming to sleep in endless reverie. // Their fertile loins are filled with magic sparks,/ And flecks of gold like to the finest sand/ Shine in the mystic pupils of their eyes.

accessible meaning.⁹⁹ We read its enunciation in its sentences; then we decode the content of its sections, stanzas, lines etc.; finally, we seek to explicitate the meaning of its composition, and while doing this, we evaluate it as (if it were) a typical manifestation of a person's mental character and corresponding philosophical attitude to life and the universe, an ontological statement.

We might visualize this architecture as a canonical stratification, which the appropriative perception dives into, and where each step leads to



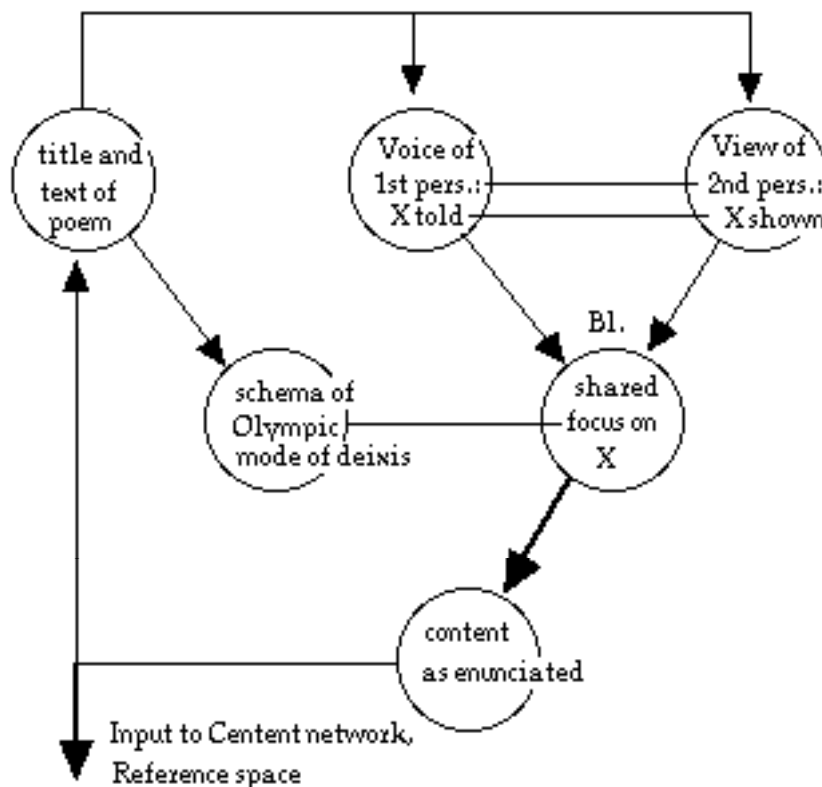
information framed by the preceding step (Fig. 2):

First, the title announces what is undeniably the main theme of the poem. It is a generic term, given by the enunciator as a promise of letting the body of the text be some sort of comment on the topic it refers to: the animal category of felines. An implicit first person addresses an implicit second person and 'sends' him to some place or domain where cats in general are accessible and further can be studied. There is, behind this operation, a constitutive Space Delegation, since these cats are not anchored in any pragmatic, zoographic context in the reader's (Base) space, but are only introduced as relevant by an implicit encyclopedic supposition: the poem is about items catalogued in our collective epistemic memory – these animals exist, there is in the world such a species, and we can know it and reflect on it. The implicit first person will then olympically guide the second person into specific viewpoints yielding such a reflection. The Space Delegation extends from the implicit 'here' of the voice of an imagined speaker (first person, enunciator) to the implicit 'there' of the view offered to an imagined hearer (second person); it runs from the telling to the showing of the explicit X

⁹⁹ Cf. Line Brandt, 2000, to my knowledge the first extensive literary analysis of an

(cats). The text of this poem, from the title to its entire pronominal morphology is impersonal; its enunciation is 'olympic'¹⁰⁰. Accordingly, it is classical in tone and illocution, and void of any indication of how persons in Base space may relate to the scenarios that will appear in the Cat spaces. Fig. 3:

ENUNCIATION:



The second blend of this network feeds into the Reference space of the following network and creates its general 'mode of content'. This enunciation creates an encyclopedic atmosphere, so to speak; categories mobilized in the text will then be perceived as universally or generically existing entities and, correspondingly, submitted to disinterested contemplation.

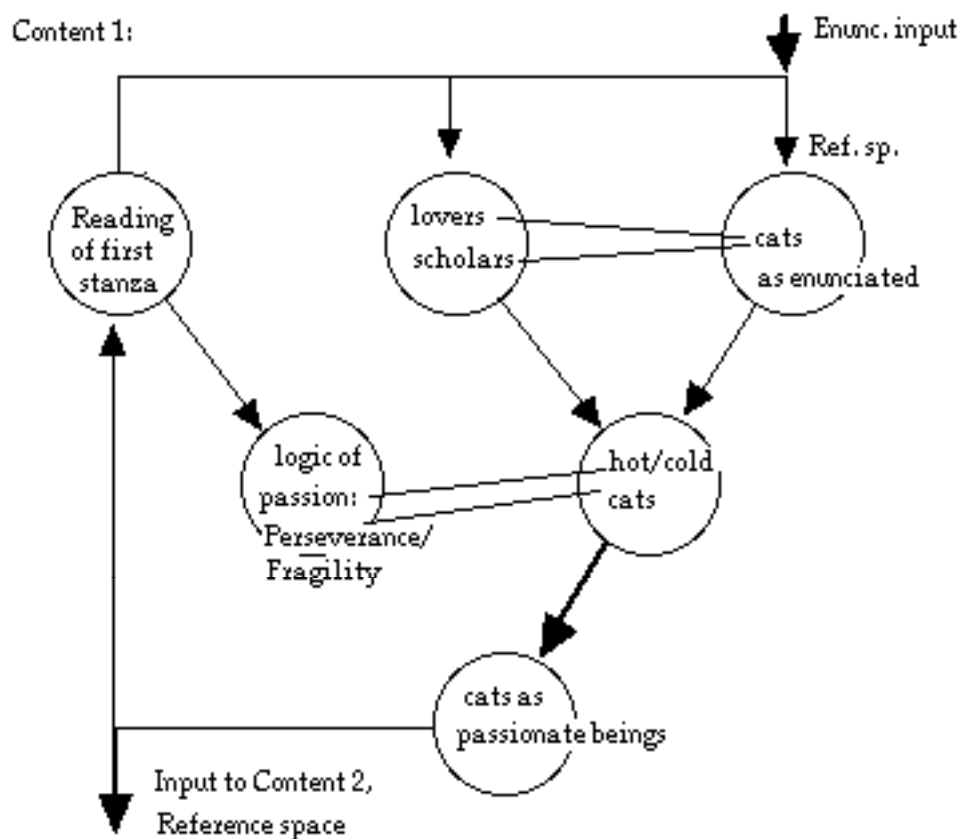
The content level of the text is informed by its propositional body. The sentences of the first stanza assign, almost in an anthropological mode of comparative studies, two kinds of human company to the cats: the lovers and

entire text, Fred Leebron's Water, using this technique based on conceptual integration.

¹⁰⁰ Impersonal reporting is made possible by the existence of an olympic mode of deixis in the schematism of enunciation. This is what the graph suggests.

the scholars, though these categories apparently oppose by their generic properties (fervent vs. austere, 'hot' vs. 'cold' – bridged by implicit, subsuming notions like desire, passion...). The text of the stanza justifies their comparable attraction to the feline species by a cascade of arguments presumably appreciated by both holders: cats are strong, yet gentle, yet proud (or objects of pride), and like the (mature) lovers and the learned, they are somewhat introvert (sensitive to cold, sedentary). We are thus indirectly, but clearly informed about what unites the 'mature' agents of the two kinds of passion (love and science): their disciplined bodies and souls are reflected by the 'discretionist' or even 'retreatist' character and attitudes of the cats.

The network corresponding to this first straight-forward decoding might be the following (note that the Presentation space is strictly speaking a double scenario; there are two spaces and they form a paradigm). Fig. 4:



The Base space is stable, but 'knows of' the first stanza when the second is read, and so on. We should thus think of the network as being the same, but with new content inputs in the respective spaces, and previously

processed contents as supplementary inputs anaphorically linked to these new inputs. So, the cats will be the same as before, and referential continuity from network to network is built up through this process of 'inheritance'.

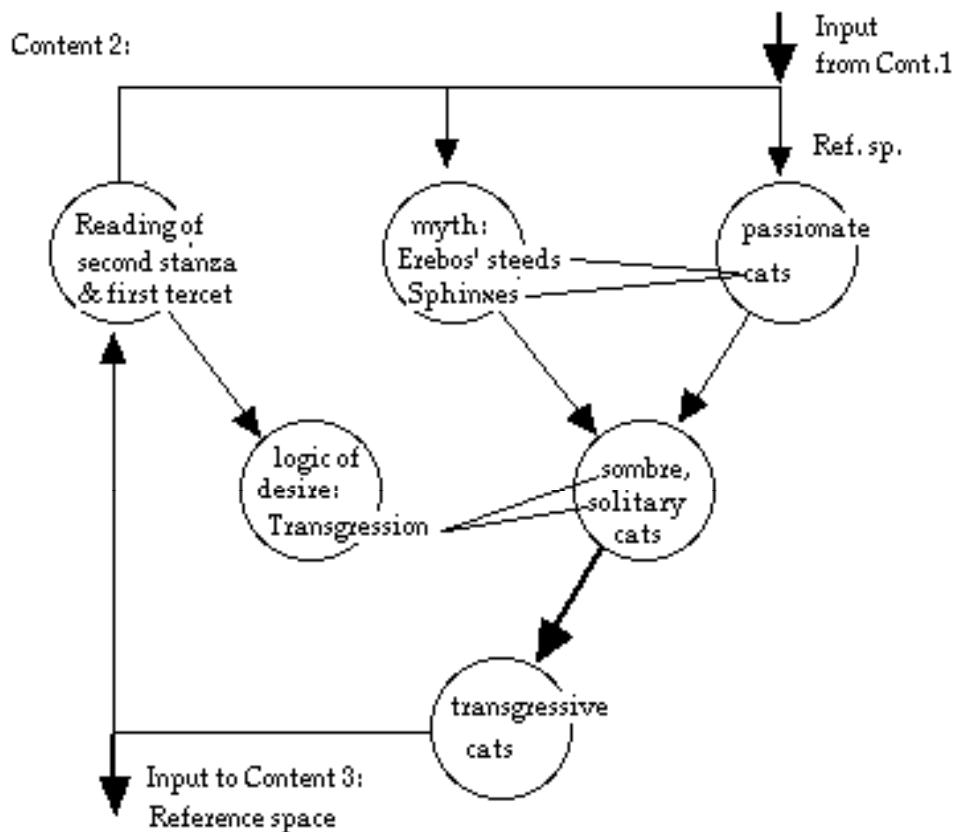
The second stanza introduces the theme of death. According to the first line, which restates the blend of the first stanza, the cats share the now familiar, characteristic interests of their human company (science, lust), and they therefore, says the text, further seek silence and also the horror of darkness. Their logic of passion leads them towards a region opposed to light, joy, and the noise of life. They seek it, but do not reside in such a region; it is rather a part of their trajectory. They seem to move back and forth between life and eternity. Thus, they could, says the text, even have been the funeral steeds of Erebus (Limbo), carrying the dead from the timely world to this ghastly station, if their pride did not exclude slavery (the stoic motif: non serviam, I shall not serve...). This counterfactual mythological comparison¹⁰¹ contributes to the feeling of there being a commuting, an iterative and even timeless traffic involved; an idea of desire – science and lust – as a mobile, liminal state of the living, is being shaped.

The first tercet adds a second mythological comparison. Their attitudes are those of the solitary sphinxes dozing in the desert and lost in an infinite dream. So their minds are 'absent', they are floating between wakefulness and sleep, lost in a desert of time as well as of space: a lethargic and oniric state of consciousness. Desire, as an actualized form of passion, is once more figurativized as a liminal, critical state of the living.

Our first-generation cats – already intriguing so far as they unify or mediate¹⁰² between two distinct and apparently opposed life-styles – are thus now reprocessed by a second network, in which horror and insanity reigns. The resulting second-generation cats appear through the following process (Fig. 5):

¹⁰¹ Comparisons like this one would have been metaphors, if they did not allow for explicit, explicative additional specifications – such as the counterfactualizing conditional here, and in the next case, the explication of the aspect of the theme (sphinxes) taken into consideration.

¹⁰² Cf. 'mediation', one of the mythologist Claude Lévi-Strauss' favorite structural notions.



We see a consequent relationship between the Relevance spaces, and thus a coherent profiling of the mediating function of the cats as unifiers of the 'hot people' (the lovers) and the 'cool people' (the learned erudites), or between the two kinds of 'knowledge', the carnal (sexual) and the scholarly (intellectual). Passion and Desire in love and thought here lead to a liminal, 'limbic' state of mind, and also lead to a different space-time scenario, carrying the subject from the closed interior of a finite, life-oriented house to the open exterior of an infinite and lifeless desert, a 'world of knowledge' beyond everyday life and bordering on the absolute, the unknown, and death¹⁰³. Baudelaire's cats are emblematic of this state. These second-generation cats are brought to liminal outer and inner realities by their untamable and transgressive attitude.

The first semantic network is built on affinity (proximal relations:

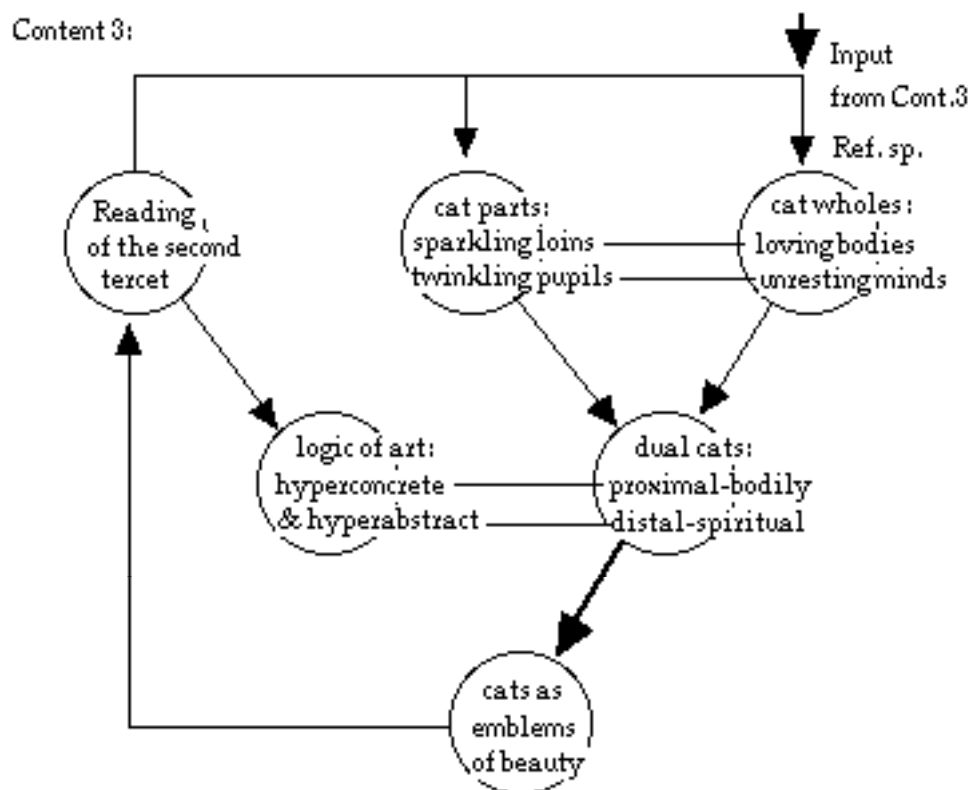
¹⁰³ Cf. Georges Bataille's wonderful interpretations of Baudelaire in La littérature et le mal (translated in Bataille 1973).

lovers and scholars like to have cats around them, because they resemble them, etc.), whereas the second one is built on distant comparison (distal relations: same preferences or attitudes across domains, from domestic to mythical). The last stanza offers a network of yet another type: it is metonymic. Its Presentation space has a zooming in on two body parts that map onto and thereby foreground two aspects of the (now semantically well-fed) hitherto globally and unitarily represented cats. Both cat parts present luminous points – the sparkling of the fur (when caressed), the twinkling of the pupils – and this visual duet forms a final, figurative conjunction of the initially opposed attitudes, erotic intimacy and speculative aloofness (proximal vs. distal relations). This conjunction is then stabilized and encoded by the rhyming relevance-indicating interpretants ("magiques/mystiques"), indicating a transcendent connection between the (proximal) magic of love and the (distal) mystery of thought – perhaps linking them as two sides of one and the same existential and epistemic enigma. In the realm of love, we may be radically finite, but we are also as eternal as love; and the enterprise of knowledge (including dreaming, speculating) reaches out for infinite things. Again: we are finite faces and surfaces, but also infinite minds. The figurative conjunction obtained by the analogous glimpses in the last stanza creates a double reference between the proximal (magic) and the distal (mystery), as between expression and content. It is therefore possible to identify this position or experience as the aesthetic instance in phenomenology. Cats are being described here as beautiful beings, and as if they were works of art. Sensation and metaphysics 'express' each other; beauty unites immanence and transcendence, and offers us the perception of what we call form.

Technically, metonymy is a particular relation between elements in a Presentation space and elements in the corresponding Reference space, by which the first are parts of the second, the second being 'the wholes of' these parts: counterpart relations are then part-whole relations (not necessarily body parts, evidently, but also parts of a behavior, of an activity, of a scenario, etc.).

A characteristic semantic product of metonymy in general is to induce spiritual interpretations of the referent whole. The 'essence' or 'force' of the

whole is intensely experienced in its parts and in the parts of these parts¹⁰⁴. This is precisely what happens here – the cats are spiritually invested, as agents of magic and conveyors of mystery, experts of sensuality and trance; they are emblems of the essential, ecstatic unity of these dimensions in existence, that contrast the triviality of pragmatic middle-distances to things and persons. They are in the last instance emblems of something like a synthesis of love and scholarship: namely art and, we suspect, in particular poetry. Fig. 6:



The interpretively relevant meanings appear in the Relevance spaces of the cascade of blendings considered, and then in the final blends. And since these all project back to the Base spaces, all readings are submitted to constant revision during the time of reading and interpretation.

As Jakobson and Lévi-Strauss observed and reported in great detail (op. cit.)¹⁰⁵, Baudelaire's last stanza is particularly and remarkably alliterative and homophonic: reins – pleins – fin, féconds sont; étincelles – parcelles –

¹⁰⁴ Otherwise there would hardly be fetichists in the erotic world.

¹⁰⁵ However they left their detailed observation on this point uninterpreted.

prunelles – étoilent; and it is multiply linked to the previous tercet: sphinx – sans fin – sable fin; semblent s’endormir – d’or – as if the sounding of the writing had to be particularly salient here. However, the salience of the dense expressive texture in this epilogue cannot but indexically support the conjunctive pointing toward aesthetics, art, as a overarching notion that this perception is supposed to contain and ‘mean’: besides the lovers and the learned, we are left with the autonomous cats as a third, a tertium datur. Poetic writing might be a realization of the conjunctive, unified ‘cattitude’ emerging finally through this process of meaning construction. Poetry can be experienced both as proximal magic (verbal creation) and as distal mystery (world-openness), without contradiction, exactly as the esthetic attitude of the mind unifies hyperconcrete sensory perception and utter abstraction.

The final blend of this forth network – which takes the third network as its input to the Presentation space, whereas the theme poetry is induced into the Reference space by our interpretive understanding – contains the global semantic meaning of the poem. As mentioned, the last stanza directly calls for a globally formal reading of it by the sudden density of its luminous texture. This fact makes it plausible that the poem itself is to be read by ‘cats’ as made by one. Language will sparkle ‘magically’ if caressed by the verse, and the scope of its content will widen and twinkle ‘mystically’ as we understand and feel that it takes us to its own imaginary limbo beyond the domains of love and learning.

The cats we meet in this poem are additionally ‘strong and gentle’ (puissants et doux), which their human hosts are not, at least according to the first stanza. A plausible reading of this uninterpreted pair as aspects of ‘cattitude’ is in this perspective to let its terms signify the specific ethical virtue of minds united by formal experiences, experiences of beauty or intensity – a capacity to communicate force and contained violence, to discreetly lead force into form, a communal capricious generosity that love and learning prepares, but only art achieves. Or to which it lets us have at least intermittent access, in its flashing of feline grace.

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METAPHORS IN SHAKESPEARE'S SONNET 73 ENCORE

In Lakoff and Turner 1989, a section on 'Shakespearean Complexities', pp. 26-34, analyses the metaphors in this text, 'one of the most exquisite poems in English about death'.¹⁰⁶

That time of year thou mayst in me behold
When yellow leaves, or none, or few, do hang
Upon those boughs which shake against the cold,
Bare ruined choirs, where late the sweet birds sang.
In me thou seest the twilight of such day
As after sunset fadeth in the west;
Which by and by black night doth take away,
Death's second self that scals up all in rest.
In me thou seest the glowing of such fire,
That on the ashes of his youth doth lie,
As the deathbed whereon it must expire,
Consumed with that which it was nourished by.
This thou perceiv'st, which makes thy love more strong,
To love that well, which thou must leave ere long.

The first two quatrains manifests a remarkable complexity of metaphor, based on eight conceptual metaphors, it is argued: (1) PEOPLE ARE PLANTS, (2) A LIFETIME IS A YEAR, (3) A LIFETIME IS A DAY, (4) LIGHT IS A SUBSTANCE THAT CAN BE TAKEN AWAY, (5) LIFE IS A PRECIOUS POSSESSION, (6) NIGHT IS A COVER, (7) STATES ARE LOCATIONS, (8) DEATH IS REST. (1) and (2) are essential in the authors' account of the first four lines; here, we are shown 'life as a year and as seasonal cycles of a plant'.

¹⁰⁶ Cf. <http://www.shakespeares-sonnets.com/73comm.htm> for a useful lexical commentary.

No less than six conceptual metaphors (3-8) are active in the next four lines, where a lifetime is correlated with a day. The third quatrain sees 'the stages of life in terms of the stages of a fire': (9) LIFE IS A FLAME. The final distich is a non-metaphorical reference to the state of the speaker, but before one can make speculations on his sincerity etc., 'one must understand the basic metaphorical structure of the poem'.

The analysis of the metaphorical structure is a prerequisite to the literary interpretation proper. It is perhaps not a genuine part of literary reading and interpretation, or the central acts of literary criticism. Nevertheless the Preface states: 'Great poets can speak to us because they use the modes of thought we all possess.' So what makes them 'great', and not only intelligible, we might ask. What makes this poem 'exquisite'? And why 'must' one understand metaphor before being entitled to ask literary questions? Is metaphor essentially a conceptual funnel through which immortal poets manage to stay in contact with mortals? Or

One aim of this paper is to revisit the metaphoricity of this text and thereby try out a more recent model of metaphorical meaning, developed in the framework of Mental Space Theory (Fauconnier and Turner 2002), in order to achieve a deeper understanding both of the text, its metaphors, and what poetry does.

First quatrain.

The first representational unit of the text addresses the second person by drawing her¹⁰⁷ attention to his age: if a life were a year, my current age would correspond to the autumn, where trees lose their leaves, and their branches (boughs¹⁰⁸) or the open places in forests that they thus decorate are like vaulted choirs and (church) ruins, now musically housing the howling

¹⁰⁷ The gender in poetry follows the biography of the author. So the second person of a love poem written in the male mode would by default be feminine. However, the first 126 sonnets are conventionally assumed to be addressed to a man, so the 'lector in fabula' can be gendered according to the reader's preferred model.

¹⁰⁸ Bough is etymologically related to bow, a bending element, or the front end of a ship (Low German boog) 'shoulder or ship's bow'. Hence the architectural association to: arch, vault, and the poem's choir.

winds (making the boughs shake in¹⁰⁹ the cold) instead of the sweet birds' songs (in summer).

The conceptual metaphor does not specify the age of the poem's Ego; in order to represent this specification, we need to set up a Presentational conceptual¹¹⁰ space for the generic Seasons alluded to, and a Referential space for a Life and its Ages, actually denoted by the construction. Strictly speaking, however, Ego is not the metaphorical target of the choir-like boughs.¹¹¹ He is not the target of the source 'tree'. What is said is that Ego's age may be seen and heard as such a forest scenario.

This forest scenario is presented through the predicative and metaphorical image of the bare ruined choirs; so a source space for church ruins and a target space of branches in forests must be set up in the first place. Here, the sacredness and the sadness of the architectural Presentation, including the silence of the singers, the absence of shelter, the desolation, influence the atmosphere of the forest scene in the conceptual space of their blending into an image suited for showing metaphorically the age of Ego. The framing schema of this embedded metaphor appears in a separate Relevance space, where we have to imagine a general ruin narrative of cultural activity or natural scenarios passing from plenitude, exuberance, and blessed happiness to emptiness, misery, and despair; the remarkable detail here is that the profiled states are characterizations of sites, localities, visible and audible places, almost stages, cf. 'in me behold...', not of objects or bodies. Hence the absence of the item 'tree' in the text.

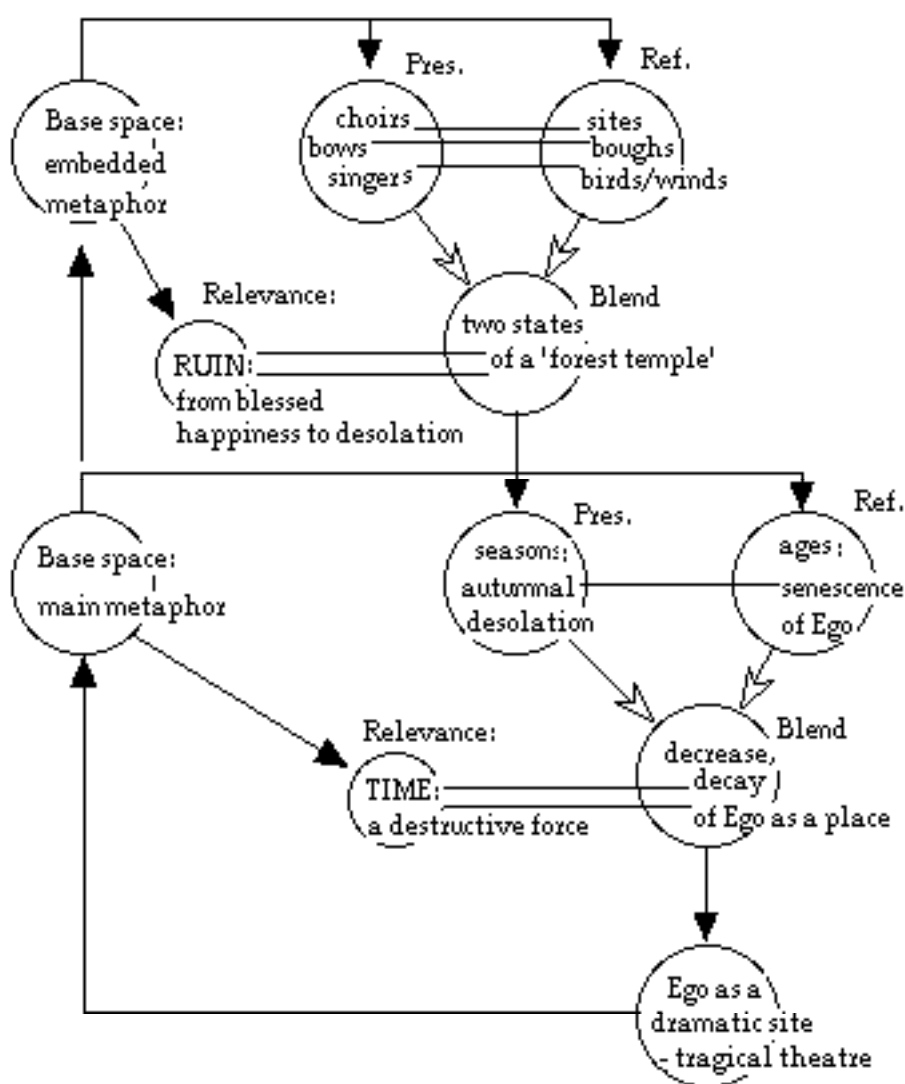
In the main metaphor, this construction is presented as a source structure that blends with the existential chronology of Ego. Ego is now seen as an almost empty theatre, about to be consumed by time as such.

¹⁰⁹ The text has: 'against the cold', possibly meaning that in front of the cold, and opposing it, the boughs shake like persons shaking their arms in order to keep warm.

¹¹⁰ The term conceptual space, instead of mental space, is a suggestion by Gärdenfors 1990.

¹¹¹ So the second conceptual metaphor, PEOPLE ARE PLANTS, is not relevant here.

