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Lexical and Syntactical Constructions and the Construction of Meaning

EDITED BY
Marjolijn H. Verspoor
Kee Dong Lee
Eve Sweetser

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LEXICAL AND SYNTACTICAL CONSTRUCTIONS AND THE CONSTRUCTION OF MEANING

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Volume 150

Marjolijn H. Verspoor, Kee Dong Lee and Eve Sweetser (eds.)

Lexical and Syntactical Constructions and the Construction of Meaning

LEXICAL AND SYNTACTICAL CONSTRUCTIONS AND THE CONSTRUCTION OF MEANING

PROCEEDINGS OF THE BI-ANNUAL ICLA MEETING IN ALBUQUERQUE, JULY 1995

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This volume, the first of three, contains a selected collection of thematically related papers presented at the Fourth bi-annual Cognitive Linguistics Conference held in Albuquerque, New Mexico, from July16 to 21, 1995.

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Spring 1997

Marjolijn Verspoor
Eve Sweetser
Kee Dong Lee

Introduction

The papers published here were presented at the International Cognitive Linguistics Conference, held at the University of New Mexico at Albuquerque in July 1995. 1995 might be said to mark two decades of work in some of the new directions which were mapped out in the mid-seventies, as a cognitive linguistic community began to form. It is safe to say that none of us could have foreseen, back in the seventies, how rapid the growth of that emerging community would be; far less could we have predicted the rich and varied array of scholarly work which has emanated from it. We are proud to be able to publish at least a selection from the remarkable feast of cognitive linguistics offered at the 1995 conference.

In a tradition of linguistics which does not respect traditional disciplinary boundaries - whether between linguistics and other neighboring fields, or between canonical sub-areas of linguistics, it becomes increasingly difficult to make a single classification of papers from a conference covering a broad range of topics. As editors, we have had to present these papers in a separate volume from those on discourse structure, or on psycholinguistics.

In this "grammar and lexicon" volume from the 1995 ICLC are to be found, for example, papers dealing with the focus-marking function of ASL word order (Wilbur), grammatical marking of aspects of addressee viewpoint (Floyd), and numerous analyses focusing on the cognitive aspects of viewpoint-presentation and speaker's construal. Rather than lamenting that these papers should be divided from others which deal with discourse structure and viewpoint in longer texts, or with psychological testing of semantic hypotheses, we choose to take the very difficulty of "cutting up" our field as evidence that cognitive linguistics has achieved some success in bringing together aspects of the study of language which have standardly been divided.

Work in cognitive linguistics has been characterized by attention to the ways in which language is representing not mere propositions about the world, but human experience of situations, and human perceptual and conceptual structure. The first section of this volume focuses on issues of such construal and presentation of information, including figure-ground relations, higher-level generalizations about (and relations between) image-schematic structures, and the role of syntactic constructions in informational structure.

Linguistic theories which treat grammatical constructions as meaningless are naturally unlikely to investigate the semantics and pragmatics of grammar. Freed to examine the meanings of grammatical morphemes and constructions, cognitive linguistic researchers have given us a tidal wave of new studies in this area, and in the study of grammaticalization. In sections two and three of the present volume, we find papers on cross-categorial polysemy between lexical and grammatical uses of a morpheme, on polysemy between different grammatical senses, and on the relationship between earlier lexical senses and later grammatical ones.

Issues of transitivity lie at the intersection of several areas which have recently been focal for cognitive linguistics. The study of transitivity necessarily entails exploration of the relationship between syntactic constructions which have traditionally been labelled as transitive or intransitive, and the pragmatics and semantics conveyed by such constructions. Transitivity, in this understanding of grammar, is a particularly complex and interesting area of grammatical meaning; the choice of a transitive or intransitive structure frequently involves the speaker's active construal not only of a situation's participant-role structure, but also of its causal, aspectual, and intentional structure. The final section of this volume gathers a group of studies which shed further light on questions of transitivity and argument structure.

As a whole, this collection gives new evidence of the complexity and motivation of the mapping between linguistic form and function, extends our understanding of the grammar-lexicon continuum, and offers a wealth of new directions for research on language and conceptual structure. We offer it to the community in the hope that it will stimulate yet more productive work, on topics which (we trust) will go well beyond those which can be imagined from our current cognitive vantage point. In the future, further breakdown of boundaries may bring closer together the more physical and social aspects of cognitive linguistics; work in grammatical analysis at large should, for example, continue to become more closely linked with both discourse studies and neurolinguistics. It will at any rate be a sign of success if the the editors of the 1997 ICLC papers find it even harder than we did to divide up the field into separate volumes.

We thank all those who made this volume possible, especially the participants and organizers of the 1995 ICLC, and those of the 1995 Linguistic Society of America Summer Linguistic Institute, which gave the ICLC a welcoming and stimulating setting.

Part I:

Image Schemas and Construal Relations

Some Properties and Groupings of Image Schemas

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1. Introduction

Image schemas have provided a starting point for various directions of research. Most notably they have been studied as a source domain for metaphors, in both synchronic and diachronic terms, encompassing research in both lexical and grammatical meaning. For example, several works on the polysemy of prepositions (Lakoff 1987 based on Brugman 1981; Smith 1993; Ekberg 1995, in press) cite image schemas as central to the networks of meanings they can express. Langacker (1991) discusses the connections between image schemas, our conception of canonical events, and grammatical concepts in cognitive grammar, such as the distinction between settings and participants, and the action chain model of event structure. Research invoking image schemas also extends beyond linguistic semantic analyses, and includes the study of concept formation (Mandler 1992), gesture (McNeill 1992), and entire cultural models (Quinn 1991; n.d.).

Since the publication of the first works which presented and explored the nature of image schemas (Lakoff and Johnson 1980 [implicitly], and Johnson 1987 and Lakoff 1987 [explicitly]), the research has reached a level where some conclusions can be drawn regarding: (1) properties that are shared by image schemas on the whole, and (2) ways in which image schemas function as groups. By making explicit some of the commonalities shared by image schemas, and pointing out the significance of groupings of image schemas - in our experience and in metaphorical mappings - this study may help prevent the "reinvention of the wheel" in future research on image-schematically based metaphors.

CONTAINER	BALANCE	COMPULSION
BLOCKAGE	COUNTERFORCE	RESTRAINT REMOVAL
ENABLEMENT	ATTRACTION	MASS-COUNT
PATH	LINK	CENTER-PERIPHERY
CYCLE	NEAR-FAR	SCALE
PART-WHOLE	MERGING	SPLITTING
FULL-EMPTY	MATCHING	SUPERIMPOSITION
ITERATION	CONTACT	PROCESS
SURFACE	OBJECT	COLLECTION

I will rely on Johnson's criteria for what constitutes an image schema, namely that, "An image schema is a recurring, dynamic pattern of our perceptual interac-

tions and motor programs that gives coherence and structure to our experience" (Johnson 1987: xiv). The list below shows what Johnson (1987: 126) considers to be among the more important image schemas. (They are presented in the order in which Johnson lists them, in small capital letters as has become conventional.)

Cienki (in preparation), furthermore, presents STRAIGHT as a form/pattern which fulfills the above-mentioned criteria for an image schema, and Mandler (1992) proposes different types of motion image schemas (inanimate, caused, self-, and animate motion) which may serve as the developmental bases for such concepts as "agency" and "causality".

This study will proceed by considering:

(a) Properties shared by image schemas as a whole.
   - The plus-minus parameter (the bi-polar property of image schemas).
   - Their static and dynamic nature (the fact that many can represent both a process as well as a state).
   - Superimposition (which Johnson presents as an image schema in itself; as will be shown, it is a process which applies to all image schemas in various combinations and to varying degrees).

(b) Ways in which image schemas function as groups.
   - In co-experienced gestalt groupings (groups which co-occur in our experience and in metaphorical extensions, especially in spatial and force-dynamic combinations).
   - In categories which share significant common properties (but whose image schemas are not necessarily co-experienced).

2. Shared Properties of Image Schemas

2.1. The plus-minus parameter

Krzeszowski (1993) discusses one important property shared by most, if not all, of the image schemas proposed in Johnson (1987), namely what he calls a "plus-minus" (or axiological) parameter. Accordingly, each image schema tends to be biased as to the positive and negative connotations it expresses metaphorically, based primarily on our bodily experience from which the schema is derived. (This bias should be understood as a tendency and not a rule, as reversals of evaluation are sometimes possible.) As Krzeszowski (1993: 310) expresses it, "this parameter is responsible for the dynamism of the metaphorization processes inherent in the formation of concepts based on the relevant schemata". Thus the CENTER is (often) positively valued as compared with the PERIPHERY, BALANCE is valued over imbalance, etc., in our experience as well as in the metaphors based on those experiential structures. The crucial determinant of evaluation, though, is the experiential gestalt which is being drawn on for the given metaphor's source domain.

This relates to the other oppositions characterizing the "me-first" orientation, discussed by Lakoff and Johnson (1980: 132) and Krzeszowski (1990: 140), such as up-down, front-back, and here-there. The conceptual point of reference for these orientational oppositions is the canonical person, who functions in an upright position, maintains his/her balance, looks and moves forward, exists here and in the present, etc. Krzeszowski (1993) discusses the following examples of the plus-minus parameter:

WHOLE - PART
CENTER - PERIPHERY
BALANCE versus imbalance
LINK versus no link

To this list could be added:

ENABLEMENT/RESTRAINT REMOVAL - BLOCKAGE
FULL - EMPTY
NEAR - FAR
MERGING - SPLITTING
STRAIGHT versus not straight

Note that in some cases, the image schemas themselves encompass the complementary parts of the opposition (e.g., PART-WHOLE, CENTER-PERIPHERY, FULL-EMPTY, etc.). In other cases, the image schema represents the positive parameter, while the negative parameter is realized by the opposite, in whatever form that may be (e.g., BALANCE versus imbalance, LINK versus no link, STRAIGHT versus not straight). Krzeszowski (1993) discusses yet other oppositions in which the image schema incorporates the plus-minus parameter by virtue of parts of its structure. Thus CONTAINER defines an interior and an exterior; "in" and "out" normally have opposing positive and negative values, the assignment of which is determined by the concrete instantiation of the image schema. (The experience of the body-in-a-container can be positive - when the body is being protected - or negative - when the body is being restricted.) SCALES, and sometimes PATHS, are image schemas which bear an orientation, a plus or minus directionality. With PATHS, the goal is normally positively valued; the parameter for SCALES defined according to canonical bodily orientation (up-down, front-back, right-left)[1] is well-known, with the former member of each scale most often assigned the positive value.

As is particularly clear from the latter examples, the assignment of the plus-minus bias to these schemas is not universally set. Rather, there seem to be tendencies across cultures, rather than absolute principles, to consistently assign positive and negative values to opposing image schemas. Certain contexts could also reverse these values, especially as they are extended in metaphors. So, for example, Krzeszowski identifies LINK as commonly being the positive member (think of the

experience of connectedness with other people, going back even to the connection of the umbilical cord), and no link as negative (isolation), though one can also imagine a reverse experiential basis whereby a "link" could be binding (tying one down, limiting) and the experience of "no link" could be liberating, i.e., individuation as freeing.

2.2. The static versus dynamic nature of image schemas

A property common to almost all image schemas is that they can be realized in either a static or dynamic fashion. Most can represent a state of being as well as a process, e.g., we experience the PATH image schema in a dynamic way as we are moving, going from somewhere to somewhere else, and as a static *thing*, the spatial route that we have traversed or that we can traverse. Compare Langacker's (1987: 217) discussion of how the term *trajector* is purposely ambiguous in cognitive grammar in that it can refer to static relations as well as dynamic ones. The image schema BALANCE can be experienced as a static state, a state of equilibrium (*balance* as a noun), or as something that we do, the activity of maintaining one's balance (the verb *to balance*). The distinction clearly relates to our cognitive abilities of summary versus sequential scanning (discussed in Langacker 1987); thus we can process a complex scene as a "single configuration all facets of which are conceived as coexistent and simultaneously available" or as a series of states, successively transforming one into another (Langacker 1987: 145). The same dichotomy is found in metaphorical extensions. Johnson (1987: 88) discusses how we refer to one's psychological state as balanced or imbalanced; emotions, in turn, are thought of and spoken of as forces which can change one's mental equilibrium and which sometimes need to be *actively* brought under control in a dynamic process in order to maintain one's mental "stability".

Although some image schemas are more likely to be manifested as either static (such as CONTAINER) or dynamic (e.g., COMPULSION), even these kinds of image schemas sometimes occur in our experience in the opposite manner (the normally static as dynamic, or vice versa). Thus the CONTAINER image schema, normally experienced as static, could also be construed from the continued motion of some object in a cyclical path (picture a sheepdog running around a herd of sheep, *containing* them). Conversely, the normally dynamic force of compulsion is sometimes experienced in a static fashion, namely in combination with blockage or a counterforce, as when one is pushed in a crowd from one side but is unable to move due to the people on one's opposite side.

Leyton's (1992) observations on the connections between states and processes, and in particular his discussion of inferences we draw from the *trace* of a motion, are instructive in this regard. A scratch on a surface is one example of a trace left by contact with a moving object. If we see a scratch on a surface, we can infer that the points along the scratch (the trace) were made successively in time. Leyton (1992: 79) defines a trace as "memory of movement that once took place",

with *memory* understood here in a broad sense as some physical object that an observer interprets as holding information about the past. Therefore, in mathematics as in our everyday cognition, a line can be understood as the trace of a moving point, a surface as the trace of a moving line, and a volume as the trace of a moving surface.

Many image schemas can be interpreted as representing a state of being as well as a process, and the state represented by certain image schemas can be understood as the trace of a process (e.g., PATH as the linear motion of an entity or its static trace, SURFACE as the creation of a surface by the sweep of a linear entity or as its static trace in the form of a two-dimensional substance, FULL as the process of filling a CONTAINER or as a state of being). We see the reification of a trace of a motion clearly in signed languages where reference can be made to points on an imaginary line in space indicated by a manual stroke. Compare also the back-to-front spatial time line used for indicating past, present, and future reference in American Sign Language.

This issue has been shown to have direct relevance in research on the semantics of prepositions in terms of image schemas, given that many prepositions can have both static and dynamic readings, referring to location or to motion: viz. Brugman (1981/1988) and Lakoff (1987) on *over*, Ekberg (in press) on Swedish *runt* 'around', etc. The point here is that this kind of polysemy between motional and static senses is regularly found with so many prepositions and verb particles that involve kinds of paths because it is a property of the two ways in which we can conceive of paths (i.e., through summary or sequential mental scanning). An entity in motion can leave a physical trace, describing a static path as a "memory" of its motion, but we can also conceive of motion along a path as leaving a memory trace even if it leaves behind no other physically perceptible evidence of its movement.

Finally, a discussion of the static versus dynamic nature of image schemas would not be complete without mention of the well known image schema transformation of "end point focus". Many image schemas can be realized as dynamic processes, the endpoint state of which may receive particular focus. BALANCE, as discussed above, can be understood as a process, or as a state achieved. The same applies to at least the following: MATCHING, MERGING, CONTACT, LINK, SPLITTING, BLOCKAGE, RESTRAINT REMOVAL, ITERATION, SUPERIMPOSITION, COLLECTION, and CYCLE (as the completion of a circular PATH [cf. Smith 1993]).

2.3. Superimposition and gestalt groupings of image schemas

Some general properties of image schemas have really only begun to be studied. One of these is the notion, introduced in Johnson (1987), that image schemas are often experienced together, one superimposed on the other in an experiential gestalt structure, e.g., the grouping MASS-COUNT, COLLECTION, MERG-ING, OBJECT (mass), and their relation to a NEAR-FAR perspective. In particular, there is often an

integral relation between certain image schemas based on their respective spatial and force-dynamic properties. One common gestalt includes CENTER-PERIPHERY, NEAR-FAR, SCALE, and FORCE. In our bodily experience, we are centers of force, sources of movement and action. While on one hand each of us is subjected to many external forces on a daily basis (literally and metaphorically), the individual is also a starting point of vectors of force, which can be exerted outward from the body, and which typically decrease in intensity the further out they extend (hence their scalar nature).

These groupings of image schemas co-occur frequently in our experience, and therefore analyses which concern the metaphorical extension of any individual image schema need to take into account what other image schemas commonly co-occur with it, and consider what roles they may play in the metaphorical extension. Even image schemas which seem primarily either spatial or force-dynamic in nature are frequently co-experienced with the other type, even though we are often not consciously aware of encountering them simultaneously. OBJECT or SURFACE, for example, which may seem to be simply spatial image schemas, are regularly co-experienced with force-dynamic schemas such as BLOCKAGE or RESTRAINT REMOVAL (e.g., running into a door versus pushing a door and having it open). This co-occurrence is constantly manifested in metaphorical uses (e.g., when progress is stopped because of a problem, we may say we *ran into a brick wall*). These patterns of co-occurrence of image schemas can have explanatory import for the analysis of what have been called semiotic modeling systems (Ivanov and Toporov 1965) in that they can indicate the partial grounding of such systems in our concrete experience. For example, the distinction between "self" and "other" reflected in different ways in different cultures (e.g., the concepts in Russian culture of *svoi* and *chuzhoi*) incorporates important aspects of the CENTER-PERIPHERY gestalt discussed above.

Other examples of gestalt groupings of image schemas include:

- CYCLE, PATH, PROCESS, ITERATION, and FORCE (ENABLE-MENT?)

A CYCLE can be understood as a PATH that returns to its point of origin, representing a PROCESS which can be repeated (ITERATION) and continued by virtue of the FORCE of momentum. Johnson (1987: 121) notes that CYCLE is one of our most basic patterns for understanding temporality and a huge range of event sequences (based, of course, on our metaphoric understanding of time as motion along a path).

- BALANCE, CONTACT, SURFACE, COUNTERFORCE

Johnson (1987: 74-98) discusses the metaphorical extensions of the BALANCE gestalt in the realms of psychology, argumentation, legality, and morality. Metaphorical expressions about rational argumentation (*piling up evidence*) reflect a

presumption of CONTACT with a metaphorical SURFACE; given two arguments, you can *tip the scale* in favor of one argument or the other, invoking the notion of COUNTERFORCE.

- CONTAINER, FULL-EMPTY, CENTER-PERIPHERY

The CONTAINER image schema is integrally tied to force-dynamic relations by virtue of the container's role in holding its contents, and in protecting the contents from exterior forces. Deane (1993) discusses how these integrated relations are reflected in metaphorical extensions of the CONTAINER image schema. Johnson (1987: 125) notes that "[w]e almost always superimpose a CONTAINER schema on our CENTER-PERIPHERY orientation," but where we draw the bounding container in a vaguely defined periphery is influenced by many subjective and variable factors.

The connection between spatial and the force-dynamic image schemas is especially apparent in metaphors expressed in spontaneous gesture and in signed languages, as they are more visibly dynamic means of expression than speech is. McNeill (1992), for example, shows how spontaneous gestures that accompany speech can metaphorically express the speaker's image of the discourse as a physical object or space with a certain structure. Processes and changes of state, often expressed metaphorically in speech as motion from one location to another, may similarly be encoded through gesture as motion from one place to another. Wilcox (1993) provides numerous examples of the role of spatial and force-dynamic elements in American Sign Language metaphors relating to thought (e.g. the iconic way in which metaphors such as IDEAS ARE OBJECTS TO BE GRASPED/ PLACED/ SELECTED are expressed in space and time).

Image schemas, then, share the property that they usually do not occur in an isolated fashion in our experience, but rather are experienced grouped as gestalts or wholes. But image schemas *differ* as to how they group when they co-occur. Furthermore, the superimposition of image schemas in experiential gestalts is not merely a process of composition, given the nature of a gestalt structure that it has properties not simply derivable from its parts. Clearly much research remains to be done on both the physical and the psychological nature of image schemas.

3. Categories of Image Schemas

There is at least one other significant way in which we can speak of groups of image schemas. One could get the impression from Johnson's (1987: 126) oft-cited list of 27 common image schemas that they are equally different from each other. However, his partial list is not meant to be a classification of image schemas. Surely the difference between two image schemas such as CONTAINER and FULL-EMPTY is not the same as the difference between, for example, FULL-EMPTY and PATH.

3.1. Image schemas of "force"

One hint of the significance of image schema groupings comes from Johnson's (1987: 42-48) listing of the different types of force image schemas, implicitly describing their subordinate position in a broader category of *force*. The list includes: COMPULSION, BLOCKAGE, COUNTERFORCE, RESTRAINT REMOVAL, ENABLEMENT, ATTRACTION. He notes that a more complete list would include others such as IMPACT, CONTINUOUS STEADY FORCE, INTERMITTENT FORCE, DIMINISHING FORCE. Johnson does not classify *force* itself as one image schema, but shows that most forces share a set of characteristics in a family resemblance way. Thus, according to Johnson (1987: 42-44), forces

- are always experienced through interaction;
- have a vector quality, a directionality;
- typically follow a single path of motion;
- have sources, and agents can direct them to targets;
- have degrees of intensity;
- are one way in which we understand causal sequences.

This description of forces abstracts away from a range of force experiences. Force image schemas, therefore, can be described as comprising a complex, more abstract category, in which the above-mentioned features combine in a gestalt fashion.

3.2. Image schemas versus "schemas"

Quinn (1991, n.d.) also argues that there are groups of image schemas that share significant properties, not only according to their structure, but also according to how they are extended in metaphors. Quinn claims that many of the 27 image schemas mentioned by Johnson could be grouped into four categories, which she calls "schemas". She uses "schema" to mean "a conceptual abstraction from some range of experiences; the schema captures a pattern or regularity in these experiences, said to instantiate it" (Quinn, n.d.). Quinn found that in her study of narratives on American marriage, countless metaphors used by interviewees in discussing their marriages represented different instantiations of these four schemas. The schemas she identifies, which will be distinguished here with curly brackets, are {ENTITY}, {TRAJECTORY}, {RELATION}, and {CONTAINER}.

The {RELATION} schema, for example, was found to encompass the image schemas LINK, CONTACT, MERGING, SPLITTING, and NEAR-FAR. Interview data revealed the marital relation in US American culture as one in which two people are securely joined together (LINK, CONTACT). However, this is not always the case, as the two people can be "close" or "distant", depending on the status of the relation-

ship (NEAR-FAR). The relationship can change, such that the two people may "grow out of touch with each other" (SPLITTING).

The other schemas, the image schemas they encompass, and some of the metaphorical expressions which exemplify them (from Quinn 1991, n.d.) are as follows:

{ENTITY}: PART-WHOLE, CENTER-PERIPHERY
maybe two-thirds of a happy marriage is better than none
they had a basic solid foundation in their marriage

{TRAJECTORY}: CYCLE, ITERATION, SCALE, PATH
that was really a turning point in our marriage
we're not at a dead end at this juncture in our marriage

{CONTAINER}: FULL-EMPTY
there's more that goes on in a marriage
there were no new expectations or anticipations of what marriage would hold

Rather than discussing the metaphors as extensions of different image schemas, Quinn treats the metaphors as instantiations of these more abstract schemas for at least two reasons.

1. She feels they provide a meaningful level of description. Relations can be realized in many ways, including ways beyond those that have been described image-schematically so far. The source domain for a {RELATION} metaphor, for example, may itself be a socially constructed domain, and therefore not have a clear image-schematic basis.
2. As data from Quinn's interviews shows, people readily make comparisons and transformations between different metaphorical instantiations of any given schema. For example, they use metaphors based on different image schemas to talk about different stages of their relationship - coming together (MERGING), being together (CONTACT or LINK), and separating (SPLITTING) - all of which represent different instantiations of the schema {RELATION}.

However, several issues need to be addressed before accepting these arguments *in toto*. One is that Quinn appears to have a somewhat different understanding of image schemas than do Johnson and Lakoff. Quinn (1991: 69) claims that "Lakoff and Johnson intend image schemas to have unique imageable realizations," whereas Johnson (1987: 25) does not even claim that they are tied to any one perceptual modality. Quinn also grants image schemas a status of greater significance than Johnson's (1987: xiv) original characterization of them allows. She argues (1991: 69) that without the schemas she advocates, many more image schemas would need to be introduced (such as JOINT ACTION versus ISOLATED DYAD) in

order to account for the variety of metaphors used to describe marital relations, resulting in an unnecessary proliferation of image schemas. But there are two solutions to this problem. One is that neither Johnson nor Lakoff claim that *all* metaphors require a source domain that is image-schematically based. The other is that Johnson's criteria for what constitutes an image schema are sufficiently restrictive (as discussed in Section 1 above) so as to prevent the proliferation of image schemas according to what might be convenient for any given analysis.

Finally, it is not clear what the distinction would be between the schema {CONTAINER} and the image schema CONTAINER, or between the schema {ENTITY} and the image schema OBJECT. It seems more likely that some image schemas are more subject to superimposition than others - that even within the parameters of what can constitute an image schema, some are more abstract than others. Johnson (1987: 121-124) notes that in several ways, the SCALE image schema is a specified version of the PATH image schema. Given that CYCLE and ITERATION can also be understood as different instantiations of PATH, a separate abstracted schema of {TRAJECTORY} begins to seem redundant. At least four of the image schemas which are supposed to be subsumed under the {RELATION} schema (MERGING, CONTACT, LINK, and SPLITTING) are ones which concern either a process or its end state. If we understand PROCESS as a more general image schema which can be construed as an action per se or as the resulting end-point state (as discussed in Section 2.2), it represents a cover term for these more specific image schemas. We can therefore adapt and develop Quinn's schematic groupings to propose the following classification of image schemas.

more general	more specific
PROCESS	MATCHING, MERGING, CONTACT, LINK, SPLITTING
PATH	STRAIGHT, SCALE, ITERATION, CYCLE
OBJECT	PART-WHOLE, CENTER-PERIPHERY, SURFACE, MASS-COUNT, COLLECTION
CONTAINER	FULL-EMPTY, SURFACE, CENTER-PERIPHERY
[force]	ATTRACTION, ENABLEMENT, COMPULSION, COUNTERFORCE, BLOCKAGE, RESTRAINT REMOVAL

Note how these groupings of image schemas, according to horizontal rows above, differ from the gestalt groupings of co-experienced image schemas discussed in Section 2.3. The image schemas in any of the present groupings are not necessarily experienced together (witness some of the mutually incompatible types of PROCESSES mentioned above). These groupings are also not immune to interrelation. As mentioned in Section 2.2., some image schemas primarily relating to an

OBJECT can also be realized as a PROCESS (e.g., PATH, CONTAINER), and vice versa to some degree (e.g. LINK). SURFACE is proposed as a common element of both the OBJECT and CONTAINER groupings. SUPERIMPOSITION, as noted in Section 2.3., plays a role across and within the above groupings in the gestalt structuring of image schemas in experiential wholes.

Quinn's conclusion, then, can be preserved and interpreted in the following terms: different construals of a target domain may be reflected in various general (more abstract) metaphors, and these general metaphors may receive various, more specific mappings. The proposal here is that the more general level metaphors will more likely draw on the more abstract image schemas for their source domain, such as OBJECT, CONTAINER, PROCESS, and PATH, rather than on separate "schemas" as described above. More specific metaphorical mappings will more likely employ the more specific image schemas in their source domains. This is consonant with the basic duality that has been found in event structure metaphors (Lakoff 1993). Many events can be conceptualized metaphorically either in an object version (whereby A CHANGE OF STATE IS THE ACQUISITION OR LOSS OF AN OBJECT, e.g., *I got a new job*) or in a location version (such that A CHANGE OF STATE IS A CHANGE OF LOCATION, e.g., *I fell into a great job*). In the object version, the source domain is structured to a greater degree around the image schema OBJECT (and relations to it such as acquisition, possession, control over), and in the location version to a greater degree around PATH (and the notions of movement, physical force, impediments to motion, etc.). In the case of Quinn's data on American marriage, we could say that "higher" level metaphors are MARRIAGE IS AN OBJECT, MARRIAGE IS A CONTAINER, MARRIAGE IS A PROCESS, and MARRIAGE IS A PATH. Each of these is also mapped in more specific ways on "lower" levels. Thus, the metaphor MARRIAGE IS A PROCESS is realized in more specific mappings such as MARRIAGE IS MERGING, MARRIAGE IS A LINK, MARRIAGE IS CONTACT, and DIVORCE IS SPLITTING.

4. Conclusion

In conclusion, each of the points mentioned above deserves further analysis, but they are offered here together as a kind of "check-list" of properties that one might want to consider if one plans to employ image schemas as a basis for semantic analysis. We can conclude that points which future studies of image-schematically based metaphors need to take into consideration are the status of the particular image schemas being studied in relation to other image schemas, the relations between image schemas in larger groupings, and *how* those groupings are then manifested in metaphors.

Endnotes

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1. Lakoff and Johnson (1980), Johnson (1987), and Lakoff (1987) imply that at least the former two directional orientations have image-schematic status, and Krzeszowski (1993), Ekberg (1995), and others in fact discuss up-down and front-back as image schemas. For more on the complication of assigning evaluation to the left-right axis, see van Leeuwen-Turnovcová (1990) and Cienki (In preparation).

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Construal Transformations: Internal and External Viewpoints in Interpreting Containment

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The concept of natural image-schema transformations has been well known since *Women, Fire, and Dangerous Things* (Lakoff 1987: esp. 440-4); yet our inventory of natural image-schema transformations is still far from complete. This paper will seek to expand that inventory by introducing a new and different type, called *construal transformations*, which pertain to a largely neglected area of linguistic semantics: the role of individual "subjective" variations within the bounds of "objective" description.

The first half of the paper will introduce the construal transformations in a general way, focusing on their grounding in practical experience. Some of this discussion will strike many readers as belaboring obvious points, but I hope that there is virtue in making some trivial points explicit, since I am concerned to avoid what I take to be common misconceptions about image schemas as static "objects".

Then the second half of the paper will illustrate the operation of construal transformations in one simple situation, the interpretation of *through*-phrases such as the one in sentence (1).

(1) Lucy ran through the house.

Focusing on the interplay between construal transformations and the objective representation of a scene, the discussion is intended to give a rough indication of the active role that imagination plays in normal semantic interpretation. I hope it succeeds in spurring readers to see a wide range of further applications.

1. Image Schemas, Viewpoints and Transformations

To establish an intuitive frame of reference for the discussion, imagine a "house" - not any particular house, just a generic house. Clearly, your idealized image is going to differ from mine in many respects, but I suspect all of our images will have some things in common.

1.1. Viewpoints

First, the fact that you are imagining a house entails that you are imagining it from a viewpoint. You may imagine your house from a vantage above it, or from the

street in front, or from the threshold of the front door, or from inside; but you have to assume *some* vantage (and orientation, presumably upright).

This point is clearly acknowledged by scholars such as Langacker (e.g. 1987: 123) and Talmy (1983: 255-6), and it may seem too obvious to mention, but much work in semantics demonstrates that it is easy to forget. We are not normally conscious of ourselves as conceptualizers with a vantage, because our construal is usually "maximally subjective" (Langacker 1990).

1.2. Canonical viewpoints

A second reasonable assumption about your image of a generic house is that the viewpoint is not entirely random. Your canonical perspective is probably cognitively efficient, in the sense that it reveals as much useful information about the house's appearance as you are likely to need - at least as the starting point for a more specific interpretation. That means that certain views of the house will tend to be privileged.

For example, I would guess that you did not imagine your house from directly overhead. That vantage would not be very useful in recognizing a house, because it would only show the roof and a two-dimensional shape that is probably not very distinctive. Besides, unless you are a helicopter pilot you probably don't have much experience looking at houses from directly above. For similar reasons, the optimal typical view would not be from underneath the house, or from most other possible perspectives.

All other things being equal (which of course they never are in real life), the optimal view of a generic house will show its front, which is the most distinctive and important external side in normal daily experience. Ideally, though, it will also reveal as much of the rest of the house as possible. My personal image tends to have a kind of idealized God's-eye vantage above and angled to the side, including the front, one side, and part of the roof.

Whatever angle you choose for your vantage, you will presumably imagine the house from an optimal distance, which means that the house appears as large as possible within its relevant context. You won't be so far away that your house is only a small dot in the conceptual field, and you will probably imagine a whole object rather than, say, a close-up of the front door.

Finally, I have been assuming that your initial, canonical viewpoint of a house, independent of any contextual priming to the contrary, was from the outside rather than the inside. All other things being equal, an external vantage would be privileged as the canonical starting point because we experience some houses only from the outside but presumably none solely from the inside, and also because the house can be better imagined as a whole object from an external viewpoint.[1] Still, we have at least as much experience perceiving houses from the inside, and the differences between an internal viewpoint and an external one will play a prominent role in the following discussion.

1.3. Transforming image schemas

My last prediction about your image of a house is that you are uncomfortable with the way I have been talking about it so far. Your image does not seem nearly as stable and clear and picture-like as I have been implying, and it does not seem to be the same on each occasion. It is not a constant thing that can be held and described like a photograph.

I think this reaction reflects the basic way that image schemas work in semantic practice; namely, they are only highly abstract starting points for further interpretation. Image schemas are ephemeral mental processes which are altered immediately and incessantly, so quickly that we can't really catch them or freeze them and inspect them. When we do try to introspect on them, as I have been asking you to do, we are capturing an image that has already been transformed to fit a context. Our closest conscious approximation of the starting image schema comes from imagining a maximally abstract context that does not exist in real life. In real life, a schematic image has no sooner begun to be formed than we are already transforming it to fit a rich set of contextual factors, both linguistic and pragmatic.

Again, as was the case with the role of viewpoint in image schemas, this notion is not new. Geeraerts (1993: esp. 260-262), for example, suggests a similarly dynamic conception of "the shifting nature of meaning":

> If we abandon the vestiges of objectivism in our methodological self-conception, the presupposition that there is a unique meaning itself can be rejected. Rather than a single unique meaning, there would only be the interpretations that we impose on the material and our interpretative activities need not yield a unique result. ... Could it not be the case that we choose that meaning as prototypical that gives us the best starting-point for interpreting the various applications in which we encounter that item?

In a sense, the purpose of this paper is to take a very modest step toward investigating what Geeraerts calls "the ultimately non-objectivist, perspective-bound, hermeneutically interpretative nature of linguistic semantics" in terms of image-schema transformations.

2. Vantage-Shifting Transformations

Specifically, one of the most pervasive kinds of image-schema transformation is to shift away from the canonical viewpoint as soon as we begin to form an interpreted image. Even if my canonical, starting vantage point for a house is angled up and to the side, I will easily and immediately imagine the "same" house from whatever other vantage points are useful to fit the needs of a particular interpretation. In other words, I will constantly carry out construal transformations.

The most typical construal transformations correspond to the experience of moving to perceive objects from a different vantage. For example, as we walk around a house, the way it appears to us is constantly changing, even though the house itself does not change, "objectively", in any way. Its relations to other objects in the environment - apart from ourselves - do not change either. All that changes is our relationship to the house.

Thus construal transformations can be contrasted with "objective transformations", which do alter the objective scene being described. Objective transformations correspond to the naturally occurring experiences of manipulating an object, e.g. moving it, rotating it, bending it, adding parts to it, wrapping it, breaking off parts of it or removing layers, etc. Such operations are generally expressed in language by syntactic modifiers that direct us to perform an objective transformation on their head (e.g., "my neighbor's old, broken down, two-story, white house").

This paper, though, will be concerned solely with construal transformations, and especially with the two basic kinds of vantage-shifting transformation - *proximity transformations* and *perspective transformations*.[2]

2.1. Proximity transformations

Proximity transformations correspond to the experience of moving to perceive the house from closer up or from relatively far away. They affect the detail resolution or grain of an image and the size of central objects relative to the rest of the conceptual field, and they determine which objects (and parts of objects) will be peripheral in the scene and which will fall outside the conceptual field altogether.

2.1.1. Bounded shapes and object-setting congruence

Assume that we start from what Talmy (1983: 255) calls "a steady-state long-range perspective point with synoptic scope of attention" on a scene including a house. If we then move closer to focus on the house, there is a critical point at which its visible surface begins to fill our visual field completely; its limits converge with the limits of our awareness. At that point - call it the point of *object-setting congruence* - the house ceases to appear as a whole shaped object within a larger setting, contrasted with other parts of the spatial world such as trees, grass, sidewalks and other houses. It *is* now the setting, the contextual space within which we discern more detailed parts, such as doors and windows. If we move closer still, even its characteristic surface parts may disappear from view. If the close-up is extreme enough - say, close enough to touch one of its walls - there may not be enough information remaining in the image to allow recognition of the house as a "house".

Generally speaking, there is a constant interplay between proximity and the appearance of bounded shapes in a scene. For example, an extreme close-up can reveal a multiplex set of individually defined "grains of sand" filling the entire conceptual field. If we pull back, the grains eventually blur into an unbounded mass of

"sand" with no visible shapes (the well-known multiplex-mass alternation). If we continue to pull back, we eventually pass a point of object-setting congruence and a new bounded shape appears in the scene, namely the contrast between the sand and surrounding elements such as water and grass, revealing a "beach" (or a "pile of sand").

2.2. Perspective transformations

Perspective transformations correspond to the experience of walking around an object to inspect it from various angles. For example, I am performing a perspective transformation if I conceptually move from my God's-eye vantage on the house to a perspective from the street in front, or from the back yard, or from the side, or from directly overhead.

2.2.1. Three-dimensionality

Perspective transformations are a primary source of three-dimensional imagery. If we look at a stationary object from a fixed, single perspective we do not get a true three-dimensional image, at best only a $2^1/_2$-D perception of shape with depth cues. Really three-dimensional perception of the object requires lateral or vertical motion by the perceiver, either walking around it to view it from another angle, or reaching out to touch more than one point on its surface. Similarly in conceptual imagery, awareness of three-dimensionality depends on perspective transformations.

2.3. "Subjective" meaning: shared space, nonvisual space

If we maintain a single static canonical viewpoint on a house, without any vantage-shifting transformations, we get the impression that the house is in a separate plane, detached from the space we are in. Even if something is going on in the house scene - say, a woman named Lucy getting out of a car and running toward the front door - we normally watch the event as if we were watching a movie screen. As long as Lucy's motion does not happen to be aimed directly at our vantage, it cannot affect us in any substantial (kinetic) way. We do not feel as though she could ever really touch us.

As soon as we begin to move, though, the transformation breaks down that conceptual detachment. Rather than looking at one two-dimensional space from a vantage in another, we begin to share a three-dimensional space with the objective scene. Its participants become more like actors on a stage than figures on a screen. We can begin to get the "feeling" that Lucy is moving either toward us or away from us, that we are potentially involved in the scene and could interact with it. Moving closer adds the feeling that we could touch the objects in the scene or smell them.

In other words, a mobile conceptualizer becomes aware of several kinds of "subjective" meaning that are not available to a static canonical viewpoint. And

that means becoming more aware of the nonvisual aspects of a scene. Vantage-shifting transformations add a sense of potential touch, of kinetic force, of maneuver space and all the nonvisual spatial images that Deane (1993) has emphasized.[3]

2.4. Internal-viewpoint transformations

An interesting special case arises with an object, such as a house, which can be construed as a container - namely the possibility of shifting to a vantage inside it.[4] Such an *internal-viewpoint transformation* is essentially a natural vantage-shifting transformation like any other. Because it also involves conceptually crossing the boundaries of a container, however, it has peculiarities of its own. In effect, it is a proximity transformation which radically transforms the perspective.

2.4.1. The discrete nature of the transformation

With a typical container such as a house, the shift from an external viewpoint to an internal one is an abrupt, radical change in construal. Shifts from one external viewpoint to another are gradual, and apart from the point of object-setting congruence it is difficult to locate any point on the vantage continua at which a discrete change in construal occurs; but conceptual entry into an object alters its appearance suddenly and completely.

2.4.2. Eliminating external bounds

From a canonical external viewpoint, a house is a bounded whole "object" in the full sense of the word, with a characteristic shape defined as distinct from a larger outside context (lawn, sky, street, neighboring houses, etc.). From an internal viewpoint, the house is none of those things.

As we have seen, moving closer to a house's external surface can push its shape-defining bounds to the periphery and eventually off of the mental screen altogether, breaking down our image of the house as a whole object. If we keep going and pass all the way through the object's surface, we take that tendency to a new level. Now we lose sight of the object's external surface altogether. The most we can see in a single view is a portion of its inner walls. We have not only lost any clear image of the house's overall shape (that went when we crossed the point of object-setting congruence); we have lost any sense of its location relative to the outside world.

2.4.3. Internal bounds as limits of conception

In fact, adopting an internal viewpoint on a closed container means that the world outside ceases to be a part of the conception at all; it becomes irrelevant even to the construal relationship. From inside, the house's walls form the limits of our immediate environment and define the scope of our conceptual awareness. We do not see beyond them, so everything outside them is simply not there in the scene.

2.4.4. Rotating-construal transformations

Since we can only see (or touch) a portion of the container's inner walls at a time, the only way we can become vaguely aware of the house's whole circumference is to move in a full circle ourselves. Imagine standing in the middle of a room and inspecting it by rotating. The corresponding conceptual operation is a *rotating-construal transformation*, which is a special kind of perspective transformation peculiar to an internal vantage and particularly associated with *around*.

2.4.5. Definition by internal structure

Although an internal vantage does not allow us to recognize a house in terms of its shape and surface appearance, it is still possible to recognize a "house" from an exclusively internal viewpoint. We can do it by recognizing a characteristic internal structure - the spatial arrangement and appearance of its individual rooms, doors and hallways, and of the furniture and other objects contained in them. (This point would become particularly significant if we extended our discussion to second-order objects.)

2.4.6. Feeling enclosed

With respect to their semantic effects, internal-viewpoint transformations are in a way the ultimate vantage-shifting transformations. They break down the image of a shaped whole object located relative to other, separate objects in space, and replace that "objective", visual construal with a more "subjective" awareness of shared three-dimensional space that includes the interpreter's other, nonvisual senses as well - especially a sense of feeling surrounded, with restricted movement.

Think of a phrase like "in the water". From an external vantage we are aware of the water's external bounds to some extent, at least its top surface and usually the shape of that surface (a "body of water" like a pool or a lake). But all those bounds disappear when we adopt an internal viewpoint with our eyes under water. Now we no longer have a sense of the water as an "objective" space with clear visual limits. It has become an unbounded mass coinciding with the whole space of our conceptual awareness, and the internal vantage encourages a vaguer subjective sense of being surrounded, restricted, touched by the water on the surface of our skins - none of which would be possible from a completely external viewpoint.

2.5. Unrestricted operation

Our choice of vantage points can be influenced in a variety of ways. Deictic expressions such as "over there", for example, may specify or presume a viewpoint. A canonical viewpoint is often implicitly specified as part of the canonical image-schematic starting point defining an expression; examples include defined shapes ("triangle") or images oriented for verticality ("above") or expressions linked to multiplex-mass contrasts ("a herd of cattle"). There are also obvious practical constraints on construal - a relationship such as containment tends to elicit a view-

point that makes the interior of the container conceptually accessible. Perhaps most importantly, textual factors play a crucial role in guiding the conceptualizer to a particular vantage in the process of building a coherent scene.

But once an objective scene has been initially established, we are conceptually free to roam. Construal transformations do not change the scene "objectively" in any way, which is what Talmy (1983: 255) is referring to when he says that the geometric imaging system is "largely independent of the perspectival indications". Every object under description remains exactly the "same", as do its relationships to other objects in the scene. All that changes is our construal relationship, and we are not part of the objective scene.[5] As a result, there are no general conventional constraints on using construal transformations. Once a scene has been objectively established, we can alter our construal any way we find useful to form a coherent overall image. (Think of the vantage shifting involved in interpreting a sentence such as "We look like a bunch of idiots sitting here".)[6]

Put another way, construal transformations are normally a purely "prag-matic" aspect of language - which no doubt explains why they are ignored in linguistic discussions. Nevertheless, construal transformations play an important role in some clearly "linguistic" phenomena. The rest of this paper will illustrate how a viewpoint freely chosen to interpret one expression (e.g. "house") can influence objectively variant readings of a syntactically related expression (e.g. "through").

3. Tracing Polysemy to Internal-Viewpoint Transformations

3.1. Polysemy of through-*phrases*

As an illustration of the complex interaction between construal transformations and the objective scene, consider the various legitimate ways to interpret the event described in sentence (1).

(1) Lucy ran through the house.

3.1.1. Out-in-out path

The simplest option is to adopt a fairly stable external vantage similar to my canonical God's-eye view of the house, and imagine Lucy entering the front door and disappearing from view for a while, then reappearing as she emerges out of the back door. In this interpretation, the house is like a black box that hides Lucy from view while it contains her. We may shift our perspective somewhat during the path, first toward the front in order to get a better view of her entry, and then toward the rear to gain a better view of her exit and final location; but while she is in the house she is hidden from us.

A black-box image of containment is not normally sufficient, though. If we want to keep our eye on Lucy during the whole course of her path, one obvious

way is to follow her inside, conceptually speaking. We could imagine her outside from an external vantage, then shift to an internal viewpoint to watch her go through the interior of the house, then pop back out to an external perspective to see her final location outside again.

3.1.2. Interior paths and internal viewpoints

In a third construal option, we could interpret sentence (1) from an exclusively internal viewpoint on the house for the whole duration of Lucy's path. Now our view of Lucy begins with her appearance inside the house and ends with her disappearance at the limits of our field of vision, i.e. at the back door. Although we may vaguely realize that Lucy begins and ends her path outside the house, we cannot clearly visualize those positions from a purely internal viewpoint. The world "outside" the house is simply not relevant to our conception.

This last construal leads naturally to a reading of sentence (1) which is objectively distinct from the out-in-out interpretations. We do not have to presume that Lucy began and ended her path outside the house; the sentence can just as well mean that she was inside the house the whole time.

The interesting point here is that an exclusively internal viewpoint on the house automatically channels the interpretation into the exclusively interior-path reading for the *through* path; from inside the house, a beginning or end point outside is beyond the scope of the scene anyway. And what's more, the interior-path variant of the *through* phrase is inconsistent with an external viewpoint on a closed container. If you imagine a house from a normal vantage outside, any exclusively interior path which may be going on inside simply is not relevant in your conception.

In effect then, a freely occurring internal-viewpoint transformation on its landmark (LM) has contributed to an objectively distinct variant reading of the path schema for *through*. Even though the construal transformation applies directly only to the LM and does not change it in any objective way, it indirectly motivates polysemy in the prepositional phrase. *Through* is simply vague as to the location of its path's endpoints, but our construal of the LM imposes a more detailed interpretation. The polysemy is not exactly "located" in either the preposition or the LM, but it arises from their syntactic combination under a particular pragmatic construal of the LM.

3.1.3. Subjective effects

The semantic details of *through*'s interior-path variants reflect the relatively reduced status of the path's beginning and end points, and the correspondingly increased salience of its continuous interior portion. An out-in-out path has beginning and end points defined relative to the LM's external bounds, namely as publicly observable locations "outside" the LM, and the result is a perfective conception with three distinct stages (out, in, out). From an internal viewpoint, though, the beginning and end locations of the path are not so precisely defined. Their only

inherent specification is roughly "the locations at which the trajector (TR) appears and disappears from view". If the end points of the path are to be read with more than this purely subjective spatial definition, then the locations must be specified in terms of the LM's internal structure - e.g. as "from the front door to the back door". Normally though, the end points remain vague and the focus is on the nature of the TR's motion through the LM "medium" (Talmy 1983: 238, Hawkins 1984: 94-101), which is a space with the subjective semantic properties associated with internal viewpoints.

The purest case is an internally homogeneous mass (or a multiplex construed as such a mass), which does not have distinctly construed internal components. Since an internal viewpoint on a homogeneous mass reveals no visually distinct separate locations, the semantic focus is naturally on the continual interaction between the TR and the LM. The imperfective interpretation typically highlights the subjective feelings of texture, temperature, and especially restricted movement and vision in the medium. Not surprisingly, the type is common with LMs that make progress continually difficult.

(2) Lucy felt her way tentatively through the darkness.

(3) Lucy hacked her way through the jungle.

(4) Lucy worked her way through the room.

A LM such as a house contains a heterogeneous collection of distinct objects or parts, including structurally inherent rooms and hallways and doors, a variety of pieces of furniture, inhabitants, etc. A path through such a space, e.g. Lucy's path in sentence (1), is naturally defined as a continuous progression from one such visible component to another, for example from a door through a hallway past another door and disappearing at another door. In effect the notion of a connected sequence of locations replaces the more continuous image of a homogeneous resisting medium. Thus a sentence like (4) could have either kind of interior-path reading - a connect-the-dots path from one contained object, e.g. a person, to another, or a steady progression through a resisting medium such as people crowded together into a mass.[7]

3.1.4. Covering

Another important interior-path variant illustrating the importance of construal transformations is the exhaustive "covering" of a LM's interior, illustrated in sentences (5) and (6).

(5) Lucy looked all through the house for her red hat.

(6) There are pieces of clothing scattered all through Lucy's house.

Such variants are unique in that they require an interior-path reading. Search verbs like *look for*, multiplex-distribution verbs like *scatter*, and - most interestingly and generally - the quantifier *all* cannot occur with out-in-out paths. These variants deserve a much more extensive treatment than this paper allows, especially given the parallel variants with other prepositions (most notably *over*). For present purposes, though, it will suffice to say that they specify a viewpoint that does not include the world outside the LM as part of the relevant setting, and they invite an exhaustive connect-the-dots reading that includes a whole set of contained objects or locations. Any adequate treatment of covering will have to account for the role of internal viewpoints.

3.1.5. Verb particles

When a LM is truly gapped (and not a specific recoverable deleted object), it can scarcely be a clearly bounded closed object construed from an external viewpoint. It makes sense, then, that a sentence such as (7) is naturally read with an internal viewpoint on whatever space is pragmatically given as the setting.

(7) Lucy ran through.

3.2. Polysemy of around *phrases*

Sentence (8) reflects a similar polysemy with *around*-phrases.

(8) Lucy ran around the house wearing combat boots.

(9) Lucy ran around wearing combat boots.

One reading describes a path on the outside of the house; it requires an external viewpoint that reveals the outer boundaries of the house. The other reading describes a path which takes place entirely within the house, paraphrasable as "Lucy ran around wearing combat boots *in* the house". Again, the interior-path reading of *around* is fully compatible with an internal viewpoint, in fact it naturally suggests a rotating-construal transformation - but it is inconsistent with an external viewpoint on a closed LM. Also as with *through*, a verb particle use such as sentence (9) invites an internal viewpoint on a vague given space.

4. Opened Containers and Weakly Internal Viewpoints

4.1. Open-sided containers and conceptual-access transformations

Up to now we have made the simplifying assumption that the house's interior is closed to view from an external vantage; but that does not have to be the case, either perceptually or conceptually. To begin with, containers may have openings such as windows or doors, and even whole sides may be transparent (e.g. wire cages or elevators with glass walls). The most common case of all is the set of open-top containers, which includes anything from boxing rings to pots and pans (without lids) to topological regions such as yards or cities (construed to have some vertical depth above their base surfaces).

In conception there is also the "Superman" option for seeing the inside of a container from the outside. By using a kind of conceptual x-ray vision, we can imagine the house in sentence (1) with a transparent (or removed) side even if it does not "actually" have one. In other words, we can conceptually open a container purely for construal purposes, allowing us to see inside without shifting to a truly internal vantage. This is yet another kind of construal transformation, which can be called a *conceptual-access transformation*.[8]

4.2. Weakly internal viewpoints

Open-sided containers thus provide us with the possibility, from an appropriate viewpoint, of seeing both the interior of the container and its enclosing shape in a single coherent image. It turns out, though, that the distinction between external and internal viewpoints remains in effect in a slightly altered form, as illustrated by *through* phrases like these.

(10) Lucy walked through the garden admiring the daisies.

(11) Lucy traveled through France in a red Yugo.

Sentences such as (10) and (11) can have either of the two usual readings - out-in-out or interior-path. In the out-in-out reading of (11), Lucy could be going through France on her way from Germany to Spain. That reading requires a vantage point far enough away to reveal the borders separating France from the other two countries, and focusing attention on those borders naturally reduces awareness of France's internal structure to some extent.[9] In the interior-path reading, France would be the sole location of Lucy's tour. She could be traveling through various parts of the country, with no part of the tour crossing its borders, and the world outside those borders would be irrelevant to the scene. In this interpretation we have moved conceptually closer to focus on France's interior, and we recognize the country by its internal structure - its characteristic landmarks, cities, houses,

language, customs, etc. In other words, we have an interpretation with all the main characteristics of an internal viewpoint, even though our vantage is still hovering somewhere above France. This vantage can be called a *weakly internal viewpoint.*

In effect, then, the transition from a (weakly) external viewpoint to a weakly internal viewpoint occurs at the point of object-setting congruence. As we move toward the open side of a container, its bounding shape eventually disappears at the periphery of our conceptual field and there is nothing left in the scene but the interior of the container. We can continue to move closer, but there is no other significant point on the proximity continuum at which we are suddenly "in" the container so that our conception of it changes radically. There is only a completely gradual change of perspective all the way to its base surface.[10]

5. Further Topics

This paper has provided only a cursory introduction to construal transformations, one that has omitted a whole range of important applications of the concept. In particular it needs to be noted that everything has pertained solely to static spatial descriptions. Even when we were discussing paths with *through* and *around*, the construal transformations themselves applied only to the stable LM (the house), not to the paths themselves.

The next obvious step, and the one that looks most promising, would be to extend the discussion to second-order LMs that have an inherent sequential (temporal) dimension as well as the spatial ones, making poor Lucy go through things like obstacle courses, divorces, life, and boring linguistics articles. At that point we could apply the concept of construal transformations to topics such as scanning (both sequential and summary), subjective motion (the path equivalent of an internal viewpoint), the aspectual mapping that defines the internal structure of a sequence, the relation of viewpoint to perfectivity, and the role of construal in locating events in time as well as in space.[11]

For now, though, we can conclude this much: construal transformations are important phenomena that pervade semantic interpretation, that are the primary sources of subjective interpretation, and that can trigger objectively variant readings in several kinds of construction. Like all image-schema transformations, they deserve much more attention than they have received so far.

Endnotes

1. I expect that visual imagery generally is privileged for similar reasons. Incidentally, some concepts will constrain the canonical viewpoint much more than "house" does. A concept such as a "triangle", for example, will require a canonical side view that maximally reveals its characteristic shape. I have argued elsewhere (Dewell 1994) that the central image schema for

"over" specifies an oriented canonical side view that reveals a characteristic arced shape. See the discussion below (2.5) on the unrestricted operation of construal transformations.

2. Vantage-shifting transformations are contrasted with visual-motion transformations, which include scanning operations and conceptual-access transformations. Scanning operations play no direct role in the phenomena discussed in this paper, although they would become crucial if we extended the discussion to construing path schemas as such. Conceptual-access transformations are introduced in Section 4.1 below.
3. See Dewell (1994) for a more detailed discussion of the semantic effects of shifting away from the canonical vantage point associated with *over*.
4. Shifting from an internal viewpoint to an external one is of course also possible, though not as pragmatically important given the tendency for canonical viewpoints to be external.
5. Terminology involving "subjective" and "objective" can become confusing. Construal transformations are obviously intimately related to "subjectification" in the sense that the conceptualizer may become part of the objective scene (Langacker 1990), but the phenomena are in principle distinct. During a construal transformation the conceptualizer maintains what Langacker calls "maximal subjectivity" throughout.
6. It is easy to see why construal transformations need to operate freely.
   (1) They are essential to our normal conception of object constancy. We have learned that a particular house is exactly the same house whether we view it from near or far, from the front or the side or above or behind, and even when it is hidden from our view. (It is also the "same" house when it has been repainted or remodeled, but not exactly the same. There are limits on the objective transformations - at some point the object stops being recognizably the same house and starts being something new, like a grocery store or a pile of wood.)
   (2) Construal transformations are also essential to communication, which depends on the principle that you and I can talk about the "same" house no matter what particular vantage point we happen to perceive it from. Construal transformations insure the objectivity necessary for intersubjective communication.
7. There is also a "plowing" variant of *through* in which part of the TR is above the top surface of a LM such as grass or shallow water or snow lying on the ground.

   (i) Lucy ran relentlessly through the soft snow.

   Through is natural in such paths, since this kind of TR-LM relation is normally described in terms of containment (compare "standing in a foot of water" or "long-stem roses in a vase"); so sentence (i) is essentially like (2)-(4). The construal relation is more complicated, however, since there is not a pure internal viewpoint; the conceptualizer's visual vantage point is above the external surface of the LM. (Compare the image associated with open-sided containers, discussed below.) On the other hand, there can be a simultaneous, purely internal nonvisual image of the LM as a restricting medium - we can imagine the feel of the snow on the lower portion of the body even though our eyes are above it. The situation with such hybrid viewpoints becomes even more complex in sentence (ii).

   (ii) Lucy sawed through the board with some difficulty.

   A saw cutting through wood combines two potential *through* paths: an interior one, like running through snow, in which the saw plows horizontally across the surface at a relatively constant depth, and one in which the saw moves vertically from top surface to bottom (probably out-in-out).
8. Conceptual-access transformations (CAT) are basically different from vantage-shifting transformations in that the conceptualizer does not necessarily alter either proximity or perspec-

tive; his or her vision is in effect sent out like a metaphorical probe. Thus conceptual-access transformations can be classed together with visual-scanning transformations into a category of *visual-motion transformations* (an association that makes it difficult to resist referring to them as "CAT-scans").

Conceptual-access transformations are not peculiar to containers. We can also imagine things which are "behind" or "under" occluding surfaces. "There is a car behind curtain number three" is naturally interpreted by imagining the closed curtain as given and then hypothetically opening it to expose the car - but remembering that the curtain is not "really" open. (A perspective transformation is of course also an option, conceptually moving to a vantage behind the curtain.)

9. The sense of an internal LM structure cannot disappear entirely, however, or else *across* would be appropriate and not *through*; the containment implicit in the *through* image requires that the LM's interior be construed at least as a "medium" with some depth. I doubt that purely two-dimensional enclosure ever counts as "containment"; even a phrase like "in a circle" tends to mean either a component part of the shape or an internal viewpoint suggesting nonvisual three-dimensional subjective images, rather than a simple geometric location within the perimeter. Purely two-dimensional spatial inclusion would be specially marked as "inside the circle" or "within its boundaries". And if there is a concrete surface rather than an abstract geometric plane, then *on* is called for rather than *in*. (Compare "on the field", which requires a bounded region like a football field, with "in the field", which is an unbounded medium inviting an internal viewpoint and a feeling of being surrounded.)
10. Although there may be conceptual closure of the open side roughly delimiting the extent of the container's interior, no clear line can be drawn. Normally, being in an open-topped container means being supported by its base ("standing in the bathtub", "flowers in a vase"); but that is not a necessary condition. Bees can swarm "in a garden" as long as they are not above its trees and bushes.

    When the LM is a transparent medium, as in (iii), the reading can be either strongly or weakly internal.

    (iii) Lucy ran joyfully through the wind and the rain.

    In the strongly internal interpretation, we imagine sharing the LM space with the TR - with all the subjective feelings that implies. A weakly internal viewpoint, on the other hand, might correspond to a vantage inside of a house looking at the scene through a window.
11. As a rough approximation, second-order objects have an internal script-like structure that actually defines them, as well as external bounds that "contain" them in a purely temporal context. If Lucy is in the audience, sentence (iv) invites an internal-viewpoint construal similar to that of (4), from the start through the intermediate stages to the finish (and nothing outside those temporal bounds is relevant).

    (iv) Lucy slept through the performance.

    If she is home in bed, however, the performance tends to remain "closed" to us and we assume an external perspective focusing on its purely temporal bounds. (Note that a phrase such as "her brother's dreadful performance" invites a conceptual-access transformation that "opens" the interior of the performance to view from an external perspective.)

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The Role of Figure, Ground, and Coercion in Aspectual Interpretation

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1. Introduction

In this paper I provide an analysis of aspectual interpretation in certain English and Japanese non-finite subordinate clause structures, and to achieve this end, I bring together two distinct threads of cognitive-linguistic research, which, despite their natural complementarity, have apparently not been previously combined. One of the theoretical notions to be employed was offered by Talmy (1978), who demonstrated that main and subordinate clauses are generally interpreted as *Figure* and *Ground* respectively. Though originally applied to finite subordinate clauses, I show that this concept, to which I give the name *Figure-Ground alignment*, works equally well with non-finite subordinates, or *converbs*, to use a recent term developed by Haspelmath and König (1995). For instance, I claim that the contrast in (1) stems from two facts: (a) due to the aspectual profiles of the events described, the *come across* clause is a Figure, while the *walk* clause is a Ground; and (b) the Figure must be aligned with the main clause, while the Ground may only be realized by the participial converb.

(1) a. Walking along the street, I came across a strange group of musicians.
b. #Coming across a strange group of musicians, I walked along the street.

The second theoretical concept which I borrow has been called *coercion* by Croft (1994) and *shift* by Talmy (1988); when the default meaning of an expression does not quite suit the semantic requirements imposed by the grammatical construction in which it occurs, that expression may sometimes "shift" its meaning slightly in the face of the "coercive" force exerted on it by the grammatical environment. The two leading ideas which I adopt from the cognitive linguistics literature may be seen to converge, if one observes that the cognitive strategy of coercion is often called into play to satisfy the exigencies of grammatically constrained Figure-Ground alignment. For instance, *think* describes an ongoing activity when it functions as Ground in the converb of (2a), but as the Figure in the main clause in (2b), it shifts to a reading depicting the inception of thought:

(2) a. Thinking about Bill, she offered a prayer.
b. Offering a prayer, she thought about Bill.

Having argued for the necessity of such fundamentally cognitive notions as Figure-Ground alignment and coercion, I conclude that the grammar and interpretation of converbs can be properly described only within a cognitive-linguistic framework.

2. Theoretical Preliminaries

Before beginning the empirical discussion, I introduce the two principal theoretical notions underlying this study. After explaining how the Figure-Ground dichotomy applies to temporal interpretation, I show how coercion affects the conceptualization of events.

2.1. Figure-Ground alignment

The Figure-Ground dichotomy was pioneered in Gestalt psychology for describing patterns in spatial organization. Since the seminal work of Talmy (1978), cognitive linguists have adopted this distinction as a fundamental principle of linguistic organization. Langacker (1987: 120) characterizes Figure and Ground in terms of degree of prominence in perception:

> Impressionistically, the Figure within a scene is a substructure perceived as "standing out" from the remainder (the Ground) and accorded special prominence as the pivotal entity around which the scene is organized and for which it provides a setting.

Langacker (1987: 120) describes one natural manifestation of the Figure-Ground distinction which is of particular interest here: "A relatively compact region that contrasts sharply with its surroundings shows a strong tendency to be selected as the Figure." The key notion underlying Langacker's comment is that of *inclusion*: the Figure must be properly contained in, and therefore smaller than, the Ground.

Though the notions of Figure and Ground originated from the study of human perception of two- and three-dimensional images, they can also be applied to the construal of events which are characterized in a one-dimensional temporal axis. There are certain general properties that allow one to distinguish the Figure from the attendant Ground, one of the most important of which is *boundedness*. The Figure tends to constitute a closure with a boundary, and the more manifestly closed it is, the more its prominence as a Figure is enhanced. For instance, in a two-dimensional image, a likely Figure might be an area of limited dimensions whose perceptible outline is a closed curve. As for the one-dimensional temporal axis, the boundedness property may be realized by a point or by a linear extent which has both an inception and an endpoint. A lack of boundedness tends to favor

Groundhood, so in the temporal axis, indefinite extents are perceived as Ground-like. With the foregoing criterion in mind, Wallace identifies prototypical manifestations of Figure and Ground in terms of a traditional aspectual classification of events as they are denoted by natural-language predicates.

> In terms of Figure and Ground, the principles of the Gestalt psychologists would predict that the bounded punctiliar perfective is more Figure-like and the unbounded, linear imperfective more Ground-like. The greater salience of the perfective Figure in discourse as opposed to the lesser salience of the imperfective Ground naturally follows from the perceptual principles involved. (Wallace 1982: 215)

Given the bounded character of the Figure with respect to the Ground, it is not surprising that one of the principal manifestations of the Figure-Ground relation involves proper inclusion. This is also true of events in the temporal axis. An event which denotes a punctual, or point-like, action or a bounded activity with definite endpoints is included or enveloped easily by an event with unbounded temporal extent.

Having considered some characteristics of Figure and Ground, we shall now go on to discuss how the Figure-Ground distinction among aspectual categories is correlated with syntactic relations among clauses. Talmy shows that this inclusion relation is clearly involved in the contrasts among complex sentences in (3) and (4):

(3) a. He dreamt while he slept.
    b. *He slept through-a-period-containing his dreaming.

(4) a. He had two affairs while he was married.
    b. *He was married through-a-period-containing two affairs of his. (Talmy 1978: 636-637)

Note that dreaming usually occurs during one's sleep, so the former should be temporally included in, and may therefore serve as Figure for, the latter. Furthermore, in the *while*-clauses in (3) and (4), it is only when the narrowly bounded, Figure-like expression falls in the main clause that the resulting complex sentence is acceptable. Thus, we can say that the subordinate clause functions as Ground, and the main clause as Figure. From a slightly different perspective, one could say that the English lexicon provides no subordinating conjunction whose semantics supports the opposite alignment of Figure and Ground. In other words, the importance of the Figure-Ground distinction is also reflected on the level of the alignment of events in complex sentences. This correlation between the Figure-Ground distinction and syntactic encoding can be extracted as general principles, one of which might take the form in (5):

(5) *Figure-Ground Alignment Principle*
A larger, temporally-containing event acts as Ground (in the subordinate clause) with respect to a contained event as Figure (in the main clause). (Talmy 1978: 640)

This notion originates in the work of Talmy (1978), where the utility of alignment principle (5) is clearly established. Similar observations arise in a variety of other studies, such as those of Hopper (1979), Dry (1983), Thompson (1983), Reinhart (1984), and so on. In this study, I hope to enhance Talmy's seminal analysis by making it sensitive to the flexibility with which predicates are construed; this is crucial, because the supple adaptability of lexical interpretation is regularly put to work, so as to bring a given utterance into compliance with the alignment principle in (5) (Hayase 1993). It is to this matter that I will turn next.

2.2. Coercion

In addition to Figure-Ground alignment, another notion crucial for this discussion is that of coercion. This is an interpretational strategy arising from the inherent flexibility of conceptualization; a linguistic expression placed in a grammatical context with which its default meaning is incompatible is forced to take on a slightly altered interpretation to suit the exigencies of its present environment. The term "coercion", adopted by Croft (1994), clearly assumes a descriptive metaphor of antagonism between lexical interpretation and grammatical forms. This term seems to take on the point of view of the grammatical form, which exerts an overwhelming force on the conceptualization of expressions. In contrast, Talmy (1988), discussing the same notion, seems to adopt the perspective of the lexical expression, describing *shifts*, i.e., the changes in conceptualization that an expression undergoes to accommodate the antagonistic force exerted on it by its grammatical environment. I will use both of these terms, as two sides of the same coin.

For Croft (1994: 9), coercion is "a semantic operation that alters verbal ... semantic class, i.e., the default verb aspect". Consider (6):

(6) a. Max is dying. (cf., Max died.) (Croft 1994:6-8)
b. And then I suddenly knew! (cf., I knew the answer.)
c. The light is flashing. (cf., The light flashed.)

Here the present progressive tense and the adverb *suddenly* "coerce" the verbs *die*, *know*, and *flash* to take altered interpretations. Switching points of view, we may note that these expressions undergo three different "shifts" in construal. In (6a), *dying*, which usually denotes a punctual event in its simple past tense form, refers to "an end of life due to the more-or-less gradual failure of the body's natural functions" (Vlach 1981: 589-90). Let us call this type of change in construal *perspective shift*. This term relies on an obvious visual metaphor; if one's perspec-

tive is sufficiently far-removed from an object, it will appear to be a point, while a perspective close up to the same object may make it appear to have broader, possibly indefinite extent. In (6a), the progressive tense forces a perspective shift to close-up magnification. Example (6b) illustrates what I shall call *profile shift*, since the aspectual profile of the verb is altered. The generally stative verb *know* is incompatible with the adverb *suddenly*, so the verb takes on the inchoative interpretation "enter into the mental state of knowing." In (6c) the semantics of *flash* undergoes what shall be called *plexity shift*, whereby the verb assumes an iterative interpretation. "Plexity" refers to the quality of being either *uniplex*, i.e., consisting of one unified event, or *multiplex*, i.e., articulated into multiple, equivalent events. Iterative events are naturally multiplex. There are surely other forms that coercion may take, but the foregoing three examples will hopefully give a satisfactory illustration of the phenomenon and how it comes into play to allow complex sentences to satisfy the alignment principle in (5).

Significantly, the sort of coercion seen in (6) affects the identification of Figure and Ground. Consequently, this interpretive strategy will be an important tool in facilitating the proper alignment of Figure and Ground with syntactic structure, as stipulated in the Figure-Ground alignment principle. In what follows I would like further to motivate this principle and the related interpretive strategy of coercion by extending it to new data concerning some problems found in English participials and Japanese clauses with the subordinate conjunctions *-nagara* and *-te*.

3. English Converbs: Free Adjunct Participials

Let us begin the empirical investigation with an examination of English participial converbs. According to Haspelmath and König (1995), converbs are derived from verbs and carry out functions of adverbial linking or conjoining between clauses. In such constructions, only the main clause carries absolute tense, and the tense indicated by the converb clause is always relative, with regard to the former. One characteristic of this construction is that the logical connection between the participial and the corresponding main clause is not overtly specified. The basic meaning in all converb systems is simultaneity or anteriority. A simultaneous converb can be paraphrased as 'while VERB-ing;' an anterior one may be rendered as 'having VERB-ed;' Since my characterization of the Figure-Ground alignment principle in (5) is for the simultaneous reading, in the following discussion of this section I shall focus exclusively on this reading for the sake of simplicity.

The question to be considered is, given two temporally overlapping events, how can their descriptions be aligned with the participial converb and the main clause? Note that there is often only one way that this alignment can be realized, as exemplified in (7)-(9):

(7) a. Walking along the street, I came across a strange group of musicians.

b. #Coming across a strange group of musicians, I walked along the street.

(8) a. Attending the lecture on linguistics, I fell asleep.
b. #Falling asleep, I attended the lecture on Linguistics.

(9) a. Studying abroad for one year, I fell in love with my wife.
b. #Falling in love with my present wife, I studied abroad for one year.

Intuitively, these contrasts stem from aspectual properties of the predicates employed.[1] *Come across*, *fall asleep*, and *fall in love* describe events that are narrowly bounded, or even punctual, compared with the corresponding predicates *walk*, *attend*, and *study*. As mentioned above, boundedness is a Figure-like property. Furthermore, Figures tend to be properly included by their Grounds, so the narrowly bounded events are easy to subsume and consequently more Figure-like. Thus, the *come-across* type predicates in (7)-(9) are plausibly associated with the Figure, while *walk* etc. correspond to the Ground. Notice that it is only when the narrowly bounded, Figure-like expression falls in the main clause that the resulting complex sentence is acceptable. This is consistent with the predictions of the Figure-Ground alignment principle in (5). Hence, (5) correctly handles the examples in (7)-(9).

Having seen some motivation for applying the alignment principle in (5) to participial converbs, one might expect that for any pair of clauses, one clause is destined to be the main clause while the other can only be realized as the participial converb. In accord with this view, one might assume that the proper alignment could be determined simply by comparing the aspectual classes of the predicates that occur in the two clauses. However, such a simplistic view is doomed to failure in the face of data like (10) and (11), where either possible alignment is felicitous:

(10) a. Thinking about Bill, she offered a prayer.
b. Offering a prayer, she thought about Bill. [= (2)]

(11) a. Singing an aria, her costume ripped open.
b. Her costume ripping open, she sang an aria.