Conceptual space network:

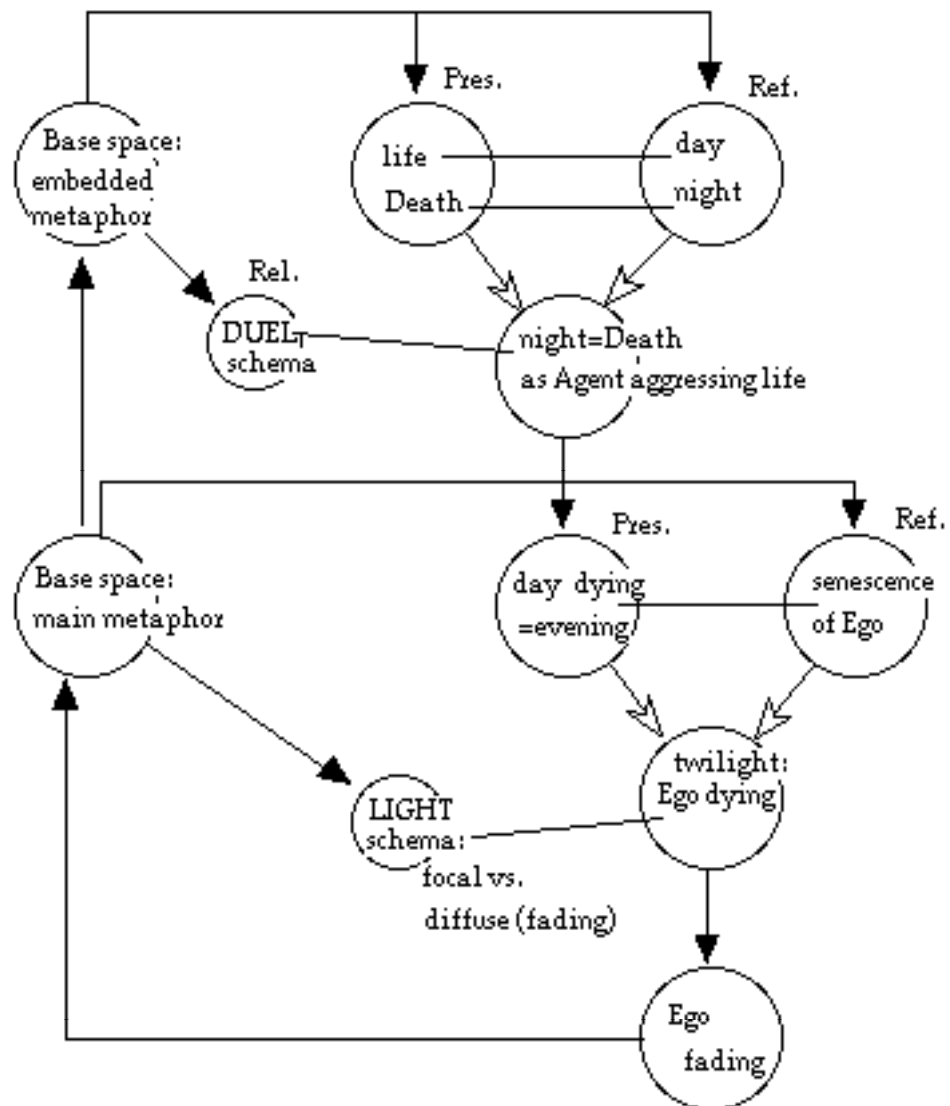
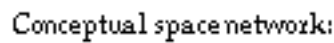


Second and third quatrain, and distich.

The parallelism between the quatrains is underscored by the repetition of the phrase in me, associated to the second person observer (behold, thou seest), and the conceptual architecture of the following constructions is parallel.¹¹² In the main metaphor, the age is depicted by the day, so the evening occupies the semantic slot of the autumn in the seasons space of the first network. But the term is substituted by that of twilight, backed by a description of the sunset scenario. In the embedded metaphor that produces this presentative structure, night is an active agent (perhaps a Black (K)night), a double of Death himself. Here, the source is thus a dramatic scene of killing, and maybe a duel between Life and Death, mapped onto day and night. Ego

¹¹² Your observation of me is conceptualized as the public's attention to the play in theatre.

is thus represented as the light, namely the *twi-light*, that fades and is taken away, when the day is taken away and killed. This happens by and by, and the fading, aspectually durative, is still going on in the text's present.



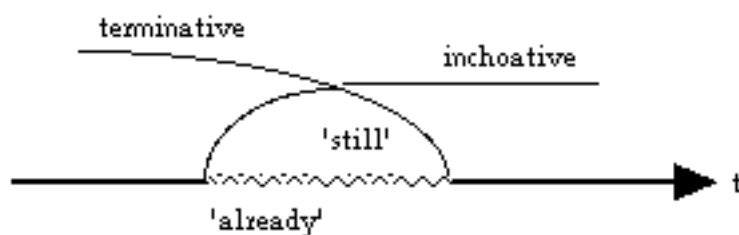
It is still striking to see the poem's Ego staying immaterial, while its state is described — first as a site, then as a light quality, and finally, in the third quatrain, as the glowing of an extinguishing fire. Truly, in the embedded metaphor that we once more have to register, this agonizing fire has a body, but it does not pertain to our man.

There might be a conceptual metaphor (9)¹¹³ behind the ninth line's statement: In me thou seest the glowing of such fire... But rather than just consisting in plainly and biologically being alive, the state of affairs referred to could also be related to the poem's general theme: love; it would then instead or additionally characterize the situation of Ego's desire, or capacity for loving. It is perfectly possible to be 'hot' in this sense, and still be physiologically dying.

From the forest we proceed to the sunset, and from there to a fireplace: the 'deathbed' where the fire lies glowing still, but about to expire in the ashes of what it has itself consumed — as if this reversal were part of an existential schema, reestablishing an ecological equilibrium by returning all excesses. Consumption is of course associated with youthful desire, more than with plain maintenance of life (versus conceptual metaphor (9) again). The Ego of the poem is in a sense agonizing morally, since he suffers from the paypack of his sins...¹¹⁴

Additionally, the post-quatrain distich motivates retrospectively the fire sequence, as well as the preceding scenes of precarious existence by introducing what we have to call a carpe diem schema: it is already late (old age approaches), but still time (for beauty and desire, resp., resist) to love. An overlapping of terminative and inchoative aspects leaves a narrow but so much the more dramatic interval, in which the addressed agent is 'stressed' to act:

Carpe diem schema:

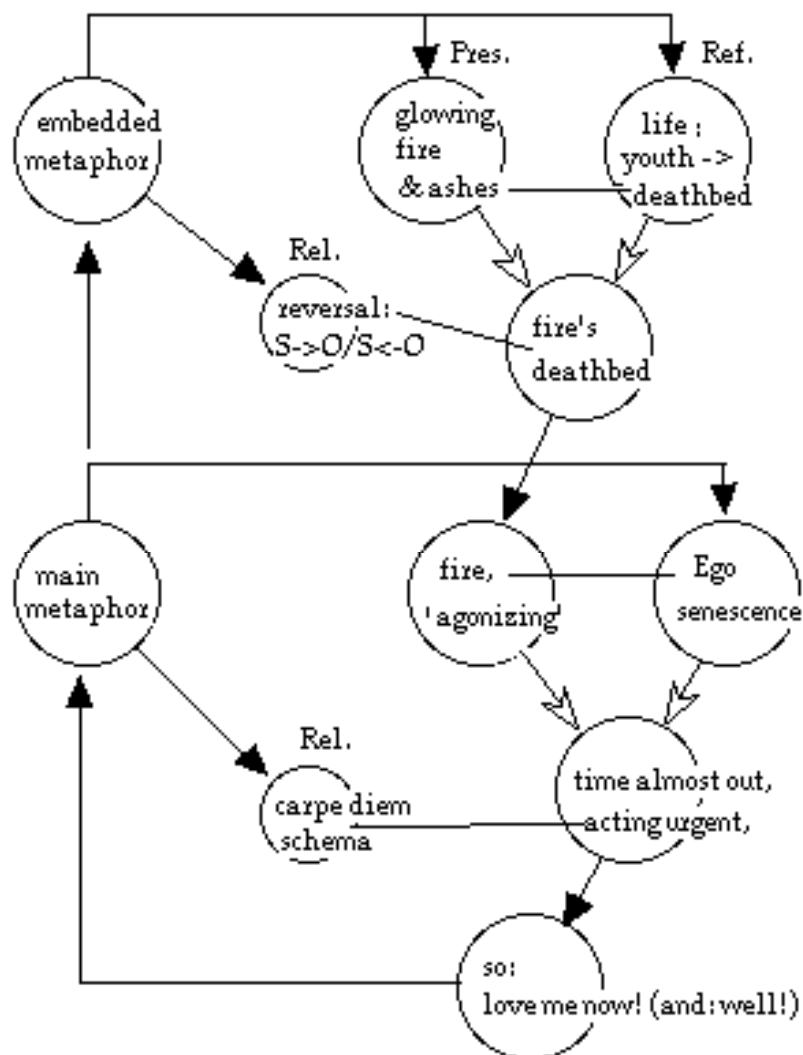


¹¹³ Cf. above, Lakoff and Turner's list.

¹¹⁴ Christian imagination (flames of Purgatory and Hell) may have inherited this reversal schema as an archaic concept related to fire.

Since Ego is agonizing, and you will thus have to leave your beloved 'ere long', you'd better love him before it is too late. This dynamic schema of 'deadline' pressure, literally speaking, is a standard component of the baroque poetry that this text is an eminent example of. The reversal schema organizes the embedded blend, and the carpe diem schema clearly informs the main metaphor's final meaning, plainly expressed in the concluding distich:

Conceptual Space Network:



A final remark.

Winter is death. Night is death. Ashes are death. But Fire can still do a different metaphorical job, namely to represent the identity of a passion through time: the same fire, the same flame, is a current conceptual means of

expressing the sameness of a spiritual concern¹¹⁵. So Fire consumed by the ashes of its own burning, and Fire staying itself despite the fact of being thus consumed, are opposed ideas that this text elegantly exploits, and that the carpe diem schema can integrate particularly well.

When we wish to express discontinuation, by contrast, we can just turn off or blow out the light representing this spiritual self-identity through continuous time: Out, out, brief candle...

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¹¹⁵ Cf. ritual candle-lighting, e. g. in commemoration of the dead.

Chapter 10

REFLECTIONS ON THE MENTAL BRAIN

The light of consciousness is carefully hidden and venerably ancient.
Antonio Damasio

1. From philosophy to biology.

According to some semioticians, there is a 'psychic apparatus', as once proposed by S. Freud. According to others, there is a 'semiotic competence', as A.-J. Greimas and the Paris School used to say, thereby echoing N. Chomsky's ambiguous 'linguistic competence', which was either an ontology or a methodology, or both, or neither. In the absence of a good model of the psyche or the 'competences' of the mind, contemporary discussions on consciousness and its relation to the brain inspire a host of projects in search of significant interrelations between phenomenology and neurology, i.e. between structures of experienced meaning and structures of the human brain. These projects represent a sound 'semio-neural' trend of research, I think, and they deserve philosophical support by a comparably reasonable methodological dualism. Human thought and experienced mental events in general are of course categorically distinct from any biological process creating them, as far as they are in fact conscious, whereas the corresponding processes are not.¹¹⁶ Intentional meaning and neural bio-physics are distinct things to describe and study scientifically, fundamentally, universally. But if there are indeed fundamentals or universals of meaning, there must also be constitutive architectures or morphologies that can be interpreted both as 'immaterial', semio-phenomenological structures of the mind, and as 'material', neuro-physical structures of the brain. Our interpretation of these architectures is then dual, as is any reading of a city map, in the sense that both material and immaterial properties of the morphological objects studied may follow from them. If they were real 'bridges' between consciousness and the brain, we would be entitled to cancel methodological dualism and let sound ontological monism be our actual methodology. But such unifications

¹¹⁶ The only conscious experience we can have of our brain is probably headache.

are all premature, and they are only bridges between the methodological discourses of research. The architectures or morphologies of meaning are instead to be seen as 'designs' in their own right, and in the same sense as other biological entities are. For the time being, biology is perhaps deeper than philosophy, since designs of the living are hardly grasped by any philosophical ontology, whether monistic or dualistic. The advantage of methodological dualism is that it leaves the question of the 'status' of biological designs open, as it ought to be, until it is better understood¹¹⁷.

In other terms, we want to look for semio-neural structures which could account for basic properties of experienced meaning, and which could also be considered as regular parts of the biological design of our 'mental brain', the cerebral structures involved in processes that makes mental life possible.

2. Ins and outs. Consciousness. Language.

In neurally equipped organisms¹¹⁸ like those of our species, there are generally two connected 'cybernetic' flows, an impressive stimulus-processing, afferent flow (F1) and an expressive response-processing, efferent flow (F2). F1 picks up external states of affairs and turns them into internal states of information of some kind; F2 picks up internal events and turns them into external expressions that affect the organism, its environment, and the organism's relation to its environment. In the global process, F2 must in some way be connected to F1 in order for the organism to be able to react on impressive changes by expressive changes. Thus, some internal states of information obtained by F1 must count in the system as internal events affecting F2. The 'ins' must affect the 'outs'. The inverse is then an obvious possibility: efferent states and events influence the afferent states and events of the system, 'outs' affect 'ins'.

According to this extremely general¹¹⁹ view or hypothesis, there is, in the embodied neural system, a process of perception¹²⁰ (by F1) and a separate

¹¹⁷ To 'understand' them as being teleological—instead of causal—is an absurd solution; and so is e.g. C. S. Peirce's 'agapism'; what is needed is not a word, but a rational theory.

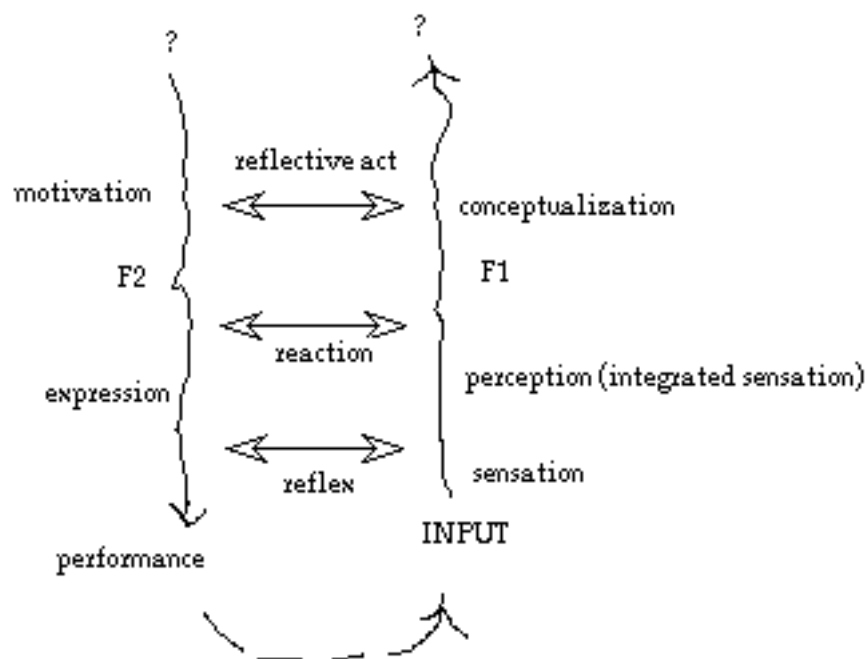
¹¹⁸ Perhaps not, as a borderline case, in sea anemones.

¹¹⁹ It does not yet distinguish efferent 'expressions' that are just physical acts from those that are communicative.

¹²⁰ In a broad sense, including automatic sensory integrations.

process that creates and monitors performance (by F2). The impressive information established by perception is somehow capable of influencing the expressive instructions triggering and controlling the 'doings' of the organism, and vice versa. However, perceptive information and performative instructions, though 'connected' or rather in some sense 'mapped onto' each other, remain structurally distinct. What I mean to say is that F1 does not at any moment redirect itself and become F2. The global flow is not just a reflex arch. F1 ends somewhere, and F2 begins somewhere, and these two extremes do not (have to) coincide. If they do, the result is deterministic.

Of course, neither flow is literally a linear string. But in the actual state of knowledge or realistic imagination, it seems impossible to survey the generic bifurcations and loops of the opposite flows. An important task of future research is of course to establish a real diagram of the neural design of the human mind. For the time being, we might rather think of the flows as densely woven ropes of processual fibers, and something like the following general ordering (fig. 1):



As mentioned, 'inward' and 'outward' bound flows do not directly coincide: they are, according to this idea, mediated by a third neural milieu, which is probably where the affective properties of the mind fit into the picture. Emotions are thus involved as well in our reflex acts and expressions (cf.

fear¹²¹ and the amygdala) as they are in 'higher order' cognition, such as our episodic-narrative understandings of social events and correlated reactions, and our personal 'values' and subsequent reflective behavior.

The horizontal connections between the vertical neural flows are not themselves neural flows; we do not currently know what they are, but some sort of horizontal resonance¹²² between local regions of both vertical process lines seems to occur. This acoustic metaphor might well refer to a real phenomenon, such as a parallel activation of neurons by oscillatory¹²³ coordination. Memory—in perception, in short-term (on-line) conceptualization, and in longer-term affects, skills, and notional knowledge—would be related to this horizontal connective milieu, where contents apparently can be maintained abstractly, autonomously, as if they were floating between the process lines and were independent of both, while accessible to conscious awareness. The resonator, or 'sounding board', of this resonance would probably be a circuit responsible for consciousness itself, structurally connected to the proprioceptive and sensorimotor cortical areas.¹²⁴ We can observe that concentration on mental tasks is helped by a stable proprioceptive feeling, whereas it is disturbed by acute local pain, which destabilizes our 'mental hearing', or by lowered proprioception, as in borderline psychosis with intermittent 'mental deafness'.

The scenario may be the following. An organized state of a segment of F1 emits activity oscillations on some (gamma) frequency. They are received by a segment of F2, where they activate an expressive process and simultaneously bounce back to F1. The connection is then stabilized by the resonator and, above a critical limit of stability, thereby made accessible to

¹²¹ Cf. LeDoux, 1998.

¹²² The notion of resonance is used by Gerrig and McKoon 2001 to explain variable accessibility to long-term memory from working memory and thereby to understand experiential continuity.

¹²³ Cf. the chapter "The Neurology of Consciousness" in Damasio 1999. And in particular Wolf Singer's and Rodolfo Llinás' works on oscillatory synchronization, in Marijuán 2001. Romijn 2002 presents a radical and perhaps revolutionary hypothesis along the same lines.

¹²⁴ The technical hypothesis is that consciousness occurs by a triangular circuit connecting a specific location in the reticular formation of the brain stem, a part of thalamus, and certain cortical areas.

conscious awareness. When made accessible, these contents, or ‘meanings’, or ‘concepts’, are submitted to our conscious attention, which further schematizes or construes them in the perspective of other ongoing conceptual imaginations. Consciousness is multi-focal and can thereby actively determine the inter-conceptual meaning of its concepts.

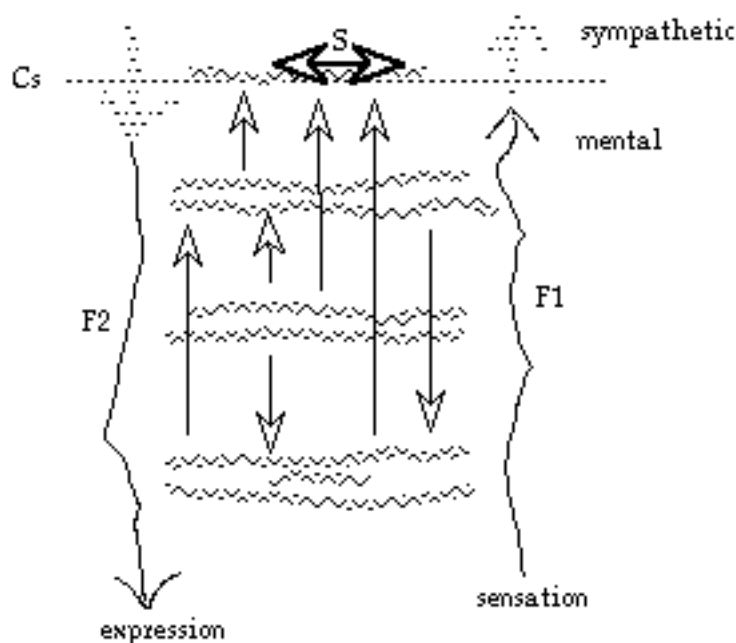
In this framework, conscious awareness—and wakefulness in general—might appear in a new light. Where F1 ends, and where F2 begins, there is a no man’s land, a region where the automatic regulation of internal bodily functions, the autonomic nervous system, directly interacts¹²⁵ and interferes with the mental nervous system that we are considering here. In this border zone, consciousness itself constitutes a Janus-headed biological phenomenon, both autonomic and mental. Consciousness can faint (autonomically) and it can think (mentally), but it cannot do both at the same time. It can be awake without thinking, e. g. in states of stupor or meditation; and it can seamlessly integrate imaginary contents from any level into a ‘stream of consciousness’ in which experience is continuous. Its receptivity is both passive—picking up resonant contents from the underlying levels—and creatively active—integrating and binding the retained contents into alternative wholes of different kinds. Notional meanings and situational configurations integrate with single percepts, and form momentarily stable, landscape-like representations, in which the focus of attention can shift from concrete to abstract aspects, and can move effortlessly between completely distinct items, as if these were superimposed by projection onto a smooth, empty screen.¹²⁶ And when doing so, conscious focussing ‘binds’ the multi-leveled construals that the system later ‘remembers’.

Our conscious experience would thus be the result of a continuous ‘mental hearing’ and an active extraction and interpretation of resonant notes from the noisy stories of the neural building. But it would also be the result of our capacity to consciously ‘observe’ and intentionally ‘select’, ‘retain’,

¹²⁵ In the experience of sexual arousal, this interaction can easily be observed: what your attention does, and what your body does, are factors that follow each other within seconds.

¹²⁶ We might think of conscious experience as a theatrical stage with abstract background wings and set pieces, episodic ‘mid-stage’ ongoings, and concrete objectal percepts in the foreground. Volitive phenomena would then refer to such ‘mid-stage’ ongoings, into which we would project ourselves—in medias res.

‘examine’, ‘evaluate’ such contents—by a conceptualizing mechanism that obeys our conscious ‘will’. This selector (S), the volitive editor of our phenomenology, is probably the basic version of our so-called self. It ‘wants’ and ‘wishes’ things to go or come in our mind and in the world, while it stays itself unshakably present to (almost) all comings and goings. It might be the very core of what we call ‘subjectivity’. Its main function is apparently to critically evaluate mental contents as reports on the state of the surrounding object-world and the ego it surrounds; to let the ego-system feel what is wanted or unwanted and must be achieved or changed.



Here is a graphic sketch of this architectonic view:

Conceptual forms resonate in the semantic milieu between F1 and F2 and can be memorized and recalled by consciousness. They are what we often refer to as meanings (of something). What we experience is ‘meaningful’ when it creates or activates meanings in this sense. A response to a situation is ‘meaningful’ when meanings motivate it.

Meanings can thus be regarded as independent of afference and efference, and as stratified according only to their level of processual complexity. They may connect with either the expressive or the impressive forms processed on corresponding levels of complexity, or with both. The following question then arises. Are such levels of complexity just degrees of a continuous ‘abstractification’, or are they to be analyzed in terms of

qualitatively distinct mental organizations? Are there continuous degrees or discontinuous levels? One type of arguments in favor of the latter hypothesis is the one drawn from what we know about meanings that refer to other meanings: these meanings appear to move effortlessly from one level to another, as can be observed in metaphor, comparison, and similar structures. So, when a 'higher order' meaning is experienced as a predicate¹²⁷ of a 'lower order' meaning, or the inverse, the fusion of the two meanings should float around somewhere indistinctly between their original levels, but this does not appear to happen. Instead, the predicate item abandons its distinct reference level (to become 'generic'), whereas the subject item, the current referent, stays at its original level of reference (to become 'deictic'). This referential level is semantically stable under predicative variation, because it is determined by a correspondingly complex set of cognitive, or semantic, domains. The mental brain is thus prepared to recognize the semantic domain of a content, a meaning, and is thereby made capable of grasping an idea, a meaning, as being 'meant' about another meaning. Meanings can universally be 'meant' about one another, not only 'about' the world-as-presently-experienced. This principle is of evident importance to the human mind's biologically uncommon 'intellectual', contemplative, speculative functioning.

An independent analysis of semantic domains¹²⁸ shows that these real levels of empirically given complexity of meaning constitute a stable architectural structure of distinct stories—spanning from a group of basic, bodily, gesture-bound domains, through the slightly more abstract, act-related domains, and the evaluative, interaction-determined domains, overlaid by the language-dependent, discourse-based domains, to the final, knowledge-oriented domains—built by stepwise integration of the local domainial phenomenologies (categories and cognitive schemas) given at underlying stages of possible experience.

These 'instances' of possible experience might then constitute the stable, distinct levels of resonant meaning we are looking for—a natural semantic hierarchy corresponding to 'things' that human minds

¹²⁷ Given that predication is a general mental operation by which something is mentally seen 'through' or thought of 'in terms of' something else.

¹²⁸ Cf. "The Architecture of Semantic Domains", chap. 3.

spontaneously find meaningful, have experiences about in the real world, and wish to communicate thoughts and feelings about.

In human communication, meta-reference is constantly made to ‘what we are talking about’, i. e. the domains in which some meaning construction is supposed to be semantically allocated in order to be properly understood; humor and wit underscore this principle by deliberately not respecting it and obtaining ‘wild’ extra-meanings and significant non-sense.

Language manifests a formal complexity that can probably only be grasped if some neuro-linguistic approach¹²⁹ manages to develop a consistent model of its grounding in such a mental hierarchy of meaning. A direct relation seem to exist between two bottom-up series, one referring to domain types and the other to linguistic structure types:

gestures -> acts -> interactions -> discourse -> knowledge; and

words -> phrases -> clauses -> utterances -> enunciation forms¹³⁰

This correlation indicates a probable co-evolution of language and the entire disposition of the ‘mental brain’. Language appears to be a transversal mental system using structure from all stable levels of meaning. It is only likely to have emerged when or while these levels were established.¹³¹

On the basic level of bodily gestures, we find the grounding of conceptual schemas (for spatial orientation, containment, temporal rhythm, causation, etc.) that become entrenched in the individual mind, when they are reinforced by massively iterative bodily experience. Some schemas may be coded into the synaptic wiring by evolution and thus end up as genetically transmittable virtual pathways of the mind. Resonance ‘theory’ as imagined here may help us understand or imagine the technicality of such processes, leading from ‘binding’ to ‘wiring’—as we will see in what follows.

¹²⁹ V. S. Ramachandran & E. M. Hubbard 2001 present a promising hypothesis on the early evolution of language that fits well into the gesture-based grounding of meaning I am suggesting.

¹³⁰ Cf. “From Gesture to Theatricality”, chap. 13. The technical term Enunciation, Fr. Énonciation, refers to the semantics of linguistically represented intersubjectivity, e. g. in pronominal semantics.

¹³¹ Language could not have established these levels all by itself, since it has no autonomy other than the phonetic capacity.

The genetic status of human cognitive schemas corresponds to that of animal 'instincts'. We cannot explain them by looking at informational codes or patterns in the single neurons or neuron groups, nor in patterns of their synaptic connections, but still their specification of behavior is obvious, and they really appear to be able to migrate from experience to innateness¹³². It appears to me that the resonance hypothesis and its subsequent architectonic unfolding may contribute to a rational treatment of this paradox.

Schematic meaning 'bounces'¹³³ back and forth between afference, F1, (where it is being perceived, prototypically in other individuals' behavior) and efference, F2, (where it is involved in programming this individual's performance). The cognitive schemas constitute an elementary 'graphic art of the mind' that works in the background of our attention, guiding its creative operations of integration and thereby our understanding of what we are experiencing or doing. The graphic diagram formats and contractions characteristic of schematic structures are probably what we mentally 'see', when we have the feeling of understanding something. The content of such epistemic experiences is both substantial, related to the categories of things involved, and formal, related to these schemas. We do not yet know much about the neural nature of schematic structures; however, as we experience them, they have both figurative and dynamic properties, they represent both forms and forces, and seem to constitute the semantics of what we call 'relations' in general. They may be describable as mentally visual, kinetic and dynamic space-time figurations—like the illustrative animations we find in pedagogic presentations, and like dramatic episodes in dreams—and could consist of integrated sensorimotor and visual cortical information maintained by subcortical, 'limbic' circuits related to emotional reactions and materialized in the oscillatory preferences¹³⁴ of the neurons that also specify emotions (correlating meanings with autonomic body functions). We might stipulate

¹³² I am thinking of infants' apparently established basic causal understandings, which must be due to non-acquired schematic cognition.

¹³³ This resonant 'bouncing' is probably related to cortical lateralization; I suspect the left hemisphere of being predominantly afferent, and correlatively (in right-handers), the right of being efferent; in that case, meaning is a trans-lateral phenomenon par excellence.

¹³⁴ Though we know little about 'oscillatory preferences' of subcortical neurons, or of any neurons at all.

that if a resonant integration uses a given frequency of oscillation for the attunement of the implied neurons, or rather a sequence of such frequencies (for a temporal image), then the memory of this integration will be the representation¹³⁵ of this frequency by a synaptically connected sequence of neurons with preferences precisely for the implied frequencies. We know that some synaptic wirings are genetically coded. So if such a scenario is theoretically possible, inheritance of schematic meanings is also possible. But experiential learning will still be the predominant form of acquiring schematic structure. Specific feelings, and in particular emotions, would activate specific schemas; so, as it happens to be the case, anger evokes a temporal schema of 'offense', sorrow evokes a temporal schema of 'loss', etc.

In short: immediate conscious contents such as schematic meanings may be due to oscillatory integrations, and their memorization may occur if some synaptically connected neurons keep track of the frequency specifying these integrations; recall would occur by activation of the track-keeper neurons.

One advantage of this view is that it coincides with reasonable claims in contemporary psychology that memory is not a passive depository or archive, but an active laboratory of reassembling and reintegrating mental images of the target item, or, metaphorically, of cooking a dish again according to a recipe that is sometimes difficult to read and misinterpreted, unless it is particularly simple (schematic).

Our perception or imagination of events automatically activates schemas. They appear to build themselves into our experience, to fill in and to fulfill tasks of completion, where local discontinuities in occurring contents call for the establishment of 'implicit' connections. Motion, change, causation, and condition are basic examples of this completive function. Situational and event structures of all sorts use these schematic gap-fillers to make sense. And what is memorized is what then in fact does make sense, whereas other elements are left out of the cortical record. But remembering proceeds differently: we activate a 'recollection' by focusing our attention on some

¹³⁵ I am trying to imagine a natural mnemotechnical mechanism along the same lines as the reflexive version we can learn to use.

apparently insignificant detail, often a symbolic¹³⁶ element—a word, a melody, an image etc.—or an insignificant sensory perception, pertaining to it. Memorization and symbolization are closely related in this respect, and are probably aspects of the same mental process. Schematic structure determines inscription in (long term) memory, and symbolic structure determines retrieval from memory. The element that allows us to ‘keep track of’ an experience X is a marginal, peripheral, non-schematized part of it, a minimally significant, maximally contingent—‘arbitrary’—fragment that has escaped reduction for a particular reason, namely that it has formal properties by which it pertains to some ‘morphology’, some family of phenomena of ‘forms’ that the mind reacts to—by a natural perceptual, or esthetic, differentiation unconnected to X. Symbolization is thus present in our mind as a natural mnemotechnical device, which can be exteriorized as symbolic expressivity.

3. A slow but short story.

Evolution creates still larger and longer neural flows, but maintains the principle here called resonance. When flows get longer, they create stances, laps, or stages. A stage in a flow is probably a state characterized by local feedback loops, by which certain forms are reinforced and other forms suppressed; a particular stage can then be recognized by its typical forms, or prototypes.

What happens if the afferent flow and the efferent flow do not grow and articulate symmetrically? Then the shortest flow will receive interfering resonances structured by the longest.