Consider the implication of these data in conjunction with the Figure-Ground alignment principle. If (10a) is acceptable, then the event described by the thinking converb must be a Ground, i.e., it must temporally include the offering event described by the main clause. Conversely, the acceptability of (10b) suggests the opposite Figure-Ground alignment, whence it would follow that the offering event temporally includes the thinking event. Now, if the thinking event is the same in both cases, and if the offering events are also identical, then the felicity of both (10a) and (10b) yields a contradiction, due to the asymmetry of the proper inclu-

sion relation. Thus, the analysis embodied in the alignment principle in (5) leads to a subtle prediction: for both forms in (10) to be acceptable, there must be some difference in meaning between the (a) and (b) forms. Indeed, a careful consideration of the sentences reveals this to be so; whereas the thinking clause in (10a) describes an ongoing activity, that in (10b) describes the inception of the thinking process. Similar observations hold with regard to (11). The ripping event described in (11a) is easily interpreted as being more or less sudden, while that in (11b) must be gradual.

These examples suggest that the factors determining Figure-Ground alignment are attributable not to a particular class of verbs per se, but rather to the *construal* of the events described. I claim, and will endeavor to demonstrate in the following subsections, that the Figure-Ground alignment principle gives rise to coercion in the foregoing cases, inducing various shifts that cause the sort of semantic divergences illustrated above between the (a) and (b) examples.

3.1. Perspective shift

Talmy (1988) proposes *perspective shift* to model the flexibility with which one construes the temporal scale of events. He argues that we can ideally adopt a long-range perspective (i.e., reduction) in some cases, and a close-up perspective (i.e., magnification) in others, to construe the same event. Adopting an alternative perspectival distance can change an event's conceived degree of extension, as exemplified in (12):

(12) a. The cows all died in a month. (Talmy 1988:184)
b. When the cows all died, we sold our farm.
c. The cows kept dying and dying (until they were all gone.)

In (12a), the event of the cows' death is perceived as bounded, while in (12b) the same event is construed as point-like. This implies that (12b) takes a long-range perspective, so that the temporal extent of the event is reduced until it is idealized as a point on the temporal axis. In (12c), however, one zooms in to an extreme close-up perspective that magnifies a portion of the event but at the same time causes its temporal boundaries to recede into the periphery until they are invisible.[2]

This type of cognitive operation clearly manifests itself in the interpretational possibilities for participials like the following:

(13) a. Driving in the race, he died.
b. Dying (of a lingering illness), he drove in the race .

The main verb of (13a) displays the usual punctual aspectual interpretation for *die*. However, the converb *dying* in (13b) is coerced toward magnification, as was

observed with the progressive tense example in (6a). Zooming in on the internal structure of the dying process, rather than taking a prototypical, distant point of view which treats death as a punctual event, one may construe the duration of the dying event as quite lengthy, so driving in a road race fits easily within its temporal boundaries. Since the driving event may now be properly included within the dying event, the former may be construed as the Figure and the latter as the Ground. Thus, by means of coercion in terms perspective shift, the relation between Figure and Ground is reversed successfully: the sentence in (13b) satisfies the alignment principle in (5), despite the fact that the *drive* clause is main and the *die* clause is realized as a participial. Similar observations hold in the following:

(14) a. Singing an aria, her costume ripped open.
b. Her costume ripping open, she sang an aria.

(15) a. Driving down the highway, the bolt came undone.
b. The bolt coming undone, he drove down the highway.

In (14b), the process of *ripping open* is focused in detail, and in (15b) the bolt is gradually coming undone as the driving proceeds.

In this way, perspective shift is seen to be a ubiquitous tool for fitting the construal of events with grammatical structure in order to satisfy the Figure-Ground alignment principle. Observations like those above suggest strongly that the theory of Figure-Ground alignment is incomplete without the addition of the notion of coercion: Figure-Ground alignment plays the role of a meta-principle determining how the simultaneous reading is spelled out in grammatical constructions, and the interpretation of participials is adjusted by means of coercion in a manner that brings it into conformity with the principle. The proof of the convergence of these two concepts lies in the fact that only by appealing to their interaction can we make the subtle predictions with regard to the contrasts in meaning between the (a) and (b) examples above. It is hard to see how any non-cognitive approach to the present problem could account for the phenomena observed here.

3.2. Profile shift

Let us consider another type of coercion, based on aspectual profile shift. An examination of (16) and (17) reveals that the aspectual interpretation of the verbs *think* and *feel* changes between the (a) and (b) versions:

(16) a. Thinking about Bill, she offered a prayer.
b. Offering a prayer, she thought about Bill. [=(10)=(2)]

(17) a. Feeling like a spectator at a tennis game, he watched her.
b. Watching her, he felt like a spectator at a tennis game.

As seen briefly in Section 2, stative verbs can profile either an event's inception or its resulting state (Croft 1994: 6). In (16a) and (17a), one finds normal stative interpretations for *think* and *feel*, and this is appropriate for the Ground interpretation of the converb. However, when the verbs in question fall in the main clause, as in the (b) cases, they describe the inception of the relevant states. The new aspectual class that these verbs take on is point-like, and the events described may thus be temporally contained by the events depicted by the converbs. Were the inceptive reading not selected, the necessary inclusion relation for the Figure interpretation would not have obtained. Consequently, these instances of aspectual profile shift bring the (b) sentences into accord with the Figure-Ground alignment principle in (5).

Here again we see that the Figure-Ground alignment principle has significant predictive power, if one takes into account the prevalent effect of coercion, in the form of profile shift. Thus, we have additional evidence that the Figure-Ground alignment principle depends on the notion of coercion to become truly explanatory. These observations further emphasize the manifestly cognitive nature of this phenomenon.

3.3. Plexity shift

Let us next examine some examples that display another sort of coercion, involving plexity shift. Consider (18 - 20) in terms of plexity, the property of having either uniplex or multiplex (i.e., iterative) readings:

(18) a. Singing an aria on the stage, she glanced at me in the middle of her performance.
b. Glancing at me (several times), she sang an aria on the stage.
c. #Glancing at me once in the middle of her performance, she sang an aria on the stage.

(19) a. Driving along the road without slowing down, we found the famous old church on our left.
b. Finding old-fashioned houses (one after another) on our left, we drove along the road without slowing down.
c. #Finding the famous old church on our left, we drove down along the road without slowing down.

(20) a. Saying a prayer, she shifted her weight from her right knee to the left one.
b. Shifting her weight (back and forth from one knee to the other), she said a prayer.
c. #Shifting her weight from her right knee to the left one, she said a prayer.

The (a) examples above satisfy the Figure-Ground alignment principle with the default interpretations for the verbs *glance*, *find*, and *shift*. That is to say, these verbs all denote point-like, uniplex actions which are Figure-like and thus appropriate for main clauses. In contrast, when the same predicates occur as participial converbs in the (b) examples, they change their interpretation; each takes on a multiplex or iterative reading. Thus, the (b) sentences are compatible with the various optional adverbials in parentheses. The result of this plexity shift is to describe an event whose several component subevents combine to form a complex event with broader, potentially more inclusive temporal extent appropriate for a Ground. Thus, the event described by the converb may temporally include the event expressed in the main clause, and the Figure-Ground alignment principle is thereby satisfied. In the (c) examples, however, plexity shift is prevented by explicit phrases like *once*, etc., and the result is infelicity, since (if one ignores sequential reading) there is no way for these sentences to conform to the Figure-Ground alignment principle.

It has been shown so far that the Figure-Ground alignment principle in conjunction with coercion based on various kinds of semantic shift allows for a simple and natural explanation of some subtle contrasts among participial converb constructions. Interpretational modification in the form of coercion is observed, which leads to conformity with the Figure-Ground alignment principle. Any proposal based solely on a rigid classification of predicates without taking into account flexibility of interpretation will prove incapable of handling the simultaneous acceptability of the (a) and (b) pairs in (13 - 20). Since coercion plays a crucial role here as well, it is safe to say that the factors determining Figure-Ground alignment are attributable not to a particular class of verbs per se, but rather to the *construal* of the events described, just as the precepts of cognitive linguistics would lead one to expect, since the theory views meaning not as what is objectively coded but as the product of conceptualization.

4. Converbs in Japanese: The Case of *nagara* Clauses

To complement the above observations on English participial converbs, one may profitably look to some examples of converbs from Japanese. One such form is the *-nagara* construction, which has the advantage of being less ambiguous and therefore even better suited to illustrate alignment phenomena without interference from irrelevant readings. Like the participial *-ing*, *-nagara* is a non-finite verbal ending that signals the syntactic subordination of the clause containing its host verb. The use of the suffix *-nagara* indicates that the events described by the two clauses it joins occur simultaneously.[3]

Basically, the alignment facts observed with *-nagara* resemble those found in connection with English converbs. Consider first (21) and (22):

(21) a. *nawatobi-wo shi-nagara koomon-wo deta*
jump-rope-ACC do-CONV school-gate-ACC went-out
'I went out the school gate as I was jumping rope.'
b. *#koomon-wo de-nagara nawatobi-wo shita*
school-gate-ACC go-out-CONVjump rope-ACC did.
'I jumped rope as I was going out the school gate.'

(22) a. *eiga-wo mi-nagara tachiaga-tta*
movie-ACC watch-CONV stand-up-PAST
'I stood up while I watched the movie.'
b. *#tachiagari-nagara eiga-wo mi-ta*
stand-up-CONV movie-ACC watch-PAST
'I watched the movie as I stood up.'

Nawatobi-wo suru 'jump rope' or *eiga-wo miru* 'watch the movie' denote events with temporal duration, while *deru* 'go out' or *tachiagaru* 'stand up' generally describe more or less punctual events. If one considers the criteria of boundedness and proper inclusion, it is obviously the latter events that are more Figure-like. Thus, the Figure-Ground alignment principle is contradicted by the alignment exhibited in the (b) examples of (21) and (22), where the *nagara* converb realizes the Figure. In contrast, the corresponding (a) sentences with the opposite alignment are in conformity with the principle. Thus, in the case of *-nagara* clauses in Japanese, just as with English participial converbs, the alignment principle laid out in (5) correctly predicts the observable patterns of acceptability.

Furthermore, as in the English data, it is the construal of the described event that actually determines Figure-Ground identification, and in so doing consequently guides the alignment of events with main and subordinate clauses. This may be demonstrated by showing that the coercion operation manifests itself in the interpretation of *nagara* constructions as well, just as it did with converbs from English. Consider (23) with respect to perspective shift in the converbs:

(23) a. *takushii-wo machi-nagara shueisan-no kao-wo*
taxi-ACC wait-CONV guard-GEN face-ACC
{chiratto/jitto} ukaga-tta.
{momentarily/intently} look/check-PAST
'I {glanced/stared} at the guard as I waited for a taxi.'
b. *shueisan-no kao-wo {#chiratto/jitto}*
guard-GEN face-ACC {#momentarily/intently}
ukagai-nagara takushii-wo matta.
look/check-CONV taxi-ACC wait-PAST
'I waited for a taxi while I {#glanced/stared} at the guard.'

In the case of (23) the flexibility of construal with which speakers interpret predicates like *ukagau* permits significant ambiguity: it conveys a more-or-less punctual reading like 'glance' in conjunction with the adverb *chiratto* 'momentarily,' while it takes on a meaning with temporal extent like 'stare' if combined with *jitto* 'intently.' Both interpretations are available for *ukagau* when it falls in the main clause, but when it occurs in the converb, it becomes unambiguous, allowing only the 'stare' meaning with temporal extent. This reading is obtained by perspective shift towards magnification, whereby one may zoom in on the described event and concentrate on its internal structure in a manner that emphasizes the temporal extent of the event, however small it may be in terms of actual elapsed time. Then, if the accompanying event is construed in such a way that its duration is shorter than that of the event described by the *-nagara* clause, one can get an interpretation wherein the proper inclusion relation obtains to make the main-clause event the Figure, and the *-nagara* clause event the Ground. Notice that only then do the two events stand in the proper inclusion relation that favors the Figure-Ground interpretation which the Figure-Ground alignment principle would require in order to admit (23b). Thus, the coercion operation is clearly playing a crucial role in facilitating the proper Figure-Ground alignment for the sentences in (23).

Let us next look at the cases in which Japanese converbs acquire temporal extent in a different way from their English counterparts, i.e., by shifting the aspectual profile of the predicates to the state that obtains after an action occurs. Note that the present type of profile shift is distinct from that observed in the English data; in the discussion above, profile shift focused on the inception of an event, yielding a more bounded, Figure-like reading, whereas the Japanese data exhibit a shift towards an unbounded, Ground-like result state. This interpretation is not attributable to the peculiar semantics of *-nagara*, since another frequently used suffix *-teiru*, which approximately corresponds to English *-ing*, has the same property of describing both a process and its result state.

(24) a. *aruki-nagara tabako-wo kuwae-ta..*
walk-CONV cigarette-ACC put-in-the-mouth-PAST
'While walking, I put a cigarette in my mouth.'
b. *tabako-wo kuwae-nagara arui-ta.*
cigarette-ACC hold-in-the-mouth-CONV walk-PAST
'I walked with a cigarette in my mouth.'

(25) a. *ongaku-wo kiki-nagara mado-ni motare-ta.*
music-ACC listen-to-CONV window-DAT lean-PAST
'While listening to the music, I leaned [i.e., assumed a leaning posture] against the window.'

b. *mado-ni* *motare-nagara* *ongaku-wo kiita.*
window-DAT lean-CONV music-ACC listen-PAST
'Leaning [i.e., maintaining a leaning posture] against the window, I listened to the music.'

Here, the predicates *kuwaeru* and *motareru* get different interpretations in the (a) and (b) examples: (24a) features the default, process interpretation of *kuwaeru*, i.e., 'put in one's mouth,' while in (24b), since the duration of the main clause event is quite lengthy, the *kuwaeru* predicate in the converb is necessarily coerced to the reading 'hold in one's mouth,' by means of profile shift to the result state. In this way the converb interpretation acquires enough temporal extent to embrace that of the main clauses and thereby satisfy the Figure-Ground alignment principle. Note that the profile-shift reading is unavailable for the main clause in (24a), so this interpretation is induced only by coercion from the Figure-Ground alignment principle. Similar remarks hold for *motareru* in (25), whose default meaning is 'assume a leaning posture,' but which coerces to 'maintain a leaning posture.'

Lastly, to round out the present discussion of the effects of coercion in *-nagara* converbs, let us consider instances where coercion takes the form of plexity shift. Consider (26) and (27):

(26) a. *(achi-kochi-ni)* *kakinoki-wo* *mitsuke-nagara*
(here-and-there) persimmon-tree-ACC find-CONV
yamamichi-wo *arui-ta.*
mountain-path-ACC walk-PAST
'I walked along the mountain path, finding persimmon trees here and there.'

b. *#kakinoki-wo* *hitotsu mitsuke-nagara*
persimmon-tree-ACC one find-CONV
yamamichi-wo *arui-ta*
mountain-path-ACC walk-PAST
'I walked along the mountain path, finding one persimmon tree.'

(27) a. *(tsugi-tsugi-to)* *shigoto-wo* *kansei-sase-nagara*
(one-after-another) task-ACC complete-CONV
shusse-shite itta
climb-up-the-ladder
'He climbed up the ladder, (while) completing tasks one after another.'

b. *#shigoto-wo* *hitotsu kansei-sase-nagara* *shusse-shite itta.*
task-ACC one complete-CONV climb-up-the-ladder
'He climbed up the ladder, (while) completing one task.'

The acceptable (a) examples both feature optional adverbs like *achi-kochi-ni* 'here and there' and *tsugi-tsugi-to* 'one after another' which explicitly force an iterative

reading. Note that these interpretive clues are not even needed, for coercion in terms of plexity shift is the only strategy that allows the type of events described by the *-nagara* clause to be interpreted as a Ground in reference to the event encoded in the main clause. Of course, only if such a Ground reading is available for the subordinate clause can the sentence satisfy the Figure-Ground alignment principle. In contrast, the (b) sentences in (26-27) both use the word *hitotsu* 'one' in a manner that explicitly inhibits the multiplex readings, and as a result, the proper Figure-Ground interpretation needed to comply with the alignment principle is unavailable.

The foregoing consideration of *-nagara* converbs has shown that the same descriptive devices, i.e., Figure-Ground alignment and coercion, that were employed to analyze English converbs could be reapplied to data from Japanese with equally positive results. Japanese converbs, like their English counterparts, must conform to the Figure-Ground alignment principle, and here again shifts in construal in the form of coercion come into play so as to adjust the interpretation to the principle. Thus, though only two languages have been examined in this study, the genetic distinctness of the two tongues considered raises at least the hope that the analysis offered here has some degree of universal validity.

5. The Generality of Figure-Ground Alignment: Japanese *-te*

I lastly propose to look at another type of converb construction from Japanese, in order to emphasize an important point about the generality of Figure-Ground alignment. The phenomenon in question involves the non-finite subordinating verbal suffix *-te*, which in its gross syntactic behavior could be said to resemble *-nagara*. However, the inter-clausal relation that *-te* conveys is less constrained, in a manner which is rather reminiscent of the situation observed with regard to English participials. This fact affords an opportunity for the following sort of argument: if the same type of Figure-Ground alignment that was identified in connection with *-nagara* clauses also arises with *-te* constructions, then this phenomenon is clearly a property of complex clause structures in general and is not merely attributable to a particular morpheme.

Let us establish some general properties of Figure-Ground alignment in *-te* converbs. Unlike *-nagara*, *-te* expresses a variety of semantic relations between the clauses it joins, e.g., temporal succession, manner, and simultaneity. However, it will become clear that the simultaneity reading arises only when the alignment satisfies the Figure-Ground principle. Some examples bearing this interpretation are given in (28):

(28) a. *namida-wo koboshi-te ayama-tta*
tear-ACC shed-CONV apologize-PAST
'Shedding tears, he apologized.'

b. *ongaku-wo kii-te* *benkyoo-shi-ta*
music-ACC listen-to-CONV study-PAST
'I studied while listening to music.'

Such predicates as *namida-wo kobosu* 'shed tears' and *ongaku-wo kiku* 'listen to music' in the *-te* clauses in (28) are regarded as Ground-like, for they are usually construed as having temporal extent. Consequently the events described by the converbs can temporally include those encoded by the main clauses; the principle criterion for distinguishing Figure and Ground thus allows an interpretation of these sentences that associates the Figure with the main clause and the Ground with the *-te* phrase, just as the Figure-Ground alignment principle requires. The examples in (29), however, offer a crucial contrast. By adding phrases like *hitotsubu* 'one drop' or *ikkyoku* 'one piece' to the predicates above, one delimits the events described, the sentences thus cease to be in accord with the Figure-Ground principle (at least in the temporal domain), and crucially, the simultaneous reading becomes unavailable:

(29) a. *namida-wo hitotsubu koboshi-te dete-itta*
tear-ACC one-drop drop-CONV went-out-PAST
'She shed one tear and then went out.'
b. *ongaku-wo ikkyoku kiite benkyoo-shita*
music-ACC one-piece listen-to-CONV study-PAST
'I studied after listening to one piece of music.'

Moreover, one may observe, that with *-te* constructions, just as with Japanese *-nagara* forms and English participials, coercion may be invoked in order to get the desired reading for a complex sentence that would not satisfy the alignment principle under the prototypical interpretation of the predicates involved. For instance, the (a) sentences in (30) and (31) allow a simultaneous reading, while the (b) forms can take only a successive interpretation:

(30) a. *kanban-wo (hitotsu-hitotsu) kowashi-te arui-ta*
billboard-ACC (one-by-one) break-CONV walk-PAST
'I walked along breaking billboards one by one.'
b. *kanban-wo hitotsu kowashi-te arui-ta*
billboard-ACC one break-CONV walk-PAST
'After breaking a billboard, I walked along.'

(31) a. *hitotsu-hitotsu oboe-te otona-ni naru*
one-by-one learn-CONV grown-up-DAT become
'People become grown-ups as they learn things one by one.'
b. *hitotsu oboe-te otona-ni naru*
one learn-CONV grown-up-DAT become
'After learning one thing, people become grown-ups.'

In the (a) examples, the iterative events are construed as unbounded, due to plexity shift. This construal allows the events described in the *-te* clauses to serve as Grounds, ultimately yielding readings that satisfy the Figure-Ground alignment principle. However, in the (b) examples, the multiplex interpretation is specifically disallowed by the explicit use of the word *hitotsu* 'one,' so the pairs of described events do not stand in the proper inclusion relation and thus do not satisfy the alignment principle. As a result, the simultaneous reading is unavailable for the (b) sentences.

Now, there is no a priori reason that the (b) examples should not exhibit a simultaneous reading; the mere fact that the event encoded by the *-te* clause has a smaller temporal extent than the one expressed in the main clause does not logically entail that the two events could not overlap in time. Thus, if there is no simultaneous reading available for the (b) examples, the reason for this must stem from a constraint on syntactic representations, and I claim that the restriction in question is the Figure-Ground alignment principle.

Thus, it appears that the same Figure-Ground alignment constraint observed in connection with *-nagara* is also at work in the semantically less specific *-te* construction, so it seems unlikely that we are dealing with a phenomenon particular to a morpheme or group of morphemes.

6. Conclusion

This paper hopefully has succeeded in carrying on the work on Figure-Ground alignment begun by Talmy (1978), adding certain enhancements. First, this principle, originally claimed to govern perceptual patterns of spatial organization, has also been shown to apply not only to finite subordinate clauses, but also to converbs. Furthermore, the corroborating evidence from Japanese suggests that the alignment effects are not an idiosyncratic property of one type of subordination structure or even of one language; they may further be viewed as an initial step towards establishing the universality of the principle. In addition to extending the range of empirical investigation with regard to Figure-Ground alignment, I have brought to light a significant theoretical addition by pointing out the important role of coercion in accommodating the exigencies of the principle. When the interpretation of the converb does not accord with the Figure-Ground principle, modification of its construal, i.e., coercion, comes into play in a manner that brings it into conformity with the principle. I have shown that coercion can take at least three forms, involving perspective, profile, and plexity shift. The way one construes a scene or an event is constrained by basic cognitive principles and not surprisingly their influence is manifested in linguistic systems as well. Thus, the grammatical coding of events is not arbitrary but rather is the product of systematic cognitive processes and organizational strategies.

Endnotes

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1. Some other factors such as causality might come into play as well.
2. The same sort of perspective shift, i.e., magnification, is also observed in the use of progressive *-ing* forms by Comrie (1976) and Smith (1983).
3. *Nagara*-clauses also express concession, which is beyond the scope of this paper, though I suspect that this reading is an extention of the meaning of simultaneity.

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Verb-First Constructions in German

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1. Introduction

This paper examines a particular construction in German in which the finite verb occurs sentence-initially.* Examples of this construction, which I will call the *V-first construction,* are given in (1) and (2).

(1) *Kommst du zu unserer Party?*
come you to our party
'Will you come to our party?'

(2) *Gib mir den Schlüssel!*
give me the key
'Give me the key.'

The sentence in (1) is a *yes-no* question; example (2) shows an *imperative* sentence. Apart from yes-no questions and imperatives, a number of "minor sentence types" (Saddock and Zwicky 1985: 162), *exclamatives, optatives, hortatives, conditionals* and *sentences in short fiction* can be introduced by a finite verb in German (see below).

The word order of V-first constructions contrasts with the basic word order in German *declarative* sentences. In declarative sentences, the finite verb occurs in second position. The first position of declaratives can be filled by a variety of constituents, including the subject (3), the direct or indirect object (4), or a prepositional phrase (5).

(3) *Peter trinkt ein Bier.*
Peter-SUBJ drink a beer
'Peter is drinking a beer.'

(4) *Das Spiel haben wir verloren.*
the game-OBJ have we lost
'We have lost the game.'

(5) *Mit dem Fahrrad bist du schneller.*
with the bicycle are you faster
'You are faster with the bicycle.'

In this paper, I show that V-first constructions are used to realize a particular class of speech acts. My analysis challenges recent work on sentence-types in German (Meibauer 1987). In this work, sentence-types are defined as clusters of grammatical features that together express a certain function. Since most grammatical features occur with several different sentence types, it is assumed that only the combination of certain features is meaningful. The features themselves are characterized as "rein strukturelle Bausteine" [purely structural building blocks] that lack a direct meaning or function (Altmann 1987: 30). Contrary to this view, I argue that the position of the finite verb is not just a structural feature, but that a certain verb position is directly associated with a particular communicative function.

The theoretical framework that I will use for my analysis is *Construction Grammar* (see Fillmore, Kay and O'Connor 1988; Fillmore and Kay 1994; Goldberg 1992; Koenig 1993; Koenig and Jurafsky 1994; Lakoff 1987). Construction Grammar emphasizes the notion of grammatical construction for linguistic analysis. A grammatical construction is a linguistic configuration in which a certain phonological and/or morphosyntactic structure is paired with specific semantic and/or pragmatic information. German V-first constructions are such form-function units that combine a certain syntactic property, namely a specific word order, with a particular illocutionary point and a particular quality of the propositional content.

Employing the framework of *Construction Grammar*, I will represent the common features of all different types of V-first constructions in a *general V-first construction.* This construction is *inherited* by imperatives, yes-no questions, and all other sentences in which the finite verb occurs initially. *Inheritance* is a technical term of Construction Grammar (and many other current frameworks) that designates a particular relationship between two constructions.[1] To simplify, a construction is (strictly)[2] inherited by another construction when the features of the less specific construction are entirely contained in the more specific construction.

The following section will describe the syntactic, semantic and pragmatic features of the general V-first construction. In Section 3 to Section 8, I will show that this construction is indeed inherited by all sentences in which the finite verb occurs initially.

2. The General V-First Construction

Syntactically, the general V-first construction is specified by a particular word order: the sentence-initial position of the finite verb. The semantic and pragmatic properties of this construction are not so straightforward. They become recognizable when V-first constructions are compared with sentences in which the finite verb is second.

V-second constructions are used with all different kinds of speech acts, including those that can be realized by V-first constructions. Compare the V-second constructions in (6) to (10) with the V-first constructions in (6') to (10'):

	V-second construction		*V-first construction*
(6)	*Das Buch gefällt dir?* the book like you 'You like the book?'	(6')	*Gefällt dir das Buch?* like you the book 'Do you like the book?'
(7)	*Das ist fantastisch!* that is fantastic 'That is fantastic!'	(7')	*Ist das fantastisch!* is that fantastic 'That is fantastic!'
(8)	*Wir sollten jetzt gehen.* we should now go 'We should go now.'	(8')	*Gehen wir!* go we 'Let's go.'
(9)	*Ich möchte, daß du kommst.* I want that you come 'I want you to come.'	(9')	*Komm!* come 'Come!'
(10)	*Ich wünschte, Tom wäre hier.* I wish Tom were here 'I wish Tom were here.'	(10')	*Wäre Tom bloß hier.* were Tom MP here 'I wish Tom were here.'

These examples show that the use of V-second and V-first constructions overlaps. Every speech act that is framed in a V-first construction can also be realized by a V-second construction. Note, however, that the V-second constructions in (6) to (10) are structurally marked: (6) and (7) are realized with a marked intonation contour, (8) involves a modal verb in subjunctive, and in (9) and (10) the object is a complement clause rather than a simple noun phrase. The structural marking in these sentences reflects their marked functional status: none of the examples above represents the prototypical use of a V-second construction. A prototypical V-second construction is a basic declarative sentence that imparts *factual* information in an *assertive* speech act (see Wunderlich 1976: 123; Saddock and Zwicky 1985: 160; Oppenrieder 1987: 183; Givón 1990: 779).[3] An example is given in (11):

(11) *Das Buch kostet 20 Mark.*
the book costs 20 Deutsch Marks
'The book costs 20 Deutsch Marks.'

Unlike the marked V-second constructions in (6) to (10), the unmarked declarative sentence in (11) does not have a corresponding V-first construction. The meaning and force of the prototypical V-second construction cannot be expressed in a V-first construction. Thus, in a first step, we can describe V-first constructions in relation to the unmarked V-second construction as non-assertive speech acts that are not used to convey factual information.

The analysis that I will present in the following sections will draw upon central ideas of speech act theory that Searle has put forward in his taxonomy of illocutionary acts (Searle 1979). In order to distinguish a limited set of basic speech act classes, Searle suggested a number of speech act dimensions. The two central dimensions of his taxonomy are (i) the *illocutionary point* of a speech act, and (ii) the *direction-of-fit* between the words and the world.[4]

The illocutionary point designates the purpose of a speech act. Speech acts are used with varying intentions for different purposes: (1) to claim the truth of the information that is expressed in the propositional content (*assertive* speech act); (2) to get the hearer to do something (*directive* speech act); (3) to commit the speaker to a future action (*commissive* speech act); or (4) to express a psychological state of the speaker (*expressive* speech act).[5]

The other dimension, the direction-of-fit, specifies a central property of the propositional content. Speech acts in which the propositional content matches a state of affairs in the world have a *word-to-world* direction-of-fit. Speech acts that are used "to get the world to match the word" (Searle 1979: 3) show *world-to-word* matching. It has to be emphasized that the direction-of-fit does not establish a binary distinction. As Searle points out, there are "speech acts in which there is no direction-of-fit" (Searle 1979: 15). Thus, we have to assume at least three different values for this dimension.

Given the two basic speech act dimensions, we can describe the functional features of the general V-first construction as follows: The illocutionary point of V-first constructions is *non-assertive*; their direction-of-fit *does not allow for word-to-world* matching. The crucial properties of V-first and V-second constructions are informally stated in the two following box diagrams:

Prototypical V-second construction

syntax:	V-second
illocutionary point:	assertive
direction-of-fit:	word-to-world matching

V-first construction

syntax :	V-first
illocutionary point:	non-assertive
direction-of-fit:	no word-to-world matching

The negative character of my definition of V-first constructions reflects an important aspect of my analysis: it shows that the V-first construction is based on the V-second construction, which is the most common sentence form in German. The use of V-first constructions overlaps with non-central V-second constructions; however, both the form and function of the V-first construction contrast with the prototypical, default use of V-second constructions in basic declarative sentences. Thus, the V-first construction functions as a *natural complement* to the prototypical V-second construction.

The particular arrangement between V-first and V-second constructions in German is evidence for the *grammatical and cognitive ecology* that Lakoff characterizes as a fundamental property of the linguistic system (Lakoff 1987: 462-494). Following Lakoff, I assume that the grammatical constructions of a language are not a random collection of arbitrary form-function pairings. Grammatical constructions are systematically related among one another, and the form-function combination of non-central constructions is usually *based on* (or motivated by) the form-function combination of central constructions (Lakoff 1987: 464). The German V-first construction is based on the dominant V-second construction; it has an *ecological location* in the grammatical system of German, and its form-function relation is motivated by the form-function relation of the dominant V-second construction.

I now turn to the analysis of yes-no questions, imperatives and all other sentences that are introduced by a finite verb in German. I will describe the individual properties of each V-first construction, and I will show that the features of the general V-first construction are inherited by all its subtypes.

3. Yes-No Questions

There are two interrogative constructions in German: i) *informative* questions that are introduced by a question word (12), and ii) *yes-no* questions, realized by a V-first construction (13):

(12) *Was willst du?*
what want you
'What do you want?'

(13) *Gehst du morgen zur Arbeit?*
go-INDICATIVE you tomorrow to work
'Will you go to work tomorrow?'

The finite verb that is used in a yes-no question is either a main verb (13) or an auxiliary of a complex verb phrase construction (14-15). The finite verb is fully inflected and can occur in the indicative (13-14) or the subjunctive (15). Yes-no questions are marked by a *rising intonation* contour that distinguishes this construction from all other sentences that are introduced by a finite verb in German.

(14) *Hat Paul die Tür abgeschlossen?*
have-INDICATIVE Paul the door locked
'Did Paul lock the door?'

(15) *Hätte er mir geholfen?*
had-SUBJUNCTIVE he me helped
'Would he have helped me?'

Questions, including yes-no questions, are a subtype of *directive* speech acts (Searle 1979: 14). Interrogatives are used by the speaker to get the addressee to answer his or her question. Questions can be defined as a request for an answer, that is, a request for a verbal response.

Yes-no questions are frequently used to realize indirect speech acts (Searle 1975: 60). The sentence in (16) shows, for instance, an interrogative sentence that is not merely meant as a question, but as a request for a non-verbal action.

(16) *Kannst du mir das Salz bitte reichen?*
can you me the salt please pass
'Could you pass me the salt, please?'

Although the sentence in (16) is not used as a pragmatic question its illocutionary point is directive. However, extensions to other speech act classes occur, but they involve a pragmatic inference which is context dependent. Rhetorical questions, for instance, are non-directive speech acts, but their interpretation is based on a conversational implicature (Grice 1975) that is evoked by the context. This paper concentrates on the conventional features of V-first constructions; pragmatic inferences that extend the conventional use of V-first constructions to other speech act domains are beyond the scope of the present investigation.

The direction-of-fit of yes-no questions is *unspecified*. The speaker does not know whether the words of his or her question match a certain state of affairs in the world until the addressee has specified this relation in his or her answer.

Yes-no question

inherit:	V-first
syntax:	rising intonation
illocutionary point:	directive
direction-of-fit:	unspecified

4. Imperative Sentences

Imperative sentences are realized without an overt subject, and they employ a particular verb form.[6] Imperative sentences that are directed towards a single addressee are realized with a verb form that lacks any inflection (17). Imperatives that address a group of people are marked with the second person plural suffix '-t' (17').

(17) *Geh!*
go-SG
'Go!'

(17') *Geht!*
go-PL
'Go!'

Like yes-no questions, imperative sentences function as *directive* speech acts. The examples in (18) to (21) show imperative sentences that realize different types of directive speech acts: (18) is a command, (19) is a request, (20) is a warning, and (21) is a recommendation.

(18) *Schieß!*
shoot
'Shoot!'

(19) *Bring mich bitte zum Flughafen!*
bring me please to-the airport
'Please, bring me to the airport!'

(20) *Paß auf!*
watch out
'Watch out!'

(21) *Nimm ein Taxi!*
take a cab
'Take a cab!'

The propositional content of an imperative construction denotes an action that the addressee is supposed to perform in the future (Wunderlich 1984: 101). If the hearer does what is expressed in the propositional content s/he will change some state of affairs in the world. The direction-of-fit of imperative sentences shows therefore *world-to-word* matching.

Imperative sentence

inherit:	V-first
syntax:	i. imperative verb form ii. no overt subject
illocutionary point:	directive
direction-of-fit:	world-to-word

5. Exclamative Sentences

There are at least three different exclamative constructions in German: (i) exclamatives that are introduced by an independent *daß* clause (22), (ii) exclamatives that involve a question word (23), and (iii) exclamatives that are realized by a V-first construction (24).

(22) *Daß dú dich hierher traust!*
that you yourself here-to-me dare
'You dare to come here!'

(23) *Wie kált es hier ist!*
how cold it here is
'It's cóld here!'

(24) *Hat ér vielleicht/aber ein Glück gehabt!*
have he MP a luck had
'What luck he had!'

Exclamative sentences are marked by an *emphatic accent* that distinguishes V-first exclamatives from all other V-first constructions (Oppenrieder 1987: 167). Furthermore, exclamatives frequently involve two modal particles (MP), *aber* and *vielleicht*, that are either impossible or not very common in other V-first constructions (Thurmair 1989: 190-195).

Exclamative sentences are used to express a psychological state of the speaker: surprise (25), pleasure (26), or a negative assessment (27). A psychologi-

cal state is expressed in an expressive speech act. The illocutionary point of exclamative sentences is, thus, *expressive.*

(25) *Hat das aber gut geklappt!*
have that MP well worked
'Did that work well!'

(26) *Bin ich vielleicht glücklich!*
am I MP happy
'Am I happy!'

(27) *Ist das vielleicht idiotisch!*
is that MP stupid
'That's stupid!'

In exclamative sentences there is no direction-of-fit. The illocutionary force of exclamatives *neutralizes* this dimension. Compare, for instance, the exclamative sentence in (28) with the parallel assertion in (29):

(28) *War dás aber ein spannender Film!*
was that MP an exciting movie
Thát was an (incredible) exciting movie.'

(29) *Das war ein spannender Film.*
that was an exciting movie
'That was an exciting movie.'

In (29) the speaker describes from a neutral perspective a certain state of affairs. It is claimed in this speech act that the information expressed in the propositional content matches a state of affairs in the world. The exclamative sentence in (28) does not involve such a claim. That there was a certain state of affairs that is relevant to this speech act is simply presupposed and hence not asserted. Based on the presupposed information the speaker expresses his/her subjective opinion. Searle (1979: 15) describes this as follows:

> Notice that in expressives there is no direction-of-fit. In performing an expressive, the speaker is neither trying to get the world to match the words nor the words to match the world, rather the truth of the expressed proposition is presupposed.

Exclamative sentence

inherit:	V-first
syntax:	i. emphatic accent ii. mod. part. *aber* + *vielleicht*
illocutionary point:	expressive
direction-of-fit:	neutralized

6. Optative Sentences

Scholz (1991) has shown that optative sentences constitute a further sentence-type in German. Two major optative constructions can be distinguished: i) optatives that are realized by an independent *wenn* clause (30), and ii) optatives that are a subtype of the general V-first construction (31).

(30) *Wenn er bloß käme.*
if he MP would come
'I wish he would come!'

(31) *Käme er bloß!*
would come he MP
'I wish he would come!'

Optative sentences are obligatorily marked by a subjunctive verb form (Scholz 1991: 58). Yes-no questions and exclamatives that include a verb in the subjunctive can have the same morphosyntactic form as an optative sentence. However, yes-no questions and exclamatives are formally distinct from optatives insofar as they are marked by suprasegmentals: a rising intonation contour (yes-no questions) and a contrastive accent (exclamatives). Furthermore, optative sentences mostly include certain modal particles, *bloß, nur* and *doch* (and their combination) that never occur in exclamatives or yes-no questions (Thurmair 1989: 49).

Optatives express "the speaker's wishes" (Saddock and Zwicky 1985: 164), and it is implied in an optative sentence that the speaker has no influence on the realization of the desired situation (Oppenrieder 1987: 186). The illocutionary point of an optative sentence is, thus, *expressive* (Saddock and Zwicky 1985: 164; Scholz 1991: 235).

As in exclamatives, the (expressive) illocutionary point of optative sentences *neutralizes* the direction-of-fit of the propositional content.

Optative sentence

inherit:	V-first
syntax:	i. obligatory subjunctive ii. mod. part. *bloß, nur, doch*
illocutionary point:	expressive
direction-of-fit:	neutralized

7. Hortative Sentences

Hortatives are often considered a subtype of imperative sentences (Saddock and Zwicky 1985: 177; Winkler 1989: 7). They are formally marked by a subject constraint: the subject of hortatives is always the first person plural pronoun (nominative: *wir).*

(32) *Gehen wir!*
go we-NOM
'Let's go!'

A subtype of German hortative sentences involves the verb *lassen. Lassen*-hortatives are introduced by an imperative verb form followed by the accusative form of the first person plural pronoun, i.e. *uns*:

(33) *Laß uns gehen!*
let we-ACC go
'Let's go!'

Hortative sentences prompt the addressee to join the speaker in a future activity. Their illocutionary force is therefore *directive.*

The propositional content of hortative sentences refers to an action that the speaker and the addressee will perform in the future. If both the speaker and the addressee do what is expressed in the propositional content, their action gives rise to a new situation. Thus the direction-of-fit of hortatives shows *world-to-word* matching.

Hortative sentence

inherit:	V-first
syntax:	1-PS-PL subject
illocutionary point:	directive
direction-of-fit:	world-to-word

8. V-First Constructions in Conditionals and Short Fiction

This final section is concerned with two V-first constructions that previous studies have analysed as subtypes of declarative sentences: V-first conditionals and V-first sentences in short fiction. I will discuss them in turn.

8.1. V-first conditional clauses

There are two types of V-first conditional clauses: (i) conditionals that have the form of a yes-no question (34), and (ii) conditionals that correspond to the form of an imperative sentence (35). In both types, the V-first construction is syntactically *dependent* on a following main clause.

(34) *Gibst du mir deine Telefonnummer, dann rufe ich dich morgen an.*
give you me your telephone number then call I you tomorrow
'If you give me your telephone number, I will call you tomorrow.'

(35) *Gib mir mein Geld zurück, oder ich rufe die Polizei.*
give-IMP me my money back or I call the police
'Give me my money back, or I will call the police!'

The information that is expressed in (non-counterfactual) conditional sentences is hypothetical: the speaker does not know whether the propositional content of the conditional sentence fits a state of affairs in the world. The direction-of-fit can have two different values: it is *unspecified* for conditional clauses with the form of yes-no questions (34), and it shows *world-to-word* matching in the case of conditional clauses that correspond to an imperative sentence (35). Thus, the direction-of-fit of V-first conditionals is of the same sort as in other V-first constructions.

The illocutionary point of this construction differs, however, from other V-first constructions. Conditional sentences can realize a variety of speech acts. They are frequently used as commissives or directives (36-39), but they also occur in assertions (39) (see Wunderlich 1976):

(36) *Verpaßt du den Bus, nimm ein Taxi.*
miss you the bus take a cab
'If you miss the bus take a cab.' (RECOMMENDATION)

(37) *Kommst du noch einmal zu spät, fliegst du raus.*
come you more one time too late fly you out
'If you are late again you'll be fired.' (THREAT)

(38) *Gerätst du in irgendwelche Schwierigkeiten, helfe ich dir.*
get you into any difficulties help I you
'If you get into any difficulties, I'll help you.' (PROMISE)

(39) *Sollte Licht in seinem Zimmer sein, ist er zu Hause.*
should light in his room be is he at home
'If there is a light on in his room, he must be at home.' (ASSERTION)

It has to be emphasized that the illocutionary point of these examples is a property of the complex conditional sentence (i.e. of main and subordinate clause). The V-first construction realizes only one part of a conditional sentence, namely the protasis. The other part, the apodosis, occurs in the usual form of a main clause after a preceding subordinate clause. Together protasis and apodosis function as commissive, directive or assertive speech acts, but the V-first construction itself is not associated with any of these functions. V-first conditional clauses (i.e. the protasis) are subordinate clauses, and subordinate clauses lack an illocutionary point independent of the related main clause (Foley and Van Valin 1984: 240).[7] Thus, unlike all other V-first constructions, V-first conditional clauses do not have an illocutionary dimension. The following box diagram shows the features of a V-first conditional clause (i.e. the protasis); it does not represent the properties of a complex conditional sentence (i.e. protasis and apodosis together).

Conditional clause

inherit:	V-first
syntax:	dependent on main clause
illocutionary point:	---
direction-of-fit:	unspecified/world-to-word

8.2. V-first constructions in short fiction

Oppenrieder (1987) observed that sentences in short fiction, especially in jokes, are frequently framed in V-first constructions (40). He classified these V-first constructions as a subtype of declarative sentences (Oppenrieder 1987: 179).

(40) *Kommt ein Mann in den Laden und fragt: "Wo ist der Bahnhof?"*
comes a man into the store and asks where is the station
'A man came into the store and asked: Where is the station?...'

Sagt die Frau hinter dem Tresen: "..."
says the woman behind the counter: "..."
The woman behind the counter said: "..."

Oppenrieder analyses V-first constructions in short fiction as V-second constructions in which the sentence-initial position is not filled by an overt constituent. He points out that the dummy subject *es* could be inserted before the verb, and he explains the missing initial constituent with the information structure of these sentences: V-first constructions do not include any given or old information which is usually encoded before the predicate. Oppenrieder assumes that the finite verb occurs initially because these sentences are "völlig rhematisch" [fully rhematic] (Oppenrieder 1987: 179).

If Oppenrieder's account were correct, one would expect to find V-first constructions in all different text types whenever a sentence is fully rhematic. But, as Oppenrieder points out, this type of V-first construction is restricted to a particular genre, namely to short fiction (Oppenrieder 1987: 179).[8] This restriction suggests that the use of this type of V-first construction depends on properties of this particular genre. Contrary to Oppenrieder, I claim that V-first constructions in short fiction are a further subtype of the general V-first construction.

Information that is expressed in short fiction and related genres is not supposed to match a situation in the real world. V-first constructions that occur in this particular genre indicate that the expressed information is non-referential. There is no direction-of-fit between the words of a joke and the facts in the world, and because this dimension is missing we find V-first constructions in this type of discourse.

Since V-first constructions in jokes and other short fiction are not intended to describe a real world event, they cannot be classified as assertions. As Searle points out, assertive speech acts "commit the speaker (in varying degrees)... to the truth of the expressed proposition" (Searle 1979: 12). Jokes and other short fiction are not told to claim, suggest, hypothesize or to deny the truth of the expressed information. Sentences being used in this genre are used to entertain and to amuse. I therefore classify these sentences as *entertaining* speech acts that are distinct from assertions.

Short fiction

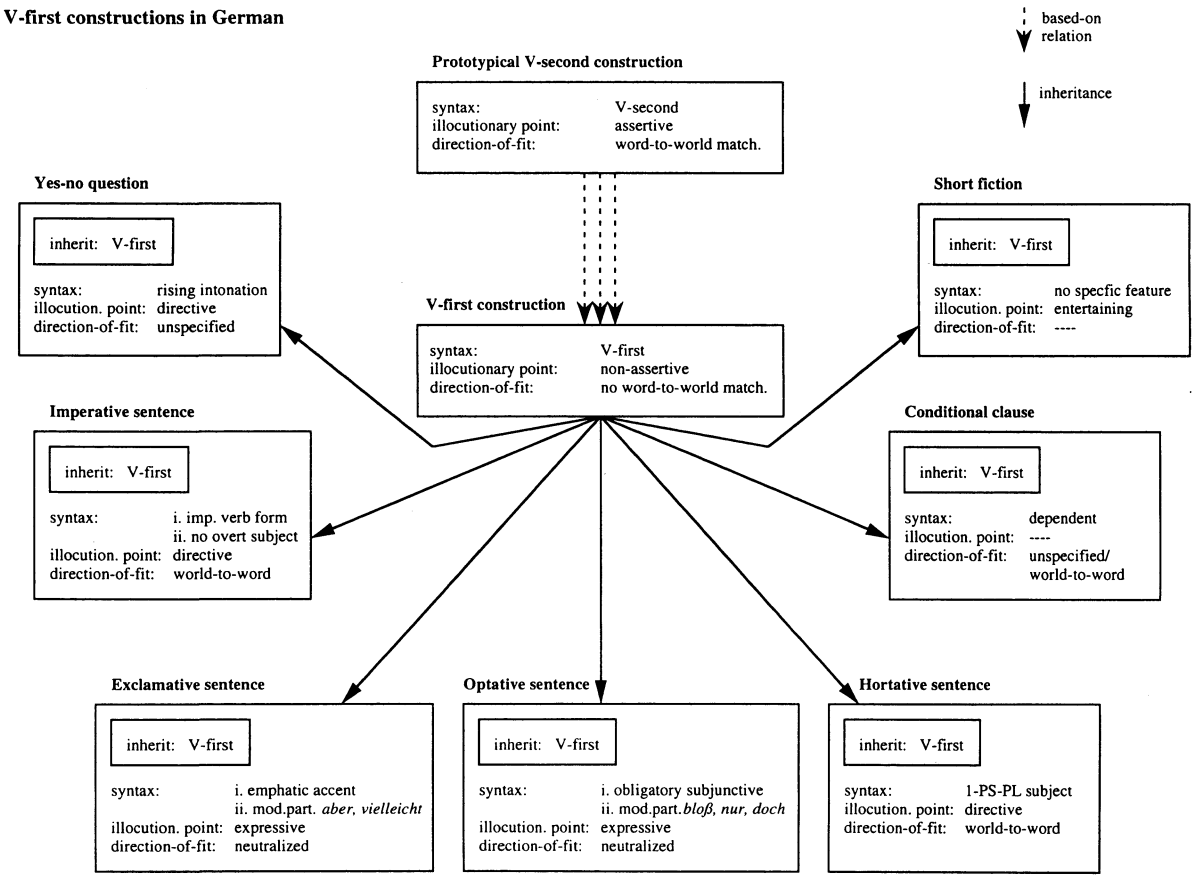
inherit:	V-first
syntax:	no specific feature
illocutionary point:	entertaining
direction-of-fit:	---

9. Conclusion

In this paper I have shown that German V-first constructions are used to realize a particular class of speech acts. Using the framework of Construction Grammar, I represented the common features of all sentences that are introduced by a finite verb in German in a general V-first construction. This construction combines a particular syntactic feature, namely the sentence-initial position of the finite verb, with a particular illocutionary point and a certain quality of the propositional content. V-first constructions are used to realize non-assertive speech acts in which the speaker is not commited to the truth of the propositional content. My analysis has shown that the features of the general V-first construction are inherited by all sentences in which the finite verb occurs initially: yes-no questions, imperatives, exclamatives, optatives, hortatives, conditionals and V-first sentences in short fiction.

The negative definition of the V-first construction reflects the ecological location of this construction in the grammatical system of German. I have argued that the form-function correspondence of the V-first construction is motivated by the dominant V-second construction. The use of V-first constructions overlaps with the non-central use of V-second constructions, but it contrasts with the default, prototypical usage of V-second constructions in basic declarative sentences. V-first constructions function as a natural complement to prototypical V-second constructions; they have an ecological location in the grammatical system of German. The basic results of this study are summarized in the diagram on the next page.

V-first constructions in German



Endnotes

* I would like to thank Jean Pierre Koenig for his comments on an earlier version of this paper. All remaining errors are, of course, mine.

1. The equivalent notion in *Cognitive Grammar* is *schematicity* (Langacker 1988).
2. Flickinger, Pollard and Wasow (1985) distinguish default (or normal) inheritance from strict inheritance. In this paper I will only consider strict inheritance.
3. Some authors emphasize the quality of the propositional content while others focus on the illocutionary force of prototypical declarative sentences. I consider both aspects equally important.
4. Unlike Searle, cognitive linguists assume that linguistic expressions 'refer' to entities in a *mental model/space* of reality, rather than to reality or the 'world' itself (e.g. Fauconnier 1985).
5. Searle assumes one further type of illocutionary act, *declarative* speech acts, that are used in specific institutional contexts (Searle 1979: 26). Declaratives are of no relevance to my analysis.
6. Winkler (1989: 7) distinguishes four types of imperative sentences: (i) the central imperative construction that is described in the current section, (ii) *hortatives* that will be discussed in section 7, (iii) *Sie*-imperatives that are used when the addressee is unknown to the speaker or when s/he has a higher social status, and (iv) *Heischesätze* that are realized with a verb in the present subjucntive. All four types of imperative sentences are V-first constructions. *Sie*-imperatives and *Heischesätze* will not be discussed in this paper.
7. For a different view see Ducrot (1972) who analyses protasis and apodosis as two distinct speech acts.
8. V-first constructions occur in jokes, anecdotes and other related text types. They are not used in short narrations, reports or descriptions that are based on a real world event.

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The Mental Manipulation of the Vertical Axis: How to go from "up" to "out", or from "above" to "behind"

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1. Introduction

This paper deals with the systematic usage of vertical notions - such as *up* and *down* - to refer to nonvertical relations, spatial or nonspatial.[1] I will argue that this systematic polysemy is due to the possibility of image schemas to undergo cognitive operations, which give rise to new image-schematic structures that might be expressed lexically. Specifically, the paper accounts for how an image schema of a Vertical Axis may be transformed so that it will fit contexts (linguistic and nonlinguistic) where no vertical relation exists between trajector and landmark. A necessary assumption - in line with the framework of Cognitive Semantics[2] - is that lexical meaning is based on abstract, conceptual structures referred to as image schemas. The conclusion to be drawn from this study is that lexical polysemy may be derived by means of applying general cognitive operations onto abstract image-schematic structures.[3]

In the sense of Johnson (1987), image schemas are general, recurrent patterns for understanding and reasoning. Characteristically, these abstract schematic patterns have visual or force-dynamic properties, rather than propostional structure.[4] Further, image schemas are embodied since they emerge through our continuous encounters with the physical environment, but also in that they are "constantly operating in our perception, bodily movement through space, and physical manipulations of objects" (Johnson 1987: 23). Cognitive (or mental) operations on image schemas - such as rotating image-schematic structures - are taken to be analogs of spatial operations, such as manipulations of physical objects (see Johnson 1987, and cited research).

2. Image-Schematic Variation and the Vertical Axis Category

2.1. Cognitive operations applying to the Vertical Axis

Abstract image-schematic structures constitute sources of lexical meaning in two ways. In the first place, basic, preconceptual image schemas (such as the Path schema) will generate physical, spatial concepts (such as *up, down; take, go*). In the second place, cognitive operations may apply to these basic image schemas, giving rise to interrelated lexical concepts.

The image schema of a Vertical Axis is one of the basic schemas which structures the cognitive domain of space (Langacker 1987). The Vertical Axis, subsuming a stative as well as a path variant, is characterized by its orientation and direction. In accordance with Vandeloise (1991), I regard the vertical orientation as a family resemblance concept characterized by its salience of verticality of e.g. the position of an upright human being, a tree, or the direction of falling bodies.

As a means of introducing the various types of cognitive operations that optionally apply to the Verticality schema, I will account for the derivation of a range of meaning variants of Swedish *upp* 'up' vs. *ner* 'down'. The prototypical meaning of these lexemes designates vertical movement directed upward vs. downward, as illustrated in (1).

(1) *Pojken klättrade upp i trädet. / Pojken föll ner från trädet.*
boy-the climbed up into tree-the / boy-the fell down from tree-the
'The boy climbed up the tree.' / 'The boy fell from the tree.'

Applying different cognitive operations to the basic image-schematic structure of a Vertical Axis, a number of meaning variants of Swedish *upp* vs. *ner* can be derived. I will briefly go through some of these operations, and simultaneously account for how they may give rise to various extended meaning variants of one and the same lexeme. The operations in question (henceforth referred to as principles A, B etc.) are summarized in (2) below. (The arrow should be read "transforming into".)

(2) General principles:
A. Vertical Axis → Horizontal Axis
B. Zero-dimensional entity tracing a Path → One-dimensional extended entity
C. Path → End of Path
D. Deictic orientation according to the ME-FIRST-principle
E. Metaphorical mapping from Physical to Temporal Space

In the subsections to follow each principle will be described in more detail.

2.1.1. Principle A: Vertical Axis → Horizontal Axis

Principle A tranforms a vertical axis into a horizontal one. Lexically, the cognitive operation of tipping a vertical axis is manifested in the extended use of Swedish *upp* vs. *ner* to refer to movement in the horizontal plane, cf.:

(3) *Han gick upp och ner i korridoren.*
he walked up and down in corridor-the
'He walked up and down the corridor.'

The transformation of tipping a vertical axis is based on our ability to mentally rotate an image schema, which in turn seems to emerge from our kinetic experience (Lakoff 1987: 445-446, Johnson 1987: 25). Principle A is clearly embodied, since our upright bodily position typically manifests a vertical axis, that recurrently is "transformed" into a horizontal one when we lie down.

There are in fact two versions of principle A: a deictically unspecified one, and a deictic version. The deictically unspecified version takes the ground level as the unmarked conceptual reference point, which means that the reference point will coincide with the lower pole of a vertical axis directed upward. Thus, both when the vertical axis is upright, and when it is tipped, the reference point will be away from the upper pole. Cf. Figure 1, where "x" marks the conceptual reference point.

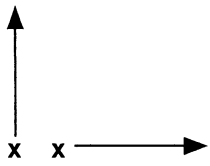


Figure 1. The deictically unspecified version of the (transformed) vertical axis.

In the deictically specified version of principle A, the reference point is instead close to the former upper pole. This configuration is the result of both principle A and principle D operating on the vertical axis; I will return to the deictically specified version of principle A in Section 2.1.4.

2.1.2. Principle B: Zero-dimensional entity tracing a Path → One-dimensional extended entity

Principle B is a well-known transformation, relating motional and stative meanings of a lexeme to each other (see Lakoff 1987: 442). It states that there is a cognitive relation between a schema with a zero-dimensional trajector tracing a Path and a schema with a one-dimensional extended trajector.[5] Principle B is based on the human ability to mentally scan a construed path (see Langacker 1991b: Chapter 12). By means of visual/mental scanning, the extended vertical dimension of the tree vs. the dress in (4) - schematized as one-dimensional - is construed as having a source point and a terminal point.

(4) *Trädet nådde upp till taket. / Klänningen nådde ner till anklarna.*
tree-the reached up to roof-the / dress-the reached down to ankles-the
'The tree reached up to the roof.'/'The dress reached down to the ankles.'

The meaning of Swedish *upp* vs. *ner* in (4) is thus derived from the prototypical meaning of these lexemes plus the transformation referred to as principle B.

2.1.3. Principle C: Path → End of Path

Principle C is also a well-known transformation, referred to as end-point focussing in Lakoff (1987). In (5), *upp* denotes location at the end point of an imaginary vertical path, which is mentally traced by the speaker/listener.

(5) *Hon bodde en trappa upp.*
she lived one floor up
'She lived on the first floor.'

This locational meaning of *upp* is thus based on the motional sense of *upp* plus principle C.

2.1.4. Principle D: Deictic orientation according to the ME-FIRST principle

Principle D is different from the other principles hitherto mentioned in that it dows not transform the basic image schema but places it in a specific deictic context. Cooper and Ross (1975) observe that the canonical person forms a conceptual reference point, and that a number of concepts are oriented with respect to this person. As Lakoff and Johnson (1980: 132) write: "Since people typically function in an *upright* position, see and move *frontward*, [...] we have a basis in our experience for viewing ourselves as more UP than DOWN, more FRONT than BACK [...]. Since we are where we are and exist in the present, we conceive of ourselves as being HERE rather than THERE, and NOW rather than THEN." According to the ME-FIRST-orientation, notions such as UP, FRONT, HERE, and NOW are all oriented toward the canonical person, whereas DOWN, BACKWARD, THERE, and THEN are all oriented away from the canonical person.

When principle D applies to lexical concepts such as "up" and "down" the upper pole is consequently seen as closest to the conceptual reference point and the lower pole is seen as furthest away from the reference point, cf. Figure 2.

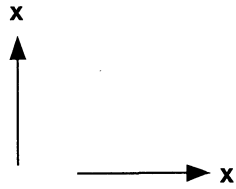


Figure 2. A deictic version of the (transformed) vertical axis.

In accordance to this principle, the use of *upp* 'up' in (6) marks that the location of the trajector is close to the reference point, which in this context is one of the ends of the table, construed as the "head" of the table and equal to the seat of honor.

(6) *Han satt längst upp vid bordet.*
he sat furthest up by table-the
'He sat at the head of the table.'

The deictic ME-FIRST orientation is thus accompanied by a metaphorical orientation of the table according to the human body schema, giving the table an inherent top vs. bottom (cf. English *at the head (foot) of the table*). The conceptual metaphor underlying the expression in (6) is CONTROL or POWER IS UP, which is coherent not only with the ME-FIRST orientation but also with other bodily-based metaphors, such as HAPPY IS UP, CONSCIOUS IS UP, etc. (see Section 4).

Inversely, the use of *ner* 'down' in (7) marks that the trajector's location does *not* coincide with the reference point, in this case the speaker.

(7) *Han satt längst ner vid dörren.*
he sat furthest down by door-the
'He sat furthest down by the door.'

The meaning of the adverbs in (6) and (7) is derived by principles A, C, and D: A transforming the vertical path into a horizontal one, C focussing on the endpoint of the mentally scanned Path, and D orienting the transformed vertical path according to the ME-FIRST principle.

2.1.5. Principle E: Metaphorical mapping from Physical Space to Temporal Space

Principle E is illustrated by the sentence in (8), where *upp* 'up' refers to temporal movement along a (metaphorical) vertical path.

(8) *...tankar som når upp i vår egen tid*
... thoughts that reach up into our own time
...'thoughts that reach up to the present time'

The meaning of *upp* in (8) is derived by a metaphorical mapping of the vertical axis from the physical to the temporal domain. The mapping is done in accordance with the ME-FIRST principle (D), since *upp* 'up' refers to movement/direction toward the present time, cf. Figure 3. In (8), *upp* is furthermore referring to an extended entity ("thoughts") which is projected onto the temporal Path. Thus, this use of *upp* is derived by principles B, D, and E.

Applying various cognitive operations to the Vertical Axis schema will result in a related set of image schema variants. In the following, I will outline the subset of the conceptual category of the Vertical Axis, which is relevant for the present investigation.

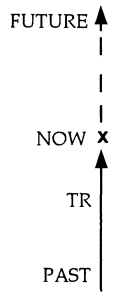


Figure 3. Example (8).

2.2. The Vertical Axis category

Following Casad (1993) I assume that the various instantiations of a basic image schema constitute a radial conceptual category with a superordinate schema serving as a hub for a set of interrelated schemas. The Verticality schema constitutes a superordinate category which includes various vertical axes and paths, differing in orientation and direction.[6] The Vertical Path schema, in turn, is one of the subcategories of the more general Directed Path category. In accounting for the polysemy of vertical lexemes (especially "up" and "down"), I will restrict myself to the cognitive operations allowing us to use vertical expressions to refer to nonvertical relations. That is, I will be concerned only with meaning extensions which *minimally* involve principle A (the tipping of the vertical axis), or E (the mapping of the vertical axis onto the temporal domain). However, manifestations of principle A, as well as of principle E, may or may not involve principles B, C, and D. The presence or absence of principle D determines whether the vertical axis will be deictically oriented or not. Figure 4 illustrates the relevant portion of the conceptual category defined by the Verticality schema, viz. variants of an upward directed vertical axis/path. This portion consequently involves schemas which are derived by principle A, and/or principle D. "x" marks the location of the reference point in relation to the poles of an upward directed axis.

Schema 1, taken to be the superordinate schema, does not specify the conceptual reference point. In Schema 2, the reference point is inserted at the lower pole of the vertical axis. As this is the natural location of a human observer in relation to a physical vertical axis (a flagpole e.g.), I hypothesize that this is the unmarked location of the reference point.[7] In Schema 3, the vertical axis has a specific deictic orientation, however, with the result that the reference point is located closest to the upper pole. As illustrated by Schema 4 vs. 5, the relation between the upper pole of the vertical axis and a specified reference point is preserved when the vertical axis is transformed into a horizontal one.

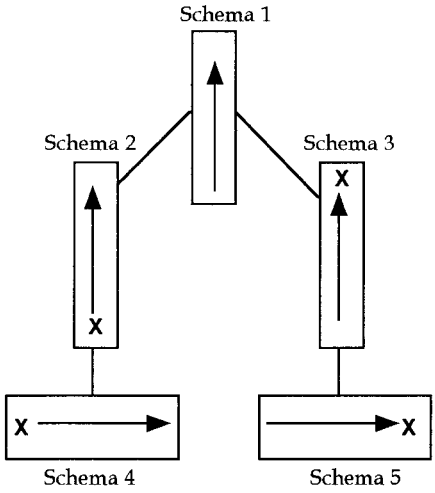


Figure 4. Portion of the Vertical Axis category.

Schemas 2 and 4 thus instantiate *deictically unspecified variants* of Schema 1, where the reference point unmarkedly is located at the lower pole of the axis (alternatively at the former lower pole), whereas Schemas 3 and 5 instantiate *deictically specified variants*, where the reference point is located at the upper pole (alternatively at the former upper pole). In the following, I will show how these two types of transformed schemas - deictically unspecified vs. deictically specified variants - are manifested linguistically. The examples are primarily taken from Swedish, with sporadic references to Icelandic and English.

3. The Usage of Vertical Expressions to refer to Nonvertical Relations

3.1. Deictically unmarked uses

When the vertical axis is tipped, "up" will correspond to the direction "away from" and "down" to the direction "toward" the reference point (as in Schema 4 in Figure 4). There is a considerable amount of diachronic data showing that lexicalizations of the upper pole of a vertical axis tend to take on meanings which refer to the outer pole of an "in-out" axis. Thus in several Indo-European languages the word for 'up' may also be used to designate horizontal movement/location away from the reference point (canonically the speaker). IE **ud-*, originally meaning 'up', 'up to[ward]' developed a secondary meaning 'out', cf. Goth. *ût*, OHG *ûz* 'out', 'away

out'; OHG *ûzero*, *ûzaro*, OE *ûter-ra* 'the furthest out' (Pokorny 1959: 1103f; Jóhannesson 1956: 92). Similarily, IE **upér*, **upéri* 'over, above' also had the meaning 'over - out', cf. Goth. *ufar*, Old Icel. *yfir*, OHG *ubir* (Pokorny 1959: 1105).

In examples from the 18th and the early 19th century, Swedish *upp* 'up' is used in contexts where *ut* 'out' is preferred nowadays; cf.:

(9) a. *att skälla upp någon*
to bawl up someone
'to give someone hell'
b. *att späda upp något*
to thin up something
'to dilute something'

Further, in the composite *uppland* 'upland' - referring to an area surrounding a trade center - *upp* (which constitutes the first part of the composite) is used to refer to a physical location away from the reference point.

Given a correspondence between "up" and "out" we may also expect a correspondence between "down" and "in", or, alternatively, between "down" and the location closest to the conceptual reference point. In fact, such a correspondence is attested in Skr. *úpara-*, which besides 'the lower' also meant 'the closer' (Pokorny 1959: 1106). Further, such a correspondence is also established when comparing the lexicalized expressions in Swedish and Icelandic for preserving fruit and vegetables by the process of cooking. In Swedish, this process is referred to as *koka in* lit. 'boil in', i.e. "boil down", whereas in Icelandic the corresponding expression is *sjóða niður* 'boil down'.

The lexical-conceptual correspondence between "up" and "out" is hypothesized to originate in a cognitive operation of transforming the vertical axis into a horizontal one (principle A). Applying this (and only this) cognitive operation to the image schema of a Vertical Axis gives a deictically *unmarked orientation* of the former vertical axis. In the following subsections, I will account for how such deictically unmarked uses are manifested in spatial as well as nonspatial domains.

3.1.1. Spatial relations

In the domain of space, vertical expressions may be used to denote physical movement as well as location; cf. the examples in (10).

(10) a. *Han gick upp och ner i korridoren.*
he walked up and down in corridor-the
'He walked up and down the corridor.'
b. *Ett par kilometer upp på vägen låg en gammal ruin.*
a couple-of kilometers up on way-the lay an old ruin
'A couple of kilometers away lay an old ruin.'

The use of *upp* 'up' in (10) illustrates the lexical-conceptual correspondence between "up" and "out" following from a cognitive operation of tipping the vertical axis, where the reference point unmarkedly coincides with the lower pole of the (former) vertical axis. Another example of the correspondence between "up" and "out" is given by the different expressions in Swedish and Icelandic to refer to the event of going to the countryside. Whereas Icelandic makes use of the vertical axis to refer to movement away from the given reference point, Swedish makes use of the horizontal "in-out" axis for the same purpose. Cf.:

(11) a. *fara upp í sveit* (Icelandic)
(to) go up in country
'to go to the countryside'
b. *fara ut på landet* (Swedish)
(to) go out on country-the
'to go to the countryside'

When transforming the vertical axis into a horizontal one by tipping it, an entity A which is located "above" an entity B will, by implication, be located "behind" B, cf. Figure 5. Note that the reference point ("x") unmarkedly is at the lower pole of the transformed vertical axis, in accordance with Schema 4 (Figure 4).

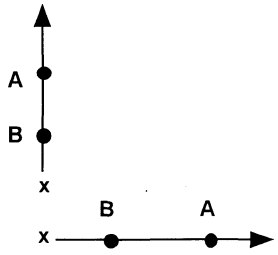


Figure 5. The correspondence between "above" and "behind".

The use of Icelandic *fyrir ofan* 'above' in the idiomatic construction in (12) is motivated by the correspondence between the position "above" on the vertical axis and the position "behind" on the horizontal axis.

(12) *sofa fyrir ofan einhvern*
(to) sleep above someone
'to sleep nearer the wall than someone'

Also the constructions in (13) instantiate a vertical axis that has been tipped, with the result that the entity located "above" the landmark will be located beyond the landmark.[8]

(13) a. *Hann býr fyrir ofan hólinn.* (Icelandic)
he lives above hill-the
'He lives beyond the hill.'
b. *Han bor ovanför kyrkan.* (Swedish)
he lives above church-the
'He lives beyond the church.'

As the use of both *fyrir ofan* and *ovanför* (both meaning 'above') in (13), demands that the landmark is situated along a rising path, there is, at least partly, also a relation of verticality between trajector and landmark in these contexts. Note however that this meaning of *fyrir ofan* vs. *ovanför* is "meaningful" only if we take into account the transformation of tipping the vertical axis.

From the perspective of the speaker, what is beyond something is further away than what is in front of something. Thus the implication that what is "up" is furthest away from the conceptual reference point also applies when two entities are related to each other along a tipped vertical axis.

3.1.2. Abstract relations: the region of interactive focus

Lexemes denoting direction/position with respect to the vertical axis may be used (metaphorically) to denote direction/position in abstract domains. One such abstract domain is the so-called region of interactive focus. The term was introduced by Lindner (1981) in her study of verb particle-constructions with OUT and UP, and is characterized by her as "the realm of shared experience, existence, action, function, conscious interaction and awareness" (Lindner 1981: 171). The region of interactive focus is thus determined by the particular viewpoint taken by one of the speech act participants or by the narrator. Depending on whether or not the vertical axis has a specific deictic orientation, "up" may be used to denote either entering or departure from the region of interactive focus. In uses unmarked for a specific deictic orientation, "up" will correspond to movement/location away from the conceptual reference point, i.e. the region of interactive focus; cf. the figure below, based on Lindner (1981). ("VP" stands for "viewpoint".)

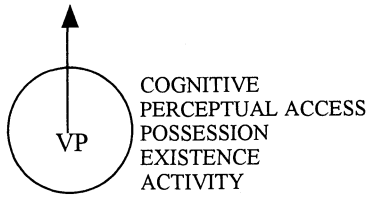


Figure 6. Moving "upward" as departure from the region of interactive focus.

The correspondence between "up" and "away (out)", accounted for above, is thus transferred to the region of interactive focus. In the examples in (14), the trajector leaves the region of interactive focus, which in these contexts is characterized as the realm of existence.

(14) a. *Huset brann upp.*
house-the burnt up
'The house was destroyed by fire.'
b. *Limmet löstes upp.*
glue-the was-dissolved up
'The glue was dissolved.'
c. *Isen gick upp.*
ice-the went up
'The ice broke up.'
d. *Han rev upp avtalet.*
he tore up agreement-the
'He tore up the agreement.'

3.1.3. Temporal uses

Historically, there are a number of examples of how Swedish *upp* 'up' is used to refer to ancient time, indicating that time is construed as moving downward, cf. Figure 7. Consequently the upper pole will coincide with "past" (i.e. away from "now"), whereas the lower pole corresponds to "now".



Figure 7. Time moving downward.

In English, expressions such as *down to the present day, down through the ages* are consistent with the conceptualization of time as moving downwards.[9] Inversely, when mentally moving back in time, one is moving "upward", as shown by the Swedish examples in (15).

(15) a. *...stiga up till urgamla tider* (1753)
...(to) rise up to ancient times
...'to go back to ancient times'

b. *de fleste våre gamla lagars ursprung går ända up til hedendo men* (1772)
the most our old laws origin goes all-the-way up to heathendom-the
'The origin of most of our old laws goes all the way back to heathendom.'

c. *denna äldre (kyrka), hvars ursprung försvinner upp i 1000- eller 900-talet* (1817)
this old (church), whose origin disappears up into eleventh or tenth century
'this old (church), whose origin disappears back to the eleventh or tenth century'

In present-day Swedish, "up" is no longer used to refer to ancient time, i.e. vertical expressions is no longer used nondeictically to refer to the passing of time.