If afference, F1, is extended and articulated by new stages, whereas efference, F2, is not, then possible resonances from perception will overdetermine the organism’s performance. A particular expressive doing of the subject organism will follow instructions whose forms are triggered by

¹³⁶ We do not yet in this reconstruction know what symbols are, but let us anticipate by saying that a symbol is 1) a marginal, peripheral, inessential and very small part of something, 2) a part of a series of similar small objects that the mind only pays attention to as members of that series (notes, colors, smells, tastes, but also number signs, letters, traffic signs...), 3) a signifier of signified things that are preferably abstract, absent, invisible, and generic (existing as genres).

multiple resonances stemming from layered impressive formations. Such multiple resonances could in particular explain the phenomenon of inhibited or postponed performances. For instance, a reflex movement may be inhibited by a 'higher order' motive, or this last motive may be deactivated by an irrepressible 'lower order' habit, etc. The organism 'hesitates'. This seems to be what happens in our species. We do manifest hesitant behavior; it is even essential to our mental life that we develop an ability to hesitate, differ, wait, hold back, falter and ponder.

The opposite development, F2 grows faster than F1, would yield still more overdetermined and disturbed impressive functions, while only the expressive forms differentiate. Then the subject would only apperceive an event if it is performing a specific, event-related routine, not otherwise—let us imagine an 'absent-minded' bird that fails to notice the presence of a predator and to hide or flee because it is nesting; such an absent-mindedness will greatly enhance the predator's chances. But such absent-mindedness requires habitats that are more peaceful than nature. Throughout zoology, perception overrules performance. Only in humans, performance can also substantially overrule perception¹³⁷, so we 'forget' about things that do not occupy our mind, even if they are life-threatening. But this is probably a late development in evolution.

When evolution extends the neural flows, it creates asymmetry by the first procedure, rather than by the second: F1 grows and gets more complex and articulated than F2, so the overdetermined instance is mainly the performance.

In the evolution of mammals, and further in that of hominidae, brains become still more 'asymmetric' according to the dominating principle of multiple resonance by F1-extension. Humans regularly have and experience a rather nuanced, intuitive situational apperception shared with apes, dogs, horses, etc.; "if only they could speak", we then think; this feeling is rooted in the observation of overdetermined, conflictive performances of these animals—what we in fact feel as particularly expressive is the presence of

¹³⁷ In sexuality and other mating-related behaviors, performance in fact overrules perception. Here is thus a possible source of the human development of overruling both ways.

conflicting resonances, yielding hesitance, 'nervousness', tension: a mental life is an inner battlefield.

But suddenly, evolution must have broken this asymmetry. Humans now do have overdetermined perception, and are zoologically fragilized by absent-mindedness. At least in *Homo Sapiens Sapiens*, Cro-Magnon, the F2-flow must have responded to the standard extension of F1 by a growth restoring neural symmetry. Our multiple resonance clearly works in both directions. This observation gives us a clue to a new understanding of human semio-neural design.

4. Semio-neural design: the hypothesis.

The assumption is still that F1 does not end in F2, but that F1 ends, and F2 begins, blindly, in brainstem core consciousness. If we imagine F1 running 'inwards', and F2 'outwards', they run in parallel, though perhaps entwined, and F1 affects the formal content of F2 mainly by resonance, not by bending into it or by synaptic contact. Through evolution, F1 extends and form stages, whereas F2 is just 'stretched'. But during many (7?) million years of so-called hominization, marked by at least two major events, F1 undergoes a radical transformation. The first is hominid bipedalism; the forelegs become 'arms', deprogrammed as to locomotion by running and climbing, and reprogrammed for swinging significantly around in the air, fighting, manipulating objects, addressing species fellows, and caressing selected mates and sexual partners. The second major event is facial nudity: the appearance of hairless faces. It happened perhaps only in the Cro-Magnon variant of *Sapiens*, and late—say, 200.000 years ago. Emotional face expression and face-reading unfold, as a new context for signal sounds emitted by the voice and accompanied by manual gesture, giving rise to word formation; facial expressions of attention to events also accompany the exchange of gazes in communication, itself accompanied by these emotionally significant sounds¹³⁸, and the result is a semantically informed deixis. Arms and hands can now 'point' to present things near and far, and also to absent things, meanings. As Ramachandran and Hubbard 2001 write, manual and

¹³⁸ The importance of the human face as an evolutionary turning-point is stressed in my paper "Grounding Iconicity" (forthcoming).

facial gesture can now be coordinated and jointly exteriorize lexical forms and meanings.

Semio-neural architecture is qualitatively affected by this process; F2, already stretched by an F1 that bipedalism has cognitively reinforced, finally follows up F1's forming of laps and stages, even if its quantitative extension in the brain¹³⁹ is less important than that of F1. Now, the structures of resonance are rebalanced: overdetermination appears on both sides (significant absent-mindedness in perception as well as in performance). A layered and symmetric semio-neural structure that can process meaning can develop. In fact, if resonance drives the binding process, this relative symmetry between the extensions of afferent and efferent systems is a necessary condition for the development of a stable stratification and a human 'imaginary' which is neutral to the afferent/efferent distinction. Such strata must be supported from both sides in order to achieve autonomy.

Afferent processing is probably figurative in general (iconic, imagistic, form-oriented), because it ends as 'inner film' on the screen of our core consciousness, whereas efferent processing must be dynamic (force-oriented), because it ends in our muscles. But the meaning constructions we meet in language and other manifestations of communicable content are both figurative and dynamic: so for example, a 'container' is figuratively closed and dynamically bounded, a 'line' is a figurative divider and a dynamic boundary, a contour, etc. Diagrams show us how we automatically combine ideas of forms with ideas of forces, e. g. when drawing or reading a map—it tells us what an area will look like (figuratively), and simultaneously where it is (dynamically) possible or impossible to go. It might be the great advantage of Conceptual Integration (Blending) Theory to yield at least an embryonic understanding of how figurative contents (of mental spaces) and dynamic schemas (from other mental spaces) integrate in (some of) the resonance zones of our mental brain. We do not yet know how general the process of regular semantic blending is, in terms of levels of processing in both directions, but

¹³⁹ Cf. Antonio R. Damasio and Hanna Damasio, "Brain and Language", *Scientific American*, September 1992. The authors stress the phenomenon of mediation and projection between the (large) set of neural structures that represents concepts and the (smaller) set that represents linguistic activity.

may assume that it works at least ‘in the middle’ of the vertical architecture, where most of our attention is normally allocated.

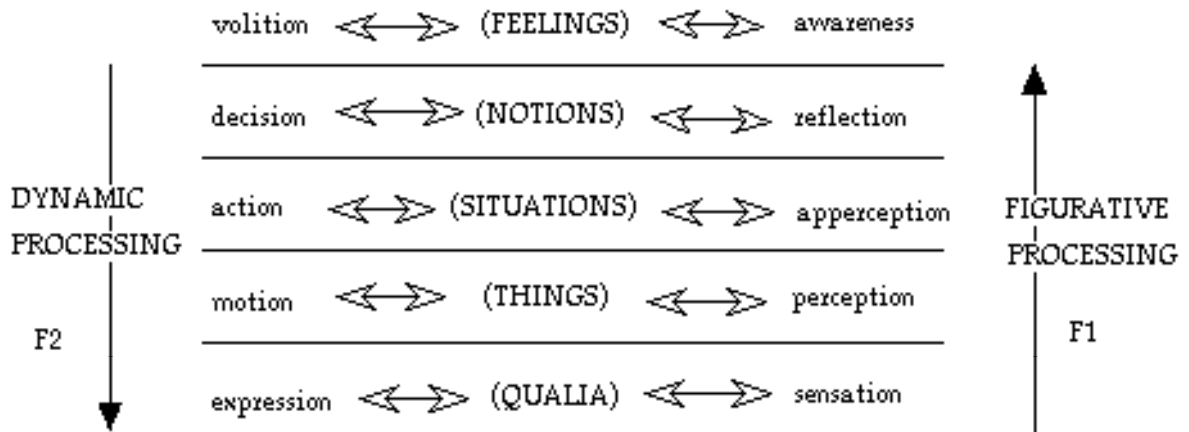
Note that we need to distinguish this horizontal integration of figurative and dynamic contents, and the vertical integration that lets our wholes often be part of other wholes, according to a canonical semantic stratification.

Thus, if F1 constitutes our figurative processing, and F2 our dynamic processing, it seems possible to stipulate a minimal canonical stratification comprising five layers, which can be distinguished on both sides. On the figurative side, monomodal sensation (vision, audition, touch, etc.) may constitute a primary level, followed by multimodal object integration in so-called ‘Gestalt’ perception. On a third level, we may have multi-perceptual integration and episodic, situational apperception. Here, we dispose of a pragmatic space-time and the presence of persons, intentions and doings, including our own. A fourth level may integrate apperceptions into narrative, descriptive, argumentative (comparative, conditional, counterfactual, etc.) forms of ideational, notional reflection. Reflections may finally be integrated into affective states on a fifth and last level of possible conscious processing, which is in a sense, and as we have indicated, both the highest¹⁴⁰ and the most basic stratum, that of awareness as such.

Descending from the fifth story on the dynamic side, we would perhaps find volition and similar basic attitudes on the affective level, then evaluation, pondering, planning, and in general the massively memory-fed process called decision, on the reflexive level. Facing apperception, we would find schemas and concepts of action, by which the mind represents our own and others’ insertion in situations. Continuing ‘downward’, action translates into motion, also called gesture, whether locomotor, instrumental, or expressive. And humans specifically dispose of an ultimate stratum of performance, namely monomodal expression—by sound only, by visual communication only, as in music, graphic and plastic activity, and language.

¹⁴⁰ We should probably invert the model and refer to ‘high’ as ‘deep’ instead. But the routine of interpreting ‘abstraction’ or ‘complexity’ as ‘higher order’ cognition is as stubborn as stratification itself.

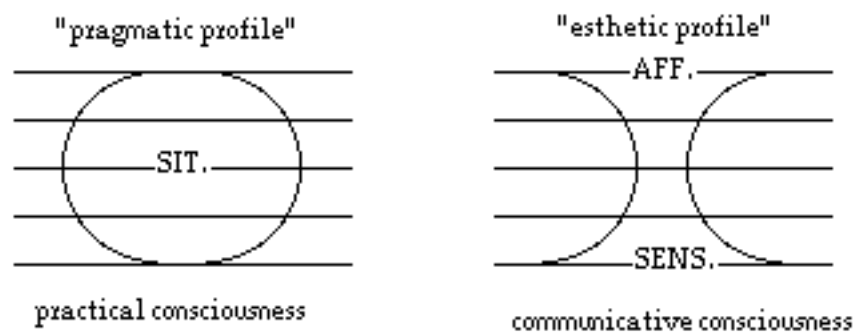
A new view of mental architecture:



Some direct connections F1 -> F2 indeed operate, apparently including all levels: sensation -> expression (e. g. pain); perception -> motion (e. g. fear); apperception -> action (e. g. car drivers' skills); reflection -> decision (e. g. 'ideology'); awareness -> volition (e. g. 'passion'). We might like to call them all 'reflexes'. But efferent events are generally over-determined by resonant meaning of any other level, a phenomenon which makes it possible for us to inhibit these 'reflexes' to a certain extent and 'hesitate', be in 'doubt', 'ponder', etc.—thereby expressing an essentially increased capacity of adaptation to changing surroundings, but also a dangerously decreased capacity for immediate response to danger. Symmetrically, even our afferent, cognitive processing is capable of inhibition due to over-determination by resonance, so we can correspondingly 'doubt' about what we sense, perceive, etc.—a phenomenon that has led to our tendency to be sceptical of experience.

A final observation referring to this architectural and semantic view of the mental brain concerns what we may call 'styles' of consciousness. There is a striking contrast between practical consciousness, typically displayed when we are physically active and occupied with material doings and ongoings, as opposed to communicative consciousness, which often interrupts the former or manifests its conflict with it by altering its quality of performance. A conflict of performance quality easily occurs while we are both driving and talking, or while simultaneously having both to run and to gesture (as in collective ball games). The profile of resonant integration interrelating the mental strata demonstratively changes. In practical consciousness, it has a

center of gravity on the level of SITUATIONS and meanings related to situated, present events; other levels of meaning get lower priority, i. e. granularity of mental sensitivity and analytic focus, especially the outer levels. By contrast, in communicative consciousness, and radically so in esthetical experiences, the profile inversely widens both at the top and the bottom: abstract FEELINGS accompany concrete SENSORY impressions,



whereas situational meanings are minimized, often almost absent.

In the practical attitude of mind, attention focuses on 'things', but in the communicative attitude, instead on 'signs'. Whereas 'things' are in fact categorized, understood, and handled in situations that highlight their dynamic properties, 'signs' are trans-situational and characterized precisely by their abstract (signified) content and concrete (signifier) form. Same afferent information is thus processed differently in the practical, pragmatic mode and in the communicative, esthetic mode; and behavior is correspondingly different according to the distinction. This is probably a major aspect of the human mind's plasticity. It makes it possible to maintain practical activities in parallel with communicative activities (backgrounding some and foregrounding others), and to achieve semiotic attunement to a group of individuals sharing practical activities, possibly controlled by attuning semiotic interactions (doing 'things' with 'signs').

The co-evolution of art and social life forms gives us evidence of the importance of this strangely 'asocial' mental mode precisely for societal developments, such as cultured behavior, institutions, symbolic exteriorizations of abstract meaning, contractual exchanges, and discourse. It is not improbable that language itself evolved on the grounds of the aesthetic mode of consciousness. An explanation of this symbolic grounding effect may be that since action is momentarily defocused and inhibited in the esthetic

mode, mimetic attunement between individuals mainly occurs in the sensory-affective registers, and therefore creates shared ‘vertical’ patterns combining intentionally produced or accentuated sensations and feelings, or jointly foregrounded perceptions and reflections. Such combinations are symbols. Symbolization implies ‘hyper-perception’, affect, and memory, as suggested above. But in order to fully understand this Symbolic dimension of our species, we would need to entirely grasp the principles of the mental brain as an architectural whole. The only thing we currently begin to know is that there is such a perspective behind the confusing mass of findings and puzzles in the vast field of contemporary cognitive sciences.

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Chapter 11

THE MYSTERY OF INTERPRETATION*

In his *Tanner Lectures* from 1990,¹⁴¹ Umberto Eco undertakes the critical, semiotic, and philosophical task of examining the concept of *interpretation* in its canonical context: Author—Text—Reader. With his habitual witty eloquence he attacks the apparent paradox of the at once open and determined interpretation, of infinite yet decidable semiosis.

I challenged Valéry's statement according to which '*il n'y a pas de vrai sens d'un texte*', but I accept the statement that a text can have many senses. I refuse the statement that a text can have every sense.¹⁴²

It being a question of the *literary* and not the pragmatic text in this discussion, the empirical reader is not questioned in his situated and deontic role, but only as an epistemic agent who must imagine models through embedding: he must give a Model Reader postulated by the text an imaginary form, so that this golem, the Model Reader, in turn gives a Model Author an imaginary form; finally, the hypothetical thought of the latter coincides with the meaning of the work, *intentio operis*, and thus with the consistency of the text. In the empirical text, the empirical reader sees a Model Reader who determines a Model Author who determines a (Model) Text, which determines a Model Reader, and so on, in a triangle. The circularity of the postulate does not escape the lecturer, who on the contrary voluntarily accepts it:

A text is a device conceived in order to produce its model reader. I

* Translated from the French by Stacey Cozart. In the proceedings of La Décade de Cerisy: "Umberto Eco - au nom du sens", 1996. Red. J. Petitot & P. Fabbri, Au nom du sens. Autour d'Umberto Eco, Ed. Grasset, Paris 2000.

¹⁴¹ Conferences published in the anthology *Interpretation and overinterpretation* (Cambridge University Press, 1992), with contributions by Stefan Collini, Richard Rorty, Jonathan Culler and Christine Brooke-Rose.

¹⁴² "There is no true meaning of a text". Op. cit., p. 141, in response to Richard Rorty.

repeat that this reader is not the one who makes the 'only right' conjecture. A text can foresee a model reader entitled to try infinite conjectures. The empirical reader is only an actor who makes conjectures about the kind of model reader postulated by the text. Since the intention of the text is basically to produce a model reader able to make conjectures about it, the initiative of the model reader consists in figuring out a model author that is not the empirical one and that, in the end, coincides with the intention of the text. Thus, more than a parameter to use in order to validate the interpretation, the text is an object that the interpretation builds up in the course of the circular effort of validating itself on the basis of what it makes up as its result. I am not ashamed to admit that I am so defining the old and still valid 'hermeneutic circle'.¹⁴³

How is it possible to explain the possibility of obtaining an unequivocal result from such a circular process? Eco's reply resumes a mereological idea advanced by Augustine:

any interpretation given of a certain portion of a text can be accepted if it is confirmed by, and must be rejected if it is challenged by, another portion of the same text. In this sense the internal textual coherence controls the otherwise uncontrollable drives of the reader.¹⁴⁴

In other words, the text is now a whole, from which the reading extracts a part to submit to the dialectical modelization described above; the interpreted part refers to another part of the same whole, and the modelization repeats its operation until the interpreted part establishes a coherent connection with a third part, and so forth; if the *coherent* network of these parts does not exclude any part of the text, the interpretation is correct.

Yes, but ..., exclaims the reader of Eco, we were just told that the text is an object *constructed* by the interpretation; the parts (portions) of the text are thus constructed sub-texts, and the text in its entirety is a constructed whole; how is it possible for this text that is a constructed whole to contain uninterpreted, that is, unconstructed parts? We easily understand that the empirical text is able to contain these; but if this were considered outside the

¹⁴³ Ibid, Second Conference, "Overinterpreting texts", p. 64.

interpretive ring, the theory of the Model Reader would be superfluous and inconsistent.

Thus, following Eco, the empirical reader actually sees himself confronted with two texts: the constructed text, "dreamed," as it were, by the Model Author, and the empirical text, the parts of which are simply there and not the product of any interpretation. In the end our reader compares the two in evaluating his interpretation (is it exhaustive or not?). But how can the same global text be available to the empirical reader twice? How is he able to compare the interpreted and the uninterpreted texts as two distinct totalities if it is through the interpretation that the text becomes a totality? Likewise, how is he able to compare an interpreted part and an uninterpreted part if it is the interpretation that constitutes the part; how is he able to know that the text contains an uninterpreted part if it is the interpretation that divides the text into parts? This is not possible. The empirical reader confronted with this comparative task would be entitled to declare that his interpretation is always correct, since the uninterpreted part is not part of the interpretation—it does not exist, it signifies nothing since it is not in the interpreted text. And this is exactly what is done by the hermeneutically circular empirical readers to whom Eco addresses his theory of demonstrable interpretation.

Thus, in order for the Augustinian strategy to work, the text must be divided outside of any interpretation. In other words, the text must be *structured* outside of any interpretation. For to establish the "lexies" (Barthes' French neologism) of a text, its reading units, its parts, is to follow its articulation, its structure. The sentences of a text are already so many stages or "lexies." The discursive networks of a text, which establish themselves between hypophrastic and larger, hyperophrastic, units and form intelligible, "thematic"—narrative, argumentative or descriptive—figures, still without the intervention of any literary interpretation, since they are formed automatically by virtue of our neuro-linguistic systems alone, compels us in fact not to confuse the literary interpretation and the linguistic reading of the same text, whose *linguistically legible structure* thus necessarily constitutes a precondition of any literary interpretation.

In my view, if Eco says "portion" and not "part" it is actually because the gastronomic metaphor suggests imagining the text as a dish, presented on a

¹⁴⁴ Ibid., p. 65.

platter and served to someone and by someone else or by himself, and therefore endowed with its literally given, natural, *bona fide* delimitations or boundaries and not as a shapeless and unlimited mass, delimited only by virtue of being arbitrarily carved up (*fiat*, still according to the terminology of the philosopher Barry Smith).¹⁴⁵ Our "portions," and the parts that we see in the wholes are often thus constituted by boundaries now *bona fide*, now *fiat*. The *bona fide* aspect of a text, its own articulation, more or less clear and often imperfect, would give us its observable structure—its syntax, its metric and prosodic composition, its elementary semantics, its form of enunciation—before its *fiat* aspect is constructed during the special reading that we call a literary interpretation. Otherwise the text would not be a "portion" of language and of writing. The *fiat* aspect is supported by the *bona fide* aspect, a necessary precondition, which indeed allows us to proceed as prescribed by Augustine, but does not allow us to say that the text is the product of interpretation.

The fact that Eco does not speak in this way of the *Model Text*, which must have tempted him, while the Model Reader and the Model Author cost him no effort or hesitation, must be because he hopes to avoid the drama of such a Model Text opposing itself to the empirical text. And yet, the drama is certainly there. How can the Model Text avoid crushing the empirical text—it is even the norm in psychoanalysis, just as in deconstruction—if for example in the name of a world view the two golems which he gives free rein are authorized to decide that the discursive figures must be ignored to a certain degree?

The crucial question here is apparently that of knowing how the empirical text itself, in its "internal coherence", as Eco puts it, controls and commands the semantic construction of the two Models beyond any dialectical hermeneutic, so that the text acquires a *will to speak*, an *intentio* and a meaning: how the text becomes a subject, so to speak. Why and how the text actually becomes a subject, distinct from its empirical author, a subjective or

¹⁴⁵ Barry Smith, "On Drawing Lines on a Map", in (ed.) A. U. Frank, W. Kuhn, *Spatial Information Theory* (Berlin: Springer, 1995). Jean Petitot and B. Smith, "Physics and the Phenomenal World", in (ed.) R. Poli, P. M. Simons, *Formal Ontology* (Dordrecht/Boston/London: Kluwer, 1996). Barry Smith, "Fiat Objects", in (ed.) N. Guarino et al., *Parts and Wholes: Conceptual Part-Whole Relations and Formal Ontology* (Amsterdam: European Coordinating Committee for Artificial Intelligence).

subjectal instance that "makes the notion of an empirical author's intention radically useless"¹⁴⁶?

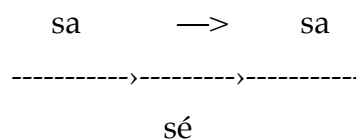
We know that this is the case and it is easy to see that the value judgements we place on the quality of a text treat it as though it were: in fact we judge it as though it were a person.¹⁴⁷ This is why esthetic judgement comes close to legal judgement, the objects of which are apparently not necessarily human beings either. In reality, there is never any art work or esthetic artifact without an *intentio operis* intervening in our "reception." The work "means" and signifies just as a person expressing himself. Thus, it is not a matter of a mystery peculiar to the text, but a generic property of artistic esthetics—and even of natural esthetics if we agree to acknowledge that for example beautiful sunsets "speak" to us religiously. This is a mystery haunting any human practice of the *sacred*. In order for this to make sense we must agree to reopen the chapter on semiosis that so many Peircean semioticians seem to believe has been definitively written.

The cognitive sciences have finally taught us that categorization does not fundamentally proceed by way of *definitions* but by radial organization around a *prototype*. If the comprehension of a concept follows the same principle as for example the one allowing us to categorize or classify the animals we know, we should, in order to understand our comprehension of the concept of *intention*, search for the prototype of this strange animal rather than for its definition. In natural logic, definitions do not serve the purpose of understanding, but rather of quarrelling. That use is too special to be of concern to us here. Thus the prototype of the "meaning" of a text or of any kind of esthetic work, or even of any sign, provided that it is more or less detached from its sender, could simply be our experience of a sentence to which we are listening, our experience of hearing and understanding it. This phrase is spoken by someone present and is accompanied by facial and gestural expressions underlying which we perceive, through empathy, a mental state which we attribute to the person with whom we are speaking. This is an experience reinforced by its simple recurrence; we have it a

¹⁴⁶ Ibid., p. 66.

¹⁴⁷ So a text may appear weak or bad to us because it is pathological, pathetic, cynical, and so forth. Above all negative judgements clearly manifest this personification.

thousand times a day. We understand the whole and the parts of what is said without any modelization, since the living source of the enunciation is there, in front of us. It has a face, and behind this facial screen a mental state referring to something: its enunciation is a phenomenon referring to another phenomenon, that is, an intentional predicate of another phenomenon. To understand the other's sentence is to understand what the other or his sentence indistinctly refers to, what one or the other means, without quotation marks. When this phenomenologically real meaning is understood, a phrastic signifier must no longer wait for its signified, insofar as we are able to substitute a new phrasal signifier for the signifier, a paraphrasal one that our interlocutor then endeavors to understand:



For us this is an intentional experience, which makes us share a meaning in the face-to-face relation connecting us for a while with the interlocutor during the dialogue. The intended meaning is part of the experience as a shared attention, the time it takes for us to understand each other. The Saussurian sign should thus be temporalized, thereby allowing the phrasal phenomenon to be taken into account in the same way, and not just as the lexical phenomenon, in which time contracts in a flash. The semiotic function is temporal, and intersubjective in its prototypic constitution.

Now, among humans a domain exists where this intentional transitivity—of shared attention, directed at something beyond the mental state of the other as manifested by a facial expression—is maintained, while the interlocutor is only present *in effigie*, in an image, iconically: in the shape of a *sign*, in a semiotic sense. Such a sign necessarily offers us an "expression" and a "content," which according to this analysis are related by a semiotic function *structured by the prototype* whose structure has just been analyzed. The expression is now a figurativity (gestaltic), and the content is a dynamic schematism. The whole of expression and content is a transitive thing, indicating another thing; a thing that has become the predicate of

something¹⁴⁸ else: a sign.

As has just been demonstrated, this sign is iconic. In this sense the *text* is iconic since it represents, *in effigie*, the speech of someone talking to us. It therefore makes us represent ourselves, the receiver of this speech, whose imagined and imaginary sender *is* the text. We modelize. We produce a Model Reader and a Model Author *because* it is a text instead of a person speaking to us.

All signs are icons. But certain icons are also indices, namely those whose figurativity fades or fragments, implodes; then it is the figurativity of the intended referent that appears in our comprehension. Others are symbols, namely, such signs or icons whose dynamic schematism conversely gets weaker or fades; so their figurativity remains, while it is the dynamic schematism of the intended referent that offers itself to our comprehension, unless we explicitly add rules to control the behavior of the symbols; in this case we would have a symbolism (e.g. arithmetic).

The sign is fundamentally iconic; two variants or lateral deformations flank this central structure, that of the sign turned indexical and that of the sign reduced to the state of a symbol. Moreover, we understand the particular effectiveness of the symbol in this perspective: since its content (its dynamic schematism) coincides with that of the referent, it makes us think in terms of the properties of this intended referent, and in this sense it makes our thought particularly "objective." If a set of symbols is regulated, the rules predicatively project onto this objectivity, and the thought becomes regulatory: magic or scientific.

The domain in which the decisive transposition takes place, and in which things are experienced as transitive and predicative phenomena, like persons *in effigie* or subjects, is the one which anthropology would call the domain of the *sacred*. In this domain, affiliated with the macrophysical domain, which is the world according to our bodies (Descartes' *res extensa*), things are certainly physical, but they *signify* in the same way as the purely

¹⁴⁸ Whether things are placed as predicates or as referents of these predicates, they consist of a figurativity (outer or superficial aspect) and of a dynamism (inner or profound aspect). This is particularly clear in the case of the *metaphor*: A is B, and A and B are things—the figurativity of B projects onto that of A, but the dynamism of B does so as well, hence the inferential effect of the metaphor.

expressive events of the domain of prototypic communication, of enunciation, so to speak, and of interpersonal empathy. We directly practice the domain of the sacred, in which these semiotic phenomena arise, in eroticism, art, science, religious rituals,¹⁴⁹ experiences that ground (in a cognitive sense) all human semiosis, regardless of the domain. I believe that this explains the particular importance of esthetics to any theory and any analysis of meaning, as well as to any phenomenology exceeding the stage of physicalist phenomenalism.

Semiosis is infinite and yet decidable, that is, vague, insofar as its prototypic model is our comprehension of an interlocutor who is not speaking to us to say just anything, but who is not condemned to only saying one thing either. Of course, the transitivity of the attention shared by the interlocutors implies a referent in principle decidable and a predicative mode of its aim. But "only saying one thing" would be, in a strict sense, not admitting any paraphrase, wanting to have the last word, ending the dialogue and no longer sharing the intentional aim, excluding semiosis and ultimately transforming the communication into a menace ("Go away!" is such a terminative utterance, to which a physical act is the only response; this utterance is metalinguistic by virtue of its terminative meaning). Speech, the prototype of the sign, must remain vague, in that it outlines an infinite discussion. Otherwise it signifies itself, metalinguistically, as being in crisis; but speech in crisis is no longer prototypic.

Returning to the general esthetics and semiotics of the text, the Model Reader and the Model Author are prefigured by personal pronominal systems of language (of all languages), appearing there in the shape of instances of enunciation: second person, first person; "What *I'm* telling *you* is that..". Peculiar to the monologic text is that it confines the second person to the status of an obedient *observer*, the location of the point of view (since this person is no longer speaking, not yet answering), while the first person becomes a *narrator*. so if this narrator "tells" the observer what he should see, the latter is apparently supposed to "see on command." Now, human vision—physical or mental—is hardly made for forming a gestalt on command; it follows its neuro-phenomenological routines and only constructs what is *able*

¹⁴⁹ Cp. the Christian sacrament of transubstantiation: here we have a semiotically prototypic *intentio*

to be seen. And if speech only communicates by remaining vague, whereas the granularity of a something seen must be able to vary freely between distinctness and blurredness according to the distance, focalization, and temporal stability of the object, and so on, the visual effort of the observer must finish what the narrative command initiates, respecting its own principles of "visibility," "imaginability," "intelligibility," of "constructibility" in sum, and this enunciative command must submit to the generic demands of vision, even when proposing monsters. The Model Reader and Author are thus both modeled by this generic constraint. These are two golems—MR and MA—programmed by an enunciable and a visible falling under the same elementary, cognitive, and practically universal, phenomenological determination.

Hence, the empirical reader takes his seat in the chair of MR, which the MA enunciator prepared for him *in the text*, so that he travels through the scenarios enunciated by MA. Any reading journey begins in the basic, deictic space of departure, a kind of station where MA, who is going to stay there, addresses MR, who is going to leave, in particular to introduce him to the guide who is going to accompany him, either one that is animate: a designated narrator ("For a long time I used to go to bed early...."); or inanimate: the indicative plan ("Once upon a time...") allowing the type of semantic journey to be conjectured, like a partly erased, but nevertheless 'olympic' map. This basic departure space will also be the arrival space, the one where MA awaits MR at the end of the journey.