3.2. Deictically marked uses

"Up" and "down" may however also be used in a context where the (former) upper vs. the (former) lower pole is deictically oriented in relation to a conceptual reference point (as illustrated by Schemas 3 and 5 in Figure 4). In these cases, principle D (the ME-FIRST principle) has applied to the basic Verticality schema, along with principle A (transforming the vertical axis into a horizontal one by tipping it) or principle E (the metaphorical mapping from physical to temporal space). According to the ME-FIRST principle, "up" is closest to the conceptual reference point, and thus the upper pole of a transformed vertical axis will be oriented toward the reference point.

3.2.1. Spatial relations

In the examples in (16), Swedish *upp* 'up' denotes that the trajector is moving to a position closer to the landmark, which corresponds to the mental view of the narrator.

(16) a. *Han försökte skynda sig, men hon gick upp bredvid honom.*
he tried to hurry himself, but she walked up beside him
'He tried to hurry, but she walked up beside him.'

b. *Han hade kommit upp bakom henne utan att hon hade märkt det.*
he had come up behind her without that she had noticed it
'He had come up behind her without her noticing it.'

Inversely, Swedish *ner* 'down' is used to denote a location away from a reference point; cf. (17), which may be used to refer to situations where there is no difference of level between the starting point and the goal.

(17) *Vi gick ner till stationen för att möta honom.*[10]
we walked down to station-the for to meet him
'We walked down to the station to meet him.'

In Swedish, the deictic orientation is applicable also when "up" and "down" have an end-point reading, i.e. in those cases where principle C has applied. In the Swedish example in (18), *ner* 'down' thus corresponds to a location which is away from (does not coincide with) the conceptual reference point.

(18) Han satt längst ner vid dörren.
he sat furthest down by door-the
'He sat furthest down by the door'

Whereas Swedish, in cases like (18), makes use of the vertical axis to refer to end-point focus on the horizontal plane, Icelandic, in contrast, makes use of the in-out axis in parallel contexts; cf. the examples in (19) where the (lexically unexpressed) reference point is the most important person in this particular social context (cf. the presentation of principle D in Section 2.1.4.).

(19) a. *Han satt längst upp vid bordet.* (Swedish)
he sat furthest up by table-the
'He sat at the head of the table.'
b. *Hann sat innst við borðið.* (Icelandic)
he sat furthest in by table-the
'He sat at the head of the table.'

As was shown in Section 3.1., there is a conceptual correspondence between "up" and "away out" when the vertical axis is tipped without being deictically oriented. The different lexicalizations of the same situation in Swedish and Icelandic (cf. 19) manifest the expected conceptual correspondence between "up" and "in" in cases where the vertical axis is deictically oriented.

3.2.2. Abstract relations: the region of interactive focus

Also in mapping the vertical axis onto the abstract domain of an interactive focus, the axis may be deictically oriented according to the ME-FIRST-principle. In this deictic use, "up" will indicate entering into the region of interactive focus, while "down" will indicate departure from the same region. The examples in (20) illustrate the use of Swedish *upp* to denote the entering of a physical or (more or less)

abstract object into visual perceptual space - three-dimensional (a) or two-dimensional (b) - or audible perceptual space (c).

(20) a. *Hunden jagade upp kaninen.*
dog-the chased up rabbit-the
'The dog hunted up the rabbit.'
b. *Ett meddelande dök plötsligt upp på skärmen.*
a message turned suddenly up on screen-the
'A message suddenly appeared on the screen.'
c. *Räkna upp alla ord som börjar på B!*
count up all words that begin on B
'Enumerate all words beginning with B!'

The sentences in (21) illustrate Swedish *upp* 'up' when used to designate the creation of an object - which then becomes accessible to the viewer.

(21) a. *Hon skrev upp receptet.*[11]
she wrote up recipe-the
'She wrote down the recipe.'
b. *De kopierade upp fler "handouts".*
they xeroxed up more handouts
'They xeroxed more handouts.'
c. *Vi måste lägga upp en strategi.*
we must lay up a strategy
'We have to draw up a strategy.'

Swedish *upp* may also be used to designate that an entity comes into some public viewer's perceptual and cognitive access (22):

(22) a. *Föreställningen skulle upp i slutet av oktober.*
show-the would up in end-the of October
'The show would open at the end of October.'
b. *Frågan om årsavgiften kom upp på mötet.*
question-the about annual-fee-the came up at meeting-the
'The question of the annual fee came up at the meeting.'

Inversely, Swedish *ner* 'down' may be used to indicate departure from the region of interactive focus, cf.:

(23) a. *Han tystade ner henne.*
he silenced down her
'He silenced her.'

b. *Regimen slog ner all opposition.*
regime-the beat down all opposition
'The regime beat down all opposition.'
c. *Han bröt ner hennes försvar.*
he broke down her defense
'He broke down her defense.'
d. *De lade ner arbetet.*
they laid down work-the
'They ceased work.'

3.2.3. Temporal relations

When referring to temporal space, the ME-FIRST principle optionally applies in Swedish, Icelandic, and English. In the Icelandic expressions in (24), time is conceptualized as moving upward, which means that an earlier point in time is seen as further down than a later point in time; cf. Figure 8.

(24) a. *upp úr jolum / mánaðarmótum / þrjú*
up from Christmas / turn-of-the-month / three
'after Christmas / turn of the month / three'
b. *upp frá því*
up from this
'since then'

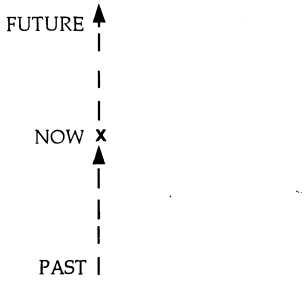


Figure 8. Time moving upward.

Further, the English expression *up to the present day* is consistent with the ME-FIRST orientation (note however the "inverse" expression *down to the present day*, Section 3.1.3.), as well as the use of Swedish *upp* 'up' to refer to direction *toward* "now", cf.:

(25) *...nybildningssträfvanden, af hvilka flera nå upp i vår egen tid.* (1902)
...attempts-at-regeneration, of which several reach up in our own time
...'attempts at regeneration, of which several reach up to our own time'

If "up" corresponds to "now", or direction toward "now", then "down" is expected to be used to refer to "then", or direction to "then". Evidence of this latter use is found in present-day Swedish where *ner* 'down' refers to mental motion back in time.

(26) *Vi kan inte gå längre ner i tiden än 300-talet.*
we can not go further down in time-the than fourth-century-the
'We can not go further back in time than the fourth century.'

Thus, when "up" and "down" are used to refer to direction of time in present-day Swedish, ME-FIRST principle will apply to the image schema of a vertical axis - with the result that "now" is seen as further up than "then".[12]

4. Summary and Concluding Remarks

Basing my case on data primarily taken from Swedish - but with cross-linguistic support - I have shown that vertical expressions are systematically used to refer to nonvertical relations, both spatial and abstract ones. I have argued that this is due to the possibility of image schemas to undergo cognitive operations, which give rise to new image-schematic structures that might be expressed lexically.[13] In order to support this claim I have shown how the image schema of a Vertical Axis may be transformed so that it will fit contexts where there is no (apparent) vertical relation between trajector and landmark. I do not allege that the vertical axis is necessarily construed as purely horizontal in every context where "up" or "down" is used to refer to an "objectively" horizontal plane. The point is that in order to productively use the vertical axis to refer to a nonprototypical vertical relation, this axis is transformed in one way or another, i.e. rotated and/or tipped. Thus, even if there might be a "rest" of incline/decline in the use of "up"/"down", the (former) vertical axis is no doubt construed as more horizontal than vertical in the spatial examples discussed here.

I have furthermore argued that the existence of apparently contradictory senses of "up" and "down" in both spatial and abstract contexts can be explained as consequences of different cognitive operations applying to one and the same basic image schema. Both diachronic and synchronic data show that when vertical expressions are used in nonvertical contexts, "up" may correspond to either "out" (alternatively: away from the reference point) or "in" (alternatively: close to the reference point). The correspondence between "up" and "out" is given by a cognitive operation of tipping the vertical axis while preserving the unmarked reference point at the foot of the axis. The correspondence between "up" and "in" - on the other hand - is the result of both tipping the vertical axis *and* deictically orienting it so that the reference point is close to the upper pole.

There are however also perceptual facts that lead to a correlation between "up" and "out" on the one hand, and between "down" and "in" on the other. Clark (1973) notes that what is above ground level is normally perceptible for us, whereas what is below ground level is not. This fact is one of the reasons for assuming "upward" to be the positive direction and "downward" the negative one. In the same way, what is outside a container is normally perceptible, whereas what is inside is not. Maybe more striking is the fact that when an entity is taken out of a container, it is either taken "up" or "out" (or "up" *and* "out"). Thus the correlation between "up" and "out" has a very clear experiential basis in physical reality.

As for the inverse correlation, i.e. between "up" and "in" (or closest to the reference point) Sweetser (1995) accounts for a parallel correspondence in different cognitive models of self and society. Describing social structure in terms of the Container metaphor, the "in" pole will be associated with positive values such as acceptance/approval (*the "in" crowd*) or legality (*stay within legal limits*), while the "out" pole will be associated with negative values such as rejection (*be kicked out of college*) or illegality (*outlaws*). However, social structure may also be perceived in terms of vertical spatial structure (Lakoff and Johnson 1980; Sweetser 1995; Hiraga 1995). In these cases, the "up"-pole is associated with positive values such as high status and authority (*high status, to be in a superior position*). As Sweetser shows, the metaphoric uses of "up" and "in" in these domains can be traced back to different experiential bases. With regard to the "in-out" contrast, skin and bone structure are less essential to human life than the vital organs which are inside them. However, with regard to the asymmetry between "up" and "down", there are other bodily correlations. Consider that what is up(ward) in the human body is also central for us: the brain, which is "highest up", is the most important organ in the sense that it controls the rest of the body. The ME-FIRST principle, which takes the "up"pole of man's biological vertical as reference point, is thus grounded on the conceptual metaphor CENTRAL IS UP.

Given that cognitive operations can account for the possibility of using vertical expressions to express nonvertical relations, there still remains the question of why we would prefer a vertical expression over a nonvertical one to express a nonvertical relation. One reason may simply be that the vertical axis is more conceptually important for us than the horizontal one(s), which is attributed to biological/perceptual facts. The vertical axis constitutes one of the natural reference planes for man, due to gravity and the biology of the human body. When man is in his canonical upright position, his biological vertical coincides with geological vertical (Clark 1973). As pointed out by Miller and Johnson-Laird (1976) verticality terms are learned before horizontal ones (front-back, left-right e.g.), obviously due to the fact that verticality is easier to perceive than horizontal relations. Also Svorou (1995) states that there is cognitive asymmetry with respect to the vertical and the frontal axis, claiming that the order of acquisition reflects the degree of salience of the concept. Thus we may conclude, with Svorou, that there is a greater cognitive salience of vertical axis terms over horizontal ones.

Another reason for the preference of vertical expressions over horizontal ones may be attributed to the embodiment of meaning. The fact that a man's canonical position is upright has a number of implications for how lexical notions such as "up" and "down" are used metaphorically. Experientially, upright posture indicates waking, health, and activity, whereas a horizontal position goes along with nonactivities such as sleep, illness, or death. Even when standing up, there might be a difference between a more or less erect posture, where drooping goes along with sadness and more erectness indicates happiness. The positive value of "up" thus motivates conceptual metaphors such as HAPPY IS UP, CONSCIOUS IS UP, HIGH STATUS IS UP, etc., which are lexically manifested in expressions such as *to feel up*; *to wake up*; *high status is up* (cf. Lakoff and Johnson 1980, Sweetser 1995).

In using vertical expressions to denote nonvertical relations, either principle A (tipping the vertical axis) or principle D (the ME-FIRST principle) - or both - may apply to the image schema of a Vertical Axis. As should have been clear from the reasoning above, these two cognitive principles have different, but related, experiential bases. Principle A is based on the bodily experience of lying down, whereas principle D is connected to the cognitive centrality of the "up"-pole, which, in turn, is based on the positive experiences of man's upright position. Thus the present account of the polysemy of "up" and "down" is yet another support for the thesis of the bodily basis of linguistic meaning.

Endnotes

1. I wish to thank Alan Cienki and Bob Dewell for insightful comments on an earlier version of the paper.
2. See Lakoff (1987); Langacker (1987, 1991a).
3. Speaking in favor of a generative lexicon, Ekberg (1995a, b), argues that cognitive operations on image schemas constitute generative principles by which new senses are continuously created out of conventionalized connections between morpho-phonological form and conceptual content. This view implies that the mental lexicon has a dynamic rather than a static structure. In representing a complex lexical category as a network of interrelated senses, some of the nodes will correspond to full lexical entries (i.e. meaning variants that have become conventionalized over time), whereas others are only optionally realized as full lexical entries.
4. For an analysis of the properties of image schemas see Cienki (1995).
5. "Trajector" refers to the entity which is assessed or localized in a relational predication, whereas "landmark" refers to the entity functioning as a reference point for localizing the trajector (see Langacker 1987: 217-220 for a more detailed account of these notions).
6. Vertical axes/paths in turn include other image schemas, e.g. the Straight schema (see Cienki in preparation).
7. Clark (1973) states that the ground level is a natural plane of reference in what he calls the perceptual space.
8. Cf. also the Sanskrit word *úttara-* meaning 'the higher', but also 'the back' (Pokorny 1959: 1104, Jóhannesson 1956: 92).
9. I thank Alan Cienki for pointing out these examples to me.

10. As Bob Dewell has suggested (p.c.), the expression "down to the station" (conventional as it is) may simply reflect the fact that train stations typically are situated in the low, flat part of a town. See also footnote 13.
11. There are in fact two expressions in Swedish referring to the act of encoding a piece of information, viz. *skriva upp* 'write up' and *skriva ner* 'write down'. While "to write up" refers to the act of codifying a given piece of information into e.g. a "recipe", "to write down" is used when an already existing, i.e. codified, piece of information is given a written representation.
12. The use of "up" to refer to movement toward future is consistent also with the metaphor MORE IS UP: the further up in time, the higher the stack of (passed) years.
13. For some conventional uses of "up" and "down" to refer to relations on the horizontal plane, there might be other explanations than a productive application of the "tipping" transformation, cf. e.g. example (17), Section 3.2.1. As regards geographical expressions (which I have ignored here), the up/down orientation is often conventionally mapped onto the north-south orientation.

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A Prosodic / Pragmatic Explanation for Word Order Variation in ASL with Typological Implications

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This paper will address the issue of word order variation in ASL sentences, which has intrigued researchers for over 20 years. I will argue that an information packaging model provides a natural explanation for ASL word order permutations in terms of the identification of information as *focus* and the prosodic requirement that focus must receive prominence. This argument was essentially made for English in Creider (1979), wherein it is argued that stress and intonation provide the *explanation* for movement transformations, and that a typology of discourse organizing languages could be developed. There are three parts to this discussion: (1) implications of an information packaging model for surface word order; (2) interaction of a language's phrasal stress assignment system with information packaging; and (3) distinctions that arise among languages in their treatment of information that is not in focus. I will suggest that a typology can be constructed on the basis of the interaction of two parameters: Vallduví's (1991) feature [±plastic] which indicates whether a language allows stress shift, and one that I will call [±GR], which refers to whether a language gives primacy to Grammatical Relations or to Discourse Roles in the determination of surface word order.

Arguments have been offered that ASL is typologically an SVO language, that different word orders reflect both syntactic and pragmatic functions, and that such word order changes are marked prosodically (Aarons et al. 1992; Fischer 1975, 1990; Liddell 1978; Petronio 1991, 1992; Romano 1991; Wilbur 1991, 1994a). The role of morphological marking has also been recognized (Kegl 1976). I will provide an overview of the arguments that lead to the conclusion that even though ASL basic word order is SVO, its surface word order is primarily determined by what information is in focus and the fact that ASL has fixed phrasal stress assignment in final position. Catalan provides a language comparison, in that it also has basic SVO word order and fixed phrasal stress. However, there are significant distinctions between ASL and Catalan in how they accomplish the goal of putting focus in main clause final position: ASL prefers leftward movement (preposing) to remove non-focused material from final position, while Catalan prefers rightward movement (right detachment or dislocation) to accomplish the same task. Also, ASL allows considerably greater freedom of constituent ordering in the main clause, while Catalan preserves as much of its SVO ordering as it can (Vallduví 1991). Russian provides yet another type of comparison, in that it displays determination of surface word order by discourse relations like ASL but it allows phrasal stress to shift to different positions in the sentence like English (King

1993). Spanish is a spoken language representative of the category containing ASL, with both the absence of stress shift and the preference for Discourse Role determinants of word order.

1. Information Packaging Perspective

From an information packaging perspective, focus is the central determinant of both surface word order and prosodic structure (Chafe 1976; Lambrecht 1994; Prince 1986; Vallduví 1992). The presentation of information in a sentence is structured according to the speaker's belief regarding the hearer's knowledge and attentional state (whether something is in the hearer's mind at the time of utterance; variant formulations of this generalization exist, but the distinctions that they are intended to capture are not relevant here; Chafe 1976; Delin 1992). For information packaging purposes, focus is defined as the "information the hearer is instructed to enter into knowledge-store" (Vallduví 1992). The non-focus information, or *ground*, indicates to the hearer where and how the focus information should be entered into the knowledge store. Vallduví argues that ground includes at least two different specifications: *link* information, which is commonly viewed as topic or theme, indicates where the information should be entered in the hearer's knowledge store, while *tail* information, if present, may indicate to the hearer to *substitute* the focus information in place of existing information in the knowledge store. In this framework, then, the absence of a tail would imply that the focus information was *additional* information, while the presence of a tail would imply that the focus information was *replacement* information. Typically, the order of information presentation would be link - focus - tail. There appear to be important differences between ASL and Catalan in their treatment of tail information.

2. Interaction of Information Flow, Prosody, and Word Order

2.1. Role of stress placement plasticity

In English, phrasal stress may be shifted to different positions for different focus readings while the syntactic structure remains unchanged. Example (1) illustrates a focused object NP, (2) a focused V, and (3) a focused sentence, which shows also that in English the stress prominence is on the last argument, in this case the subject (capital letters indicate the location of the primary stress):

	English	Catalan
(1)	The boss [hates BROCCOLI]	*L'amo [odia el BròQUIL]*
(2)	The boss [HATES] broccoli	*L'amo [l'ODIA t_{i},] el bròquil$_{i}$*
(3)	[The BOSS called]	*[ha trucat l'AMO]*

In Catalan intonational prominence is fixed on clause-final position and syntactic operations must be used to make the focus fall together with prominence. Vallduví (1991) notes that in Catalan, ground information is "forced out of the core clause". The Catalan focused object NP structure is essentially the same as English (1), as both languages have basic SVO order and the object NP is therefore already in final position for focus in Catalan. The Catalan focused V requires the direct object NP to be moved out of final position in the core clause (indicated by *t* and a comma), leaving the V in final position for focus (2). The rightward moved object NP is now in its own clause (at least intonationally) and it must remain unstressed. The Catalan focused sentence shows that the argument available for stress, namely the subject (as in the English equivalent), appears in final position for focus and prominence (3).[1]

Vallduví proposes that the difference between English and Catalan is their setting on the Plasticity Parameter: English is [+plastic] and allows molding of the intonation contour by stress shift to attain togetherness of focus and prominence, while Catalan is [-plastic] and doesn't allow stress shift. As a consequence, Catalan requires that the focus information and the prominence in final position be brought together by other (syntactic) means. I have argued that ASL is also [-plastic], that is, the order of words must be adjusted to put the focus item in a position of prominence rather than adjusting the prosody to make the prominence fall on the focus item (Wilbur 1994a, c, 1995b, 1996). Like Catalan, ASL prefers to have the focused item in final position of the main clause (of course, unstressed clitics may attach to the stressed item; Petronio 1993; Wilbur 1994c). However, differences between the two languages will be a constant thread in the following discussion.

2.2. Effects of fixed stress on ASL word order

In general, the most neutral of stress patterns is the one in which the entire sentence is in focus (*broad* focus; Bolinger 1985; Cruttenden 1986; Gussenhoven 1983, 1985; Ladd 1980). These are the forms that might occur as a statement following a conversational opener like "Hey, know what?"[2]

(4) TOMORROW GO WORK PRO.1 NOT HAVE-TO, CAN STAY
bf/md
HOME
'Tomorrow I don't have to go to work, I can stay *home*.'

In other contexts, when the item to receive prominence may not be in final position, at least three strategies are observed in ASL. First, the item may be doubled, so that it appears both in its original slot and in final position (Bos 1995, Petronio 1993, Wilbur 1995a):

(5) FIND-#OUT PRO.1 CAN'T STAY HOME CAN'T
'I discovered that I *really can't* stay home.'

Second, the item may appear in final position.[3] Examples (6) and (7) illustrate simple cases of modals in final position; (8) shows that such structures can be embedded; and (9) shows that simple negation may also participate in this structure:

(6) BUT STAY HOME ALL-DAY EVERYDAY CAN'T
'but I *can't* stay home all day every day.'

br
(7) MARY BECOME DOCTOR SHOULD
'Mary should become a doctor.'

br
(8) BILL THINK MARY BECOME DOCTOR SHOULD
'Bill thinks Mary SHOULD become a doctor.'

br n
(9) JOHN WALK PARK NOT
'John didn't walk to the park.'

Third, there may be overt syntactic focusing. Example (10) illustrates the wh-cleft (or pseudocleft), which is extremely common in ASL usage:[4]

br
(10) FIND-#OUT WHAT, STAY HOME CAN'T
'What I discovered is/was that *I can't stay home*.'

In a series of papers, I have demonstrated that the wh-cleft in ASL meets all the criteria for a true focus structure and that the common references to it in the ASL literature as the *rhetorical question structure* fails to capture its appropriate structure and function (Wilbur 1994a, 1995b, 1996). In this structure, the first clause equivalent to the English *what I discovered* represents non-focused presupposed material containing an open proposition (that is, one containing a variable), and the second clause contains the focus material (which provides the information for the variable; Prince 1978, 1986).

Another syntactic focusing structure that has been identified for ASL is the cleft which is marked with THAT, identified by S. Fischer (p.c.) as the equivalent of the English it-cleft. I will return to this structure later in Section 3.[5]

3. How ASL Differs from English and Catalan

The lack of stress shift in ASL represents a major distinction between it and English. The result of this difference can be seen in the fact that ASL also lacks exactly those variants of syntactic structures in which the focus is not in final position. In English, predicate nominals (11) and wh-clefts (12) have so-called *plain* and *reversed* forms (Collins 1991a,b; Heggie 1988; Heycock 1991, 1992; Wilbur in press):

	Plain	*Reversed*
(11)	My sister is the doctor.	The doctor is my sister.
(12)	Lee's tie is what I don't like.	What I don't like is Lee's tie.

The plain form of the predicate nominal may be viewed informationally as link-focus (cf. also theme-rheme) while the reversed form (with stress on *doctor*) is focus-ground. The plain form of the wh-cleft is focus-ground and the reversed form is link-focus. The absence of stress shift in ASL means that the two cases in which the focus is not in final position, namely the reversed predicate nominal and the plain wh-cleft, do not occur; only those forms with the focus in final position are found:

	Plain	*Reversed*
	br	br
(13)	MY SISTER DOCTOR	*DOCTOR PT MY SISTER
	'My sister is the doctor.'	'The doctor is my sister.'
		br
(14)	*LEE POSS TIE WHAT PRO.1 DISLIKE	PRO.1 DISLIKE WHAT, LEE POSS TIE
	'Lee's tie is what I don't like'.	'What I don't like is Lee's tie.'

To illustrate, consider a situation in which people are attending a play in which one person's sister has the role of a doctor. In English, the person has both options in (11), but in ASL, only the plain predicate nominal in (13). One structure that looks similar to the reversed predicate nominal is the wh-cleft (15), but it is *my sister* that is in focus, not *the doctor*:[6]

br
(15) DOCTOR PT WHO, MY SISTER
'The one who is the doctor is my sister.'

In sum, then, the absence of stress shift in ASL results in only two syntactic forms for which English has four; the two forms that do not occur are those in which the focus would not be in final position and hence would not receive prominence. These examples illustrate the interaction between the ability to shift stress, the location of focus, and the surface word order possibilities in English and ASL.

A comparison between ASL and Catalan reveals other differences, ones which are particularly interesting because both languages have basic SVO order, do not allow stress shift, and prefer focus in final position. Vallduví argues that the basic strategy for achieving focus in final position in Catalan is by multiple right detachment, that is, by moving non-focused material rightward. Note that all possible orderings of tail information can occur:

(16) *[AL CALAIX,] ficara el ganivet el Juli.*
In-the drawer, put-future the knife Juli
[AL CALAIX,] ficara, el ganivet, el Juli.
[AL CALAIX,] ficara, el Juli, el ganivet.
[AL CALAIX,] el Juli, el ganivet, ficara.
[AL CALAIX,] el Juli, ficara, el ganivet.
[AL CALAIX,] el ganivet, el Juli, ficara.
[AL CALAIX,] el ganivet, ficara, el Juli.
'Juli will put the knife [in the DRAWER.]'

The actual ordering of tail phrases used is discourse dependent, but these possibilities illustrate another aspect of Catalan, namely that when the non-focused material is moved rightward out of the core clause, the strict SVO word order seen in main clauses is no longer maintained. The first tail serves the function of indicating that the focus information should be substituted for what the speaker believes the hearer has in knowledge store. I will refer to this use of tail information as a *mild* contrast indicator, in the sense that there are much stronger ways that the speaker could tell the hearer that the information the hearer already has is incorrect. Subsequent tails are presumably redundant for this function. The fact that Catalan allows multiple tails when only one is needed to identify the focus as a substitute indicates that it has a higher tolerance for repetition of discourse-old information.

ASL conversation generally does not use this type of mild indication of contrast. If the intended purpose of the focus information is to contrast strongly with the hearer's belief as assumed by the speaker, ASL uses formal contrastive structures rather than mild tail indications.[7] If the tail would be merely redundant, it is omitted entirely. This fact became obvious in my attempts to use focus questions to elicit different focused constituents as answers (cf. Kanerva 1990). In English, the sequence "What did the boy throw at the house? The boy threw the ROCK at the house." is perfectly acceptable; the answer part even has a stereotypic stress and intonation pattern. Indeed, in some contexts, such as classrooms or polite/formal

conversation, complete sentences are expected, at least from children. In ASL, the appropriate answer is much more likely to be just ROCK, and efforts to elicit *a complete sentence* from ASL consultants result in frustration on both sides, or worse, signed English versions of the desired complete sentence. ASL strongly avoids redundancy in conversational turns. If apparently redundant information is present, then a purpose is being served.

Consider first (17) which illustrates a response to an echo question (*who?*) that requests the proper person (*Kay* or *Kim*) be selected as clarification (Selecting Focus; Ferro 1993):

(17) A: Kay and Kim got in a wreck Saturday. I think she wasn't wearing her glasses or something.
B: WHO wasn't wearing her glasses?

English		ASL
		lf
A: *Kay* wasn't wearing her glasses.	(a)	KAY
	(b)	KAY, THAT WHO, THAT
	(c)	KAY PT, GLASSES, NOT HAVE

In English, it is normal and acceptable (but not required) to repeat the information *wasn't wearing her glasses* as part of the answer to the wh-question. In ASL this information is normally deleted. Trailing information, such as THAT WHO, THAT in (17b), repeats the focus of the echo question *WHO wasn't wearing her glasses?*, but none of the ground information. The option shown in (17c) is a distant third in preference, but it does show that it is possible to have the ground information repeated, and also that modifications in word order and pausing are made for emphasis; that is, unlike Catalan, which allows all possible variations of right dislocated constituents, ASL has a preferred sequence for redundant information when it does occur.

A similar situation obtains in (18), this time with only one antecedent for the subject. The echo question *who?* now reflects a request for information which the addressee did not catch (Completion Focus; Ferro 1993):

(18) A: Kay was driving her Dad's new sports car and ran into a tree.
B: WHO was driving his car?

English	ASL
	lb
A: It was *Kay* who was driving his car.	A: KAY THAT (DRIVE CAR)

Here again, the repeated information *who was driving his car* is acceptable (but not required) in English and is usually omitted but possible in ASL. The ASL form involves the focuser THAT (Wilbur 1994b). (19) provides a situation in

which the repeated information may *not* be omitted in ASL in response to an echo question for an object NP that the addressee did not catch (Completion Focus):

(19) A: I told Kay she should consider going into counseling.
B: You told WHO?

English	ASL
	lb
A: Kay.	A: KAY THAT, TOLD FINISH
It was *Kay* who I told.	*KAY (THAT)

What we have seen so far is that ASL allows but avoids repetition of cross-turn information, while English easily permits such information; Catalan also permits such information but it is right dislocated. Repetition of cross-turn redundant information is more acceptable in ASL when the focused material is an object (19), as opposed to a subject (17, 18). The key to the acceptability of such information in (18) and (19) is the presence of THAT, an ASL focuser that must always follow its focus associate. Recall Fischer's suggestion that the ASL equivalent of the it-cleft is a cleft with THAT. In (18) and (19), the form 'NP THAT, XP' is a cleft *it was NP who XP*: *It was Kay who was driving*; *It was Kay who I told* (Wilbur 1994b). Delin (1992) discusses the fact that the function of tail information in clefts is more to *remind* the hearer than to assert to the hearer (or to mark a substitute, as in non-cleft structures). Thus, the presence of tail information in these cleft examples is unremarkable.

What remains to be shown is how ASL treats ground information when the focus is offered as substitute information, that is, that ASL does require tail information in exactly those situations described by Vallduví. Consider (20), which is from Aarons (1994), and the unacceptable options, which are from my data:

br
(20) JOHN NOT-LIKE JANE. MARY, HE LOVES
*MARY (THAT)
'John doesn't like Jane. It's MARY he loves.'

Here, *Mary* is the focus which is offered as the correct information as to who it is that John loves; the tail *he loves* signals that Mary is a substitute to be put into the listener's entry of *John loves Jane*. Note that the English allows a cleft for the corrective clause *It's Mary he loves* while ASL does not. English can signal that Mary is the focus by shifting stress; ASL puts Mary in final position in its clause by preposing/topicalizing it out of the core clause (which some dialects of English can also do). Thus, (20) provides evidence that ASL can use tails as Catalan does, to serve an information packaging function. The two languages differ with respect to their treatment of tails that do not serve such a function, Catalan permitting multiple tails and ASL strongly preferring to omit non-functional tails.

Consideration of this functional distinction provides a means for distinguishing two ASL structures with apparently identical syntax, Topicalization for Contrastive Focus purposes (21), which Lambrecht (1994) calls *contrastive focus*, and Topic followed by traditional Comment/Assertion (22), with the function of the Topic to identify or reintroduce who is being talked about:

(21) (Link) Focus Tail
br
MARY, JIM LOVE TEASE [*t*]
(Jim doesn't like to tease Jane.) 'It's MARY who Jim loves to tease.'

(22) Link Focus (Tail)
br
MARY JIM LOVE TEASE
'As for Mary, Jim loves to tease her.'

Focus information in (21) is provided in contrast to other information that the speaker believes the hearer holds in knowledge store; no link will occur in the same sentence. In (22), the link establishes (or re-establishes) Mary as the topic of discussion and asserts about her that Jim loves to tease her. The focus information is not intended to replace existing information with respect to either Mary or Jim, and no tail is used.

There are two further implications of this analysis for actual production, one for the stress marking and the other for the non-manual marking of topics. MARY in (21) is a focus and should receive primary stress for the entire sentence; in (22), the primary stress for the sentence should appear in the clause JIM LOVE TEASE (our data indicate that LOVES is the usual location, this being the head of the final VP constituent).

Aarons (1994) discusses three types of non-manual marking for topics (phonetic details of which will not be discussed here). Of these, tm1 is used only on topics which may be considered to have been moved from their original position; in the case of (21), Mary is presumably the underlying object argument of *tease* and hence would be predicted to occur only with tm1. In (22) MARY is a plain topic and should have tm2 marking, which Aarons identifies as serving to change discourse topic (among other functions).

4. Typological Implications

4.1. Same goal, different strategy

From a typological perspective, it is important to appreciate the implications of the differing behavior of ASL and Catalan with respect to focus. ASL and Catalan diverge in two ways with respect to how the focused item ends up in final position.

First, Catalan makes extensive use of Right Dislocation (R.D.) of *ground* information, with one or more phrases that, in essence, *leave behind* the focused constituent in final position in the main clause. ASL, however, makes little use of R.D. and frequently omits ground material.

Second, Catalan has strict SVO word order in the main clause, but free word order among multiple R.D.s (as illustrated in [16];Vallduví 1991). ASL also has basic SVO word order, but more freedom is allowed in the main clause. Fischer (1990) notes the possibility of *minitopicalization* - fronting of lexical items particularly if the item is definite. Her analysis is consistent with the idea offered here, that a constituent which is not the focus of a sentence is moved out of final position to avoid being construed as focus. This type of movement gives the impression that ASL shuffles word order (hence the long-standing debate over whether it has a basic word order). In actuality the movement possibilities are considerably more limited than the term *shuffling* might suggest, and as Fischer observed, are primarily leftward (see further discussion in Wilbur 1994a, 1995a).

In sum, Catalan and ASL both prefer stress in final position and ensure that focused constituents appear in that position. Catalan accomplishes this by heavy use of rightward movement while maintaining strict SVO ordering of whatever remains in the main CP; in contrast, ASL tolerates word order movement within the main CP and relies on deletion or leftward preposing of non-focused material to ensure that the focus phrase appears in final position. The critical prosodic requirement that both languages must meet is that of final prominence in the main assertion. The critical information packaging requirement is that focused information must receive prosodic prominence. The two languages use different strategies to achieve the same goal.

I will now turn to the typological implications of the above observations. There has been a tendency in linguistics to divide languages into two mutually exclusive groups: configurational and non-configurational, or, more recently, discourse configurational (Kiss 1995). On this basis, I initially separated English from Catalan, Russian, and ASL. Vallduví's work on Catalan provided an excellent opportunity for comparison with ASL, and his typological parameter of Plasticity provided a prosodic basis for the division of English from Catalan and ASL, and a motivation for surface word order variations in languages with fixed phrasal stress. Yet, within the [-plastic] group, careful examination of the differences between ASL and Catalan suggested further subdivision. Both languages are SVO, hence configurational in the traditional sense. Within the main clause, ASL allows fo-

cused material to move rightward around non-focused material to final position (examples 5-9) while Catalan retains strict SVO order and must move non-focused material out of the main clause until the focused material remains in final position. Catalan is more rigid in word order than ASL. Outside the main clause, Catalan allows free order among the moved constituents, while ASL moves non-focused material leftward or omits it.

Preliminary analysis of the facts of Spanish indicate that it is also a member of the [-plastic] group. Moreover, Spanish is like ASL and unlike Catalan in the determination of surface word order. Jiménez (1995) discusses the information status of Spanish subjects that appear in pre-verbal, post-verbal, and sentence-final positions, noting that pre-verbal subjects are discourse links and post-verbal and sentence-final subjects are in focus, with the sentence-final subjects more specifically in contrastive focus. As a result, various word orders may occur in the main clause (SVO, OVS, SOV) and these orders are determined by discourse roles (Ocampo 1995). In Catalan, if the subject occurs in the main clause, it must be pre-verbal to maintain SVO word order. Also, Spanish, like ASL, omits the subject if it is simply redundant (that is, not a link, not contrastive, or not in focus). Spanish, then, is [-plastic], has various word orders allowed in the main clause, omits redundant material and does not make heavy use of R.D. Spanish patterns with ASL more than with Catalan.

Further consideration of differences between English and Russian reveal that parallel distinctions must be made within the [+plastic] group as well. There is a clear contrast between English, which determines word order in accordance with grammatical relations, and Russian, which determines word order on the basis of discourse roles. Clearly, the single parameter [plastic] is insufficient to capture the differences between English and Russian, and between Catalan and Spanish/ASL. These differences are not prosodic in nature, but rather reflect whether a language prefers to give greater prominence to grammatical relations (which results in more rigid word order) or discourse/informational status (which results in more flexible word order). There is a need for another parameter to capture how languages differ on the relative priority of grammatical and discourse relations; I will term this the Grammatical Relation parameter. [+GR] indicates grammatical relations have primacy; [-GR] indicates that discourse roles have primacy. The following possibilities result:

Table 1.

	[+ Plastic]	[- Plastic]
[+GR]	English	Catalan
[- GR]	Russian	Spanish, ASL

With a language sample of only 5, it is difficult to make generalizations; whether these categories represent meaningful typological distinctions among languages remains to be demonstrated. However, the suggestion here is that surface word order is not fully explained by the location of stress and information packaging, but that languages differ on the extent to which discourse relations that are reflected in the information packaging interact with within-sentence grammatical roles.

4.2. Same structure, different function/goal

There is one further observation on the difference between ASL and English that needs to be made. We saw that English permits *plain* and *reversed* predicate nominals and wh-clefts; this was explained as the result of English allowing stress shift. If focused information is final, stress and focus are together. If focused material is other than final, then stress must be shifted to achieve togetherness of focus and prominence. In ASL, non-focused material that is not omitted must be preposed (unless in a cleft, which has been identified as a frequent exception; Collins 1991a,b). Clearly, preposing serves different functions in the two languages. In English, the presence of preposing is primarily a pragmatic issue, occurring in situations in which the appropriate contexts for inversion are met (Ball 1991, Birner 1992, 1994, Birner and Ward 1993, Coopmans 1989, Ward 1988, Ward and Birner 1994). In ASL, preposing is part of syntactic-prosodic-pragmatic conspiracy to put focused information in final position with stress and is therefore required as a consequence of the absence of stress shift (Wilbur 1994a, c, 1995a). Put another way, the absence of stress shift in the prosodic component requires assistance from the syntactic component to achieve desired pragmatic-informational goals.

Acknowledgments

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Endnotes

1. Jiménez (1995) offers an information packaging explanation for Spanish that would seem to apply to the Catalan example in (3), namely that the subject appears post-verbally when the entire sentence is in focus. Sentence-initial subjects in Spanish are links, and sentence-final subjects are themselves in focus.

2. ASL glosses are typically written in capital letters: TOMORROW. When more than one English word is required to gloss a sign, hyphenation is used: HAVE-TO. Non-manual markings which may or may not affect the acceptability of a sentence in a particular context are indicated above the gloss line, with a line showing the durational domain of the marker (which usually corresponds with syntactic structure). The non-manual markers used in this paper are: bf for brow furrow, br for brow raise (discussion of syntactic behavior in Wilbur 1995a), md for mouth down, n for negative headshake, lf for lean forward, and lb for lean back (for leans, Wilbur and Patschke 1996). Two others that will be referred to are tm1 and tm2, topic marking 1 and 2, from Aarons (1994).
3. There are three potential analyses for this structure: (1) the focused item moves rightward to the end; (2) the item is doubled as illustrated in (5) and the original occurrence is omitted (cf. Bos 1995); or (3) the non-focused material is preposed. It may be the case that one or more of these strategies is involved, depending on such things as whether the structure represents an example of broad or narrow focus, but the issue is beyond the scope of this paper.
4. Note that in the ASL, not only is STAY HOME CAN'T focused by virtue of the special wh-cleft syntactic structure and by placement at the end of the sentence, but also that the modal CAN'T is in final position within its clause, as in example (6).
5. Fischer (1990) also discusses a definiteness effect which she called "mini-topicalization"; in such cases the complement precedes the head instead of following it. The result of such movement is that non-focused material does not appear in the final position of the main clause. ASL also has a variety of other focusing mechanisms (Wilbur 1994b). These include lexical focusing items such as SAME 'even' and ONLY 'only', and body leans (forward/backward for inclusive/exclusive and right/left for *parallel* focus) (Wilbur and Patschke 1996).
6. Another similar looking structure has been offered:

   (i) DOCTOR THAT-PT, MY SISTER
   'That doctor is my sister.'

   Its discourse function, proper syntactic analysis, and non-manual markings have not yet been determined; hence it is too early to speculate on its relevance to the various categories under discussion.
7. It is frequently observed that discourse in the Deaf community tends to be more *direct* than is usual for the hearing population. Certainly, the frequent use of strong contrastive indicators, such as the signs WRONG(-YOU) 'you're wrong' and NAW! 'no, that's not right', to overtly reject previous speaker's propositions or presuppositions is a reflection of this directness.

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Part II:

Grammatical Morphemes versus Lexical Units

Japanese *ni*: The Particulars of a somewhat Contradictory Particle

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1. Introduction

Grammaticalization has been defined as "the process whereby lexical items and constructions come in certain linguistic contexts to serve grammatical functions, and, once grammaticalized, continue to develop new functions" (Hopper and Traugott 1993: xv). When such lexical items are viewed from a synchronic perspective, they demonstrate a case of "spread", to borrow Croft's terminology, which he uses to refer to "the extension of a form from one element (use) in a semantic domain to a semantically contiguous or "nearby" element in the same domain" (1991: 184). When viewed from a diachronic perspective, the process exhibits a uniform directionality, as numerous cross-linguistic studies on grammaticalization have attested. Syntactically, grammaticalization takes a lexical item and turns it into a grammatical morpheme or affix. Semantically, it involves semantic extension from more concrete senses of an item to more abstract senses. As the lexical items take on grammatical functions, they become generalized, more polysemous, and gain a wider syntactic distribution.

This paper attempts to reconstruct the semantic and constructional extension of the Japanese particle *ni* from the perspective of grammaticalization. *Ni* demonstrates a wide array of functions - ranging from a simple locative marker, to a marker of indirect object, the marker of agent in passive clauses, a marker of purpose and reason, and even to a concessive subordinator. Unlike some other Japanese grammatical particles, including the well-studied subject marker *ga*, topic marker *wa*, and object marker *o* (which exhibit fairly uniform functions but very schematic meanings), *ni* may be in relatively early stages of grammaticalization since it continues to retain a basic spatial sense alongside its more abstract usages. It is the abstract usages of *ni* that are our special focus here since many of them appear to be at cross-purposes semantically. Nevertheless, these same usages exhibit the persistence of its basic locative meaning.

The approach taken in this paper assumes that linguistic meaning, be it lexical or grammatical, reflects conceptualization (Langacker 1987, 1991a) and that linguistic categories, both lexical and constructional, can be very complex (Lakoff 1987). Moreover, linguistic meaning is not presumed to be static. New senses of a lexical item can emerge continuously. Synchronically, speakers often perceive connections between basic and innovative senses of an item, even between concrete and abstract usages of that item. Diachronically, such semantic extension is not

random, although it may be driven less by what an item originally designates than by perceived connections between entities or events in the different experiential domains that speakers wish to talk about. We will demonstrate that a cognitive semantics approach, which grounds meaning in conceptualization, links it to a dynamic model of categorization, and allows for metaphorical mapping within the conceptual system, can help explain the random-looking but really rather congruent lexico-grammatical pattern exhibited by *ni* in modern Japanese.

In the next section, insufficiencies associated with previous analyses of this particle are discussed. In Section 3, based on assumptions and findings of what has come to be called "grammaticalization theory" (henceforth GT following Croft 1995), we will demonstrate that the various usages of *ni* are extensions of a small set of locative and strictly postpositional usages indicating two basic kinds of spatial relations. Strict lexical or grammatical categorization is usually rejected in GT, which has established that, cross-linguistically, certain types of lexical items tend to develop particular sets of grammatical functions thus blurring category boundaries between lexical and grammatical items. Furthermore, these processes are gradual and involve some preservation of lexical meaning. We will demonstrate here that *ni* is no exception in this regard, that it grammaticalizes in ways frequently observed in other languages, and that it makes little sense to distinguish between so-called lexical and functional usages of *ni*, as has been done in traditional analyses. The unified analysis presented here makes such distinctions seem rather arbitrary and supportable only on purely syntactic grounds. We will conclude by proposing a lexical network for *ni*, incorporating most of its major synchronic functions. Although conclusive historical evidence about the evolutionary development of *ni* is not available, we will suggest that this analysis of *ni* receives empirical support when each stepwise semantic and functional extension posited here is related to extensions observed with similar morphemes in a variety of geographically and genetically unrelated languages.

2. Previous Analyses of *Ni*

Traditionally, Japanese linguists have classified particles according to their syntactic functions alone. Because of its wide range of usages, *ni* has been treated as if it were one of several homonymous items. Studies which attempted to explain the varied syntactic functions of *ni* have been conducted on purely synchronic grounds as structural linguists have typically not been interested in considering whether or not, historically, there might have been organic relationships between the different usages (Sugimoto 1986). Similarly, studies undertaken from a purely diachronic point of view, while describing the historical change in terms of each of the functions, e.g., case particle, conjunctive particle, sentence final particle, and so on, have not addressed the issue of whether and how the different functions are related to each other (Konoshima 1973, Hashimoto 1969). Pedagogical studies, again,

have simply itemized the different usages, but few have looked into the relationships among them or even assumed that relationships exist (Matsumura 1971, Niimura 1976). Thus, none of the previous studies have offered any explanation for the widespread syncretism characteristic of *ni*.

Furthermore, as Matsumura (1971) has argued, no study has made clear which usage of a lexical item like *ni* is the most basic. In the case of *ni*, most of the usages are already found in the earliest historical records (e.g., Manyooshuu [circa 759 A.D.], Taketori-monogatari [900 A.D.]). While several opposing analyses have been proposed as to which usage of *ni* is the most basic (e.g., Konoshima 1973), Hashimoto (1969: 127) maintains that it is very likely that the locative-marking function is the basic usage, though he does not provide any further discussion in this respect. Along the same line of argument, Akiba-Reynolds (1984) claims that a locative verb *nu* was eventually reanalyzed as the locative preposition *ni*, which has been generalized extensively into other usages. Though her investigation is not extensive enough to cover *ni*'s wide range of senses and use types, her basic approach seems reasonable from the point of view of GT in that it postulates a locative verb as the lexical source of the postposition. GT claims that the development of verbs into case markers and beyond is not uncommon cross-linguistically (cf. Traugott and Heine 1991).

3. The Grammaticalization of *Ni*

3.1. The network hypothesis

Taken together, Anderson's (1971) localist approach and Langacker's action chain model (1991a, 1991b) provide a general framework for the discussion of the semantic characterization of the path of development taken by *ni*. The localist approach assumes that, though the extent of the relationships between concrete expressions and what are usually referred to as their metaphorical or figurative extensions would appear to vary from language to language and take different forms, "such a principle of extension of the concrete to the abstract (as Whorf argues for) seems to underlie such diverse phenomena" (Anderson 1971: 12). Although the localist hypothesis may be too powerful in that it posits a reduction of all the non-local relations to local (i.e. spatial) ones, as Croft (1991) argues, it captures the unidirectionality of semantic "shifts" which proceed from more concrete domains to more abstract ones, as has been extensively documented in GT in language after language.

Following Anderson, the semantic extension of the various usages of *ni* will be interpreted as involving a "shift" from one domain to another usually more abstract one. In the present analysis of *ni*, its various usages are assigned to one of five semantic domains. Sweetser (1990) also maintains a distinction between concrete and abstract as well as speech-act and mental-state domains. Figure 1 sug-

gests a hierarchical relationship between the five domains. Each of the non-spatial domains is hypothesized to correlate with increasing semantic abstractness. We will argue that Anderson's model of a hierarchical relationship serves as a fruitful organizing template or "road-map" for summarizing the paths of grammaticalization traversed by *ni*.

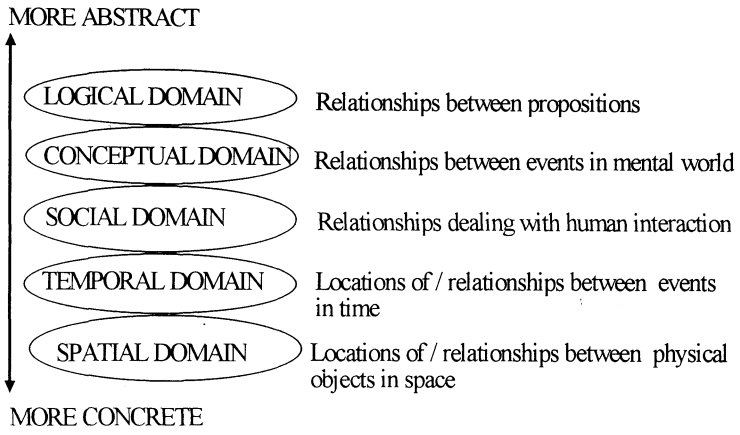


Figure 1. Models of semantic extensions

The action chain model proposed by Langacker (1991a, 1991b) provides a way of accounting for both case-marking hierarchies cross-linguistically as well as basic and marked clause structure patterns. Figure 2 illustrates this model, modified for Japanese case-marking hierarchies. In the Action Chain Model, *ni* is the archetypal marker of RECIPIENT or EXPERIENCER, a fairly uncontroversial and expected extension from its essential goal-marking function. Most of the grammaticalized usages of *ni* exhibit semantic extensions which might reasonably be explained under Langacker's schematic model. For example, some *ni*-marked NPs share properties with both AGENTS and THEMES, but never with INSTRUMENTS. Given the organization of the matrix in the action chain model, both AGENTS and EXPERIENCERS are active participants who exhibit conscious awareness while both EXPERIENCERS and THEMES are energy sinks and, thus, are on the receiving end of motion or energy transmission.

Using these two semantically based models, Anderson's localistic domain shift model and Langacker's action chain model, we will demonstrate in the following section that all the usages of *ni*, including those which may appear to be quite abstract, are both meaningful and interrelated.

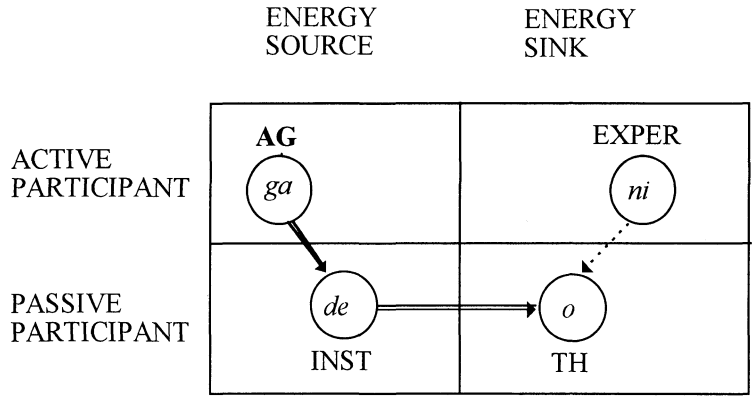


Figure 2. Action Chain Model: 'Engergy Flow Hierarchy' Schema

3.2. Ni *in the SPATIAL DOMAIN*

Like most researchers in cognitive linguistics and GT, we argue that the usages described in the Spatial Domain are the most basic since they pertain to direct, bodily experience in physical space. There are roughly two different types of spatial relations that the particle *ni* encodes: a purely stative locative relation [LOC] and an allative relation [ALL], marking either the direction and/or the final destination (landmark) that a figured entity (trajector) moves towards.

(1) *Musume wa Tokyo* ni *iru.*
daughterTOP Tokyo LOC exist/ANIM.[1]
'My daughter is in Tokyo.' [LOCATIVE]

(2) *Kare wa hakubutukan* ni *it-ta.*
he TOP museum ALL go-PAST
'He went to the museum.' [ALLATIVE]

The relation, or, more precisely, the ambiguity between a stative locative marker and an allative marker is not uncommon cross-linguistically. The English preposition *on*, for example, codes both stative locations and dynamic destinations, as shown in (3):

(3) a. There is a picture *on* the wall. [LOCATIVE]
b. I put the picture *on* the wall. [ALLATIVE]

In Japanese, as well, the difference between the stative location sense of *ni* and the destination sense seems to be very subtle. Consider the paired sentences in (4):

(4) a. *Kabe* ni *e* *ga* *hat-te* *aru.*
wall LOC picture S put-CONJ be
'A picture is put on the wall.' [LOCATIVE]
b. *Kabe* ni *e* *o* *hat-ta.*
wall ALL picture O put-PAST
'[I] put the picture on the wall.' [ALLATIVE]

It is important for our purposes to maintain this fundamental distinction between LOC and ALL senses because extended usages of ni exhibit "persistence" of both of these particular spatial senses, demonstrating that distinct usages of ni may have undergone different paths of development.

3.3. Ni *in the TEMPORAL DOMAIN [TEMP]*

The semantic extension of a spatial marker to code a temporal relation is a widely documented grammaticalization phenomenon cross-linguistically (e.g., Traugott 1988, Claudi and Heine 1986). According to Traugott, one example of this type of grammaticalization is the nearly wholesale conversion of the originally spatial preposition *æfter* to the temporal preposition *æfter* in Old English (1988: 409). The Japanese particle *ni* is also used to express a temporal location as well as a spatial location as discussed in Section 3.2. above. Curiously, just as *ni* seems to be the archetypal spatial particle in Japanese, it is also the only one to be used to designate temporal locations. Consider (5):

(5) a. *Gakko* *wa* *kuzi* ni *hazimaru.*
school TOP 9 o'clock TEMP start
'School starts at 9 o'clock.'
b. *Kono monogatariwa* *nana seiki* ni *kak-are-ta.*
this story TOP 7th century TEMP write-PASS-PAST
'This story was written in the 7th century.'

The extension from spatial to temporal senses depends on a metaphoric process involving some version of a TIME IS SPACE metaphor (Lakoff and Johnson 1980). Traugott (1982, 1988) refers to such processes as special cases of more general semantic-pragmatic inference patterns of the sort which allow relations pertaining to an internal (perceptual/cognitive) situation to be conceptualized like

relations pertaining to an external, described (concrete/physical) situation. The extension of the particle *ni* from a spatial usage to a temporal usage can only be understood as having undergone a simple conceptual shift from one domain of experience (space) to another (time). Other extensions exhibited by *ni* involve similar domain shifts.

3.4. Usages of ni *in the SOCIAL DOMAIN*

3.4.1. Ni *as the dative case marker [DAT]*

One very prominent set of usages exhibited by *ni* could be subsumed under the rubric "dative." In traditional grammars, after all, *ni* is called a dative case marker. In the Social Domain, *ni*-marked NPs play a variety of roles such as the RECIPIENT of a physical transfer, the ADDRESSEE of a communicative transfer, and EXPERIENCERS in general.

(6) *Makoto wa sono omotya o ototo* ni *yat-ta.*
Makoto TOP that toy O brother DAT give-PAST
'Makoto gave the toy to his brother'

(7) *Kare wa kodomotati* ni *monogatario yon-de-yat-ta.*
I TOP children DAT story O read-CONJ-give-PAST
'He read a book to the children.'

Ototo 'brother' in (6) is regarded as the recipient of a transfer predicate, and *kodomotachi* 'children' in (7) as the addressee of a communicative transfer.

In the same vein, *ni* marks an EXPERIENCER, an event participant which is typically encoded cross-linguistically in the dative case (Langacker 1991a: 327). The *ni*-marked NP must be consciously aware of the experience. Thus, in (8a), the verb *au* 'meet' requires a *ni*-participant who is an active and sentient co-participant in the meeting. In (8b), on the other hand, the verb *miru* 'see' takes an *o*-marked participant, and there is no implication that Mariko was actively involved in being seen:

(8) a. *Kino mati de Mariko* ni / *o *at-ta.*
yesterday town LOC Mariko DAT/*O meet-PAST
'Yesterday I met Mariko in town.'
b. *Kino mati de Mariko* o / *ni *mi-ta.*
yesterday town LOC Mariko O/*DAT see-PAST
'Yesterday I saw Mariko in town.'

The use of a dative marker to mark an experiencer subject is not an uncommon linguistic phenomenon. For example, in German, an experiencer subject is

usually marked by the dative case instead of the nominative, as shown in (9) (Lehmann 1991: 500):

(9) *Mir* *träumt*
1sg-DAT dreamt
'I dreamt.'

In Japanese, *ni* also marks experiencer NPs which usually get interpreted as the sentential subject in a [NP ni NP ga VP] construction (Sugimoto 1986, Kuno 1973). In (10), the subject marker *ga* is used for marking the object NP *musuko no gokaku* '(his) son's success', and the *ni*-marked NP can be interpreted as the subject of the nominal adjective predicate *uresii* 'be happy':

(10) *Kare* ni *wa* *musuko no* *gokaku ga totemo* *uresikat-ta.*
he DAT TOP son GEN success S very happy-PAST
'(As for him,) he was very pleased with his son's success (in the exam).'

The semantic extension of *ni* from a directional marker to the dative case marker can be interpreted as involving a domain shift from the Spatial to the Social Domain. This pattern of grammaticalization is demonstrated in a number of diachronic and synchronic studies dealing with the semantic and functional developments of grammatical forms (e.g., the Senufo postposition *mà* in Carlson (1991)).

3.4.2. Ni *as a secondary agent*

There are three additional constructions in the Social Domain involving *ni*: (i) one marking the causee [$CAUS_{exp}$] in a causative construction involving a partially sentient, acted-upon participant, as shown in (11); (ii) one marking an agent [AGT] in (certain types of) passive sentences, as shown in (12); and (iii) one marking a human participant as the source of information [SRC] in a communication predication as shown in (13):

(11) *Sensei* *wa* *Masao* ni *soko* *ni ik-ase-ta.*
teacher TOP Masao $CAUS_{exp}$ there to go-CAU.v-PAST
'The teacher made Masao go there.'

(12) *Kare* *wa* *keikan* ni *hidoku* *nagur-are-ta.*
He TOP police AGT severely beat -PASS-PAST
'He was severely beaten by the police.'

(13) *Taro* *wa* *Masao* ni *sono* *sirase* *o* *kii-ta.*
Taro TOP Masao SRC the news O hear-PAST
'Taro heard the news from Masao.'

In these cases, *ni* does not mark the goal of transfer or mental location of some activity, but the human source behind the activity, whether it is a communicative activity or otherwise. Importantly, it is only human participants functioning as SOURCES which are *ni*-marked. Otherwise, non-human SOURCES are marked with other particles, such as *kara.* This can be illustrated by comparing (14a) with (14b). In (14b), *ni* cannot mark the non-human SOURCE noun phrase *tosyokan* 'the library':

(14) a. *Taro wa Masao* ni *hon o kari - ta.*
Taro TOP Masao SRC book O borrow-PAST
'Taro borrowed a book from Masao.'
b. *Taro wa tosyokan* *ni (/kara) *hon o kari - ta.*
Taro TOP library SRC book O borrow-PAST
'Taro borrowed a book from the library.'

On the surface, these SOURCE-oriented usages of *ni* appear to be incompatible with GOAL-oriented usages shown in (6) - (8) above. Consider (15a), which contrasts with its GOAL-oriented converse in (15b). It must be noted, however, that nearly all human oblique participants (either SOURCES or GOALS, RECIPIENTS, demoted AGENTS, and so on) are coded by *ni,* strongly suggesting that in the Social Domain *ni* encodes the property of conscious awareness.

(15) a. *Taro wa Yamada sensei* ni *eigo o osowat-ta.*
Taro TOP Yamada teacher SRC English O learn-PAST
'Taro learned English from Mr. Yamada.'
b. *Yamada sensei wa Taro* ni *eigo o osie-ta.*
Yamada teacher TOP Taro GOAL English O teach-PAST
"Mr. Yamada taught English to Taro.'

These usages may appear to contradict the claim made by Croft (1991) that oblique case markings are classified into two types: those that either represent "subsequent" participants that follow the acted upon object in a causal chain, such as benefactive, recipient, result, or those that represent "antecedent" participants that precede it, such as instrumental, manner, or passive agent. Thus, in proposing the Causal Order Hypothesis, which holds that the grammatical relations hierarchy SBJ > OBJ > OBL corresponds to the order of participation in the causal chain, Croft argues for a subsequent-antecedent distinction, stating that "syncretism of thematic roles will occur so that no surface case marker will subsume both subsequent and antecedent thematic roles" (Croft 1991: 187). However, as he also notes, there are cases where a massive amount of syncretism occurs to the point that the subsequent-antecedent distinction itself gets abolished, or where the case systems appears to be collapsing. The syncretism exhibited by *ni* could be inter-

preted as representing such a collapse as the particle now subsumes both subsequent and antecedent case roles.

These seemingly contradictory usages can be given coherence within Langacker's role archetype schema and energy flow hierarchy as shown in Figure 2. The *ni*-marked participant in the Social Domain can be described as a secondary agent, secondary in the sense of being downstream from the original energy source, a characteristic shared with the theme, which is typically encoded by *o* in Japanese. And yet, this participant is agentive at the same time in the sense of having some initiative role or of being a sentient *active* participant, properties it shares with the *ga*-marked (primary) agent.

The property of sentient awareness in human participants becomes evident when comparing *ni*-causative sentences with *o*-causatives, as argued by Kuroda (1965). In such cases, the distinctive experiencer meaning of *ni* is especially evident, as shown in (16):

(16) a. *Sensei* *wa* *Masao* o *ik-ase-ta.*
teacher TOP Masao O go-CAU.v-PAST
'The teacher made Masao go.'

b. *Sensei* *wa* *Masao* ni *ik-ase-ta.*
teacher TOP Masao CAU_{exp} go-CAU.v-PAST
'The teacher let/had Masao go.'

The difference between (16a) and (16b) is that, in the former, with the accusative marker *o* marking the causee, it is implied that the subject *sensei* 'teacher' is indifferent to whether Masao consents to go or not, while in the latter sentence, with *ni*, it is implied that Masao is willing to go or is even partially responsible for the caused event. This strongly suggests that one of *ni*'s functions when it marks human participants is to convey the properties of sentience and volitionality so commonly associated with agents. And, indeed, *ni* does mark agents directly, at least, in passive clauses, as was exemplified in (12) above.

We have demonstrated that the basic spatial usage of *ni* has extended to mark a variety of functions (RECIPIENT, ADDRESSEE, and EXPERIENC-ER), which are traditionally associated with the dative case cross-linguistically. These functions have further developed into other more grammaticalized applications, to mark experiencer causee, passive agent, or even communicative SOURCE, which, from a strictly localist perspective, appears to be in direct contradiction to its more basic GOAL-oriented usages. Langacker's action chain model based on role archetypes provides a reasonable account of such seemingly counterintuitive extension.

3.5. Ni *in the CONCEPTUAL DOMAIN*

Ni is also used to describe aspects of a process from the perspective of a conceptualizer, not just aspects of a participant in a process. Thus, the way in which a

process unfolds or the resulting state of such a process might merit special attention by a speaker. Two very frequent usages of *ni* mark MANNER and RESULT. These are fairly abstract usages which we analyze as semantic extensions into the Conceptual Domain. Note that manner signals the way in which a conceptualizer perceives a process to have unfolded, while resultatives require a conceptualizer to not merely observe a situation or event, but to track its development over time and possibly to draw conclusions from it. Thus, consider the following examples in which *ni* marks the manner in which an event transpires in (17) and the result of change in (18):

(17) *Gakusei ga hisoka* ni *kaigi o hirai-te-iru.*
students S secrecy MANmeeting O hold-CONJ-be
'The students are holding a meeting in secrecy.'

(18) a. *Kare no musuko wa isya* ni *nat-ta.*
he GEN son TOP doctor RES become-PAST
'His son became a doctor.'
b. *Kare wa sara o konagona* ni *kudai-ta.*
he TOP plate O small pieces RES smash-PAST
'He smashed the plate to bits.'

Processes are commonly conceptualized as movement along a path and the change of state that ensues from certain processes as an endpoint along that path. Thus, the usage of *ni* marking MANNER or RESULT can readily be interpreted as an extension from its more basic allative function, as will be clarified by comparing (18b) with (2). The use of an allative marker to code RESULT is also observed with English *to*. Thus, in (19b) the allative marker *to* has extended to express the resulting condition of the plate:

(19) a. He went *to* the museum. [ALL]
b. He smashed the plate *to* bits. [RES]

The extension from an allative marker to a manner or resultative marker is an example of the QUALITY IS SPACE metaphor (Lakoff and Johnson 1980), involving a metaphorical shift from the basic Spatial Domain to a more abstract Conceptual Domain. While the resultative-marking *ni* focuses on the endpoint of change, the focus of manner-marking *ni* is on the process, which is, when conceptualized as a metaphorical extension from the Spatial Domain, analogous to the path of movement that some trajector takes as it approaches its final destinations.

Like the English preposition *to*, *ni* also marks an NP serving as a standard of comparison, a kind of conceptual reference point [CRP], if you will, in sentences in which two events, rates, or qualities are compared or contrasted. Some examples of these kinds of usages are shown in (20) - (23):

(20) a. *Boku no gakko wa eki ni tikai.*
I GEN school TOP station CRP close
'My school is close to the station.'
b. *Kimi no tensuu wa manten ni tikai.*
you GEN mark TOP full mark CRP close
'Your mark is close to the full mark.'

(21) *Kono ko wa otosan ni sokkuri da.*
this child TOP father CRP identical COP
'This child looks identical to his father.'

(22) *Kare wa tikara de wa ani ni.*
he TOP strength LOC TOP elder brother CRP
masat-te-iru
superior-CONJ-be
'He is superior to his elder brother in intelligence.'

(23) *Syunyu* ni *hirei si-te syuppi mo oku*
income CRP proportion do-CONJ expense too more
nat-ta.
become-PAST
'The expense has increased in proportion to (the increase of) the income'

The *ni*-marked NP expresses a point of reference in expressions of distance, either in a more concrete Spatial Domain as in (20a) or in an abstract Conceptual Domain as in (20b). *Ni* also marks the point of reference for similarity judgments as shown in (21), the standard of comparison in (22), and a point of reference used in a rating in (23).

The usage of *ni* to mark the reference point or standard in a comparison or rating can be understood as an extension of the allative-marking function of *ni*. Referring to a reference point can also be interpreted metaphorically as a kind of movement towards a "target". Hence, this function is accounted for as a semantic shift from marking the allative in the Spatial Domain to a more abstract, comparative marker in the Conceptual Domain.

Another usage of *ni* in the Conceptual Domain is to indicate the notion of conceptual contact [CONT]. *Ni*-phrases indicating conceptual contact are often used in idiomatic expressions and with verbs expressly describing contact or attachment, such as *noru* 'ride' and *kakaru/kakeru* 'hang.' In (24), an idiomatic expression *ki ni kakaru* is used to mean 'be worried about':

(24) *Siken ga ki ni kakat-te nemur-e-nakat-ta.*
exam S mind CONT hang-CONJ sleep-can-NEG-PAST

Lit: The exam was hanging on the mind and (I) could not sleep.
'I was so worried about the exam that I could not sleep.'

We argue that this function of *ni* can be interpreted as involving an extension from the allative function in the Spatial Domain through a simple application of an ontological metaphor whereby a mental state is construed as a space. It should be noted that the Social and Conceptual Domains do not describe mental spaces which are clear-cut and distinct. Rather, these are overlapping and interlocking domains of experience. Some human interactions such as talking to or encountering others, for example, are interpreted as both mental and perceptual experiences at the same time. We have demonstrated that those usages *ni*, both in the Social Domain and the Conceptual Domain, are understood as having undergone semantic shift from basic spatial usages marking direction or destination. In these domains, however, the motion is abstract rather than actual (in the sense discussed in Langacker (1986)).

3.6. Ni *in the LOGICAL DOMAIN*

3.6.1. Ni *used to express purpose [PUR] and reason [REAS]*

One area in which case syncretism is expected is in marking PURPOSE and REASON. According to Thompson and Longacre (1985), many languages use the same morphology for marking these expressions, be they nominal or sentential. They cite examples from Ngizim, a Chadic language, in which the subordinating morpheme for both purpose clauses and reason clauses is *gáadà*.

(25) a. *Ata* *aban* gáadà*aci* *ngaa*
eat(PERF) food he well
'He ate food because he was well.' [reason]
b. *Vɛru* gáadà *dà* *si* *sɛma*
go out(PERF) SJNCT drink beer
'He went out to drink beer.' [purpose]

English *for*, which still manifests vestiges of its original allative function, as shown in (26a), also codes purposes (26b) and reasons (26c):

(26) a. He headed *for* the back door. [ALL]
b. He runs everyday *for* exercise. [PUR]
c. My hometown is famous *for* its beauty. [REAS]

In Japanese, the grammatical marker *ni*, which, as we have established, functions quite robustly across various experiential domains, also marks both purpose and reason as shown in (27) and (28) respectively:

(27) *Kanozyowa zyugyo no zyunbi* ni *hanniti tuiyasu.*
she TOP classes GEN preparation PUR half day spend
'She spends half the day for the preparation of classes.'

(28) *Amarino atusa* ni *zitto suwat-te ir-are-nakat-ta.*
excessive heat REAS still sit-CONJ be-can-NEG-PAST
Lit:I could not be sitting still because of the excessive heat.
'It was so hot that I could not be sitting still.'

Purposes and reasons are closely connected conceptually in that both purpose and reason clauses can be seen as providing explanations for the occurrence of an action, as Thompson and Longacre argue (1985: 185). They differ, however, in that purpose clauses express a motivating event which *must* be unrealized at the time of the main event, while reason clauses express a motivating event which *may* be realized at the time of the main clause event. Thus, as Frawley (1992: 227) claims, it is understandable that one morpheme serves these two functions in many languages, considering the fact that an outcome of an action is hard to distinguish from its anticipation. In (29), the identical *ni*-phrase can be interpreted as either a purpose or a reason:

(29) *Jiro wa ani no kekkonsiki* ni *suutu*
Jiro TOP brother GEN wedding PUR/REAS suit
o kat-ta.
O buy-PAST
'Jiro bought a suit for his brother's wedding.'

The phrase *ani no kekkonsiki ni* is ambiguous. Is it a purpose or a reason? It is possible to argue for either interpretation: 'Jiro bought a suit to wear at his brother's wedding' [purpose] or 'Jiro bought a suit because his brother had a wedding' [reason].

As Genetti (1991) has argued, the extension from allative or dative case marker to purposive marker can be seen as a series of simple semantic shifts from the basic spatial domain to the socio-physical domain to the domain of logical relations. This occurs not just in Japanese, but in a variety of unrelated languages as well. However, *ni* is also used to mark purpose clauses, not just purpose phrases in Japanese. Thus, it traditionally gets called a conjunctive particle or subordinator in these usages. The purpose clauses contain a verb in the final form, which is analogous to a non-finite verb form. The verb may be followed by the nominalizer *no* plus the particle *ni* as shown in (30) or may not, as shown in (31):

(30) *Kore wa komono o ir-te-oku* *no* ni
this TOP small thingsO put-CON-keep NOM PUR

benri *da.*
convenient COP
'This box is convenient to keep (put and keep) accessories.'

(31) *Kare o yorokobaseru* ni *wa okane o yaru no ga*
he O please PUR TOP money O give NOM S
itiban da.
best COP
'It is the best to give some money in order to please him.'

The cross-linguistic grammaticalization of an adpositional function to mark a purpose clause is reported by several linguists (e.g., Genetti 1991, Lichtenberk 1991). Lichtenberk (1991) describes a case in To'aba'ita (an Oceanic language), wherein the preposition *uri* with allative/purpose meaning is historically related to a purpose/reason complementizer. His examples are given in (32):

(32) a. *Nau ku rake'iri* uri *-a wane*
I I:PERF be angry toward him man
'I am angry at the man.' [postposition/ALL]
b. *Wela na'i 'e angi* uri *-a 'e thaofa*
child this he:PERF cry REAS-it he:PFV be hungry
'The child cried because he was hungry.' [complementizer/REAS]
c. *Nia ka sifo uri ta i'a'i Fafolifua*
he he:SEQ descend for some fish to Fafolifua
uri-*a-a* *'a -na*
PUR-it-them Mid.V-his
'He went down to F. for some fish to take back and roast.' [complementizer/PUR]

He argues that "historical connections between case markers and complementizers are common cross-linguistically" (p. 67). Supporting Lichtenberk's data, Genetti claims that "the extension of case postpositions to clausal subordinators follows regular patterns, such that postpositions with a given semantic value develop into a consistent set of subordinators" (1991: 229). In her typological study of Newari dialects, she demonstrates that there is frequent syncretism between the dative case postposition and purpose clausal subordinators (e.g., *ta* in Newari). The same type of grammaticalization seems to be evident in Japanese as well, as shown throughout this section.

3.6.2. Ni *as a conjunction [CONJ]*

In traditional Japanese grammars, *ni* has been categorized as a conjunction rather than a case particle when it is attached to a clause containing a verb in the final

form. In the previous section, we have seen that *ni* has been treated as a case marker when it marks a purpose noun phrase and, exceptionally, a VP in the conjunctive form. Thus, *ni* behaves heterosemously, serving more than one syntactic function while still signaling the same kinds of semantic relations that it does with NPs. Historical written records as early as the Heian Period (circa 10th century) already demonstrate *ni* being used as a subordinator, with various meanings.[2] However, in Modern Japanese, all the subordinating usages of *ni* are interpreted as concessives, akin to 'although' in English, and used in the [*no* + *ni*] form as shown in (33). When *ni* is used without the nominative *no*, it has expressive or epistemic qualities, indicating the degree of conclusiveness or something about the general attitude of the speaker, as shown in (34):

(33) *Siken ga tikai* noni *kare wa ason-de bakari iru.*
exam S close CONJ he TOP play-conj always be
'Though the exam is close, he is always playing.'

(34) *Sassuru* ni, *kore wa karera no hanko de-aru.*
guess CONJ this TOP they GEN crime COP-be
Lit: As I guess, this is their crime.
'I suppose that this is their crime.'

Many studies have demonstrated that the functional extension of an adposition to a connective particle is a cross-linguistically common phenomenon (e.g., Genetti 1991, Craig 1991). *Ni* is not an exception and it is generally maintained by Japanese linguists that the conjunction *ni* has developed out of the original postposition (e.g., Hashimoto 1983, Matsumura 1971), but they generally ignore discussion about the process or mechanism that fostered this development. Moreover, as Traugott (1982) argues, as grammatical meanings develop for an item, they reflect gradual subjectivization of meaning. The course of development is such that meanings in the external or socio-physical world give rise to meanings in an internal world, which subsequently give rise to textual or expressive meaning (conjunctive) and, eventually, to expressions of subjectivized meaning (e.g., concessive). This evolutionary pathway is clearly evidenced by the particle *ni*.

4. Conclusion

In this paper, we have demonstrated that Japanese *ni* provides supporting evidence to the claim made by many grammaticalization theorists that lexicalization and grammaticalization are dynamic yet directed processes in language. There is abundant regularity and unidirectionality in the process of semantic change. Moreover, the meaning changes are structured by cognition and motivated, at least initially by metaphor. Due to the lack of direct historical data, our arguments have been based

on circumstantial evidence: the compelling semantic similarities underlying the various usages of *ni*, a random set of cross-linguistic data, as well as claims made by grammaticalization theorists. We have argued that *ni* is a complex and heterosemous lexical category which exhibits grammaticalization along multiple pathways. And yet, its functional distribution is not random. When each of the paths is closely looked at, each stepwise extension demonstrates a common grammaticalization process observed in other languages. Even those usages which may look somewhat contradictory at a glance can be hypothesized as having undergone a fairly simple semantic extension.

The function of *ni* as a simple locative or allative marker is interpreted as the basic sense which gives rise to an extensive array of usages. Figure 3 shows a proposal for a lexical network model of *ni* reflecting the synchronic outcome of its robust grammaticalization history. While some of these usages appear to be straightforward extensions from the basic direction-marking functions (e.g., as the recipient marker, purposive, or the experiential causee in the causative construction), some other grammaticalized usages (e.g., passive agent, source of transferred object, or reason) are only indirectly related to the basic usage through conceptually complex yet readily interpretable "chains of associations". Nevertheless, these various usages can be viewed as metaphorical extensions from more concrete to more abstract domains. The various usages of *ni* demonstrate a fairly tight "family resemblance", exhibiting different degrees of relatedness, but interrelatedness nevertheless.

Cognitive approaches to semantics have assumed that grammaticalization is the product of human cognitive activities. Semantic and functional extensions of a lexical item are argued to be motivated by metaphorical "mapping" between different yet conceptually similar experiential domains. Such mapping typically proceeds from a more concrete to a more abstract domain. The well-documented unidirectionality of the grammaticalization paths is regulated by the unidirectionality of metaphorical connection. We have demonstrated that the various usages of *ni* are understood as having extended across experiential domains via metaphorically inspired associations. In the final analysis, *ni* exhibits fairly common and unremarkable grammaticalization tendencies noted in a host of other languages.

We caution that the network model featured in Figure 3 is provisional and serves mainly an expository function. In order to establish further the basis of a convincing network model for *ni*, we hope to investigate these data using acquisition and experimental studies. Since grammaticalization is argued to be conceptually motivated, its results should be at least somewhat transparent to modern speakers.

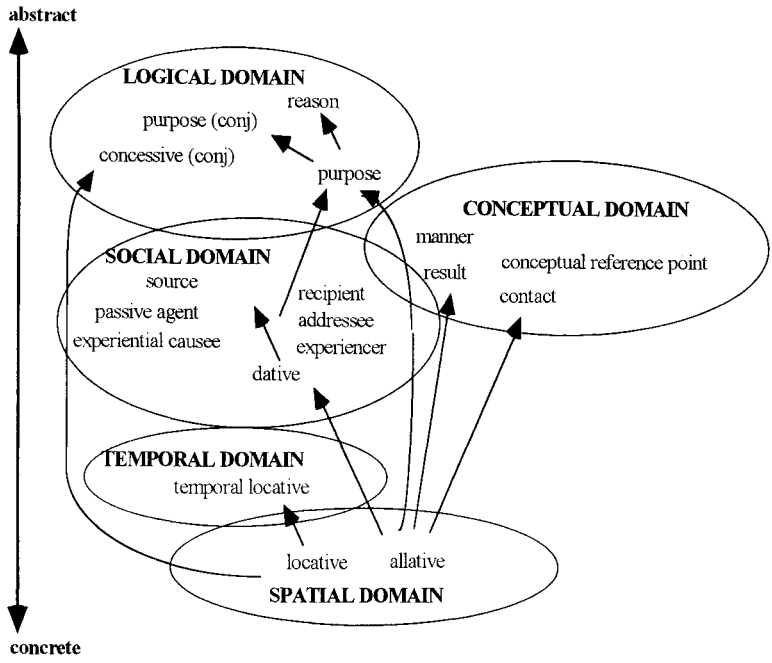


Figure 3. A proposed lexical network for ni

Therefore it would be expected that the semantic network model proposed here is somehow reflected in speakers' mental lexicon or at least in patterns of acquisition by young children. Whether speakers actually make distinctions between the different usages of *ni* or treat them as monosemous is an open question. If speakers make any distinctions, do they recognize relationships between the usages (and treat *ni* as polysemous), or do they treat different usages as separate particles (and treat *ni* as homonymous)? Furthermore, do children's patterns of acquisition of usage type recapitulate the (purported) historical development of *ni*?

Grammatical words like the Japanese particles are traditionally considered to be semantically "lighter" than lexical items in that their meaning is supplemented on the basis of information given by their syntactic environment. It is argued, however, typically by cognitive linguists, that even the lowliest grammatical morphemes are meaningful and probably polysemous. We have demonstrated that at least one member of the Japanese particle class retains both a well defined lexical meaning as

well as supports an extensive array of semantic (though admittedly schematic) properties as it has re-lexicalized and grammaticalized. If anything, a word like *ni* demonstrates too much meaning! This fact alone perhaps explains tendencies by linguists to proliferate discrete lexical entries for *ni* rather than grapple with how to integrate the different senses within a single lexical category. Fortunately, GT gives us a license to do the latter. It is now up to psycholinguistic research, as advocated by Sandra and Rice (1995), to decide if such an integrated model is reflected in the minds of Japanese speakers.

Endnotes

1. In examples, the following abbreviations are used:

AGT	agent
ALL	allative
ANIM	animate
AUX	auxiliary
CAU.v	causal verb
CAUS.exp	experiential causee
CONT	contact
COP	copula
CRP	conceptual reference point
DAT	dative
EXP	experiencer
GEN	genitive
LOC	locative
MAN	manner
NEG	negative
NOM	nominalizer
O	object marker
PASS	passive
PAST	past tense
PUR	purpose
REAS	reason
RES	resultative
S	subject marker
SRC	source
TEMP	temporal
TOP	topicalizer

2. In the sentences below, *ni* can be interpreted as marking the reason clause like the English clausal subordinator 'because' as shown in (i), as a coordinating subordinator 'and' in (ii), and as a concessive subordinator meaning 'though' as shown in (iii):

(i)	*kono*	*koto*	*o*	*nageku*	ni,	*hige*	*mo*	*siroku,*
	this	thing	O	grieve	CONJ	mustache	also	white

Lit: Because (he) grieved over this thing, (his) mustache also was white,...

'Because he grieved over this incident so much that his mustache turned white', (Taketori monogatari [900 A.D.])

(ii) *Namida* *no* *koboruru* ni *me* *mo* *mi-e-zu*
tears PRT fall CONJ eye also see-can-NEG
Lit: Tears fell and eye(s) cannot see..
'Tears fell down and I cannot see..' (Ise monogatari [905 A.D.]

(iii) *Kataharaitasito* *omohu* ni, *on-seusoko* *mo* *tae-te*
sorry PRTfeel CONJ HON-letter also stop-CONJ
nasi
exist.NEG
Lit: (I) feel sorry, but the letter has also stopped and does not exist.
'Though I feel sorry for her, her letter has stopped coming in.' (Genji monogatari [1008 A.D.])

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Observations on Wanka Quechua Conjecture Marking and Subjectification[1]

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1. Introduction

Langacker (1985) has shown that the subjectivity-objectivity distinction is an aspect of construal that plays an important role in the grammatical behavior of deictic expressions. Langacker (1990) builds on this concept, showing that semantic change often involves the "subjectification" process, where some aspect of a relationship between objectively-construed entities becomes "realigned" with respect to the subjective axis, a view consistent with Traugott's observations that "meanings tend to become increasingly based in the speaker's subjective belief state/attitude toward the proposition" (Traugott 1989:35).

This paper is concerned with an extension of this concept. An examination of non-prototypical uses of the Wanka Quechua conjecture marker *-chr(a)* reveals a type of subjectification, wherein some aspect of the speaker's already subjective construal of a proposition is viewed as obtaining between the *addressee* and the proposition. The observations here parallel those presented elsewhere (Floyd 1993, Floyd to appear) which show that certain non-prototypical uses of the direct and reportative suffixes can be explained in a similar fashion. Thus subjectification is shown to be a regular process of semantic extension operative within a particular grammatical subsystem.

2. Background

2.1. The subjectivity objectivity distinction

The subjectivity-objectivity distinction[2] is an aspect of construal that is of particular relevance to the characterization of deixis, and ultimately of evidentiality. The distinction concerns the fundamental asymmetry that exists between the "observer" and the "observed" in a perceptual situation and its linguistic reflexes. The distinction is maximized in the "optimal viewing arrangement" (Langacker 1985: 121) indicated in Figure 1, which shows the conceptualizer (*C*) observing a distinct object (*O*) situated such that it is distinguished sharply from its surroundings and within an "on-stage" region that is close to the observer but does not include him or the area immediately surrounding him. [In the figure, this "on-stage" region (*OS*) is indicated as the area encompassed by the broken line.] Crucially, the

viewer's attention is focussed exclusively on his object, and not on himself in any way (Langacker 1987: 129). To the extent that this situation obtains, we may speak of *C's* role as being maximally *subjective* and of *O*'s as maximally *objective*. Put in other terms, *C* is subjectively-construed, *O* is objectively-construed. This is the situation that is found with almost any common noun, e.g. *doorknob, toes, taxi driver*, etc.

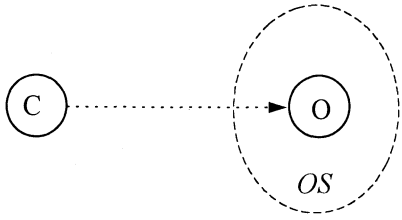


Figure 1. Optimal viewing arrangement

In many cases, however, this distinction is blurred in that the conceptualizer himself is required as a reference point for the adequate characterization of the meaning of some term. Deictic expressions (*you, here,* etc.) are of this type. In such cases the locus of viewing attention (*OS*) is expanded to incorporate *C* himself, as shown in the egocentric viewing arrangement in Figure 2. Here *C* is no longer simply an observer, but is to some degree also an object of observation. *C* may in a sense be thought of as having the status of an "on-stage" entity, albeit not necessarily the entity that receives the focus of his attention.

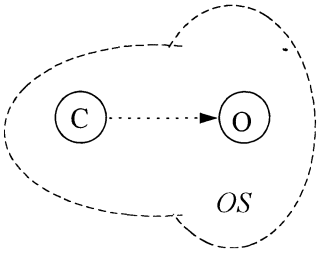


Figure 2. Egocentric viewing arrangement

The subjectivity-objectivity distinction, then, concerns the role the speaker plays within a conceptualization as either an off-stage or on-stage conceptualizer. Consequently the distinction enters into the characterization of all expressions as being either deictic or non-deictic. As Langacker points out (1985: 113), a non-deictic expression is one for which the subjectivity-objectivity distinction is maximized: the elements needed to provide the necessary context for the characteriza-

tion of the expression (i.e. its scope of predication) does not include the "ground", i.e. the speech act participants, and by extension any aspect of their location in time or space. On the other hand, a deictic expression is one that requires reference to the ground in some capacity.

Note that deictic expressions may differ as to how subjectively or objectively the reference point is construed. The crucial issue is the degree of salience or profiling that is accorded to the ground. A characterization of the deictic use of *Tuesday*, in *Tuesday is going to be difficult,* for example, includes the ground within the scope of predication, but locates it off-stage, whereas an appropriate characterization of *I* in *I am now typing this sentence,* locates the ground element on-stage as the designated entity. In the class of deictics which Langacker refers to as epistemic (or grounding) predications, the ground is located within the scope of predication, but is maximally subjectively-construed, i.e. obligatorily implicit.

The examples in (1-3) below show that evidentials are deictic in character since they reflect the speaker's information source and degree of commitment to a proposition. As I have argued in Floyd 1993, they are also grounding predications, that is they have a maximally subjectively-construed ground located within the scope of predication.

(1) *Chay-chruu*-mi *achka* *wamla-pis* *walashr-pis*
that-LOC-DIR many girl-also boy-also
alma-ku-lkaa-ña
bath-REF-PLIMPV-NPST
'(I saw) Many girls and boys were swimming.'

(2) *Ancha-p*-shi *wa'a-chi-nki* *wamla-a-ta* *ni-mu-shra*
too-much-GEN-REP cry-CAUS-2 girl-1P-ACC say-AFAR-1FUT
'I'll tell her, "(I hear) You make my daughter cry too much".'

(3) *Daañu*[3] *pawa-shra-si* *ka-ya-n*-chr-*ari*
field finish-PART-even be-IMPV-3-CONJ-EMPH
'(I conjecture) The field might be completely destroyed.'

An evidential can be represented schematically as indicated in Figure 3 which simply shows that some kind of construal relationship holds between the speaker and the designated proposition. Note that although an addressee is not typically included for the characterization of an evidential, he nevertheless figures as a ground element in the role of "observer" of the speaker uttering the particular sentence (cf. Figure 4). The importance of this will become apparent.

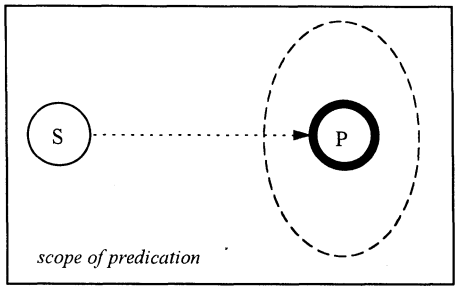


Figure 3. Evidential schema

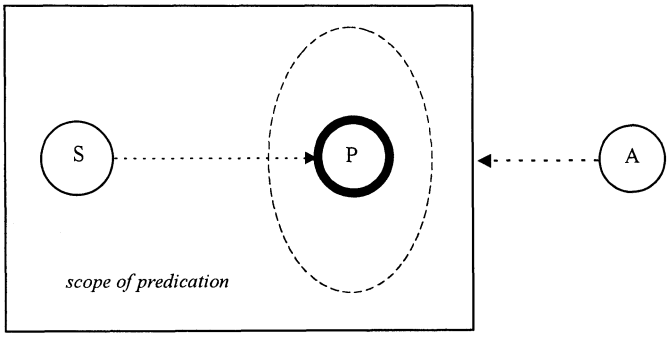


Figure 4. Addressee as observer of communication event

2.2. Subjectification

Having introduced the subjectivity-objectivity distinction, we now turn to the notion of subjectification. Subjectification has been described by Traugott (1989: 35) as the tendency in semantic change for meanings to become "increasingly situated in the speaker's subjective belief state or attitude toward the proposition". And according to Langacker (1990) subjectification involves some aspect of a relationship (xy) that holds between entities in an objectively-construed scene becomes "realigned" such that an analogous relation (x') now holds between the objective scene and the ground. This shift between axes is illustrated in Figure 5.

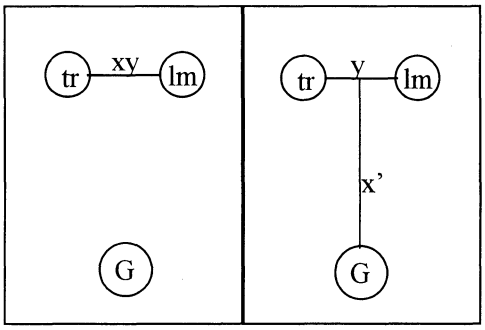


Figure 5. Subjectification

Langacker identifies two different types of subjectification. In the first, a participant's objective spatial motion is replaced by subjective motion on the part of the conceptualizer. This is exemplified by the difference between (4a) and (b). (4a) encodes the objective motion of a participant across a physical space. In (4b), the situation described is static. However, it is the *viewer* of the scene that engages in subjective motion by scanning the path between the two particpants. The second kind of subjectification exemplified by (4c) and (d) involves an originally objective reference point becoming identified with a facet of the ground, which retains its subjective construal.

(4) a. Vanessa jumped across the table.
b. Vanessa is sitting across the table from Veronica.
c. Vanessa is sitting across the table from me.
d. Vanessa is sitting across the table.

I suggest that an analysis of the Wanka Quechua evidential system involves extending the concept of subjectification a bit further in the following way: The point has been made that evidentials by their very nature identify a relationship between a conceptualizer and a particular proposition. Therefore, since that relationship is already subjectively-construed to begin with, what I propose does not involve elements being "realigned" from the objective to the subjective axis. However, I suggest that in many non-prototypical uses of the Wanka evidential suffixes a kind of "intra-ground" subjectification occurs, wherein some aspect of the subjective construal relationship between speaker and proposition is displaced and "redirected" towards *another ground entity*, specifically the addressee. In other words, whereas prototypical uses invoke only the speaker as the reference point, these extended senses invoke the addressee and require an analogous relationship to hold between the him/her and the proposition.

3. *-Chr(a)*'s Range of Meanings

This can be seen by considering the semantic range of the Wanka conjecture evidential *-chr(a)*.[4] Floyd 1993 identifies the prototype for *-chr(a)* as "inference" a mental process involving the extrapolation of a plausible, but uncorroborated conclusion on the basis of some kind of evidence. (I will elaborate a bit more fully below.) Associated with this is the general validational notion of the speaker's *uncertainty* or *non-commitment* to the truth of the designated proposition. I will use "conjecture" as the generic label for the semantic totality of the suffix, which encompasses both information-source (evidential) and validational concepts.

I will focus discussion on three non-prototypical uses of the evidential: its appearance in questions, its use in irony, and finally in what I have called first-person inferences (FPI's) - a non-interrogative construction with roughly the effect of a rhetorical question. These three, I claim, involve the intra-ground subjectification of either an evidential or a validational aspect of the *-chr(a)* prototype.[5] *-Chr(a)* in grammatically interrogative forms extends the validational notion of "non-commitment" beyond the domain of the speaker's relationship to the designated proposition: specifically it designates a situation in which the speaker is uncertain of the relationship between the *addressee* and the proposition. The kind of response the speaker expects for such a question type provides evidence that this is indeed the case. In irony and FPIs, the presence of the conjecture marker does not indicate that the speaker has been engaged in an inferencing process; however, the observed rhetorical effects derive from an inference that the *addressee* is expected to draw from the utterance he hears.

3.1. The inference prototype

It is first necessary to consider the inference prototype in order to appreciate what aspects are subjectified intra-ground in the extended senses.[6] Inferencing can be viewed as a sort of mental process where some perception (or belief) interacts with a set of assumptions to provide the impetus for the extrapolation of a conceptualization that is not directly perceived or experienced by the speaker. Put simply, an inference addresses the question: What does the evidence at hand suggest or point to?

In order to explicate this further, I draw on a model of conceptual structure presented in Langacker (1991, Chapter 6) referred to as the dynamic evolutionary model. According to this model, reality is conceptualized as evolving and unfolding along a temporal path. Any given instantiation of reality is presumed to be related conceptually to its predecessors, inheriting its content largely from these prior instantiations and additionally constrained by elements inherent in the world's structure. The conceptualizer is therefore not presented with wholly distinct realities from one moment to the next, but rather with a continuity, which results in a kind

of "evolutionary momentum". Combined, these elements quite naturally delimit the conceptualizer's expectations of the nature of unexperienced events.

Figure 6 depicts any observed situation or event (E) as a slice out of the entire flow of reality as it evolves through time (t). Preceding events (E^{-n}) have resulted in E (and perhaps states concurrent with E - E^{-0} - of which the conceptualizer is unaware), and E itself contributes conceptual structure towards subsequent events (E^{+n}). Even though a speaker may not have directly observed or experienced either E^{-n} or E^{+n} (and thus they do not comprise part of his conceptualization of reality), he is nevertheless justified in advancing certain hypotheses on the nature of those events provided that they are not wholly distinct from each other and can be conceptualized as forming a relative continuity with E. Furthermore such hypotheses are constrained with respect to some set of assumptions, e.g. about the structure of the world, the propensities that certain entities may have, known history, event schemas, etc.

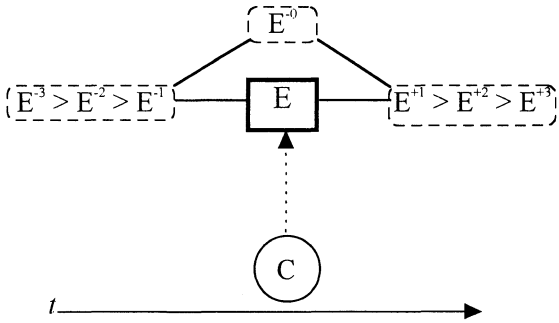


Figure 6. Event flow

A proposal about the nature of E^{-0}, E^{-n} or E^{+n} under these conditions amounts to an inference.

To illustrate briefly, suppose that I hear the phone ring, I notice that the time on the clock is 1:00, and then remark *Melanie must be home.* On the face of it there is little inherent connection between the experienced event - a phone call and 1:00 (which together would constitute the E of Figure 6) - and my conclusions about my wife's location. However if Melanie has told me she will call when she gets home from shopping and I further know that she intended to be home around 1:00, then these circumstances quite naturally support the inference about who is calling and where she is calling from. The inference involves the conceptualization of a series of events to which the phone ring and time have a perceived connection. That is, they are construed as the outgrowth of other circumstances.

Of course, the same "evidence" (the ringing phone) may provide the conceptualizer access to a variety of possible alternate histories. As an extension of Figure

6, Figure 7 shows that a piece of "evidence" or event (E) may serve as the entry point for the conceptualizer's reconstruction of any number of possible unknown event chains (EC_a, EC_b, EC_c...). Any portion of the history may then be selected for designation and marked as an inference (I_a, I_b, I_c...).

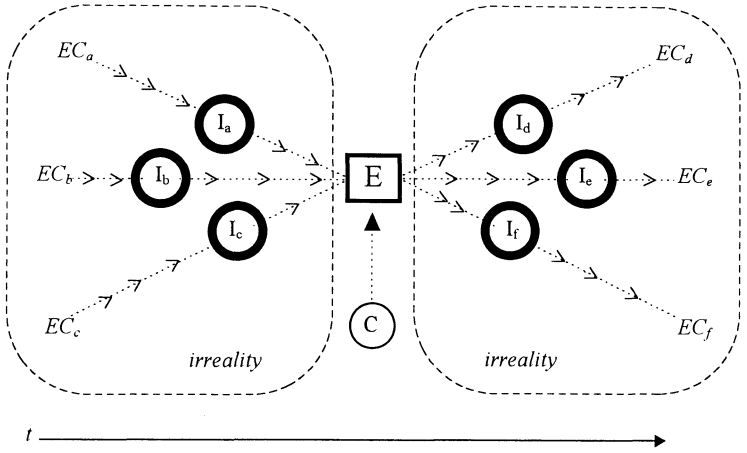


Figure 7. Multiple inferences from one piece of evidence

Let us reconsider the phone call. It may indeed be Melanie on the phone, but she may have run out of gas and will not be home for some time yet. Or it could even be the police informing me that she has been detained for bludgeoning the obnoxious checker at the market with a salami. Given the possiblity of alternate event chains linked to the same piece of evidence, it seems reasonable that prototypically the one out of which an inference is chosen for coding will be one that is construed as showing the most reasonable continuity with current reality and event flow as conceptualized by the speaker. But it is important to emphasize that the event selected for marking is an uncorroborated conceptualization. Even if the extrapolation eventually proves to be indeed factual, from the perspective of the conceptualizer at the moment when the hypothesis is advanced it is of an inherently irrealis quality, and therefore does not comprise part of the speaker's conceptualization of reality at that time.

Consider now the Wanka example in (5) which concerns a woman's suspicions about her husband's infidelity:

(5) *"Walmi ima-wan-si* *puli-n-*chra" *ni-k-mi* *ya'a.*
woman what-with-INDEF walk-3-CONJ say-1>2-DIR I
'I think you might be running around with some other woman.
(Lit: "With some woman he's probably walking" I tell you.)'

The wider context suggests that the wife's suspicions are based on her husband's recent unexplained prolonged absence and her own observation of a novel change in his general attitude. Add to this the fact that, out of the blue, the husband accuses her of flirting with another man the day before. This surprising interjection of infidelity into the conversation prompts the question: Where did *this* come from?! To the wife, this might make sense if it were construed as a diversionary tactic to draw attention away from his own guilt (the guilty scream the loudest). The presence of another woman in the picture is the factor that would make a number of things fit together into a coherent whole. The proposition marked as an inference may or may not be true; its corroboration lies outside the bounds of her experiential knowledge at the time of the utterance. But it points to a circumstance that in her mind would explain his odd behavior and would still be consistent with events leading up to the present.

Having briefly characterized the inference prototype, I now turn to the non-prototypical uses and the issue of intra-ground subjectification.

3.2. -Chr(a) *questions*

The conjecture evidential appears in content questions as indicated by the following examples:

(6) *Pero ima-nuy-pa*-chr *walmi-i daañu-kaa-chi-la?*
but what-SIM-GEN-CONJ woman-1P damage-PSV-CAUS-PST
'But I wonder how my wife let them damage [the field].
(*Or* How did my wife let them damage [the field]?)'

(7) *Ima-lla-kta*-chr *u-yku-shrun llapa*
what-LIM-ACC-CONJ give-ASP-12FUT all
ayllu-kuna-kta-si chra-alu-l?
family-PL-ACC-even arrive-ASP-SS
'I wonder what we will give our families when we arrive.'

(8) *Ima-kta pinsa-l*-chra *chay-nuu-ta*
what-ACC think-SS-CONJ that-SIM-ACC
suyñu-ku-u-la-nki?
dream-REF-ASP- PST-2
'What do you suppose you were thinking about to dream that?'

In order to appreciate the role of *-chr(a)* in these examples, a few comments about *prototypical* questions are in order. Prototypical information-seeking content questions in Wanka consist of an interrogative pronoun (e.g. *ima* 'what', *imay* 'when', *mayan* or *pi* 'who', etc.) followed by the *direct* evidential *-mi*, as exemplified in the following:

(9) *Imay*-mi *Wankayuu-pi* *kuti-mu-la?*
when-DIR Huancayo-ABL return-AFAR-PST
'When did he come back from Huancayo?'

In Floyd 1993 and Floyd to appear, I have argued that prototypically the direct evidential occurs in assertions, indicating that the speaker knows some information 'X' on the basis of his direct personal experience. It also occurs as the default marker for content questions.[7] However, I have argued that even though the speaker does not know the information he seeks, he construes the *addressee* as being in a "direct" relationship to that information, and therefore should be able to comply with the request. Consequently, a question marked with *-mi* is one for which the speaker expects an answer. Note that the nature of the relationship that protypically exists between the speaker and the proposition in an assertion is displaced and is assumed to exist between the *addressee* and the proposition. This essentially amounts to intra-ground subjectification.

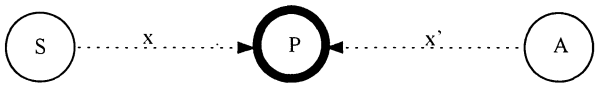


Figure 8. Intra-ground subjectification

A parallel analysis for *-chr(a)*-marked questions may be argued for. In a prototypical inference (i.e. non-interrogative), the relationship between the speaker and the proposition is prototypically one of *non-commitment*. In a *-chr(a)*-marked question, this relationship is extended to encompass the *addressee* and his relationship to the proposition. Neither does the speaker know the answer, nor does he necessarily view the addressee as being in a position to know. And since the speaker is uncertain of the addressee's relationship to the designated proposition, no response is really expected.

The difference between questions marked with the direct evidential and those marked with the conjecture marker appears to reflect what Lyons (1977: 755) describes as the distinction between

> ...asking a question of someone and simply posing the question (without necessarily addressing it to anyone). When we pose a question, we merely give expression to, or externalize, our doubt; and we can pose questions which we do not merely expect to remain unanswered, but which we know, or believe, to be unanswerable. To ask a question of someone is both to pose the question and, in doing so, to give some indication that one's addressee is expected to respond by answering the question that is posed.

The predicted "response" for *-chr(a)*-marked questions can be appreciated in the following excerpt from a conversation where a father (M) and mother (L) are

discussing their son who has borrowed money from a neighbor under false pretenses:

(10) a. *M:* *May-chruu*-chra *gasta-y-pa* *paawa-alu-n?*
where-LOC-CONJ spend-NOM-GEN finish-ASP-3
'M:I wonder where he spent it all.'
b. *Mayan-pa* *tinda-n-man*-chra *li-l* *ima-k-si*
who-GEN store-3P-GOAL-CONJ go-SS what-ACC-INDEF
lanti-mu-la-si?
buy-AFAR-PST-even
'In whose store would he have gone and bought something?'
c. *L: Kanan* *ima-nuy*-chra *ka-shrun?*
today what-SIM-CONJ be-12FUT
'L: Now what will we do? (Lit: How will we be)'

The interchange suggests that (10a) is not a typical information-seeking question. The speaker of (10a) M, does not appear to construe L as being in a particularly privileged position to be able to answer his query. Note that he does not wait for a response from L, but instead follows his own comment with another question. M's construal of L's relationship to the proposition, i.e. uncertainty, appears to be justified since L's response in (10c) is likewise another *-chr(a)* question.

A similar situation holds in the following where two individuals are discussing the problems caused by a neighbor who is perpetually drunk. At one point one of the speakers says:

(11) a. *Imanaa-alu-chwan*-chra*?*
what:do-ASP-12POT-CONJ
'What can we do?'
b. *Am*-chra *lima-pa-nki-man*
you-CONJ talk-BEN-2-POT
'You might be able to talk to him.'
c. *Ya'a* *mana-m* *lima-pa-y-ta* *yachra-a-chu*
I no-DIR talk-BEN-INF-ACC know-1-NEG
'I don't know how to talk to (advise) him.'

Here again, the speaker poses the *-chr(a)* question in (11a), but the fact that she responds to her own question suggests that she does not expect a response from the addressee.

To summarize thus far, *-chr(a)* on an interrogative form marks a question as "posed" rather than one that is "asked". It follows the pattern observed in prototypical information-seeking questions where some aspect of the prototypical direct evidential construal is subjectified intra-ground and is assumed to exist between the addressee and the proposition. The particular aspect of the inference prototype that

is subjectified intra-ground here is the element of uncertainty or non-commitment: since the speaker is uncertain of the relationship between the addressee and the designated proposition, he therefore does not really expect a response.

The other extensions of *-chr(a)* that will be dealt with here - irony and first person inferences - can likewise be understood as involving the intra-ground subjectification of some aspect of the construal relationship between speaker and proposition found in prototypical inferences.

3.3. Irony

As Sperber and Wilson state, irony is usually thought of as "saying one thing and meaning, or implicating, the opposite" (Sperber and Wilson 1986: 240). They point out, however, that a definition such as this is inadequate to characterize the general nature of irony, since it does not explain the difference between what what we recognize as cases of genuine irony and what would otherwise amount to a "bizarre practice" of irrationally making patently false statements to convey the truth. Instead, they suggest that genuine irony is "echoic", that is, "it is an interpretation of a thought of someone other than the speaker" (Sperber and Wilson 1986: 241). Haiman expresses a view similar to that of Sperber and Wilson regarding sarcasm (a particularly caustic form of irony) when he says, "Sarcasm is possible - and indeed, almost expected - in only those cases where there is *some* recognition of two different frameworks: that of the speaker, and of the person quoting the speaker" (Haiman 1989: 149).

In irony, then, the speaker echoes the thought or opinion of some individual (or type of individual). But the echoing of an opinion in and of itself does not constitute irony. In addition, irony specifically involves what Haiman (1989) refers to as "alienation", i.e. some kind of emotional or psychological distance between the speaker and the designated situation. Similarly, in Sperber and Wilson's view, irony is primarily designed to ridicule the echoed opinion: "The attitude expresed by an ironical utterance is invariably of the rejecting or disapproving kind. [...] The speaker dissociates herself from the opinion echoed and indicates that she does not hold it herself" (Sperber and Wilson 1986: 239).

In light of these observations, consider the role of *-chr(a)* in the following line from a text where a father tries to reason with his daughter who is stubbornly refusing to go to school. When she continues to resist the father remarks:

(12) *Chay-nuu-pa*-chr *yachra-nki*
that-SIM-GEN-CONJ know-2
'[Lit:] (I suppose) That's how you learn.'

There are two possible interpretations of this utterance:

(13) a. As a genuine inference, i.e. perhaps one can indeed learn by refusing to go to school.
b. As irony, i.e. that's an absurd idea.

The first alternative would suggest that based on some piece of evidence, the father has come to the conclusion that going to school is perhaps a *possible* way to learn, that there may indeed be others, and that although this conclusion does not reflect his own personal experience, it lies within the realm of possiblity. But the problem with this is that elsewhere he is adamant about the necessity of her going. The prototype interpretation thus contradicts the context, which might leave her confused if it were not for the fact that, assuming the principle of relevance, addressees invariably attempt to relate seemingly disparate propositions into some coherent theme (cf. Sperber and Wilson 1986). So although the father himself does not engage in an inferencing process, this is precisely what the daughter must do in order for his statement to make any sense. In fact, the speaker expects the addressee to retrieve an unspoken metamessage such as *This is false* or *This idea is ludicrous* (cf. Haiman 1992).

I suggest that (12) is best understood as an ironical utterance. On this view, it would be echoic: the father is attributing *to the daughter* the belief that one can learn by refusing to go to school. In (12) the father echoes that opinion, but clearly does not own it. If (12) is put forth primarily to show just how preposterous the daughter's view is, then its rhetorical punch crucially depends on the intra-ground subjectification of the inferencing process, i.e. on the addressee's ability to *infer* the speaker's intended metamessage on the basis of the *-chr(a)*-marked statement.

Consider the conversational turn in (14a and b) which follows on the heels of the wife's complaint that her husband has gone off on a drinking binge for several days leaving her to do all the work. Note in particular the wife's response in (b):

(14) a. *M:* *Pero chay-paa*-chr-*ari* *walmi-i* *ka-nki* *nila.*
but that-PURP-CONJ-EMPH woman-1P be-1 so:then
Ima-paa-taa *karaju aa?*
what-PURP-SCORN dammit huh
'M: But that's what you are my wife for. [If not for that] then what, dammit?'

b. P: *Nila* *[[umri* *am-si* *chay-paa*-chra-*ri*
so:then man you-also that-PURP-CONJ-EMPH
ka-nki]] ni-i *puli-ka-mu-na-yki-pa,*
be-2 say-1 walk-REF-AFAR-NOM-2-PURP
upya-ka-mu-na-yki-paa-chun?[8]
drink-REF-AFAR-NOM-2-PURP-YN?
'P: So then I suppose your purpose as a man is just that, to run around and drink?'

(14a) is understood as a prototypical speaker-based inference. If (14b) was also, it would suggest that the wife had arrived at the conclusion that, although she was not absolutely certain about this, her husband's role in life might actually be to run around and get drunk, and that it deserved at least some consideration as a *possible* role.

But the context clearly shows that (14b) should be understood as ironic. Although the wife's statement is marked with *-chr(a)* she does not truly consider this within the range of possible acceptable roles for her husband. Also, it is echoic in that, when the husband equates the wife's role with her recent hardships, she responds with an analogous association of *his* role with his recent revelry. The suggestion is that by holding a certain view of her role, he must hold a comparable one about *his* role as well. Like the previous example, the speaker echoes not the addressee's opinion *per se*, but an *attributed* one.

Her statement presents him with an apparent contradiction, which he must resolve. So then, rather than indicating a prototypical speaker-based inference, here *-chr(a)* marks a proposition which will make no sense unless it is the *speaker* who engages in an inferencing process.

We see, then, that with irony, as with *-chr(a)*-marked questions, some aspect of the construal associated with the *-chr(a)* prototype holds between the addressee and a proposition. Thus intra-ground subjectification is central to the understanding of this use of the conjecture suffix as well.

3.4. First person inferences

In the preceding section we saw that an ironical utterance involves the intra-ground subjectification of the inferencing process and invites the addressee to "read between the lines" to infer a particular metamessage. Similarly, it is usually the case that when *-chr(a)* marks first person events in either the present or past tense, the addressee must engage in an inferencing process in order to determine the relevance of the utterance. The effect of these "first person inferences" (FPIs) is almost inevitably something along the lines of a rhetorical question.[9] However, an FPI is not, in fact, grammatically interrogative. Formally it involves a first person subject realis event marked with *-chr(a)*, as exemplified by (15):

(15) *Ya'a trabaju-u-ta*-chra-*a* *upya-ka-mu-u.*
I work-1P-ACC-CONJ-TOP drink-REF-AFAR-1
'[Lit.] (I suppose) I drink my work (i.e. what I earn).'

What on the surface initially appears to be the speaker conjecturing about his own present or past experience, turns out in fact to be something quite distinct.

Let us consider this example in some detail. It seems reasonable to assume that the presence of *-chr(a)* on a first person subject realis tense verb might initially point to the speaker's speculating about his own past or present actions. A context

where (15) would conform to this characterization as a prototypical inference might be one in which the speaker realizes that his pay is in fact missing, and is speculating about his own possible involvement, concluding something along the lines of: *I don't know; maybe I drank it all away*. On this view, *I drink what I earn-chr(a)* would designate an event that lies outside of the speaker's conscious direct experience.

But in fact (15) is from the marital argument referred to earlier (cf. example 14). In this case the husband is responding to his wife's criticism of going out drinking for several days. Crucially, here *-chr(a)* marks a scenario the speaker *does* know, i.e. the obvious fact that he has spent his money on booze. And since the speaker is fully aware of his actions there is no need for him to speculate about them. Thus a *-chr(a)*-marked first person present or past tensed verb is somewhat anomalous as it creates processing difficulties like those found with ironic utterances.

It appears that with FPIs, rather than reflecting a conceptualization the speaker arrives at via the inferencing process, the actual effect is to force the *addressee* to speculate and draw conclusions about the relevance of the utterance to the interchange so as to "complete" the picture with the appropriate "missing piece". In other words, rather than communicating *the speculation is mine*, *-chr(a)* conveys the idea *the speculation is yours*-you *determine its relevance*. The thrust of this verbal joust in (15) is something along the lines of *I drink, and what's it to ya?* or *So what if I drink what I earn?* with the attendant metamessage: *It's none of your business*. But note once again, recovery of this unstated proposition depends on the *addressee's* ability to infer it on the basis of the statement that is actually verbalized and marked with *-chr(a)*.

We see then that, like with irony, FPIs also involve intra-ground subjectification. Like ironical utterances, the inferencing process is 'shifted' from being speaker-centric to being addressee-centric. The difference between FPIs and irony is that with irony, *-chr(a)* marks a clause encoding a scenario that the speaker knows to be patently false, while with FPIs *-chr(a)* marks a scenario that is *true* in the sense of comprising part of the speaker's experienced reality.

Another example appears in a text in which a woman accuses her neighbor of theft. At one point the woman claims the man cannot think of doing anything but stealing, to which he replies:

(16) *Nila talpu-ku-na-a-paa*-chra
so plant-REF-NOM-1-PURP-CONJ
chakma-ka-yaa-mu-u.
chakma-REF-IMPV-AFAR-1
'[Lit.] So then I suppose I (use the) *chakma*[10] in order to plant.'

As a prototypical inference, this response would require a context in which a speaker confronted with a *chakma* was speculating about its use. In such a context

it could be glossed *'So then, I guess that I use a* chakma *in order to plant, huh?'* The fact is that that no Quechua would speculate on the use of a *chakma*. That would be like a member of industrialized Western society speculating on the use of a microwave oven. In addition the context of (16) simply does not support such a reading.

Assuming, then, that the speaker is perfectly aware of why he uses a *chakma*, the presence of *-chr(a)* prompts the addressee to find a different interpretation. The effect in this particular example is something like: *[If I can't think of anything but stealing] then why do you think I'm digging to plant?* or *So why do YOU suppose I dig with the* chakma *then?*

That this is indeed the intended sense is borne out by the immediately following utterance in which the accused man specifically recasts (16) as a question:

(17)	*Nila*	*ima-paa-taa*	*chakma-yaa-mu-u*	*intunsis?*
	so	what-PURP-SCORN	chakma-IMPV-AFAR-1	then
	'So then what DO I use a *chakma* for then?'			

It is important to note that, just as (16) is not a typical inference, neither is (17) a typical information-seeking question; that much is evident from the scorn marker *-taa* on the interrogative pronoun. A true information-seeking question would be marked with the direct evidential as discussed earlier. The inference to be drawn by the addressee in this case is that the accusation is ridiculous since it is obvious he spends his time working, not stealing.

4. Conclusion

In this paper I have examined a number of extended senses of the Wanka conjecture evidential *-chr(a)*, suggesting that the notion of "intra-ground subjectification" accounts for them in a coherent way. Specifically some aspect of the inference prototype is construed by the speaker to obtain between the addressee and the proposition. In *-chr(a)-* marked questions, it is the validational notion of uncertainty that is relevant. And in irony and first person inferences, the addressee himself must engage in the inferencing process and "read between the lines" in order to make sense of what otherwise appears to be a contradiction. Although I did not discuss them here, parallel intra-ground subjectifications are observed with extended uses of the direct and reportative evidentials as well, showing that the process is productive within this particular subdomain of Wanka Quechua grammar.

Abbreviations

1>2	first person subject, second person object
12FUT	first person inclusive future
12POT	first person inclusive potential
1FUT	first person future
1P	first person possessive
2	second person
ABL	ablative
ACC	accusative
AFAR	translocative
ASP	aspect
BEN	benefactive
CAUS	causative
CONJ	conjecture
DIR	direct
EMPH	emphatic
GEN	genitive
GOAL	goal
IMPV	imperfective
INDEF	indefinite
INF	infinitive
LIM	limitative
LOC	locative
NEG	negative
NOM	nominalizer
NPST	narrative past
PART	participle
PLIMPV	plural imperfective
POT	potential
PST	past
PSV	passive
PURP	purpose
REF	reflexive
REP	reportative
SCORN	scorn
SIM	similarity
SS	same subject
TOP	topicalizer
YN?	yes/no question

Endnotes

1. A version of this paper was presented at the fourth meeting of the International Cognitive Linguistics Association, Albuquerque NM, July 1995. I wish to express my thanks to Linda Manney, Kathy Carey, and to two anonymous reviewers whose comments have contributed to its improvement.
2. The reader is referred to Langacker 1985 and Langacker 1990 for fuller discussion.
3. The Spanish loan *daañu* means both 'field' and 'damage', cf. example (6).
4. The conjecture suffix in Quechua languages appears in various forms *-ch(i)*, *-ch(a)*, *-chr(i)*, or *-chr(a)* depending on the dialect area. As with the other suffixes of its class, the conjecture evidential may lose its final vowel if it follows an open syllable.
5. Although there are aspects of the prototype that *can* be observed in two other senses of the conjecture evidential, they do not directly bear on the issue of intra-ground subjectification under discussion here.
6. See Floyd 1993 for a discussion of the reasons I consider inference to be the prototype for *-chr(a)*.
7. In addition to Wanka, the occurrence of evidentials in questions appears to be a widespread phenomenon among other Quechuan languages as well (cf. Cusihuamán (1976: 248) on Cuzco, Soto Ruiz (1976: 120) on Ayacucho, Quesada (1976: 157) Cajamarca, and Weber (1989:436) on Huallaga).

8. In contrast to other cases of embedded speech discussed earlier, this example shows evidential marking only on the embedded quote/thought and not on the matrix verb.
9. Rhetorical questions (RQs) have been commonly characterized as questions that do not expect a response, in particular those to which the speaker already knows the answer, and are common in discourses that seek to motivate compliance with a particular view, e.g. political talks, advertisements, etc. In fact, J. Frank (1990: 737) notes that "RQ's ... were most frequently found in those conversations where conflict was predominant" and appear to be a major device utilized by a speaker to persuade his interlocutor or 'win' the argument. (See Haviland (1987) on the connection between evidentials and arguments in Tzotzil and Warlpiri.)

   However, Frank (1990) points out numerous problems in even defining the notion of a rhetorical question. While most people can readily provide examples of them, it is also true that many rhetorical questions can just as easily be interpreted simply as requests for information. "The chief difficulty with identifying R[hetorical] Q[uestions] ... [is] reliance on analysts' ability to discern speakers' intentions accurately and identify the forces carried by utterances in language 'as it is actually used'" (Frank 1990: 725). Also, there are conflicting views concerning the function of rhetorical questions. Frank points out that rhetorical questions are used effectively to enable the speaker to make stronger statements than those that are possible via simple assertions (Frank 1990: 726). Yet this seems to conflict with Brown and Levinson's treatment of rhetorical questions as accomplishing 'face-threatening acts' indirectly (cf. Brown and Levinson 1978), thereby attenuating the strength of the statement.
10. A *chakma* is a tool somewhat like a shovel, but with a long, very narrow blade that is driven into the ground with the foot, used specifically for breaking up hard ground.

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Implementation of the FIGURE-GROUND Distinction in Polish

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In the ninth century, two seemingly unrelated events were taking place in Slavic morphology. One was the rise of animacy, then in its infancy, and the other was the death throes of the old *ŭ*-stem paradigm. Slavs began to substitute the genitive singular ending for the accusative singular in the declension of masculine animate nouns of the *o*-stem paradigm (by far the dominant paradigm for masculine nouns) at the close of the common Slavic period. At the same time, the *ŭ*-stem paradigm was foundering. Only six to twelve nouns can be positively identified as *ŭ*-stems, and even these were in the process of being absorbed by the *o*-stem paradigm. As I will argue in this article, both animacy and *ŭ*-stem endings contributed to the elaboration of FIGURE-GROUND distinctions in Slavic. The grammatical marking of animacy is itself a type of FIGURE-GROUND distinction, since it sets animate beings (the entities most likely to serve as FIGUREs) apart from all other nominal referents. The development of this one distinction apparently paved the way for other, similar distinctions to be made. When the old *ŭ*-stem paradigm collapsed, it yielded a valuable resource of "extra" nominal morphemes, which were recycled to articulate a whole system of distinctions, here identified as the FIGURE-GROUND scale. Rather than being lost, the marginalized morphemes of the *ŭ*-stem paradigm were productively extended to mark FIGUREs and GROUNDs. This article will focus on the way in which these distinctions have evolved in Polish.[1]

1. The FIGURE-GROUND Scale

Our perception of FIGURE-GROUND is a direct result of our physical embodiment (Johnson 1987: 124): "Our word radiates out from *our bodies* as perceptual centers ... Our perceptual space defines a domain of macroscopic objects that reside at varying distances from us ... At a certain distance from this perceptual center our world 'fades off' into a perceptual horizon which no longer presents us with discrete objects." FIGURE-GROUND as conceived in the present article is actually a continuum that integrates concepts of CENTER-PERIPHERY, SELF-OTHER and UP-DOWN (the latter with respect to authority and status),[2] and presents many possibilities for distinction. This scale ranges from the SELF, as ultimate FIGURE, to other HUMAN BEINGS, to ANIMALS, to DISCRETE, COUNTABLE CONCRETE OBJECTS, to other COUNTABLE OBJECTS, to PARTS OF OBJECTS, to MASSES and COLLECTIVES, to LANDSCAPE FEATURES, and ultimately to AMBIENT INTANGIBLES such as weather,

sounds, social institutions, and abstractions. Polish has evolved a particularly rich array of FIGURE-GROUND distinctions, as displayed in Table 1. The ending indicated to the left of the vertical line serves for all items at that point or higher in the hierarchy of distinctions, whereas the ending indicated to the right serves for all items at that point or lower.[3]

Table 1. FIGURE-GROUND distinctions in masc. nominal paradigms in Polish (*ŭ*-stem endings are italicised)

kinship terms names high-status viriles[4]	>	other viriles	>	low-status viriles	>	animals	>	discrete countable concrete inanimate objects	>	other objects masses landscape intangibles
Npl -owie	|	Npl -i	|	Npl *-y*						
		GApl	|	Apl						
						Asg *-a*	|	Asg *-ø*		
								Gsg *-a*	|	*Gsg -u*

2. History of *ŭ*-stem Endings and FIGURE-GROUND

Tables 2 and 3 show the development of singular and plural *ŭ*-stem endings from IndoEuropean to the present day,[5] as compared with those of the *o*-stem paradigm, which absorbed the remaining *ŭ*-stem nouns and became the paradigm par excellence of masculine nouns.

Table 2. The ŭ-stem paradigm: IndoEuropean > Common Slavic > Polish (case endings that survive in modern Polish are boldfaced)

	Singular	Plural
Nominative	*-us* > *-ŭ* > **-ø**	*-oues* > *-ove* > **-owie**
Genitive	*-ous* > *-u* > **-u**	*-ouom* > *-ovŭ* > **-ów**
Dative	*-ouei* > *-ovi* > **-owi**	*-umus* > *-ŭmŭ* > (lost)
Accusative	*-um* > *-ŭ* > **-ø**	*-uns* > *-y* > **-y**/(-i)
Instrumental	*-umi* > *-ŭmĭ* > **-em**	*-um|s* > *-ŭmi* > (lost)
Locative	*-ōu* > *-u* > **-u**	*-usu* > *-ŭxŭ* > (lost)
Vocative	*-ou* > *-u* > **-u**	= Npl

Table 3. The o-stem paradigm, which absorbed ŭ-stem nouns (case endings that are syncretic with ŭ-stem endings are boldfaced):

	Singular	Plural
Nominative	*-os* (> *-o* ?) > *-ŭ* > **-ø**	*-oi* > *-i* > *-i/(-y)*
Genitive	*-ōd* > *-a* > *-a*	*-ōm* > *-ŭ* > **-ø**
Dative	*-ōi* (> *-ou* ?) > *-u*	*-omus* > *-omŭ* > *-om*
Accusative	*-om* > *-ŭ* > **-ø**	*-ons* > *-y* > -y/(-i)
Instrumental	*-omi* > *-omĭ* > (lost)	*-ōis* > *-y* > (lost)
Locative	*-oi* > *-ē* > *-e*	*-oisu* > *-ēxē* > (lost)
Vocative	*-e* > *-e* > *-e*	= Npl

The endings signalled by *-i* and *-y* are distinct, since *i* occasions morphophonemic alternations that *y* does not, but they have since merged phonemically and modern Polish orthography has redistributed the two vowel letters.[6] In the remainder of the article etymological **i* will be signaled by *-i/(-y)* (the *o*-stem Npl ending), and etymological *y* will be signaled by *-y/(-i)* (the Apl ending form of both paradigms). Note that there is very little overlap between the two paradigms, really only in the Asg and Apl, with overlap in Nsg coming a bit later (this might be a borrowing from *ŭ*-stem to *o*-stem, but the origin is not entirely clear).[7] Notice also that most *ŭ*-stem endings survive to modern Polish; in fact, in neighboring Slovak all these *ŭ*-stem endings are still with us.

The old *ŭ*-stem endings were spread among *o*-stem nouns in three ways:

(a) early and completely either to all masculine hard stem nouns, or to a phonologically definable subset thereof:
Isg *-em*, Gpl *-ów*, Vsg *-u*

(b) initially to FIGUREs or GROUNDs, but then to all masculine hard stem nouns, or to a phonologically definable subset thereof:
Lsg *-u*, Dsg *-owi*

(c) to signal
FIGUREs: Npl *-owie*
-or-
GROUNDs: Gsg *-u*.

This article will focus on the third type of extension.

It seems odd to state that the *ŭ*-stem endings have been mobilized for the cause of both FIGUREs and GROUNDs, but if we take a look at the meanings of the original *ŭ*-stem nouns, we understand why this was the case. There were very few such nouns, which is why their paradigm became marginal. Scholars all agree on only six words as original *ŭ*-stem nouns:

synŭ	'son'	*domŭ*	'house'
vĭrxŭ	'top'	*medŭ*	'honey'
volŭ	'ox'	*polŭ*	'half'

Six more items are agreed upon by most scholars:[8]

ĕnŭ	'rank'	*stanŭ*	'camp'
ledŭ	'ice'	*sadŭ*	'plant; tree; forest'
darŭ	'gift'	*ēdŭ*	'poison'

These original *ŭ*-stem nouns can be neatly gathered into two groups: clear FIGUREs and clear GROUNDs.

FIGUREs: *synŭ* 'son,' *volŭ* 'ox'
GROUNDs: substances and collectives: *medŭ* 'honey,' *ledŭ* 'ice,' *ēdŭ* 'poison', *sadŭ* 'plant; tree; forest'
locations: *vĭrxŭ* 'top,' *domŭ* 'house,' *stanŭ* 'camp'
abstractions: *polŭ* 'half', *ĕnŭ* 'rank', *darŭ* 'gift'

No original *ŭ*-stem nouns have meanings intermediate between FIGURE and GROUND; discrete, countable concrete objects are missing from the inventory.

Given the clustering of the meanings of *ŭ*-stem nouns at the ends of the scale, the "extra" morphology they provided could be associated either with FIGURE or with GROUND. The specific association of each case ending was determined, it seems, by the markedness values of FIGURE and GROUND in relation to the semantics of the given case. The *ŭ*-stem endings sought positions that maximalized markedness alignment.[9] All other things being equal, FIGURE is marked, GROUND unmarked. Here are the relevant correlations:

- *Nominative* is case of the subject, therefore FIGURE - *Npl -owie signals FIGUREs.*
- *Dative* is case of the potential subject,[10] therefore FIGURE - Dsg *-owi* initially signals FIGUREs, then spreads to nearly all masculine nouns.
- *Locative* is case of location and attendant circumstance, therefore GROUND - Lsg *-u* initially signals GROUNDs, then spreads to all masculine and neuter nouns with stems ending in a historically soft consonant or velar.
- *Genitive* case is unaffected by the FIGURE-GROUND scale and GROUND has default unmarked value - *Gsg -u signals GROUNDs.*

3. Polish Npl *-owie* (as opposed to Npl *-i/(-y)* and *-y/(-i)*)[11]

The spread of Npl *-owie* was followed by the step-by-step extension of the Apl *-y/(-i)* to inanimates, animates, and eventually some viriles in the Npl, and as a result there are three Npl desinences for masculine nouns: *-owie*, *-i/(-y)*, and *-y/(-i)*. Virility marks the top end of the FIGURE-GROUND scale; it indicates the SELF and other HUMANS. The Npl endings *-owie*, *-i/(-y)*, and *-y/(-i)* are used in Polish both to distinguish HUMANS LIKE THE SELF from HUMANS NOT LIKE THE SELF, and to make finer distinctions within the category of HUMANS NOT LIKE THE SELF, pragmatically promoting some to higher (honorific) status and demoting others to the status of non-viriles (ANIMALS, females, and inanimate OBJECTS).

If we examine the groups of nouns for which Npl *-owie* is obligatory, we see a clear relationship of similarity to the (idealized) SELF. The SELF is the prototypical FIGURE: a specific, unique, named being identified with the speaker/hearer's ego (ideally if not really a human male). It follows that those who are most like the SELF are (male) blood relatives, literally the closest "copies" of the SELF. The fact that one of the most important male kinship terms is an original *ŭ*-stem noun, namely *synŭ* 'son,' was no doubt instrumental in motivating the extension of Npl *-owie*. Indeed, virtually all Polish masculine kinship terms require *-owie*. Family members, in the plural, are grouped according to family names, which also have obligatory Npl *-owie*, and the further extension of this ending to given names is also well-motivated. Families can be organized into larger groups, such as clans, tribes, and nations and the nouns that name specific ethnic groupings of this type may also have *-owie*, although other factors may come into play. For names of nations, for example, Npl *-owie* is more likely when the stem is monosyllabic, as in *Bałtowie* 'Balts'.[12]

The other relevant parameter for the semantic segregation of viriles in Polish is relative salience, which is greatest for persons of high status and lowest for marginalized or maligned members of the population. For the most prestigious titles, Npl *-owie* is virtually required, as in *król* 'king,' Npl *królowie, generał* 'general,' Npl *generałowie*. Npl *-owie* is the expected ending for many professions, such as *geograf* 'geographer,' Npl *geografowie*. For many nouns, both *-i/(-y)* and *-owie* are used, and the latter has an honorific connotation, as in *psycholog* 'psychologist', Npl *psycholodzy/psychologowie, profesor* 'professor', Npl *profesorzy/profesorowie*.

For pejorative nouns with virile reference, the use of Npl *-owie* and even the otherwise neutral *-i/(-y)* are marked (ironic), and *-y/(-i)* is expected (cf. Dunaj 1992, Saloni 1988, and Zieniukowa 1992). This signals both a distancing of the SELF from such "undesirables" and a demotion of these referential viriles to the status of ANIMALS, females, and inanimate OBJECTS (since *-y/(-i)* is the Npl ending used with all non-viriles). Typical candidates for the use of the deprecatory form in *-y/(-i)* are nouns like *bękart* 'bastard,' Npl *bękarty; cham* 'cad,' Npl *chamy*; *koniokrad* 'horsethief,' Npl *koniokrady*. Deprecatory Npl forms are also expected

or common for certain racial, ethnic or other groups (especially if the nouns in question are derogatory): *czarnuch* 'black,' Npl *czarnuchy; żyd* 'Jew', Npl *żydy* (non-deprecatory: *Żydzi* 'Jews'); *cygan* 'gypsy', Npl *cygany* (non-deprecatory: *cyganie*); *karzeł* 'midget; dwarf', Npl *karły; pedał* 'homosexual', Npl *pedały.*

Table 4 summarizes the distribution of Npl endings used with viriles in Polish. With both *-owie* and *-i/(-y)* virility is also marked on accompanying adjectival and verbal forms, as well as by the use of a genitive-accusative form in the plural. With *-y/(-i)* the corresponding non-virile forms are used. Although soft-stem nouns do not have a distinction to correspond to *-i/(-y)* vs. *-y/(-i)*, they can signal virility or demotion to non-virility in adjectival and verbal agreement and by the choice of a genitive-accusative or an accustive plural form.

Table 4. Marking of viriles in Polish

-owie marked, honorific (male kinship terms, families, some ethnic groups, high-status viriles)	*-i/(-y)* neutral (most other viriles)	*-y/(-i)* deprecatory (low-status, marginalized, or otherwise "undesirable" viriles)
ojcowie 'fathers' *Bałtowie* 'Balts' *królowie* 'kings' *generałowie* 'generals'	*studenci* 'students' *autorzy* 'authors'	*bękarty* 'bastards' *chamy* 'cads' *koniokrady* 'horsethieves' *czarnuchy* 'blacks' *żydy* 'Jews' (*Żydzi*) *cygany* 'gypsies' (*cyganie*) *karły* 'midgets' *pedały* 'homosexuals (vulg.)'

4. Polish Gsg *-u* (as opposed to Gsg *-a*)

Grammars of North Slavic languages devote considerable space to discussing the use of Gsg *-u*. Buttler, Kurkowska & Satkiewicz (1971: 158) name the Gsg the most complicated problem in Polish inflection. Perhaps the most honest assessment is given by Dvonč *et al.* (1966: 91), who confess that they cannot provide rules for use of variant Gsg endings in neighboring Slovak, and advise speakers to rely instead on their linguistic intuitions. The metaphorical nature of the FIGURE-GROUND distinction helps to explain two of the most troubling and apparently contradictory facts about Gsg *-a* vs. *-u*:

1. Native speakers have no difficulty learning, using, and agreeing on this distinction. The explanation for this provided by cognitive linguistics is that the FIGURE-GROUND distinction is exceedingly well-grounded in universal human

experience. This is an utterly natural distinction regularly perceived by human beings in their non-linguistic interaction with the world.

2. Linguists have great difficulty describing the distribution of these two endings. It is easy to see why this is the case when we remember that the FIGURE-GROUND distinction is really a metaphor for how we relate to our world, both subjectively and objectively. It is well known that a metaphor is rarely reducible to an algorithm.

Roughly two-thirds of all masculine inanimate nouns in Polish have *-u* as either their only Gsg ending or as an alternate. Scholars of Polish have pursued the role of Gsg *-u* with great vigor, the most diligent among them being Westfal (1956), who produced a large monograph on this topic after sifting through 175,000 pages of literature. Although Westfal's approach is atomistic and encyclopedic, a reanalysis of the data there and in other sources (Kottum 1981, Buttler, Kurkowska and Satkiewicz 1971, Urbańczyk *et al.* 1984) yields a system of semantic associations where each member of each opposition constitutes a radial category motivated by either FIGURE or GROUND. Although the main division is semantic, there is a trickle-down effect that causes the opposition to spill over into morphological and phonological associations. Because certain suffixes bear meanings relevant to FIGURE or to GROUND, they become opposed on morphological grounds, and, futhermore, because certain final segments or stem shapes are phonologically similar to these suffixes, phonological oppositions are also manifest. Thus each pole of the opposition is represented by an assembly of semantic, morphological, and phonological categories operating in concert, as shown in Table 5.

Table 5 may look cumbersome, but only a small portion of it is pertinent to the semantics, morphology, and phonology of any given word. Also, there is a large amount of overlap in this table, for FIGURE-GROUND distinctions can be motivated by more than one factor, and though the factors are related, no one of them embraces the full range of possibilities. Yet because the whole table is ultimately derived from a single distinction it is, in an abstract sense, very simple. By recognizing the cognitive categories involved in this distinction, we can appreciate this abstract simplicity while revealing the complex infrastructure of each member of the opposition.

In Table 5, classes of nouns that are used more frequently with the given ending are listed before the > symbol, whereas items lower down on the scale are listed after. Italics mark sectors of the lexicon where both endings occur in significant numbers.

As mentioned above, the prototypical FIGURE is the idealized SELF, which can also be thought of as highest on the scale of individuation and of foregrounding. The SELF has a characteristic range of sizes, with that of an adult at the maximum end of the scale. Thus small or human-sized concrete objects tend to use *-a*, as in *garnek* 'pot', Gsg *garnka*, whereas things of large or indeterminate size tend to use

Table 5. FIGURE-GROUND as marked by Gsg -a/-u in Polish

FIGURE Gsg *-a* (Marked)	vs.	GROUND Gsg *-u* (Unmarked)
	SEMANTIC ASSOCIATIONS	
SELF 1. *human size or smaller* 2. *native > foreign* 3. *diminutive > non-diminutive*	vs.	NON-SELF 1. large/indeterminate size > *human size or smaller* 2. *foreign > native* 3. *non-diminutive > diminutive*
INDIVIDUATED 1. counted > *count* 2. 3-D definite form > *3-D part; 0-D point*	vs.	NON-INDIVIDUATED 1. abstract > mass > collective > *count* 2. 1-D line > 2-D surface > 3-D mass > *3-D part; 0-D point*
FOREGROUNDED humans > animals+animized objects > instruments > *other objects*	vs.	BACKGROUNDED ambient intangibles > landscape features > *other objects*
	MORPHOLOGICAL ASSOCIATIONS	
suffixes associated with agency and *diminutives*	vs.	deverbal Ø suffix acronyms
	PHONOLOGICAL ASSOCIATIONS	
soft stems *similarity to above suffixes*	vs.	*monosyllabic stems*

-u, as in *las* 'forest', Gsg *lasu*.Because the idealized SELF in this case is a Pole, familiar native Polish words are more likely to take *-a*, whereas unfamiliar non-native words will take *-u*, as we see in the next two words, both of which mean 'sidewalk': *chodnik*, the native word, has Gsg *chodnika*, but *trotuar*, a borrowing from French, has Gsg *trotuaru*. Westfal (1956: 360-1) describes Gsg *-a* as "rough" and "depreciative" as compared to "elegant" *-u*. Relative distance from the SELF motivates this subjective, yet valid observation. Gsg *-u* ideally designates a vague concept on the SELF's horizon that is thus ascribed the exotic cachet of something intangible and inaccessible. By contrast, *-a* ideally designates the mundane physical objects that permeate our everyday life.

The effect of a diminutive is to suggest reduced physical size and increased emotional intimacy, both of which bring the referent closer to the SELF.[13] Although there are many exceptions, there is an overall tendency to prefer *-a* with diminu-

tives, e.g. *gwizd* 'whistle' has Gsg *-u*, but the diminutive *gwizdek* 'whistle blast,' has Gsg *-a*.

Individuation has two parameters: countability and dimensionality. "Countability" ranges from best examples to worst examples on a scale of:

counted > count > collective > mass > abstract.

Counted nouns are units of measure that frequently occur with numerals or have an internal numerical structure. Gsg *-a* is the norm for these nouns, which include all the names of months, such as *grudzień* 'December', Gsg *grudnia*; all substantive numerals, such as *tuzin* 'dozen', Gsg *tuzina*; and the vast majority of units of measure, *cal* 'inch', Gsg *cala*.

Count nouns are other non-mass nouns with a normal sg vs. pl distinction. Additional factors usually determine which Gsg ending is applied. Gsg *-a* is normal for *tłumok* 'bundle', Gsg *tłumoka*, as we would expect for a discrete, concrete object that is not very large, but *pakiet* 'packet', though it describes a similar item of realia, has Gsg *pakietu*, presumably because of its foreign origin.

Collective nouns denote groups of objects no longer viewed as individuals, but rather as a single undifferentiated whole. As a rule, collectives take *-u*, regardless of the identity of the objects of which they are composed. Examples include *ogół* 'community,' Gsg *ogółu; rój* 'swarm', Gsg *roju; drobiazg* 'small things', Gsg *drobiazgu*.

Mass nouns typically have no plural forms and denote substances or materials. The vast majority of these nouns use Gsg *-u*, including: *ołów* 'lead', Gsg *ołowiu; barszcz* 'beetroot soup', Gsg *barszczu; łój* 'tallow', Gsg *łoju;* and a large number of borrowings, such as *asfalt* 'asfalt,' Gsg *asfaltu*.

Abstract nouns likewise usually lack a plural form and strongly prefer Gsg *-u,* among them: *gniew* 'anger', Gsg *gniewu; chłód* 'cold,' Gsg *chłodu; bezrząd* 'anarchy', Gsg *bezrządu*; and a large number of foreign words, among them all words in *-izm*: *kapitalizm* 'capitalism,' Gsg *kapitalizmu*.

Dimensionality is yet another parameter relevant to individuation. *Discrete 3-D objects of definite form* are the only items on this scale that are highly individuated and show a strong tendency to use Gsg *-a* (provided they are neither very large nor of foreign origin): *pas* 'belt', Gsg *pasa; kosz* 'basket', Gsg *kosza*.

Parts of 3-D objects show considerable variation in use of Gsg endings. Body parts, for example, tend to use *-a*, especially if they can act as FIGURES: *język* 'tongue', Gsg *języka; łeb* 'head', Gsg *łba; nos* 'nose', Gsg *nosa*. Otherwise, *-u* is the norm: *otwór* 'opening', Gsg *otworu; przód* 'front part', Gsg *przodu; pedał* 'pedal', Gsg *pedału*.

3-D masses, 2-D surfaces, and 1-D lines all show a strong preference for *-u*: *pył* 'dust', Gsg *pyłu; czworobok* 'quadrangle', Gsg *czworoboku; okręg* 'area', Gsg *okręgu; rynek* 'town square', Gsg *rynku; obwód* 'circumference', Gsg *obwodu*.

0-D points are somewhat problematic, partly due to the fact that we tend to conceive of them as solid concrete objects because non-dimensionality is not part of our everyday (largely 3-D) experience. There is also the fact that a point by its very nature tends to stand out as a FIGURE. There is therefore an anomaly in the dimensionality scale, for points admit both *-u* and *-a*. The word *przystanek* 'stop, halting point', is typical here, for it admits both endings; *punkt* 'point', however, uses only *-u*, probably because of its German origin.

The scale of foregrounded vs. backgrounded perhaps comes closest to schematically representing the "parent" concept of FIGURE-GROUND, although the latter is more comprehensive. The following scale indicates the scope of the opposition foregrounded vs. backgrounded:

humans > animals+animized objects > instruments > other objects > landscape features > ambient intangibles

All humans and animals take Gsg -a.

Animized objects have the same grammatical behavior as animate nouns. They consist primarily of nouns that have an animate homonym (or are synonymous with such a noun), or otherwise resemble animate nouns in terms of either their morphological form or in terms of the physical shape of their referent.[14] An example is *wąż*, which uses Gsg *węża* in all its meanings, even the inanimate 'hose' and the collective 'line of dancers.'

Instruments, due to their association with transitive action, have a very strong tendency to use Gsg *-a*, as in: *nóż* 'knife', Gsg *noża;* and *pług* 'plough', Gsg *pługa.*

Other objects can use both endings, with factors such as size and familiarity playing a determining role. Thus, as we have seen above, *kosz* 'basket' is small enough to have Gsg *kosza*, but *budynek* 'building' has Gsg *budynku.*

Landscape features, which typically serve as locations, strongly prefer the use of *-u*, as in: *przesmyk* 'isthmus', Gsg *przesmyku; grzbiet* 'mountain range', Gsg *grzbietu; niż* 'lowland', Gsg *niżu; rów* 'ditch', Gsg *rowu.*

Ambient intangibles include natural phenomena, sounds, ideologies, emotions, processes, states, and actions. Here, too, Gsg *-u* predominates, as in: *przypływ* 'incoming tide', Gsg *przypływu; wschód* 'sunrise', Gsg *wschodu*; *pożar* 'fire', Gsg *pożaru; szum* 'rustling', Gsg *szumu; gwizd* 'whistling', Gsg *gwizdu; światopogląd* 'world-view', Gsg *światopoglądu; wstręt* 'disgust', Gsg *wstrętu.*

There are a number of suffixes associated with agency (given in the table below), which, together with the diminutive suffixes, help to identify nouns with FIGURE. Most nouns that have these suffixes are animate, but when they appear on an inanimate noun, that noun will typically have Gsg *-a.*

There is a strong tendency to assign Gsg *-a* even for nouns that do not have these suffixes but merely end in a sequence of segments similar to any of these suffixes. For example, the following mass nouns all have Gsg *-a*, conditioned by the

presence of one of the suffixes listed above or a look-alike final sequence of segments: *rozpuszczalnik* 'solvent', *jęczmień* 'barley', *surowiec* 'raw material'.