This representation of a textual story, a fiction, in terms of a metaphoric journey probably stems from prehistoric narratives. Well before the days of train travel, someone returns after a long absence and upon arrival starts narrating. His narrative is then supposed to accomplish his reintegration in the community. His listeners are going to mentally make the journey in his place, and he guides them so that it is indeed the same journey; but this time it is he who remains. He remains and mentally sends the stationary group on his own journey. In telling his story he substitutes himself for those who remained when he had left. In putting them in his place he puts himself, on the other hand, in their place, and this linguistically obtained equilibrium realizes the reintegration (in itself a dramatic problem, cp. Martin Guerre,

operis being carried out as clearly as possible before our very eyes.

Ulysses...). An improbable, implausible, incoherent or poor narrative would hinder this reconfirmed acceptance of the person "alienated" by his absence; it is a matter of proving oneself to be the very same person, to deserve the same love, to in fact have the ancestors that one claims as one's own and that are recognized by the community, and so forth. The acknowledgement wanted by the modern artist is but the shadow of this archaic question of being denied or granted an individual and communitary identity, a 'right to be there'. Originally, it was perhaps far less a matter of recognizing a merit than of reclaiming *oneself*, a self authenticated as being the *same* regardless of the interrupted presence, and thus a matter of a danger more serious than all the dangers encountered during the journey: being excluded from the community, reduced to the state of a solitary individual doomed to nothingness. If the dangers confronted by protagonists are essential to narratives, it may thus be because they recall the major danger faced by the narrator.

The final interpretation of the text, which is a contemporary concern of literary criticism exploring the art of prose, may resume the evaluation of the archaic narrative by the community and do so in the perspective of this problematic reintegration. The group is concerned with avoiding usurpers, who would threaten the life of the group. We used to say that a "good" text is "convincing." But what exactly does it convince us of? Of the sincerity of the person who was indeed there before leaving; of the authenticity of what is narrated, as having indeed been lived by this same person, who is therefore not some parasitic joker who has copied or imitated the *curriculum vitae* of another—dead or imaginary—in order to benefit from his existence and from his titles in the community (as happens abundantly, even today). In this respect, the modern literary work distinguishes itself radically from the plastic or musical art works, which spring from completely different sources in the archaic sacred (that is, from the cult of ancestors). The literary text is *interpreted* in a strong sense, in terms of thought referring to reality, in terms of an implicitly philosophical meaning, of a meaning to be shared and discussed: a dialogical motif.

Moreover, this explains the subversive tonality of the deconstructionist reading: to deconstruct the text is to deconstruct the interpretation; it is thus to hail the *empirical* author of the text as a unintegrable subject, even to

endeavor for its non-integration, pretend to take the part of the excluded against the group and hence express as radically as possible before this group one's distaste at what this community, this culture, represents. In contesting the rite of reintegration and refusing to participate in it, deconstruction is subversive. It is to contemporary culture what vegetarianism was in ancient Greece (which subversively refused ritually distributed meat).

The interpretation, on the other hand, affirms this rite, and thus the collective being in which it takes place. It affirms, of course, the value of the text as a work, but in so doing it confirms the work as the empirical author's existential passport into the universal cultural community. Any writer knows that if one of his works fails it may cost him a personal identity crisis; at least his close relations readily acknowledge this. The public evaluation of a text is an existential rite of passage for its author. Furthermore, the work is a passport that must always be renewed,¹⁵⁰ which keeps writers on the ball and makes their ink flow. No longer is it a question of believing in the narrative in the prehistoric manner, as an account of a journey; in this sense, the theory of MR and MA, which "makes the notion of an empirical author's intention radically useless," is incontestable; otherwise fiction would not exist.¹⁵¹ But it still is a question of believing in the value of the text as the fingerprint of an individual who "writes well," if we can believe that it is *indeed he* who is writing. A bad text resembles an exposed lie, composed of disjointed plagiarism, of second-hand segments. The fingerprint must defend

¹⁵⁰ In a realistic analysis of the problematic, why refuse to take psycho-aesthetics into consideration, the study of writers' psyche, in particular inasmuch as these are generally subjects *unable* to feel firmly accepted, and who pathologically suffer from this.

¹⁵¹ On the other hand, we ought to ask ourselves whether poetry falls under fiction. Is there not an epic structure of enunciation producing the pair MR-MA at work in the poem? Not in my view; rather I think that poetry is in no more need of such a structure than plastic art or music, even if it remains "literary." Poetry is not interpreted like prose narrative; it is commented, as is painting, sculpture, music, and so on. Interpretation thus does not define literature—as the object of interpretation—but limits itself to *describing how the literary narrative functions*. It is true that the *book* of poetry, the collection of poems, which is interpreted, actually resumes the function of literary narration: it is a fictive diary or relation of a possible actual experience, and it is read as such.

itself by its coherence in difference. Moreover, in the objective being of the text there is a micro-domain where it is possible, and thus necessary if one wishes to interpret as far as possible, to very finely detect this coherence in the difference, with much greater refinement than in the syntactic style, the rhetoric, the composition: it is that of the metaphysical attitude of MA, of his way of assigning a meaning or a non-meaning to the world and to its components, of being intellectually and emotionally attentive to trivial events of the world, of distributing its irony, pathos, confidence and distrust on that which everyone can experience, and which any empirical reader essentially recognizes in his own life. Being attentive to this attention in MA is submitting the text to the test of empathy, the keenest of them all, and one that humans impose prior to any act of confidence in social life. Of course, it is not about testing whether the reader agrees or disagrees with the content of this "metaphysical attitude"; according to the ethics naturally practiced in our species, any person can basically think or believe what he wants and as he wants (agreement or disagreement only determines our actions); but our sensibility to that discrete mental music, by which a being approaches life *in general*, is essential to our more profound sensibility to the singularity itself, to the identity-with-itself, of this being. This is the ultimate and decisive fingerprint that we must seek to read; however, it will remain illegible as long as we fail to fathom its content.

Thus, the interpretation of a literary text necessarily seeks its underlying metaphysical content. Not so as to confuse it with that of the utterances or the actions of its empirical author, but through him exclusively to find that which is not found anywhere else, the proof of the desired singularity of "tone," of voice, which makes this linguistic artifact a recognizable work.

A literary critic of my knowledge often admitted the trouble he had with the paradoxical experience of having to hail as a masterpiece a recently published book that he *personally* could only reject as disgusting. I then reminded him of the Kantian observation according to which esthetic judgement is impersonal. But why is it impersonal? It seems that we must return to the archaic scenario in order to understand this mystery. Indeed, if the duty of the dynamic interpretation is to analyze at length and in depth the virtually underlying, often complicated, contradictory but still signified metaphysical content of a text, and to confront—according to individual

talent and affinity; not everyone is cut out to be a critic—its often terrible phantasies, it is in order to allow a *final interpretation* having, for its part, nothing to do with this "meaning of the work," but exclusively with the meaning of this meaning, that is, its value as a sign of identity, of coherence-in-difference, as an authentic signature in an esthetico-judicial sense. It is this final interpretation that is impersonal, and that judges the literary value of the work. It is impersonal because it is in principle made in the name of the Community, which through it decides to accept or reject this literature, i. e. this sound of a stranger who is pretending to be one of us.

An example: the novels bearing the signature of Umberto Eco invariably offer us an MA fascinated by a particular type of error consisting in attaching a meaning to that which does not have any. Whereas their empirical author, a highly professional semiotician, quite obviously applies himself to studying that which actually does have a meaning for the subjects, even if these same subjects are unaware of it. Should we conclude from this inversion that the semiotician is concealing an anti-semiotician? That the positivist is concealing a nihilist, or the realist a nominalist? Or is it rather that the fingerprint peculiar to this polygraphic author is to be found precisely in this fascination—this veritable motor of his literary writing—with errant meaning that is experienced by his golem, meaning turned autonomous by detaching from phenomenology, by becoming paranoid and compulsive, fatal; tragic or comic, and in both cases: visible, exploding in error. Less fascinated by falsehood, which after all *humanum est*, and must be pardoned, than by this explosion of meaning in falsehood, by the burst of meaning in the erring of overinterpretation, he—careful: the golem, MA, not *him*—rediscovers his own intimate error, the uncertainty causing us to laugh at that which we love because we see it too much, and because its glaring evidence stares us in the face so intensely that we feel at once wounded and caressed by it. These novels are apparently not very confidential at all; but if we succeed in capturing their laughter, this epistemic laughter permeating them, we may stand at the threshold of their final interpretation.

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Chapter 12

MUSIC AND THE PRIVATE DANCER^{*}

1. Space or time?

Music is an art, 'eine Kunst', and is probably even, for a majority of humans worldwide, the most important, constant, abstractly structured sensory input besides language. Some people who do not read books, look at paintings, or go to the theatre, but do see some films, at least on television, might think it is just a natural spatial background of the stories you are shown or told, a sort of spatial tapestry like the tape you hear in supermarkets, airports, cafés, restaurants, workplaces, and the thing you put on at home or in the car for ambience, to create atmosphere: technology has in fact strongly reinforced its social function as a 'space-maker'. Other people who do read books etc. think of it in terms of time, rather than of space. For them, the here-and-now of a musical performance is comparable to a poetry reading, the opening of an art exhibition, a theatrical event. A concert is such an event. Whereas this real-time experience of a musical event is crucial to people for whom music is temporal, it is of no import to those who think of it, or rather treat it, as a matter of space only. The presence of the performing musicians seems to be relevant only to the experience of those who take an aesthetic interest in it and who are capable of the sort of listening that creates a specific and purely musical space around it.

2. The pure musical space in time.

How 'pure' is then a purely musical space, I want to ask. Musicians, conductors, composers, critics, and audiences are of course as visible as their instruments, scores, chairs, concert halls, etc., but the most prominent spatial aspect of the scenario is no doubt the interactive, intentional gestures by which any participant—performer or perceiver—will have his attention directed towards the resounding, ongoing event and its immanent structures. The purity obtained by this shared intentional focus is of course mentally

^{*} Inaugural lecture given at the XIII Nordic Musicology Congress, University of Aarhus 2000.

reproducible under circumstances less favorable than concerts, such as listening to technically recorded music. In both cases, the purified musical space encompasses other strongly intentional events: collective celebrations, ritual acts of many kinds, religious services, or private acts of seduction.

Aesthetics in general is, in my view, a matter of high degrees of shared attention¹⁵² obtained by the experience of excellence, i. e. of particular, skilled behaviors—let me remind you that 'skill', "capacity", springs from an Old Norse root skil, "distinction", present in the Danish verb at skille, to "separate", to "sever", namely to only do certain things while omitting others, and then do these selected things distinctly, and particularly well, cf. the bodily doings of a dancer who 'cancels' most of what the body would otherwise do, and then only... dances. The dancer also separates regions of the body and lets them perform distinct movements. Skilled behaviors yield forceful feelings of presence, of so-called intensity, which deeply affect the human consciousness and lead it in the direction of what we may call mystical inner experiences. Therefore, aesthetics has a regular relation to different sorts of sacredness. This is evident in the case of music. Even the most 'profane' sorts of music represent and actualize forms of 'ecstasy', states of mind that anthropology would characterize as attitudes to the sacred, the transcendent forces that are thought to rule our immanent world. And since sacredness is relevant to a multitude of social settings, there is no way to 'purify' art, and music in particular, further than this, or to keep its meaning entirely clear of the social and phenomenological conditions of its being made, cultivated, and cherished.

3. The meaning of musical meaning?

On the other hand, and this is a very weighty hand, there is no way to directly derive the immanent structures of art, and particularly of musical form, from its social conditions. Musical form, the so-called language of music, is no doubt the most difficult of all human expressive forms to understand theoretically and to analyze scientifically. Some people indeed understand some musical forms sufficiently to teach them, that is, to take part in their cultural transmission—which is a fine practical criterion of understanding—but then they still have great difficulty in understanding what it is that they are understanding in music. Semiotically speaking, none of the known sign types or rather sign modes (symbols, icons, indices, and linguistic signs) are

¹⁵² Cf. "Art, Technique, and Cognition".

perhaps convincingly exemplified by musical expressions or inner structures in music. Music is itself an overused metaphor for poetry, love, and other difficult things (cf. Paul Auster's book title The Music of Chance), but it makes us almost mute when it comes to explaining what it means, and how it does so. Does it at all 'mean', and is it at all possible or reasonable to speak of 'musical meaning'? Perhaps human brains just like it, just as it likes certain hormones... Personally, I cannot but ascribe meaning to my musical experiences, but it remains uncertain to me whether it is the supposedly basic formal properties like rhythm, melody, harmony, or the variable complexes of these, or the global compositional plans, or none of this, that are determinant of what happens to my attention, moods, emotions, passions, or other aspects of my mind when a musical experience seizes on me and in so far becomes 'meaningful'.

I suppose that the teaching of musical performance is in much the same situation as that of the teaching of writing: you are mainly taught what not to do, and if you manage to navigate around all known skeries, your work is better than if not. In a sense, a certain negativism of this sort is no doubt even an advantage in pedagogy, and in creative activity.

But nevertheless, we want to know positively what it is that we seem to find meaningful in music.

4. Music and cognition.

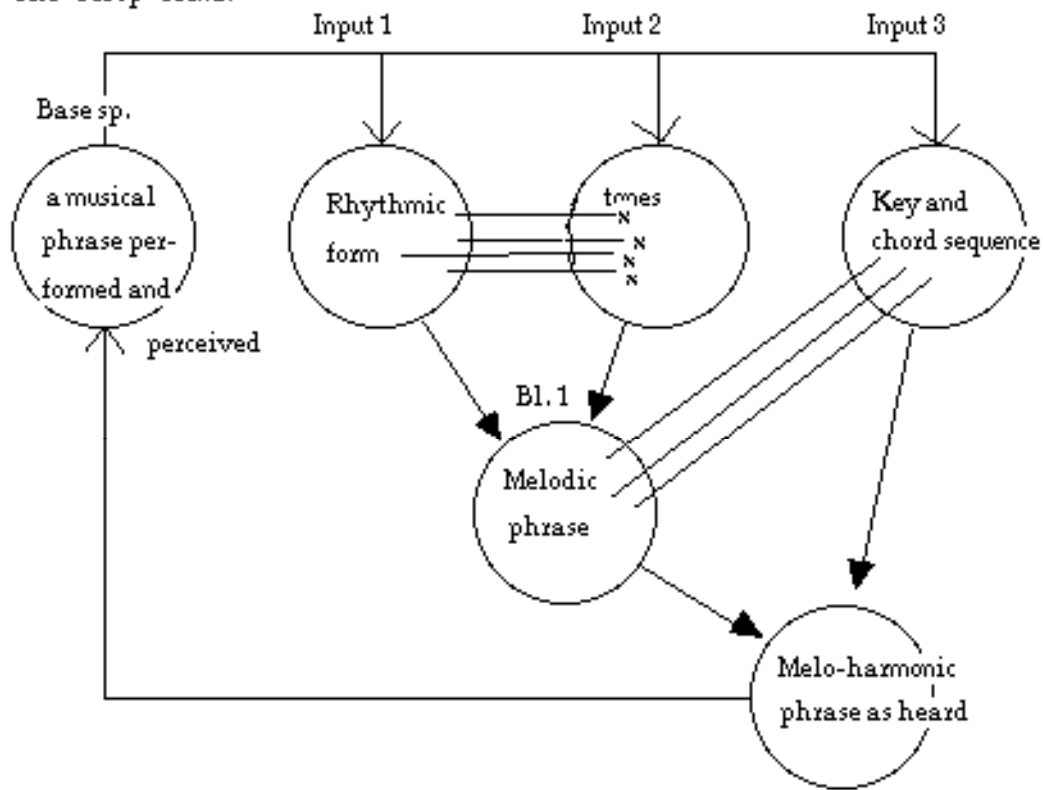
The American philosopher Steven Ravett Brown, influenced by cognitive science, suggests¹⁵³ that just as the outer musical space of performance is intentionally focused by the gestural interaction taking place in it, the inner musical form might also be traced back to gestural intuitions. Human cognition, he argues, is largely driven by image schemas, mental sketches that regulate our interaction with the world of objects and people; these relate body positions to sketched knowledge of the phenomena we are interacting with, and they include emotive schemas. Clenched body positions, pushing away, and corresponding vocal acts, like screaming, express rejection; they might be mapped onto tight clusters of notes, irregular rhythms and large pitch jumps, and moving away from tonal 'centers'. 'Dissonance' reflects such a conjuncture, which opposes open body positions; these would instead map onto clearer intervals, regular rhythms, spaced chords, tonal anchoring, and 'consonance'. Given that such mappings are conventionalized in culturally

¹⁵³ Personal communication.

transmitted music, and that there are many other parameters in the field, there might be an interesting correlation between emotive body schemas and 'musical schemas', which would account for at least some perceptible aspects of musical meaning. In fact, this proposal refers to a well-known dynamic schema: open / closed, which is also highly active in narrative structures: the so-called barrier schema accounts for extremely basic intuitions in human behavior and mental representations (a barrier opens or closes the path to realization of any act). This schema is also involved in yes / no gestures.

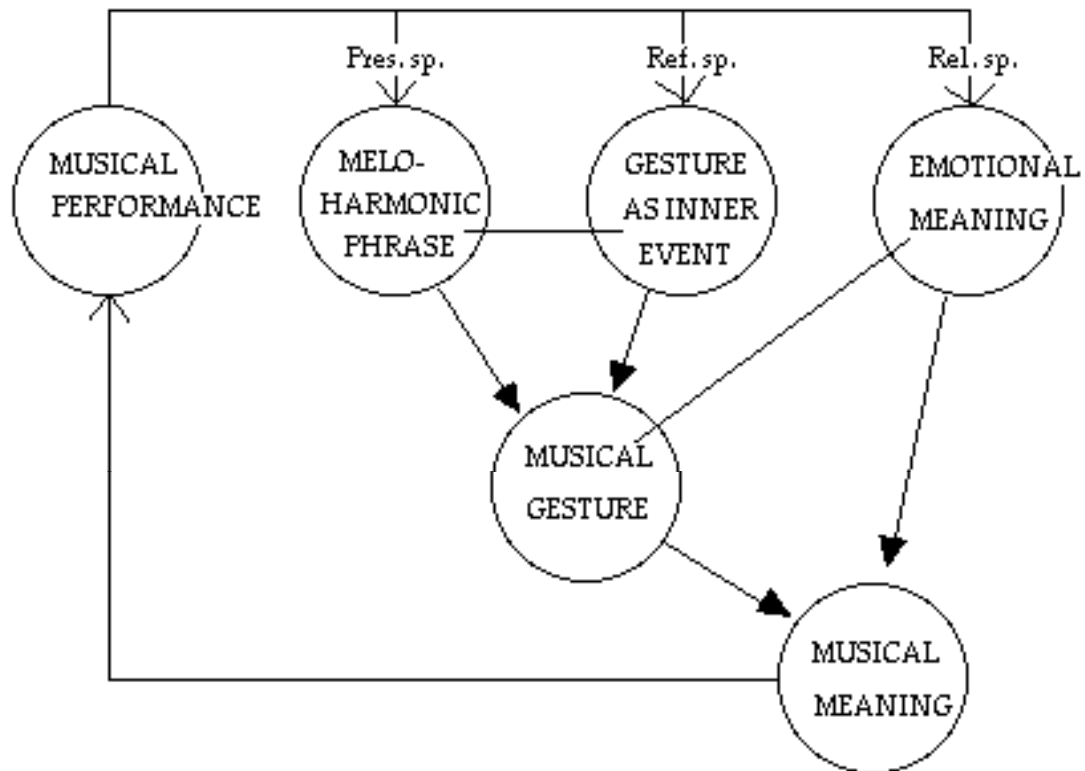
In terms of mental space theory, a new and developing technique in cognitive semantics, the Danish musicologist and musician Ole Kühl has made another suggestion¹⁵⁴ that I would like to report and elaborate on. Referring primarily to bebop jazz music, he claims that in an intelligible musical phrase, there is a rhythmic event in one space of experience, and there are pitch events (notes) in a second space that map onto the beats in the first and then integrate in a blended space (melodic), but in such a way that a third space, holding a tonal pattern or a chord structure in time, allows interpretive mappings of relevance to the melodic blend and then creates a final melo-harmonic blend presenting the meaningful phrase. The structure of this mental space network corresponds to double-blend forms found in linguistic semantics as well as in pictorial compositions: it appears to follow a multi-modal integration format of cognitive phenomenology. The blending structure would be the following:

¹⁵⁴ Department of Musicology, University of Aarhus.



Semiotically, the first of these Input spaces is iconic in the simple sense of presenting a sound image of the edges of a gesture; the second is symbolic, since notes are a sort of disembodied, artificial vowels, or virtual vocal emissions (phonetic signifiers). The tonal regulator in the third Input space is implied, implicit, contextual, that is, indexical. The entire network forms a semiotic cluster. It offers a plausible sketch of the sort of structure that gestures might map onto.

If we combine the two hypotheses, we might then map a musical network onto a gestural network (in which the visible motor activities already map onto mental attitudes in dynamic contexts). We map a Kühl-network onto a Brown-network under a contextual condition. In other words, we are claiming that music 'means' internalized gesture in specific respects. The conditioning regulator of the relevance of the latter operation (the implicit overall regulator) would be the genre, the ritual context, and its affective prescriptions.



5. The Private Dancer hypothesis.

There are several reasons to believe that this Kühl-Brown construction is on the right track. The American philosopher and bio-psychologist Rick Grush has suggested¹⁵⁵ that the human motor system has a fast-working inner feedback function related to a so-called emulator, a mental simulation device that allows us to anticipate external movements by doing them 'in the mind' before we actually perform them. People with phantom limbs have fixed phantom feelings that can be changed by visual experiences with illusory mirror effects. This proves that the phenomenon is genuinely mental. All musicians probably know the efficiency of practicing mentally, by playing their ideas or scores on imaginary instruments with an inner imaginary body connected to real physiology and therefore to real affectivity. But not only do they mentally play, they also mentally 'dance': they imagine the gesture that the musical phrase means. Only by doing this do they also feel the expressive value of the musical phrase. We might then claim that listeners also use such a device. Then the music-to-gesture mapping will work on both sides, provided that a mental regulator—reading the music as a virtual gesture

¹⁵⁵ Rick Grush, The Machinery of Mindedness, forthcoming. Cf. V. Ramashandran & S. Blakeslee, Phantoms in the Brain, Fourth Estate, London 1998.

score and categorizing the gestural event affectively—guide their anticipation and memorization, their attention as to a human unfolding of affective expressions. The emulator is a part of our motor system, which means that it is directly involved in our gestural planning. The emulator is also a 'private dancer' in our minds, according to this hypothesis. I am referring to a phantom body, possibly down-scaled, a motor and thereby also gestural 'homunculus' in the mind, that follows the auditory and preprocessed musical input by its movements. When beats go into bars, for instance, then the onset beat of any bar triggers an intentional onset comparable to the volitional counting we use before jumping into the swimming pool from the 10-meter springboard or taking a cold shower. This 'private dancer' can be trained to count entire choruses, as in the jazz culture, and I am sure poets have it control their meters. It can sing, and people who work consciously with language and control their speech grammatically have talking versions that they can mentally listen to before speaking. Stammering might then be a dysfunction of a vocal emulator whose feedback is too slow and interferes with external speech. When actors learn entire plays and dancers learn entire ballets, this inner model body connected to their skills, is their first prompter and rehearsing controller.

The Australian cognitive linguist Anna Wierzbicka¹⁵⁶ has analyzed emotions in terms of assuming the position of a virtual, schematic person that would experience such and such an event in such and such a situation and then feel such and such; this way of seeing emotions suggests that the 'private dancer' is even the mental subject of our emotional standard states or idealized interpretive stances. It can feel, and it can evaluate. It has moral reactions to situations.

Freudians would think of it as the famous 'Subject of the Unconscious'. But even if it may be directly involved in our psychosomatic pains and tics, in ways that I cannot delve into at this occasion, we know that music can reach and change its clenched or distorted positions and deadlocks, and that it can bring relief and comfort, probably thus by leading our phantom from 'closed' to 'open' mental structures and spaces along temporally continuous paths. It is not unconscious, since we can consciously exercise it; it is just imaginary. It is real, however, in the sense that it influences our physiological body. It is surely erotic, but if it gives preference to sexual desires, and develops

¹⁵⁶ Anna Wierzbicka, "Cognitive domains and the structure of the lexicon: The case of emotions", in Hirschfeld, L. A. & Gelman, Susan A. (eds.), *Mapping the Mind. Domains Specificity in Cognition and Culture*, Cambridge University Press, Cambridge 1994.

stereotypes of gendered behavior, it is only because or to the extent that we do by ourselves—I am sure it does not understand the spiritual heights of humanly felt sacredness (in the sense of Georges Bataille¹⁵⁷)—but it is a good technician. It helps us keep the feet on the ground, since this is its basic vocation as a motor function.

6. Conclusion.

Our minds have lower cognitive functions and higher-order reflexive functions. Music has both: the higher levels of meaning integrate aesthetics and socio-cultural space-making of the kind that will take us back to airports, supermarkets, and ceremonies, but the lower levels are devoted to the specifically and 'purely' musical, immanent articulations that musicology is trying to theorize and study in (even obsessively autistic) detail. The immanent, formal, low-level meanings of music, I would optimistically claim, are of course the most difficult to grasp, they are the phenomena that it takes skilled, esoteric specialist training to even notice and describe. Temporal things are both the most concrete and the most abstract (immaterial) forms that humans can experience; and temporal expressions that we can both experience and produce bodily—of which we have three basic sorts: dance steps, syntactic structures in language, and musical articulations—are therefore the most probable origins of human signs altogether. Of these three sorts, the musical ones are far the most complex, and they consequently command both dancing and singing; so if we can reach a reasonable understanding of them, we will have met the most serious challenge to the humanities. Maybe the Private Dancer will dance us from low to high orders, and from the 'highest' forms of our inner life to our substantial outer concerns and preoccupations, and then back again. One level should then never be sacrificed for another. On the contrary, collaboration of different approaches is a sine qua non in this enterprise. But collaboration is only possible, if the object is agreed on, beyond all technical fixed ideas. This ontological condition is the main problem or barrier of all humanistic research, but my pious hope is that it will be overcome, and that it will one day make sense to say that even if humans are free, they are not arbitrary, and even if they are us, they offer something important and solid to understand, and even by us, if we open our minds to our own experiences and stay patient with their capers and caprices. Solidum petit in profundis, as we say in Aarhus of the serious

¹⁵⁷ L'érotisme, 1960.

researcher—who sometimes has to dive deeply to find the solid... not the piece of gold, O latinists, not the whole thing, everything—just: something at all, some minimally stable, reliable, objective, principled Aufbau in the flux of music in us and around us.

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ART, TECHNIQUE, AND COGNITION*

1. Technè as such.

Consciousness is the basic property of the mental brain. If consciousness were an epiphenomenon, a passive echo and a purely decorative supplement to the brain's computational core, it would hardly be there; nature would most probably have preferred less extravagant and costly ways to obtain intelligence. But even if it looks strangely tautological¹⁵⁸ and superfluous, consciousness is instead a highly active factor that causes important neural processes to happen and provides a necessary condition for most of our conceptual and material behavior. It is decisively involved in the formation of concepts—generic mental contents by which we understand, memorize, interpret, and know—and in symbolic communication between individuals. Cognition and communication are closely connected in humans, and consciousness may in fact be the evolutionary prerequisite of this connection. Consciousness installs not only wakefulness, but also awareness, including self-awareness and allo-awareness (the presence of other minds to the mind of a person), and it creates the dynamic phenomenon of attention to things, which we experience as a sort of event-scanning beam flowing from subjects to objects, in such a way that one subject's attention to an object becomes a window for another subject toward that object. 'Objectivity' is the semantic state obtained by this mental transitivity, in which subjectivity seems momentarily transparent. When something 'attracts' the attention of a person, it becomes 'interesting' for other persons, who will be alerted by the attention already paid to it and will try to interpret that interaction and empathize with the subjects that already try to interpret it.

One of the things that highly attract human attention is artful, skilled behavior. A possibly elementary reason for this is that it requires concentrated self-awareness and attention to behave skillfully, and that other subject will feel this as strongly as they feel attentional attraction in general. The human

* This text was written after inspiring debates in 2000 with poet Jerome Rothenberg in Copenhagen, and philosopher Daniel Dennett in Munich.

¹⁵⁸ E. g. to be conscious of an ongoing perception and to have it. Or to both feel something and feel what it is like to have that feeling; to think of something and to think of thinking of it, etc.

dynamics of attention works automatically, but can be controlled and thus rendered voluntary by this means: the display of self-directed attention attracts attention, and the collective result of this open transitive process is a feeling of intensity, to which we attach esthetic value.

High intensity in this sense is experienced as an esthetically relevant euphoric state, whatever be its content¹⁵⁹: an effect of 'beauty' is produced and ascribed to the content in focus. This experience of beauty as the beauty of something is an essential part of the sensibility and affectivity of individuals and especially of individuals' communal register of feelings (affective sensibility related to being-together). It can be and is often compared to such doings and beings as those we refer to as 'love'.¹⁶⁰ The object of intense attention is the beloved, the 'star' of modern mass media, the diva, or the 'work of art'. This object is the end point of multiple transitive chains of attention; it is 'objectively' beautiful, since the esthetic experience creates this 'objective subjectivity'.

Art—artful behavior or performance—thus obtains intensely focussed awareness, in its performers as well as in its perceivers. Note that Lat. ars, Gr. technè, Germ. Kunst, Eng. Art, etc., did not always mean "art", as we now often tend to think. But there is, I think, a significant constant, based on the universal observation that human awareness can be influenced, directed and heightened into extreme intensities of attention by special 'techniques', hence the idea that Beauty is the work of 'technicians', artists. Basically, such 'techniques' are bodily activities by which certain doings and certain body parts are separated, singled out and 'cultivated', studied, and practised with elaborate skill. Skill (etymologically derived from a verbal root that means to separate, cf. Danish: skille, skelne, to part, divide; to distinguish) is a capacity for mastering a technique, in this sense, an artful separation of bodily motions or gestures. Any masterful skill in fact both individually requires and collectively produces (shared) attention, heightened awareness, and is experienced as a form of Beauty.

¹⁵⁹ Even when the content must be and is experienced as terrifying, this regularity is working. So the mechanism I am describing accounts for an open series of experience types: eroticism, art, sports, eruptive aspects of nature etc.