Table 6. Suffixes that trigger Gsg *-a* in Polish

-as	-ut	-ec	-un	-or/-ór	-ur	-uk
-osz	-usz	-ysz/-isz	-arz	-erz	-acz	-al
-el	-eń	-uch	-ak	-ek	-yk/-ik	-nik

The only feature of morphology associated with Gsg *-u* is the deverbal null suffix. Since this morphological shape relates nouns to verbs, it is particularly important in the formation of nouns designating actions, processes, and states, here characterized as AMBIENT INTANGIBLES. The typical lack of a suffix, in concert with the historical preponderance of monosyllabic stems, causes monosyllabic stems to be associated with *-u*.

Semantic factors carry the greatest weight in determining Gsg *-a* vs. *-u*, with morphological and phonological factors playing only secondary and tertiary roles. The various semantic factors can, however, vary independently, producing conflict. Foreign origin can override all other factors. With very large objects size outweighs dimensionality, as in the case of buildings, which take *-u* even though they are 3-D objects of definite form: *ostróg* 'fortress', Gsg *ostrogu; zbór* 'church', Gsg *zboru; budynek* 'building', Gsg *budynku.*

Many nouns take both endings: *przypadek*, when used as the linguistic term 'grammatical case', has Gsg *przypadka*, but appears as *przypadku* when its meaning is less specific, corresponding to 'chance, coincidence'. For words that can use both endings, construal plays an important role, since the same referent named by the same speaker might be construed as a FIGURE in some utterances, but as a GROUND in others. Westfal (1956: 104-109; 359-360) states that this is quite common for items that can be variously construed as objects or as substances. A tree name such as *dąb* 'oak', for example, can refer either to an individual plant (with a Gsg of *dęba*) or to a material used for building or fuel (with a Gsg of *dębu*).[15]

5. Conclusion

The Poles and their Slavic brethren have found semantic treasure in their own morphological trash, bringing the exponents of a dead paradigm back from the brink of extinction to bear new meanings. Rather than discarding these marginal morphemes, they established them as the prototypical markers for new distinctions, facilitating analogical change. This is part two in a series of ICLA presentations. All three papers use examples of marginalized morphemes extended due to the extablishment of new prototypes in the history of Slavic. The first paper was about

1sg *-m*, marginalized due to the fact that only five verbs used its paradigm. The present paper tells the story of morphemes that survived the death of their paradigm. The next paper will tell of morphemes that have survived the death of their category, namely dual number, to become productive markers of virile and other specialized plural categories. In this series of case studies I try to examine the mechanism of analogical change, demonstrating how prototypes are established and change,[16] and how central and then progressively more peripheral members of a category are engulfed in the analogical spread of a morpheme. Ultimately, this is a study of human cognition, of how patterns are perceived and develop over time.

Endnotes

1. The following sources were consulted in the preparation of the data and historical commentary; these and other sources will be referred to in the text only where direct quotes or specific controversy are involved: Buttler, Kurkowska and Satkiewicz 1971, Grappin 1956, Klemensiewicz, Lehr-Spławiński and Urbańczyk 1981, Rothstein 1993, Urbańczyk *et al.* 1984. The following abbreviations are used in the text: N = nominative, G = genitive, D = dative, A = accusative, sg = singular, pl = plural.
2. I would like to thank Eve Sweetser for pointing out the fact that the grand scale of FIGURE-GROUND I have here identified for Polish is actually a combination of all of these distinctions.
3. There is one vertical line that does not correspond neatly to the breaks given in this scale, namely that separating the Asg *-a* from Asg *-ø* (zero ending). This is due to the existence of what is commonly called "facultative animacy" in Polish. A small subset of masculine inanimate nouns is treated as if animate, in many instances due to a very strong association of certain objects with male human beings. This includes many brand names (some of which are homonymous with the names of men), dances, machines, cigarettes, sports, card games, and mushrooms; cf. Swan 1988.
4. "Virile" refers to male human beings as opposed to everything else.
5. The dual endings are excluded here since they are not continued in Polish.
6. The current distribution of the graphemes *i* and *y* in Polish is determined by the preceding consonant. Etymological **i* is present in the following sequences: *bi, ci, dzi, ji, li, mi, ni, pi, si, wi, zi* (in these sequences *i* acts as a diacritic signaling palatalzation or palatal status of the preceding consonant); and in *cy, czy, dzy, rzy, szy, ży*. Etymological **y* is present in the following sequences: *by, chy, dy, gi, ki, ły, my, ny, py, ry, sy, ty, wy, zy.*
7. See Feinberg 1978 for a thorough discussion of the problems associated with the Nsg desinence of the *o*-stem paradigm.
8. The task of identifying the actual nouns that were associated with the *ŭ*-stem paradigm is difficult, since there are no words that show exclusively *ŭ*-stem endings in Old Church Slavonic, and there is not much agreement among scholars about the identity of these words, beyond the fact that all members of this paradigm were grammatically masculine. In preparing the lists given in the text, I have conducted a comparison of a representative sample of nine works on Common Slavic, Old Church Slavonic, and the historical grammars of various modern Slavic languages (Meillet 1965, Van Wijk 1931, Lunt 1959, Diels 1932, Vážný 1970, Šaxmatov 1957, Gorškova and Xaburgaev 1981, Unbegaun 1935, and Kernyc'kyj 1967). The six words on the first list appear in the inventories of *ŭ*-stem nouns (or of nouns that take *ŭ*-stem endings in the case of Lunt 1959 and Diels 1932) given by all nine sources, and can be

considered "certain" *ŭ*-stem nouns. The six words in the second list are cited by at least six of the nine sources, and can be considered "likely" *ŭ*-stem nouns.

9. For a discussion of markedness alignment in particular and of the nature of markedness and its explication in the framework of cognitive grammar, see Janda (1995).
10. The essential role of potential subjecthood in the semantics of the dative case has been argued at length in Janda (1993). Native speakers of Slavic languages reject sentences like 'Mary-nominative gave table-dative flowers-accusative'. Inanimate nouns such as 'table' (and in some sentences, non-human nouns as well) are unable to receive dative marking in such constructions because they are unable to perform any further action in response; they lack potential subjecthood. Cf. also Wierzbicka (1986), which mentions this phenomenon with specific reference to Polish.
11. Remarks in this section are largely confined to hard-stem masculine nouns with a zero ending or *-a* in the Nsg. Soft-stem nouns can use Npl *-owie*, and the motivations are exactly the same as those outlined here for hard stems. However, there is no distinction to correspond to the virile *-i/(-y)* vs. non-virile *-y/(-i)*; soft-stem nouns employ Npl *-e* for both.
12. Note that all of the original *ŭ*-stem nouns that are generally agreed on (those presented in 2.0) have monosyllabic stems and become monosyllabic in the Nsg when final *-ú* is dropped during the "fall of the jers" (loss of *ú, ĭ* in some positions) at the close of the Common Slavic period. Monosyllabic stem shape has served as a contributing factor in the spread of *ú*-stem endings throughout Slavic; cf. its role in spreading Gsg *-u* discussed in 4.
13. Cf. Wierzbicka's (1980: 57) metalinguistic gloss for diminutives: "I'm thinking of this X as something small. I feel good feelings towards this X as one does towards something small."
14. This set of motivations for facultative animacy was suggested on the basis of Russian and Czech data in Frarie 1992. A comparison of that data with Polish data indicates that the same factors are motivating the grammatical animizing of inanimate objects in this language as well.
15. This sort of variation is of course not unique to Polish; for a related phenomenon in German, cf. Smith 1987 and 1992.
16. These and other case studies are gathered together in a monograph on analogical change: Janda (1996). There I argue that the reanalysis of prototypes and of cognitive categories that motivates analogical change is facilitated by the process identified as "blending" by Fauconnier and Turner (forthcoming) and as "abductive and deductive change" by Andersen (1973).

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Genitives and *von*-Datives in German: A Case of *free* Variation ?

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This paper[1] focuses on syntactic variation as manifested by the use of adnominal genitives and *von*-datives in Modern German. On the basis of a small but fairly representative data-base, I intend to argue that an important driving force behind this, and probably other types of lexico-syntactic variation, is conceptual differentiation. As cognitively oriented linguists point out, there are different ways of conceptualizing the same situation and the choice of a particular word or construction will in large measure depend on the conceptualization that the language user wants to highlight.

To appreciate the intimate relationship between conceptualization and linguistic coding, let us consider the difference between the possessive clausal dative and the possessive adnominal genitive. Whereas the former profiles the new possessor as affected by the possession transfer, the latter highlights the resultant state of possession. As Draye (1996: 204) shows in (132a-b), the dative-marked possessor participates actively as an experiencer in the process of possession transfer. The use of a genitive for that possessor, however, reduces its syntactic status to that of an attribute and thus reduces its role in the process as well. The referent of the genitive is no longer profiled as an experiencer and does not even have to be part of the event.

(132) a. *Plötzlich sprang* dem *Vertreter eine schwarze Katze vor das Auto.*
Suddenly leapt the-DAT salesman a black cat before the car.
'Suddenly a black cat leapt before the car of the salesman.'
b. *Plötzlich sprang eine schwarze Katze vor das Auto* des *Vertreters.*
'Suddenly a black cat leapt before the car of the-GEN salesman.'

In other cases the respective semantic effects of two forms are not easily detected. Sometimes, however, no motivation is found for the choice of either form. It is my intention to show in this paper that even in the case of so-called *free* variation the freedom to select a particular form is not a chance phenomenon. I propose the following hypothesis: given two alternating constructions A and B, construction A will be preferred if the intended conceptualization of the situation to be expressed is situated more toward the prototype of A than toward the prototype of B. This line of reasoning has two important consequences. First, genuine free

variation will obtain only when the intended conceptualization is positioned exactly in between the semasiological centres of A and B, a situation which is rare, since context generally favours one of both perspectives. Second, the prototypical meaning of construction A will seldom be expressed by means of construction B, and vice versa. To substantiate my hypothesis, I will examine the free variation between adnominal genitives and *von*-datives in Modern German.

It is commonly claimed that the use of the genitive construction is in decay, and that it is gradually being taken over by a dative-marked prepositional *von*-phrase[2]. The following quotations illustrate this view on the adnominal variation issue.

> Der Genitiv wird heute in der gesprochenen Sprache weithin durch die analytisch mit *von* + Dativ gebildete Form ersetzt. Die Umschreibung des Genitivs mit *von* + Dativ macht sich auch in der geschriebenen Sprache der Gegenwart allmählich geltend [Pfeffer & Lorentz (1981: 8)].
> [In spoken language, the genitive is now largely replaced by the analytical form *von* + dative. The paraphrase of the genitive with *von* + dative gradually becomes prevalent in written language as well.]

> ... der Genitiv immer mehr aus dem Sprachsystem des Deutschen verschwindet: wenn ein Sprachmuster nur noch an wenigen Stellen Verwendung findet, besteht die Tendenz, auch dann, wenn die einschlägigen Bedingungen erfüllbar wären, auf die entsprechenden <Hilfskonstruktionen> auszuweichen [Lindauer (1995: 202].
> [... the genitive is gradually disappearing from the linguistic system of German: if a linguistic model is only seldom used, there is a tendency, also when the respective conditions could be met, to resort to the corresponding <alternative constructions>.]

For both authors it is only a matter of time until all German genitives become replaced by *von*-datives[3]. Opposed to this point of view is, for example, the one defended by Lauterbach (1993: 79ff.) in his discussion on the competition between adnominal genitives, compounds and prepositional attributes in German. Lauterbach does not go into the issue of free variation between genitives and *von*-attributes, because the majority of the genitival *von*-phrases (which he calls *analytical genitives*) do not alternate with the genitive at all. They can be categorized as being in complementary distribution with the morphological (synthetic) genitive, because they are used where the genitive cannot be formally marked, for different reasons. Some of these reasons are illustrated under (1) and (2). These examples show that the genitive marker is excluded if the noun in question is feminine singular (1) or plural (2), *and* the noun is not prenominally modified in any way, that is, it is not accompanied by an article, demonstrative/personal (...) pronoun, adjective etc. which can be morphologically marked for the genitive. Under these circumstances the use of a *von*-dative is obligatory.

(1) *die Produktion *Limonade* - Feminine Singular
the production (of) lemonade-GEN

→ *die Produktion* von *Limonade*
→ *die Produktion* der/dieser/gelber *Limonade*
the production of the/this/yellow-GEN lemonade

(2) *das Abhören *Telefone* - Plural
the tapping (of) telephones-GEN
→ *das Abhören* von *Telefonen*
→ *das Abhören* der/dieser *Telefone*
the tapping of the/these-GEN telephones

Both Lauterbach (1993) and Van Raad (1978) clearly distinguish between the large group of *von*-phrases that are (more or less)[4] in complementary distribution with the genitive (and thus can be said to be in an advanced stage of grammaticalization), and the considerably smaller group of *von*-datives that are in free variation with the genitive. Moreover, contrary to what is generally claimed, they do not think that this free *von*-variant is encroaching on the genitival territory at an alarming pace. An example of such free variants is *einige mein*er-GEN *Freunde* / von *meinen Freunden* ('some of my friends'). A genitive is perfectly possible because the possessive pronoun can be marked for the genitive; still, the *von*-variant is often used.

Van Raad and Lauterbach share the opinion that at this moment the free *von*-alternative is to be situated in an intermediate stage, on the borderline between being a pure, formal conjunction between two nouns and a preposition with individual semantics. However, Lauterbach does not take up the problem, and Van Raad, though offering some general ideas, does not enter into specifics. Therefore, in this paper, I would like to elaborate and substantiate their general claims via a limited case-study of the free genitive/*von*-variants in *instantiated* environments, i.e. where the genitive- and *von*-alternatives are determined by an (in)definite article or pronoun. I will concentrate exclusively on these variants as they best represent what is understood by variation sensu stricto.

Before I embark on the actual analysis, a brief overview of the sources of my data-base is in order. The *written* genitive- and *von*-constructions come from magazines (e.g. *Focus*, *Neue Welt für die Frau*), newspapers (e.g. *Bild*) and novels (e.g. *das Parfum* [Süskind], *der Richter und sein Henker* [Dürren-matt]). To obtain an adequate number of *spoken* attestations, I video-taped a whole variety of talk-shows. However, these written and spoken sources did not offer as many attestations of free variants as I had expected. The type of free alternation in question is, moreover, a very subtle one, for which no exact rules have been formulated yet. Therefore I additionally set up a questionnaire investigating native-speaker intuitions. Approximately 70 students (aged between 22 and 30) from Duisburg University in Germany filled out a questionnaire[5], which consisted of three different parts. The first part offered 25 pairs of context-free genitive and *von*-NPs. The students had to compare each genitive with its *von*-alternative and judge their re-

spective degrees of acceptability, using a scale that ranged from very bad or even ungrammatical over bad and good to very good or excellent. The second part offered 25 pairs of genitive/*von*-alternatives embedded in context. The last part then offered 25 gapped sentences. Here the students had to fill out the first form that came to their minds when reading the given sentences, be they genitives, *von*-phrases, or any other (prepositional or non-prepositional) constructions. The students' overall task was to assess the sets of alternations with respect to their own *informal standard* German language, i.e. the (non-dialectal) language they use when talking to friends. They were also instructed to put down any observation that crossed their minds when reading the pairs of alternatives. For instance, if they thought the genitive construction had a (slightly) different meaning from the *von*-construction, they had to write that down.

In the remainder of the paper I will concentrate primarily on examples from the questionnaire, as the results of my other sources are reflected in them, *and* the questionnaire offers interesting additional information. This information includes, for example, native-speaker comments and quantitative evidence of the acceptability rates of genitive/*von*-alternatives in *identical* contexts.

1. Are the Genitive and the *von*-Prepositional Phrase really free Variants?

The basic question to be answered is "Are the genitive and the *von*-PP really *free* variants, as is so often claimed?". In my opinion, there are three main factors which indicate that the *von*-phrase as an alternative for the genitive has certainly not reached the status of well-entrenched grammatical unit yet and therefore still manifests its own prepositional semantics. As we will see,

1.1. the replacement of the genitive by a *von*-phrase often introduces a clear change of meaning;
1.2. some genitives do not allow an alternation with a *von*-phrase at all, and some *von*-phrases cannot be replaced by a genitive; and
1.3. certain genitives obviously resist a *von*-alternation more than others. In the following subsections I will discuss each of these factors in greater detail.

1.1. The use of von *triggers a difference in meaning*

The replacement of a genitive by a *von*-dative in a particular noun-phrase may bring about a clear semantic change. The *von*-variant then indicates a *dynamic*, *separational* relation of relative *independence* between the two participants. By contrast, the genitive expresses a *stable*, *intrinsic* relation of *interdependence* between the referents of two entities. The fact that each construction is primarily interpreted in its prototypical sense seems to block the acceptance of them as free

variants by native speakers. Both alternatives were equally common in all my sources, but in the questionnaire many informants pointed out the difference in meaning between the two variants[6].

1.1.1. Dynamic verbal semantics

In example (3), the genitive construction expresses a stable, possessive relation between the neighbour and his car. Its alternative with *von*, however, was immediately interpreted as being dependent on the verb *buy*, i.e. as to *buy the car from the neighbour*. Similarly, in (4a), the genitive version expresses a stable part/whole-relation between the tree and its branch, whereas in (4b) the *von*-PP codes the origin from which the branch is sawed off. In both cases, the *von*-alternative is automatically associated with the semantics of the main verb.

(3) a. *Ich hörte soeben, daß du den Wagen deines Nachbarn gekauft hast?*
I heard just that you the car of your-GEN neighbour bought have?
'I just heard that you bought your neighbour's car?'
b. *Ich hörte soeben, daß du den Wagen* von *deinem Nachbarn gekauft hast?*
I heard just that you the car from your neighbour bought have?
'I just heard that you bought the car from your neighbour?'

(4) a. *Mein Vater sägte einen Ast* des *Baum*es *ab*.
My father sawed a branch of the-GEN tree down.
b. *Mein Vater sägte einen Ast* vom *Baum ab*.
'My father sawed a branch off the tree.'

Closely related to (3) and (4) are examples (5) and (6). The only difference between these pairs of examples is that in (5) and (6) the verbal element which triggers the dynamic interpretation of *von* is incorporated in the nominalized head noun of the genitive NP. In (5a), it is the teacher who takes leave and experiences the leave-taking, whereas in the (5b)-version with *von*, the basic interpretation is that someone else, for example a pupil, takes leave of the teacher and goes away from him. In (6a) then, Renate has an agentive function (she visits the convent), whereas in (6b) she is more experiencer-like, receiving a visitor from the convent.

(5) a. *der Abschied* des *Lehrers*
the leave-taking of the-GEN teacher
b. *der Abschied* vom *Lehrer*
the leave-taking from the teacher

(6) a. *Renates Besuch* des *Klosters*
Renate's visit of the-GEN convent

b. *Renates Besuch* vom *Kloster*
Renate's visitor(s) from the convent

1.1.2. Representation relations

Other examples of a clear conceptual difference between the genitive and the *von*-construction, which do not involve verbal semantics, are given under (7 - 9). At first it was strange that some informants rated (7a) as *very good* and (7b) as *very bad*, whereas others judged both constructions as *very good*. Through the comments added it soon became clear that (7a) was generally understood as expressing a kind of possessive relation, and that (7b) was primarily accepted where it means *the film about, originating in, representing president J.F.K.* The possessive reading of the b-variant was largely rejected. Again we see that the separation and especially the origin meanings of *von*, which are concepts associated prototypically with the preposition, play an important role. With respect to (8a), some informants noted that its meaning was *memorial possessed by the city of Duisburg*, whereas (8b) implied *memorial monument* (which could well be situated in another city) *representing the city of Duisburg*. Example (9) then, which is extracted from the gap-exercise, created less confusion, because the ambiguity concerning a possessive reading was unlikely here. Consequently, only 10% of the informants filled out a genitive, whereas 90% opted for a *von*-construction.

(7) a. *der Film* des *Präsidenten J.F.K.*
the film of the-GEN president J.F.K.
b. *der Film* vom *Präsidenten J.F.K.*
the film of/(on/about) president J.F.K.

(8) a. *ein altes Denkmal* der *Stadt Duisburg*
an old memorial monument of the-GEN city Duisburg
b. *ein altes Denkmal* von *der Stadt Duisburg*
an old memorial monument of/(representing) the city Duisburg

(9) a. *die Geschichte* des *blauen Pferdchens*
the story of the-GEN little blue horse
b. *die Geschichte* vom *blauen Pferdchen*
the story of/(about) the little blue horse

1.2. Either the von*-alternative or the genitive cannot be used*

A second reason why I believe that *von* has not lost its own meaning when it is used in a genitive-like construction is the fact that some genitives do not have a *von*-counterpart and, conversely, that some *von*-constructions do not allow a genitive alternative.

1.2.1. The von*-alternative cannot be used*

Examples (10) and (11) illustrate the environments in which only a genitive can be used. Bearing in mind the prototypical meaning of the *von*-preposition, we can imagine that the use of *von* in (10b) would imply a *separational* element. This would mean that the *phase* which *childhood* is (because we are dealing with an *identifying* genitive[7] here), could be conceptualized as an entity separate from *childhood*. This would resemble example (7b), where the *film* and the *person* the film was about were said to be conceptualized as two separate entities. Being a *phase*, however, is a intrinsic attribute of *childhood* and therefore the referents of these two nouns can only be seen as one inseparable, stable whole. The fact that the prototypical meaning of *von* (origin/separation) is not compatible with the stable, intrinsic meaning intended here, may be the reason why the genitive construction, as the percentages show, is used almost exclusively. Similar examples are given under (11).

(10) a. *die Phase* der *Kindheit*
the phase of (the)-GEN childhood
→ *98%* good to very good → 2% bad to very bad
b. *die Phase* von *der Kindheit*
→ *2%* good to very good → 98% bad to very bad

(11) a. *die Tugend* der *Nächstenliebe*; *die Kunst* der *Verführung*
the virtue of (the)-GEN love of one's neighbour; the art of (the)-GEN seduction
b. *die Tugend* *von *der Nächstenliebe*; *die Kunst* *von *der Verführung*

1.2.2. The genitive cannot be used

The second possibility is that the *von*-phrase is always used, and a genitive is practically excluded. Since the genitives in (10) and (11) were *identifying* in nature, and we saw that the identifying meaning is exactly one of those that cannot be replaced by a *von*-phrase, it is somewhat puzzling why the use of a genitive is at best marginal in examples such as (12) and (13).

(12) a. *dieser Trottel ein*es *Mann*es!
this fool of a-GEN man!
→ *5%* good to very good → 95% bad to very bad
b. *dieser Trottel* von *einem Mann* / von *Mann*!
→ *95%* good to very good → 5% bad to very bad
(*Trottel* von *einem Mann* was slightly preferred to *Trottel* von *Mann*)

(13) a. *ein Nichts *ein*es *Negligé*s; *eine Hexe *ein*er *Frau*; *ein unförmiges gelbes Stück Schweizerkäse *ein*es *Mond*es
a nothing of a-GEN negligee; a shrew of a-GEN woman; a shapeless yellow piece (of) swiss cheese of a-GEN moon
b. *ein Nichts* von *einem Negligé* / von *Negligé*; *eine Hexe* von *einer Frau* / von *Frau*; *ein unförmiges gelbes Stück Schweizerkäse* von *einem Mond hing ... zwischen den Wolken* (der Richter und sein Henker)

Again, paraphrases with *to be*, *to exist* can be used (*the man is a fool*). Yet the identifying (= categorizing) relation is clearly of a different nature than the one exemplified in the previous paragraph. Rather than categorizing [see (10) - (11)], the relation expressed in (12) - (13) is *sub*categorizing in nature. With respect to (12), one could ask „what kind of a man is he?" and answer this question with "an idiot of a man". This kind of rephrasing is, however, impossible for (10) - (11) ("*What kind of [the] childhood is it?" - "*the phase of [the] childhood"). A striking formal characteristic of the difference between these two types of relation is that the categorizing one usually applies to definite/specific nouns (*die Phase* der *Kindheit* 'the phase of (the) childhood'), whereas the subcategorizing one[8] involves indefinite/unspecific nouns (*der Trottel* von *einem Mann* 'the idiot of a man'). In addition, the use of *von* in (12) and (13) creates a distance between the two components of the relation. It is possible that by means of this linguistic distance, a *conceptual distance* is highlighted, *viz.* the one between the *objective* individual and the *subjective* (positive or negative) value judgement someone else passes on that individual[9]. By contrast, the identifying genitives in (10) and (11) do not present subjective or emotional identifications, but rather objective, generally accepted ones.

In my opinion, examples (14) and (15), adduced by Lindauer (1995: 53), are also subcategorizing in nature and thus fit into the category illustrated by *a fool of a man*. Lindauer, however, believes they are strange exceptions to the rule of free genitive/*von*-variation and comments on them as follows:

> [The preposition *von* can be used as genitive-ersatz for almost all genitival attributes ...] Eigenartigerweise gibt es auch attributive *von*-Gruppen, die nicht mit einem Genitivattribut korrespondieren, aber eine ähnliche Beziehung zum Kernnomen aufweisen: ... Ich nehme an, daß es hier um *lexikalisierte*, auf wenige *Lexeme* beschränkte *Idiosynkrasien* handelt [emphasis mine, P.C.].
> [Strangely enough there are also attributive *von*-groups, which do not correspond to a genitival attribute, but display a similar relation to the head noun: ... I assume that these are lexicalised idiosyncrasies, restricted to only a few lexemes.]

(14) a. *ein Bild ein***es** *Mann*es
a picture of a-GEN man [a gorgeous fellow]
b. *ein Bild* von *einem Mann*

(15) a. *ein Traum ein*er *Insel*
a dream of an-GEN island [a most pretty island]
b.1 *ein Traum* von *einer Insel*
b.2 *Pumy ist ein Traum* von *einem Kater* [Bravo 95/38/17]
Pumy is a dream of a tomcat

If (14) and (15) are considered in the light of the discussion of (12) - (13) above, they no longer appear as inexplicable idiosyncrasies. Note, moreover, that examples (14a) and (15a) are only impossible in the following reading: *a gorgeous man*, *a most lovely/pretty island/tomcat*. But if, for example, (14a) means *a picture representing a man*, the genitive is perfectly acceptable (though the *von*-construction is still preferred - see the discussions on the *representation* relation under 1.1.2. and 1.3.1.). And if (15b2) expresses *a dream of/by a tomcat*, *a dream dreamt by a tomcat* (e.g. in a cartoon or novel), I strongly suspect that a genitive coding will be preferred over a *von*-coding. In this case the prototypical separational meaning of *von* is only present on a secondary level (see also 1.3.2. below on the alternation cline and 1.3.3. on the *product* relation). If then, finally, we turn (15b) into something like *ein Traum der Angst* ('a dream of [consisting of and caused by] fear'), a *von*-construction would hardly be possible (see also endnote 10). In all these cases, the alternation between the genitive and *von*-phrase seems to have a disambiguating function.

1.3. The genitive / von-alternation gradient

Having discussed the cases where the use of a genitive or a *von*-phrase is practically excluded, I can turn to the genitives which are likely to be replaced by the *von*-construction. If *von* does not entirely change the meaning of the NP (as was the case in Section 1.1.), and a *von*-phrase is quite possible as an alternative to the genitive (contrary to what was the case for Section 1.2.), this may imply that the prototypical meanings of *von* and the genitive are simultaneously present, and thus compatible. If, in a certain context, the native speaker's preference inclines either towards the genitive or toward the *von*-construction, this may then be a syntactic indication of the fact that the prototypical meaning of either construction is more salient in the intended meaning.

1.3.1. Representation relation

Consider in this respect examples (16) and (17). Here, the *von* and genitive constructions were both readily accepted by the native speakers, many of whom even preferred the *von*-construction. In all cases the referent of the first noun is a *representation*, a *replica* of the referent of the second noun (cf. *the news of his death*, *the video of the defeat*, *the trace of the killer*, *the image of her mother*). The two entities are therefore separate entities, the first one originating in the second one. At the same time, however, they are inseparably and intrinsically connected to each

other, since one represents the other. So the *stable*, *intrinsic* relationship between the two is present, and a *genitive* construction is certainly well accepted. Still the *origin* and *separation* conceptualizations seem to be a little more salient, so that a *von*-construction is preferred, as the figures in (16) show[10].

(16) a. *die traurige Nachricht sein*es *Tod*es
the sad news of his-GEN death
→ *60%* good to very good → 40% bad to very bad
b. *die traurige Nachricht* von *seinem Tod*
→ *80%* good to very good → 20% bad to very bad

(17) a. *das Video* der *bitteren 1:5-Schlappe*; *noch immer keine Spur* des *Krankenhauskiller*s; *Laura ist das Abbild ihr*er *Mutter*[11]
the video of the-GEN bitter 1:5-defeat; still no trace of the-GEN hospital killer; Laura is the spitting image of her-GEN mother
b. *das Video* von *der bitteren 1:5-Schlappe* [*Bild* 95/17-3/7]; *noch immer keine Spur* vom *Krankenhauskiller* [*Bild* 95/17-3/6]; *Laura ist das Abbild* von *ihrer Mutter* [*Neue Post* 95/16-3/26]

An example similar to the one in (16) is given under (18). In the case of two (or more) subsequent genitives, many grammars (e.g. Helbig and Buscha 1987: 595) state that for stylistic reasons one of the genitives (often the second one) is replaced by a *von*-construction (or another prepositional phrase). Empirical data, however, show that, first of all, many Germans do not mind an accumulation of genitives[12]. Compare in this respect the figures accompanying (16a) and (18a). Moreover, when we compare (18b) with (18c), we see that it is the relation between *news* and *death* that clearly favours a *von*-construction (because of the origin/representation explanation given above), rather than the relation between *death* and *mother*, which is of a far more intrinsic and inseparable nature and thus prefers a genitival coding.

(18) a. *die Nachricht* des *Tod*es *ihr*er *Mutter*
the news of the-GEN death of her-GEN mother
→ *47%* good to very good → 53% bad to very bad

b. *die Nachricht* vom *Tod ihr*er *Mutter*-GEN
→ *95%* good to very good → 5% bad to very bad
c. *die Nachricht* des-GEN *Tod*es von *ihrer Mutter*
→ *5%* good to very good → 95% bad to very bad

1.3.2. Quantification relation

Other environments in which native speakers readily accept both the genitive and the *von*-alternative are those exhibiting a quantifying relation. It is generally known

that the contexts of *measurement* and *quantification* most easily lend themselves to expression by means of a *von*-construction. In the light of what has been said before about the prototypical meaning of *von* this clearly makes sense. Quantifying involves *taking away, separating* a portion from some (bounded or unbounded, replicable or non-replicable) substance. Consider in this respect example (19), where the genitive is still preferred, but the *von*-alternative is almost as easily accepted.

(19) a. *viele sein*er *Patienten*
many of his-GEN patients
→ *93%* good to very good → 7% bad to very bad
b. *viele* von *seinen Patienten*
→ *83%* good to very good → 17% bad to very bad

Construals which focus less on the concept of quantification and therefore less on the concepts of separation, direction or origin would in our hypothesis be expected to resist the *von*-alternation more. In other words, the more a relationship is conceptualized as stable and firm, the less plausible a *von*-construction would be. Again, this hypothesis seems to be corroborated by the figures of the questionnaire. Note that there is a gradation of focus on the quantification concepts and origin concepts from (20) to (23), and that this gradation is reflected in the frequency counts accompanying the examples. In (20b) *von* is accepted by 66% of the native speakers, in (23b) only by 27%.

(20) a. *die große Holztür* des *Nachbarhaus*es
the big wooden door of the neighbours' house-GEN
→ *88%* good to very good → 12% bad to very bad
b. *die große Holztür* vom *Nachbarhaus*
→ *66%* good to very good → 34% bad to very bad

(21) a. *die Hinterseite* der *Scheune*
the back of the-GEN shed
→ *95%* good to very good → 5% bad to very bad
b. *die Hinterseite* von *der Scheune*
→ *60%* good to very good → 40% bad to very bad

(22) a. *das Gesicht* der *Kundin*
the face of the-GEN (female) customer
→ *90%* good to very good → 10% bad to very bad
b. *das Gesicht* von *der Kundin*[13]
→ *45%* good to very good → 55% bad to very bad

(23) a. *das Haus* des *alten Ehepaars*
the house of the-GEN old couple
→ *84%* good to very good → 16% bad to very bad

b. *das Haus* vom *alten Ehepaar*
→ *27%* good to very good → 73% bad to very bad

Interestingly, if two individuals are related to each other, *von* also scores relatively well (see [24]). Two individuals obviously constitute two separate entities, though they can be bound together by an intense and stable, or even intrinsic (e.g. family) relation. The choice between a genitive or *von*-phrase may therefore depend on whether stress is put on the firm relation between the two or on the individuality of each person. Similar examples are *der Vater ein*es-GEN *Schulfreund*es / *der Vater* von *einem Schulfreund* 'the father of a school friend' and *die Tochter ein*er-GEN *Kollegin* / *die Tochter* von *einer Kollegin* [14] 'the daughter of a [female] colleague'.

(24) a. *eine Freundin dein*er *Tochter*
a friend of your-GEN daughter
→ *100%* good to very good → 0% bad to very bad
b. *eine Freundin* von *deiner Tochter*
→ *60%* good to very good → 40% bad to very bad

1.3.3. Product relation

The *von*-phrase scores relatively high also when the referent of the first noun of the syntagm is a kind of *product*, created/produced by the referent of the second noun[15]. In (25), for example, the question is produced by the teacher, and *von* is valued *good to very good* by approximately 70% of the native speakers. A similar example is *das ständige Betteln dies*er-GEN *Leute* / von *diesen Leuten* ('the constant begging of/[by] these people'). Compare with this example (26), where the institute can hardly be conceptualized as producing its own existence, and *von* scores less than 25%.

(25) a. *die Frage ihr*er *Lehrerin*
the question of/(by/from) her-GEN teacher
→ *78%* good to very good → 22% bad to very bad
b. *die Frage* von *ihrer Lehrerin*
→ *68%* good to very good → 32% bad to very bad

(26) a. *das 50jährige Bestehen* des *Instituts*
the fifty-year existence of/(*by/*from) the-GEN institute
→ *94%* good to very good → 6% bad to very bad
b. *das 50jährige Bestehen* vom *Institut*
→ *24%* good to very good → 76% bad to very bad

Of course there are numerous cases where the different factors that influence the genitive/*von*-alternation show up jointly. Reconsider in this respect example

(17), which was offered as an instantiation of a representation relation. At the same time, however, the use of *von* seems to be motivated by the agentive function of the second entity. One could rephrase (17) as: *Der Killer hinterläßt eine Spur* ('the killer leaves a trace').

(17) *noch immer keine Spur* des *Krankenhauskillers*/vom *Krankenhauskiller*
still no trace of the-GEN / of, from, by the-VON hospital killer

1.3.4. Temporal / spatial relation of separation (independence)
Closely related to the representational, quantifying and product examples are the ones given under (27) and (28). What these examples show is that if the lexical meaning of either noun(phrase) of the syntagm hints at a (temporal or spatial) separation, *von* is preferred to the genitive. Consider (27), in which the shoes referred to date back to last year's fashion collection. Similarly, in (28) the prospect I am holding is one made last year[16]. In both cases the *von*-construction scores considerably better than the genitive.

(27) a. *die kindlichen Lackschuhe* des *letzten Jahres*
the childlike patent leather shoes of (the)-GEN last year
→ 45% good to very good → 55% bad to very bad
b. *die kindlichen Lackschuhe* vom *letzten Jahr*
→ 77% good to very good → 23% bad to very bad

(28) a. *Ich habe hier den Prospekt* des *vorigen Winters*.
I have here the prospectus of (the)-GEN last winter.
→ 56% good to very good → 44% bad to very bad
b. *Ich habe hier den Prospekt* vom *vorigen Winter*.
→ 88% good to very good → 12% bad to very bad

The temporal examples also have *locational* counterparts, as in (29). The *key* and the *apartment* are two separate entities, which form one unified whole only occasionally. It therefore fits in with the hypothesis that the *von*-construction is preferred here (29b). The genitive, however, is not excluded in view of the intrinsic relationship that exists between the apartment and its key[17].

(29) a. *der Schlüssel* des *Appartements Nr. 27*
the key of the-GEN apartment nr. 27
→ *64%* good to very good → 36% bad to very bad
b. *der Schlüssel* vom *Appartement Nr. 27*
→ *78%* good to very good → 22% bad to very bad

By way of comparison I offer examples (30) and (31) here. For these sentences, a separation or origin reading is quite impossible (at least under normal circumstances). In accordance with the general hypothesis, we would therefore expect a *von*-construction to be accepted only reluctantly (if at all). And this is exactly what the figures bear out ((30b): 6%; (31b): 0%). If the locational element is stressed (which is more the case for (30) than for the superlative in (31)), a prepositional phrase with *in* is slightly preferred, as is shown by the figures in the c-versions[18]

(30) a. *Das Berner Oberland ist eine ziemlich touristische Gegend* der *Schweiz.*
The Berner Oberland is a pretty touristic region of (the)-GEN Switserland.
→ *90%* good to very good → 10% bad to very bad
b. *Das Berner Oberland ist eine ziemlich touristische Gegend* von *der Schweiz.*
→ *6%* good to very good → 94% bad to very bad
c. *Das Berner Oberland ist eine ziemlich touristische Gegend* in *der Schweiz.*
→ *97%* good to very good → 3% bad to very bad

(31) a. *Kennst du die größte Stadt* der Türkei ?
Do you know the biggest city of (the)-GEN Turkey ?
→ *98%* good to very good → 2% bad to very bad
b. *Kennst du die größte Stadt* von *der Türkei ?*
→ *0%* good to very good → 100% bad to very bad
c. *Kennst du die größte Stadt* in *der Türkei ?*
→ *91%* good to very good → 9% bad to very bad

2. Syntactic Variation and Iconicity

I will now turn to some contexts in which the genitive/*von*-variation has very often been labelled as strictly syntactic in nature. Examples (32) to (34) are relevant here. (32) is a prototypical instance of topicalization; a genitive is excluded and *von* has to be used obligatorily (32b)[19]. Example (33) resembles (32) as the participle *shown* creates a linguistic distance between the head noun and the genitive (33a). Due to this distance a genitive is impossible and a *von*-PP becomes obligatory (33b). Example (34) illustrates what is called a *Vorgenitiv* (front-genitive). Since a second genitive is inserted between the head noun *glockenspiel* and its modification *shopdoor*, the use of a genitive to express the relation between *glockenspiel* and *shopdoor* is excluded, as is shown in (34a).

(32) a. *Der *1456 Einwohner Holzweilers gehören 1080 zu seiner katholischen Gemeinde.*
The-GEN 1456 inhabitants of Holzweiler's belong 1080 to its catholic parish.
b. Von *den 1456 Einwohnern Holzweilers gehören 1080 zu seiner katholischen Gemeinde.* [*Focus* 95/22/172]

(33) a. *Sie hat mir die Wohnung gezeigt *ihr*es *Freundes.*
She has me the house shown of her-GEN friend.
b. *Sie hat mir die Wohnung gezeigt* von *ihrem Freund.* [Duden 1984: 600]

(34) a. *das persische Glockenspiel* *der *Guiseppe Baldinis Ladentüre*
the Persian glockenspiel of (the)-GEN Baldini's-GEN shopdoor
b. *das persische Glockenspiel* von *Guiseppe Baldinis-GEN Ladentüre*
[*Parfum*, p. 62]

In the above cases, linguists often argue that the genitive is excluded for reasons of word order (see e.g. Pfeffer and Lorentz [1981: 9] or Duden [1984: 600]). However, my hypothesis leads to the question whether these syntactic reasons cannot be motivated semantically or rather *iconically-conceptually*. Since *von* still bears its individual semantics as a marker of distance, separation and origin in its function as nominal conjunctor, it may well be the case that the *linguistic* distance created by the topicalization or *front-genitive* is iconic for a more *semantic* distance or separation. This distance would then explain why the *von*-preposition is necessary and a genitive construction, which prototypically marks an intrinsic and stable relation between the referents of two entities, is excluded. Such reasoning seems to find support in comments offered by native speakers. With respect to examples like (35) and (36), a number of informants noted that they definitely preferred the genitive variant, but that stressing one or the other of the two nouns somehow seemed to improve the acceptability of the *von*-variant.

(35) *das Gesicht* der-GEN *Kundin* / von *der Kundin*
the face of the (female) customer

(36) *der Anfang dies*er-GEN *Untersuchung* / von *dieser Untersuchung*
the beginning of this investigation

In my opinion, putting stress on one of the two members of the relation results in creating a linguistic *and* conceptual distance between them, in setting off one member against the other, and exactly that separational element may influence the use of *von*. To come back to the topicalization example, I think that topicalizing one member of a genitive relation implies putting strong emphasis on this member,

or, in other words, separating it linguistically *and* conceptually from the other member. This may be a reason underlying the use of *von*. Before, however, any concrete claims can be made in this matter, the iconicity hypothesis should be tested more thoroughly. One could, for instance, record a representative number of conversations, or set up a questionnaire that makes use of the recording of the *same* test examples with *different* prosodic patterns.

3. Conclusion

I am well aware of the fact that in my discussion on the motivation behind the variation between the adnominal genitive and *von*-construction, I have left out a whole number of aspects and details. For one thing, this paper lacks a fine-grained analysis of the distinctive and parallel features of the genitive and *von*-dative categories. Such an analysis would, however, constitute a paper of its own. Moreover, as I have pointed out sporadically in the paper, I realize that the *von*-phrase is not the genitive's only counterpart[20].

Due to time and space limitations, however, I have opted for a discussion of the alternative construction that has traditionally been recognized as the most *important,* most *wide-spread* and semantically most *empty* alternative for the genitive construction, a view shared by e.g. Olesen and Erben.

> Im Deutschen äquivalieren ... weit die meisten attributiven Genitivverbindungen, sowohl possessiv als nicht-possessiv- ... mit Präpositionalfügungen mit der Präposition *von*, die als eine Universalpräposition mit einer *sehr beschränkten* Semantik [stress mine, P.C.] aufgefaßt werden kann [Olesen (1988: 128)].
> [In German by far the most attributive genitive combinations, both possessive and non-possessive, ... compete with prepositional constructions with the preposition *von*, which can be seen as a universal preposition with very limited individual semantics.]

> Fügungen mit *anderen*, meist '*inhaltsschwereren*' und '*vorstellungsbelaste-teren*' [stress mine, P.C.] Verhältniswörtern sind minder gefährliche Konkurrenten des Genitivs [Erben (1972: 154)].
> [Constructions with other, mostly 'contents-heavier' and 'more concept(uali-zation)-burdened' prepositions are less dangerous competitors for the genitive.]

Taking issue with these and similar statements, I have tried to show:

1. that the choice of *von* as the genitive's alternative is not a matter of coincidence, since their meanings exhibit quite some overlap, and
2. that the *von*-alternative is not as semantically empty, and not as wide-spread in (in)formal German[21] as is often claimed. In addition, the contemporary situation does not predict the definitive encroachment of the *von*-phrase on the adnominal genitive territory to be within immediate reach. As the Grimm dictionary indi-

cates (p. 770), the variation of the quantitative genitive and *von* certainly dates back as far as the Middle High German period.

Moreover, contrary to Helbig and Buscha (1987: 593), who claim that in those environments where the genitive could be formally marked, the use of a *von*-construction is restricted to *informal* language, I have demonstrated

3. that the use of the *von*-PP is not restricted to the informal variant of the German language, provided it expresses an *extrinsic* relation.

The most basic semantic difference between the two alternatives is thus that the genitive tends to focus on a *stable*, *objective* and *intrinsic* relation of *interdependence* between the referents of two entities, whereas the *von*-phrase concentrates more on a [*subjective*], *dynamic*, *separational*, *extrinsic* relation of relative *independence* between the referents of two entities. Consequently, where these two prototypical meaning clusters are incompatible, either the genitive or *von* cannot be used. Where they are compatible, the choice between a genitive or a *von*-phrase will largely depend on the position of the intended meaning relation in the semasiological scope of either construction (vis-à-vis the respective prototype). In sum, we can say that, although there certainly is variation, it is not as free as is generally claimed, and the individual meanings of the genitive and of *von* are still relevant.

Finally, there is also an interesting methodological point to be made in connection with the type of research undertaken here. I believe that by studying linguistic *variation*, we are in a position to say more about each participant in that variation than if we studied these participants in isolation. Or in Davidse's (1996: 326) words, "as language users, we have no *conscious* knowledge of the semantics of grammar and, as language describers, we have to push it to consciousness using systematic methodological tools such as, for instance, the paradigmatic alternation potential of a specific construal". This is precisely what I have done. More specifically, I have shown that by confronting the genitive with its *von*-alternative, we can learn more about the essence of the adnominal genitive as well as about the essence of the adnominal *von*-construction.

Endnotes

1. I would like to thank B. Rudzka-Ostyn, L. Draye, D. Geeraerts and S. Grondelaers for their most valuable comments and suggestions. I am very grateful to R. Dirven for his kind help with respect to the set-up and distribution of my questionnaires. Thanks are also due to R. Dirven's students at Duisburg university as well as to G. Grondelaers, U. Kaunzner and S. Salgert for their native speaker judgements. Finally, I would like to thank the *Belgian Office of the Prime Minister* (Science Policy Programming - Inter-University Pole of Attraction, Grant N° 27), the *Vlaamse Wetenschappelijke Stichting* and the *Vlaamse Leergangen Leuven* for their financial support of this research.

2. In this paper I will not go into the *dative*-part of the *von*-phrase. I will try to indicate when and why *von* is chosen as an alternative to the genitive, and leave aside the question why *von* triggers the use of a dative rather than any other case-marker. I do, however, believe the latter question can be answered. As is amply shown in Van Belle & Van Langendonck (1996), many (European and non-European) languages share the dative prototype of *transfer to a (person's) domain of interest* and its antonymic extension *transfer from/out of a (person's) domain of interest*. Consider in this respect a sentence like *Er hat dir*-DAT *das Fahrrad gestohlen*, which can mean both *He has stolen the bike (for) you* as well as *He has stolen the bike (from) you* (Draye [1996: 179]). This *transfer (away) from* is exactly what a prepositional phrase headed by *von* typically expresses. The meanings of *von* and the dative are therefore fully compatible, and the preposition additionally identifies the transfer sense of the dative as a *separative, deprivative* one. Note, moreover, that the prepositional antonym of *von*, i.e. *zu* ('to, towards') is also obligatorily followed by a noun(-phrase) marked for the dative.
3. According to Lindauer (1995: 202), this process is already (practically) finished in Swiss German and in almost every South German/Austrian dialect. Another variant of the German language in which the change from adnominal genitives to *von*-phrases is as good as completed is Pennsylvania German (Burridge 1990).
4. The use of a *von*-phrase is also obligatory in the case of bare masculine and neuter (common) nouns, although these nouns can be marked for the genitive by means of the ending *-(e)s*. Consider in this respect the example *der Export von Bier* 'the export of beer', which does not alternate with **der Export Bieres*$^{Gen.}$ 'the export beer's'. As Draye (1996: 210) indicates, "it seems safe to assume here that the marked bare genitives (masculines and neuters) followed the 'deficient' unmarked ones (feminines and plurals), thus restoring the balance in the system". In the case of proper names, however, the alternation between postnominal bare genitives and *von*-PPs is allowed. The following noun phrases illustrate this alternation: *die Grenzen Belgiens*$^{Gen.}$ / *von Belgien* 'the borders Belgium's / of Belgium'; *das Auto Karls*$^{Gen.}$/ *von Karl* 'the car Karl's / of Karl'. Nevertheless, the *von*-construction is often preferred in postnominal position (cfr. *Karls*$^{Gen.}$ *Auto* - versus - *das Auto von Karl* / ± *Karls*$^{Gen.}$). In my opinion, the *von*-construction has reached a high degree of grammaticalization here as well, maybe by analogy with its obligatory use with common nouns. Therefore I have excluded this alternation from my discussion of the *free* variation between the genitive and *von*-dative.
5. The questionnaire was tested in two ways. One half of the group (35 students) merely filled out the written version. They had to do this in a timespan of approximately 45 minutes. The other half filled out the questionnaire while listening to a tape on which all NPs/sentences listed in the questionnaire were recorded. In this way they graded oral material. Since the variation phenomenon under discussion is often claimed to be typical for spoken German, the use of spoken elicitation material seemed important. The tape lasted approximately 30 minutes. Since the results of the written and oral part displayed no noticeable differences, I decided not to distinguish between them in this paper.

   I am aware of the fact that the quantitative results of my questionnaire are neither geographically representative nor statistically saturated. However, the questionnaire functioned primarily as a sample survey to supplement my other empirical sources and verify/falsify generalizations emerging from them.
6. I am aware of the fact that the accompanying context of the isolated noun phrases or sentences in (b) under 1.1.1. and 1.1.2. below will almost always disambiguate between a stable and a dynamic reading of the NP. However, if the adnominal genitival (stable, intrinsic) reading of the *von*-PP were as well-entrenched as many grammarians claim, the students filling out the questionnaire should have had no problems with a genitival reading of the *von*-examples given under (3b) to (9b) below.

7. The essence of a (non-uniquely) identifying (= classifying = categorizing) genitive is that the referent of the NP's head predicates the genitive-marked entity. The whole NP can therefore be coded by an alternative predicative construction with the verb *sein* 'be', or existential equivalents such as *existieren als* 'exist as', *darstellen* 'present' and *bilden* 'constitute'. Engelen (1990) marks the impossibility of the *von*-PP alternative as one of the characteristics of an identifying genitive. Another indication of the construction's identifying nature is the (marked) possibility of an appositive paraphrase.
8. Note that the subcategorizing relation, which singles out a subgroup from a higher-level, larger group of entities bears some resemblance to the quantifying relation, which separates a portion from some (un)bounded substance. Both relations imply a dynamic, separational element, which is typical of the *von*-datives. See also 1.3.2. below on the quantifying relation.
9. Grimm (p. 771) comments on the historical basis of this particular *von*-construction as follows: "Ersatz eines genitivs scheint auch in wendungen vom typus *der teufel von einem weibe* vorzuliegen, ... Wendungen dieser art finden sich erst in der neueren schriftsprache, und zeugnisse für eine gleiche verwendung des genitivs fehlen überhaupt" ['Ersatz of the genitive also seems to be the basis of constructions of the type *the devil of a woman*, ... Constructions of this type can only be found in more recent written language, and attestations of a similar use of the genitive are unknown'].
10. It still remains to be investigated whether both alternatives are experienced as completely synonymous by native speakers, or whether there is a very subtle difference between them, which might be dictated by the context. In any case, whenever the representational entity is not followed by the represented entity, but by the cause/specifying property (see [a]) or owner (see [b]) of the representational entity, a genitival coding will usually be preferred.

    (a) ... *Vorstellungen* der *Angst überkamen sie, Bilder einer Bedrohung, die vielleicht so gar nicht existierte, ...* [*Mädchen aus gutem Hause*, p. 252]
    '... images of (the)-GEN fear came over her, pictures of a-GEN threat, which perhaps did not even exist as such ...'
    (b) *das Photo* des *Jungen*
    the picture of (owned by) the-GEN boy

11. Contrary to example (14) *ein Bild* von *einem Mann*, 'a gorgeous man', where the genitive was excluded, and contrary to the example *Bilder einer Bedrohung* 'pictures of a threat' in footnote 10, where a genitive construction was preferred, both alternatives are readily accepted here (*das Abbild ihrer*-GEN *Mutter* / von *ihrer Mutter*).
12. Consider in this respect Eisenberg (1994: 246), who rightly claims that "es keinerlei Unklarheiten darüber gibt, welches das Bezugssubstantiv für ein Genitivattribut ist. Dies dürfte einer der Gründe dafür sein, daß im Deutschen Attributkonstruktionen von erheblicher Komplexität vorkommen" ['there are no ambiguities whatsoever as to which is the head noun of a genitival attribute. This might be one of the reasons why in German there appear attributive constructions of considerable complexity'].
13. One student noted that the *von*-variant is more easily interpreted as (passing, non-intrinsic) *facial expression of the customer* (happy, nervous, disappointed) than as *face of the customer* (the latter being the prototypical interpretation of the genitive variant).
14. In the questionnaire, the *von*-construction *die Tochter* von *einer Kollegin* was commented on by someone as follows: "Tochter, die ein Mann mit seiner Kollegin hat" ['daughter, whom a man has with (*from*) his (female) colleague'].
15. These examples link up with the classic *von*-examples like *der Roman* von *Goethe* 'the novel of/(by) Goethe'. With respect to this example, some grammarians note that it is hard to say whether the origin/separation meaning of *von* still plays a role or not.

16. This sentence can also express a representation relation. In that case it indicates that the content of the prospect which I am holding deals with last year's winter (winter fashion, winter travels, etc.). As I pointed out above 1.3.1., representation relations also favour a *von*-construction.
17. Two other alternatives, i.e. *der Schlüssel* fürs *Appartement* 'the key for the apartment' and *der Schlüssel* zum *Appartement* 'the key to the apartment' were also readily accepted. The former scored an acceptability rate of 71% and the latter of 60%. Both of these alternatives also profile (though in a more explicit way) the independent existence of the key and the apartment. But whereas *von* indicates a separation *away from* each other, *für* and *zu* focus on a direction *toward* each other.
18. Like the genitive construction, a dative-marked PP with *in* expresses a *static* relation. Though the dative's prototype is the expression of a transfer (*to* and *from*: see also Footnote 2), the dative can also profile the endpoint of this transfer, i.e. the (stative) domain of interest, and leave the transfer itself fully out of consideration. This is what happens when a static locative *in*-PP is used.
19. In earlier stages of the German language, however, a genitive was used in topicalized environments.
20. Among the genitive's other alternatives I count prepositional phrases with *für* (*der Grund* für *den Optimismus* → des *Optimismus* 'the reason for the optimism'), *aus* (*Gelder* aus *der Techno-Industrie* → der *Techno-Industrie* 'sponsor-money out of/from the techno-industry'), *in* (*die Veränderungen* in *Europa* → Europas 'changes in Europe'), *über* (*Listen* über *die Allergenfreiheit von Nahrungsmitteln* → der *Allergenfreiheit* 'lists on the allergenlessness of food'), *compounds* (*der Appartementschlüssel* → *der Schlüssel* des *Appartements* 'the apartment key'), *possessive clausal datives* (*Sie wusch* ihrem *Sohn die Haare* → *die Haare* ihres *Sohnes* 'She washed her son the hair(s)') and *appositions* (*ein Glas* kalte *Milch* → *ein Glas* kalter *Milch* 'a glas (of) cold milk').
21. Of course, I do not make any claims concerning the German dialects. Moreover, as already pointed out, I have excluded the bare and non-instantiated genitive/*von*-variation from the scope of this analysis.

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Two-way Prepositions in German: Image and Constraints

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1. Introduction: Two Approaches to Case Meaning

The meaningfulness of cases is widely accepted in the framework of Cognitive Linguistics (Smith 1987; Langacker 1991: ch. 9) and is also implied in several other approaches (for a survey cf. Smith 1987: 9-54; Janda 1993: 4-40; Blake 1994: 19-48). Cases are not seen as markers with purely syntactic function but are assumed to be symbolic units with their own meaning. Of course, also in traditional frameworks cases are supposed to convey a number of meanings or functions but there is no systematic treatment of case meanings in a related way (except for structurally parametrized overall meanings as in Jakobson [1936] who proposes a general grid for Russian cases). Cognitive Linguistics, on the other hand, postulates that cases have several interrelated meanings organized into prototypes, schemas and extensions (as they are in lexical units) and that they can be represented in the form of radial networks, since "each case defines a complex category within which a constellation of senses joins to form a network of interrelated meanings" (Smith 1995: 296).

Among the first attempts in trying to define one of such complex categories there is Smith's account of dative (DAT) and accusative (ACC) in German (Smith 1987, 1993, 1995). Smith's final aim was to explain a broad range of uses of German DAT and ACC in terms of general notional principles (for instance the opposition *change* vs. *no change*). He maintained that it is possible to give an account of case meanings in all syntactic variants (i.e. clausal case, one-way prepositional case, two-way prepositional case etc.; cf. a similar attempt for the Czech dative in Janda 1993), but he also particularly concentrated on the so called two-way prepositions, which represent a good starting point for analysis because the semantic motivation appears to be "most evident and least problematic" (Smith 1993: 534). Nevertheless, since Smith aimed to draw generalisations applicable to each case *per se* (therefore embracing the whole range of possible meanings), he seemed not so interested in working out a fine-grained (radial) network restricted to the meanings of DAT and ACC following two-way prepositions. Therefore, the task of designing such a network remained unattended.

Despite recent criticisms towards prepositional networks (lack of clear methodological principles, vagueness about the interpretation and empirical validation of the network etc.; cf. Sanda and Rice 1995), the heuristic value of radial networks stays - in my opinion - unattached, because their investigation helps to de-

tect relationships amongst meanings which otherwise would remain obscure and gives the opportunity of checking coherent hypotheses against empirical data (as Sanda and Rice themselves did). Thus, the first section of this paper is devoted to the development of a radial network for German DAT and ACC following two-way prepositions and illustrates how Smith's findings can be completed and accomodated coherently into such a structure.

Another complementary way of approaching the problem of (morphological) meanings consists in referring to image-schemas. As Langacker notes: "Image-schemas play an important role in structuring cognitive domains that support the characterization of basic grammatical constructs" (Langacker 1991: 399). Since nodes in a radial network are abstract constructs, thay cannot give a complete account of a vast range of usage which remains partially unexplained in its singularity (although implied in the general framework of the conceptual nodes). Instead, image-schemas are best suited for accounting for these cases, because they are based on perceptual or everyday bodily experiences which are metaphorically projected onto other cognitive domains and therefore can be assumed as explanation models for more concrete pattern of usage. The second section of this paper is devoted to the illustration of this hypothesis: a specific image-schema is postulated in order to account for some usages of the dative following two-way prepositions which otherwise would appear problematic.

2. Two-ways Prepositions: A Radial Network

In German some prepositions govern only one case (either ACC, or DAT or even GEN), but there is a group of basically spatial prepositions (*an, auf, hinter, in, neben, über, unter, vor, zwischen*) which can govern either DAT or ACC or both, depending on the verb (which can constrain the choice of the case) or on the imagery at work in a particular situation/sentence (in this last case the choice of the case reveals the imagery construed by the speaker). These prepositions are called 'two-way prepositions' by Smith.

Traditionally the distinction between dative (DAT) vs. accusative (ACC) in two-way prepositional constructions is accounted for on the basis of a notional opposition: if the locative configuration involves only a static relationship between participants (trajector and landmark), DAT is requested; if a sense of directionality (or directed motion) is involved, ACC is requested (cf. among others Drosdowski 1984: 368; Engel 1988: 703 etc.). This distinction is too general, since it works for such examples as:

(1) *Hans geht in den* *Garten.*
Hans goes in the-ACC garden
'Hans goes into the garden.'

(2) *Hans sitzt im Garten.*
Hans sits in-DAT-the garden.
'Hans is sitting in the garden.'

but it is less convincing for examples as:

(3) *Maria lief im Olympia-Stadion.*
Maria ran in-DAT-the Olympic Stadion
'Maria was running in the Olympic Stadion.'

where motion is compatible with DAT, as well as in the following pair:

(4) *Das Flugzeug flog über der Stadt.*
The aeroplane flew over the-DAT town
'The aeroplane flew over the city.' [remaining above the city, inside its airspace]

(5) *Das Flugzeug flog über die Stadt.*
The aeroplane flew over the-ACC town
'The aeroplane flew over the city.' [crossing the airspace above the city]

Despite the fact that in (3) and (4) motion is implied, DAT appears motivated because the spatial relation between trajector (TR) and landmark (LM) remains basically unchanged, i.e. the region of space evoked by the preposition with respect to the LM (the region inside the Olympic Stadion in [3] and the airspace of the city in [4]) includes the TR entirely, even if it is in motion (in other words: the region of space evoked by the preposition includes also the path of the TR, and in some abstract sense the whole configuration is considered stable, if not static). This brings Smith to the following general account of the DAT/ACC opposition: "DAT designates the confinement of TR of the preposition to a set of points satisfying the locative specifications of the preposition. This set of points is called the search domain (SD) of the preposition. ACC designates the fact that the TR of the preposition is not always confined SD of the preposition, but enters the SD at some point along a path" (Smith 1993: 534). This definition is correct but incomplete, as will be shown later.

Examples (1-5) can be conceived as instantiations of schemas of a radial network. For reasons of space I cannot illustrate each schema with a separate figure but have to refer to the complete network as represented in Figure 1 below. In this figure schemas are characterized as circles containing the trajector (depicted as a full square: TR) and the landmark (depicted as a flat ellipse: LM). The dotted section inside the circle represents the "set of points satisfying the locative specification of the preposition" (i.e. its search domain = SD); the circle itself represents the

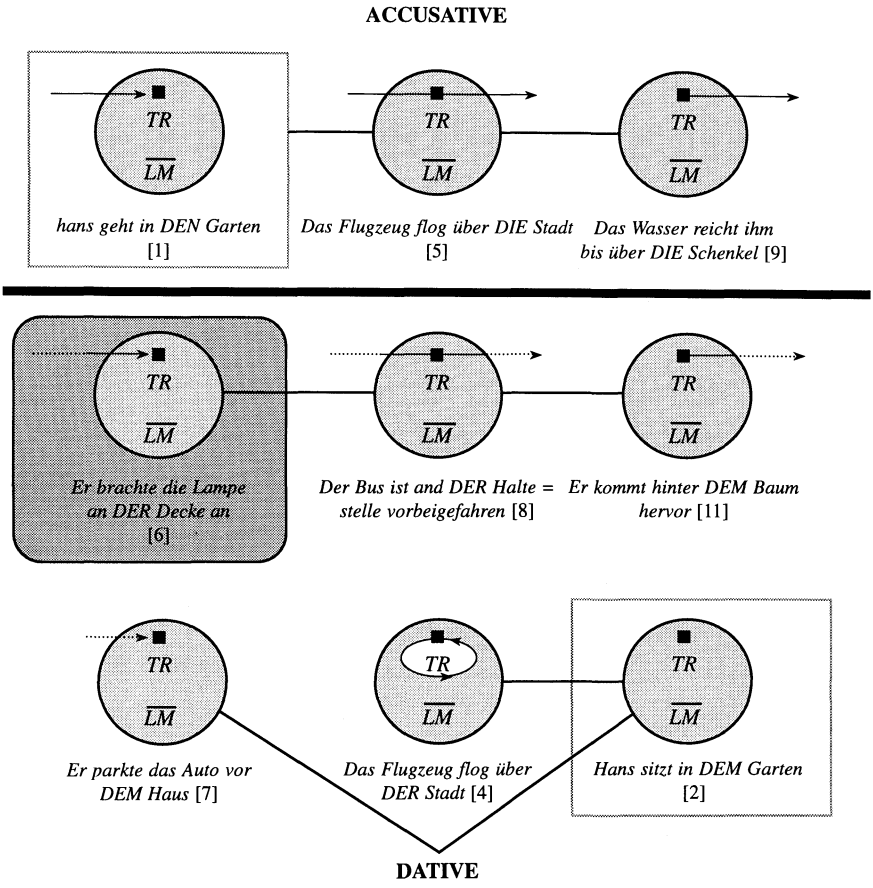


Figure 1. Radial Network of Dative and Accusative

boundary of the SD. Note that the form of the search domain is always represented in the same way, i.e. as a circle, irrespective of the character of the preposition, since the schemas do not refer to particular spatial configurations but rather to the abstract notion of search domain, which each preposition shapes in its own way (i.e. the portion of space specified by the preposition changes according to the 'meaning' of the preposition itself). Arrows symbolize the trajectory of the TR (i.e. the path along which the TR moves); dotted arrows the portion of the path which is not in profile. Schemas surrounded by a square are considered prototypical for this kind of meaning. At least one relevant example discussed in the paper and its

progressive number is quoted together with each configuration (each node) of the network.

You can find the examples discussed so far in the following parts of the network: (1) = upper row left, squared; (2) = bottom row right, squared; (4) = bottom row in the center (also [3] belongs to this node); (5) = upper row in the center. A discussion of other characteristics of the network will follow in the next section.

There are at least three more types of examples treated by Smith which are worth mentioning:

(6) *Er brachte die Lampe an der Decke an.*
He brought the lamp at the-DAT ceiling on.
'He brought the lamp to the ceiling.'

(7) *Er parkte das Auto vor dem Haus.*
He parked the car in-front-of the-DAT house
'He parked the car in front of the house.'

(8) *Der Bus ist an der Haltestelle vorbeigefahren.*
The bus is at the-DAT bus-stop passed by.
'The bus passed by the bus-stop (without stopping).'

In all these examples a path along which the TR moves is implied, and it is also clear that the path crosses the boundary of the search domain of the preposition (therefore putting them on a line with [1], rather than with [3] and [4]); nevertheless - in apparent contradiction with respect to the semantic analysis cited above - DAT is selected.

In (6) the use of dative can be accounted for by the fact that there is something particularly salient about the endpoint of the path, i.e. the part of the path which is inside the SD of the preposition. As Smith (1995: 302) puts it: "the use of DAT establishes and reinforces a focal point within the verbal profile through superimposition of its own profile on that segment of the path within the SD of the preposition which is the only part actually profiled by the verb". This *focus-on-the-endpoint*-configuration is symbolized in the network (middle row left) by a path only partially in profile (the strong line inside the search domain) and partially not in profile (the dotted segment outside the SD). [The reason for the dotted square sorrounding this node will become apparent in the next section.]

Also some verbs implying a path-like sense as *parken* 'to park' in (7) only allow DAT because the whole path is not in profile. Smith argues that verbs like *parken*, *landen* 'to land', *anlegen* 'to dock' etc. do of course imply a path but, since the final resting place of the TR is strongly emphasized by the meaning of the verbs, the path is conceived as a sort of medium for the TR in order to reach its final (relevant) position. Consequently, the *whole path* does not fall under the profiling of the verb (*restricted profile verbs*). The corresponding schema in the net-

work (bottom row left) shows the entire path unprofiled (dotted line outside and inside the SD); the only profiled part coincides with the final place of the TR, from this point of view there is a connection with the node referring to example (2).

In (8) the path crosses the SD of the preposition, but also here the profiled part is located inside the SD itself. The bus (TR) passes in the vicinity of the LM (bus stop) and the relevant part of the configuration is limited to the SD of the preposition *an*, which designates proximity between TR and LM (cf. also Smith 1987: 99-100). The corresponding schema in the network (middle row in the center) shows a crossing path through the SD of the preposition with only the internal part inside the SD in profile (strong line) and the external parts not in profile (dotted lines).

The discussion of examples (6) - (8), as well as the previous (3) - (4), has shown that - contrary to the implications of the traditional account - motion verbs are compatible with DAT, since motion can be fully confined within the search domain of the preposition or at least within the scope of predication (the profiled part of the path). Is the "reverse" also possible? Are static verbs compatible with the use of ACC? Smith denies this possibility, since "static situation verbs are compatible only with the DAT because ACC denotes a change through time with respect to a configurational situation set up by a preposition which is impossible for a static verb" (Smith 1995: 299). This statement is perhaps too strong, since it is indeed possibile to find examples where static situation verbs are compatible with ACC. Of course, this can happen only if a connotation of motion is subjectively added to the configuration:

(9) *Das Wasser reicht ihm bis über die Schenkel.*
The water reaches to-him till over the-ACC thighs
'The water is above his thighs.'

(10) *Er ist über seine besten Jahre hinweg.*
He is over his-ACC best years away
'He is over his best years (He has left behind the best years of his life)'

In (9) a sense of abstract (or subjective) motion is implied (you can imagine the eyes of the speaker following a trajectory from the ground up to the thighs and beyond them) but the situation is in itself static; this kind of complex situations (static and directional at the same time) is defined by Langacker as subjective motion (Langacker 1990: 157-158); the accusative is motivated by the fact that the subjective motion crosses the boundaries of the SD of the prepostion, going beyond it (above-across schema, as defined and discussed in Brugman 1981 and Lakoff 1987); the same situation is even more evident in (10), where a mental scanning along the time axis is symbolized by the use of über + ACC. Also in this case the situation (and the verb) is static but dynamism is subjectively added to the configuration.

As we have seen above, Smith's definition of the role of ACC assumes that the TR of the preposition is NOT always confined to its SD, but *enters* the SD at some point along a path. Examples like (5) (= the plane crossing the airspace of the town) and (8) show that the TR can also *cross* the SD of the preposition (i.e. enter *and* exit, as in [5]) or even only *exit* from it (9-10). In other words, the use of ACC is sanctioned if the TR crosses *at least one* of the boundaries of the SD domain (or, if the search domain is conceived as having only one circular boundary, if it crosses the boundary at least once) and the whole path is in profile. Therefore, the definition for the DAT/ACC opposition in two-way prepositions can be rephrased as follows:

DAT designates that the TR is conceived as being entirely confined to the search domain of the preposition.
ACC designates that TR is conceived as crossing the boundaries of the SD of the preposition *at least once*.

This definition differs from Smith's account in that it includes also the possibility for ACC of going into *and* out from the boundary of the SD of the preposition and emphasizes the role of imagery. In fact, the statement includes the word "conceive" which refers to the situations with restricted profiling which are strongly connected with the way the situation is conceived by the speaker, i.e. where the influence of imagery is particularly strong, even if the use is fully sanctioned (*conventional imagery)*, as for restricted profile verbs.

At this point it becomes apparent why working out a network favours the exploration of the relationships among meanings. Since the radial network provides a schematic arrangement of the interrelated meaning configurations, it also discloses the overall connections among them and helps to work out some configurations which otherwise could remain unexamined. This is also confirmed by the following example, which again configurates the co-occurence of DAT and restricted profiling:

(11)	*Er*	*kommt*	*hinter*	*dem*	*Baum*	*hervor.*
	He	comes	behind	the-DAT	tree	out of
	'He comes out from behind the tree.'					

Again there is here a verb of movement coupled with DAT, which indicates that the profiled region is only the SD of the preposition. In this case, analogous and symmetrical to (7), there is a sort of focus on the source of the path, which is crosslinguistically a less common phenomenon than the corresponding focus on the endpoint. Indeed, (11) is rather marginal and it was detected only because the overall structure of the network induced me to search for a case symmetrical to

(7). Other implications of the network analysis will be illustrated in the next section.

3. Discussion of the Network

The nodes in the network (Figure 1) are represented as schematic and holistic configurations. They are schematic because they do not refer to any specific situation or particular prepositions but to an abstract schema involving general entities as trajector, landmark, search domain etc.; the configurations are also holistic because they iconically refer to an overall image and not to a list of features. Each node is connected with at least two other nodes that share all its characteristics except one (for instance schema [1] shares with [5] the whole configuration except the continuation of the path out of the boundary of the SD and with [6] again the whole configuration exept the external part of the path which is profiled in [1] and not profiled in [6]). Thus, the network pictorially shows the relationships and the conceptual relatedness among the nodes.