¹⁶⁰ Art and love are related in every possible way: love is a major motif of art; there is an art of love; it is possible to love art; and love attracts us to art. This relation cannot be accidental.

According to this description—or 'definition', if definitions were at all worth writing when referring to existing things and not only to technical neologisms—art may be a general feature of human activities exercised beyond their functional finality. For example: dancing is artful locomotion. Singing is artful intonation of language. Calculus and geometry are artful version of natural numerical and spatial thinking. Painting is artful imaging. Rhetoric is artful argumentation. Fiction is artful narration. Poetry is artful description. And so on infinitely. Tools, weapon, clothing, habitats, etc. are artfully ornamented in all cultures.

Our species develops this multi-phenomenon of artful, skilled, formal behavior at the very beginning of civilization. Experiences of Beauty are regularly shared and inserted in artful collective habits: ceremonies, which regularly have transcendent meanings, by which the beautiful is then also interpreted.

The shared subjective experience of altered states of consciousness obtained by formal behaviors that cause extreme quantities of attention to be paid to special percepts, i. e. 'concentration', and thus trigger heightened awareness, effects of Beauty, is semantically understood in term of transcendent meanings. These meanings are in turn objectively found as integrated in certain standard finalities and circumstances in social life. Artful practices are called upon to celebrate important events¹⁶¹, and especially to achieve what is both properly and metaphorically called seduction—intentional modification of alien volition, two basic types of which are particularly relevant in this respect: the seduction of benevolent deities, and of possible mating partners. These types may have evolutionarily favored the display of formal intelligence involved in artful performance, and thereby, of 'intelligence' as such (Geoffrey Miller, 2000).

Social ceremony as a preferred context of art, and technical mastery as a condition for the display of art, are thus the two mutually reinforcing factors of esthetics in this sense. In the history of 'the exercise of beauty', Art in the modern institutional sense develops out of this grounding relationship, when religion and sexuality gradually withdraw from the objective horizon of most genres of artful behavior, and institutions specialize around a purified, immanent Esthetics (with academies, exhibition spaces, art museums, written media for critique...), only some centuries ago. But art has never entirely lost

¹⁶¹ The consolidation of important performative achievements is obtained by attracting transcendent forces, i. e. by artful rituals of all sorts.

contact with its behavioral sources; it is still linked to, say, celebrations and seductions—the two main instances of sacredness in collective life.

Cognitively, art is about special intensities of attention, obtained in the minds of participants or perceivers of performances by skilled practitioners, technical professionals of this behavioral and affectively significant phenomenon: the so-called artists: painters, musicians, poets, etc. But cognitively, the very possibility of art remains the core problem. In the mental state associated with art as its appropriate 'esthetic attitude', perception and concept formation (cf. the interpretively relevant existential 'meanings' occurring in art) are altered. Volition seems weakened (cf. the notion of 'inspiration' and 'rapture'). Perceptive contents are more detailed, often synaesthetic, and the conceptual scopes of the meaning of expressive forms are wider; infinite, hyperbolic generalization regularly occurs in interpretation of works of art, as it also occurs in love declarations and religious rhetoric.

2. Technè and the embodied mind.

Techniques develop technologies. They support intellectual concerns that lead to knowledge and subsequent instrumental or symbolic improvement of given artful doings, which then become fields of possible virtuosity. But technology of course soon unfolds as an autonomous dimension of social and cultural life, and the artfully obtained knowledge underlying it extends into the 'scientific'.

Technicality is thus intrinsically euphoric, and it develops knowledge; but it also develops changes in human behavior that we may dislike and problematize.

When societies develop technological inventions and welcome innovations, they introduce the kind of understanding of time we call history. In history, human habits are slowly and massively changed by shifts in technology. But sudden shifts occur, and rapidly changing technologies have the effect of challenging the individuals that are immediately and materially concerned with them and who have no collective routines at their disposal for understanding the new experiences they offer. In these situations, the persons technically involved and thereby challenged, the specialists of the activity affected by an evolving technology, dispose of no other grounds for understanding the 'historically' new experience than their own fundamental cognitive equipment and conceptual memory of much simpler, archaic forms of experience. The radically new thus activates the archaic in the individuals

having to deal with it. Technical novelty and 'complexity' are thus met by cognitive 'archaicity' and 'simplicity'. In this sense, certain contemporary developments in communicative technologies constitute important challenges to the implied minds; this is one of the reasons for cognitive studies being a major concern of contemporary science.

When our parasitic ancestors first learned to suck marrow, the soft medular substance contained in animal bones, after having cracked the carcasses of animals that were the preys of mammal predators and left behind even by vultures, the cognitive image-schema of the container must have developed as a concept. The technique of opening bones, essential to the survival of our species, activated an image-schema and reinforced it so that it became an entrenched dynamic concept ('in – out': getting in takes force to overcome a barrier; get in, take out...). Breaking into something becomes a meaningful act, however violent and cruel the act may be. Cf. computer 'hacking'...

When our ancestors developed the technique of sailing, the experience of violently unstable maritime horizons had to be reinterpreted—no longer as an expression of mental disturbances due to inappropriate food (vomiting as a reaction to having eaten rotten meat or other substances rejected by the immune system, cf. still the vomiting in seasickness), but as a new external condition—and these new ways of perceiving dramatic shifts between 'ups' and 'downs' reinforced the corresponding schema which then became the modern dynamic concept of a journey (getting across the sea, or else going down, drowning; or being guided by the stars up there: so, salvation is 'up', death is 'down'). Social hierarchies use the same vertical schema, but could hardly have created it.

When our representatives in a closer past learned to move faster than ever, by using mechanically motored vehicles, such as steam driven trains and gas driven engines, they developed apparently strange behaviors, taken from former habits of acting in situations with rapid entries and exits (warriors on raids, etc.), where no empathy with stationary people encountered is displayed: modern steam-, gasoline- or electricity-driven and hyper-mobile urban life styles therefore regrettably copy ancient cognitive styles of warfare. Cf. bikers like Hell's Angels, standard fascists, and other militants: all are incompatible with the idea of a stationary life style. High speed of locomotion lowers empathy.

Collective work mediated by machines affects our bodily attunement to each other's gestural rhythms: the need to attune to the machine park

instead of attuning to the movements of other animated bodies weakens our mimetic inter-body routines, which must then be restored by special practices (dance schools, psychological therapies, sports etc.).

Experiences brought about by new technologies activate archaic cognitive interpretations. New instrumental 'complexities' trigger old 'simplicities' in behavior and notional understanding. The unknown is recognized, if at all, in terms of things particularly ancient.

Serious challenges in recent expressive technology include photography, telegraph, telephone, radio, video, mechanical and digitalized type writers, computerized and netborne IT.

The relation of photography to modern painting may be the following: face imaging is now technically a matter of infinite copying, so the image of a human face is a mask, a stiff and repeatable, and therefore magical, icon. Cubism, expressionism, surrealism, neo-fauvism (cobra), etc. all appear to discover the 'primitive' as a resource of art. Primitivism in modern art is of course not just a critical 'reaction' to new technical complexities, it is not basically a new ideological preference, but instead a direct, immediate and natural cognitive interpretation of a specific but essential iconic experience. Primitivism then also enters modern politics (from futurism to fascism).

The telegraph influences writing and in the same way as fast transportation affects life styles: it invites for fast, impolite, and aggressive communication, thus reactivating simpler linguistic constructions and schemas at hand. Modern poetry and prose inherit these new-old, or neo-archaic, inspirations. Brutalism, rogue syntax, influences of ancient warfare on modern intimism...

The telephone cuts off the dimension of accompanying expressive gestures as a support for meaning in speech and spoken dialog. This form of prosthetic verbal contact is experienced as a lack of embodiment; it therefore reactivates infant experiences of deficient embodiment in speech, and of unregulated pre-dialogical babbling. In modern poetry, this cognitive attitude appears in dada, and in general the discovery of absurd expressivity as an artistic resource. The birth of the avantgarde is also that of radically new, at first socially unintegrated technologies of communication. The embodied minds that use these technologies again reactivate available routines of different kinds.

Type-writers reintroduce a form of writing using 'hammering', known from prehistoric and historic, ritual engraving. Re-sacralization of the literary act of writing might be a modern consequence of this.

Film as a new medium, separating sound and image, activates psychotic patterns of perceptive integration, and surrealistic conceptions are likely to occur. Also, abrupt sequencing in films activate oniric (dream-like) mental states.

More recently, computerized writing programs allow for a volume-like, non-linear treatment of texts and manipulation of parts of the linguistic expression, a practice hitherto unknown by language users, but comparable to infant playing with spatial volumes, wooden bricks etc. This technical innovation yields a new, spatial conception of literary writing (by copy and paste) and of communicating (entire blocks are replicated and spread), a conception which is also infantile and moreover archaic, in so far as whole chunks of text are moved around as in a composite ritual.

Most of what happens in computer interfaces in general can be understood religiously, as an antiphonic interaction between priest and parish. The screen is a luminous altar.

Video recording technology leads to a hitherto unknown degree of self-fascination in plastic arts; video art has been mainly a genre specialized in exploring iconic themes of human nakedness — an archaic feminine domain of specialization reactivated. Old erotic body-part obsessions are favored by the possibility of doing voyeuristic close-ups and thus of conceiving proximity as based on visual but not tactile access to human bodies: the archaic version would have tied people up with ropes. Visual pornography is a kind of torture in this sense.

3. Technè and the historicity of art.

Artists are eminently sensitive to technology in general. The cognitive adaptations to new technical experiences they share with everybody else take on a particular importance in art. Technologies of communication inherently intensify attention. This may mean that the skill aspect becomes gradually less important to esthetic effect (Beauty).

As the technical power of communication increased, the corresponding interpretative horizons grew still more abstract. From the scope of situated magical pragmatic (prag-magic) performances insistently addressing supernatural entities by skillful, inventive achievements whose beautiful effects meant that some force of the universe was to be moved and practically influenced by the attraction (cf. the myth of Orpheus), to the scope of modern art, where perhaps only some highly specialized academic fein-schmecker souls are moved, there is a considerable structural difference, and there is a

vast historical span. These drastic limitations and 'esthetifications' were probably only possible, because ceremony and technology of communication—techno-ceremony—efficiently reinforced the purified formal doings now called art. Socio-technical reinforcements eventually produced a modern collective 'hysterization' of attention. The 20th century's conceptualism (cf. Marcel Duchamp's ready-mades) marks a particularly significant moment in this hysterical escalation. Artistic skill and technè could now be minimized to an extreme (that of picking up an object and displaying it, or even of merely declaring the intention to do so), if mass-media ceremonies of 'marketing' were maximized. Beauty is now in the intensity of mass attention.

However, across the millennia of technological and ideological history, the meaning of directly experienced non-mediated human art, e.g. musical performances, is still invariably the feeling that something is being 'moved', that something transcendent concerning our lives is somehow affected. It is still phenomenologically true that Art is an existential Force. This may be why we wish to interpret esthetical works at all: we intuitively suppose that the immanent structure of each work of art can inform us as to what it is that it is changing or moving. We expect that the artistic object, the masterpiece, will tell us which 'divinity' it addresses and what it asks of this divinity. As if it were a prayer or an act of sorcery, and as if each singular act could invent its own religion or metaphysics.

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Miller, Geoffrey F., 2000, *The mating mind: how sexual choice shaped the evolution of human nature*, New York: Doubleday

Chapter 14

FROM GESTURE TO THEATRICALITY — ON ENUNCIATION AND THE ART OF BEING VISIBLE

10 Tentative Notes

§1. Basic gestures

The human motor system is built into its physical surroundings, whether natural or artificial, by the morphological predisposition of its basic muscular attunement to the spatial world of places, things, and beings: its gestures, in the largest sense of this term. Essential schemas of our imaginative mind are grounded in motor patterns reinforced through interaction with this spatial world. Locomotion yields one important pattern of this variety (aspects of 'going' from place to place), besides instrumental gestures (aspects of our manipulation of things, of our constructing, changing, moving or destroying them) and immediate symptomatic gestures of mental activity and affective state (such as 'hesitation' and 'perplexity'); special attention must of course be paid to the realm of expressive gestures (aspects of 'showing' meanings to others), including those that accompany language or constitute a language in its own right.

Note that all these basic gestures, still in the largest sense of the term, can both be 'spontaneously' performed and 'consciously' imitated, quoted, or faked; this opposition has many names, and it is crucial to the understanding of behavior. Authenticity, sincerity, etc. on one side, simulation, manipulation, etc. on the other. In the first case, they are simply done, so to speak, and the doer thereby most often lets others see his simple and trivial intention to do them. In the last case, they are shown, whether then also done or only sketched out, and the performer's intention addresses the by-standing others' attention for whatever reason, directing it to the performance.

All gestures are thus in principle subject to conscious volition. They are in principle voluntary, even when they are entrenched and automatized. They can still be either reinforced or inhibited, and repeated or interrupted: made significant – this is precisely what happens when they are shown to others.

Intention in the other – be it volition (subject-oriented) or attention (object-oriented) – is generally and basically detected by the observation of

gestures. Correspondingly, intentions in the self are related to, and generally dependent on, gestural proprioception.

§2. Theatrical gestures

But on this basic level, the culturally most important phenomenon: theatrical behavior, significant gesturing, or role-playing, acting, in general, cannot be further developed, defined or described: we do not yet understand what it is that makes it possible at all. There is not yet any framed stage to 'act' on. By 'stage' I mean to refer to the intentional transformation of that space in which a theatrical gesture is understood as taking place: role-playing in a sense fictionalizes for a moment the contextual setting of ongoing communication and makes it into a different scene, namely that which the role refers to. The problem of understanding the occurrence of theatricality in bodily behavior, its character of meaningful 'performance', is by nature semantic. Theatrical gesturing refers to and hence depends on autonomously specified meanings, i.e. on some sort of inter-subjectively present and previously established contents of consciousness, representations shared by self and other.

Zoo-semiotically, make-believe and pretense include behaviors of hiding (in escape or ambush), of mating (hence competing), of fighting (weakening by intimidation), and of play (as training). Are these 'artful' animal behaviors also the evolutionary origins of theatricality in our species? And if so, are such historical 'origins' to be taken as structural truths about the originated phenomenon? At least, some other basic properties of human inter-subjectivity seem to be involved in our forms of theatricality. It is hard to see any human behavior as dramatic and hence theatrical, if it does not involve more than one person, and thus take place in an inter-subjective scenario, a frame of exchange and conflict that allows for figurative and dynamic variation; prototypically perhaps a crisis that is overcome—a negative exchange (of harm and evil) that is reinterpreted and transformed into a positive exchange (of boons), by a change of roles. In that case, theatricality is the human key to peace, co-existence, and civilization.¹⁶²

§3. Complexity and genres

¹⁶² Cf. Terrence Deacon, 1997, The Symbolic Species, The Co-evolution of Language and the Brain, New York: W. W. Norton.

Gestures in this broad sense integrate semantically¹⁶³ into sequences that we understand as elementary units of action, or practical doings (e.g.: going-somewhere-and-getting-something; or taking-something-and-making-an-artifact-out-of-it), and doings further integrate into acts of exchange (e. g.: offering-a-service-in-return-for-a-skilfully-configured-object). Exchanges in their turn feed into evaluative behaviors (e.g.: showing satisfaction or dissatisfaction of an exchange by expressive gestures of affirmation, negation, or concern). These doings, exchanges, and evaluations are then repeated for mnemonic purposes, and communicated either through fully embodied behaviors of 'acting' – i.e. showing: by spectacular or scenic reiteration of the involved gestural sequences, e.g. heroic display performances (the so-called 'show-off'), pedagogical showing (demonstrating) or ritual officiating – or eventually down-scaled into gestural symbolizing (cf. the use of small signs of politeness: greeting, symbolic smiling, etc.; in general: small is symbolic). These formal behaviors are often bound to situations and locations. Behavioral scenarios and stages are framed locations in space where given genres of exchange habitually and spectacularly 'take place': a place is 'taken' by a regularly executed inter-subjective exchange of doings that become acts when they are seen and understood as intentionally performed and intended to be relevant to such a particular exchange, in which they 'count'. The counting and accounting are then the cognitively symbolic aspect of such a staged interaction (cf. a match of a ball sport). Acts count and are counted, when they are 'rightly' performed in the 'right place', including the 'right time'. Here, 'right' means: formally related to other acts taking place within the same frame, whose category includes indications of location and timing. Spatial and temporal continuity of sequenced acts is of course required for bodily interaction; this simple principle follows from the requirement of continuity of intentional contact between interacting subjects. Note that theatrical acting of all kinds has a limited duration and has a strongly marked on-set and end-point: it is as strongly framed in time as in space.

On the level of social 'acting', there are at least three theatrical genres to consider and compare, all related to significant places or stages: 1) inventive dressing at specified occasions (include. seductive fashion wear; carnival get-up; gala full-dress); 2) behaviors of functional addressing (of incorporating representative authority); and 3) fictional behaviors (pretending, imitating, role playing, embodying narrative and dramatic characters). In none of these genres the agent behaves simply 'as himself'. The theatrical genres are types of

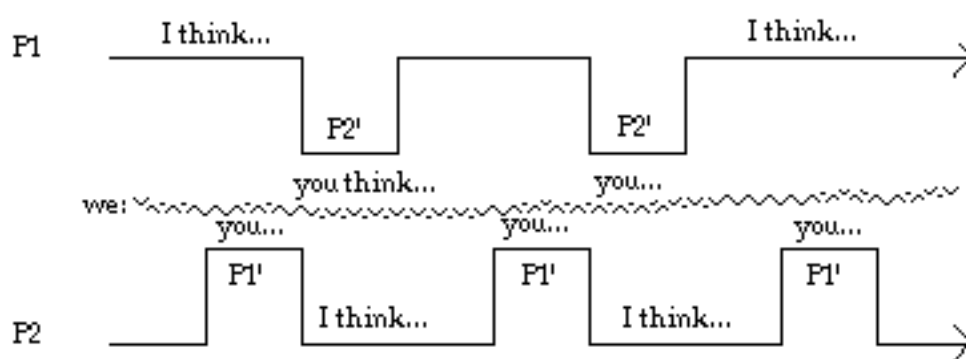
¹⁶³ Cf. chapter 3, "The Architecture of Semantic Domains".

'stages'. Note that a person always has an unmarked and unframed 'off-stage' style that contrasts these marked, staged, and framed behaviors.

These social genres are all in some sense demonstrative. The inventive genre has a public-space context; the functional has an institutional context; and the fictional has a ritual context. These contexts largely determine the discursive interpretations that theatrical performances universally call for.

§4. Language is theatrical

Language is in itself a source of theatricality. Dialogue is inherently theatrical. Let us consider a trivial example: two persons are discussing a matter. One presents his arguments, and at some point he anticipates and then proceeds to present the other's likely counter-argument, in order to refute it. When formulating this likely counter-argument, he plays the role of this other. He jumps out of that role, as soon as his refutation starts. He jumps in and out of the-other-as-a-role. He takes longer turns in the dialogue, and eventually the discourse assumes a monological form, a monologue which is intermittently (on and off) theatrical. But at a certain point, the other takes the floor and copies the procedure; he likewise anticipates his interlocutor's possible arguments and becomes intermittently theatrical. Both discussants are now represented both 'theatrically' (according to each other) and 'authentically' (according to themselves). If they finally agree on the matter-at-hand, or at least or on the reasons why they happen to disagree, then the theatrical versions integrate into a joint venture, even if a limited one, which overrules the original 'authentic' positions, and now both persons can say: "We think that..." This we is a theatrical integration, occurring in a sort of middle space between the speakers P1 and P2 (Fig. 1):



In this theatrical integration, both persons, P1' (P1 according to P2) and P2' (P2 according to P1), are roles in a play, whose script is given by the real dialogue underlying it. The speakers can easily assume the integrated we-role, and any audience immediately understands what this we means. The pronoun conserves such integrations and allows for their creation in dialogue.

§5. Seeing and saying

Fundamental cognitive and semiotic research is needed in order for cultural theory to understand how theatrical styles are possible in human bodily behavior. We will here consider two interrelated structural aspects of expressive behavior that seem to feed into all forms of theatricality, including linguistic forms like a speaker's embodiment of content roles (such as: "you think...", "we think...", or "he thinks..."). These are: enunciation as a viewpoint structure, and embodied semiosis as a mental space network. The first aspect, which will be studied in this section and in the following, will appear as embedded in the second, to be studied in §7.

Enunciation – subjectivity in semiosis – is basically known from linguistic shifter morphology, such as the personal pronouns (Benveniste¹⁶⁴, Coquet¹⁶⁵). But no general structural model of it has been canonized in semiotics, or even in linguistics. Suggestions from different sides and traditions must still be tried against analysis in order to achieve knowledge of the schematism underlying this particularly tricky phenomenon. Most theories of language, literature, and cognition even ignore the whole issue. The speaker speaks, the communicator communicates, and there is nothing more to say or theorize about; or if there is, then the 'context' is the matter: the famous, ungraspable monster that mysteriously specifies and determines our meanings, leaving us no means of following its operations...

In the following, we will instead assume that gestural and linguistic agency is inherently determined by a semiotic role-schematism built into our cognitive equipment. There is a cognitively given semantic schematism for semiosis (semiosis: inter-subjective transfer of meaning) which universally underlies the personal pronouns in language and all other communicational markers. Morphological 'persons' basically refer to embodied human

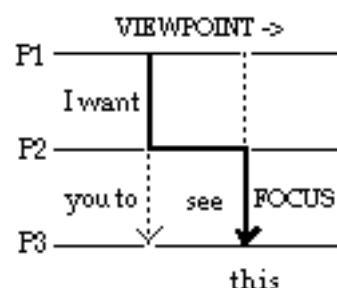
¹⁶⁴ Emile Benveniste, 1966, Problèmes de linguistique générale, chapter V: L'homme dans la langue, Paris: Gallimard.

¹⁶⁵ J.-Cl. Coquet, 1984-1985, Le discours et son sujet 1-2, Paris: Klincksieck.

individuals addressing each other. The schematism has a trans-personal deixis springing from a first person, addressing a second person, and pointing to a referential content given in the third 'person', so that the first instance, by volition, orients the attention of the second instance toward the third instance:

I want you to see this

This deictic function corresponds to what is generally, or in Theory of Mind, called shared attention, and it is based on elementary gaze dynamics: persons tend to follow each other's gaze direction, so the 'beam' of one person's attentive gaze automatically attracts that of another person who observes it. This function can operate ad oculos, that is, it can point to topics present in the space of enunciation ("Look at this strange bird..."), but it can also direct a second person's attention to phenomena only accessible to observation outside this space, i. e. accessible 'from other viewpoints'. In such cases, the first person's viewpoint is no longer deictic, but anaphoric, in a very general sense ("This is what Jensen says in his book..."). It leaves its embodied speaker's or signer's 'home base' and goes to a different base, where the embodied addressee is supposed or rather imagined to be at some moment. From this new base, focus is on what the utterance refers to. Thus, the focus belongs to a mobile second person experiencing from the new base 'what there is to see from there', i.e. what the utterance contains and has its focus on, as indicated by a disembodied first person (above the new base of the second person) accompanying this delegated observer. If I want you to see something that I myself cannot see, then my description of what you should see makes you focus on it in my place, as my substitute, or delegate. The idea of this analysis is then that the first person is still with the delegated second person, but in an imaginary form, as a semiotic role, a viewpoint. P1 is no longer in its here-and-now 'home base', but is 'alienated' and camping in some other base, possibly still in its own body, but then in the past, or in the future, or in a different place or state, or mental space (Fig. 2):



Note that standard literary or linguistic accounts of viewpoint and focus have a direct P1-to-P3 setting. Space delegations concerning focus and reference are then described in terms of viewpoints sending focuses to other viewpoints sending focuses further to still other viewpoints sending focuses... What is new in the enunciative account presented here is its anchoring of viewpoint mobility in the mobile semiotic role called second person. According to this analysis, embodied enunciation is the grounding structure of all 'viewpointing'. So, seeing is grounded in saying. Or, more accurately and generally speaking: the grounding factor is a semiosis basically going on between two embodied subjects – not an opsis involving one embodied subject and the world, as in the accounts that wish Perception to be the Mother of Meaning...

§6. Viewpoint types and focus-space delegation types

Two important theoretical problems arise from this analysis, since it shows that viewpoints vary, and focuses are delegated, and that these variations are distinct dimensions of enunciation.

6.1 The first problem concerns the possible types of the alienated viewpoints: what semiotic roles are there at all? In order to answer this question, we might take instruction from language. (1) The non-alienated viewpoint is the one presented only in explicit (performative) speech-act constructions: "I hereby promise you to do X". (2) Alienation of the first person maintaining the same subject is obtained by adverbial modifiers: "Yesterday, I...", "Sometimes, I...", "Perhaps, I...". (3) Changes of subject from I to we or to most people, all humans, or other quotable institutional discursive sources of information, knowledge, belief, imagination, fiction, are expressed by completive embeddings: "Most people think that X", "It is generally believed that X", "According to Jensen, X [J. wrote that X]". (4) Finally, there is an absolute alienation, by which the olympic enunciator, an instance supposedly having unrestricted access to truth, is the enunciative viewpoint: "X is the case", "What nobody knows, or will ever find out, is that X", "It is raining", "The weather is bad (it just is)". Maybe the weather and the constructions we use to refer to contingency in general are the original source of this apparently it-based, 'impersonal' syntax. For philosophical, though linguistically irrelevant reasons, this olympic viewpoint has been treated with surprising disrespect by scholars of many kinds, especially literary critics, in

spite of its omnipresence in everyday conversation and discourse. It is most often imperceptible, since it is unmarked, implicit, and non-emphatic.

We might summarize the types of possible viewpoints as follows:

- (1) The non-alienated speech-act viewpoint (I-here-now...)
- (2) The same-subject alienation of viewpoint (I-sometimes...)
- (3) The different-subject alienation of viewpoint (we, or most people, think...)
- (4) The olympic viewpoint (it is unquestionably true that X, or simply: X)

We might further consider the alienated viewpoint types as located at an increasing distance from the communicative and intentional mind itself (0), starting at the explicit instance of 'impersonating' the speaker: (1), along the line of P1 (in Fig. 2).

P1: (0)----->(1)----->(2)----->(3)----->(4)

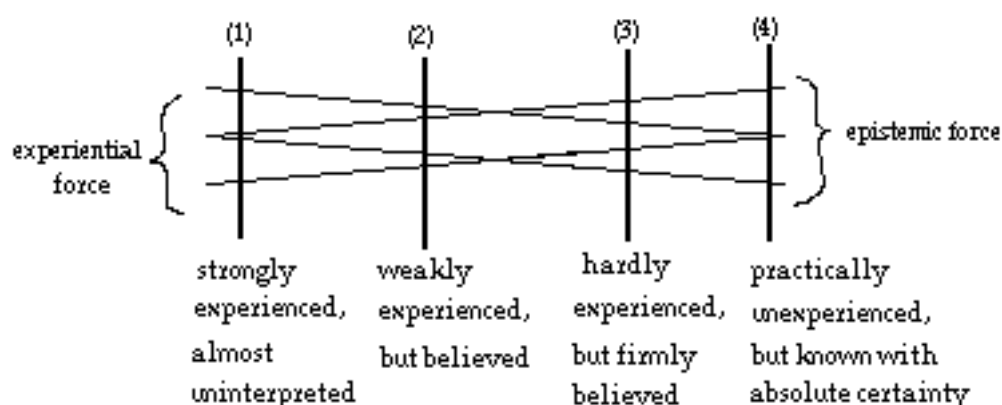
Under (1), the focus is, by definition, on some item in the semiotic base space; the self-reference of the performative utterance is an example of this. Under viewpoints of the three other types, the scope of the content is larger, so even if an object X is first foregrounded as present in base space under (1), its history or category or relevance in infinitely many respects can be thematized under (2), as X', under (3), as X'', or under (4), as X''' – this last aspect would be some "truth about X", including its "essence".

Phenomenologically, the viewpoint line (1-4) just considered has a zero stance (0): the self, or the subject in what will become a deictic 'base space' (1). This zero stance represents the state of the subject just-before-semiosis, that is, prior to expression; the subject has an experience or an idea and an intention to communicate it. From (0) through (1), (2), and (3), to (4), there is (still in a phenomenological sense) a decrease of experiential immediacy (seeing, hearing, feeling, sensing in general): of subjective, experiential force, and an increase of what we might call 'access to information': of objective, epistemic force¹⁶⁶. Any communicated content is given as purported both by some experiential force and by some epistemic force, but under (1), the experiential

¹⁶⁶ If I say: "Jensen says that X", then X can be epistemically reinforced by the authority of Jensen (magister dixit). If, however, I add: "but he is wrong about X", I let the olympic instance (4) overrule this 'magister' (3). This is what happens, if I say: "Jensen believes that X", because the verb believe (as other 'mind verbs') contains an idea of olympic overruling.

force of its validity is maximal, and the epistemic force is minimal, whereas the inverse holds for contents under (4). This complementarity might explain the semiotic importance of the viewpoint line in general, since it is of evident cognitive interest to agree on the sort of validity that communication assigns to a content. The following representation should be read as a 'sliding' device allowing for all positions between the extremes of total stream of consciousness – under (1) – and total doctrinarity or omniscient enunciation under (4) (Fig. 3):

Complementary forces of validity under different viewpoints:



The fact – I think it is a fact – that in this naturally given schematism of enunciation, the two forces of validity are complementary and inversely proportional, is dramatically important for subjects in semiosis. It entails that if I show you something which has weak experiential force for myself, then there is some part of it which will subsequently be interpreted from a viewpoint 'sliding' from my own to one approaching the olympic stance.

This complementarity is of course useful in dialogues devoted to cooperative interpretation of experiences (you or someone else might know better than I). However, if the thing I am showing you is myself, my gesturally embodied self, which I do not experience as strongly (from the 'inside') as I suppose others do, then I cannot but feel literally ex-posed, seen through, transparent – exposed, not only and simply to the eyes of others, but to their truth-seeking minds (under (3)) and eventually to the all-penetrating and all-knowing olympic 'consciousness'. This is what it means to be and feel visible: to be staged under alien viewpoints of increasing epistemic force. Shyness, bashfulness, is a primary affective and gestural reaction to this situation (of being and feeling visible). A secondary gestural move is the one by which the visible subject tries to get access to the alien viewpoint (focusing

on the visible subject) by self-objectivization, that is, by assuming a theatrical behavior.

6.2 The second problem concerns focus and what happens to it when the utterance refers to things outside the enunciational base space. Let us call this essential semiotic dimension, responsible for all references to an 'out there': space delegation. Whatever be the viewpoint taken by an utterance, the topic focused on can stay the same, and can stay in base space – as we just saw in the case of reference to the gesturer's own body. But the viewpoints (2-4) can go where (1) cannot. Note that delegations running from one already established space 'out there' to another 'out there' space raise the same problem as those delegations that depart from base space and should be analyzed exactly the same way. Any space created by space delegation is a possible base for new delegations created from there. All space delegations are cognitively to be seen as mental operations involving memory, reasoning, and imagination.

There are at least four types of space delegation, perhaps only these four:

(a) spatial delegation: "on the moon, X"; "next door, X"; "over the rainbow, X"; "nowhere, X"; "everywhere, X"; "somewhere, X"; "here and there, X";

(b) temporal delegation: "in a minute, X"; "yesterday, X"; "a hundred years ago, X"; "some day, X [my prince will come]"; "never, X"; "always, X"; "sometimes, X"; "now and then, X"; "once upon a time, X";

(c) modal delegation: "perhaps, X"; "possibly, X"; "probably, X"; "necessarily, X"; "hopefully, X"; "regrettably, X"; "preferably, X"; "desirably, X"; "optionally, X"; "imperatively, X"; "hypothetically, X"; "conditionally, X"; "if Y, then X"; "miraculously, X";

(d) representational delegation: "in the Bible, X"; "in Monet's paintings, X"; "in Greek mythology, X"; "in Sigmund Jensen's dream, X"; "in Carl Th. Jensen's films, X"; "in most sonnets, X"; "in Adolf Jensen's psychotic hallucination, X"; "Bill Jensen lied that X"; "in Alice's Wonderland, X"; "in the world according to Garp, X"; "in all possible worlds, X"; "in the whole world, X"; "in this world, X"; "in the universe, X".

Amazingly, the simple formula "not X" – as in: "No, no! she exclaimed" – can mean things like: (a) "not [here] X", (in answer to: "May I kiss you?"); (b) "not [any longer] X", (answering questions such as: "Are you still hungry?"); (c) "not [wanted/allowed/possible] X", (in answer to: "Can I come in?"); or (d) "not [the case that] X" ("Are you Miss Jensen?"). Negation ("not X") actually creates two mental spaces outside the enunciational base space, one that includes X according to some viewpoint (2 - 4) and one that is a copy of the first but excludes X. The latter is then signed by the subject of the performative viewpoint (1) as consistent with its communicative intention (0). The former is assigned to an utterer with whom the enunciator has an imaginary dialogue.

The type (d) includes the formation of fictional spaces. The principle of representational delegation is that there is in this type what we call a world, which semiotically means a space accessible only through human representation. The notion of Reality is that of a world (some world). A fiction is a world specified by a particular type of enunciation, one that invents, that represents, with (0) as its onset: the subject focuses on producing language, on 'mental writing', using language's built-in focus (d) – the world according to language – not on experiencing immediate contents of consciousness. This particular attitude affects enunciation altogether. From the voice and view now artificially established under (1), all space delegations remain possible, as well as all viewpoints. However, the first person is no longer the self-exposing utterer, but an artificial enunciator role: a narrator. The formula of fiction is thus: viewpoint (1), focus (d) – or: 1d. From inside the d-world, any enunciational type is again possible. The impersonal, olympic voice dominantly heard in classical fiction is: 4d. The voice heard in stream-of-consciousness prose is: 1a ("In my consciousness, X").

In fiction, the space of enunciation is transformed into a stage. Expressions are transformed into non-deictic entities, non-presentations: re-presentations. But since the pure intentional stance (0) cannot be touched by this transformation, fictions always attract the representational addressee's (French: de l'énonciataire) attention to what the author 'has, or had, in mind', or to what any author would have in mind while offering this fiction as a representation 'instead of' showing its meaning directly. Fictions call for interpretation. They are supposed to 'mean' something 'else', something different from what they explicitly represent. They are, in Mark Turner's terms, parabolic¹⁶⁷. Often they are interpretable as indirect commentaries to

¹⁶⁷ Mark Turner, 1996, *The Literary Mind*, Oxford: Oxford University Press.

the empirical situation in which enunciation takes place. As works of art, they are supposed to be parables of a maximally general meaning, of feelings concerning the human existence or thoughts about the world (one representation is then the image of another). All fictional enunciations lead to the search for deeper meanings¹⁶⁸. Since these deeper meanings are 'imaged', signified figuratively, by the representations (or worlds), the fictional enunciations call attention to the immanent structure of the literal, thematic content of these representations. Interpretations thus follow (from) structural 'readings' – global accounts of relations and elements found in the fictional worlds.

In §3, we considered three genres of theatricality, the last of which corresponds to the (1d)-analysis of fictional enunciation. The inventive genre of theatricality, e.g. fashion, and perhaps general eccentricity, is also representational (d), but under a non-basic viewpoint (2) referring to 'alienated' aspects of the subject such as gender, age, ethnicity, professional affiliation etc. The functional theatricality is representational (d) under a necessarily collective viewpoint (3): "We the King..."; "our party thinks ..."; "France declares...".

§7. The mental-space network of enunciation

When people communicate, they are physically connected in such a way that they can perceive each other's gestures and signs. I call this circumstance the semiotic base space. This base space thus includes the communicating subjects and the signifying physical events produced in communication.

The meaning unfolded in the communication going on in this base space unfolds in delegated mental spaces linked to and projected from the base space by so-called 'space builders'¹⁶⁹ – i. e. a set of semiotic properties of these signifying events: gestures and facial expressions, sentences or phrases or words (pronounced, signed, or written), written texts, iconic items such as photos, paintings, drawings, or even physical objects exchanged or treated in

¹⁶⁸ One such example is irony: ironic theatricality is role-playing and calls for interpretation – for an interpreter's sensitivity to an underlying meaning – which searches for an implicit intention that contrasts or modifies the literal meaning of the utterance. Irony is local fictionalization of enunciation.

¹⁶⁹ Gilles Fauconnier, 1985, *Mental Spaces: Aspects of Meaning Construction in Natural Language*, Cambridge: MIT Press.

ritual ways, or simple clues that the communicators understand as indications (e. g. of the speaker's attitude toward the conversational topic) – and the built-up mental spaces comprising the meaning (signifieds) of these signifiers form networks of variable complexity, by which a semantic whole is constructed and finally fed back into the base space as an integral content of the signifying act in question.

The first step in this construction of meaning consists in singling out two spaces: a viewpoint space (Input 1) in which the enunciatonal subject displays the appearance, from some 'angle', of what the second person is supposed to 'see'; and a focus space (Input 2) containing what this entity is taken to be. If, for instance, the enunciator is acting, Input 1 has the way he acts, and Input 2 has the role he is presumed to play. Any addressee can grasp the difference, and must perceive it in order to understand what 'acting as' means. Furthermore, semioticians will see that Input 1 picks up iconic structure of the signifying event in base space, and that Input 2 picks up symbolic structure (from the same source). Any state of affairs referred to has singular traits that constitute its 'signifiability'. This is the iconic aspect. The role also has a name and an identity, 'signifiable' by a recognizable style. This is the symbolic aspect. Theatrical gestures have iconic and symbolic structure simultaneously. Semiotically, it is obvious that the iconic Input 1 relies on experiential force and the symbolic Input 2 on epistemic force, in terms of viewpoint structure, cf. §6.

The second step in the construction is the stylistic mapping of the contents of the two input spaces. A caricature of a person profiles some graphically or gesturally deformed contours that map onto foregrounded moral properties of the target. By contrast, an official portrait of the same person, e.g. a political ruler, will preferentially present a worshipping, ascending angle and show a rather inscrutable gestural attitude and facial expression mapping onto the 'grandeur' of the person. Such mappings, occurring between something shown and something meant, prepare the establishment of a new space that blends information from Input 1 and Input 2 and produces a creature which can be described as an ontological amphibium: a character (halfway between the actor and the role) or a characterization of a state of affairs (halfway between the commentary and the issue, between appearance and being¹⁷⁰).

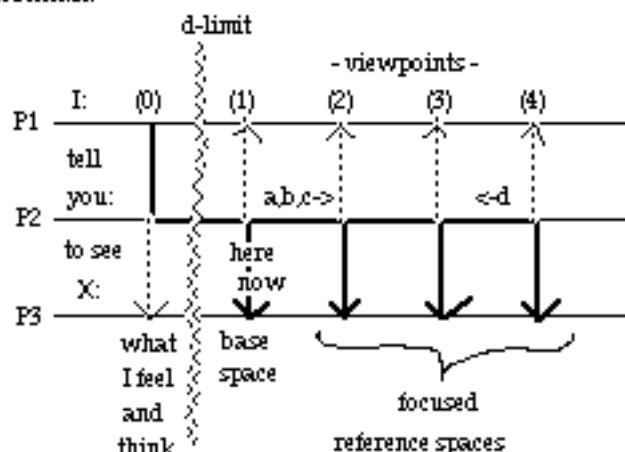
¹⁷⁰ As in A.-J. Greimas' structure of 'veridiction', cf. Greimas and Courtés, 1979 and 1986, *Sémiotique. Dictionnaire raisonné de la théorie du langage*, I and II, Paris: Hachette.

However, such a blended space (which is – I think – precisely what ‘theatrical places’ are meant for displaying, physical stages as well as platforms, rostrums, lecterns, etc., and which is what frames around pictures are mentally facilitating) would be chaotic without a schematic regulator of its amphibian content. It is a puzzling fact that it is possible to show something in ways that may even be overtly incompatible with the shown thing without destroying the reference to it.

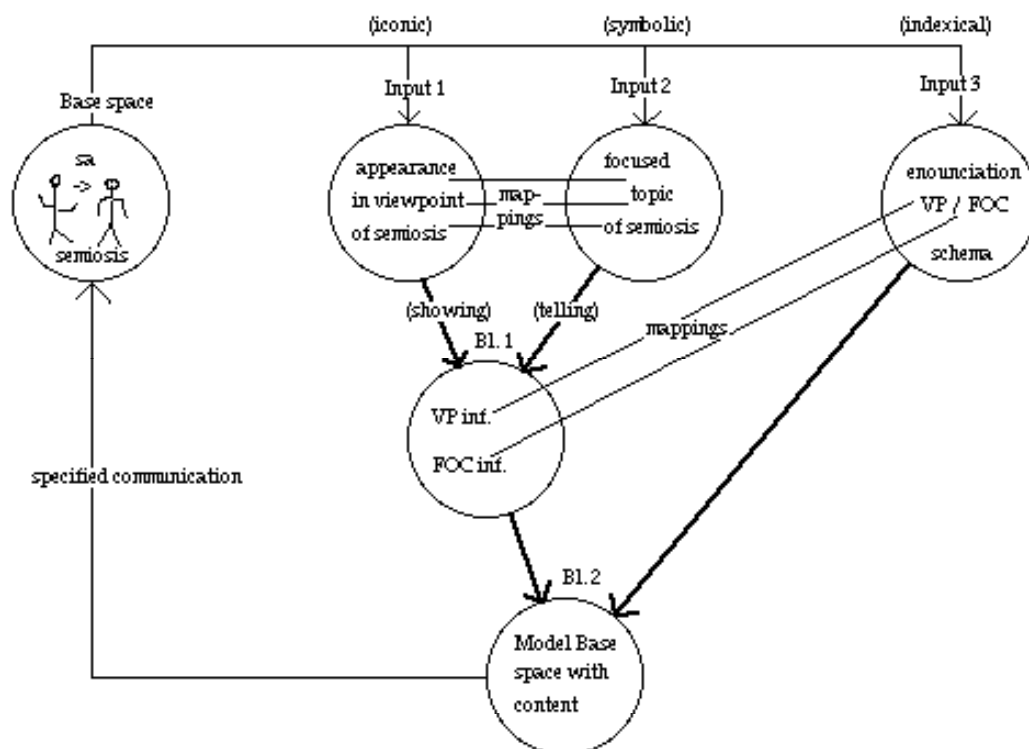
My suggestion is that a third input space is projected from the base space by indexical, pragmatic indicators in the signifying event, such as the proxemics of the bodies in base space, the nature of the situation, and the implied genre of ongoing communication within a sequence of previous and following communicative events, and that this space maps onto the blend and orders it by submitting it to its schematism. What I have in mind here is the enunciational schema (§6), which might be rendered more fully by the following graph. In this version, I have introduced a ‘barrier’ that stops the representational delegation from invading the enunciational (0)-instance, thus a d-limit. The olympic viewpoint¹⁷¹ can ‘float’ backwards, inwards, occupying (3), (2), and (1) in fiction (cf. the narrator’s implicit performative: “I hereby tell you...”), and then carries with it the 4d-scope; but the fictional world stays external to its own meaning, it does not itself olympically ‘know what it means’, since it does not contain the instance of its own writing or genesis. The ‘olympification’ must stop at the d-limit, beyond which there is, as we have seen, an intentional stance of ‘deeper meaning’ to interpret (Fig. 4):

¹⁷¹ This is the hard problem in any theory of literature. Representations are worlds and therefore have an olympic ‘ruler’. Representations become fictions, when the viewpoint (1) is contaminated - but the previous instance (0) cannot be contaminated: there is a difference of principle between the base enunciator and the ‘I’ of a first person fiction. This is what the d-limit is supposed to state. This analysis might elucidate what happens in psychosis: the d-limit does not hold, and (d) contaminates the speaker’s mind. Consciousness is fictionalized.

Enunciation schema:



If we insert this schema in the third input space, the instance I propose to call a relevance space (since it regulates the chaos in the blend of Input 1 and Input 2 in relation to relevant factors), we have a first mapping between Input-1 structure and Input-2 structure, on the one hand, and a second mapping between their blend and the instances of this schema, on the other. This last mapping specifies by inference the schematic configuration of viewpoint (1-4) and focus (a-d) and prepares a final blend (Fig. 5):



The final blend (Bl. 2) is a mental space containing what the empirical participants in Base space understand as the specified enunciological constraints of the ongoing semiosis and its now validated content: a 'Model Base space' in the sense in which Umberto Eco¹⁷² posits a Model Reader, a Model Author, and the (Model) text – a specified, edited version of the original base space, projected back to the latter as a specification aiding the communicating subjects in determining in what sense an uttered meaning is relevant and meaningful. The final blend of this network might be called an internal Base space, as opposed to the original, external Base space.¹⁷³

§8. Visibility

The simplest form of semiosis, and no doubt the cruelest of all, is the one we innocently call a situation. When people meet, they have to appear in front of each other, and they have to accept the idea that they are where they are, because it is in their 'essence' to be there and to be seen as being there and to look exactly as they do... When we 'appear' somewhere, we know that we automatically attract attention of others to our being there and thus to our appearing there in a certain way, in a way that others may know more about and interpret better than we, in terms of 'being' or 'essence'. When people meet, this 'essentialist' condition is of course mutual, and the natural embarrassment or uneasiness caused by the direct gaze of the other, and by our own gaze directed at the other, is a matter of tacit negotiation in any face-to-face situation (cf. Sartre's famous description of the gaze conflict¹⁷⁴ in such relations). Politeness consequently has general rules for gaze behavior. The fact of being bodily visible is experienced as a semiosis whose enunciological structure makes us feel 'characterized', seen through, transparent, as it were.

When people meet unexpectedly in strange places – for instance: two academic colleagues crossing each other in a brothel (both: "What are you doing here?") – the optical emphasis produced by the fact of being observed and involuntarily staged causes particular embarrassment and awkward

¹⁷² Umberto Eco, 1992, *Interpretation and Overinterpretation*, Cambridge: Cambridge University Press, and 1979, *Lector in Fabula*. Milan: Bompiani. Cf. Chapter 10.

¹⁷³ As suggested in Line Brandt, 2000, *Explosive Blends – From Cognitive Semantics to Literary Analysis*, University of Roskilde and Center for Semiotic Research, University of Aarhus.

¹⁷⁴ In his famous *L'être et le néant. Essai d'ontologie phénoménologique*, 1943.

behavior, because such a fatal seeing forces theatricality upon both observed observers: they are thrown into a field of intensified visibility that offends their feelings of pudency and often triggers strong affective reactions, ranging from confusion to panic. The very common and painfully strong fear of speaking in public¹⁷⁵, and thus of being somehow involuntarily observed, is another example of this phenomenon. What happens structurally is that the subject as a 'naked self' is thrown into exposure (before God's indecent eye¹⁷⁶...) without appropriate theatrical clothing (cf. the naked emperor in Andersen's tale). Since this happens against the subject's will, the subject tends to abandon the fragile initial speech-act viewpoint position (1) and is reduced to occupying an alienated position – sometimes it even produces a momentary black-out. The reaction is, I think, conditioned by the above mentioned conflict of validating forces in enunciation (§6, and Fig. 3), experienced as an asymmetry: visibility far exceeds vision. To be involuntarily visible is to be seen in general and ultimately from the olympic viewpoint, that of an Ultimate Truth¹⁷⁷. It entails being transparent, being seen through, deeper than the self can reach (incidentally, Lacano-Freudian psychoanalysis uses this principle consciously to intimidate the patients, making them believe that the olympic opsis of the analyst can really go that far... into their 'Unconscious' and their 'Truth'). This obsessive phenomenology of truth-in-visibility seems to be explicable in terms of our enunciative schematism; far out there, I-am-being-shown-as-I-am: Ecce homo. Thus, I truly am what is seen in me, 1) even though I cannot see for myself what it is that is seen, and 2) so that even if I did have access to it, I could never change the verdict.

Paradoxically, I am alienated by the 'Truth' an sich. The proper response to this uncanny situation is theatrical behavior. Psychological disturbances of volition, like those felt in simple situations of pragmatic

¹⁷⁵ The phenomenon is known to afflict both sexes, but to my knowledge, women are more ready to admit it than men. Perhaps the feeling in question is really more prominent in women. It may be at the origin of affectation in general.

¹⁷⁶ Nietzsche's remark on female pudency.

¹⁷⁷ The olympic viewpoint and its epistemic force – 'Ultimate Truth' – are, once again, structural properties of language-related cognition that many scholars find hard to accept. It is perhaps easier to recognize the feelings I try to pin down in this paragraph.

perplexity, produce the same experience and the same responses: confusion, panic, and then some sort of affected¹⁷⁸, theatrical behavior.

§9. Maupassant on fatal visibility

One writer who was particularly aware of this phenomenon was Guy de Maupassant (1850 – 1893). In his short story La ficelle (A piece of string), he lets the protagonist, Maître Hauchecorne, die in the end from despair and from a strong feeling of paradoxical guilt that he had previously acquired when he was seen in the act of picking up a worthless object and understood as thereby stealing a wallet, which he tries in vain to convince the community was not the case, but ends up understanding could truly as well have been the case, in view of his character...¹⁷⁹ In his story Deux amis (A Fishing Excursion), well-known among semioticians and thoroughly analysed by A.-J. Greimas¹⁸⁰, two anglers are caught fishing in the war zone, by the Seine, during the Prussian siege of Paris. Absorbed in a conversation about life and death, and the ever-lasting wars, they are interrupted:

"... Mais ils tressaillirent effarés, sentant bien qu'on venait de marcher derrière eux; et ayant tourné les yeux, ils aperçurent, debout contre leurs épaules, quatre grands hommes armés et barbus, vêtus comme des domestiques en livrée et coiffés de casquettes plates, les tenant en joue au bout de leurs fusils.

Les deux lignes s'échappèrent de leurs mains et se mirent à descendre la rivière.

En quelques secondes, ils furent saisis, attachés, emportés, jetés dans une barque et passés dans l'île.

Et derrière la maison qu'ils avaient crue abandonnée, ils aperçurent une vingtaine de soldats allemands.

Une sorte de géant velu, qui fumait, à cheval sur une chaise, une grande pipe de porcelaine, leur demanda, en excellent français : "Eh bien, messieurs, avez-vous fait bonne pêche? "

Alors un soldat déposa aux pieds de l'officier le filet plein de poissons, qu'il avait eu soin d'emporter. Le Prussien sourit : "Eh! eh! je vois que ça n'allait pas mal. Mais il s'agit d'autre chose. Ecoutez-moi et ne vous troublez pas.

¹⁷⁸ The term affectation is curiously ambiguous; 1) unnatural, artificial behavior; 2) influence, being influenced, 'affected' by something – basically by the condition of being visible, we may assume.

¹⁷⁹ Cf. A.-J. Greimas, 1983, "Description et narrativité à propos de "La ficelle" de Maupassant", *Du sens II*, Paris: Ed. du Seuil.

¹⁸⁰ A.-J. Greimas, 1976, *Maupassant*, Paris: Ed. du Seuil.

" Pour moi, vous êtes deux espions envoyés pour me guetter. Je vous prends et je vous fusille. Vous faisiez semblant de pêcher, afin de mieux dissimuler vos projets. Vous êtes tombés entre mes mains, tant pis pour vous; c'est la guerre. ... ""¹⁸¹

"C'est la vie", M. Sauvage had said in the conversation preceding the quoted passage; "Dites plutôt que c'est la mort", M. Morissot had answered. "C'est la guerre", the Prussian officer now states. Three olympic utterances are made, and the last one tells us why this is not just, as Greimas suggested, an ideological debate between equally valid personal 'points of view', opposing humanism and Stalinism. The theatrical Prussian is objectively, olympically right, and as does the narrator, he knows it.

The two angling friends react by a nervous shivering and remain silent to the Prussian officer's theatrically and ironically polite attempts to get their password (they don't have any, only a written permit; and they are not spies, to their knowledge). But they have been seen involuntarily, in the wrong place, and are now explicitly redefined according to the principles of war: since they are where they are, rather than what they are, they are executed as spies and thrown into the river Seine. They have (most involuntarily) seen where the Prussians are, and in this sense the situation makes them spies; the

¹⁸¹ "...Suddenly they started. They had heard a step behind them. They turned and beheld four big men in dark uniforms, with guns pointed right at them. Their fishing-lines dropped out of their hands and floated away with the current.

In a few minutes, the Prussian soldiers had bound them, cast them into a boat, and rowed across the river to the island which our friends had thought deserted. They soon found out their mistake when they reached the house, behind which stood a score or more of soldiers. A big burly officer, seated astride in a chair, smoking an immense pipe, addressed them in excellent French:

"Well, gentlemen, have you made a good haul?"

Just then, a soldier deposited at his feet the net full of fish which he had taken care to take along with them. The officer smiled and said:

"I see you have done pretty well; but let us change the subject. You are evidently sent to spy upon me. You pretended to fish so as to put me off the scent, but I am not so simple. I have caught you and shall have you shot. I am sorry, but war is war..."".

(A Fishing Excursion, The Great Short Stories of Guy de Maupassant, Pocket Books, New York 1939. This rather poor translation seems due to the author of the introduction to this English edition, Wallace Brockway).

It is highly recommended that the reader make acquaintance with the full text commented here.

officer is objectively right about this. Maupassant's olympic narrator stays silent about the evident strategic truth, however, and lets the situation speak for itself. Visibility is decisive in certain circumstances. The circumstances, including what they make you do and not do, how they make you act and react, determine what your acts will mean; they fatally decide on which situational 'stage' the subjects are acting. No declarations would be able to change this truth-in-visibility, which is stronger than any biographical Selbstversteherung (self-understanding) and which will always defeat it. In my reading of Maupassant's text, the two friends understand this, so their silence coincides with that of the olympic narrator; there is no point in speaking when the place you are speaking 'from' contradicts and invalidates your claim. The 'act' you are caught in overrules your claim to be indeed doing a different act.¹⁸²

§10. War is war. Concluding remarks

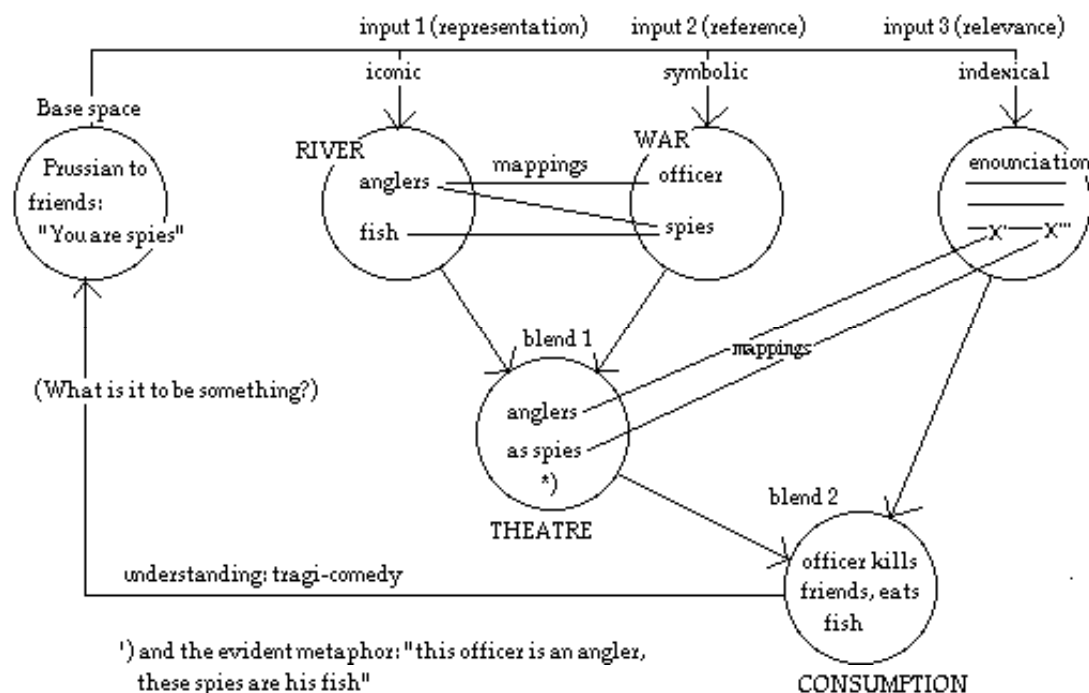
An angler is a recognizable figure, whereas a spy looks like anything but a spy. There is a significant asymmetry here: a spy can disguise himself as an angler, but an angler cannot disguise himself as a spy. The angler role is iconically distinguishable (by its qualitative identity, its figurative appearance): the angler looks 'like this', wherever he is. Whereas the spy role is strategically or symbolically recognizable (by his singular, situated being, his numerical identity, his dynamic being, so to speak): the spy is 'this man', and he is 'there'. The two friends in Maupassant's story are qualified both ways, and the irony of the situation in which the double determination occurs – an irony embodied in the Prussian's mocking tone of address – springs from the objective coexistence and equal truth value of these contradictory qualifications, one of which must overrule the other and seal the fate of the two friends.¹⁸³

¹⁸² I first treated this semio-localistic phenomenon and this example in my 1983 book *Sandheden, sætningen og døden* (Truth, Sentence, and Death), Aarhus: Basilisk. Appearance and being are terms of Greimas' semiotic square of 'veridiction', which I had to reelaborate to meet the problem.

¹⁸³ The same logic is remarkably shown by Maupassant's story La ficelle (A piece of string).

There is thus one mental space¹⁸⁴ in which the friends are anglers (catching fish), another mental space where they are spies (caught by the Prussians), and a blended space where being anglers makes them into spies, appearing as anglers. This last space is dialogical and maps onto an organizing and framing space of enunciological structure, in such a way that the 'spy truth' becomes epistemic and olympic, whereas the 'angler truth' stays experiential and personal. The result is a final blend, in which our (experiential) empathy stays with the anglers, while our (epistemic) rationality follows the spy reading. The two friends' agentive behavior is now tragically theatrical (involuntary), whereas the Prussian officer's acting is comically theatrical (voluntary).

An account of this state of affairs in terms of mental space networks presents the following architecture – in which the enunciological schema is again inserted as a regulator of relevance (Input 3), whereas this time the Base space in question is internal to the text, a region of our Model Base space (§7, Fig. 5). Fig. 6:



This inter-space structure follows a general network design which is also, incidentally, that of metaphorical structure. As indicated under the graph, Maupassant's text invites in fact for a metaphorical reading of the source-target relationship holding between anglers-catching-fish (source) and officer-

¹⁸⁴ In the sense of Mark Turner and Gilles Fauconnier's theory of mental spaces and blended spaces, cf. "Conceptual Integration Networks", 1998, Cognitive Science 22 (2).

catching-spies (target). There is correspondingly a clear domain difference between the – geographic – RIVER space and the – politico-strategic – WAR space. This metaphor motivates the final gesture of the Prussian officer, who asks his cook to prepare the two anglers' fish for him. The metaphorical blend, where fishing and warfare coincide, maps onto an implicit, proverbial, schematic relevance regulator (Input 3): big fish eat smaller fish. But this transitive schema (A 'eating' B 'eating' C etc. – A: officer, B: anglers, C: fish...) is itself interpreted by the general principle of the text. The two friends are first anglers, then spies: the spy predicate 'eats' the 'angler' predicate, because the situational truth overrules the intentional qualification, which is but a subjective conviction. This follows from the structure of the enunciatinal schema.

None of this would in fact be intelligible without an enunciatinal key to the relevant meaning of the Prussian officer's utterance in the situational Base space: "I am sorry, but war is war..." – here, he is alienated as an officer speaking from the viewpoint stance (2).

Theatricality is an intricate semiotic aspect of gesture which is first given existentially, so to speak, as an important aspect of the relation embodied human subjects have to their life-world, in so far as the theatrical styles of behavior (ranging from fear and perplexity to pretence) are conditioned by the basic experience of situational presence, and particularly as involuntary (fatal, tragic) exposure. Second, it is given as a marked mode of co-existence in all situations where – for different reasons – the olympic viewpoint is foregrounded: sports, religious rituals, child play, courtship, political speeches, celebrations, parades, etc. and in what we call aesthetics.

When theatre turned into an art form, tragedy consequently became what it has remained, a prototypical dramatic genre. Actors are then professional pretenders that voluntarily demonstrate how we behave voluntarily or involuntarily under pressure, that is, under strongly imposed circumstances and in particular those created by 'visual fatality'. What do we do when our appearance 'out there' and our being 'in here' cannot be one? There is one radical solution, an alternative to theatricality altogether: king Oedipus is known to have blinded himself, a desperate 'ostrich' move of a haunted man who wanted to escape the situational condition entirely. Physical blindness can make a subject non-theatrical, authentic and olympic. So say our traditions. Teiresias, the Greek 'seer', first saw things he should not have seen, for which he was blinded, and then could only 'see' prophetically –

he could see or know Fate, which is blind itself. He was followed by poets like Milton and Borges.