Moreover, the network exhibits a remarkable symmetry. In the upper row (use of ACC) all the possible interactions between trajector and search domain are represented: entering the SD, crossing the SD and going out from the SD. In the middle row (use of DAT) similar configurations are delineated, but only the parts of the path internal to the search domain are in profile. The bottom row (again DAT) is more complicated: common to all configurations is the relative stability of the relationship between TR and LM, but the path can be conceived as totally unprofiled (left), as profiled but restricted into the boundary of the SD (middle), or even as absent (static locative, on the right).

The two prototypical meanings (in simple squares), which correspond to the classical traditional account of the use of DAT and ACC, are represented in diametrically opposite position (top left = ACC in the sense of the TR entering the SD of the preposition; bottom right = DAT in the locative sense of a static relation between TR and LM). Immediately below the prototypical meaning for ACC, the schema for *endpoint-focus* profiling is included in a rounded square. This symbolizes the configuration which is most subject to imagery, i. e. to alternate construal by the speaker. Indeed, constructions connected with this schema often fluctuate between DAT and ACC, depending on the way the speaker wants to construe the scene he is referring to. This is not surprising, since one would expect fluctuation in borderline cases and in fact the *endpoint-focus* schema shares some properties not only with other DAT-configurations but also *with the protypical schema* for ACC, which obviously exerts a bigger influence than other ACC-configuration on the choice of the case. The cross-influence of these two schemas is also figuratively represented in the network through the contiguity and connection between them. Smith devotes much attention to the phenomena related to imagery (Smith 1987: 97-98, 106-110, 121-128, 158-174; Smith 1993: 535-541) and discusses several

variants of this pattern. I wish to quote just a pair of sentences as an example (Smith 1993: 538):

(12) a. *Die Sonne versank in dem Abenddunst.*
The sun sank in the-DAT evening mist
'The sun sank in the evening mist.' [is enveloped or swallowed up in the haze]

b. *Die Sonne versank in den Abenddunst.*
The sun sank in the-ACC evening mist
'The sun sank into the evening mist.' [stresses the movement of the sun into the mist as if it drops into it]

In the DAT variant the saliency of the final point of the path travelled by the sun (*endpoint-focus*) is stressed, whereas the ACC variant emphasizes the movement on the trajectory until the final point (the whole path is profiled). The possibility of alternate constructions in this kind of sentences depends not only on the chosen configuration (i.e. on an operation of construal) but also on the intrinsic semantics of the verb: *versinken* 'to sink' implies a path and a movement along it but also a sense of disappearing to the view, which is strongly connected with the final point of the path. Thus, the semantics of the verb itself allows both interpretations. It is sometimes difficult - especially for foreign speakers - to guess whether it is possible to use alternate variants or not (for instance because only one is sanctioned). In this respect a different kind of analysis can be of some use: the interpretation through image-schemas. The next section is devoted to this point.

4. Interpretation through Image Schemas: The CONTAINER Schema

The possibility of interpreting the meaning of grammatical functions in terms of image schemas is explicitly aknowledged by Langacker (1991: 399). Image-schemas, in the sense of Lakoff (1987) and Johnson (1987), are fundamental conceptual notions, "dynamic patterns that function somewhat like the abstract structure of an image, and thereby connect up a vast range of different experiences that manifest the same recurrent structure" (Johnson 1987: 2). This last characteristic (connecting up a vast range of experiences) makes image schemas particulary suitable for generalizations across different types of linguistic phenomena. For instance, Smith (1987) points out that ACC can be viewed as an instantiation and grammaticization of the *source-path-goal* schema, implying the notions of directionality, contact, asymmetry and completion. If we observe the configurations in the network presented above, another schema seems to be appropriate, especially for caracterizing the DAT: the *container* schema. Indeed, the search domain of the preposition defines a space which highly resembles a container with its boundaries

(the circular line) and its content (the TR). Since the TR is prototypically inside the search domain in the DAT variants ("the mental path of the TR is entirely confined to the search domain of the preposition"), the container schema is best suited to apply to this configuration. Smith (1992: 397-399) already recognized the relevance of this image schema for DAT following two-way prepositions but he did not analyse all its implications in detail. These implications are best subsumed by the so-called 'entailments' listed by Johnson himself as typical for the container schema. Johnson states (1987: 22, my emphasis):

> (i) The experience of containment typically involves *protection* from, or *resistance* to, external forces. When eyeglasses are *in* a case, they are protected against forceful impacts. (ii) Containment also *limits* and *restricts forces* within the container. When I am *in* a room, or *in* a jacket, I am restrained in my forceful movements. (iii) Because of this restraint of forces, the contained object gets a *relative fixity of location*. For example, the fish gets located *in* the fishbowl. The cup is held *in* the hand. (iv) This relative fixing of location within the container means that the contained object becomes either accessible or *inaccessible to the view of some observer*. It is either held so that it can be observed, or else the container itself blocks or hides the object from view. (v) Finally, we experience *transitivity of containment*. If B is *in* A, then whatever is *in* B is also *in* A. If I am *in* bed, and my bed is *in* my room, then I am *in* my room.

The above cited quotation suggests that the general notion conveyed by this image schema implies little mobility (if not staticity) and lack of force dynamics (almost no change, only little interaction of forces). Notions of this kind are typically grammaticized in German by DAT, but my opinion is that *also all other* more specific entailments cited above as representative for the container schema (protection/resistance; limitation/restriction of forces; relative fixity of location; inaccessibility to the view; transitivity of containment) are relevant for the DAT variants following two-way prepositions and that in particular they can motivate the uses often considered problematic by foreign speakers. The remainder of this section is devoted to the illustration of this point.

(i) *Protection* or *resistance*.
Most German verbs involving protection co-occur with the preposition *vor* (a two-way preposition) and DAT:

(13) *Die Mutter konnte ihr Kind vor diesen*
The mother could her child from these-DAT
Gefahren nicht behüten.
dangers not protect.
'The mother could not protect her child from these dangers.'

Like *behüten*, also verbs like *beschützen vor* 'to protect', *retten vor* 'to save from' and so on behave the same way. On the other hand, if the semantics of the

verb does not merely involve protection but imply also a sense of resistance (as in the case of *schützen* 'to shelter', *sich abschirmen* 'to shield' and so on), they can select either *vor* + DAT (if a sense of passive resistance from the external influence is emphasized) or *gegen* + ACC (if a sense of active resistance against external entities is stressed). Recall that gegen is not a two-way preposition but it can only occur with ACC. Even if one-way prepositions are not the topic of this paper, it is interesting to remember that - here as elsewhere - the use of ACC signals a bigger involvement of force dynamics. This is confirmed by verbs expressing even stronger resistance, i.e. verbs where the notion of defence is implied, like *sich verteidigen* 'to defend oneself', *sich wehren* 'to resist', *Widerstand leisten* 'to withstand' and so on, which all select only *gegen* + ACC. Thus, the more the situation is passive and self-contained, the more the choice of DAT is likely (since DAT is the case which indicates containment), the more an active attitude and a sense of force dynamics is implied, the more the use of ACC is likely (ACC designates dynamism and changing). Thus a sort of continuum of increasing strength of implied forces seems to be at work here, ranging from the notions of protection (less strength, only inclusion in the container = DAT) up to resistance (more strength, interaction with external influence = ACC) and defence (even more strength, reply to external forces = ACC). Examples for this continuum *protection-resistance-defence* are:

(14) *Er hat immer seine Liebe vor Enttäuschungen*
He has always his love from disappointments-DAT
bewahren können.
preserve can
'He has always been able to preserve his love from disappointments.'

(15) *Er schirmt sich die Augen gegen die Sonne ab*
He shields himself the eyes against the-ACC sun from
'He shields his eyes against the sun.'

(16) *Er hat sich gegen ihre Vorwürfe kaum*
He has himself against her-ACC reproaches scarcely
verteidigt.
defended
'He scarcely defended himself against her reproaches.'

(ii) *Limitation/restriction of forces*
Verbs denoting actions of attaching, fastening, locking and so on indicate a limitation in the movement of the entities concerned, therefore restricting the forces involved:

(17) *Er befestigte ein Plakat an der Tür.*
He nailed a poster at the-DAT door
'He pinned a poster on the door.'

As for the previous case, also in this group there are variations: some verbs only accept the two-way preposition + DAT, some allow both cases and some only allow two-way-preposition + ACC, depending on the different profiling of the action. Attaching presupposes an agent, an attached entity, a path and a final point where the entity is confined. If only this last part is in profile, DAT is obligatory, as in:

(18) *Der Teig is an der Schüssel angeklebt.*
The paste is at the-DAT dish sticked
'The paste has stuck to the dish.'

(19) *Sie klebt an ihm*
She clings at him-DAT
'She clings to him.'

(20) *Sie hat ein Poster mit Reißzwecken an der Wand festgemacht.*
She has a poster with drawing pins at the-DAT wall nailed
'She pinned a poster to the wall.'

In (18) and (19) only the container model is emphasized: agent and path do not even fall within the scope of predication. The idea conveyed is that the TR is totally restricted within the LM, with no possibility of moving (either in a concrete or in a figurative way). In (20) agent and path fall within the scope of predication, but the profiled part concerns only the final condition of restricted forces and, of course, the focus on the endpoint of the path as was illustrated above. The configuration emphasizes that part of the action where the agent is finally pinning the poster on the wall, not the part in which he is moving the poster into the spatial domain of the wall. The agent is working at the wall, so to speak, restricting the range of application of the forces he is using for the task. From this point of view the following examples are also interesting:

(21) a. *Sie haben das Pferd an einem Pflock angebunden.*
They have the horse at a-DAT picket tied up
'They have tied the horse to a stake.'
b. *Sie haben das Pferd an einen Pflock angebunden.*
They have the horse at a-ACC picket tied up
'They have tied the horse to a stake.'

(22) a. *Sie haben das Boot am Ufer angebunden.*
They have the boat at-the-DAT bank tied up
'They tied up the boat to the bank.'
b. **Sie haben das Boot ans Ufer angebunden.*

The verb is in all examples *anbinden:* (21a) describes the endpoint-focus profiling, where the image of fastening is emphasized; (21b) a condition where the path is in profile (the idea of bringing the horse to a picket point is emphasized). But, strangely enough, the same distribution of imagery is not possible for (22a) and (22b). Why? Native speakers assert that the *Ufer* is "too large" to be accepted for the ACC version. In my opinion this means that the *Ufer*, conceived as a "large" object, can only be recognized as a container and not as a small part (an endpoint) of a linear path. This would confirm our interpretation of DAT as the 'case of container'.

On the other hand, there are many verbs with similar meaning, which only allow the ACC version, thereby profiling the entire path:

(23) *Sie haben den Kahn an einen Baum gebunden.*
They have the rowboat at a-ACC tree tied up
'They tied up the rowboat to a tree.'

(24) *Er brachte die Lampe an die Decke.*
He brought the lamp at the-ACC ceiling.
'He brought the lamp to the ceiling.'

Usually the verbs with only ACC have similar roots as the DAT/ACC verbs, but without prefix (*binden* instead of *anbinden*, *bringen* instead of *anbringen* and so on). The prefix seems to have the function of allowing an adjustment in salience with respect to the path profiled by the verb (cf. also example 8 above with the prefix *vorbei(fahren)*. This adjustment (which is also signalled by DAT) can co-occur with a path-like version (ACC), or represents the only possibility allowed (cf. 21 - 22). As (22a - 22b) show, the imagery at work (and the corresponding choice of case) can be influenced by the characteristics of the landmark. My hypothesis in this respect is: *the more the LM is conceived as a container, the more this DAT version is likely* (cf. also Smith 1995: 307).

(iii) *Relative fixity of location*
Relative fixity of location can be conceived as static location (total fixity) as in:

(2) *Hans sitzt im Garten.*
Hans sits in-DAT-the garden.
'Hans is sitting in the garden.'

or as a movement confined in a very clearly restricted space (i.e. within the boundary of the SD of the preposition):

(3) *Maria lief im Olympia-Stadion.*
Maria run in-DAT-the Olympic Stadion
'Maria was running in the Olympic Stadion.'

(4) *Das Flugzeug flog über der Stadt.*
The aeroplane flew over the-DAT town
'The aeroplane flew over the city.' [remaining above the city, inside its airspace]

Since these examples have been illustrated above, I am not going to discuss their implications here again.

(iv) *Inaccessibility to the view*
German verbs denoting disappearance often come up in a construction with preposition + DAT, even if some sense of movement or path is involved:

(25) *Der Zug verschwand in der Ferne.*
The train disappeared in the-DAT distance
'The train faded into the distance.'

(26) *Das Schiff ist im Meer versunken.*
The ship is in-the-DAT sea sunk
'The ship sank into the sea.'

(27) *Er drohte in der reißenden Strömung unterzugehen.*
He threatened in the-DAT raging current to drown
'He was in danger of drowning in the raging current.'

Of course, in (25 - 27) there is movement involved in the scene but the focus is concentrated on the fact that the TR - at the end of its trajectory - has disappeared, therefore is no longer in sight (no longer accessible to the view). In the conventional imagery of German this part of the action is emphasized, especially if no agency is involved, i.e. if there is no explicit reference to activity or force implied. Indeed, the possibility of using the preposition + ACC also exists but is restricted to verbs which not only profile a path but also involve some external force (an agent) performing the action over the affected entity (verbs of hiding instead of disappearing). In this case both constructions (preposition + DAT and preposition + ACC) are admissable and the role of imagery (the possibility of construing a

scene in alternate ways for linguistic purposes) is more subjective (not sanctioned or conventional as in the previous cases):

(28) a. *Er verstecke das Geld in seinem Schreibtisch.*
He hid the money in his-DAT desk
'He hid the money inside his desk.'
b. *Er verstecke das Geld in seinen Schreibtisch.*
he hid the money in his-ACC desk
'He hid the money inside his desk.'

Again, in (28a) the notion of final enclosure (the money [TR] is hidden and no more accessible to the view) is stressed, as well as the role of the desk (LM) as a container, whereas in (28b) (classified as "selten" [=seldom] by the DUDEN-dictionary) the role of agency and the path along which the TR moves (or is driven) are emphasized. This kind of concrete path-like interpretation is not allowed in the figurative senses of the verbs of hiding, where the focus is concentrated on the final (container-like) situation and not on the way to get there:

(29) *Er hat seine Gefüle in seinem Herz verschlossen.*
He has his feelings in his-DAT heart locked
'He locked his feelings in his heart.'

(30) *Er versteckt sich hinter den Vorschriften.*
He hides himself behind the-DAT rules
'He hides behind the rules.' (He doesn't take any responsibility)

In both (29-30) there is a sort of reflexive agent (in [29] it is notional: the TR locks his feelings, which are part of himself; in [30] it is overtly grammatical: the reflexive form *sich verstecken* is used in German). Of course, reflexive actions usually imply less force than actions directed towards the outside but this is not the reason for the selection of DAT in this cases. In my opinion, the figurative senses of these sentences only allow an interpretation of hiding in terms of container: what is relevant for the speaker is the metaphorically depicted situation of something enclosed inside a container and therefore not visible.

The analysis of the first four entailments has shown that the CONTAINER image schema has not only a locative implication but is also very strongly connected with the absence of force dynamics applied to the TR; if force dynamics is relevant in the image, there is a tendency for using the ACC version of the prepositional structure, if force dynamics is less relevant, the image of enclosure prevails and the DAT version is preferred or even sanctioned (i.e. it is the only one which is acceptable). In this respect, the role of imagery as intended by Langacker ("our ability to construe a conceived situation in alternate ways" [1991: 15]) is fully confirmed by this kind of constructions.

(v) *Transitivity of containment*

The last of Johnson's 'entailments' - regarding the transitivity of containment - included the following statement: "If B is *in* A, then whatever is *in* B is also *in* A. If I am *in* bed, and my bed is *in* my room, then I am *in* my room." [Johnson 1987: 22] What is implied here is a sort of 'nested locative', in which "each locative expression confines the subject to a specific 'search domain', which then constitutes the scope of predication for the locative that follows" (Langacker 1990: 9). Johnson's statement refers to a transitivity of properties concerning sets of locatives (something which *is* in A is also in B, if A is in B). But the same relationship holds also for more general events and in particular for directionals: paraphrasing Johnson, one could affirm: "If B is in A, then whatever *happens in* B is also *in* A", or even "If B is in A, then whatever *moves into* B is also *in* A" This kind of relationship is nicely represented in the following examples:

(31) a. *Er fuhr sie in die Schweiz.*
He drove her in the-ACC Switzerland
'He drove her to Switzerland.'

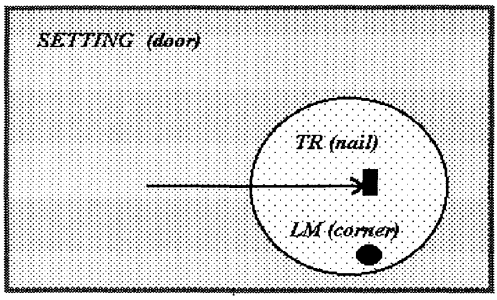
b. *Er fuhr sie in der Schweiz in die Berge.*
He drove her in the-DAT Switzerland in the-ACC mountains
'He drove her to the mountains in Switzerland.'

(32) a. *Er schlug den Nagel in die Tür.*
He hit the nail in the-ACC door
'He hit (drove) a nail into the door.'

b. *Er schlug den Nagel in der Tür in die obere Ecke.*
He hit the nail in the-DAT door in the-ACC upper corner
'He drove a nail into the upper corner of the door.'

In (31a) *(in) die Schweiz* (ACC) represents the goal of the path which penetrates the boundaries of the SD determined by the preposition. In (31b) *(in) der Schweiz* (DAT) is upgraded to a general setting within which the whole action (to go to the mountains) takes place (settings are stable, inclusive structures of space or time, which the smaller, more mobile participants in the event conceptually interact with). Since settings evoke the image schema of the container ("there is in fact a connection between the setting/participant distinction and the container-content relationship, which is one of the image schemas that Johnson and Lakoff propose as being fundamental to human cognition" [Langacker 1991: 347]) and therefore conceptually assume the function of a general container of the action involved, DAT - the case connected with the container image schema - is best

suited to express this kind of relationship. The transitivity of containment is even clearer in examples (32a and b), where the action of fixing the nail always happens within the door, but in (32b) a part of the door (the upper edge) is conceived as being included in its physical container (the whole door) which again is signalled by DAT. Figure 2 symbolizes this relationship:



Er schlug den Nagel in DER Tür in DIE obere Ecke

Figure 2. Transitivity of containment

5. Conclusions

This paper approaches the same issue from two complementary points of view: it sketches a radial network of the morphological meanings of DAT and ACC following two-way prepositions and gives (one hopes) a systematic account of some specific usages of the DAT variants in terms of image schemas. The radial network provides a schematic arrangement of the interrelated meaning configurations, thereby disclosing their overall connections and showing an interesting (quasi) symmetry among them. This symmetry, as well as the holistic structure of the nodes included in the network, helped to work out some configurations which had remained unexamined in previous works (particularly the configurations with the trajector moving out from the search domain of the preposition) and consequently to integrate the general definition provided by Smith in his pioneering works. The complementary approach based on the container image schema has shown that there is a remarkable consistency between the implications of the image schema (its 'entailments') and their counterparts in language (DAT variants). Moreover, the comparative analysis of similar ACC variants suggests that there is a tendency to organize imagery along *continua* based on the role of force dynamics. The two approaches helped therefore to highlight complementary aspects of the same phenomena and to focus on some characteristics so far not sufficiently taken into account.

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Part III:

Grammaticalization Processes

The Conventional Association of a Lexeme with a Metaphor: The Case of the Wolof Verb *fekk-e**

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This paper is about two verbs in Wolof, a Niger-Congo language spoken in Senegal and Gambia, West Africa. One of the verbs is derived from the other by suffixation. The purpose of the paper is to show that an adequate characterization of the semantic relationship between the two verbs makes reference to a metaphor that construes the occurrence of a point or period of time as an arrival. An account like the one offered here is necessary if the root and the derived verb are to be analyzed as semantically related. Moreover, it is of central interest to the field of lexical semantics that one of the effects of adding a suffix to a root can be that a particular metaphor comes to be conventionally associated with the derived lexeme.

We will examine a particular use of the root verb and see how that use is exploited in the process of suffixation. We will also examine some other uses of the same root. One purpose of examining these other uses will be to show how the path of extension that I focus on contrasts with grammaticalization. The conclusion will be that two distinct types of semantic extension have been observed: one which relies on a gradual shift from one closely related use to the next (the grammaticalization type), and another (the main concern of the paper) in which there is a non-gradual alteration, associated with morphological derivation.

1. The Central Question and the Semantics of *fekk* and *fekk-e*

The central question can be phrased as follows. How do we get *fekk-e*, a verb that means 'to be there for, and thus experience, and event or Time', from *fekk*, a verb that means 'to become co-located with something/someone somewhere'? (The count noun *Time* is used to mean 'a point or period of time'.) Below, the underived verb *fekk* is exemplified in (1), and the derived verb *fekk-e* is exemplified in (2). Preceding the examples I define some of the terms that I will be using.

Definitions:
Mover = a moving entity

Quasi-goal (abbreviated as *Q-goal*) = A Ground Element (term adapted from Talmy 1991: 483) with which a Mover becomes co-located in a location (as in the case of *fekk*). (A Q-goal is similar to a Goal except that the Mover does not necessarily stop there.)

FE = Figural Entity (cf. Talmy 1991): an entity that a conceptualizer locates.

GE = Ground Element: an element with respect to which a conceptualizer locates a FE.

Conventions: In some cases, constituents in the example sentences are identified according to the "conceptual role" they play; e.g., *Mover* and *FE* vs. *Q-goal* and *GE*.

Where appropriate to aid the reader in understanding a Wolof construal, I include a literal translation in double quotes in addition to a free translation in single quotes. Expressions used to gloss *fekk* in the example sentences do not have theoretical significance.

(1)

	FE			GE	GE
	Mover			Q-goal	Location
a.	*samba*	fekk	*na*	*bool ba*	*ca*
	Samba	FEKK	3PERF.SUBJECT	bowl the	LOCPREP
	waañ	*wa*			
	kitchen	the			

'Samba came across the bowl in the kitchen.' (The bowl was in the kitchen when Samba got there.) This exemplifies *fekk* with a sentient Mover and an inanimate Q-goal.[1]

	FE				GE	GE
	Mover				Q-goal	Location
b.	*bal ba*	fekk	*na*		*ma*	*ca*
	ball the	FEKK	3PERF.SUBJECT		me	LOCPREP
	kër	*ga*				
	residence	the				

'The ball came upon me at home.' (The speaker was at home when a ball came into his house, e.g. through the window.) This exemplifies *fekk* with an inanimate Mover and a sentient Q-goal.

(2)

xel seen	*jóg*	*na*	*bu*	*yàgg,*	
Xel Seen	get.up	3PERF.SUBJECT	REL	be.long.time	
GE			FE		
Q-goal			Mover		
ngir [ ]		*bëgg a*	fekk-e	*njël-u*	
because [3SUBJECT]		want PARTICLE	FEKK-E	dawn-of	
gox bi					
area the					

'Xel Seen had been awake for a long time, because he wanted to be there for (i.e., experience) dawn in the area.' [Caam 1989: 23. My translation.] *Fekk-e* requires a sentient Q-goal, and a Mover that is an event or Time.

The two verbs are both structured by the following semantic frame. (The notion *frame* is taken from Fillmore 1985.)

1.1. The semantic frame of fekk *and* fekk-e*:*

(i) A Q-goal is located in a Location.
(ii) A Mover moves so as to become co-located with the Q-goal in the Location.

The valence structure of *fekk* calls for a Mover subject, a Q-goal object, and a locational complement which denotes a Location.

The valence structure of *fekk-e* calls for only two arguments: an Experiencer subject and a Stimulus object. I will argue that the Experiencer subject is also a Q-goal and the Stimulus object is also a Mover; i.e., the semantic role to grammatical function mapping of *fekk-e* is inverted with respect to that of *fekk* (cf. Table 1). What I mean by "inverted" is that the semantic role of the subject of *fekk* is the role of the object of *fekk-e*, and the role of the object of *fekk* is the role of the subject of *fekk-e*. Considerations of inferential structures and of how *fekk-e* fits into an overall system of metaphorical temporal movement in Wolof will justify the analysis that *fekk-e*'s semantics to syntax mapping is inverted.

The remaining element to be considered is the suffix *-e*. In the case of *fekk-e*, this suffix marks the fact that no locational complement is realized. Location is nonetheless a participant in the frame semantics of *fekk-e*.

Table 1 summarizes my claims regarding the argument structures of *fekk* and *fekk-e*.

Table 1. Comparison of the argument structures of fekk *and* fekk-e

	Subject	*Object*	*Locational Complement*
fekk	Mover (*FE*)	Q-Goal (*GE*)	Location (*GE*)
fekk-e	Q-Goal (*GE*) Experiencer	Mover (*FE*) Stimulus	

1.2. More detail on fekk *and* fekk-e

In this subsection I provide more detail on *fekk* and *fekk-e*.[2] The following example shows a felicitous use of *fekk-e* with its two required arguments: a subject that is an Experiencer and an object that is an event (and a Stimulus).

(3) a. *samba fekk-e na xuloo ba*
Samba FEKK-E 3PERF quarrel the
'Samba was there for (and experienced) the quarrel.'

The next example is bad because the subject is not an Experiencer.

b. #*bool* *ba* *fekk-e* *na* *xuloo* *ba*
bowl the FEKK-E 3PERF quarrel the
'The bowl was there for (and experienced) the quarrel.'

The next example is bad because the object is not an event or time.

c. #*samba* *fekk-e* *na* *bool* *ba*
Samba FEKK-E 3PERF bowl the
'Samba was there for (and experienced) the bowl.'

Next, we see that fekk constructions are unacceptable with fewer than three arguments. (A motivated set of exceptions to this rule is discussed in Section 3.)

(4) **samba* *fekk* *na* *bool* *ba*
Samba FEKK 3PERF bowl the
intended: 'Samba encountered the bowl.'

1.3. Preview of the discussion

Before continuing, let me try to give a brief sketch of where the paper is going. There is a particular use of *fekk*, exemplified in (5) below, in which the Mover is a Time or event and the metaphorical arrival of the Mover at a location signifies the occurrence of the Time or event.

(5) *xuloo* *ba* *fekk* *na* *fa* *samba*
quarrel the FEKK 3PERF there Samba
"The quarrel encountered Samba there."
'Samba was there for the quarrel'

It is particularly important to note that there is no physical motion necessarily involved in (5) above. The reason *xuloo ba* 'the quarrel' can be a subject of fekk is that it is metonymically associated with a metaphor ("Moving Time") that construes Times as moving objects; it is by means of this metaphor that *xuloo ba* can count as a Mover. The metaphor is needed in a description of Wolof independently of its association with *fekk* or *fekk-e*. Whereas this association of the Mover role with an element of the Moving Time metaphor is one possibility for *fekk*, it is the only possibility for *fekk-e*, exemplified in (3) above.

Having seen an overview of *fekk* and *fekk-e*, we now turn to a brief examination of the derivational suffix *-e*.

1.4. The suffix -e

The suffix *-e* is productive, attaching to numerous verbs. Suffixation by *-e* typically accompanies an alteration in the valence structure of the host verb, where an argument may be either added or suppressed, usually with predictable semantics. Additionally, there are some exceptional cases in which the meaning of the derived verb is not predictable. I have found one clear case, in addition to *fekk-e,* of argument inversion. In all cases, all the frame participants of the root verb play a role in the semantics of the derived verb. This is a good reason to analyze *fekk-e* as having Mover, Q-goal, and Location roles in addition to its more obvious Stimulus and Experiencer roles.

Wolof is fairly rich in derivational morphology. Fal *et al.* 1990 lists about twenty-one suffixes that derive verbs from verbs. It is important to note that while *-e* is in some cases associated with reciprocal semantics and with characteristics that are commonly associated with properties of a middle (cf. Kemmer 1993), Wolof has distinct suffixes for reflexive (*-ante*) and middle (*-u/-ku*). It should also be noted that *-e* has the variant *-te* which appears in some instances of the argument-supressing use and does not appear in the argument-adding use.

In this section we will examine a representative sample of the data on *-e*. The purpose of the examination is twofold: First, to give an overall picture of the suffix, showing that the semantics of *fekk-e* cannot be derived by the mere composition of *fekk* and *-e*; Second, to show that the suffix is sometimes accompanied by idiosyncratic semantics, and that what is known about the suffix is compatible with the claims advanced in this paper. Further examples can be found in Fal et al. 1990 and Ka 1981.

In the following example we see an intransitive root, and then the derived verb which takes an added locative argument. (The meaning is not entirely predictable.)

(6) (*jóg* 'get up')
a. *jóg* *naa*
get.up 1PERF
'I got up.'
b. *foo* *jóg-e?*
where.you come.from
'Where are you from?' (The added argument is a Source.)

In the next example, one argument of a three-argument verb is suppressed.

(7) (*may* 'give')
a. may *na* *ko* *ndox*
give 3PERF 3OBJ water
'S/he gave her/him water.'

b. may-e *na* *alal* *am*
give-E 3PERF wealth GEN
'S/he gave away her/his wealth.'

The next example is an exceptional case in which a reciprocal is created from a two-argument verb. The meaning of the derived verb is not predictable. We can think of cases like these as "idioms" because the relationships between the meanings and the elements that encode them are not predictable from a consideration of the parts and principles of combination alone.

(8) *daj* 'find by feeling'
a. *làmp yi* *fey* *na* *ñu,* *xey-na* *nga*
light thePL be-extinguished PERF 3PL maybe 2SUBJ
daj *sondeel ci* *taseer* *bi*
DAJ candle LOCPREP shelf the
'The lights are out; maybe you can find a candle (in the dark) on the shelf.' [Fal et al. 1990. My translation]
b. *na* *nu* daj-e *ca* *mbedd* *mu* *mag* *ma*
HORT 1PL.SUBJ meet LOCPREP street REL big the
'Let's meet on the big street.' [Fal et al. 1990. My translation]

The following case of *réer-e* 'to lose track of' is also exceptional. *Réer-e* is derived from *réer* 'to be lost'. The person (i.e., the "loser") who cannot find whatever is lost may be mentioned.

(9) a. *sama jaaro* réer *na* *(ma)*
my ring be.lost 3PERF (1OBJ)
'My ring is lost (to me).'

The "loser" cannot be the subject of *réer.*

b. #réer *naa* *sama jaaro*
be.lost 1PERF my ring
intended: "I lost my ring."

Example (c) below is syntactically parallel to (a) above; it says "Your thought is lost to me"; i.e., 'I've lost track of the idea you're trying to communicate to me.'

c. *seen* *xalaat* réer *na* *ma*
your.PL thought be.lost 3PERF 1OBJ
'I've lost track of your idea.'

Example (d) below is a paraphrase of (c) above, differing essentially in that it makes the Experiencer of "loss" the subject of the sentence. *Réer-e* in example (d) exhibits "inversion," the same phenomena we have seen in the case of *fekk-e*.

d. réer-e *naa* *seen xalaat*
be.lost-E 1PERF your thought
'I've lost track of your idea' (The form suffixed with *-e* exceptionally allows the subject to be the "loser.")

A thorough characterization of *-e* would be a monograph-length task; here, I attempt only the briefest of overviews. Many more examples are readily available of the argument-adding and the argument-supressing functions. Also, there are cases, not exemplified here, in which there is no change in the number of arguments, and there are a couple of cases in which the agentive argument of the verb is suppressed. Given the observed variety of properties associated with lexemes derived by suffixation with *-e*, it is reasonable to assume, for the purposes of this paper, that a description that covers all uses of *-e* must be a very general one such as the following: The suffix *-e* marks a change in the semantics of the host verb, usually involving the addition or suppression of an argument. In some cases it accompanies the derivation of an "idiomatic" meaning, that is, a meaning that requires, in its characterization, some specification in addition to a description of the parts and how they combine. A good example of this kind of idiomaticity is the word *daj-e* 'to meet' (cf. [8]), which is derived from *daj* 'to find by feeling'. The target of this investigation, *fekk-e* 'to be there for (and thus experience) an event or Time', is also such an example.

2. The Proposal

In this section I present my proposal in detail. The verb *fekk-e* is based on a use of *fekk* in which a Time is construed as a Mover, and the occurrence of a Time is construed as the arrival of a Mover at a location; i.e., in terms of the Moving Time metaphor. (This term is from H. Clark 1973. Cf. also Fillmore 1971, Lakoff and Johnson 1980. Traugott 1975, 1985 attempts to account for the relevant data without a movement metaphor.) In the theory of Lakoff 1993, the Moving Time metaphor would be an instance of Special Case 1 of the metaphor "Time Passing Is Motion". In the present work, the Moving Time metaphor is reformulated so as to generalize over more data than do previous detailed treatments such as Lakoff 1993.

In the following discussion, I use the term *metaphor* in the sense of *conceptual metaphor* discussed in Lakoff and Johnson 1980, Lakoff 1993, and elsewhere. The term *metaphor* in this sense is understood to mean *metaphorical mapping*.

A metaphorical mapping consists of a set of regular correspondences between two types of experience (often called domains). What is important for the purposes of this paper is that certain aspects of the two types of experience in question are systematically talked about in the same way. To say that a certain metaphor structures a given lexeme is to give a concise description of certain aspects of that lexeme's semantics. In the current case, the assertion that *fekk* (in certain uses) and *fekk-e* are both structured by the Moving Time metaphor makes precise claims about the relationship of the Mover and Q-goal role of *fekk* to the Stimulus and Experiencer roles of *fekk-e*. This assertion also makes claims about the role that the Location participant in the frame semantics that underlies both verbs plays in the semantics of *fekk-e*. All of these claims are spelled out below.

The proposed account has the important effect of showing a semantic relationship between the two verbs that parallels the morphological relationship. That is, just as *fekk-e* is clearly morphologically derived from *fekk*, it is also semantically derived from *fekk*. And the most economical and general description of this relationship is one that uses the Moving Time metaphor.

The account that I present in terms of metaphor here is compatible with the idea that abstraction is involved in the semantic extension from *fekk* to *fekk-e*. What makes the account in terms of metaphor necessary is that it fills in details that theories of abstraction alone would not account for. We return now to the specifics of the case in question.

The Moving Time metaphor may be used to talk about events by means of a metonymic association between an event and the Time at which it occurs. Further, experiencing a Time or event may be talked about, via metonymy and implicature, in terms of being at the place at which the Time or event occurs when it occurs. (To be at the place where a Time occurs is to be alive at that time.)

The Moving Time metaphor:
The arrival of an (inanimate) object at a reference entity *maps onto* the occurrence of a Time.

Before we see exactly how the Moving Time metaphor works in the cases of *fekk* and *fekk-e*, let us briefly review some evidence that this metaphor is independently motivated for Wolof. As we do this we will also see how the metaphor works.

In the example below, the coincidence of *waxtu gas teen* 'the time to dig a well' with the present time is construed as an arrival: *waxtu gas teen* 'the time to dig a well' is metaphorically a moving object, and the present time is metaphorically a physical reference entity.

(10) a. *waxtu gas teen* {agsi/ñów} *na*
hour dig well {arrive/come} 3PERF
'The time has arrived/come to dig a well.'

This next example shows a different stage in the same metaphorical construal: a Time that has arrived keeps going and eventually passes.

b. *jooytu* *GRADES* *weesu* *na*
complain grades go.beyond 3PERF
"Complaining about grades has gone beyond."
'The time to complain about grades has passed.'

Next, we examine a particular use of *fekk* that exploits the Moving Time metaphor.

(11) Mover Q-goal Location
a. *benn* *waxtu* fekk *na* *ko* *fa*
one hour FEKK 3PERF 3OBJ there.
"One o'clock came across her/him there."
'S/he was there at one o'clock.' ('One o'clock found her/him there.')

Assuming that the Mover argument of *fekk* is instantiated by a metaphorically moving objet in examples like (11a) , example (11a) is exactly parallel to (1a) above. Both examples have the structure [Mover *fekk* Q-goal (in) Location], with the meaning that the Q-goal was in some location when the Mover arrived there. If the Mover is a Time, the expression means that the Q-goal was in the relevant location when that time occurred. In all cases (metaphorical and non-metaphorical) the arrival itself is presupposed, and the fact that the Q-goal was in the location at the time of arrival is asserted.

The moving object role in the Moving Time metaphor corresponds to the Mover role in the valence of *fekk*. The presuppositional structure of *fekk* can be exploited to show that the reference entity in the Moving Time metaphor corresponds to the Location role (rather than the Q-goal) in the valence of *fekk*. Consider the following example.

(11) Mover Q-goal Location
b. *benn waxtu* fekk-*u* *ko* *fa*
one hour FEKK-NEG 3OBJ there.
"One o'clock didn't come across her/him there."
'S/he wasn't there at one o'clock.' ('One o'clock didn't find her/him there.')

In example (11b) it is presupposed that one o'clock in fact occurred, and asserted that a particular person was not in a particular place at that time. Given that the occurrence of a Time is depicted metaphorically as an arrival, it must be the arrival of a Mover at a Location, because there is no Q-goal available to serve as

the Ground Element at which an arrival could occur. This semantic structure is parallel to that of (11c), a Source domain example, in which the arrival of the Mover (Samba) at the Location (*waañ wa* 'the kitchen') is presupposed.[3]

		Mover		Q-goal		Location		
(11)	c.	*samba*	fekk-*ul*	*bool*	*ba*	*ca*	*waañ*	*wa*
		Samba	FEKK-NEG	bowl	the	LOCPREP	kitchen	the

'Samba didn't come across the bowl in the kitchen'. The bowl was not in the kitchen when Samba got there. This example presupposes that Samba went to the kitchen.

2.1. How fekk-e *fits into the picture*

The verb *fekk-e* fits into the picture in the following way: The semantics of *fekk-e* is based on a special case of the semantics of *fekk*. The subset of semantic possibilities of *fekk* that serves as the basis from which *fekk-e* is extended is crucially structured by the Moving Time metaphor.

Anything that can be said with *fekk-e* can be roughly paraphrased with *fekk*. This idea is illustrated in (12) below. An important property of this paraphrase relationship is that the grammatical object of *fekk-e* corresponds to the subject of *fekk*. This is illustrated by the acceptability of (12a-b) as opposed to the unacceptability of (12c): the unacceptability of (12c) illustrates the idea that a constituent that denotes a point or period in time can be the object of *fekk-e* but not the object of *fekk*. This issue is taken up in more detail below.

What *fekk-e* and the relevant uses of *fekk* crucially have in common is that (i) each construes the occurrence of an event as the arrival of a Mover at a Location, and (ii) each construes an Experiencer as a Q-goal present at a location that corresponds to the Location in (i). I will offer explicit evidence for these claims after completing this descriptive overview.

In the examples below, *fekk* and *fekk-e* encode the same or almost the same objective scenario. The notion of co-location is pragmatically determined relative to a particular context. It does not depend in this case on whether or not the observer is inside the car. (Brackets indicate syntactic constituency.)

(12) Mover

a.	*[ba*	*mu-y*	*dugg*	*ci*	*oto*	*bi]*	fekk
	when	3SUBJ.DUR	enter	LOCPREP	car	the	FEKK

Q-goal	Location
na	*ma*	*fa*
3PERF	1OBJ	there

"[When s/he was getting into the car] came across me there." 'I was there when s/he was getting into the car.' (Physical movement is not what licenses *fekk* here.)

	Q-goal		Mover				
b.	fekk-e	*naa*	*[ba*	*muy*	*dugg*	*ci*	*oto*
	FEKK-E	1PERF	when	3SUBJ.DUR	enter	LOCPREP	car
	bi]						
	the						

'I was there when s/he was getting into the car (and thus experienced the event).'

		Mover	Location	Q-goal		
c.	*fekk	*naa*	*fa*	*[ba*	*muy*	*dugg*
	FEKK	1PERF	there	when	3SUBJ.DUR	enter
	ci	*oto*	*bi]*			
	LOCPREP	car	the			

intended: "I came across when s/he was getting into the car there."

'I was there when s/he was getting into the car.' (This example illustrates the idea that a constituent that denotes a Time cannot be the object of *fekk*.)

In (12), the event of getting into the car is presumed to have occurred, and this presupposed occurrence corresponds metaphorically (via the event-Time metonymy) to the presupposed arrival inherent in the lexical semantics of *fekk* as described in general terms above. (It is important to remember that it is the occurrence of an event, and not physical movement, that satisfies *fekk*'s lexical requirement for a Mover in these examples.) Given this metaphorical structure, the remaining aspects of the interpretation of (12a) result directly from the lexical semantics of *fekk* and the ordinary functioning of Wolof grammar: it is asserted that the referent of *ma* '1OBJ' was at the location denoted by *fa* 'there' when the Mover arrived (i.e., when the event happened). *Fa* 'there' is understood to refer anaphorically to the place at which the event occurred. This place is understood in context to be the place of the occurrence of the event contained in the sentence's subject, *ba muy dugg ci oto bi* 'when she was getting into the car'. Thus the overall interpretation of the sentence is 'I was there (at the place where she was getting into the car) when she was getting into the car.'

In (12b), which exemplifies *fekk-e*, the same frame elements play essentially the same roles as in (12a), but there are two important differences: (i) Whereas the location in (12a) is encoded as *fa* 'there', an argument of *fekk*, and is interpreted semantically according to the way *fa* is integrated into the sentence as a whole, in (12b) the location is lexically specified by *fekk-e* as the location where the event happened. (ii) Whereas it would be possible to contextually construe (12a) in such

a way that the referent of *ma* '1OBJ' did not experience the event even though she was there, the corresponding role in (12b) is lexically specified as an Experiencer.

I am now in a position to answer the question that we started out with, namely "How do we get a verb that means 'to experience an event or Time' (i.e., *fekk-e*) from a verb that means 'to become co-located with something/someone somewhere' (i.e., *fekk*)?" The derivation of *fekk-e* from *fekk* consists of the conventional association with the lexeme *fekk-e* of the following ways of instantiating the frame elements of *fekk/fekk-e* (i.e., the elements of the semantic frame that is common to *fekk* and *fekk-e*).

Correspondences in the semantics of fekk-e

1. The Mover participant corresponds to a Time. (This is a metaphorical correspondence.)
2. The Location participates in two correspondences:
   a. In the first, the Location corresponds to the Ground Element relative to which a Mover arrives in the metaphorical construal of the occurrence of a Time; i.e., the reference entity in the Moving Time metaphor. (This is a metaphorical correspondence.)
   b. In the second, the Location corresponds to the place where an event or Time occurs.[4] (This is a conventionalized implicature.)
3. The Q-goal corresponds to an Experiencer.
4. The fact of someone's being at the location corresponds to that person's experiencing an event or Time. (This is a conventionalized implicature.)

These correspondences are all among the possibilities for what can satisfy the lexical requirements of *fekk*. But they are the only possibilities for satisfying the lexical requirements of *fekk-e*.

Since the goals of this paper depend on the claim that the Mover role of *fekk-e* is instantiated by a Time, I shall now turn to demonstrating this claim.

We have seen that *fekk-e* takes two arguments, an Experiencer and a Stimulus. I have been claiming that the Experiencer role is associated with the Q-goal role, and the Stimulus role is associated with the Mover in the frame semantics of *fekk/fekk-e*. It is by means of the Moving Time metaphor that whatever constituent satisfies the Stimulus requirement also satisfies the Mover requirement. This is possible because the Stimulus is a Time or event. The analysis of the Stimulus role as being instantiated by a metaphorical Mover provides a straightforward account of how the Stimulus role of *fekk-e* fits in to the frame semantics of *fekk/fekk-e* and why the Stimulus argument must denote a Time or event. If the Stimulus role were associated with the Q-goal, the requirement that the Stimulus be a Time or event would remain mysterious.

A second reason to believe that the Mover subject of *fekk* corresponds to the Stimulus object of *fekk-e* has to do with a comparison of the presuppositional structures of *fekk* and *fekk-e*. Examples (13a-b) below are negative counterparts to

examples (12a-b) above. The crucial fact to be noticed is that both (13a) and (13b) presuppose that a particular event occurred.

(13) Mover
a. *[ba muy dugg ci oto bi]*
when 3SUBJ.DUR enter LOCPREP car the
Q-goal Location
fekk-*u-ma* *fa*
FEKK-NEG-1 there
"[When s/he was getting into the car] didn't come across me there."
'I wasn't there when she got into the car.'

Q-goal Mover
b. fekk-e-*wu-ma* *[ba muy dugg ci oto*
FEKK-E-NEG-1 when 3SUBJ.DUR enter LOCPREP car
bi]
the
'I didn't experience (i.e., 'witness') her getting into the car.'
This example maps an arrival onto the occurrence of the Time someone got into a car, just as in (13a) above.

We have seen above, in connection with the argument that the reference entity in the Moving Time metaphor corresponds to the Location in the frame semantics of *fekk* (examples [11a-c]), that a presupposed occurrence of a Time is encoded by the presupposed arrival of the Mover at the Location in *fekk* constructions. The same argumentation is applicable to the examples in (12) and (13). The claim here is that *fekk-e* constructions encode the occurrence of a Time or event in the same way that *fekk* constructions do. Observe that in examples (13a-b) the *fekk-e* construction presupposes the occurrence of an event just as the *fekk* construction does, and that the Experiencer in the *fekk-e* construction does not arrive at the location. Since *fekk-e* cannot encode the occurrence of a Time or event in terms of the motion of an Experiencer, the only way to code it (aside from my proposal) would be to metaphorically construe the occurrence of an event as the static presence of an entity (i.e., a Q-goal) in a location, but this is unlikely since metaphors generally seem to consistently map like schematic structure onto like schematic structure, so it would be odd to find a metaphor that construed change (in this case, the occurrence of an event) as static location (cf. Lakoff 1993, Sweetser 1988).

The other alternative to the analysis proposed here would be to say that the fact that *fekk-e* presupposes the occurrence of an event or Time has nothing to do with its frame semantics, and that *fekk-e* is not semantically related to *fekk* in any

interesting way. This alternative would be unsatisfactory in light of the evidence presented in this paper of the relatedness of *fekk* and *fekk-e*.

A final argument against treating the Experiencer role of *fekk-e* as associated with the Mover takes into account a broader view of how temporal metaphors work in Wolof. Let us for a moment ignore the problem of how *fekk-e* would encode or not encode the presupposed occurrence of an event, and entertain the hypothesis, which I am arguing against, that the Experiencer role of *fekk-e* is associated with the Mover. If this were the case, we would need a theory of metaphorical movement for the Experiencer, because the semantics of *fekk-e* does not specify physical movement (cf. example [2]). Such a metaphor would have to construe experiencing an event or Time in terms of the Experiencer arriving at a location. Because a Time is one of the things that can be the Stimulus in a *fekk-e* construction, the hypothetical metaphor we are considering would have to be compatible with the Moving Ego metaphor in Wolof. A Moving Ego metaphor construes sequencing in terms of people moving forward and becoming co-located with Times, rather than Times moving to locations as in Moving Time.

Below, (14) exemplifies a Time as Stimulus in a *fekk-e* construction.

(14) *fekk-eel* *déwén*
FEKK-E.IMPER next.year
'Be there for next year!' I.e., 'Survive until next year' (A seasonal statement of good wishes).

At this point, let me summarize the two alternatives being considered:

(i) The position I am arguing against says that *fekk-e* constructions construe the experiencing of Times and events in terms of metaphorical movement of the Experiencer, and that his/her arrival at a location corresponds to the occurrence of a Time or event.

(ii) The position I am arguing for is that the semantics to syntax mapping of *fekk-e* is inverted with respect to that of *fekk*, and that *fekk-e* constructions are structured by the Moving Time metaphor exactly as *fekk* constructions are.

The examples in (15) below, though somewhat more complex, are parallel to the examples in (12) above (except for their polarity). What is crucially different about the examples in (15) below is that the unacceptability of the (c) example cannot be explained as merely syntactic; this is because the main clause in (15c), *fekk-uloo ko fa* 'you didn't come across it there', is perfectly acceptable in isolation. What makes it unacceptable in (15c) is that *ko* '3OBJ' has the same content as the clause *ba muy taa* 'when it was pooling'. The examples in (15) show that a constituent that signifies a time, such as a *ba/bi* 'when' clause, can be the object of *fekk-e* but not of *fekk*, and that the restriction is semantic. Thus, either (i) or (ii) above can account for the data. That is, regarding the relationship between *fekk* and *fekk-e*, either there is a different metaphorical construal with the same syntax, or different syntax with the same metaphorical construal.

(15) (*taa* is a verb whose relevant sense here is 'gather into a pool' [intransitive].)

		Mover			Q-Goal
a.	*ndox mi*	*[ba muy*	*taa]*	fekk-*u*	*la*
	water the	when 3SUBJ.DUR	pool	FEKK-NEG	2OBJ

Location
fa, kon-boog bu ko xuus.
there therefore NEG 30BJ wade
"The water when it was pooling didn't come across you there: therefore don't wade in it."
'You weren't there when the pool was forming, so don't wade in it.' The syntactic subject of *fekk* is *ba muy taa* 'when it was pooling.'

	Q-Goal		Mover		
b.	*ndox moo*	fekk-e-*wul*	*[am*	*taam]*	*bu*
	water 2REL	FEKK-E-NEG	INDEF	pooling.GEN	NEG

ko xuus
30BJ wade
"Water whose pooling you weren't there for: don't wade in it."
'Don't wade in puddles whose formation you weren't there for (and didn't experience).' (Proverb [Cisse *et al.* 1982: 65]) The object of *fekk-e* is *am taam* 'its pooling.'

					Mover	Q-Goal
c.	**ndox*	*mi*	*[ba muy*	*taa]*	fekk-*uloo*	*ko*
	water	the	when 3SUBJ.DUR	pool	FEKK-2NEG	3OBJ

Location
fa
there
intended: "You didn't come across the water there when it was pooling."
(*ko* '3OBJ', the object of *fekk*, signifies the same content as *ba muy taa* 'when it was pooling'.) This example is unacceptable because a consituent with purely temporal content cannot be the object of *fekk*.

The argument that (ii) must be the case is based on the overall structure and behavior of Moving Time and Moving Ego metaphors in Wolof. Whereas virtually any event or Time can be the denotation of the grammatical object of *fekk-e*, only certain kinds of events or Times can be ground elements in metaphors that construe people as moving so as to become co-located with events or Times (i.e.,

metaphors that construe people as moving forward in time as in a Moving Ego metaphor).

Example (16) below is a typical *fekk-e* construction. Its grammatical object *xuloo* denotes a quarrel. (Example [5a] above shows that [16] is paraphrasable by a *fekk* construction, as expected.)

(16) fekk-e *na* *xuloo* *ba*
FEKK-E 3PERF quarrel the
'S/he was there for the quarrel (and thus experienced it).'

We see in example (17a) that *xuloo* 'quarrel' is perfectly felicitous as the moving entity of a Moving Time metaphor.

(17) a. *ba* *xuloo* *ba* weesoo, *ñépp*
when quarrel the go.beyond.COND, everybody
a *nelaw*
PARTICLE sleep
"When the quarrel had gone beyond, everybody slept."
'When the quarrel was over, everybody fell asleep.'

b. #*ba* *ñu* weesoo *xuloo* *ba*, *ñépp*
when 1PL go.beyond.COND quarrel the, everybody
a *nelaw*
PRT sleep.
"When we had gone beyond the quarrel, everybody slept."
intended: 'When the quarrel was over, everybody fell asleep.' (as in [a] above)

c. *bi* *ñu* weesoo *tabaski*, *ci* *la*
when 1PL go.beyond.COND Tabaski, LOCPREP FOC
suma *taaw* *bi* *juddu*
my first.child the be.born
"When we went beyond Tabaski at [that time] is when my first child was born."
'It was after Tabaski (a major holiday) that my first child was born.'

The verb of the first clause in (17a) functions also in Moving Ego metaphors, as we see in (17c), in which the Ground Element, Tabaski, is a major holiday. But we see in (17b), that *xuloo* 'quarrel', under normal contextual assumptions, cannot be the Ground Element of a Moving Ego metaphor.

The reason *xuloo* 'quarrel' cannot be the Ground Element of a Moving Ego metaphor is that the Ground Element of such a metaphor must be locatable in some framework independently of the construction in which it occurs. *Tabaski*, a major holiday, meets this criterion because its location in the yearly cycle is common

knowledge in the speech community, but a quarrel, under normal assumptions does not.

The point is that constituents that function as the Stimulus argument (grammatical object) of *fekk-e* are not subject to the same restrictions as are Ground Elements of Moving Ego metaphors in Wolof, and this is a good reason to reject the hypothesis that the Experiencer of *fekk-e* might be a Mover which metaphorically moves relative to a Ground Element denoted by *fekk-e*'s Stimulus argument. On the other hand, the properties of Figural Entities in Moving Time metaphors are compatible with the properties of constituents that occur as the Stimulus argument of *fekk-e* -- virtually any Time or event can be a Figural Entity (Mover) in certain kinds of Moving Time metaphor, just as virtually any Time or event can be the Stimulus argument of *fekk-e*. Thus, the most reasonable assumption is that the Mover in the frame semantics of *fekk/fekk-e* is associated with the Stimulus argument (and grammatical object) of *fekk-e*.

What I hope to have shown at this point is that *fekk-e* is structured by the Moving Time metaphor in the same way that certain uses of *fekk* are, and that an adequate account of the derivational relationship between *fekk* and *fekk-e* requires a description of the role of the Moving Time metaphor in the semantics of both verbs. In the case of *fekk-e* there is a conventional association of the lexeme with the metaphor.

3. Different Uses of *fekk* and a Different Path of Semantic Extension

In this section we will examine some uses of *fekk* that we have not seen until now. One purpose of this section is simply to give a more complete report of the facts, although there will still be *fekk* constructions that I will not mention. Another purpose is to reveal a path of semantic extension that is different from the one we examined in the previous sections, and contrast the two types of semantic extension. The endpoint of the extension that we will see in this section is an instance of grammaticalization in the sense of Heine et al. 1991, and Hopper and Traugott 1993. Although the family of uses that I explore in this section deserves a full treatment in its own right, at present it will only be possible to provide a brief overview of the situation as a complement to the discussion in the preceding sections.

The data in (18) exemplify a "grammaticalization chain" in the sense of Heine et al. 1991. These sentences exemplify a range of uses of *fekk* in which (a) - (d) are not grammaticalized and (f) - (g) are grammaticalized. Example (e) is analyzed as an intermediate case. What makes the data in (18) a grammaticalization chain is the gradual shading from non-grammatical to grammatical use/meaning. (Cf. Munro and Gaye 1991 for data similar to that in [18b-e].)

(18) a. *samba* fekk *na* *bool* *ba* *ca*
Samba FEKK 3PERF.SUBJECT bowl the LOCPREP
waañ *wa*
kitchen the
'Samba came across the bowl in the kitchen.'

b. *bi* *ñu* *ñów-ee* *fekk* *na* *ñu* *ko*
when 3PL.SUBJ come-COND FEKK PERF 3PL 3OBJ
muy *jàng* *benn* *téere*
3SUBJ.DUR read one book
'When they came, they found her/him reading a book.'

c. *bi* *ñu* *ñów-ee* *fekk* *na* *ñu*
when 3PL.SUBJ come-COND FEKK PERF 3PL
muy *jàng* *benn* *téere*
3SUBJ.DUR read one book
'When they came, they found her/him reading a book.'

d. *bi* *ñu* *ñów-ee* *fekk* *na* *ñu* *mu*
when 3PL.SUBJ come-COND FEKK PERF 3PL 3SUBJ
dem
go
'When they came, they found her/him gone'

e. *bi* *ñu* *ñów-ee* *fekk* *na*
when 3PL.SUBJ come-COND FEKK PERF[3SING]
{mu *dem/* *muy* *jàng* *benn* *téere}*
{3SUBJ go/ 3SUBJ.DUR read one book}
"When they came, it found her/him {gone/reading a book}."
'When they came it happened that s/he was {gone/reading a book}.'

f. *fekk* *na* *booba,* *nit* *ña* *jóge*
FEKK 3PERF that.time, people the come.from
tool *ba* *gis* *ndew* *fa* *ko* *biram*
farmland UNTIL see Ndew where 3OBJ Biram
woccoon
abandon.PAST
'By that time, the people had come back from work and seen Ndew where Biram had left her.' [Kesteloot and Mbodj 1983: 115; my translation]

g. *fekk,* *fab* *na* *fetal* *gi* *ag* *béjjën* *ub*
FEKK take 3PERF rifle the with horn PD.INDEF
dóom *bi* ...
gunpowder the
'By that time, she had gotten the rifle and the horn of gunpowder ...' [Kesteloot and Mbodj 1983: 125; my translation]

The example in (18a) (repeated from [1]) is what I am considering a canonical non-grammaticalized example because it is the most thoroughly grounded in physical experience and provides a source from which all the other uses that I know of can be extended. Example (18b) differs from (18a) in that (18b) has a constituent denoting an *activity* filling the grammatical role that I have been calling locational complement. Let us call this grammatical role the "third complement." In (18b) the third complement is *muy jàng benn téere* 's/he reading a book'. It is reasonable to think of this as a semantic extension via a metaphor whereby a location maps onto an activity. Such a metaphor is exemplified by the English sentence, *I'm* in the middle of *washing the dishes*, where an activity is metaphorically construed as a location, and the person who is doing the activity is metaphorically construed as being in that location, as indicated by the phrase *in the middle of*. Following is a Wolof example of the same metaphor, where the notion 'during the conversation' is expressed as 'inside the conversation'.

(19) ... ci-biir *waxtaan wi gëléem angi gàddu bopp*
inside conversation the Camel PRSV hold head
bi di xool penku...
the AUX stare east
'During the conversation, Camel was holding his head and star ing to the east....' [Caam 1989: 45. My translation.] (Camel is one of the participants in the conversation.)

In example (18c), *fekk* takes only two complements, though semantically there are still three participants: the Mover (Experiencer), the Q-goal, and the activity.

In (18d), *fekk*'s two complements correspond to two frame participants: a Mover (Experiencer) and a situation.

It is reasonable to hypothesize that what we see in (18a) through (18d) is a progression due to a gradual pragmatic reinterpretation of contexts whereby the *situation* depicted by the two nonsubject complements (Q-goal and location or activity) in the canonical valence comes to be understood by speakers as more salient than the participants themselves, and *fekk* is reanalyzed in these contexts as a two-argument verb with an Experiencer/Mover as subject, and a situation as its only nonsubject complement. One of the things that conditions this reinterpretation is the presence of a device such as the *bi/ba* 'when' clause, e.g. *bi ñu ñówee* 'when they came', which sets the stage for the *fekk* expression. The *bi/ba* clause has the form [*bi/ba* PRONOUN VERB-*ee*], where the "Conditional" suffix *-ee* marks a clause that denotes a condition or setting against which the main clause is interpreted. This contextualization is one thing that distinguishes the examples under discussion in this section from examples like **Samba fekk na bool ba* 'Samba *fekk* 3PERFECT bowl', intended to mean that Samba found a bowl, but unacceptable because they lack a locational complement (cf. Section 1.2.).

I analyze the uses of *fekk* in (18b) through (18e) as a development towards grammaticalization because there is a semantic shift away from focus on the interaction among participants in people's experiences and towards a focus on the state of the narrative at a given point. This analysis is justified only in the presence of examples like (18f) and (18g) in which *fekk* is actually grammaticalized.

In (18e) *fekk* shows a clear symptom of grammaticalization: decategorialization (Heine et al. 1991, Hopper and Traugott 1993). That is, *fekk* no longer agrees in number with the third person plural antecedent *ñu* 'they'. This use of *fekk* exemplifies an intermediate stage in the grammaticalization chain.

In (18f), *fekk* shows further loss of category features: while it appears with the third person pronoun *na*, it is unaccompanied by any complements.

Finally, in (18g) *fekk* appears, completely lacking inflection or complementation, as a sentential adverb translatable as 'by that time'. At this point, let me summarize the characteristics of the use of *fekk* in (18g) that indicate that it is grammaticalized. My criteria for grammaticalization are adapted from Brinton 1995, Heine et al. 1991 (especially p. 15), and Hopper and Traugott 1993.

(a) Decategorialization: *fekk* in (18g) has lost the inflectional and complement-taking properties that would allow it to be identified as a verb.
(b) Reduced propositional content and increased specialization: Rather than expressing the rich semantics that we have seen exemplified elsewhere, *fekk* in (18g) merely codes a sequential relationship between events in a narrative. It has become specialized to a text-organizing function.
(c) Fixed position: In uses such as that in (18g) *fekk* seems to be restricted to pre-clausal position. This contrasts to the usual case for verbs in Wolof, which can appear in various positions depending on the syntactic construction into which they are incorporated.

Let us call the family of uses from (18b) - (18g) that we have just examined "Narrative *fekk*." Even though not all these uses are grammaticalized, they can be grouped together based on their text-organizing function. Let us contrast this group of uses with the uses of *fekk* and *fekk-e* that we examined in sections 1 and 2. We can define this group as including *fekk-e* and those uses of *fekk* which can participate in the type of paraphrase relation with *fekk-e* that we examined above. Let us call this group the *fekk/fekk-e* type. The following contrasts can be observed between the two categories.

Whereas Narrative *fekk* is used in constructions that presuppose the occurrence of a stage in a narrative and assert that a particular state of affairs obtains at that stage, *fekk/fekk-e* constructions presuppose the occurrence of an event or Time and assert the presence or absence of an Experiencer at the place of the occurrence. This contrast is highlighted by the contrasting ways the *bi/ba* 'when' clause (if present) is used in the two types of construction: In the Narrative *fekk* construction, the *bi/ba* 'when' clause contains a verb marked by the Conditional

-ee suffix. The clause precedes and creates an environment for *fekk* and its complements. In the *fekk/fekk-e* type of construction, the *bi/ba* clause contains a verb marked by the Durative *-y* suffix, and the clause is one of the arguments of *fekk* or *fekk-e*.

4. Conclusions

In sections 1 and 2, I argued that an understanding of the conventional association of the Moving Time metaphor with the lexeme *fekk-e* is crucial to an account of its semantic relation to the verb *fekk*, from which it is derived. In Section 3, for purposes of comparison, I presented an account of a path of semantic extension that contrasts with the one presented in Sections 1 and 2. I have called the contrasting semantic categories the *fekk/fekk-e* type vs. the Narrative *fekk* type.

The first hypothesis I would like to advance is tentative because I did not examine the metaphorical structure of the Narrative *fekk* type in any detail, but at this stage of the investigation it seems that metaphor plays a significant role in the Narrative *fekk* type as well as the *fekk/fekk-e* type. Therefore, I do not think that we should attempt to make a theoretical distinction for this data between semantic extension that does vs. does not involve metaphor.

There is, however, a distinction to be made between semantic extension that proceeds via gradual context-induced reinterpretation (cf. Heine et al. 1991) as is the case with Narrative *fekk*, vs. extension that involves a non-gradual alteration in grammatical organization, as is the case with the derivation of *fekk-e* from *fekk*. This change is non-gradual in that there are no intermediate stages between the semantic-role/argument-structure configuration that characterizes *fekk* and the one that characterizes *fekk-e*. For example, there is nothing that is intermediate between the Q-goal object of *fekk* and the Q-goal/Experiencer subject of *fekk-e*. The semantic and morphological processes of derivation are parallel discrete steps.

Thus, *fekk* participates in two different processes of semantic extension, both of which have to do with metaphor. One of these involves grammaticalization while the other involves morphological derivation. The differing characteristics of the two cases of extension are consistent with what is known generally about grammaticalization vs. morphological derivation. Whereas the role of metaphor in grammaticalization has received attention previously (Heine et al. 1991; Hopper and Traugott 1993; Sweetser 1988), the role of metaphor in morphological derivation is, as far as I know, a new topic of inquiry.

Endnotes

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1. The following abbreviations have been used in glossing the data:
   1 First person. (Numerals in glosses refer to grammatical person.); AUX auxiliary; COND conditional; DUR durative; FOC focus marker; GEN genitive; HORT hortative; IMPER imperative; INDEF indefinite determiner; LOCPREP locative preposition; NEG negative;
   OBJ object; PERF perfect; PD possessed; PL plural; PRSV presentative; REL relativizer; SING singular; SUBJ subject.
   Examples are transcribed according to the official Senegalese transcription system (cf. Fal et al. 1990). Correspondences between the Senegalese system and the International Phonetic Alphabet are listed below, with the Senegalese symbol on the left and its IPA equivalent on the right. In all cases not mentioned, the Senegalese symbol has the IPA value.

   i = i u = u
   é = e ë = ə ó = o
   e = ɛ a = a o = ɔ
   à = (a more open [a])
   ñ = ɲ, j = ɟ, y = j

   Capital and lower case symbols have the same value. Geminates are indicated by doubling the symbol in question except for *q*, which represents [q:].
2. In many cases I use the pound-sign (#) to mark unacceptable strings. I use the pound-sign instead of the star (*) in these cases because the unacceptability in question stems from matters of conventional construal rather than grammatical structure *per se*. For example, if the bowl in (3b) were understood to be a sentient being, the example would be okay. The star marks unacceptability that has to do with grammatical structure.
3. I am using the word *presuppose* in the sense of 'presuppose in a default context'.
4. The place where a Time occurs is simply the world.

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Conceptual Blending: The Afrikaans Verbs *doen* 'do' and *maak* 'make'

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1. Introduction

According to Lyons (1968: 456) "there are many words that are commonly regarded as lexical items whose application is so general that they might well be treated as grammatical 'dummies' in 'deep' syntactic analysis: e.g. *come/go*, *person*, *thing*, *event*, etc.". Similarly, the Afrikaans verbs *doen* 'do' and *maak* 'make' may qualify to be classified as *dummy* verbs or *empty* verbs.

From a cognitive point of view it would be difficult to substantiate this claim, especially when one considers Langacker's (1990: 16) view in this regard: "It is of course a fundamental tenet of cognitive grammar that all grammatical units have some kind of conceptual import." Furthermore one has to take into account that these verbs function on a non-salient level of categorisation (superordinate category) to enable the speaker to be more general - contrary to their hyponyms which occur on a level of categorisation which is cognitively and linguistically more salient (cf. Lyons 1968: 455, Taylor 1989: 48), providing the means to be more specific.

Against the background of these disparate views two Afrikaans verbs are examined - the verbs of action (non-stative): *doen* 'do' and *maak* 'make'. Taking into account that these verbs belong to different, but intertwined semantic categories, the discussion will focus on:

- the prototypical meanings that the two verbs respectively reveal
- the "degree of emptiness" each verb displays
- the blended nature of each verb in relation to other verbs of action, but particularly the semantic fusion between the two verbs as such

2. The Category which *doen* 'do' belongs to[1]

2.1. A few preliminary remarks on doen *'do'*

Drawing a distinction between auxiliaries and "full" verbs in English, Palmer (1987: 169) distinguishes three uses of *do*:

A. The use of do as an "empty" auxiliary, as used in:

- *negation*; compare:

(1) a. I *don't* like it.
versus
b. I ... like it.

- *inversion*; compare:

(2) *Do* you see the boy?,
the syntactic order being: auxiliary, subject , full verb.

- *code*, a term used by Firth (1968: 104), referred to by Palmer and Blandford (1939: 124-5) as "avoidance of repetition"; compare:

(3) I like it and so *do* they.

- *emphatic affirmation*, with the accent upon the auxiliary; compare:

(4) a. I *dó* like it.
versus
b. I ... like it.

Palmer (1987: 14) postulates that these auxiliary verbs are marked by what Huddleston (1976: 333) has referred to as "their 'NICE' properties", referring "to the fact that they occur with negation, inversion, 'code' and emphatic affirmation (NICE being an acronym formed from the initial consonants of these terms)."

In Afrikaans the use of *doen* 'do' as an auxiliary does not occur.

B. The use of *do* as an "empty" full verb, as seen in:

(5) What *do* you like doing?
'Waarvan hou jy om te *doen*?'

(6) It would be very foolish to *do* so.
'Dit sal baie dom wees om dit te *doen*.'

According to Palmer (1987: 169) *do* "is used here to mean nothing more than 'to act', standing for any dynamic verb", and "although this is very like the empty auxiliary it is clearly different from it."

C. The use of *do* as a full verb, as in:

(7) He *does* a lot of work.
'Hy *doen* baie werk.'

(8) I'll *do* my duty.
'Ek sal my plig *doen*.'

2.2. Examination of the Afrikaans data

In the following discussion I will concentrate on what Palmer (1987: 169) calls the uses of *do* as a full verb and an "empty" full verb. The distinction as such suggests a meaning shift from "meaningful" to "meaningless". To substantiate such a meaning shift, one should investigate the different uses of *doen* 'do'. And in this respect, the syntactic environment in which the verb usually functions should be examined.

Due to the fact that in Afrikaans *doen* 'do' is predominantly used in a transitive way[2], the meaning of *doen* 'do' will primarily be substantiated by the relevant noun phrase object, adjectival phrase or dependent clause (cf. Botha 1975 for a more comprehensive discussion).

Compare the following examples:

(9) *Hy* doen *gimnasiek*.
'He *does* gymnastics.'

(10) *Die kinders* doen *baie goed*.
'The children *do* very good.'

(11) *Hy* doen *wat hy wil*.
'He *does* what he wants.'

Next I will focus the attention on the nature of the relevant noun phrase object, adjectival phrase and dependent clause respectively, to verify the different meanings of *doen* 'do'.

2.2.1. Doen *'do' in combination with a proper noun phrase*
Compare the following example:

(12) *Die leerlinge* doen *gewoonlik net Wiskunde*.
'The pupils usually only *do* Mathematics.'

The object *Wiskunde* 'Mathematics' does not function as an *object of result* (or *effect*) (cf. Lyons 1968: 439), due to the fact that *Wiskunde* 'Mathematics' is not the result of the action described by *doen* 'do'. In addition it can be stated that *doen* 'do' cannot be replaced by a contextual synonym or hyponym without changing the meaning of the sentence. Therefore the meaning of *doen* 'do' can be

described as "action + a change of/or transfer to another state/condition" (cf. Haskell, 1973: 43), *without a resulting object*. In these instances Ponelis (1979: 209) considers the firm link between verb and object to be idiomatic in nature.

Following Lee's (1996: 392) schematic representation of the conceptual base of *make* 'maak', the prototypical meaning (conceptual base) of *doen* 'do' can be schematically represented in the following way:

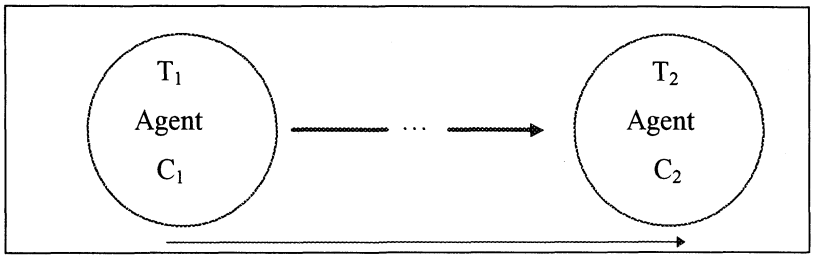


Figure 1. Schematic representation of the conceptual base of the verb doen *'do'*

At a certain point in time (T_1) the agent of the action starts his action. A certain condition/state (C_1) exists at the start of the action. The broken arrow after the agent indicates the proceeding action over a certain period of time. T_2 marks the end of the action at another point in time, while C_2 points at a new state/condition. Contrary to the prototypical meaning of *maak* 'make' (cf. *Figure 2*), a new entity or result does not come into existence at T_2 and C_2.

However, conceptual change within the meaning of *doen* 'do' takes place when the speaker (conceptualiser) opts for *doen* 'do' instead of a more specific verb (hyponym) in examples like the following, where the object noun phrase resembles an "object of result":

(13) a. *Die kinders* doen (verrig/ *lewer/ *berokken) *baie dinge*.
'The children *do* (*perform/ *furnish/ *cause*) a lot of things.'
b. *Die kinders* doen (lewer/ *verrig/ *berokken) *verslag*.
'The children *do* (*furnish/ *perform/ *cause*) (a) report.'
c. *Die kinders* doen (berokken/ *lewer/ *verrig) *skade*.
'The children *do* (*cause/ *perform/ *furnish*) damage.'

In these examples the meaning of *doen* 'do' is determined by the object noun phrase, or as Cattell (1984: 2) points out: "... the words *make*, *give*, *have*, *take*, and *do* seem semantically very 'light' ... and ... mean very little more than that a verbal action occurred. This action is spelt out in the nominal that follows."

Substitution of *doen* 'do' by the synonyms/hyponyms *verrig*/*lewer*/*berokken* 'perform'/'furnish'/'cause' in examples (13a-b) is possible because the meanings of

the succeeding nominals in a certain way disclose objects of result, although, cognitively, the resultant action is not experienced in such a strong manner that it is possible to replace *doen* 'do' with *maak* 'make', without a change in meaning. The nature of the succeeding nominals also delimits the selection of *verrig/lewer/berokken* 'perform'/'furnish'/'cause' respectively.

Turner and Fauconnier (1995: www) acknowledge the wide spectrum of conceptual blending when they state: "Blending is at work in many areas of cognition and action, including ... conceptual change." Examples (13a-c) clearly exhibit such a conceptual change within the meaning of *doen* 'do', in such a manner that the meaning of *doen* 'do' can be described as "action + a change of/or transfer to another state/condition", *with a resulting object.* It reveals a blend of "action" with "causation", but with the focus on action, or else the more specific hyponym would have been chosen.

The previously mentioned blending process (conceptual change) seemingly signals a discrepancy - if one considers the asymmetrical meaning relation between the verb *veroorsaak* 'cause' and *doen* 'do' to be strict: the meaning of *doen* 'do' is included in the meaning of *veroorsaak* 'cause', and not vice versa - due to the fact that *veroorsaak* 'cause' as hyponym occurs on a subordinate level. But this phenomenon relates to the essence of conceptual blending: the resultant structure emanates from two or more input mental spaces and it receives partial structure from the inputs (cf. Turner and Fauconnier 1995: www).

2.2.2. Doen *'do' in combination with a deverbalised noun phrase (verbal noun)*

In the following examples *doen* 'do' occurs in a *complex predicate* (a term used by Cattell, 1984: ix), where the verb *doen* 'do' and the relevant object constitute the composite predicate which correlates with a simplex predicate, the verb *doen* ('do').

(14) *Die man* doen *die bedanking/ 'n gebed/ die aankope.*
'The man *does* the acknowledgement/ a prayer/ the purchase.'

The object of the complex predicate derives from the corresponding verb in the underlying structure. *Doen* 'do' takes over the verbal function of the deep structure verb (*bedank* 'acknowledge', *aankondig* 'announce', *aankoop* 'purchase', etc.), and the meaning of the underlying verb is extended to the derived noun phrase, which becomes a "noun of action".

The objects *die bedanking/'n gebed/die aankope* 'the acknowledgement'/'a prayer'/'the purchase' result from the "action of doing" - therefore they also function as objects of result.

The speaker (conceptualiser) chooses to use the constructions with *doen* 'do' in combination with a deverbalised noun phrase, instead of the ones with *bedank* 'acknowledge', *bid* 'pray', *aankoop* 'purchase'. It allows the speaker to promote

specific actions to objects of result, with the subsequent result that conceptual blending between "action" and "causation" within the meaning of *doen* 'do' takes place, with an emphasised tendency towards causation. However, in spite of the fact that *doen* 'do' links with an object of result, it cannot be substituted by *maak* 'make'.

The composite predicate also allows the speaker to exploit the derived noun phrase in different ways (cf. Ponelis 1979: 210-213) - an action that is not possible with the corresponding verb in the underlying structure; for instance:

(a) He can quantify the noun (*bedankings* 'acknowledgements', *gebede* 'prayers', *aankope* 'purchases').
(b) The noun can be linked to different determiners (such as articles, demonstratives, possessives, quantifiers and numerals) - a cognitive strategy that is not possible with the original verb; compare the following examples:

(15) *Die man* doen *'n/ die/ hierdie/ sy/ baie/ 'n eerste gebed(e).*
'The man *does* a/ the/ this/ his/ many/ a first prayer(s).'

In these examples the meaning of *doen* 'do' necessarily includes "causation", which as a result of the noun phrase it combines with can be attributed to the fact that the speaker (a) chooses to deverbalise the particular verb, and (b) probably wants to manipulate the derived noun phrase grammatically. Therefore the meaning of "causation", absorbed in the meaning of *doen* 'do', is primarily a function of the relevant noun phrase.

Also compare the following examples in which *doen* 'do' can freely be substituted by *maak* 'make' without an obvious change of meaning:

(16) *Hy* doen/maak *'n aanval/bekentenis/belofte/berekening/beroep/studie.*
'He *does/makes* a(n) attack/confession/promise/calculation/appeal/study.'

These examples clearly illustrate that the speaker (conceptualiser) has a choice between three possibilities:

(a) He can use the underlying verb that corresponds to the deverbalised noun phrase.
(b) He can use *maak* 'make' in combination with the deverbalised noun phrase.
(c) He can use *doen* 'do' in combination with the deverbalised noun phrase.

In examples like (16) the meaning of "causation" is once more determined by the relevant noun phrase, accentuated by the fact that *maak* 'make' freely links with the deverbalised noun phrase. The selection of *doen* 'do', instead of *maak* 'make' (in these examples), indicates that the meaning of *doen* 'do' again exhibits conceptual blending between "action" and "causation". The use of *doen* 'do' sustains the view that cognitively the speaker wants to put the emphasis on action, especially when one considers it against Dowty's (1972: 64) view that "every surface activity verb consists, in underlying structure, of a predicate embedded in a higher verb DO", relevant to the superordinate/hyponym relation between *doen* 'do' and *maak* 'make'.

2.2.3. Doen *'do' in combination with an adjective or deadjectivised noun phrase*

Compare the following examples:

(17) *Die studente* doen *goed/ (beter as die skoliere).*
'The students *do* good/ (better than the pupils).'

(18) *Gerugte* doen *die rondte.*
Rumours *do* the round.
'Rumours are going round.'

(19) *Die rondloper* doen *gewoonlik baie kwaad.*
'The tramp usually *does* a lot of harm.'

(20) *Ek* doen *my bes (om hom te oortuig).*
'I *do* my best (to convince him).'

In example (17) *doen* 'do' combines with the adjective(s) *goed/beter* 'good'/ 'better'. In combination with *goed* 'good' the meaning of *doen* ('do') is reduced to "action", while the adjective merely describes the quality of the action. In combination with *beter* 'better', and also *die rondte* 'the round', *baie kwaad* 'a lot of harm' and *my bes* 'my best' the "action" again denotes "a change of/or transfer to another state/condition" - similar to the meaning of *doen* 'do' in combination with proper noun phrases. This prototypical usage of the meaning of *doen* 'do' can be ascribed to the fact that the relevant adjectives function as object noun phrases - but not as objects of result.

2.2.4. Doen *'do' in combination with pro-forms*

Compare the following example:

(21) *Mense* doen *dit dikwels.*
'People *do* it often.'

The relevant context, indicated by the object noun phrase *dit* 'it', implicates or explicates the action that *doen* 'do' refers to. A cognitive link exists between *doen* 'do' and the verb which *doen* 'do' refers to in the dependent clause. Therefore (21a) will be possible, where *dit* 'it' refers to a dependent clause with a non-stative verb: *voorgee* 'pretend'; but not (21b), where *dit* 'it' refers to a dependent clause with a stative verb: *is* 'are'.

(21) a. *Mense* doen *dit dikwels: hulle* gee voor *om siek te wees.*
'People *do* it often: they *pretend* to be ill.'
b. *Mense* doen *dit dikwels: *hulle* is *siek.*
'People *do* it often: *they *are* ill.'

2.2.5. Concluding remarks on the meaning of doen *'do'*

Pulman (1983: 107) rightly claims that "the categories - of events or actions rather than objects - named by verbs are far more complex and abstract, depending on factors which are often institutional or cultural, or to do with hypotheses about personal motives and intentions." And we could add: cognitive experience! One could, for instance, refer to the same object "rose" with words like *rose* (on the basic level), *flower* (on a higher hierarchical level), and *plant* (on a still higher hierarchical level) - frequently in accordance with the specific or generic cognitive experience the speaker has with features germane to the referent, or which he wishes to express. Accordingly it also seems plausible to use *aanval* 'attack' (basic level), *maak* 'make' (on a higher hierarchical level), or *doen* 'do' (on a still higher hierarchical level) in the same manner. But this parallel only holds when *doen* 'do' can be substituted, without restraint, by *maak* 'make' - and if the object noun phrase is a verbal noun; compare example (16), for instance. In those instances where *doen* 'do' exhibits a meaning of "causation", without the possibility of substitution by *maak* 'make', the subordinate/superordinate relation between *maak* 'make' and *doen* 'do' does not necessarily come into existence; compare example (13), for instance. In this regard we can go along with Pulman's (1983: 109) hypothesis that verbs are not organised in a matter parallel to nouns.

As a result of the foregoing discussion we can conclude: as a pro-form for any "verb of action" *doen* 'do' denotes "action" (cf. Dowty 1972: 64). Accordingly *doen* 'do' exhibits "action + a change of/or transfer to another state/condition" (compare Figure 1) as a central or prototypical meaning, extended to "action + a change of/or transfer to another state/condition, *with a tendency toward a result* ..." (compare examples [13a-c]); and "action + a change of/or transfer to another state/condition, *with a strong tendency toward a result* ..." (compare examples [16]). Consequently the meaning of *doen* ('do') as such cannot be regarded as "empty": it is confined by the relevant syntactic environment (in which the speaker often chooses it to function, in accordance with his experience of the nature of a blending process which takes place between "action" and "causation").

3. The Category which *maak* 'make' belongs to

Lyons (1968: 439) postulates that "any verb that has as its object an 'object of result' might be appropriately described as an 'existential causative'" - and he further points out that "the most common 'verb' in English that falls into this class is *make*."

According to Lee (1996: 393), Lyons (1977: 438-452) demarcates first-order entities ("they are located ... in ... a three-dimensional space; and ... are publicly observable"), second-order entities ("events, processes, states-of-affairs, etc.," which "occur or take place, rather than ... exist per sé") and third-order entities ("abstract entities such as propositions, which are outside space and time") which can come about through the process of making. In spite of the specific nature of the object of result (entity) of *maak* 'make', he regards the main characteristic of the verb *make* in its prototypical sense to be: "a new entity is brought into being through purposeful activity on the part of a volitional entity." Accordingly he schematises the conceptual base of *make* 'maak' as follows (cf. Lee 1996: 392):

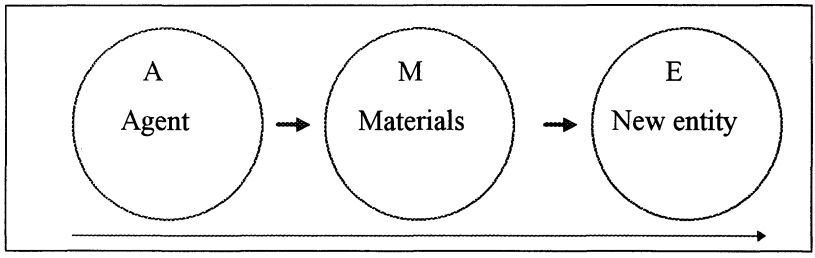


Figure 2. Schematic representation of make

3.1. The syntactic environment of maak *'make'*

To be able to focus on the blending nature of *maak* 'make', I will not restrict myself to first-order, second-order and third-order entities in relation to *maak* 'make'. As it was the case with *doen* 'do', I will focus on the relevant syntactic environments which determine the meaning of *maak* 'make'.

3.1.1. Maak *'make' in combination with a proper noun phrase*

Compare the following examples:

(22) *God het die mens* gemaak.
'God *made* mankind.'

(23) *Die man* maak *'n stoel/klere.*
'The man *makes* a chair/clothing.'

(24) *Die man* maak *geld/ oorlog.*
'The man *makes* money/ war.'

(25) *Die man* maak *koffie/ beswaar.*
The man *makes* coffee/ objections.
'The man *makes* coffee/ *raises* objections.'

Considering examples (22) and (23), *maak* 'make' can be substituted by *geskape* 'created', *konstrueer* 'construct', *vervaardig* 'fabricate', etc. - verbs denoting "the coming about of (physical) objects"; thus a strict causative. In this sense *maak* 'make' exhibits its central or prototypical meaning (cf. Lee 1996: 393). Although the speaker has a choice between *maak* 'make' and the verb denoting a more specific meaning of "causation", namely *skep* 'create', in example (22), the link between verb and object in (23) is rather firm, due to the idiomatic nature of the relevant construction (cf. Ponelis 1979: 208-213). In these instances (example [23]) *maak* 'make' discloses a rooted causative meaning: "the coming about of (physical) objects".

Example (24) also suggests a firm idiomatic link between *maak* and *geld* 'make' and 'money' and *maak* and *oorlog* 'make' and 'war'; thus, revealing the meaning: "coming about of objects, but not strictly in the physical sense of the word". Metaphorical extension of a causative meaning from a physical to a non-physical domain takes place.

Example (25) reveals the meaning: "coming about of objects, physical (*koffie* 'coffee') or non-physical (*beswaar* 'objections')" - but the idiomatic link between *maak* 'make' and the relevant objects is not that firm. *Maak* 'make' can be replaced by *voorberei* 'prepare' and *opper* 'raise', respectively - denoting more specific causative actions in relation to the relevant objects. The selection of *maak* 'make', therefore, becomes a cognitive strategy on behalf of the speaker.

3.1.2. Maak *'make' in combination with a deverbalised noun phrase (verbal noun)*

Compare the following examples:

(26) *Die pasiënt* maak *goeie vordering.*
'The patient *makes* good progress.'

(27) *Die speler* maak *'n fout.*
'The player *makes* a mistake/ a fault.'

As it was the case with *doen* 'do', in these examples *maak* 'make' occurs in a *complex predicate* (cf. Cattell 1984: ix), where the verb *maak* 'make' and the relevant object constitute the composite predicate which correlates with a simplex predicate, the verb *maak* 'make'. Consequently, the object of the complex predi-

cate derives from the corresponding verb in the underlying structure. *Maak* 'make' takes over the verbal function of the underlying verb (*vorder* 'progress', *fouteer* 'fault', etc.), and the meaning of the underlying verb is extended to the derived noun phrase, which becomes an object of result, but also a noun of action - the object being the result of an action.

When we compare *doen* 'do' and *maak* 'make' in this respect, a very similar picture emerges, although d*oen* 'do' and *maak* 'make' are not interchangeable in the relevant examples:

Table 1. Resulting verbal nouns with doen *'do' and* maak *'make' respectively*

	Resulting objects noun of action/object of result
doen 'do' 'make'	*die bedanking* 'the acknowledgement' **maak 'n gebed* 'a prayer' *die aankope* 'the purchase'
maak 'make' **doen* 'do'	*goeie vordering* 'good progress' *'n fout* 'a mistake'/'a fault'

Against this background we can claim that the priority of semantic focus concerning the resulting objects in the corresponding constructions with *doen* 'do' and *maak* 'make' differs:

- In the case of *doen* 'do' the noun of action has precedence over the object of result, due to the fact that *doen* 'do' cannot be substituted by *maak* 'make'.
- In the case of *maak* 'make' the object of result has precedence over the noun of action, due to the fact that *maak* 'make' cannot be substituted by *doen* 'do'.

3.1.3. Maak *'make' in complement constructions*

Lee (1996: 397) points out that the verb *make* can fit into different grammatical categories. He postulates that "the different categories result from profiling aspects of the conceptual base." The following discussion will focus on the grammatical pattern that he describes as "Subject + *make* + Object + Complement", and which Du Plessis (1974) calls a *complement verb construction*. The discussion will not be focused on a detailed subdivision of the different complements (cf. Du Plessis 1974, Lee 1996: 403-409, Ponelis 1979: 214-215 for a detailed outline).

Compare the following examples:

(28) *Hy* maak *die kinders sleg.*
He *makes* the children *bad.*

(a) 'He speaks ill of the children.' or
(b) 'He *causes* the children to *become* bad.'

(29) *Hy* maak *die stoel heel.*
He *makes* the chair *intact.*
(a) 'He repairs the chair.' or
(b) 'He *causes* the chair to *become* intact.'

(30) *Hy* maak *die neute* stukkend.
He *makes* the nuts *in pieces.*
(a) 'He cracks the nuts.' or
(b) 'He *causes* the nuts to *become* pieces.'

Meanings (28a) and (28b) explicate the ambiguous meaning of *maak* 'make' + *sleg* 'bad': verb + particle/complement. Meaning (28a) refers to *maak* 'make' in a so-called *particle construction* (compare note[1]), while (28b) reveals *maak* 'make' in a *complement verb construction*: *maak* 'make' being the *complement verb*, while *sleg* 'bad' functions as *complement of the verb* (also compare [29] and [30]). Used as *complement verb constructions*, two blending actions occurred in (28), (29) and (30), denoted by the verbs *cause* and *become*, also blended in the synonymous verbs *speak ill*, *repair* and *crack*, respectively.

One has to observe that the objects of *maak* 'make' existed prior to the action, referred to by *maak* 'make', took place - therefore they are not objects of result. But the objects of *maak* 'make' undergo a change (it can be a change in nature, time, place, etc.). The *complements of the verb* specify the nature of the changes, respectively - and therefore distinguish the different circumscribed causative meanings of *maak* 'make' in every instance. The speaker (conceptualiser) has a choice between the use of *maak* 'make' as a complement verb, or the more specific verbs (*praat sleg* 'speaks ill', *herstel* 'repairs', or *kraak* 'cracks'), describing the factual causative action. Opting for the complements he also cognitively opts for a more precise description of the outcome of the causative actions. Although these constructions exhibit the meaning of "causation", it can be reduced to some extent: if the speaker chooses to use (30a) instead of (30), for instance.

In these examples *maak* 'make' does not exhibit a prototypical meaning: the exertion of some force by an agent on some material with the result that the material is changed into a new entity (cf. Lee 1996: 392). The fact that the objects just change their nature - therefore new entities do not come into existence - suggests that a conceptual change in the meaning of *maak* 'make' takes place. (The objects existed prior to the time that the action, denoted by *maak* 'make', took place). Although the causative action is consequently restrained in some sense, *maak* 'make' cannot be substituted by *doen* ('do') in examples (28), (29) and (30).

3.1.4. Maak *'make' in combination with pro-forms*
Compare the following examples:

(31) a. *Die koue weer is onplesierig.*
'The cold weather is unpleasant.'
b. Die koue weer is nie so onplesierig as wat jy dit maak/*doen *nie.*
'The cold weather is not as unpleasant as you *make/*do* it.'

Example (31b) is an answer to (31a). With regard to (31b) we have to observe that in its anaphoric use the pro-form refers to a noun phrase which was already mentioned (*dit* 'it' refers to *die koue weer* 'the cold weather'), while *maak* 'make' refers to the verbal phrase of (31a): *is onplesierig* 'is unpleasant'. By uttering (31b), and using the verb *maak* 'make', the speaker (conceptualiser) implicitly regards (31a) to be a judgement of value that was "made" (came about through the process of making). In this regard Lee (1996:396) talks about entities that do not exist objectively, "but they come into existence in the mind of the subject of the sentence through the process construed as 'making'".

Also compare (32a-c):

(32) a. *Wat* doen/maak *hy?*
'What does he *do/make*?'
b. *(Hy* bou*) 'n vliegtuig.*
'(He *builds*) an aeroplane.'
c. 'n Vliegtuig.
'An aeroplane.'
d. *Hy* voer *die voëls.*
'He *feeds* the birds.'

The pro-form can also refer to a clause/full sentence (with a verb of action + an object of result/without an object of result) in the underlying structure, or to the reduced sentence (object of result): *Wat* 'What' refers to (32b) (clause/full sentence), or (32c) (reduced sentence: object of result), or (32d) (clause/full sentence).

In example (32a) *maak* 'make' can be substituted by *doen* 'do' with the meanings of (32b) (clause/full sentence) and (32d) (clause/full sentence) still acceptable. The reduced sentence (object of result) (32b) will not be acceptable as an answer to (32a), if *maak* 'make' is substituted by *doen* 'do', due to the fact that *doen* 'do' refers to the action of the relevant sentence, while the reduced sentence (object of result) in (32c) presupposes a *verb of causation*: *maak* 'make'. Contrary to (32b), where the verb *bou* 'builds' suggests an object of result, the verb in (32d) (*voer* 'feeds') reveals zero causation in its meaning, although it refers back to *maak* 'make', or *doen* 'do'. This shift in meaning (conceptual change) is also exemplified

by (33) and (34), where the relevant dependent clause determines the meaning of *maak* 'make':

(33) *Hy* maak/*doen *of hy slaap.*
He *makes*/**does* if he sleeps.
'He pretends to be asleep.'

(34) *Hy* maak/ doen *wat hy wil.*
'He *makes*/ *does* what he wants.'

A cognitive link exists between *maak* 'make' and the action which *maak* 'make' refers to in the dependent clause. Therefore the choice between *maak* 'make' and *doen* 'do' (in [34]) depends on the conception of the relevant action by the speaker: whether he conceives of it only as an action, or he visualises something that comes into existence (in his mind) as a result of the action.

4. Concluding Remarks on the Meanings of d*oen* 'do' and *maak* 'make'

The fundamental difference between the meanings of *doen* 'do' and *maak* 'make' is usually attributed to the presence or absence of the meaning of "causation" in the relevant verb of action. The meaning of *maak* 'make' presupposes the meaning of *doen* 'do' within its meaning domain. Dowty (1972: 64) postulates: "(E)very surface activity verb consists, in underlying structure, of a predicate embedded in a higher verb DO", where "DO must be understood as ... (an) 'abstract verb of agency'." In this regard he refers in taxonomic terms to a "unique beginner" (cf. Pulman 1983: 107), a verb of which all other activity verbs are hyponyms. Demarcating the meanings of *doen* 'do' and *maak* 'make', Haskell (1973: 43) makes the following observation: "(T)he aspectual element of *tun* '*do*' is [+action]", therefore *doen* 'do' refers to "action + a change of/or transfer to another state/condition". However, she finds it difficult to identify a single term to refer to the aspectual properties of *maak* 'make', but outlines the meaning of *maak* 'make' as follows: "It must be described as indicating that an O (object) (specified or unspecified) is in the middle or at the end of a transition whose specific goal is the V of the sentence."

No reference is made of the blending of "action" with "causation". Against the background of our examination of the meanings of the two verbs the overlapping nature of the two verb categories was apparent - contrary to the hyponymy view which suggests that the meaning of *maak* 'make' is included in the meaning of *doen* 'do', but not vice versa: causation implies action, but action does not necessarily imply causation; compare (31) and (32).

Inasmuch as *doen* '*do*' exhibits an increase in the degree of force of causation (from no causation to some degree of causation; compare [12], [13], and [16]), it appears as if the meaning of *maak* 'make' shows an opposite tendency, namely:

(a) causation of a physical object (of result); compare example (23);
(b) metaphorical extension of its meaning - to causation of a non-physical object of result; compare example (24);
(c) reduction of the degree of force of causation - to such an extent that the relevant verb can easily be replaced by *doen* 'do'; compare example (34).

The increase of the meaning of "causation" within the meaning of *doen* 'do', linked to the decrease of the meaning of "causation" within the meaning of *maak* 'make', indicates conceptual change: conceptual blending between "action" and "causation" within the meanings of the Afrikaans verbs *doen* 'do' and *maak* 'make'. Taking this into account, it does not seem plausible to accept that the relevant Afrikaans verbs are devoid of meaning - therefore: "empty" verbs. Apart from its prototypical use, the alternated use of the appropriate verbs (whenever applicable) depends largely on the conception of the object by the speaker (conceptualiser): whether he (conceptually) experiences the object only as a noun of action, or conceives of it as something that comes into existence (in his mind) as a result of the action; therefore an object of result. And this conception does not indispensably and systematically relate to second-order and third-order entities, due to the fact that the ontological status (and therefore: the conceptual status) of second-order and third-order entities are sometimes controversial (compare Lyons' [1977: 445] example of the derived nominal *John's arrival*, that can refer to either a second-order or third-order entity). First-order entities, in the sense that they are regarded as common concrete nouns, would rather occur with *maak* 'make' instead of doen 'do'.

Endnotes

1. Constructions in which *doen* ('do') links with a specific particle, such as *aandoen*, *opdoen*, *indoen*, etc., where the relevant particle dramatically modifies the meaning of *doen*, are not considered. It also counts for the verb *maak* ('make'), for instance: Sy *maak* vrugte *in*, with the literal translation: 'She *makes* fruit *in*', meaning: "She causes fruit to go into containers"; thus: "She cans fruit." Lee (1996: 415) discusses these kind of patterns as "phrasal verbs with *make*".
2. Haskell (1973: 42) mentions Vater's observation in connection with the German verbs *machen* and *tun*: that they always require an object, even when they replace an intransitive verb.

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The Spanish Copulas SER and ESTAR

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The purpose of this paper is to decompose the type of relationship the Spanish copulas *ser* and *estar* establish between subject and attribute, so as to bring out the differences between them.[1] The focus is exclusively on the constructions with adjectival attribute, since these constitute the most problematic area for usage. Limitations of space make it impossible to show that the other constructions, e.g. with adverbial phrase or past participle, are also subject to the same alternation. Since the classical distinctions often involve metaphysical explanations that fail to provide a satisfactory account of the difference between examples with *ser* and with *estar*, such as *ser feliz* (1a) vs. *estar feliz* 'be happy' (1c), it seems convenient to part with the burden of tradition first (Section 1), before moving on towards an alternative analysis (Section 2).

All examples are authentic; their full references are given at the end. The asterisk signals that the alternation is unacceptable in the given context; the sign ↗ marks its pragmatic inappropriateness.

(1) - *Quiero aprender a ser [(1a)/*estar] feliz, a estar [(1b)/*ser] contento conmigo mismo. Encontrar la paz. Respetarme. Estoy encontrando mi equilibrio, ¡y me siento tan agradecido! ¡Tengo tantas ganas de disfrutar de la vida! Supongo que es el momento de escribir la mejor música que nunca haya escrito. Estoy [(1c)/*soy] feliz, sobrio, delgado y enamorado, ¿qué más puedo pedir?* (Elton John in EPS 16.04.95/42)
(I-) want learn to be happy, to be satisfied with-me self. Find the peace. Respect-me. (I-) am finding my equilibrium, and me (I-) feel so grateful! (I-) have so-many desires of enjoy of the life! (I-) suppose that (it-) is the moment of write the best music that never (I-) have written. (I-) am happy, sober, slim and in-love, what more can (-I) ask?
'I want to learn to be happy, to be satisfied with myself. Find peace. Respect myself. I am finding my equilibrium, and I feel so grateful! I so much want to enjoy life! I suppose that it is the moment of writing the best music I ever wrote. I am happy, sober, slim and in love, what else can I ask?'

1. Traditional Approaches

The most familiar of the traditional pitfalls is the commonly invoked opposition between *ser,* which is said to express a permanent quality in the subject (*cualidad permanente en el sujeto*), and *estar,* which relates to a transitory quality in the subject (*cualidad transitoria en el sujeto*). This distinction is found, e.g., in Bello (1951), García de Diego (1951), Roca Pons (1958), and many others. Immediately, however, we come across counterexamples, e.g. (2).

(2) *Eso de que nos envían luz [las estrellas] es un camelo del Servicio Meteorológico - afirmó el capitán -. Están [/*son] muertas y bien muertas desde hace millones de años.* (JM 77)
That-NEUTER of that to-us (they [= the stars]-)send light is a story of-the Service Meteorological - affirmed the captain -. (They-) are dead and well dead from (it-) makes millions of years.
'The idea that they [the stars] send us light is a story of the Meteorological Service - said the captain -. They are dead and well dead for millions of years.'

Since there is nothing more permanent than the state of being dead, the above dichotomy makes us expect to find *ser*. Yet, *estar* is the only possible form. There are also cases that go the other way around, e.g. (3).

(3) *Digamos que conocí a la gente adecuada y empecé a pensar que quizá el sueño no era [/*estaba] disparatado. Pasaron los años y se hizo realidad, mucho más de lo que imaginaba.* (Elle 102, March 1995/32)
(Let-us-)say that (I-)knew to the people adequate and (I-) began to think that maybe the dream not was absurd. Passed the years and REFL 3SG make reality, much more than that that (I-) imagined.
'Let us say that I got to know the adequate people and I began to think that maybe the dream was not absurd. The years passed and it became reality, a lot more than I had imagined.'

A dream is, by definition, something evanescent. Therefore, according to the rule, *estar* is expected. Again, however, only *ser* is admitted. From this it appears that the "permanent" versus "transitory" distinction does not lead to a correct understanding of the usage of *ser* and *estar*.

What about the scope of another, also currently invoked formulation? Authors such as Hanssen (1945), Gili Gaya (1955), and with him the latest edition of the grammar of the Royal Spanish Academy (R.A.E. 1991), define the opposition in the following terms: *ser* is used for an "inherent" situation (*situación inherente*), *estar* for an "acquired, contingent and circumstantial" state (*estado adquirido, con-*

tingente y circunstancial). Yet, it is worth asking what can be called "inherent" about the attributions of example (4).

(4) - *¿Y a las estrellas hay que mentirles?*
- And to the stars it-is-necessary that lie-to-them?
- 'And to the stars, one has to lie?'
- *Pues un poco como a los reyes. ¿Cuál será el problema de Juan Carlos y Sofía? Pues que están rodeados de gente que les está diciendo todo el rato lo guapos que son [(a)/*están], lo listos que son [(b)/*están] y lo reales que son [(c)/*están]. Y probablemente ellos lo que están deseando es que alguien les lleve a tomar unos vinos a un bar.* (Fernando Trueba in EP 16.04.95/23)
- Well a bit like to the kings. Which will-be the problem of Juan Carlos and Sophia? Well that (they-) are surrounded by people that to-them is saying all the time the beautiful that (they-) are, the smart that (they-) are and the royal that (they-) are. And probably they that what (they-) are wanting is that somebody to-them take to have a-few wines at a bar.
- 'Well a bit like to the kings. What could be Juan Carlos and Sophia's problem? Well, that they are surrounded by people who are telling them all the time how beautiful they are, how smart they are and how splendid they are. And probably, what they want is that somebody takes them out to have a few glasses of wine at a bar.'

The context of example (4) indicates that the court is doing its very best to assure the kings that they indeed possess a series of qualities, precisely because it can be assumed that beauty, smartness and splendor are not necessarily inherent qualities.

To complicate matters, the very adjectives that precisely signify "contingency" or "circumstance" never take *estar*: *accesorio* 'accessory', *aleatorio* 'random', *casual* 'casual', *cirunstancial* 'circumstantial', *contingente* 'contingent', *eventual* 'eventual', *precario* 'precarious', *transitorio* 'transitory', etc., are always construed with *ser*, e.g. (5).

(5) *En qué estaba pensando, me pregunto hoy, ya instalado como él entonces en la certeza de que todo es [/*está] transitorio y es lo mismo, la máscara y la cara, el sueño y la vigilia,* [...] (JM 174)

In what was(-he) thinking, to-me (I-) ask now, already installed like him then in the security of that everything is transitory and is the same, the mask and the face, the dream and the vigil
'About what was he thinking, I ask myself now, already installed like him at that moment in the security that everything is transitory and is the same, the mask and the face, the dream and the vigil'

In order to account for these examples, some linguists argue that *ser* defines "an intrinsic and objective quality" (*una cualidad intrínseca y objetiva*), whereas *estar* describes "an extrinsic, subjective and relative quality" (*una cualidad extrínseca, subjetiva y relativa*). This distinction is proposed, amongst others, by Bouzet (1945) and Vañó-Cerdá (1982). To see whether it is adequate, let us analyze passage (6).

(6) - *Tengo personas que me quieren mucho, como yo les quiero a ellos. A Nacho y a mi familia los cuido, para mí tienen mucho valor.*
- (I-) have persons that me love much, like I to-them love to-them. To Nacho and to my family them (I-) care, for me (they-) have much value.
- 'I have persons who love me a lot, like I love them. I take care of Nacho and my family, for me they have much value.'

(6a) - *Para usted, como persona, ¿es [(a)/*está] bueno que la encierren en una cárcel de oro?*
- For you, as person, is good that you (they-) lock-up in a jail of gold?
- 'For you, as a person, is it good that they lock you up in a golden jail?'

(6b) - *No estoy [(b)/*soy] encerrada en una cárcel de oro...*
- Not (I-) am locked-up in a jail of gold...
- 'I am not locked up in a golden jail...'

(6c) - *Cárcel entre comillas.*
- 'Jail between quotes.'

(6d) - *"Cuando alguien te quiere, si tiene que ser [(c)/↗estar] duro contigo, es [(d)/↗está] duro.* (Penélope Cruz in EPS 09.04.95/28)
- When somebody you loves, if (he-)has to be rough with-you, (he-)is rough.
- 'When somebody loves you, if he has to be rough with you, he is rough.'

It is clear that the question of the interviewer "is it good" *¿es bueno?* (6a) is situated in a subjective perspective: "for you" *para usted*. The answer also insists on the relative and conditional character of the matter: "when he loves you" *cuando te quiere* and "in case he has to be rough" *si tiene que ser duro* (6c-d); yet, the interviewee also uses *ser*. If in (6a) *es bueno* "is good" is the only possible formulation in the given context, it is not because what is at stake is an intrinsic or objective value, but because the interviewer categorizes a state of affairs, viz. "living locked up in a golden jail" *vivir encerrada en una cárcel de oro*, with respect to other possible situations that he does not explicitly consider. This does not at all imply that the evoked state of affairs would be permanent or definitive. As far as the answer is concerned (6c-d), the sign ↗ indicates that the alternative *estar* is also acceptable, but would convey a meaning that does not fit the actual context as well as *ser*. Attention is not drawn to the subject: "somebody" (*alguien*) indeed remains vague and unidentified. What is highlighted is the *type* of attitude one can

adopt towards her: she does not say that he indeed treats her in a rough way, but that she knows that he would if there were reasons to do so.

Anyway, we are far away from the supposedly intrinsic and objective qualities that *ser* is assumed to evoke. The situation is further confounded by the fact that the same properties may also show up with *estar*, as in (7).

(7) *[...] tiene, más que nada, presentimientos o intuiciones de que muchas enfermedades están [(a)/*son] en la cabeza, en la mente: o brotan de ella. Ah, la esposa está [(b)/*es] enferma: paralítica de las piernas, pero sin pruebas clínicas.* (EP 09.04.95/30)
(he-) has, more than nothing, presentiments or intuitions of that many illnesses are in the head, in the mind: or stem from her. Ah, the spouse is ill: paralytic of the legs, but without proofs clinical
'he has, more than anything else, presentiments or intuitions that many illnesses are in the head, in the mind: or stem from it. Ah, the spouse is ill: her legs are paralyzed, but without clinical evidence.'

In (7), the paralysis that affects the protagonist of Arthur Miller's play is objective, intrinsic and permanent. This does not prevent it from being characterized by means of *está enferma* "she is ill". The reason is that the text focuses on the *state* she happens to be in, and not on the category of people to which she might belong (that of the ill, in particular, of the paralyzed people).

It is thus about time to abandon the idea that *estar* signals a state of affairs "susceptible of changing" (*susceptible de cambio*) as Navas Ruiz (1963) puts it. For a last illustration of the inadequacy of the traditional account, we can take (8) and (9).

(8) *Hablaba del Diablo, precisamente, al que llamaba Lucifer, Perro, Can y Belcebú, de las catástrofes y crímenes que causaba en el mundo y de lo que debían hacer los hombres que querían salvarse. Su voz era [/*estaba] persuasiva, llegaba al alma sin pasar por la cabeza, e incluso a un ser abrumado por la confusión, como él, le parecía un bálsamo que suturaba viejas y atroces heridas.* (VL 39)
(He-) spoke of-the Devil, precisely, to-the-one that (he-) called Lucifer, Dog, Cane and Belcebub, of the catastrophies and crimes that (he-) caused in the world and of it that had-to do the men that wanted save-3PL REFL. His voice was persuasive, reached to-the soul without (to-) pass through the head, and inclusive to a being troubled by the confusion, like he, to-him (it-) seemed a balsam that soothed old and atrocious wounds.
'He spoke of the Devil, precisely, whom he called Lucifer, Dog, Cane and Belcebub, of the catastrophies and crimes he caused in the world and of what people who wanted to save themselves had to do. His

voice was persuasive, it reached the soul without passing by the head, and even to someone troubled by confusion, like him, it seemed a balsam that soothed old and atrocious wounds.'

In (8), Vargas Llosa evokes the persuasive character of the preacher's voice during his sermon. Even within the limited setting of the sermon, the value judgement originates in the hearer and is subject to change. Moreover, it is evident that the preacher's way of speaking is not constant, either. Instead of being considered "persuasive" (*persuasiva*), his voice could also have been qualified as *convincente* 'convincing', *seductora* 'seductive', *severa* 'severe'. Irrespective of the modifier, it is always *ser* that has to be used in this context.

In (9), the nutritionist explicitly states that our relationship towards the food has changed. Again, *ser* cannot be replaced by *estar*.

(9) *C. Wayne Callaway, endocrino especialista en desórdenes nutricionales, se alegra de que hoy nuestra relación con la comida no sea [/*esté] tan severa como lo ha sido [/*estado] recientemente.* (Elle 102, March 1995,194)
C. Wayne Callaway, endocrine specialist in disorders nutritional, REFL 3SG-rejoices of that now our relation with the food not be as severe as it has been recently.
'C. Wayne Callaway, endocrine specialist in nutritional disorders, is glad that nowadays our relation with food is not as inflexible as it used to be.'

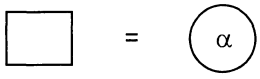
In sum, the antonymic concepts generally adduced by grammars and textbooks do not only turn out to be insufficient and inadequate, but they moreover fail to receive a straightforward definition. The traditional approach relies on the controversial assumption that there is a sufficient ontological basis to decide whether we are speaking about permanent or essential qualities, that are inherent to the subject, or whether something is a matter of transitory, accidental qualities that are extrinsic to the subject entity.

2. An Alternative Analysis

In view of the problems noted, we have to explore another approach. To start with, the inventories of adjectives preferred with *ser* or *estar* will not be of great help, either, since the lexicalization of the semantic difference remains limited to some forty adjectives.[2] The fact that adjectives such as *alto* 'high', *atento* 'attentive', *bueno* 'good', *cómodo* 'comfortable', *limpio* 'clean', *vivo* 'animated', among others, are understood differently depending on whether they are construed

with *ser* or with *estar*, shows that it is the verb that determines the global interpretation.

It, therefore, seems more promising to decompose the type of subject-attribute relationship that is at stake. On the subject side, we find entities (which can be animate beings, things, abstract notions). On the side of the attribute, we have qualities. In the remainder of the paper capitals are used to symbolize the entities (X, Y, Z) and quadrangles for their schematic representation. The adjectival attributes, on the other hand, are referred to by means of Greek characters (α, β, etc.) and their domain is represented by a circle. Both with *ser* and with *estar* the attributive construal expresses a relationship of the type represented in Schema 1.

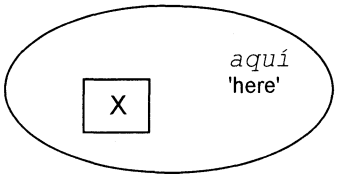


Schema 1. The attribution of a quality to an entity

If the meaning of the construal were algebraic in nature, we would not see any difference between *ser feliz* 'be happy' (1a) and *estar feliz* (1c), etc. However, if we admit that *ser* and *estar* are not vacuous grammatical devices, this implies that each imposes a distinct conceptualization on the relation between X and α.

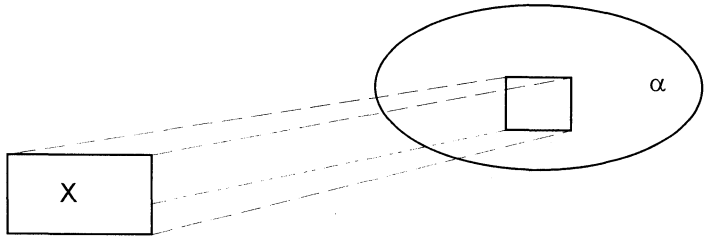
2.1. Estar*: localization and identical referent-bound comparison (X/X)*

Estar has basically a spatial meaning.[3] Dictionaries associate *estar* with *andar* 'walk', *aparecer* 'appear', *caer* 'fall', *encontrarse* 'find oneself', *entrar* 'enter', *hallarse* 'find oneself', *quedar* 'remain', *sentirse* 'feel oneself', etc. From the absolutely construed *¿Está Juana* 'Is Jane?', for instance, one automatically infers that the given person must be where the addressee is. When the location is not given by the speech situation, the information is provided by spatial indications, e.g. *está en la cabeza* '(it-) is in the head' (8a). This can be rendered by an inclusion relationship, as shown in Schema 2.



Schema 2. Spatial inclusion expressed by estar

When an adjectival complement appears instead of a spatial one, we have an extension of the basic spatial conceptualization. By metaphorical extension, the adjectival attribute is conceived of as if it were a mental space, a domain in which the subject entity is located. The anchoring of X in the domain of α can be visualized as in Schema 3.



Schema 3. Inclusion of X in the domain of α by means of estar

Between X and α there is an inclusion relationship: X is contained in the domain of α, yet not by physical, material coincidence, but by projection: X is seen as associated with the "state" α. There is no other reference point but the proper X, and it is seen exclusively against the background of α. On our mental screen we do not see anything but entity X framed by α.

The view of X that surfaces at the moment at which the utterance is referring to, it can be opposed to other views of the same X. Indeed, X can appear to us at another moment, either in the same frame or in another frame. The *hic et nunc* instantiated by the utterance can, but need not, be different from what precedes and follows the given situation: the temporal development of the given event is, in fact, not given by the *estar* construal, but can often be derived from contextual and pragmatic cues. The *estar* as the 'being' of X *in the given state*, can also be situated at the level of "objective" reality, as opposed to the level of imaginary reality, for instance. The contrastive state may vary. What remains is that *estar* exclusively relates the attribution to a given moment, making abstraction of what could apply outside the boundaries of the predication. If it is legitimate to speak of a comparison, it is a comparison between X and X, i.e., a comparison that is internal to X. This is visualized in Schema 4, and illustrated by example (10).

EXPRESSION *estar*	CONTRASTIVE FRAME OF REFERENCE
X actualized	X not actualized
X now	X before / after
X in practice	X in theory
X as experienced	X as imagined

Schema 4. Estar: *what is expressed vs. what it contrasts with*

(10) *Mi opinión no ha cambiado. Estoy [/*soy] igual que antes.* (*Tiempo* 25.05.90/8)
My opinion not has changed. (I-) am equal than before.
'My opinion has not changed. I am the same as before.'

It is evident that the state expressed can be a characteristic one, permanent and definitive. This is the case of the portrait García Márquez draws of F. Castro in (11) and of the poems that Lezama Lima analyzes in (12).

(11) *Lee el inglés, pero no lo habla. En todo caso prefiere leer en castellano, y a cualquier hora está [/*es] dispuesto a leer cualquier papel con letras que le caiga en las manos.* (GAR 131)
(He-) reads English, but not it (he-) speaks. In all case (he-) prefers read in Castilian, and at any hour (he-) is disposed at read any paper with letters that to-him falls in the hands.
'He reads English, but he does not speak it. In any case he prefers to read in Spanish, and at any hour he is ready to read any with text that falls into his hands.'

(12) *Vossler señala en sor Juana, en una frase de rica resonancia, su dilletantismo intuitivo. El poeta todo está [/*es] lleno de esa adivinación que revela un asombro [...]* (LEZ 135)
Vossler signals in *sor Juana*, in a phrase of rich resonance, his dilettantism intuitive. The poet entire is full of this guessing that reveals a surprise [...]
'Vossler signals in *sor Juana*, in a phrase of rich resonance, his intuitive dilettantism. The entire poet is full of this apprehension that reveals a surprise'

There is an implicit opposition between X as instantiated within the expression, and X outside it, i.e. what is not seen, conceived or said; that opposition is situated between X (*F. Castro, el poeta* 'the poet') "in reality" and X as it was or could have been imagined or expected to be. Within the construal illustrated by (11) - (12), attribute α is not independent of entity X, but subordinated to it: we understand *dispuesto* 'ready' (11) and *lleno* 'full' (12) only by reference to X (*F. Castro* and *el poeta*). The attribution thus falls within the range of the entity. The latter is merely conceived of as "token", considered in its evolvement over time, but not linked to any "type" whatsoever.[4]

2.2. Ser: *categorization and external comparison (X/Y)*

When the attribution is expressed by means of *ser*, it relates the entity to a "type". In principle, there is no spatial meaning at the basis of the use of *ser*.[5] When *ser* is

associated with space, it does not refer to concrete entities but to events. Therefore, it combines with nouns denoting events and it is partially equivalent with verbs such as *haber* '[impersonal] to be there', *existir* 'exist', *ocurrir* 'occur', *realizarse* 'to become realized' and *producirse* 'to become produced'. Relevant here is example (13).

(13) *Cuando llegué a Madrid, tras dejar Asturias, mi primer trabajo fue [/*estuvo] en un teatro.* (*Tiempo* 05.02.1990/102, interview with Luz Casal)
When (I-) arrived at Madrid, after (to-) leave Asturias, my first work was in a theatre.
'When I got to Madrid, after leaving Asturias, my first job was in a theatre.'

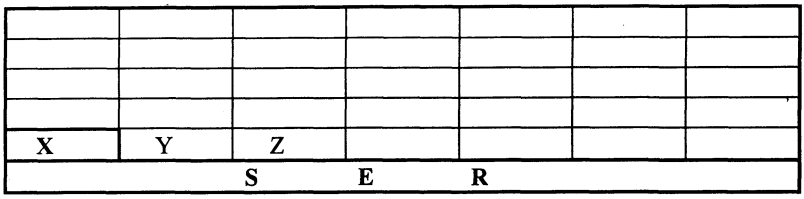
In order to state the conceptualization of entity X, the verb is actually not needed: *yo* 'I', *Elton John, Fidel Castro, el poeta* 'the poet', etc., suffice. If we add *soy* 'am', *eres* 'are', *es* 'is', we isolate the subject entity X with respect to other entities, as indicated in Schema 5.

SER		
X	versus	Y Z etc.

Schema 5. Ser: *detachment of one entity from other entities*

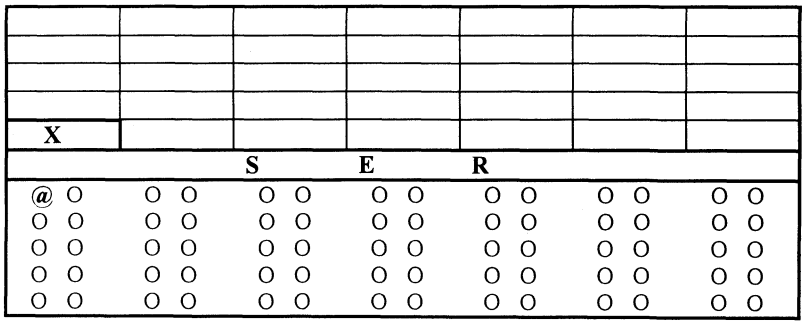
By using *ser* we automatically set off entity X with respect to entities Y, Z, etc., which can but need not be mentioned. Sometimes, the contrastive information is brought in by the context, as in (14). This is shown in Schema 6.

(14) *Y si te he de decir la verdad, vale más vivir de recuerdos que de esperanzas. Al fin, ellos fueron [/*estuvieron] y de éstas no se sabe si serán.* (UNA 179)
And if to-you (I-) have of (to-) say the truth, (it-) is-worth more (to-) live of memories than of hopes. At-the end, they were and of these not REFL 3SG-knows whether (they-) will-be.
'And if I have to tell you the truth, it is better to live by memories than by expectations. Eventually, the former were there and concerning the latter one does not know whether they ever will be.'



Schema 6. Ser: *not an exclusive but a comparative view*

The idea of a comparison with other entities is also present when *ser* takes an attribute. By instantiating the "type" assigned to entity X, the "token", the attribute specifies the categorization. In (1a) it is *yo* 'I' as compared to the others, in (3) *el sueño* 'the dream' as compared to reality, in (4) *los Reyes* 'the kings' as compared to stars, ministers, ordinary people, etc. This conceptualization is visualized in Schema 7.



Schema 7. Selective association of entity X and attribute α

By associating entity X with attribute α, we differentiate it in a specific manner from other entities (Y, Z, etc.). The "way of being" rendered by α qualifies entity X as belonging to a certain "type". *Ser* thus serves to categorize an entity, to signal its membership of a category. This category or class is defined by the presence of quality α, by opposition to other qualities (β, χ, etc.), which can also define other categories, although their application need not be limited to entities other than X, of course. Take (15), e.g.:

(15) - *De hecho, usted siempre ha sido [(a)/*estado] muy honesto en sus declaraciones. En 1976 no le importó confesar a Rolling Stone su bisexualidad.*

- Of fact, you always have been very honest in your declarations. In 1976 not to-you bothered (to-) confess to *Rolling Stone* your bisexuality.
- 'Actually, you have always been very honest in your declarations. In 1976 you did not mind confessing to *Rolling Stone* your bisexuality.'
- *Es [(b)*está] cierto, siempre he intentado ser [(c)/*estar] honesto. En los primeros años, sobre todo, fui [(d)/*estuve] muy sincero. Luego ... bueno, luego llegaron las drogas y me convertí en alguien muy irresponsable, pero todo eso ya ha pasado, ya no importa. Y creo que incluso es [(e)/*está] bueno hablar de ello.*
- (It-) is true, always (I-) have attempted (to-) be honest. In the first years, above all, (I-) was very sincere. Then... good, then arrived the drugs and REFL-1SG (I-) converted in somebody very irresponsible, but all that yet has passed, yet not matters. And (I-) believe that even (it-) is-good (to-) speak of it.
- 'It is true, I have always tried to be honest. The first years, above all, I was very sincere. Afterwards... well, afterwards came the drugs and I became someone very irresponsible, but all this has passed now, it does not matter anymore. And I believe that it is good even to talk about it.'
- *¿Qué recuerda de aquella época de descontrol?*
- What remember(-you) of that period of uncontrol?
- 'What do you remember about that period of lack of control?'
- *Muchas cosas, todas malas. Tomé drogas durante 16 años, fui [(f)/*estuve] excesivo en todo. Y fue una combinación desa trosa. Lo probé todo: probé el matrimonio, probé el irme a vivir a otro país, probé el suicidio, probé el intentar cambiar mi vida para ser [(g)/*estar] feliz... todo, excepto enfrentarme a la verdadera causa de mi infelicidad y de la infelicidad de los que me rodeaban: me había convertido en un drogadicto y me negaba a admitirlo.* (Elton John in EPS 16.4.1995/38)
- Many things, all bad. (I-) took drugs during 16 years, (I-) was excessive in everything. And (it-) was a combination disastrous. It (I-) tried all: (I-) tried marriage, (I-) tried the go-REFL 3SG to live to another country, (I-) tried the suicide, (I-) tried the (to-) attempt (to-) change my life in-order-to be happy... everything, except (to-) confront- REFL-1SG to the true cause of my infelicity and of the infelicity of those that me surrounded: REFL-1SG (I-) had converted in a drug-addict and REFL 1SG negated to admit-it.
- 'Many things, all bad. I took drugs for 16 years, I was excessive in everything. And it was a disastrous combination. I tried every thing: I tried marriage, I tried going to live in another country, I

> tried suicide, I tried attempting to change my life in order to be happy... everything, except facing the true cause of my unhappiness and of the unhappiness of those that were around me: I had become a drug addict and I refused to admit it.'

In (15a) Elton John is categorized as belonging to the category of honest people. This implies that there are others who are dishonest. In (15b), he answers that the diagnosis is correct (*es cierto* 'it is true'); which implies that other statements about him are not correct. He goes on qualifying himself as honest (*honesto* 15c) and sincere (*sincero* 15d). He considers that it is good (*es bueno* 15e) to talk about his past. This means that he classifies the theme of the conversation among the good things, as opposed to bad or undesirable things. By admitting that he was excessive in everything (*fue excesivo en todo* 15f) he indicates that there was a time (*durante 16 años* 'for 16 years') when his behavior could be described as excessive (*excesivo*), as compared to behaviors which are not. When he says "I tried attempting to change my life in order to be happy" *probé el intentar cambiar mi vida para ser feliz* (15g), he manifests his desire to belong to the group of happy people, i.e. to get out of the group of unhappy people.

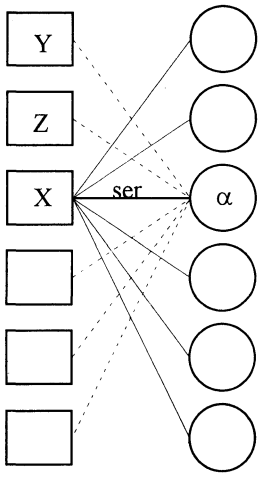
The construal "X *es* α" does not tell us whether there are other entities that belong to the same category as entity X: maybe there are, maybe there are not. This information is pragmatic in nature, and is not at stake as such. The only implication of the "X *es* α" construal is that not all the entities that are comparable to X present the same property. Regarding passage (15), we can say that the reverse of the coin of what is explicitly stated is that not all artists are honest and sincere (15a, c-d), that there are also false things being said (15b), that there are also themes that are better not talked about (15e), that there are normal, moderate behaviors (15f) and that there are unhappy people (15g).

By receiving attribute α, entity X seems to receive an identifying label: X is the "identified" and α the "identifier". This label is chosen among various possible ones. Since the attribution by means of *ser* instantiates a classifying mechanism, attribute α and entity X each preserve their conceptual autonomy. In Schema 8, I propose a visualization of this conceptualization.

Again, it is worth stressing that the *ser* construal does not contain temporal information: in order to know whether the selected characteristic is to be interpreted as stable or variable, essential or casual, intrinsic or extrinsic, one has to consult context and appeal to world knowledge. By the context of (16), for instance, we know that the comparison of *el huérfano menudo y dócil* 'the tiny and docile orphan' with the children of the women of Pombal is a temporary one.

(16) *El huérfano era [/*estaba] menudo y dócil, puro hueso y unos ojos cohibidos que inspiraban compasión a las mujeres de Pombal, las que, vez que podían, le daban algo de comer o las ropas que ya no se ponían sus hijos.* (VL 21)

The orphan was tiny and docile, pure bone and some eyes inhibited that inspired compassion to the women of Pombal, the-ones that, time that (they-) could, to-him gave something of (to-) eat or the clothes that yet not REFL 3PL-(PAST IMPERFECT) put their children.
'The orphan was tiny and docile, pure bone and shy eyes that inspired compassion in the women of Pombal, who, when they could, gave him something to eat or [gave him] clothes that their children did not wear anymore.'



Schema 8. Categorization by means of ser

In (17), the comparison between entities is clearly expressed: A. Gala compares the generosity of the Spanish State in 1990 with that of the Franco Regime. We do not know whether A. Gala still thinks this way in 1995.

(17) *Aquí todos vivimos del Estado, todos mamamos de su gran ubre, que sigue siendo [/*estando] igual que la que existía en la época de Franco.* (A. Gala, in *Tiempo* 22.10.90/185)
Here all (we-) live of-the State, all (we-) suckof its big udder, that continues being equal than the-one that existed in the period of Franco.
'Here we all live of the State, we all suck from its big udder, which is the same as the one that existed in the period of Franco.'

Both in (17) and in (16), the comparison between entities is explicitly given. This is not usually the case. Yet, by themselves many adjectives convey the idea of a comparison: their application to entity X can be understood only via reference to

other entities. This holds, e.g., for adjectives such as *importante* 'important', *determinante* 'determining', *distinto* 'different', *externo* 'external', *normal* 'normal', *raro* 'strange', etc., illustrated in (18) and (19).

(18) *Mi supuesta maña para dibujar y mi gusto por la lectura fueron [/*estuvieron] determinantes en esa decisión* (JM 12)
My supposed ability for (to-) draw and my taste for the lecture were determining in this decision.
'My supposed ability for drawing and my taste for reading were determining [factors] in this decision'

(19) *"¿Te busca la policía?", susurró ella, y él dijo: "No lo sé... Tal vez ya no. Yo no era [/*estaba] tan importante en el grupo.* [...]" (JM 55)
"To-you search the police?", whispered she, and he said: "Not it (I-) know... Perhaps yet not. I not was so important in the group."
'"Are the police looking for you?", she whispered, and he said: "I don't know... Maybe not anymore. I was not so important in the group." '

Fundamental in the *ser* construal is the establishment of a classification: the attributes *determinantes* 'determining' (18) and *importante* 'important' (19) identify the category of the subject entity. They "typify" entity X, since they assign a type to it. A lot more adjectives carry a subjacent classification, for instance, those that denote a geographic entity, e.g. *español* 'Spanish', *flamenco* 'Flemish', an ethnic group, e.g., *serbio* 'Serb', *tutsi* 'Tutsi', a cultural or political association, e.g. *sindical* 'syndical', *liberal* 'liberal', a professional or scientific discipline, e.g. *literario* 'literary', *histórico* 'historical', an artistic, ideological or philosophical movement, e.g., *expresionista* 'expressionist', *lógico* 'logical', etc. In principle, these adjectives are thus construed with *ser*, e.g. (20) and (21).

(20) *Pero ahora el humor es [/*está] preferentemente político.* (*Tiempo* 14.05.90/151)
But now the humor is preferably political.
'But now humor is preferably political.'

(21) *Según este singular parecer, los argentinos estamos como en los primeros días de la creación; el hecho de buscar temas y procedimientos europeos es una ilusión, un error; debemos comprender que estamos [/*somos] esencialmente solos, y no podemos jugar a* ser *[/*estar]* europeos. (BOR 68)
Following this singular seeming, the Argentines (we-) are like in the first days of the creation; the fact of (to-) search themes and proce dures European is an illusion, an error; (we-) must understand that

(we-) are essentially alone, and not (we-) can play at (to-) be European.
'According to this singular opinion, we, Argentines, are as in the first days of creation; looking for European themes and procedures is an illusion, an error; we have to understand that we are essentially alone, and we cannot play [at being] Europeans.'

As pointed out to me by Carmen Silva-Corvalán (personal communication), the alternative construal remains available and has been observed to be used quite regularly by some American speakers. The point I want to make, however, is that, combined with *estar*, these adjectives undergo an interpretive glide and receive a connotative, "qualitative" interpretation: whereas *ser europeos* refers to the identity of the inhabitants of the Old Continent, *estar europeos* 'be European' means "behave in such a way as to take on a European look".

3. Conclusion

The main implications of the foregoing analysis can be summarized as follows. First of all, the meaning of *estar* is fundamentally a spatial one, in the broad sense. When instead of a locative complement (*aquí* 'here', *en casa* 'at home') we find another type of complement, be it adjectival, adverbial or prepositional (*claro* 'clear', *bien* 'well', *de buen humor* 'of good humor'), we have a metaphorical extension of the spatial meaning; by mapping onto a non-spatial dimension an entity's position or location, we obtain the "state" in which the entity is found to be. Compare (22) and (23).

(22) - *[...] ¿Qué te parece? ¿Me oyes, niño? ¿Estás [/*eres] en la babia o qué?* (JM 116)
- What to-you (it-) seems? To-me (you-) hear, child? Are (-you) in the dreamland or what?
- 'What do you think? Do you hear me, baby? Are you in a dreamland or what?'

(23) *A la una de la madrugada no se ve la televisión como diversión, ni estás [/*eres] distraído con otras historias. El que está, está de verdad.* (*Cambio* 16, 19.02.90/12)
At the one of the morning not REFL 3SG-sees the television as diversion, nor (you-) are distracted with other stories. The-one that is, is of truth.
'At one o'clock in the morning people do not watch television for a distraction, nor are you absent-minded because of other stories. He who is[-present], is truly[-present].'

Estar thus allows one to formulate a phenomenological approach, whereas *ser* presents a taxonomic approach. This difference is alluded to by the famous sociologist Amando de Miguel while evoking the *sui generis* thesis of a historian:

(24) *Una propuesta que se sale de lo corriente es la del historiador Pedro Voltes. Sostiene que hay unos "modos españoles de estar", una serie de gestos que se repiten en muy distintos actores, personajes históricos de relieve, en épocas también diferentes, aunque de un modo central en la Edad Media. Quedan como un exponente del modo como los españoles se presentan ante los demás.* (AM 29)
'A proposal that exceeds the usual is that of the historian Pedro Voltes. He maintains that there are "Spanish ways of being", a series of gestures that repeat themselves in very different actors, historical personages of importance, in periods that are also different, although in a central way in the Middle Ages. They remain as an exponent of the way in which the Spaniards appear to the rest of the world.'
[...]
Lo que sí parece congelarse son las ideas que se siguen manteniendo sobre el ser colectivo de los españoles (o mejor, del "estar", para seguir con la propuesta de Voltes). (AM 32)
That what well seems (to-) freeze-REFL are the ideas that REFL 3PL-continue maintaining on (to-) be collective of the Spaniards (or better, of-the (way-of-) be, to continue with the proposal of Voltes).
'What indeed seems to freeze are the ideas that are still maintained about the *collective being* of the Spaniards (or better, of the *inner being*, to follow the proposal of Voltes).'

In (24) we read how Voltes, the historian in point, replaces the usual characterization, which is the categorizing one, by an immanent description of his subject. Instead of speaking of the *modo de ser*, i.e., the way of being as differentiated from that of other groups, he is concerned with the *modo de estar*, i.e., the Spanish way of life for the sake of itself, without reference point besides the very object under scrutiny, viz. the collectivity of the Spaniards.

Estar profiles an internal perspective (internal with respect to the subject referent), while *ser* profiles an external vantage point (external vis-à-vis the subject referent). *Estar* gives a self-sufficient view of an entity, whereas *ser* imposes a categorization. The taxonomy that corresponds to the latter often rests upon implicit, conventionalized evaluation systems; e.g. *listo* 'clever', like *inteligente* 'intelligent', is opposed to *tonto* 'stupid' or *bobo* 'dumb'. The most rudimentary systems give rise to simple antonymic series, like the ones illustrated in (25) and (26).

(25)	*(in)actual*	(un)actual	*(in)coherente*	(in)coherent
	(in)exacto	(in)exact	*(in)conveniente*	(in)convenient
	(in)dependiente	(in)dependent)	*(in)digno*	(un)worthy
	(in)eficaz	(un)efficient	*(in)formal*	(in)formal
	(in)interesante	(un)interesting	*(in)justo*	(in)just
	(i)legítimo	(un)legitimate	*(i)lícito*	(un)licited
	(i)lógico	(il)logical	*(in)moral*	(in)moral
	(in)necesario	(un)necessary	*(im)posible*	(im)possible
	(im)probable	(im)probable	*(ir)real*	(un)real
	(in)útil	(un)useful	*(a)normal*	(ab)normal

(26)	*absoluto*	absolute	*relativo*	relative
	concreto	concrete	*abstracto*	abstract
	fácil	easy	*difícil*	difficult
	hermoso	beautiful	*feo*	ugly
	inteligente	intelligent	*tonto*	stupid
	moderno	modern	*antiguo*	ancient
	profundo	profound	*superficial*	superficial
	rápido	rapid	*lento*	slow

Needless to say, the norm which these adjectives invoke, can be very subjective: what is *fácil* 'easy', *hermoso* 'beautiful', *normal* 'normal', *suficiente* 'sufficient', etc., for one, is not necessarily so for somebody else. So, the opinion of the coach of the Spanish national soccèr team, reproduced in (27), is his personal value judgement, which is not necessarily shared by the Belgian football fans, for instance.

(27) - *¿Es Uruguay el rival más difícil para España?*
- 'Is Uruguay the most difficult rival for Spain?'
- *No. Uruguay y Bélgica son [/*están] igual de difíciles. Lo que pasa es que cada uno tiene unas características distintas.* (*Tiempo* 25.05.90/8)
- No. Uruguay and Belgium are equal of difficult. That what happens is that each one has some characteristics different.
- 'No. Uruguay and Belgium are equally difficult. What happens is that each one has its own distinct characteristics.'

The least that *ser* does is to allow one to distinguish the subject entity from other comparable entities. Adjectives such as those listed under (28) do not serve any other purpose than that of isolating the subject entity. They do not evoke a particular taxonomy, but rather a norm.[6] The value of this norm becomes less vague and more distinctive only insofar as they appeal to the context or to our imagination for getting on a more concrete and specific profile.

(28) *banal* 'banal' - *característico* 'characteristic' - *desigual* 'unequal' - *diferente* 'different' - *distinto* 'distinct' - *especial* 'special' - *específico* 'specific' - *extraño* 'strange' - *extraordinario* 'extraordinary' - *idéntico* 'identical' - *ordinario* 'ordinary' - *original* 'original' - *peculiar* 'peculiar' - *propio* 'proper' - *típico* 'typical' - *trivial* 'trivial' - etc.

Therefore, utterances (29) and (30) are minimally informative. Only those who have read J. Marsé's novel *El embrujo de Shanghai* will be able to specify the smell and the behavior evoked. Out of context, all that can be said is that they ought to be distinctive, i.e., to belong to a specific category.

(29) *[...] ese olor era [/*estaba] lo bastante intenso, característico e inconfundible como para distinguirlo de otros olores* (JM 107)
that smell was the sufficiently intense, characteristic and unmistakable as for-to distinguish-it of other smells
'this smell was quite intense, characteristic and unmistakable so as to distinguish it from other smells'

(30) *El señor Franch cree que la conducta de esta pobre china solitaria y aburrida no es [/*está] propia de una mujer prudente...* (JM 152)
The mister Franch believes that the behavior of this poor Chinese lonely and bored not is proper of a woman prudent...
'Mr. Franch believes that the behavior of this poor lonely and bored Chinese woman is not proper for a prudent woman...'

Another point to be made is that it is unwarranted to look for any temporal information in the *ser* and *estar* construals as such. We have seen that neither *ser* nor *estar* inform about the definitive or reversible, permanent or temporary, expected or unexpected character of the relationship between entity X and attribute α . This information is not part of the construal itself. If it cannot be inferred from context, it remains to be derived from our world knowledge. In other words, it is not a grammatical issue, but rather a pragmatic one.

Finally, it is worth remembering that the meaning of the adjective can be specified in two ways: in case it gets instantiated exclusively via the nominal entity, the relation will be expressed by means of *estar*; this holds for adjectives such as *lleno* 'full', *vacío* 'empty', *harto* 'tired', e.g., *estoy harta* 'I am tired (of it)' in (31), triggers an internal modification, of the X/X type, and does not invoke any norm or taxonomy.

(31) - *No quiero más huevos. ¡Estoy [/*soy] harta de huevos pasados por agua!* (JM 100)
- Not (I-) want more eggs. (I-) am fed-up of eggs passed through water!

- 'I don't want eggs anymore. I am fed up with boiled eggs!'

On the other hand, when the adjective does not need the nominal entity to have its meaning fully specified, then the relationship is expressed by means of *ser*; this holds for adjectives such as *astuto* 'astute', *breve* 'brief', *eterno* 'eternal', *grato* 'gratifying', *inferior* 'inferior', *nocivo* 'noxious', *superior* 'superior'; e.g., *fue rápida* 'was rapid', in (32), establishes an external comparison, of the type X/Y, and invokes standards of comparison.

(32) *Pero la impresión fue [/*estuvo] demasiado rápida.* (JM 101)
'But the impression was too rapid.'

Actually, most adjectives have a very flexible meaning structure. Therefore, they allow either an internal or an external perspective on the entity they modify. In other words, they can give rise to an internal modification (X/X) as well as an external modification (X/Y). In the former case they combine with *estar*, in the latter with *ser*. Compare the alternating formulae with *listo* 'smart/ready' in (33)-(34), *loco* 'foolish/mad' in (35)-(36) and *viejo* 'old/well-worn' in (37)-(38).

(33) *Joaquim Franch i Casablanca fue [/*estuvo] más listo y le birló la novia, él se resignó y parece que olvidó a la rubia* (JM 75)
Joaquim Franch i Casablanca was more smart and to-him stole the girlfriend, he REFL 3SG-resignated and (it-) seems that (he-) forgot to the blonde
'*Joaquim Franch i Casablanca* was smarter and stole his girlfriend from him, he resigned himself and it seems that he forgot the blonde'

(34) - *Demasiado tarde - dijo el capitán -. Usted ya está [/*es] listo. Lo mejor que puede hacer es morirse.* (JM 93)
- Too late -said the captain -. You already are ready. The best that (you-) can do is die-REFL.
- 'Too late - said the captain -. You are ready for it. The best that you can do is die.'

(35) *Pero es poco probable, piensa, que Kruger ande por ahí, y aunque así fuera, no sería [/*estaría] tan loco como para atentar contra ella en medio de tanta gente.* (JM 123)
But (it-) is scarcely probable, (he-) thinks, that Kruger would-walk over there, and even-if so (it-) would-be, not (he-) would-be so foolish as to attack against her in midst of so-many people.

'But it is hardly probable, he thinks, that Kruger would be around, and even if he were, he would not be as foolish as to attack her in the midst of so many people.'

(36) *Cuando la conocí, hace dos años, estaba [/*era] loca por un capitán mercante que ahora trabaja para su marido...* (JM 151)
When her (I-) knew, it-makes two years, (she-) was mad for a captain merchant that now works for her husband...
'When I got to know her, two years ago, she was mad about a merchant captain who now works for her husband...'

(37) *Por eso creo que Dios, que ha de ser [/*estar] mucho más viejo y mucho más carcamal que yo, cuando me reciba allá arriba no me juzgará.* (JM 76)
For that (I-) believe that God, that has of be much more old and much more reactionary than I, when me (he-) receives there upstairs not me will-judge.
'Therefore I believe that God, who has to be a lot older and a lot more reactionary than I, will not judge me when he receives me up there.'

(38) *Es este zapato, no sé qué le pasa - lo sostenía ante sus ojos sin saber qué hacer con él, lo miraba del derecho y del revés, pero al zapato no le pasaba nada -. Está [/*Es] viejo, eso es lo que le pasa... y se habrá torcido el tacón. ¡El zapatito de Cenicienta, mira...!* (JM 67)
(It-) is this shoe, not (I-) know what to-him passes - him (she-) sustained before her eyes without know what to-do with him, him (she-) looked of-the right and of-the reverse, but to-the shoe not to-him passed nothing -. (He-) is old, that is that what to-him passes... and REFL 3SG-will-have sprained the heel. The shoe-little of Cinderella, look...!
'It is this shoe, I don't know what is happening to it - she held it before her eyes without knowing what to do with it, she looked at it from its right side and from its reverse side, but there was nothing wrong with the shoe -. It is well-worn, that's the trouble with it... and it will have damaged its heel. The little shoe of Cinderella, look...!'