A final reflection. Expressions like “I see”, “you see?”, “let us see..” show that there is a forceful Metaphor Concept according to which UNDERSTANDING IS SEEING. It is implied that SEEING is straightforwardly equivalent to practicing optical perception. However, according to the above analysis, SEEING as conceptualized by our species is structured by a viewpoint schematism – related to intersubjectivity in enunciation – and in this conceptualization, being seen (your seeing me) is as basic as seeing (my seeing you). We see things in our quality of enunciational subjects. Furthermore, our seeing things is dependent on our seeing each other. Vision is phenomenologically an affair involving interactive subjects, and it involves them in a non-symmetric manner: in my view, my seeing you is only experiential, whereas your seeing me is epistemic. ‘Truth’ reaches me, flows towards me, from outside. Your seeing me is ‘understanding’. This phenomenon might be at the origin of the above Metaphor Concept, and also of the Concept that presents Consciousness as a Theatre.

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Chapter 15

WHAT'S NEW? –50.000 YEARS OF MODERNISM¹⁸⁵

A SEMIOTIC RHAPSODY

1. Why we believe in change.

Cultural relativism has an emotional, ontological, religious motivation. It refers to a collective human subject and discusses the consistency of this subject: who are we? Are we: the Humanity as a unitary civilization, plus some barbarians; an inventory of ethnic groups; the scattered deposits of Political Economy; the United Nations; or a chaotic swarm of self-sufficient cultures? – The personal pronoun in the plural 'we', that intellectuals use to assume when discussing the state of Mankind, is a two-sided creature. It is a reflective being, determined de re, but in demand of a determination de jure, a justification. I suspect that not only modern ecologists, but ultimately any community sensitive to ontology and all poets use this 'we' to express a generic feeling of cosmic guilt, simply because 'we are here'; a sort of religious guilt of existing, and therefore a longing for being judged and evaluated. The imaginary judge would then be the instance called History—"History will judge me", as Fidel Castro and other absolutist rulers claim—and the sacred code would be some Hermeneutic Philosophy. But if the subject were newborn, or at least 'new'—cf. The "New Man", el Hombre Nuevo, that Che Guevara wanted to create—it would escape its sinful predecessors' condition, be it capitalism or some shadow of the original fault, 'our' mere existence. The 'old', versus the 'new', condemns us to this condition. The subject thus strongly hopes to be 'new', to be able to 'modernize' itself. It hopes and believes that it is possible for it to change profoundly, essentially, and feels that certain profound changes are in fact happening, even just 'now', by virtue of some residue of innocence still buried

¹⁸⁵ This free-form essay was written for a Norwegian anthology on *The Modern Subject*, edited by S. Meyer e. a., University of Bergen 1996. It was revised at the CASBS, Stanford, in September 2001.

in its soul. Cultural history is therefore an eschatological courtroom, where hermeneutic proceedings, comparing the de re and the de jure properties of present subjectivity, prepare History's dreaded verdict.

But what is really happening? Is there something new in the current, say, post-romanticist, 19th and 20th century-shaped, modern, mental or spiritual state of our species? Has human subjectivity changed in any significant respect since the classical antiquity, or since prehistory? Is there a Modern Subject?¹⁸⁶

Some humanists seem to think that mankind evolves spiritually from year to year, others that it does so by decades, or at least from century to century, or certainly from era to era (by a change of 'discourse' or 'epistemè', cf. Michel Foucault¹⁸⁷). However, it is clear to everyone that 'newness' can hardly be acquired just by walking and talking, living on, while time goes by. Time must then be conceived as a creative spiritual force in itself, as Peirce and Hegel imagined; and its recursive dates would let us register and greet its permanently active 'work' and contributions to our modernization.

The recursivity of time measurements has always given rise to celebrations; the recursive ceremonial practices across the cultures of the world seem to celebrate temporality itself (and then also to fill in some memorial contents, but not necessarily, cf. the way birthdays are kept). The celebrative rhetoric of these ceremonial doings might still be efficient, and the inherent speech-act forces of its performative self-references might still stimulate the belief that something essential concerning 'us' really does change continuously.

Celebrative emotions and their performative discourses entail narrative semantics that support this view. They let or make us believe that we constantly and substantially change, as by recurrent narrative metamorphoses.

¹⁸⁶ The concept of 'subjecthood' is an Hegelian creature, if provided with adjectives like 'modern'; if not, it can still be interpreted in the Kantian key: as what transcendental philosophy is about. My own definition would refer both to Descartes and to Freud; to Husserl and Merleau-Ponty; Benveniste offers the semiotician an irresistible short cut: it is everything that a first person pronoun can refer to. As concerns Freud, cf. my short essay "Kritik af det ubevidste" (Critique of the unconscious), *Kritik* no. 120, Copenhagen 1996.

¹⁸⁷ *Les mots et les choses*, 1966.

The insistent claim for ‘newness’ and ‘renewal’—for cultural difference in time and space—is perhaps the only genuinely modern (post-Enlightenment) theme. Its elaboration in terms of an explicit existentialist philosophy of Time and Being, of the Choices that decide our essence, is a modern creation. In this version, a Subject has no nature, it is entirely cultural, and therefore it shapes entirely its own being in its existence. Since this is the case, there can be no knowledge about it: it is arbitrary; it can be and do whatever it decides to be and do; even the contents of its imagination and decisions are radically undetermined. It is cultural in the sense of being relative to its own decisions. As such, it has no properties. There is no “as such” regarding this creature. A philosophy along these lines¹⁸⁸ is the standard framework for the contemporary academic humanities. It is obviously absurd, but it has the advantage of offering the humanist an immediately understandable and fulfillable task: to elaborate the celebrative discourse needed for the ceremonies by which ‘our’ cultural life exists.

The absurdity concerns the negative consequence for the study of humanity, mankind, the species *Sapiens Sapiens*, which becomes ungraspable, inaccessible by the procedures generally applied for obtaining knowledge. – And yet—eppure—this object of study evidently possesses stable properties, both biologically and mentally: in this last respect, the capacity of feeling, thinking, understanding situations and states of persons, the sensitivity to experienced beauty, the reaction to evil deeds, the appreciation of truth, the sense of responsibility and of the performatives that establish intentional states in general—such things do not change within our History.

How much can we change at all? What sorts of changes do occur? These questions might be answered by systematic and theoretical research based on empirical behavioral studies of life forms, i. e. rather on a comparative anthropology in the widest interdisciplinary sense than on

¹⁸⁸ J.-P. Sartre claimed that humans had no nature, and that historical cultures therefore shaped everything called human nature, even human biology. This is a particularly emphatic 20. century belief—a belief in human auto-creation by existential choices—which has blurred philosophical research on this question considerably, since it only foregrounds one historical event in the history of human development: the moment when—thanks to Sartre—our

hermeneutic exercises in 'Selbstverstehung' (self-understanding). It is an important task of a science of humans, if this expression is read literally, to seek the parameters of such a comparative and theoretical discipline.

Ideas and hypotheses about humans are of course per se philosophically relevant and therefore to some extent 'always-already' shaped or marked by philosophies. But contemporary sciences can contribute in many ways to the configuration of knowledge that has to be developed, if an interdisciplinary concern for human civilization and its cultures is to yield substantial insights, beyond the excusable interest often taken in the intellectual game of outbidding colleagues as being 'on the edge' of radical things to say about Humanity.

The method consisting in proposing and discussing scenarios, where no direct access to a process is possible, has long been used as a first approach to human affairs. In the following section, I will present a tentative sketch of a paleontological scenario offering a possible framing perspective on some fundamental issues in the debate on change and stability in the story of our species —moving from a wider evolutionary time scale to a narrower historical view of cultural change.

2. On Language, Urbanization, and .

Hominids form a large set of bifurcating branches in zoological speciation, from our first bipedal ancestors about maybe 6.5 million years ago to their actual survivor. Some 150.000 years ago, the morphological type called Homo Habilis is no longer found, but an evolutionary split of a Habilis-like type has produced two morphological variants of a so-called Homo Sapiens, the Neanderthal and the Cromagnon types (Sapiens N and Sapiens C). There seems to be an early spreading of Sapiens N, and then a spreading of Sapiens C around -50.000 BC, which coincides with the language spreading now under reconstruction. From East Africa, following coast lines and rivers, Sapiens C goes north, to Europe, and through Asia, towards Polynesia and towards America. In Europe, sites of cohabitation of Sapiens N and Sapiens C

species became aware of having no nature and having to create its being-what-it-is, or 'nature', by political activism.

for some 15.000 years (-50.000 to -35.000 BC, when Sapiens N disappears¹⁸⁹) are found. The two types were probably co-fertile, but did never merge into a Sapiens NC, probably for reasons of behavioral difference. Differences in Paleolithic tools seem to indicate that Sapiens C was generically skilled for fine motor achievements, such as configuring fishing hooks, instruments and adornments made of bone, horn, shells, wood etc., whereas Sapiens N had roughly configured stone knives only. Imagery is only found later than - 50.000 BC, on instruments and on cave walls, or as figurines. All findings indicate that Sapiens C is the exclusive author both of this imagery and of these finer tools. This species is the modern, imaginative man: the purport of all historical chapters of Modernity. The cognitive capacities of this human are, we believe, exactly those of historical mankind.

The morphology of Sapiens C, and in particular the remarkably distributed fat tissue, and the fine motor skills, both especially developed in females, may be compared to some aspects of its tools and activities: fishing must have been an important new function, in addition to hunting. The exploitation of this resource, and related, water-oriented practices, including swimming and sailing, might have changed the social division of labor significantly. The females would now be able to provide for themselves and for the offspring, while the male hunters could follow animal tracks at a much larger distance from the tribal dwellings, without having to return with food or having the kinsfolk accompany them¹⁹⁰. The fat tissue structure of the female bodies goes with reduced hairiness of both sexes. Most parts of the body are laid bare, the hairless female faces appear—and facial visibility is mirrored in water surfaces and by human mimetism—and phenomenologically, what we may call the Narcissus effect appears: significant face expressions, fine-tuned gestures, and the particular self-relation we call vanity. In addition to this, the hydro-oriented behaviors must have improved body hygiene, and thus the health of Sapiens C.

Another phenomenological event might then follow: fishing is essentially waiting. Intentional attitudes are now mirrored and become mimetic, and the absent object—the fish—is focused on as the motive for the

¹⁸⁹ Does mythology contain remnants of archaic memory referring to this amazing situation? Giants, ogres, trolls etc. might be Sap C portraits of Sap N figures...

¹⁹⁰ Assuming that kinship relations already exist and are socially important.

passive, expectative attitude. Cognitively, this functional situation leads to a new semantics of virtuality, in which absent objects become dramatically relevant¹⁹¹. It is probable that the immobile, introvert, bodily, mental and facial attitude of the fishing person—contrasting the extrovert hunter's presence-oriented and mobile subject-object-relation—is of some importance to the mental structuring of language as a disposition favoring 'thought', orientation of awareness toward absent items and abstract contents.

Language, as currently understood, consists of two main formal components: syntax and lexicon—sentence structure and word structure¹⁹². These two components have probably developed separately in the previous evolution of the cognitive mind, but at a certain moment combine and integrate. Words spring from categorization of objects, whereas a wordless syntax is a design for motor-dynamic schematization of situations, scenarios. When wordless, syntax just uses mental pronouns, so to speak (like the colloquial fillers such as: “you know...”). The integration of the two components establishes a metonymic connection between a syntactic dynamics—semantic case structure—of globally represented scenarios and a lexical symbolization of certain local, figurative parts of this scenario (by facially controlled, gesturally and phonetically performed words). In short, the connection integrates words into sentences and creates the phenomenon that linguists call human language.

Language, in this form, makes it possible to sing. Singing is a form of attuning minds to emotional collaboration, and it creates the feeling of a hearer-addressee transcending the singing minds. It must have been used at funerals, weddings, for courting and expressing other love-related feelings, and at difficult moments in collective life; singing is felt as addressing supernatural forces. Female, fishing adults with babies on their back may have shaped, trained, and rehearsed human language, somewhere between -150.000 and -50.000 BC. Male adults then learned and developed its use in the

¹⁹¹ The syntactico-semantic difference between hunting (chasing) and fishing can be compared to that between the meanings of 'need' and 'desire' (French: *besoin* / *désir*), the last term being paraphraseable by 'longing for' and similar expressions of passionate absent-mindedness.

¹⁹² I am aware that Construction Grammar now disputes this dual view. Nevertheless, the existence of case structure is a strong argument for maintaining structural dualism.

sort of shared political imagination involving forces, powers, deities, principles, rules and rulers, that cave paintings, rock engravings etc. seem to be the iconic counterparts of.

Modern humans, Sapiens C, would then dispose of articulated, lexicalized language as an evolutionary advantage over Sapiens N, besides the differences in morphology and skills. Language in this form would be an epigenetic potential of the neural wiring of Sapiens C, coded for by the genes, but only activated and specified during an engramming period of infancy, through a body-to-body relation favored by the new techniques of Sapiens C. On these new grounds, communication and memory grow explosively, and so does population.

The spreading of Sapiens C is probably a migration caused by a sudden increase in population, matched by climatic changes. Perhaps only 40.000 years later, after the abrupt stop of the last glaciation, around -10.000 BC, agriculture and urbanization unfold, when the migrants have formed territorial habitats. Territorial stabilization is a first important cultural event. It implies selecting sites that offer access to water, wildlife, fertile soil, while also offering natural protection and possibilities of overview and control over the surroundings. Massive urban construction occurs on such sites. Metallurgy unfolds, yielding ornaments, tools, and weapons; artifacts that optimally are both aesthetic and pragmatic. Gastronomic culture and pottery develop, this last activity being also essentially involved in the development of writing systems (since -8.000 BC), and systematic forms of immaterial culture—such as religion, philosophy, poetry, mathematics—soon emerge and replace earlier sacred imagery. Expanding forms of immaterial culture serve the regulation of expanding societal relationships. These relationships entail an increasingly urgent need for regulation and rules. Rules and religion are inseparable phenomena. Their unity can be called authority. In fact, religion as such may be seen predominantly as a language-based behavioral system that makes it possible to have rules respected without presenting causally grounded reasons—and thereby to have and maintain arbitrary principles of behavior in collective life; an immense advantage in an expanding societal situation where only few norms can be knowledge-based. The hollow, ceremonial, transcendent voice by which an abstract rule is sung or chanted, is its authority.

Why does language so readily 'auto-differentiate' and bifurcate into sub-species, families, distinct idioms, languages as we know them? This fact may be directly related to its immediate religious function. An idiom is experienced by its speakers as a musical medium for emotional communication with transcendent forces, divinities, etc. This function is broken, when foreign speakers or 'impure' performers participate. However that may be, when studying any ethnic community, historical or contemporary, we can easily observe that linguistic difference is an emphatic value: people want the language they speak to be so different from other languages as to be sure not to be understood when communicating in an inter-ethnic situation. Idiomatization is a universally active process.

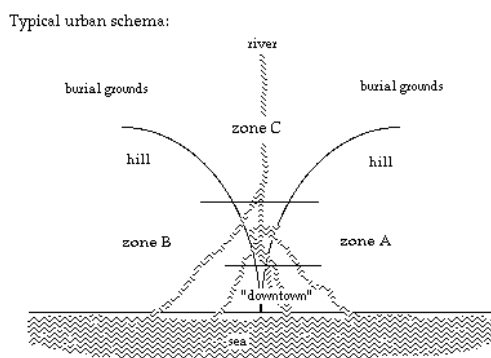
Language as such might well have been an extremely malleable and unstable mass of floating dialectal variations during its first spreading by the migrations. By contrast, languages in stationary urbanized circumstances and conditions of communication always cherish and maintain peculiarities in all parts of their grammar, as if they were biological species. This phenomenon of linguistic 'speciation' is demonstratively emotional for the speakers of a language; experienced as an idiom, a specific language is still first of all a religious medium for the deontic regulation of an idiomatic societal interaction—it gives voice to the rules by which an idio-social 'we' is constituted and maintained, by explicit or implicit exclusion of other possible voices, rules, and interactions. Language is essentially also a means of non-communication. Linguistic speciation thus reacts on the occurrence of 'otherness' in the new urban spaces.

The first urbanizations were not interrelated by continuous territories, but more typically isolated by waste lands, that were perhaps only passed through by migrating tribes, outcasts, and tradesmen. Each urban and cultural space—only vaguely bounded—must have been a linguistic laboratory. But since the linguistic resource was in itself a rather recent creation, its basic structural properties—those that we now call the linguistic universals—including spatial, temporal, modal, logical, emotional, enunciative (persons of discourse) morphologies, and the integration of words into sentences through a system of word classes, as well as a general functional and clause-embedding design, are maintained everywhere. The cognitive unfolding of Sapiens C in language is a unitary fact, despite the

differential preferences and the privilege given to distinct and ethnically¹⁹³ distinguishing features.

Urbanization, language, and religion are co-occurring formative events in human evolution. The urban space in itself can be shown to constitute a canonical semiotic structure, a sort of topology of meaning, which integrates and articulates a number of elementary social entities. Any urbanization¹⁹⁴ unfolds in physical space as a local dynamic map that connects areas inhabited by three social categories¹⁹⁵: A—holders of knowledge (symbolized experience); B—holders of power (symbolized status); and C—civil go-betweens practicing trade.

In simple cases¹⁹⁶, the 'city' urbanizes a river delta in a valley surrounded by two hillsides. There will be an A hill and a B hill; and a C-marked down-town between them. The stratification will form an inverse delta, a cusp pointing towards the river mouth and thus separating three zones. Social life may rely on the dynamics of this distribution of topographic zones, which can even be interpreted as an elementary cusp catastrophe, in which A and B are attractors, and C a conflict. Fig. 1:



¹⁹³ Ethnicity as such might even be defined in terms of this communitary drive for difference.

¹⁹⁴ The following is just a personal generalization from observations of urban topography combined with linguistic generalizations. I hope to be able to provide plausible evidence for it later, and apologize for presenting it here in such categorical terms.

¹⁹⁵ Georges Dumézil would hardly agree on this apparent generalization of his three Indoeuropean functions. Michel Serres is the direct source of the idea of seeing collective life organized around 1) things we fight for (les enjeux), 2) things we worship (les valeurs), 3) things we trade (les objets), and then seeing social agents organized correspondingly.

A, the 'formal rulers', the 'clergy', foreground the capacity of language for producing impersonal and generic utterances, thus for formulating logical and legal conditions, arguing and exposing general ideas, by its closed class forms, such as the quantifiers ('all', 'some'), the modals ('must', 'may', 'can') etc.

B, the 'aristocracy', foregrounds the narrative capacities of language, by its open class forms—nouns, verbs, adjectives— and its potential for forming proper names—rigid designators that allow for intelligible transmission of deeds and privileges through generations.

C, the 'merchants', combine the A-based laws and the B-based narratives, the abstract principles and the concrete deeds and objects, by exchanging quantities of qualitative things, objects and services, according to equivalencies, established numerical 'values', dependent on counting and writing. Exchanges by trade articulate difference (by B) and equality (by A) symbolically represented in the form of contracts and recorded by accountancy. An 'aesthetics' of difference (B) is thereby linked to an 'ethics' of equality (A), by an 'economy' of regular exchange (C); different object categories are exchanged by equalized legal subjects, under ritual circumstances that stabilize numerical values. The three symbolic instances: laws (A), names (B), and values (C), constitute the universal urban signifiers that any culture needs in order to individualize. Writing seems necessarily involved in this process of stable symbolization (judging, naming, and counting). Urban topology and its topologically distributed writing seem to stabilize both culture and language as individualized 'formations'. Immaterial culture then springs from the individualization of texts in urban settings, whose semiotic conditions create discourses: argumentative (A), narrative (B), and descriptive (C), corresponding to the distribution of dominant signifiers in urban space. Something like reasoning, or Rationality, combining rules (A), operations (B), and objects (C) into syllogistic sets of information, unfolds as a philosophical atmosphere in this new discursive space of stationary communication.

¹⁹⁶ Isabel Marcos has worked systematically on the morphogenetic structure of urban space along these lines, and has applied the approach monographically to Lisbonne. I would like to add Marseille and Barcelone to the list of clear examples.

In a sense, philosophy is to a settled and stable urban society what religion is to the expanding and migratory community: a rule-stabilizing, transcendent voice. In the philosophical version, it speaks with three distinct tongues: in a moral (A), a historical (B), and an esthetical (C) variant.

The culturalization of our species is thus built on symbolic stabilization and yields a first version of stable mass communication by social discourse, whereby a sort of ethnic epistemology emerges: there is a local 'truth' based on religious revelations (A), heroic legendary deeds (B), and mathematical or practico-formal facts (C). Authority (speech act force) is conferred to the performative acts of everyday life through complex social hierarchies, that grow by free combinations within the closed urban-centered ethnic civilizations. Despite the fact that these social and discursive spaces are semiotically isomorphic, and convey meanings and values according to the same basic principles—authority divine (A), autochthonous (B), or logical (C)—, their cultural complexity grows with urbanization itself, and their parallel and unconnected specificities, I imagine, develops the now well-known universal ethnic idea that "we" are the The Real Humans, whereas "other people" in the world are just vague migrants, erratic rudiments, speechless or babbling pseudo-humans: the monocentric view of culture that later racisms and ideologies simply carry on.

As cultivated territories extend, these closed civilizations would sometimes meet, and have to establish common borders. This is what happens in the Mediterranean zone, where the aquatic conditions attract a particularly dense net of urban cultures. When they meet, the social categories C immediately connect across the borders. Commercial relations extend and form C-connections unfolding far beyond the local A/B/C-spaces. In the Mediterranean area, for instance, Egyptians meet Syrian and Greek traders, and their writing systems, including geometrical and numerical systems, begin to influence each other, for the evident purposes of immediate exchange: quantitative evaluation and extended accountancy. The notion of a trans-cultural truth, as opposed to local ethnic beliefs, begins to gain force. The idea that symbolization, symbolized thought, could grasp formal facts as distinct both from divine revelations and heroic legends—facts based on such phenomena as the debts of commercial partners in terms of abstract values expressed by numbers and measures referring e.g. to cattle, to precious

metals, fertile soil etc.— gives rise to a non-religious, non-socially committed, non-practical, ontological thinking—to what we would call speculative or pure philosophy, or philosophy of nature¹⁹⁷. There is now a Universe, a Nature, there are elements, substances, forms, and forms of Rationality independent of the urban centers: travelling, navigation, displacement, expulsions—when thinking becomes politically provocative—form the common background of a new objectivistic attitude, held by physicists and lovers of pure discussion, speculative inquirers into matter, reality, truth and the properties of things.

History begins: A-B accounts of collective memory concerning regimes, lineages, and religions accumulate; immaterial culture materializes in rituals and texts; theatres and libraries grow, burn, and change hands, as territories become scenarios of multi-urban states, empires, colonies, wars. But the Social Subject now knows—from C's experience—that there is a World beyond any State. Any citizen is also a potential exile, exposed to Nature, to unknown cultures and languages, circumstances that only 'pure thought' can meet. Subjectivity seems to take on a double status: it is bound to a political community, but still free to examine what it finds important. It can freely formulate and defend its version of a true narrative account of what happens in its political community. It knows that there is more than one version of any description, and that any two versions can be compared and evaluated as to comprehensiveness and coherence (these two generically conflicting criteria). Narrative historiography is both a graphic and a semantic achievement; it has a free narrator, and a bound content, the truth of which is a possible and natural concern of the extensively writing subject. Literature appears, emerges as a scandal in this context: instead of maximizing truth, a conscious intention of the graphic composer can also be to ignore it, and to let language go where it wants—namely where emotions grow: on the fields of an unauthorized imaginary domain linking personal and universal representations.

This process was probably characteristic of many centres of civilization, from China to Europe, evolving in parallel. But the contingencies

¹⁹⁷ Michel Serres 1990 takes up Modernity from this point and presents a suggestive view of the conflictive relationship on the Greek side between this newly arisen philosophical attitude and political (polis-oriented) thought.

of late Ice Age, continental shape, density of inter-ethnic contact, and written symbolization made the C-based scientific form of immaterial culture become an increasing military privilege of the Mediterranean states. The Occident became an extremely dramatic and turbulent zone, since technology (C) developed particularly fast here and, by virtue of its autonomy, separated A (spiritual Force) and B (material Wealth), instead of holding these categories together. So, a still more powerful technology was alternately appropriated and used by A against B, and by B against A. Henceforth, A and B develop separately, and sometimes oppose each other violently. There is a constant crisis, a constant conflict, unfolded in the recent relations of substantial power (B) and formal authority (A). This drama is characteristic of the last 2.000 years, a tiny slice of our existence that overshadows all epochs as being our immediate time horizon: cultural history.

3. Avatars of Religious Doctrine.

The category A went through at least three conspicuous transformations of primordial sacrificial polytheisms—recorded by what eventually became three parallel religions¹⁹⁸: Judaism, Islam, and Christianity.

1) First, the invention¹⁹⁹ of monotheism created an epistemic condition of decidability concerning the meaning and deontic value of human acts. What we do can then take on a decidable meaning transcending subjective opinions. Believing in one ultimate deity and ‘one truth’ about narratives—one global, non-specialized principle of supervision, narration, evaluation — thus means that there can be both personal, collective and even universal guilt: we can share the condition of being seen from outside and above, and intensely feel this to be happening, when we commit dubious collective deeds. This may be part of what makes crime attractive per se in apparently

¹⁹⁸ I assume that religion is universally related to A by a natural cognitive function linking practices of abstract, formal thought and symbolization to practices of ritual intoxication and induced ecstasy (intoxicants have been found in Cromagnon cave cultures).

¹⁹⁹ Monotheism goes back to Zoroaster (Zarathustra), who introduced the principle of a Doomsday after the end of a universal war between good and evil forces, to judge the souls according to which side they were on. This notion of the End of Time is probably the structural origin of theological monisms. The ONE is the future surviving war lord – in this agonistic perspective opposing TWO.

all societies. Monotheism allows for generalized collective, even constitutive guilt. Guilt (the feeling that you owe your life to some narrator who could and perhaps should have let you die for what you have done) grounds the idea of a covenant passed between the collective subject and the narrator of the history of this subject. Guilt is an ambiguous feeling, a depressant, but also a stimulant, an excitant: the moral pain felt after having committed awful acts motivates disciplinary or sacrificial initiatives of expiation, and its collectively shared version motivates rites of sacrificial ecstasy, moments of shared awe, high excitement, strengthening the experience of communitarian, extrapersonal, supernatural intentionality—the elementary 'spirit'—that formal regulations refer to. Monotheism integrated sacrificial practices of 'sacredness' into a unified ritual spiritualism.

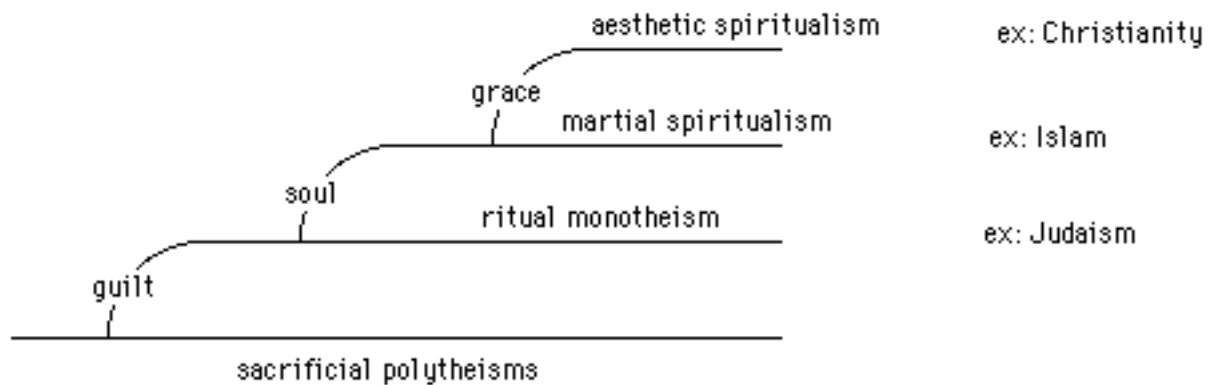
2) Second, monotheism invented the idea that individual persons universally have immortal souls. The source of this notion is most probably the natural feeling of extreme anxiety and excitement provoked by mortal danger and actual dying in inter-human fight; it is then a fact of the warrior's phenomenology. There is a sense of shared sacredness in warfare, supported by the ecstasy of killing and dying young—not by illness or a work accident, e. g. when hunting, but in a state of anger, hatred, fury, utter excitement at the sight of great scale destruction, slaughter, participation in the cosmic drama of good and evil, and sharing the feeling of the presence of a divinity fighting side by side with you. The idea of an immortal soul may be an emergent feature of the phenomenology of dying or almost dying under such circumstances, while attention, proprioception, and reactive arousals of all kinds are active, and give the subject access to the painfully delightful feeling of being intensely alive, of being something which cannot die, only leave the body. Shedding blood by 'holy' wars becomes a properly spiritual intoxicant, much stronger than sacrificing single persons and goods, because it implies self-sacrifice; a militant, martial spiritualism—organized blood thirst (holy excitement obtained by an ecstatic contact with death, 'thirst' for others' and even the subject's own blood, as in suicidal martyrism)—expresses a significant second step of monotheism.

3) Third, spiritualism invented the special idea of divine grace, of a divine, regenerating, inspiring, influencing force, as a distinct ecstatic resource—naturally based, I think, on experiences of intoxication, toxic

hallucination, psychotic voice-hearing, possession, ritual hypnosis, manic euphoria and other liminal mental states, but also on eroticism and the experience of beauty in sexuality. This phenomenon, by which the religious subject feels a sort of momentary communication going on between a universal deity and the subject's self, leads to an immense aesthetic unfolding of the practices of holiness. The divinity speaks to one's 'soul' and fills it with light and harmonious sounds, even when one is not dying: acts of devotion (ritual gestures, chants, dances, exposition of imagery), individually or collectively performed, can provoke these intimate divine manifestations, experienced as forms of beauty gratifying the subject. Adornment, abundance, glittering luxury, sumptuous displays of wealth—including art—are the signs of sacredness by grace. Enjoying material luxury is experiencing discreet shades of holy ecstasy. The non-ritual everyday practices hitherto kept out of religious scope can now be interpreted in this respect; any goal-directed behavior is holy devotion, if its purpose is achieving abundance, hence beauty, hence grace. It is possible to interpret the enjoyment of economic fortune as a divine blessing, even if it is achieved by rather cynical means. The invention of divine grace changes cultural life forms deeply—by making the formerly developed, likewise aesthetically based²⁰⁰ metal exchange system called money the expression of divine grace—and makes this aesthetic spiritualism far more thoroughly intervening than the ritual or martial universalisms. The global industrialization of the last centuries is its consequence. Industrial architecture from Modernism to Postmodernism—Chicago, Manhattan, Frankfurt etc.—is a striking expression of its phrasing of authority in terms of spatially vertical ecstasy (an aesthetic of the tower: divine grace experienced as vertigo, exploiting archaic intuitions of height as an excitant and so as an access to supernatural regions of being).

²⁰⁰ Gold, silver, copper etc. are 'precious' (beautiful) metals used for adornment of religious imagery. These shining, light-evoking metals are then coined into material symbols of pledges and mortgages (thereby protected by divine authority) and quantified correspondingly. Economy becomes gradually an autonomous formal practice, but the basic metallic reference still anchors the notion of value in the divine splendor that motivates attitudes of trust, belief, faith, reliance, confidence in the future. I wonder why K. Marx never seemed to grasp this elementary religious grounding of economy.

Aesthetic spiritualism emerges from martial spiritualism, which first emerged from ritual spiritualism. These three modern forms of grounding supernaturally the formal authority of category A coexist, if also with some difficulty and uneasiness (since what is at stake is the very consistency of social life). Fig. 2:



4. Styles of Power.

Universally, formal and moral authority seems built on collective excitation, intoxication, ecstasy—experiences of shared possession. What we have considered is only a recent urbanization of it, running in parallel to the philosophy-and-science oriented form of thought (category C) and to its immediate opposition, the genealogical, individualized and sometimes charismatic, temporal power (category B).

Let us briefly consider substantial authority, or power, the category B, as it develops in parallel to this development of formal authority. Aristocracy, nobility, is based on warfare, excellence in physical fighting and the exertion of organized violence; it offers armed protection of a society and defends its own status by a symbolic display of arms and deeds. Recognition, fame, pride, honor, and similar notions are its motives. Its contributions to political civilization are mainly inspired by military models: hierarchical and what we would now call authoritarian styles of social behavior. Conspiracy, strategy, and secrecy are its normal forms of communication and action. Political history from Ancient despotism and tyranny through monarchy and empire to absolutism, defeated lately by post-romantic democracy, has been significantly influenced or shaped by aristocratic unfolding of power along such lines. After absolutism, its style and ways of conceiving excellence are

continued histrionically by extremisms of different kinds, including various forms of banditism, and the terrorist versions of fanaticism or fundamentalism that AB-alliances give rise to. It may be predominantly present in the ostentacious and provocative forms of 20th century industrial culture, political styles and life styles (snobbism, elitism, lobbyism). Its major achievement was no doubt the Western colonization of the continents, mainly due to the technology of powder. Its contemporary forms are mostly fictional or anecdotal: movie and media stars, royal persons, famous plutocrats or artists. The cultural and political fascination of the category has never decreased, however. Revered by the masses and by subversive 'intellectuals', its style embodies a myth of personalized sovereignty that people can want to achieve. Such aspirations can nourish chauvinisms, nationalisms, ethnic passions etc.

There has only been stable political systems, in the bi-millennial period we pretend to be reviewing, when an institutional combination of violence, law, and argument (categories B, A, and C) has obtained. The simple but decisive contribution of the social category C has been and is in fact dialogue (negotiation, argumentation, debate, decision, based on previous verbal exchange, exposing intelligible sets of reasons for specific judging and treating collective matters). This democratic motive is universally found in C-practices, since it springs from bargaining. But only recently has it come to define a type of viable, fungible political system: the democratic 'nation', in which both directly violent power (B) and religious extravagancy (A) are tendentially tempered and held back by a neutral, positive factor of authority, a first rational imperative, namely administration. Industrial societies have such demanding infrastructures that the formerly implicit concerns of the community require systematic care and professionalism—transport, water, energy, health, education, information, police, coinage... The State becomes a constellation of offices, ministerial departments, administrations; and the follower of former aristocratic or clerical authority, the self-authorized, skilful ruler-administrator, the Mann ohne Eigenschaften, the institutional politician is born. Magritte's derby hat man.

5. Communication. On the Media and the Message.

The last 200 years are supposed to be particularly modern. 'We' belong here in a very direct sense, since here is where the question of our globally collective and generic being is raised, and where the sciences humaines, the human science projects, the idea of applying scientific approaches to humans as an (albeit peculiar) animal species, and the attempts to do so, originate. It begins with a development that generates a distortion of intentional phenomenology: the extended present, resulting from changes in the range and velocity of communication.

Category C becomes the decisive factor in culture, as technology attains the nerve of social practice: communication. Scientific inquiry—stimulated by the impulse that unified mechanics had given to early industrialization and to early practical philosophy (Enlightenment)—leads to teoretical and socio-practical achievements (including those of thermodynamics, and much later, of electricity), especially a new array of motor engines. Steam engines in transport and serial methods in production rapidly influence the range and content of social communication. Small written 'news-papers' can now be quickly spread over a considerably enlarged domain—a 'market' of active 'citizens', simultaneously informed of almost simultaneous urban events by prose writers specialized in transmitting such 'news'. The archaic rumor spreading, now supported by transport technology, is reborn as a Public Sphere (Öffentlichkeit), still mainly verbal, but occasionally iconic, when accompanied by engravings and, soon, by photographs. Political rhetoric, intellectual debate, scandals, moral evaluations etc. animate what becomes the Nation, the national resonance frame within which social time is felt as scanned by one and the same historical rhythm. 'Power' can no longer be a question of conflicts and alliances between status holders (B) and supernatural authorities (A), but becomes an institutional entity that has to pass a consensus test in the Public Sphere.

Semiotically, it would be accurate to say that there is now an important part of public 'interest' which is supported by verbal signs, and a second part of public concern, that covers the imaginary domain and is supported by iconic signs—either directly, as in the immense displays of artistic painting in the nineteenth century, or indirectly, as in the case of literary fiction: novels, serials, theatre etc. However, the verbal part is more thoroughly

industrialized and systematically distributed, as it strongly affects and determines what is now becoming an autonomous political life, with its own norms and habits, within a larger system of proudly self-confident, rhetorically rather noisy 'nations'. An overt political communication here contrasts a covert 'imaginary' communication—the new 'national' cultures. In this first phase of 'mass communication', a durable split is thus established between two semiotic domains—a positive here-and-now (verbal) world and a negative past-and-future (iconic) world; this split will have heavy consequences in later phases. Scientific development still informs and inspires both parts, but undergoes an increasing institutionalization that backgrounds it and makes science appear rather as a sort of generally underlying, latent, explosive volcano (a fascinating and threatening electric Frankensteinian monster, whether the research considered be physical or psychic).

In fact, electric engineering and psychological engineering, such as the Freudian electro-sexual 'psycho'-analysis, are explosive developments that mark a second phase of mass communication. They respectively transform politics and the imaginary, as the spoken word and thus the verbal contents enter into instantaneous telecommunication —telegraph, telephone, radiophony—, whereas the iconic contents do not. The electrified verbal-political communication now virtually unifies the planet, while the canvas- or paperborne iconic-cultural communication enters into an alternative network by cinematography, the irresistible technique of the moving pictures that soon outweighs all other iconic 'discourses' as a collective reference. Celluloid emotional culture thus opposes wireless verbal politics. An intense international myth production follows the former fictional culture, and modifies emotional attitudes deeply by blowing up human feelings, characters, and scenarios into objects of shared passion. Still, the film and the radio were separated sources of (relative) globalization; electric rhetoric was here-and-now-oriented, but image-less; and the cinematic medium, passing from silent to sound movie, was bound to stay abstractly mythic in content by its slow process of making and spreading. The human voice and vision were technically split into two worlds of communicated content: an actual world versus an 'eternal' fictional universe.

If the first World War was 'electric', terrible by its unspeakable misery, its generalized and commonly felt annihilation of human dignity, experiences

that were verbally reported but that did not become visual, 'spectacular' facts, and were not engraved as an imagery—, then, by contrast, the second World War was also or even predominantly 'filmic', in the sense that its instigators and protagonists were motivated by iconic manipulation stemming from the mythical celluloid world of unrealistic emotional projections—the totalitarian imagery and histrionism were strongly supported by those gigantesque and hallucinatory visions that filmic mythomania imposed on collective culture; and so were the abstract heroic notions that emerged during the débâcle all over the panic planet. Decisions, I claim, were practically inspired by fantastic cinematic imagination; mass destruction, racist horror, genocide, atomic bombing, hypertrophic scenarios had become probable doings and settings, mainly through the celluloid medium and its non-political, mythomaniac semantics.

Television did not at first change the structural fact of this semantic and semiotic split: actual events were simply reported as on the radio, and images were produced by the slow studio process known from the cinema. Icons refused to enter the electric transmission system (apart from telex-scanned images). The cold-war situation therefore remained stuck in the second phase condition, and remained culturally mythomaniac. Existentialist philosophy reflects this fact by its empty heroic attitudes.

But recent developments in the technology of communication have now profoundly affected culture as a whole by finally entering the moving icons into the wireless system: the video technique (tape recorder plus computer plus television) finally operates the long desired fusion of sound and image transmission in real time, obtaining thereby an efficient reduction of distances between telling and showing in communication, and between communicated content and experienced events. In fact, verbal rhetoric is now accompanied by a shown speaker and a shown content of speech—both supplements having the effect of reducing monologue, emphasis, conceit, pretension, verbal grandiosity in general, and of boiling down the stilted political or intellectual microphone habits to far more ordinary, realistic, dialogical small talk formats. And the unified verbo-iconic referential deicticality—the here-and-now semantics of visual and spoken information—perforates the hallucinatory impact of cinematic imagery, produces an implosion of the movie magic that had deluded the media culture during the

second phase. In the third phase thus initiated, a semantics of real time and real world phenomena is fatally imposed on the communities by telecommunication, including other equally unified electronic extensions (internet etc.) of private and public communication and informational devices: a general 'trivialization' of shared concerns, dreams, plans, representations can be observed, breaking the spell of any discourse and of any ideology, calling humans back to everyday realism and small-scale anecdotic life.

In a sense, the reunification of signs—verbal and iconic—takes the species back to the initial Cromagnon condition: language and cave painting, the realism of verbo-iconic reference, in which the icon anchors the semantics of the verbal utterance, whereas the wording of the icon anchors in return the deictic scope of imagery. Each time verbal and iconic signs are separated, in fact a rhetorical blow-up strikes the verbal signification, and a mythomaniac blow-up strikes the iconic signification; technology of communication has supported both blow-ups, but now provokes a general 'blow-down'. The semantic consequence of this last development is that the two categorical sources of authority, substantial History (mainly of warfare) and formal ideology or spiritual doctrine, B and A, implode; and that the third category, knowledge and know-how, C, which determines the semiotic realizations and all functional aspects of social life, is left with a—so-called postmodern—lack of immanent, socio-urbanistic orientation of beliefs. The vertical categories, so to speak—on one side, (B), the genealogical claims (down: land, material property), and on the other, (A), the moral claims (up: heaven, immaterial values)—give way to the horizontal category (C) whose reference is and has always been the urbanized world, this inhabited planet, and the physical universe: reality as represented by human thinking and inquiry. Nature takes over as a general referent. Our species once spread over the planet, settled down, urbanized, and spread again. Every urban culture created its own exiles and exoduses, its dissidents and fugitives. But culture is now global in the literal sense that its networks fill up the globe, and there is no escape, no more spreadings to undertake. We cannot—within an imaginable future—colonize outer space.²⁰¹ Functional C-culture is global, and human civilization can now be considered one and only one monotonous urbanization. 50.000

²⁰¹ Colonizations of the Moon and of Mars are hypothetically planned, but do not seem to represent more than sporadic greenhouse experiments.

years can be summarized as a huge process of spreading and gathering. Ethnic (B) and religious (A) passions simmer or boil over the global electric (C) fire. In this fire, there is reason, in the sense of simple epistemic rationality, but there is no acknowledged authority. Outside it, there is Nature. Will it then be possible to reinterpret the vertical categories that our communitary structures need in order to stabilize intelligibly?

This is the challenging issue that contemporary culture presents to itself, i. e. to philosophy. Is there, on one hand, a human nature from which a formal ethics can be developed? Are there, by virtue of the cognitive nature of intentionality and intersubjectivity, universally valid principles of law, such as those intuitively proposed by the Human Rights (and can we find them)? The category A should then be reconstructed as a natural legal formalism based on a careful study of human feelings (related to Responsibility, Good and Evil, Rights and Wrongs, Respect and Offense, etc.), and should be reinforced as a natural, legalistic, ethical barrier against arbitrary, more or less inspired, fanatical fancies. Is there, on the other hand, a natural way of understanding ethnicity, ethno-genealogical feelings and claims of difference as a part of human reality; is there, in particular, in our cognitive equipment, an emotional or erotic source of this feeling-different, and can it be conceived of and recognized as something that does not have to lead to radical splitting, spreading, violence, and destruction? Is there a possible aesthetics of difference or singularity that might be compatible with the universalist or humanist behaviors of our species?

These are at least some of the immediate semiotic questions for contemporary philosophy as a highly demanded study of human nature in the scope of Nature tout court.

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TOWARD A COGNITIVE SEMIOTICS

1. From structural to cognitive semiotics.

There are many ways to think of meaning and the possibility or impossibility²⁰² of studying it. One way was characterized by the Swiss philosopher Elmar Holenstein, in an interview by R. Benatti, 1992:

"The central concepts of cognitive science are all semiotic concepts (representation, symbol, information, code, program etc.) or imply semiotic concepts (computation). When cognitive scientists define themselves by proclaiming that they deal with *Physical Symbol Systems*, it is only a historical accident that one does not speak of semiotic science but of cognitive science. From a phenomenological point of view, it is a lucky accident because cognition is not exclusively logically and symbolically structured."²⁰³

Semiotic concepts include traditional cognitive concepts, but from a phenomenological point of view, human cognition should also be approached by other semiotic concepts than those concerned with logic and symbolic representations, such as the semiotic concepts of iconicity (characteristic of imagery) and of indexical forms (characteristic of dynamic schemas). Holenstein is probably the first scholar to suggest the designation Cognitive Semiotics for a preferential project in contemporary research on meaning (op. cit.). Being himself a specialist in Edmund Husserl and Roman Jakobson, he has trained and inspired younger British philosophers like Kevin Mulligan, Barry Smith, and Peter Simons, who have then based their thinking on a phenomenological realism linking cognition and semiotics. This line of thought and research has long been influential in Danish semiotics and was

²⁰² The unanalyzability of meaning is claimed by 'meaning scepticisms' or 'language scepticisms' which need not spring from general scepticism but can instead be rooted in physicalistic naturalization programs, cf. Hvidtfelt Nielsen 2003.

²⁰³ P. 143 in *Scripta Semiotica*, Vol. 1, 1992, ed. Roberto Benatti, interview pp. 133-150.

substantially consolidated during the last decade. In this article, I wish to mention yet another influential contribution to the shaping of 'semio-cognitive' thinking and analysis of meaning, namely what may be considered a Latin contribution.

In Europe and Latin America, a broad interdisciplinary school²⁰⁴ of structural semiotics, centered in Paris and Bologna, emerged in the 'structuralist' 1960s and stayed influential well into the 1990s, before eventually losing its impetus in a new academic context of deconstructionist or hermeneutic relativism and nominalism. Structural semiotics was an interdisciplinary, research-oriented, theoretical enterprise which advocated a view of cultural analysis and theory as a generalized linguistic project. It addressed the humanities in general and aimed at finding general or universal structures of meaning behind particular cultural and social but preferentially aesthetic manifestations of expression-borne contents — from texts to gesture, music, painting, architecture and so forth. The main principle was the idea that stable patterns of meaning could be found across occurrences of apparently unstable and context- and media-bound 'significations'. Meaning could thus be seen as grounded in a structurally stable semiotic 'competence', efficient across variations in 'performance'. Hence, in the predominant Parisian version²⁰⁵, the notions of stratification, generativity, transformations, and most importantly, of a surface structure superimposed upon a deep structure — all terms reflecting the vocabulary of generative grammar of the 1960s²⁰⁶ — became keystones of this semiotic theory "...à vocation scientifique" (scientifically committed). A 'deep structure' of meaning²⁰⁷ would be a constitutive instance at a grounding level, a structuration of thinking proper, or of pure imagining, bound to be expressed and manifested through a

²⁰⁴ The group of researchers gathering around professor A. J. Greimas is representative of this tendency in semiotics, cf. Parret & Ruprecht 1985 and Arrivé & Coquet 1987.

²⁰⁵ Cf. Greimas & Courtés 1979.

²⁰⁶ In this European perspective, Noam Chomsky was often regarded as an American structuralist. This view vanished rapidly when cognitive linguistics emerged in the 1980s.

²⁰⁷ Notice that this use of the generative terminology: 'deep' and 'surface' structure, 'transformations' etc., do not technically reflect their use in generative grammar. Instead they reflect the structuralist view of stratification in meaning. I tend to see this historical state of affairs as a case of fruitful misunderstanding.

process of concretizing transpositions or translations, sometimes called 'conversions'. A 'surface structure' of meaning would then represent and manifest this 'deep' #meaning, now restructured and adapted to circumstances of communication, i. e. contextualized, by the process of derivation. Surface meaning would translate deep meaning. It would contextualize the underlying, context-free thinking ('meaning-production') involved. The expressed and expression-bound meaning (the surface content) was thus seen as a translation (or transposition, transformation, or conversion) into some form of verbal discourse or some non-verbal semiotic system, of an underlying, non-discursive meaning (deep content).

Ontologically speaking, a surface structure would be pragmatic, functionally determined, whereas a deep structure would be semantic, functionally undetermined but cognitively constitutive (as ideation, thinking), and thus only determined by the universal design of the formats of 'meaning production', in other words: of cognitive conceptualization. Here is where the cognitive motif enters the picture.

Methodologically speaking, the surface structure of an utterance in some semiotic system would be immediately accessible to the semiotic subject whose inner 'cognizing' it would translate and express, or to the subjects who interpret it (including the structural analyst), whereas the deep structure would remain hidden, and only accessible through structural analysis. The 'surface meaning' would thus be phenomenologically given to the utterer and the addressee, and to everybody else around, whereas the 'deep meaning' were to be made explicit and phenomenologically overt by some special techniques of structural analysis.²⁰⁸

The central concern of this form of thinking consisted, of course, in analyzing and applying structural models. 'Formalizations' including Saussurean oppositions, Greimasean squares, graphic diagrams and sequential formulae of different kinds, were elaborated and suggested as technical models in this sense, as phenomenological prompts guiding the approach to this core object of structural semiotics: the (deep) meaning of

²⁰⁸ In communication, subjects would not even need to access the deep structures that determine their surface structures, since meaning survives the contextualizing transpositions.

(surface) meaning. How were the results of analysis verified, one may ask. The answer was not always clear, but the general epistemological style of structuralism²⁰⁹ prevailed: since the deep meaning of an occurrence is an event of thinking and must therefore be intelligible per se, once it is discovered and made explicit, it can therefore in principle be experientially grasped and compared to its surface version; and if the latter can reasonably be viewed as an avatar of the former, the analysis is considered more valid and plausible than if not. Thus, conscious experience will 'verify', validate, the analyst's hypotheses on 'non-conscious meanings'²¹⁰. Once verified in this sense, a result gives rise to predictions of similar results in occurrences otherwise related to the one in question, and if those are obtained, the validity of the first result is again strengthened.

These principles or instances of stratification and phenomenological verification by explicitation and comparison are elementary in structural research on meaning. They need no justification in a 'generative' universalism²¹¹, but deserve attention as ontological and methodological suggestions for a less restricted project studying meaning in an evolutionary perspective. They are practically common all forms of research on meaning, including historiography. And they are strikingly analogous to the general principles of cognitive semantics. Conceptual metaphor²¹², conceptual integration²¹³, conceptualization in general, including so-called 'ception' (to avoid the alternative per- / con-) in the linguistic work on closed-class

This idea might be one of the most valid 'generativist' contributions to an actual model of the process of meaning-production.

²⁰⁹ Cf. Lévi-Strauss 1958, 1973.

²¹⁰ What happens to an explicitated meaning that the analyst verifies, whereas the community of its 'surface' utterers and interpreters rejects it? The structural analyst will have to maintain its validity, and to declare its use 'unconscious' — thereby intending that its users have special reasons for not acknowledging it, not that it is in principle inaccessible to their consciousness. An epistemology must face ideology, in order to avoid relativism.

²¹¹ There are even reasons to believe that linguistic syntax is the only semiotic field where they are not relevant: one, and the most important, may be that syntax in language is to be found exclusively at the level of semiotic surface structure.

²¹² Cf. George Lakoff 1987.

²¹³ Cf. Fauconnier & Turner 2002.

meanings by L. Talmy²¹⁴, and the schematic explorations of grammar by R. Langacker²¹⁵ — these and many other concept-oriented forms of analysis and theory likewise consist in suggesting models of meaning structures that do not occur immediately to 'cognizing' or communicating subjects, but that can be modelled and thereby be made explicit and phenomenologically present to analysts, who will then be able to compare them to the immediate meanings of the analyzed occurrences, and who will then evaluate their plausibility as cognitively given meanings underlying their immediately experienceable translations. A cognitive structure of meaning is in fact a deep structure in the sense of structural semiotics.²¹⁶ But the status of 'depth', which is no longer generative in the historical sense, has to be specified.

I will show how these principles of a 'stratified phenomenology' can then help us elaborate an adequate theoretical framework for the study of cognition, culture, and communication.

2. Dynamic intermezzo.

In the 1980s, some branches of structural semiotics and semio-linguistic semantics²¹⁷ were influenced by the works of the mathematicien and philosopher René Thom²¹⁸, who had seen a relation between mathematical topology, biological forms, and semiotic (deep) structures. Thom's catastrophe topologies were interpreted as models and applied in semiotic analysis, both in terms of 'actants'²¹⁹ translating grammatical constituents and verb meanings, in terms of logical formats transcribing Greimasean 'square' models, and²²⁰ as dynamic representations of the modal-verb meanings formerly studied by Greimas and — in Californian cognitive semantics — by Talmy and

²¹⁴ Cf. Leonard Talmy 2000.

²¹⁵ Cf. Langacker 1987, 1991.

²¹⁶ The terminological problem involved is that cognitive semanticists apparently have to avoid all terminological references to generative grammar, and therefore cannot appropriately clarify their epistemological position by explicit critical work.

²¹⁷ Cf. Wildgen 1985, 1999; Petitot 1985, 1992; Brandt 1992, 1994, 1995.

²¹⁸ Cf. Thom 1972, 1990.

²¹⁹ The term stems from the French linguist Lucien Tesnière, cf. Tesnière 1965.

Sweetser, who had explored various modal and causal models of 'force dynamics', or of 'forces and barriers'. Since the Thomian inspiration originated in epistemological problems of biology, mathematics, and natural science in general, it contributed to an epistemological 'naturalization' of the semiotic framework. Meaning was already seen as 'deeper' than its manifested phenomenon; now it was more drastically separated from language and discourse, and conceived as grounded in the biological nature, i. e. the cognitive neurobiology of the human mind. Here, meaning is what happens in the naturally prestructured mind of persons when they actively or passively perceive or conceive some entity, or when they express something and 'mean' what they express (which is the case if the expressed content is after all — all transpositions — what they are thinking and intending to express, supposing that they are able to check that this is the case). #

Traditionally, and particularly before its structural turn, semiotics had always been known as a auxiliary hermeneutic discipline mainly concerned with sign models appropriate for summarizing the shifting historical interpretations of occurring signs, preferably verbal. In this new perspective, not only the — quite trivial — sign model (signifiant–signifié, or form–meaning pairings) and its philosophical problems²²¹, all referring to communication and coding, but also the host of new challenging issues related to understanding consciousness, the human mind, the psychological mechanisms of attention and perception, categorization and memory, thinking and affect, intersubjectivity and empathy, embodiment and abstraction, were to be addressed, and the new debate over these issues was to contribute to reformulating the entire field and view of semiotics, intended as a natural science of meaning and culture. Semiotics, conceived as the scientific study of the entire meaning dimension in human cognition, communication, and culture, and no longer as some discourse on discourse, or some hermeneutics of hermeneutics, consequently had to be reframed to a considerable extent.

However, it preserved an essential feature that came to distinguish it in the new disciplinary context: its specialization in the study of autonomous meaning, in the sense of conscious phenomena that are not only linked to or

²²⁰ Cf. Brandt 1992.

referring to perception, emotion, and behavior, or to neuro-physiological processes in the human brain, but also to meaning itself, to other meaningful ideas, as an autoreferential mechanism. Meaning in this sense of an autonomous domain is maintained as a mental (individual, private, or collective, shared) realm of events that establish mutual relations between themselves, that is, as internal relations between contents in the human mind. Such relations grow and form networks from entity to entity in the 'inner phenomenology' of meaning as structured by metaphor concepts, by mental spaces, by figurative and dynamic schemas, categories, and semantic domains²²²: all over the human imaginary, relations and connections of different kinds are developed, established, and reinforced — again both individually and collectively, i. e. both idiosyncratically and culturally, and their structural principles must therefore precede idiosyncrasy as well as cultural specification.

The internal connections between mental contents, connections that our minds are able to hold, elaborate, and evaluate, before letting them determine our beliefs, behaviors, acts, or affective reactions, must be organized according to general or perhaps universal, integrative and schematic principles that we are to study. These principles are still far from being identified, classified, studied, let alone well understood, but a joint venture of cognitive semantics and dynamic semiotics now begins at least to make the very task of developing this dimension of cognitive science explicit and to acknowledge its relevance. The resulting general project is presently becoming known to academia under the label²²³ of cognitive semiotics.

2. Some basic questions: How do we share meanings? What is symbolization?

²²¹ Cf. Eco 1976. This author has evolved substantially since that work was published, and is now intellectually close to the views of cognitive semiotics.

²²² My current account of this panoply is given in Brandt 2003.

²²³ A M.A. curriculum in Cognitive Semiotics has recently been established at the Center for Semiotic Research, University of Aarhus. Its general line of research is presented in the Danish anthology *Kognitiv Semiotik* (Bundgaard e.a. 2003). The preliminary title of this volume was "Dynamisk semiotik" [Dynamic Semiotics], since this was the label of the actual tendency in the 1990ies, at a moment when the introduction of dynamic modelling was its most salient feature.

Cognitive semiotics thus considers that meaning as such is its essential concern, and is prepared to interrelate semiotic relations established internally between semantic contents by purely mental connectors, and those established externally, between expressed signs, or between signs and the acts they command or the neural states they report on.²²⁴ It claims that the study of this 'semio-semantic' dimension of the cognitive project is crucial not only to an appropriate understanding of communication and culture, but also to the most elementary study of human thinking and feeling. If culture and cultural variation are natural phenomena, based on an individual capacity to create concepts, communicate them, and learn them from other individuals, then we urgently need to study the grounding phenomenon of 'shared cognition' given in intersubjective behaviors, such as cooperative work, exchange of services, goods, information, persons; and in pure dialogue. In such behaviors, individuals can indeed be said to 'share' meanings. The general explanation appears to be that intersubjectivity of meaning is based on these individuals' capacity to signify and to identify each other's mode of interrelating contents and, on the grounds of identified interrelations, at least roughly (structurally: schematically), to further identify its elements.

Signifying meaning is probably only possible because of the relational 'essence' of meaning: what needs to be shown and picked up in thought and communication is the symbolic proximity of 'related' items. Symbolization is inherently syntactic; so, we do not 'symbolize' items one by one, but by grouping, collocating, compounding things that do not otherwise 'belong together' and which must therefore be taken as symbols, precisely for this reason. In a sense, this principle of symbolic proximity is aesthetic: the functionally absurd collocation of objects within a perceptual frame is what justly activates the intentional reference to meaning. What is absurd per se can thus become meaningful par excellence.²²⁵ Only, in the eyes and ears of an observer, such collocations must be 'meant'. And what it is that is thereby 'meant', must be something pertaining to the constellation, which is already

²²⁴ Brain, Meaning, and Behavior are seen as three equally important and interrelated topics and forms of reality.

²²⁵ This is, I suspect, the surrealistic origin of semiotic behavior, inherent in all forms of humor, from archaic to modern.

like meaning, in so far as it shows relations. The syntactic proximity of symbols in such a framed 'formula' is inherently connected to the relational essence of meaning. In our species, to connect things is, inherently, to think — not necessarily in the strong sense of finding solutions to problems, but in the broader sense of trying out combinations of imaginary contents. These contents arise directly from the compounded things in a way well-known to all humans: things leave their singular mode of presence and are taken as representatives of their categories (tokens of their types) when they are perceived as co-present. Their com-position makes them generic, so the singular x becomes a genre, a generic entity X . Composition generalizes, because it triggers a search for the objects' general or categorial potentials. x thus becomes an image of the category X , and in this manouvre, it becomes an icon of X , because it is syntactically and symbolically proximal to Y .

Symbolicity drives iconicity. When our interpretation further stipulates an intended meaning of a compound XY , a minimal explicative concept of a co-permanence $X \leftrightarrow Y$ will be the idea of some force linking or opposing them — a sort of indexicality, in classical terms. Symbolicity thus also drives indexicality, through iconicity. The basic problems of how communication emerges (through symbolization) and of how cognition becomes thinking (through the inner relational unfolding of meaning) are intimately, and furthermore: dynamically, connected. Symbolicity and meaning stimulate each other and probably form an evolutionary circle of inter-development.

Language proper is not a necessary prerequisite of this 'semio-genetic' process, as it may have emerged through the evolution of our species, and probably of other hominoids. Verbal language, including a grammatical organization of meaning and an overall organization of phonetic and gestural expression, evidently constitutes an interesting case of auditive symbolization, perhaps anticipated by some forms of music; the decisive advantage of verbal language, however, is twofold: its structural contrast between word and grammar makes it possible for users to form radically better 'absurd', non-trivial, compositions, and thus to create intensely significant syntactic constellations; and the high reproducibility of its expressions multiply their saliency and significance, since it allows them to spread effortlessly over large groups of (already) communicating subjects and thus to be substantially reinforced and stabilized by an endless cultural broadcasting, creating a

drastically enhanced semiotic coherence (and a corresponding 'ethnic' excitability) in a population.

Language evolves as a semiotic medium that lends itself to an apparently unlimited amount of translations from other modes of thinking and symbolizing.

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