Recent countings show that the alternation affects 80% of the adjectives (cf. Vañó-Cerdá 1982 and Freysselinard 1990). On the whole, however, *ser* seems to be used a lot more frequently than *estar*. I see two reasons for this difference in frequency. One reason is general, the other particular. The general reason is that speech more often serves to categorize than to describe. The particular reason is that there are units that function as subjects but are not nominal. A typical nominal

entity occupies a delimited conceptual domain, "a bounded region in some domain" as Langacker (1991: 20) terms it, which can be mapped on the spatial dimension, as is the case for objects and animates. Now, subjects that have the form of an infinitive, a nominal clause or a deverbal noun that expresses a verbal process, do not present the prototypical nominal profile. They have inherited a secondary nominal profile, but their inherent, primary profile is relational and, therefore, they can never combine with *estar*. Although they involve a reification of a processual meaning, they still lack the spatial basis needed for an internal comparison of the X/X type. It is impossible to construe this type of subject with *estar* because its base is processual and not thing-like. They cannot be captured in a snapshot, so to say. Compare (39) with (40).

(39) *Y si, indirectamente, ello explica la necesidad del creador (poeta, novelista, dramaturgo) no es [/*está] tan seguro que dicha necesidad se extienda igualmente a la existencia del crítico.* (GOY 125)
And if, indirectly, this explains the necessity of-the creator (poet, novelist, playwright) not (it-) is so sure that said necessity REFL 3SG-extends equally to the existence of the critic.
'And if, indirectly, this explains the necessity of the creator (poet, novelist, playwright); it is not so sure that the above necessity also extends to the existence of the critic.'

(40) *Un carpintero que ha construido una mesa sólida puede estar [/*ser] razonablemente seguro de que ya ha aprendido a hacer mesas, pero a un escritor nadie le garantiza que, porque haya escrito un libro, el próximo tiene que ser mejor, ni siquiera tan bueno como aquél.* (GAI 45)
A carpenter that has constructed a table solid can be reasonably sure of that yet (he-) has learned to make tables, but to a writer nobody to-him guarantees that, because (he-) has written a book, the next has to be better, nor even as good as that-one.
'A carpenter who has built a solid table can be reasonably sure that he has learned to make tables, but to a writer nobody guarantees that, because he has written a book, the next one has to be better, or at least as good as the former.'

In sum, I hope to have demonstrated that the explanation of *ser* by the X/Y comparison and that of *estar* by the X/X comparison, rests upon distinct construals of the relation between subject and attribute. These are not magic formulae to abolish a myth[7], but elements of a cognitive account corroborated by a solid empirical basis.

Endnotes

1. I owe a special word of thanks to Brygida Rudzka for her enlightening comments on the first version of this paper.
2. For didactic purposes, such a list is included in Delbecque, Masschelein and Vanden Bulcke (1995: 22-26).
3. Etymologically, *estar* proceeds from the latin *stare* 'stand', meaning 'stand still', 'stand firm'. The corresponding noun is *estado* 'state'.
4. The relevance of the "type"-"token" distinction in this respect has been suggested to me by Ricardo Maldonado (personal communication).
5. *Ser* finds its origin in the Latin *esse* 'be'; notice, however, that the forms of the future, the conditional, the present subjunctive and the imperative proceed from the Latin *sedere* 'sit'.
6. According to Falk (1979), both *estar* and *ser* would express a comparison between the referent of the subject and a norm interiorized by the speaker. For him, the difference would be that, with *estar*, the adjective would express a characteristic with respect to a norm that is conceived of at the *individual* level, whereas, with *ser*, it would be with respect to the *class* it belongs to. As I see it, the idea of a norm is not at all present when *estar* is used. And in the case of *ser*, the idea of norm only emerges indirectly, viz., through the classification. When the latter is minimal, i.e., when all the adjective does is isolate the subject entity from other possible ones, without precise previous classification, the idea of norm also fades away. In fact, the vagueness of the implied classification may even preclude any idea of norm.
7. It is hardly exaggerated to speak of a "myth" since, over the years, the *ser/estar* alternation with adjectival attribute has been endowed with rather enigmatic contents by quite a few scholars (cf. Vañó-Cerdá 1982: 1).

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The English Tense-System as an Epistemic Category: The Case of Futurity

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1. Introduction: Tense and Modality in Cognitive Grammar[1]

The existence of a pure future tense in English is contested, and Langacker's model of cognitive grammar does not explicitly deviate from the standard view that English only has two real tenses, viz. past and present. Prototypically, Langacker perceives the semantic characterization of these tenses in terms of reference to the time-line model, whereby the intervals representing the realm of known reality (i.e., past and on-going present) are attributed special status with respect to their role in the tense category. These ideas are part of cognitive grammar's "naive" view of the English tense system, which claims that the traditional way of looking at tense in terms of temporal reference is to be taken seriously, and that the central meanings of the past and present tense should indeed be seen as indicating a temporal construal of propositions vis-à-vis a deictic reference point, the time of speaking, in terms of relations of coincidence or precedence (Langacker 1991: 249-250). The diagram of the time-line model, as proposed within the framework of cognitive grammar, can be seen in Figure 1.

Langacker characterizes the semantic components of the tense predications within the framework of cognitive grammar in the following way: "In the absence of a modal, grounding predications locate the profiled process within the realm of reality, where the proximal and distal morphemes are susceptible to a temporal construal. They can therefore be regarded as tense morphemes, and in many uses, they clearly indicate that the designated process occurs in the present or in the past with reference to the time of speaking" (Langacker 1991: 250). For English, the schematic features of the two tenses, immediacy (or proximity, for the present tense) and non-immediacy (or distance, for the past tense), translate directly into the denotation of present and past time intervals. From this, it becomes clear that cognitive grammar's concerns with the predication of tense are to be situated within an approach that is mainly interested in the referential aspects of the categories at issue. However, by attributing a more general cognitive status to the terms *proximal* and *distal*, Langacker does leave open the possibility of interpreting referential distance and/or coincidence in terms of an epistemic evaluation.

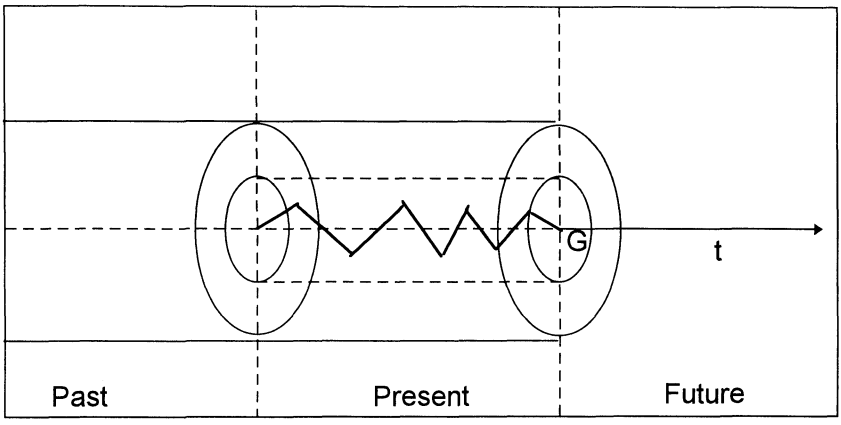


Figure 1. The time-line model (Langacker 1991: 244)

In English, futurity can be expressed, among other ways, by making use of one of two modals, SHALL or WILL, with the latter form being much more common, especially in American English and, more specifically, in spoken English. For the characterization of such modal categories, Langacker takes recourse to another diagram, depicting the dynamic evolutionary model, which incorporates temporal aspects of the model proposed for the analysis of tense and adds to this the notion of evolutionary momentum. In Figure 2, the dashed arrow represents the momentum of reality, interpreted in an evolutionary sense. Due to the inherent forces of this momentum, certain scenarios in the future tend to be selected as being more probable than others. The collection of non-preferred future paths is known as potential reality, comprising those scenarios of future or unactualized activity that are not expected to occur on the basis of previous or present experiences alone.

For the SHALL/WILL-category, specifically as an approximation of the future tense which English seems to lack, the following quote is especially relevant: "Often, evolutionary momentum is conceived as being strong enough that the future course of reality can be projected with considerable confidence (i.e. an extraordinary or wholly unanticipated input of energy would be required to push it out of its predetermined path)" (Langacker 1991: 278).[2] This section of Figure 2 is called, accordingly, projected reality. I will contend that it is this model, rather than that of the time line itself, which will suggest an adequate analysis of the English approximative WILL-construction and of grammatical constructions expressing futurity in general, whether they are morphologically realized as tense markers or as modals. Incidentally, such an approach would be compatible with Langacker's contention that a schematic analysis of all grounding elements (including the verbal predications for tense and modality) does not necessarily require the adoption of

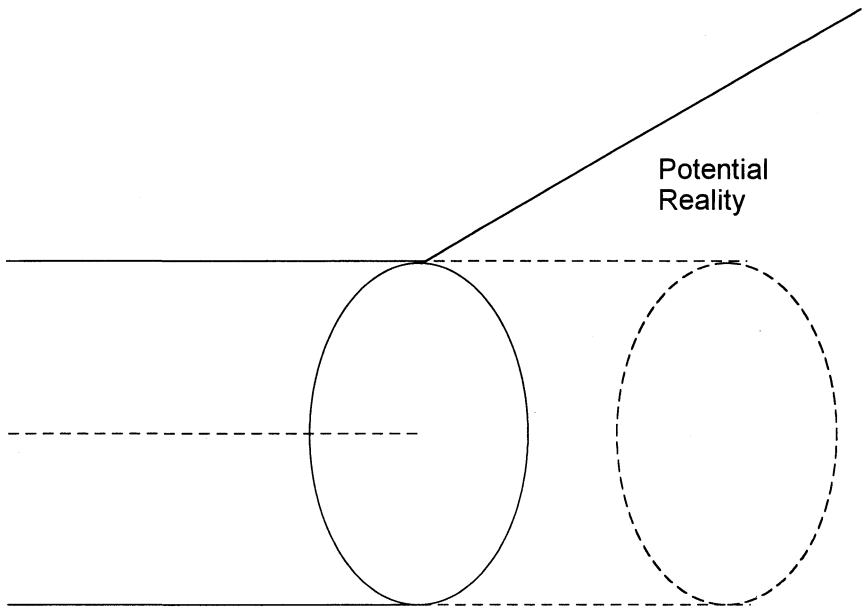


Figure 2. The dynamic evolutionary model (Langacker 1991: 277)

temporal notions within the proposed model of analysis, as is the case in his basic epistemic model (Langacker 1991: 242-244).

2. The Expression of Futurity in English: A first Approximation

The main reason to study the notion of futurity within the tradition outlined above is because the characterization of the WILL-category does not restrict itself to a modal (*stricto sensu*) account. Instead, the notion of a conceptual continuum should be adopted, whereby the portion covered by WILL constitutes a transient category, incorporating both strictly modal and strictly temporal features, often both at the same time. It is not strictly modal, at least not in its predictive (or evaluative) capacity, because it does not simply express unactualization. In Langacker's dynamic evolutionary model, both SHALL and WILL are to be situated in the cylinder of projected reality, i.e., the expected future. This is where temporality (i.c., futurity) comes into play.

To examine this conceptual transition, I will assess the various categories and subcategories that can be distinguished on the basis of a corpus analysis, focusing on the WILL-construction alone (Section 3). The methodology adopted is based on the notion that the relevance of treating the WILL-category as a true tense form or not is minimal. Instead, if we want to explore the nature of the future as a men-

tal construct and its manifestation in various linguistic categories, we have to conceive of numerous constructions taking on slightly varying aspects of the expression of futurity, as is the case in English and a host of other languages. As Fleischman (1982: 1-2) points out, "future reference is never the exclusive property of the single paradigm which grammars label - often arbitrarily - future tense". Fleischman proposes a methodological distinction between the exploration of a linguistic form, discovering its semantic landscape (either synchronically or diachronically), and the study of a specific function, as it is expressed in language through the use of various grammatical categories. Since the second method is, by necessity, theoretically dependent upon the first, in that no adequate estimation can be made of a semantic/conceptual category (especially not of a category as vast and as vaguely delimited as futurity) without any prior assessment of formal categories and their distribution in language use, I will highlight the semantic and pragmatic analysis of a specific formal category, viz. WILL and its linguistic contexts.

This approach calls for an empirical account which does not simply ignore the manifestation of a certain semantic unit, such as *past* (time reference), in linguistic forms other than the actual morphemes that might be directly involved, as tense markers or modals, in the expression of a particular semantic unit. Temporal adverbs, accompanying syntactic constructions, and other (extra- or intra-linguistic) contextual information have to be considered in order to fully establish the meaning potential of a given paradigm. In other words, there is not much use in considering contextless simple sentences and then attempting to study what morphological inflection can be exclusively associated with which corresponding referential time slot, since a language can, and usually does, use both morphological inflections and other syntactic and pragmatic features arising from context to express temporal reference productively. This is exactly the reason why no explicit conceptual analysis will be put forward of the totality of mental primitives, such as imminence and prospection, that might emerge in thinking about the future or, indeed, in referring to it. Indirectly, however, this study of WILL follows the general hypothesis that the expression of futurity is not a monolithic enterprise, delegated to one specialized construction, but that each possible linguistic form referring to the future brings along its own idiosyncratic values, at various levels of conceptualization, to color and substantiate a mental category that is notorious for its elusive character.

3. Empirical Analysis of the WILL-Category

3.1. The corpus

The following sections present some analytical insights that can be formulated on the basis of an empirical investigation into the behavior of the English WILL-category.[3] The selection criteria for arriving at a linguistically motivated subdivi-

sion of all the attested usages for WILL are of various kinds, taking into account formal, semantic, and discourse aspects of the items under consideration (cf. Section 2). Thus, instances that will merely express reference to future states of affairs, without any other significant connotations, are categorized under "Pure future"-usage (category C.1).[4]

(1) Friday night will be a banquet at the country club patio and pool, and an orchestra will play for dancing. (64)[5]

Inasmuch as additional meaning components are suggested in particular instances, an evaluation is made of the relative importance of the various factors involved, to arrive at a categorization that takes into account the most prominent motivations for the use of WILL in particular contexts. The criteria are:

1. syntactic: The frequent occurrence of certain main verbs if the item in question is located in a subclause (e.g., "doubt", cat. D.3); syntactic constructions (e.g., conditionals); the presence of temporal or epistemically colored adverbials.
2. semantic: The possibility of substitution of WILL with more neutral constructions such as BE GOING TO and BE *V*-ING, in order to see how the actual, specifically modal connotations of WILL contribute to the meaning potential in a given context.
3. pragmatic: Context and the interpretation of speaker's intention and/or effects on the hearer. (This can be done by virtue of the inclusion of contextual material in the surveyed corpus samples.)
4. discourse: The frequent appearance of certain forms in specific discourse genres. An example of this is the category "formal" (D.2), which mostly features SHALL-forms, but which also appears several times in the corpus compiled for WILL. This category is restricted to those usages to be situated within the context of legal, religious, and some other institutional settings. Some texts, such as those taken up under the category of instructions (E.1), involve strong root modal meanings, but also display an element of (certainty in) prediction, an ambiguous status which warrants separate treatment, as shown in Table 1. The same holds for the category "discourse" (E.2).[6]

Although at least part of this selection procedure is, admittedly, somewhat subjective in nature, especially with regard to the choice of which category to decide on in cases of considerable overlap, I consider the formal character of the used criteria, in terms of linguistic observability, strong enough to exclude any instances of arbitrary category assignment.

Before we start with the discussion of the empirical material, it is highly relevant to construe a schematic definition for the WILL-construction, demonstrating how the use of WILL shares with SHALL certain central features which could

Table 1. Categorization and distribution in percentages for WILL (total number of sentences: 379)

A. ROOT		
1.1. weak volition: .5%		
1.2. volition: .5%		
1.3. reported intention: 1.8%		
1.4. strong affirmation: 1.6%	Total for 1.:	4.4%
2.1. willingness: 3.4%		
2.2. strong negative volition: 1.6%	Total for 2.:	5%
Total: 9.4%		
B. EPISTEMIC		
1. prediction: 26.1%		
2.1.1. present situation: 2.1%		
2.1.2. character (habit): 1.3%	Subtotal for 2.1.:	3.4%
2.2. "always/(n)ever": 3.2%	Total for 2.:	6.6%
Total: 32.7%		
C. TEMPORAL		
1. pure future: 16.6%	2. scheduled events: 1.3%	
Total: 17.9%		
D. EVALUATIVE		
1.1. "if": 10% 1.2. other "conditionals": 5%	Total for 1.:	15%
2. formal: 5.8%		
3. "doubt": 1.9%		
4. "hope": 1.3%		
5. science: 3.2%		
6. generic: 4.5%		
7. resultative: 1.1%		
Total: 32.8%		
E. OTHER		
1. instruction: 2.9% 2. discourse: 3.7% 3. obligation/prohibition: 3%		
Total: 6.9%		
[one instance (.3%) idiomatic: *I'll be damned*, (16)]		

account for the complementary character, at the functional level of expressing futurity or prediction, of both constructions in English. If we look at Turewicz' (1986) approach in this respect, we find that it is the position of authority - so pivotal to the semantic description of SHALL in its deontic usages - which also arises as most prominent in the schematic definition of the WILL-category. Paraphrasing Turewicz' characterization, we arrive at a description which takes into

account aspects of epistemic certainty and prediction expressed by WILL, both on the basis of an assumed privileged viewpoint in the construal of a non-given (or non-actual) state of affairs:

SCHEMATIC DEFINITION FOR WILL: guaranteeing that something is going to occur or has, indeed, already occurred (in the case of epistemic WILL + HAVE)

As such, the hierarchical authority position associated with the originally deontic use of SHALL is relevant to most usages of WILL as well, though on a slightly different basis. Connotations of authority and deontic modality will emerge in some typical usages of WILL, given the fuzzy demarcation of intentionality and obligation in instances where personal desire forms the basis of an illocutionary force of ordering. This will be demonstrated in the next section.

3.2. WILL: empirical data

As a desire modal, WILL displays features of volition, intention, or willingness that are very strong in its root sense. Coates (1983) mentions a usage of WILL which is common in questions and tags, and where the construction takes on the force of an imperative, as in :

(2) Sign this paper, will you.

(3) Will you sign this paper!

The willingness/preparedness of the addressee is called upon here to express a command that is only slightly less forceful than its direct imperative counterpart. All the same, volition, not obligation, is traditionally seen as the conceptual basis for the command, both in (2) and in (3). This remains so in other contexts, where issues of prediction, certainty, and futurity come into play. In the specific case of WILL, however, I would much rather use the more general term of intention than that of volition. Stating an intention or, more forcefully, making a promise or a commitment (as English speakers can using WILL) does not necessarily presuppose any kind of willingness, at least not on the part of the speaker. Rather, the pragmatic focus lies on the aspect of certainty, which should be understood as indicating a willingness to guarantee something (cf. the schematic definition in Section 3.1), but, again, not necessarily something that one really wants to do or, for that matter, to have happen.

It is this aspect of certainty which distinguishes WILL as a marker of futurity. In fact, the case of pure future reference represents a small minority among all the possible usages of WILL, as can be gathered from Table 1 (17.9%). Several subcategories of evaluative WILL, then, might suggest a more detailed account of what other WILL-constructions have in common *qua* epistemic value. The proto-

typical example of this is the use of WILL in the apodosis of conditionals. In the present survey, conditionals are defined syntactically (the IF-construction, cat. D.1.1), but also semantically, in the sense that other constructions bearing a conceptual structure similar to pure conditionals are also considered (cat. D.1.2). These constructions comprise the occurrence of "imperative + WILL", the use of "when" as a conditional term of conjunction, and certain relative clauses, all of them in contexts where WILL functions as the grounding predication in a clause which is to be considered as following from, or depending on, a conditional-like protasis (not necessarily introduced by the explicit marker "if"). An example of a conditional relative clause is given in (4):

(4) The Kansas City and the Topeka~KCs are arranging that Juniors who win at their shows will be qualified to win points for Westminster. (97)

In general, we can say that, although the cognitive features NON-GIVEN and NON-PRESENT seem to be the undifferentiated attributes of the WILL-category, as can be concluded from a conceptual characterization of futurity (Section 1), an obvious difference is to be observed between pure unactualization and the realm of projected reality, as suggested in Langacker's diagram of the elaborated epistemic model (Fig. 2). In the case of conditionals, the cognitive processes underlying this differentiation are made very clear to the observer. The idea of projected reality implies that the hypothesis of the actualization, expressed by the apodosis, can be put forward on the basis of given premises, either explicitly and objectively given (as in the IF-construction), or implicitly and subjectively, i.e. from context. The conditional construction will function as an indication of desired or expected reality, based on what is already known to the conceptualizer, and the predictive use of WILL in these contexts is conceptually associated with the epistemic status of the information provided in the protasis. In light of the tense relationships within the various conditional constructions (Types I-III), I have written elsewhere that "[t]he difference between the various types of conditional clauses is not a structural one, but is based upon variations in the degree of openness on the part of the conceptualizer vis-à-vis the truth value of the utterances" (Brisard 1991: 90). In general, the systematic occurrence of a limited set of tense and modal markers in conditional constructions and the strict nature of their distribution over the various types of conditionals suggest, then, that it is the epistemic status of the information expressed, and not so much its referential value, which governs the selection of grounding predications in this particular linguistic category. The appearance of past markings in Type II- and Type III-conditionals, for instance, would indicate a high degree of epistemic remoteness from the ground for both the protasis and the apodosis, resulting in the increased hypothetical or even counterfactual character of these conditional types. Nevertheless, the relationship of conceptual dependence between the conditional premises and their hypothetical conclusions remains the same, even in these counterfactual contexts.

We can generalize this account of the functioning of WILL in conditionals to its usage in the context of root and epistemic modality, where speaker's intention/volition, or knowledge of other people's intentions/volitions, form the basis of a linguistically expressed ability to predict a state of affairs. As a case in point, consider the similarities in epistemic stance towards propositional information leading to comparable phenomena at the level of tense management for so-called timeless constructions. As Table 1 shows, WILL figures in a broad range of constructions expressing generic truths (D.6), habituals, and propositions containing the temporal adverbs "always/(n)ever" (B.2.2). Often, past experiences will function as the epistemic basis on which such utterances can be made. Thus, a definite notion of expected/projected reality is also present in these cases. This evolution is most obvious in the case of scientific statements (D.5) and in the category "character" (B.2.1.2), which includes utterances referring to typical properties of certain persons. In these categories, past experimentation/experience warrants the epistemic validity or certainty status of a proposition. Notice that the degree of epistemic certainty, especially for scientific statements, is considerably high, given the (social) context of authority that is assumed for the settings in which these sentences are uttered. Also, the conceptual link between the various (volitional and evaluative) categories directly relates to the availability of given premises from experience and/or experimentation, based upon which predictions are made, and not to some alleged continuity that has been hypothesized for the volitional meaning of WILL and its evaluative usages in the domain of general truths, habits, etc. (cf. Jespersen 1909-49: IV, 239, and Palmer 1990: 136). For volitional and generic contexts, the speaker's knowledge of the circumstances that allow her/him to make a statement about a present or future state of the world is presented as crucial. In the case of volition, this knowledge comprises the speaker's awareness of her/his own state of mind, including desires, beliefs, etc. Thus, if there is a continuity to be found in the volitional and evaluative usages of WILL, it should be discovered at the level of the starting conditions that allow the speaker to make claims about reality in the first place, and not through the postulation of metaphorical mechanisms that would ignore the conceptual difference between root and evaluative meanings.

3.3. A general characterization of projected reality

The approach outlined in the present study differs from traditional discussions of (SHALL and) WILL, in that no prior assumptions need to be made regarding the relation of the modal's semantic value with respect to its referential value. If futurity does turn out to be a component of the meaning of the WILL-construction, this must be explained in terms of the emergence of conceptually harmonious clusters of epistemic features, consisting of the individual contributions of, respectively, the modal in question and the temporal frame evoked.

In certain cases, futurity is as much part of the domains of willingness or intention as it is of that of prediction, which is due to the prospective nature of the concepts themselves that are involved. The real question, then, is how these referential concerns come to harmonize with the intrinsic epistemic values of WILL. What makes the combination of these domains, taken together as the semantic range for the WILL-construction, so eligible for the grammaticalized expression of futurity? Coates' (1983) analysis of the modal values of WILL seems to start from a point in the argumentation where this question has already been asked, and takes the inherent association between WILL and futurity for granted, leaving her to ascribe instances of weakened epistemic certainty to the common sense observation that "any utterance referring to the future may be tinged with doubt" (Coates 1983: 183). Anything falling outside the categories that she distinguishes (intention, willingness, prediction, and predictability) is referred to as a case of (conceptual) merger, but the limited set of subcategories presented by Coates does not allow her to point out a principle of conceptual continuity (within a linguistic category) for every instance of merger encountered.

As put forward in Section 3.2., there is a clear relationship between scientific statements (D.5) and other categories that take recourse to mechanisms of inferential prediction based on given premises, such as habit (B.2.1.2), general truths (D.6), and conditional constructions (D.1.1, D.1.2). Not only do the expressions figuring in these categories share the notion of projected reality (i.e., prediction based on given premises), they also refer to a common experiential ground from which these constructions draw their epistemic force, an element which is missing in Coates' account of the evolution from prediction about the future to prediction about the present (or predictability) as merely instantiating a shift in temporal perspective (Coates 1983: 178).

If we break down the cognitive characteristics of the WILL-category, we see two different features mutually influencing each other. These features can be taken as epistemic values that are to be attributed to the dual aspect that is hidden in each expression of projected reality. Schematically, we can represent the feature analysis as follows:

FUTURE: NON-GIVEN, NON-PRESENT
WILL: NON-GIVEN, NON-PRESENT, but based on premises that are +G and +/- P

Together, these features yield the conceptual realm of projected reality, involving a strong commitment to epistemic certainty as conveyed by most instances of epistemic and evaluative WILL. The informational status of the premises leading to the expression of a state of affairs in projected reality is rendered formulaically as +G and +/- P, which means that, although these premises may not be part of the immediate surroundings of the conceptualizer (e.g., through direct perception), they should at least be contained in the knowledge base of the person making a real

or an epistemic prediction through the use of WILL. In other words, based on the knowledge that a certain state of affairs holds in the world in which the conceptualizer finds her-/himself, she/he can confidently predict another state of affairs that is epistemically dependent upon the presumed truth value (or givenness) of this initial set of conditions.

The question we might ask at this point, then, is why are there so few instances of pure future-usage for the WILL-category, or, turning the question around, why does English make use of a construction which is clearly not meant to convey nothing but the location of a state of affairs in some unspecified future time slot? A possible answer to this can be found in the non-specific nature of the cognitive domain covered by WILL. As illustrated in Figure 2, there exists a logical link between the referential range of projected reality and that of futurity itself. But the notion of projected reality, identified as the semantic domain *par excellence* for the WILL-category, entails more than this: whenever we are confronted with clearly epistemic usages of WILL that refer to the present or even the past (in the case of WILL+HAVE), it is not the aspect of futurity which provides WILL with its predictive meaning, but that of unactualization or non-givenness. In other words, something may have already occurred or may be in the process of occurring at the moment of speech, but this does not imply that this event or state will be automatically construed as part of known reality. Therefore, it is necessary to enlarge the conceptual domain of projected reality, such that it also includes those subdomains of the time line (past and present) which are not yet taken as given to the conceptualizer.

Since projected reality, in its prototypical capacity as denoting the expected future, is the most significant part of futurity to talk about in any mundane context, it should come as no surprise that the specialization which has occurred in the case of the predictive WILL-construction should focus on this part of the future. Conversely, in spite of its modally colored nature, the WILL-construction has traditionally been taken as the English equivalent of the pure future tense, precisely because of the fact that it deals with that part of futurity which is pragmatically most relevant or plausible to speakers of English. Other, less practically relevant, subdomains of the future (e.g., potential reality minus projected reality) are covered by different syntactic constructions, but only insofar as there exists a conceptual, that is pragmatic, need to express them. The function of BE GOING TO, which is rendered as a "colorless way of prophesying" (Joos 1968: 134), might be seen as one of the options that speakers of English can choose from in locating a state of affairs in the future in an unbiased manner.[7]

In order to be able to speak of a coherently established category, we must say that the combination of the features given above does not necessarily result in a conceptual clash. Rather, they are in harmony with each other, in the sense that, even if one may be more in focus for certain subcategories or in certain subcontexts, this will weaken, but never fully cancel, the epistemic force of the other. We can see from examples in the corpus (category B.1, prediction) that the high degree

of epistemic certainty typically associated with the use of WILL can be downplayed in certain cases, if the context asks for such modification.

(5) Moon-faced Ludwig Erhart, the economic expert, probably will ascend to the leadership long denied him. (76)

(6) You've got to admit she was smart to scare up this fine government job over there - she'll get a home for herself and Cathy in no time. You'll see, Myra's settling down. (25)

In (5) and (6), the interpretation of probability and reassurance, respectively, indicates a minimal contribution of the epistemic value of WILL. Here, we notice a distinction between the epistemic values accompanying WILL and those associated with futurity, as a cognitive domain in its own right. If it happens that the epistemic force of the WILL-construction is minimalized, as in the examples above, this only implies that the force of the utterance making use of WILL in those contexts moves towards the undifferentiated values of futurity or potential (not projected) reality, resulting in a lower degree of epistemic certainty: hence, the modifying adverbial in (5) and the weak epistemic value of 'LL in (6).[8]

All of this urges us to conclude that the occurrence of instances of WILL with pure future reference that do not involve some type of epistemic assessment becomes very doubtful indeed. Rather, the cases where WILL is categorized as merely displaying a denotation of future activities or states have their own epistemic values, which happen not to be completely identical to those of projected reality, the prototypical domain for WILL. For instances of pure future reference, the hypothesis holds that the values associated with futurity itself, as given in the schematic definition above, suffice as a semantic characterization of the states of affairs that are expressed, without necessarily invoking the specific epistemic aspects that WILL usually adds to this characterization.

The modal value of WILL remains relevant for the analysis of this construction as a marker of predictiveness and epistemic certainty, but also of future reference. In typically modal contexts, a relation is being asserted between a particular event or state on the one hand, and the factual world on the other. This would result in the evaluation of a set of "terms of admission" (cf. Joos 1968) for allowing the real-world status of the proposition in question. In the case of WILL, these terms of admission or premises are usually GIVEN (Section 3.2.) and can be directly evaluated, either on the basis of personal experience or through direct perception, both modes of evaluation guaranteeing a high degree of authority.[9] Note that the epistemic certainty suggested by the use of WILL is not the result of the speaker's knowledge, strictly speaking, of the complete set of conceptual premises. Rather, the use of WILL suggests a stage of deduction, similar to that involved in the (epistemic) usage of the deontic modal MUST, whereby the actualization of a state of affairs is not simply asserted but suggested on the basis of available data.

It is interesting to see, then, how the epistemic usages of MUST and WILL differ, given the observation that both modals acquire their epistemic force on the basis of inferential reasoning. The differences can be seen in sentences involving evaluations of present states, where the epistemic force of the WILL-construction surpasses that of MUST (of the type "that'll be John/that must be John"). As stated earlier, many usages of WILL appear in contexts where personal experience in the past or scientific experimentation play an important part. Compared with the epistemic basis for the use of MUST, relying heavily on common sense or logical deduction, we can surmise that subjective experience is taken as warranting a higher degree of relative certainty than mere logical deduction, a finding which makes sense in light of the pragmatic, experience-based character of various modes of human knowledge. Neither MUST nor WILL have any categorical claims on the subject of some expression's factuality, since they are both modal auxiliaries, but the experiential basis for the latter construction does suggest a pragmatic commitment for which speakers have the strongest epistemic warrant.

4. Conclusions: The Compatibility of Temporal and Epistemic Assessments

It has become clear from a brief examination of the corpus that the meaning of WILL cannot be restricted to an account where only the modal functions of the auxiliary are considered. Due to a combination of historical accident and a straightforward conceptual motivation for the attested evolution from root modality to the expression of epistemic assessment and, eventually, temporality, some reference to a referential level of analysis must be made in any discussion of this modal category. One of the possible keys to such an analysis is the observation of potential cognitive harmony between epistemic values of the modal in question and the corresponding values of the particular time slot that is taken as its referential domain. In the case of WILL, then, the epistemic value typically attributed to its use is one of prediction based on given premises. This sense of prediction seems to have evolved from a root meaning of intention or volition, giving rise to predictive connotations in those contexts where the speaker is aware of what would allow her/him to perform a certain action or have a certain state of affairs come into effect. When combined with the epistemic values of futurity as a temporal frame, these features, together, make up the conceptual characterization of what Langacker calls projected reality.

The concept of projected reality is not one that necessarily imposes itself in any language that will find a grammaticalized way to express futurity. In this light, WILL represents one of many modals or other lexical sources that language users can choose from to refer to the future, but certainly not the only one. In other cases, deontic value, for instance, can serve as the basis for the expression of futurity (as it does, in a way, for the SHALL-category), but then the pragmatic sense

of what the future entails, or what it is that is most important in the assessment of future states, is conceptually different from that conjured up by projected reality. Contrastively, people can talk about the future without indicating any prior bias towards the epistemic status of their utterances, in which case they decide to use a construction that is more or less neutral in this respect and that simply copies the epistemic values of futurity as the most general category. It is the analyst's task to discover how the conceptual domain of futurity, together with its epistemic connotations, is mapped onto grammatical categories that bring along their own epistemic values, based on the historical residue as manifested in the process of grammaticalization and on the modal values attributed to these constructions. These values can perfectly well be understood independently of any referential system with which they happen to be associated, at any synchronic stage in the construction's linguistic evolution.

Endnotes

1. This paper was written in the context of a research program supported by the Belgian National Fund for Scientific Research (NFWO/FKFO) and a Belgian government grant (Federale Diensten voor Wetenschappelijke, Technische en Culturele Aangelegenheden, IUAP-II, contract number 27). It was presented at the Fourth International Cognitive Linguistics Conference, held in Albuquerque, NM, July 17-21 1995. I would like to thank Steven Frisson, Louis Goossens, Theo Janssen, Ron Langacker, Michael Meeuwis, and Jan Nuyts for useful comments on earlier drafts and/or for fruitful disussion on the subject. It goes without saying that I take full responsibility for failures and misconceptions that have remained in the final product.
2. The dynamic evolutionary model takes as its main source of inspiration Talmy's (1988) ideas on force dynamics, which, in turn, will play an important part in the actual characterization of the different modal categories that we encounter in English. In general, the metaphor of force dynamics appears to be very useful in language when discussing the grammaticalized attestations of modality in the context of both root and epistemic assessment.
3. The corpus has been compiled by Ludo Lejeune at the University of Antwerp (U.I.A.-campus). A 'reasoned' subcorpus was put together, consisting of a representative sample of instances of WILL as they occur in the Brown corpus (American English) and in the Lancaster-Oslo/Bergen corpus (British English). In my survey, the form WILL itself has been included, as well as its negative counterpart and the clitic form 'LL.
4. Category numbers refer to Table 1 (WILL), which can be found in Section 3.2.
5. Numbers between brackets after sample sentences refer to the numbering of the sentences in the original corpus. All sentences between quotation marks are taken from the corpus; others are either my own examples or illustrations from other sources in the literature on tense, in which case the exact references are mentioned.
6. The occurrence of a separate category "obligation/prohibition" (E.3) for WILL in Table 1 is motivated by the fact that deontic connotations cannot be treated as root meanings for WILL, for obvious diachronic reasons. The assignment of category E.3 to a subgroup which also includes categories for instructions and "discourse" is based on considerations of overlapping meaning and function, which will be explicated during the discussion.

7. This would, in turn, explain the virtual impossibility to use BE GOING TO in epistemic contexts, such as "(someone knocking at the door) *?that's going to be Fran", which sounds very awkward indeed. Although the BE GOING TO-construction obviously evolved from a more modally inspired root meaning, i.e. that of intentionality typical of GO-futures in general, this intentional part of the category's meaning seems to be very much downplayed in numerous instances of present-day usage. We can conclude this from the fact that, when third person subjects appear that cannot be assumed to have an intentional force of their own, BE GOING TO is still a perfectly acceptable and, indeed, very common option.
8. I am by no means suggesting at this point that 'LL, as a distinct surface form, should always carry this value of a low epistemic force. In fact, no correlation could be found in the corpus between this clitic form and some specialized semantic function, suggesting that the occurrence of 'LL is mainly a matter of prosody and register.
9. Note that experience (or memory) and perception form the basic conceptual categories that underlie the more schematic values of the past and the present tense, respectively. Given the fact that the expression of futurity builds on these experiential categories to yield the aspect of expectation or anticipation that is so typical of future conceptualization, it can be safe to assume that, as an experiential construct, futurity is both more complex than, and cognitively dependent upon, these two previous categories.

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From Attribution/Purpose to Cause: Image Schema and Grammaticalization of Some Cause Markers in Japanese

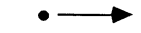
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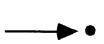
This paper is about the constraints on the semantic changes in grammaticalization.[1] Semantically, grammaticalization involves a certain component of the meaning of a lexical item developing into a grammatical meaning with the other aspects "bleached", and the resultant grammatical marker developing further grammatical functions. The purpose of this paper is to examine the hypothesis that the aspect of meaning that is preserved and develops in grammaticalization is image-schematic meaning (Sweetser 1988, Ohori 1995). I will point out that two cause markers in Japanese, *ni-yotte* and *tame*, provide counterexample to this hypothesis. (A related hypothesis based on the notion of causal chain is also discussed.) I will discuss these cases in relation to the issue of the mechanisms of grammaticalization, especially the role of metaphor versus pragmatic reinterpretation (context-based inference) (Bybee, Perkins and Pagliuca 1994, Heine 1993, Schwenter and Traugott 1995, Traugott and König 1991, etc.). I will argue that these non-schema-based changes are driven by pragmatic reinterpretation, not by metaphors.

1. Image-Schematic Properties in Semantic Changes

1.1. Hypothesis of image-schema preservation

The view that image-schematic meaning is preserved in grammaticalization was first put forward by Sweetser (1988). She exemplifies this point in her analysis of the development of a verb with the meaning of 'go' to a future auxiliary, as well as the development of the markers of spatial notions such as ablative, allative, and locative, to markers of non-spatial notions such as purpose, condition, and cause. According to her, basic image schemata for allative, ablative and locative are (1a), (1b), and (1c), respectively. Based on the data on Bodic languages (Genetti 1986), she claims that developments of cause, purpose, and condition from ablative, allative, and locative, respectively, is the ones that preserve these basic image schema. In (1a) and (1b), a dot represents the entity or event marked by each grammatical marker, and an arrow represents the motion or action described in the clause. The image schemata in (1a) and (1b) indicate that just as motion is directed from source and to goal, an action leads from a cause and to a purpose. The schema in (1c) is meant to represent the co-occurring status of a location and a located entity, as well as a condition and a consequence.

(1) a.  ablative, cause

b.  allative, purpose

c. (••) locative, condition

This view is consistent with the claims of Heine, who states that semantic changes in grammaticalization are metaphorical mapping from the source domain to the target domain (Heine 1993, Heine, Claudi and Hünnemeyer 1991, etc.). Image-schematic meaning is claimed to be respected in such metaphorical mapping in general (see Lakoff 1990, 1992, Turner 1993).

There are many instances of grammaticalization that are consistent with Sweetser's view. It has been widely observed, for example, that a goal marker often develops from a verb of motion, such as *go* (see Givon 1975, Heine, Claudi and Hünnemeyer 1991, Blake 1994, etc.). In this change the basic image-schematic directionality involved in the thematic structure of the source verb is preserved in the image-schematic structure of the goal marker.

However, it is not really clear whether all aspects of image schema are preserved in all semantic changes in grammaticalization. It is known, for example, that a beneficiary marker has developed in many languages from a verb of giving (see Givon 1975, Heine, Claudi and Hünnemeyer 1991, etc.). A verb of giving is a three-place predicate, while a beneficiary preposition is semantically a two-place predicate.[2] Obviously, the image-schematic structure of the verb of giving must lose one argument in developing into a beneficiary marker. In addition, a grammatical morpheme can have a complex polysemous semantic structure, the development of which involves certain operations on an image schema (e.g., Brugman 1981, Janda 1994, Cornelis and Cuyckens 1995). Sweetser (1988) herself notes that the semantic changes in the development of English *again* involve some operation or "transformation" of an image schema. Heine, Claudi and Hünnemeyer (1991: 162-163) also note that the use of allative marker for both purpose and cause marking in Ik and Kanuri provides counterexample to Sweetser's view, though they state that future research could reveal that some form of image-schema preservation would cover such cases as well. Such evidence suggests that the range of meanings that can arise due to grammaticalization is less restricted than the hypothesis of strict image-schema preservation stated above predicts. Perhaps more realistic is a weaker hypothesis, which might state that the semantic changes in grammaticalization are *based* on image-schematic meanings (see also Rubba 1994).

There are a few different ways in which such a weaker hypothesis is exactly formulated. One possibility suggested by recent works on metaphors in general is that only selected aspects of source image schema are preserved. Lakoff (1993), Turner (1993), and Iwata (1995) claim that metaphors preserve only those aspects

of the source image schema that are consistent with the inherent properties of the target domain, with the other irrelevant aspects disregarded in mapping. This might be true in semantic changes in grammaticalization.

Causal order hypothesis of Croft (1991) can be seen as another form of a weaker hypothesis. He has proposed that syncretism of case notions is constrained in terms of the position in the causal chain of an event (see Figure 1 below). (Unlike [1], all entities in the causal chain of an event are described together in this figure.) Major evidence for this hypothesis comes from the syncretism in oblique case roles. He divides oblique roles into two categories in terms of their positions in a causal chain: causally antecedent roles and subsequent roles. He points out that syncretism among roles occurs primarily within these two groups of roles. He further notes that predominant patterns of syncretism between oblique roles and spatial roles are between ablative and antecedent roles, or between allative and subsequent roles (cf. Bodic data above), suggesting that the relative positions of those roles in a chain are respected (see Figure 2). He uses metaphorical relationship between causal structure and spatial structure as a basis of this claim.

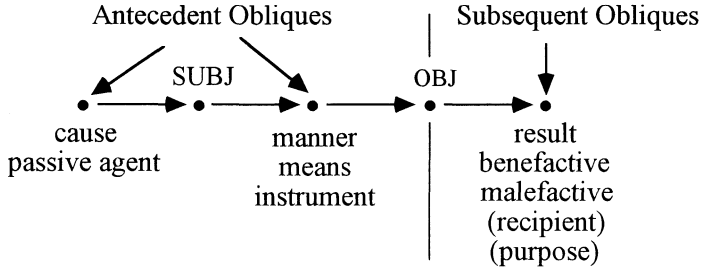


Figure 1. Causal order and antecedent and subsequent roles (Based on Croft 1991)

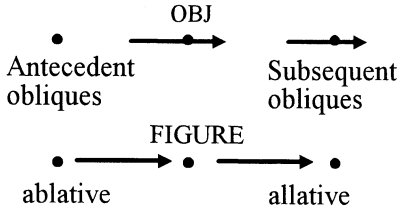


Figure 2. Oblique roles and spatial roles (Based on Croft 1991)

Given that this is a constraint on case syncretism, this constraint should be respected in the development of various grammatical functions in an already grammaticalized case marker and adpositions. Note here that it is not the exact position

in a causal chain, but a relative position with respect to OBJ/FIGURE that counts in his hypothesis, and therefore changes from cause/passive agent to Manner/means/instrument (or vice versa), which are not strictly image-schema-preserving (cf. Figure 1), are sanctioned. In this respect this hypothesis is less constrained than the stronger hypothesis of image-schema preservation above.

1.2. Image-schema-Preserving Changes in Japanese Postpositions

The role of image schema in grammaticalization can be tested against historically recorded data from Japanese. Some cases of changes found in the history of Japanese postpositions and conjunctions do seem to support the preservation of image-schematic meanings. One instance is the development of a causal conjunction from a source marker *kara*, and a purpose conjunction from a goal marker, *ni*, as discussed by Ohori (1995).

Other instances come from some deverbal complex postpositions (Matsushita 1930, Suzuki 1972, Martin 1975, Matsumoto 1993, to appear, Tsukamoto 1991, etc.; see Blake 1994, Givon 1975, Heine, Claudi and Hünnemeyer 1991, Kortmann and König 1992, Lord 1993, Matsumoto and Takata 1995 for verbal origins of adpositions in other languages). One example is *ni-mukatte* 'toward'. This complex deverbal postposition, like others, developed from the participial construction like (2a), in which *ni*-marked NP is an argument of the participial verb. The sequence of a case marker and a participial verb in this construction has developed into the complex postposition, which is illustrated in (2b).

(2) a. *Taro=wa [PRO kokuban*=ni mukatte*] suwat-ta.*[3]
Taro=Top blackboard=Dat face sit-Past
'Facing the blackboard, Taro sat down.'
b. *Karera=wa tuki*=ni-mukatte *roketto=o uti-age-ta.*[4]
they Top moon=toward rocket=Acc shoot-lift-Past
'They launched a rocket toward the moon.'

In this example, the image-schematic directionality involved in the verbal use of *mukatte* is preserved in the resulting postposition.

Many other complex postpositions have developed meanings not found with the original verbal uses. Semantic changes in such postpositions that apparently respect image schema are listed in (3) (see Matsumoto [to appear] for details).

(3) *ni-tuite* 'about' (RELEVANCE) < 'stick to' CONTACT (cf. *touching* (Mid. Eng.), *on*)
o-megutte 'over the issue of, about' (RELEVANCE) < 'go around' (CIRCUMFERENCE) (cf. *about*, *um* [Ger.])
ni-taisite 'against' (OPPOSITION) < 'come face to face with' (POSTURE) (cf. *against*, *gegen* [Ger.])

ni-mukatte 'toward' (DIRECTION) < 'face' (POSTURE)
ni-turete 'in accordance with, as' (CORRELATION) < 'take as a companion' (ACCOMPANIMENT) (cf. *with*)
o-toosite 'through the medium of' (MEANS), 'as a result of' (CAUSE) < 'let ... go through' (PATH) (cf. *through*)
ni-oozite 'according to' (ACCORDANCE) < 'respond' (RESPONSE)
ni-kakete 'extending through' (EXTENT) < 'hang', 'cover partially' (POSITIONING)

The motivation for the development of verbs indicating contact (*ni-tuite*) or near contact (*o-megutte*) to relevance appears to be the shared image-schematic structure, given that relevance is an abstract connection of two entities. The same can be said of the 'facing' positioning developing to opposition in *ni-taisite* (facing involves the eye regards of two persons in the opposite directions), and accompaniment to correlation in *ni-turete* (accompaniment is a correlated and parallel change of the locations of two entities). The change in *o-toosite* 'through the medium of' (< 'let ... go through') is based on the intermediary status of means and path; further development of the cause sense from this means sense is not strictly image-schema-preserving, but is consistent with the Causal Order Hypothesis.[5]

2. *Ni-yotte:* From Motion to Attribution to Cause

My study of the history of Japanese postpositions and conjunctions has revealed, however, that there are cases which exhibit a radical change in image-schematic properties, so that they cannot appropriately be said to be schema-based. I will take the development of two causal markers exemplifying this point, using examples collected from published articles and my own search for these items using published word (morpheme) indexes of many literary works (see Appendix).

The first marker to be considered here is the complex deverbal postposition *ni-yotte* or (its older form) *ni-yorite*. This complex postposition is historically a sequence of a goal marker and the participial form of the verb *yor(-u)* 'come near, depend on'. The original verbal use is exemplified in (4); in this sentence *ni* simply marks goal, and *yoru*, motion toward it.[6]

(4) *Manyooshuu*, 8th cent.

Oki=tu	*mo=wa*	*he*=ni=*wa*
off.shore=Loc.Gen	seaweed=Top	shore=Goal=Foc
yor-*e-domo*, ...		
come.near-but		

'though seaweed in the sea comes near the shore, ...'

This verb developed a further verbal use in the meaning of 'be attributed to'. In this meaning this verb was used predominantly in the *-te* form, forming the sequence of *-ni yorite*, which functioned like a complex causal postposition, as in (5a). Sometimes, the sequence took a clausal complement, functioning like a complex interclausal causal conjunction, as in (5b). (6) is one rare example in which this verb is used in the non-participial form in this meaning.[7]

(5) a. *Konjaku Monogatari*, early 12th century
Sono tumi=ni-yorite *zigoku=ni otite*
the sin=due.to hell=Goal fall
'falling to hell due to the sin, ...'
b. *Taketori Monogatari,* late 9th century
sara=ni yurus-are-nu=ni-yorite-*namu,*
furthermore forgive-Pass-Neg=because-Prob
kaku omohi-nageki-habe-ru
this.way think-deplore-Prog-NPst
'probably because he was not forgiven, he deplored it in this way.'

(6) *Konjaku Monogatari*, early 12th century
Kore daibosatu=no ohomu-tikahi=ni yor-*u*
this great.priest=Gen Hon-pledge=Goal be.attributed-NPst
koto = nari.
thing = Cop
'This is due to the pledge of the great priest.'

The grammaticalized postpositional status of the sequence of *ni yorite* at this stage is not entirely clear (though I decided to gloss *ni-yorite* as one unit in [5]). It might well have been simply the sequence of a goal marker and the *te* form of the verb at this stage, given the parallel use in a regular verbal form as in (6). Other evidence suggesting that it had verb status comes from its morphophonological change. Around the ninth century gemination began to occur (at first optionally) when the verbs whose stem ends in /t/, /r/, and /w/ were suffixed by *-te*: /tor(-i) + te/ → [totte]. The form *yorite* underwent a gradual replacement by the new competing form *yotte* over the next few centuries. In conjunction with this change the sequence of *ni yorite* was also replaced by the new form *ni yotte,* suggesting that *yorite* in this sequence was recognized as (or at least related to) a verb.

The further development of *ni-yotte* clearly shows the loss of verbal status of *yotte* and the acquisition of the independent status as a complex cause marker. *Ni-yotte* as an interclausal conjunction (cf. [5b]) began to be used frequently in colloquial discourse later in the 16-17th century (Kobayashi 1973). The conjunction status of this *ni-yotte* is confirmed by the lack of *koto* complementizer or *no* nominalizer. By the 19th century, clausal complements are often marked with a nominalizer *no* or a complementizer *koto* when they are marked by the postpositions like *ni*

(but not when marked by conjunctions), as shown by Kinsui's (1995) study of the early 19th century *Ukiyodoko*; thus sentences like (5b) now required *no* or *koto* on the verb if *ni yorite* is simply the sequence of a postposition *ni* and a verb *yotte* (e.g., *V=koto=ni yotte*). However, my study of *Ukiyodoko* revealed that *ni yotte* always occurred without *no* nominalizer or *koto* complementizer when it took a clausal complement (e.g., *V=ni-yotte*), a phenomenon unexpected if *ni* of *ni-yotte* is simply a postposition. *Ni-yotte* is now clearly functioning as a conjunction as one unit.

In some cases *ni-yotte* as a conjunction was used with a copular pro-form, in the form of *sore=dya=ni-yotte* (it=Cop=because) 'because it is so'. This form was used as an idiomaticized complex intersentential connective 'therefore'. In colloquial discourse this *sore* was sometimes dropped, resulting in the form *dya-ni-yotte* used as a connective. (7) below is one example.

(7) *Ukiyodoko*, 1814
Ima=no youna koto=o si-tewa tanki-mono=no
now=Gen like thing=Acc do-if hasty-person=Gen
oo-gokudou. .... Dya=ni-yotte *yononaka=wa*
great-wicked.person Cop=because world=Top
bake-mono=wa kowo-nai=ga baka-mono=ga
ghost=Foc fearful-Neg=but fool=Nom
kohai=to ihu.
fearful=Comp say
'If you do this kind of thing, you are a short-tempered wicked man. ... That's why people in the world say that ghosts do not make us afraid but fools do.'

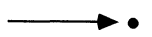
This deletion of anaphoric *sore* is commonly observed in the development of many other sentence-initial connectives from interclausal conjunctive particles, such as *(da)ke(re)do(mo)* (Matsumoto 1988, Mori 1996, Onodera 1995). Note also that (7) indicates the acquisition of a textual function by this form: *ni-yotte* is used to introduce a conclusion one can draw from the content of the previous context, rather than the causal effect.

Ni-yotte also underwent its own formal changes. After the late 17th century, the form *yotte* (with *ni* dropped) was sometimes used as an interclausal conjunction (Kobayashi 1977, Yasada 1993), especially in Kansai dialects (Okumura 1966, Kobayashi 1977). In the present-day Kansai dialects the conjunction *yotte* is always used without *ni*, although postpositional form is *ni-yotte*. Moreover, forms like *yotte-ni* (in which a postposition *ni* follows *yotte)* and its degenerate form *yotten* are also used. These clearly indicate the grammaticalized status of *(ni-)yotte.*[8]

The development of *ni-yotte* as a marker of cause/reason can be image-schematically represented as in (8). Here a dot represents an entity/event marked

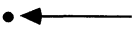
by the postposition/conjunction, and an arrow represents the direction of motion/event described by the sentence with respect to the entity.

(8) a. Image schema for the verbal use 'draw near ...'



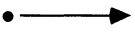
goal

b. Image schema for the verbal (?) use 'be attributed to ...'



cause (as a goal)

c. Image schema for the postposition/conjunction uses 'because of ...', 'therefore'



cause

In (8a), the postposition *ni* and the verb *yoru* together indicate motion toward a goal; in (8b), the sequence indicates an event being attributed (traced back) to a cause (which is treated as a goal); in (8c), the grammaticalized sequence of *ni-yotte* (or its variants) marks cause.

This somewhat unexpected change is motivated by the possibility of conceptualizing cause-effect relationship not in terms of a causal chain but in terms of attribution. Cause is not only a source of an energy flow, but also the goal to which an event is attributed or traced back. This second way of conceptualization is adopted in the verbal meaning of (8b). This possibility mediates the change from (8a) to cause/reason marker use represented in (8c). Thus, the history of *ni-yotte* involves the change in the directionality in image schema. It may well be the case that English complex cause prepositions *thanks to*, *due to* and *owing to* developed in a similar fashion. I will come back to this case of *ni-yotte* in Section 4.

3. *Tame*: From Purpose to Cause

Another important case of grammaticalization in which image schema is not respected is the development of the denominal cause/reason conjunction *tame*. This morpheme is now used as a noun meaning 'benefit', 'purpose' and 'cause' as well as a purpose conjunction and a cause/reason conjunction (see Okutsu 1975, Kunihiro 1982 for conjunction uses). Modern examples of this morpheme include the following.

(9) a. *Tame* as a noun: *NP=no tame* 'the NP's benefit'
Boku=wa kare=no tame=*ni soko=ni itta.*
I=Top he=Gen benefit=Goal there=Goal went
'I went there for his sake.'

b. *Tame* as a *Purpose* conjunction: *S tame (ni)* 'for the purpose that S'
Boku$_i$*=wa* [*PRO*$_i$ *sore=o mi-ru*]=tame(*=ni*) *soko=ni itta.*
I=Top it=Acc see-NPst=Pur there went
'I got up early in order to go there.'

c. *Tame* as a *Cause/Reason* conjunction: *S tame (ni)* 'because S'
Boku=wa [ame{=ga/*=no} hutta]=*tame* osoku natta.
I=Top rain{=Nom/=Gen} rained=Caus late became
'I was late because it rained.'

Note that the embedded subject in (9c) is marked in the nominative but it cannot be in the genitive. This shows that *tame* in (9c) is at least somewhat denominalized, since the subject in a prenominal clause can be marked either in the nominative or genitive.

There are a few differences between *tame* as a purpose conjunction and *tame* as a cause/reason conjunction. First, the predicate in the purpose *tame* clause must be a nonpast-tense verb, but in the cause/reason clause it can be any of the verbal, adjectival, or copular predicates in either past or nonpast tense.[9] Second, the embedded subject is (in most cases) controlled by the matrix subject in the purpose clause,[10] but this is not the case in a cause/reason clause (Okutsu 1975). The two *tame* clauses are also different in the nature of matrix clause in which they can be embedded. The purpose *tame* clause must be embedded in an agentive clause, while there is no such restriction with the cause/reason *tame* clause.

How did these conjunction uses develop in history? The syncretism between purpose and cause/reason is not rare; it has been observed in Australian languages (Blake 1977), African languages (Heine, Claudi and Hünnemeyer 1991:150-151) as well as in English (the preposition *for*; Quirk, Greenbaum, Leech and Svartvik 1985) (see also Acehnese and Longgu data in Goddard and Wierzbicka 1994). However, historical development of such syncretism has not been well clarified against historical data. In this respect, historical records from Japanese make an important contribution.

In Old Japanese *tame* was used as a noun meaning 'target, benefit or purpose', which is generally believed to be the original use (Kikuzawa 1938, Ikuno 1961, Shibouta 1944). *Tame* as a conjunction is exclusively a purpose marker (Kikuzawa 1938, Ikuno 1961; cf. Yoshino 1990), suggesting the historical priority of the purpose use. An early example of this is given in (10). Note that the clause takes the then genitive marker *ga* to modify *tame*, suggesting the nominal nature of *tame*.

(10) *Manyooshuu*, 8th cent.
[*PRO* *wagimoko=ni* *mise-mu]=ga* tame=*ni*
my.wife=Goal show-Fut=Gen purpose=Goal
momizi *torite=mu.*
maple take-Vol
'I want to take maple leaves in order to show them to my wife.'

Note that the verb in this purpose clause always took the future auxiliary suffix *-mu*. This suffix also expressed volitionality especially when the subject was the first person.

One possibility in the change from a purpose marking to a cause/reason marking is that it was triggered by the pragmatic reinterpretation of the possession of the purpose or intention of doing something as the agent's internal reason for doing it. The meaning 'for the purpose of doing something' can be reinterpreted as 'because of wanting to do something'. The sense of desire was in fact implicit in the *mu* suffix in the *tame* clause in (10), but when the desire is expressed explicitly in the verb, the meaning of the *tame* clause can become 'because of wanting to do something'. Our data suggest that this is exactly what happened.[11]

The first clear instances of *tame* as a cause/reason conjunction are found in the 13th century *Heike Monogatari*, as observed by Ikuno (1961). There are seven such instances in the whole volume, and all involve the verb of thinking representing a desire, six of them with a controlled embedded complement clause representing the content of the desire, as in (11). (Kunihiro 1982 regards modern examples similar to [11] as a link between the two uses of *tame* in its synchronic analysis; see also Heine, Claudi and Hünnemeyer 1991: 163)

(11) *Heike Monogatari*, around 1220
[pro$_i$ [PRO$_i$ *koisiki* *hitobito=o* *ima-itido* *mi-baya]=to*
dear people=Acc once.more see-Vol=Comp
omohu] tame=*nari*
think Reas=Cop
'It is because I want to see my loved ones once more.'
cf. 'It is for the purpose of seeing my loved ones once again.'

All of the examples of the cause/reason conjunction *tame* in my 14th to 16th century data are of this type, except for one instance discussed below. Two of them are given in (12). Both are used in a cleft construction, as is true of (11).

(12) a. *Neko no Sooshi (Otogizooshi)*, 14-16th cent.
pro$_i$ *yuruyuru=to* *hirune=o* *tukamaturu=mo*, [pro$_i$
leisurely nap=Acc do.Hum=too
[PRO$_i$ *nezumi=o* *tabe-n]=to* *zonzuru]* tame=*nari.*
rat=Acc eat-Vol=Comp think Reas=Cop

'Also, it is because I want to eat rats that I have a good nap.' (uttered by a cat)

b. *Amakusa-bon Heike Monogatari*, 1592
[pro$_i$ [PRO$_i$ *korera=o ima hitotabi mi-yoo*]=to
these=Acc now once.more see-Hort Comp
omohu] tame=*dya*.
think Reas=Cop
'It is because I want to see them once more now.'

In these examples, the *tame* clause has the non-past tense form of the verb of thinking (desire), and its subject is coreferential with the subject of the clause representing the effect. In these respects, this use is much more restricted than the present-day use of causal *tame*, which can take other kinds of verbs in the past and non-past tense and a subject not coreferential with the upper subject.

Early restrictions on the verb types, tense, and subject disappeared later. It appears that the restrictions on the verb types and subject were lost before the restriction on the tense of the verb. The first example of non-controlled subject in *tame* cause/reason clauses in my data is from the 14th century, given in (13).

(13) *Tsurezuregusa*, 1330-1331
yorozu=no asobi=ni=mo syoobu=o konomu
various=Gen play=Loc=even game=Acc like
hito=wa [katite kyoo ara-n] tame=*nari.*
person=Top win fun be-Prob Reas=Cop
'As for the people who like games among various kinds of play, it is because there is fun when they win.' (The reason for some people liking to play games among various kinds of play is that they can be satisfied when they win.)

In my data there are only two other examples of this kind, both from later periods. One is (14), taken from Chikamatsu's play script, and the other is from early 19th century *Ukiyodoko*.

(14) *Meido no Hikyaku*, 1711
[Ima=ni=mo hito=ga kuru]=tame *koko=he*
now=Loc=even person=Nom come=Reas here=Goal
kakurete gozanse.[12]
hide please
'Please hide yourself here, because people will come at any time.'

It appears to be quite recent that the tense restriction was lost. No example of a past tense verb in *tame* cause/reason clause is found in my data before the mid

19th century.[13] Early writings of Ogai Mori in the late 19th century do have such uses.

Thus, the development of reason/cause *tame* involves the initial reinterpretation of the possession of a purpose as a reason for an action, followed by generalization due to the loosening of the restrictions on the embedded subject and verb types, and then the verb tense. This process can be described as in (15).[14]

(15) a. original controlled purpose clause
[s NP_i ... [s PRO_i ... V-*mu* $_{fut/vol}$] =*(ga) tame* V]
=Gen Pur
'for the purpose of ...'

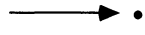
b. cause/reason clause with a verb of thinking/desire
[s NP_i ... [s pro_i ... [s PRO_i ...]=to *omohu*] *tame* V]
=Comp think Reas
'because (I) want to (am thinking of) ...'

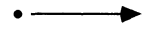
c. the restrictions on the verb type and subject lost
[s NP_i ... [s NP_j/pro_i ... $V_{non\text{-}past}$] *tame* V]
'because ... (e.g., someone is coming)'

d. the restriction on the verb tense lost
[s NP_i ... [s NP_j/pro_i .... V]=*tame* V]
'because ... (e.g., it rained)'

Semantically, the generalization in the reason/cause *tame* clause is one from agent's internal reasons to a wider range of causes/reasons.[15]

The result of the change described in (16) is revealing. The semantic change involved is the reversal of directionality in image-schematic representation of cause and purpose.

(16) a. 
purpose

b. 
cause

4. Discussion

I have seen two cases in which a radical change in the image schema is involved in grammaticalization: *ni-yotte* and *tame*. The development of a cause postposition *ni-yotte* from the verb *yor(-u)* 'come near' is based on the alternative conceptualization of cause in terms of attribution and a causal chain. The change from purpose marking to cause/reason marking in *tame* is based on the reinterpretation of the possession of a purpose or intention as the reason for doing the intended action. In

both cases the original image schema is not preserved. The cases like this provide an interesting and strong counterexample to the hypothesis of image-schematic preservation in grammaticalization (see also Heine, Claudi and Hünnemeyer 1991: 162-163).

The process of change observed above even questions the validity of a weaker hypothesis: semantic change in grammaticalization is image schema-based. One cannot say that only selected aspects of the source image-schema are preserved in *ni-yotte* or *tame* (cf. Lakoff 1993, Turner 1993 cited above), since the resulting image schema is not any part of the original one. The case of *tame* also constitutes evidence against Croft's causal order hypothesis, according to which cause as a causally antecedent role and purpose as a causally subsequent role should be very unlikely to be expressed by the same morpheme.[16]

One way to save the image-schema preservation hypothesis is to allow alternative schemata for cause makers themselves. I have assumed that all cause markers have the image schema like (1a) above. However, this may not be so. Dirven (1995), for example, argues that cause cannot be uniformly represented schematically: it can be understood as proximity (e.g., *tremble with fear*), source (e.g., *die from alcohol*), or a volume (e.g., *recoil in horror*) (see also Radden 1985). It might be argued, then, that cause can be image-schematically goal (or goal-like), and that this is the case with *due to*, *niyotte*, and *tame*. If this is the case, then the original image schema is preserved in the development of these items. However, facts do not seem to support this account fully. It is counterintuitive to regard the 'therefore' use of *(dya-)ni-yotte* in (9) above as image-schematically goal. In addition, this alternative account cannot explain why the development of cause/reason *tame* took the path revealed above.

How is such a non-schema-based change possible? The key to this answer lies in the fact that these changes do not seem to be driven by metaphorical mapping of the sort discussed by Heine to begin with. Metaphorical mapping must be a temporally abrupt process. However, this is not the case, at least in the case of *tame*, as observed above. In addition, metaphor cannot explain why the change in *tame* occurred with the intermediate stages involving the verb of planning. Radical alternation of image schema is apparently a *by-product* of change, not cause.

The changes involved in *ni-yotte* and *tame* are based on the alternative linguistic conceptualization of a described situation, which has resulted in the reinterpretation of the expressions used. In this respect they constitute the conventionalization of context-based inference based on the original meanings of the expressions used. Such non-metaphor-based changes may not respect image schema of the source item; pragmatic reinterpretation can override image schema differences.

The hypothesis of image-schema preservation assumes that semantic changes in grammaticalization are metaphorically driven. This view has been argued for most strongly by Heine (e.g., Heine, Claudi and Hünnemeyer 1991, Heine 1993), but the role of metaphor as a major driving force of grammaticalization has been subject to controversy (see Matsumoto 1996 for a review). The discussion has

centered around the role of metaphor versus other mechanisms for grammaticalization, such as the conventionalization of pragmatic reinterpretation or context-based inference (e.g., König and Traugott 1988). Risking oversimplification, one can state that there are three main positions taken by current researchers with respect to the roles of metaphor and inference. Some take the position that both metaphor and inference play a role, at different levels of analysis or in different ways. This appears to be the position of Heine (1993). Another version of this position is expressed by Carey (1994), who says that inference directs semantic change, while metaphor image-schematically constrains possible changes. Others, like Bybee in Bybee, Pagliuca and Perkins (1994), take the position that metaphor and inference (or any of the other mechanisms of change) are relevant in different instances of grammaticalization. Still others, like Traugott, take inference as a central mechanism of change, and argue that the result of change only *appears* to be a case of metaphor (Schwenter and Traugott 1995).

Bybee's approach seems at present to yield the most reasonable explanation, given the evidence from Japanese presented in this paper and in Matsumoto (to appear). As discussed in this paper, some instances of grammaticalization, like the development of *tame* and *ni-yotte,* are driven by pragmatic reinterpretation, and do not involve metaphorical mapping. Other instances, like those briefly reviewed in Section 1.2 above (e.g., PHYSICAL CONTACT to RELEVANCE), are most plausibly accounted for by metaphor, with image-schematic structure playing a central role (see Matsumoto to appear).[17]

In the view that metaphor and inference are involved in different instances of grammaticalization, a close examination is required to determine which mechanism is responsible for a given change. In this respect, Bybee, Perkins and Pagliuca (1994) argue that metaphor is involved in much restricted cases of grammaticalization in the development of tense/aspect/modality marking than believed before (cf. Bybee and Dahl 1989). The only example that they now claim to be metaphorically based is the development of epistemic reading from deontic *must* in English, because, they claim, there is no context in which *must* can be interpreted ambiguously, allowing a pragmatic reinterpretation of deontic *must* to epistemic *must*. However, this case too might be a result of pragmatic reinterpretation (inference), given that sentences like *John must be back by then* can in fact be ambiguously interpreted.

A closer examination of various cases of grammaticalization might further reveal that the role of metaphor (and image schema) is in fact more limited than perhaps believed before, and that the reality is closer to Traugott's position. The text-based study of the development of grammatical meanings, like the one reported here, would be very important in determining the real factor involved in grammaticalization (Schwenter and Traugott 1995).

5. Conclusion

In this paper I discussed the image-schema basis of semantic changes in grammaticalization by examining data from Japanese. Although image schema does seem to be preserved in some instances of grammaticalization, there are cases where semantic changes are not image-schematically based, as exemplified in this paper by the development of *ni-yotte* and *tame*. This might be typically true when grammaticalization itself is not metaphorically but inferentially driven, as is the case with the two cause markers discussed.

Endnotes

1. This paper was presented at the 4th International Conference of Cognitive Linguistics held in July 1995 in Albuquerque, New Mexico. I would like to thank Richard Dasher, Chie Kanamori, Toshio Ohori, Keiko Shimizu, Eve Sweetser, and Elizabeth Traugott for their comments on this study. Address for correspondence: Yo Matsumoto, 1-2-7-403 Nishinohara, Inzai, Chiba-ken 270-13 JAPAN; e-mail: yomatsum@ltr.meijigakuin.ac.jp
2. Prepositions are semantically two-place predicates but syntactically one-place predicates (see Matsumoto and Takata 1995).
3. In this article the Kunrei-shiki (phonemic) transcription is adopted in linguistic examples. A hyphen (-) is used to indicate affixal boundary, and an equation mark (=), a clitic boundary. The sequence of a postposition and a participial verb in a complex postposition is hyphenated, given that the sequence is morphologically integrative (Matsumoto in press), not allowing any morphological separation of the two.
4. Note that the subject NP in (2b) does not face the moon, unlike what is expected in the controlled participial clause like the one in (2a) (Matsumoto 1993).
5. A somewhat more complex case of image-schema-based change is found in the history of a complex postposition *o-motte*. This postposition was derived from the sequence of an accusative marker and the participial verb *motu* 'take' in an adverbial participial construction. This sequence has developed into a polysemous complex postposition (Matsumoto to appear). *O-motte* was first used as a complex postposition in Old Japanese as an instrumental marker. Instrument is generally conceptualized as causal intermediary in a causal chain (see, for example, Langacker 1991: 404, Croft 1991). This notion of causal intermediary has arisen from the constructional meaning of the verb *motte* 'take' in the source construction, in which the action of taking something is expressed as a preparation to the action denoted by the main predicate (cf. Taking *the saw, he cut the tree.*). *O-motte* later acquired other uses. In *Taketori Monogatari* (9-10th century) and *Konjaku Monogatari* (early 12th century) it was used to mark not only instrument/means, but also manner, causee, time, object in certain constructions, and reason (Yamaguchi 1968). Many of these senses can be characterized as its intermediary position in a chain. First, causee can be regarded as causal intermediary, given that it is what a causer acts on to achieve an intended effect (see Langacker 1991: 411, Kemmer and Verhagen 1994: 129). Manner is also something that accompanies an action (Croft 1991). Time marking *o-motte* occurs with agentive verbs, and indicates the time or setting that the agent chooses to accomplish the action, and in this sense its meaning is close to that of means (cf. Janda 1993). The notion of intermediary status also applies to the cases of *o-motte* as an object marker. My examination of *Konjaku Monogatari* suggests that *o-motte* as an object

marker is restricted to two environments. It is used to mark 1) theme in ditransitive or caused motion sentences (cf. *give* it *to him*), and 2) theme in the objective complement construction (cf. *make* him *happy*). In the former case *o-motte* marks the intermediary entity in an action chain (source ---> theme ---> goal), and in the latter, the causal chain.

6. The postposition *ni*, which is known for its complex polysemous structure, was already polysemous in Old Japanese, and indicated locative, goal, time, cause, standard of comparison, etc. in *Manyooshuu*.
7. The form *yotte* was also used in *Konjaku Monogatari* as a sentence initial connective introducing the consequence of the situation in the prior chunk of discourse (but not as an interclausal conjunction). This use was probably influenced by the use of a similar expression used in Chinese (Kasuga 1942), since it is found in so-called Kanbun Kundoku discourse (the discourse in which Chinese sentences are read out in Japanese by word-by-word translation; see Tsukishima 1963: 374); the literary style of *Konjaku Monogatari* is influenced by the style of this discourse.
8. *Ni-yotte* developed a few more functions including means marking and demoted subject marking. See Matsumoto (to appear) for the development of these senses.
9. If a single action is represented, the predicate must be in the past tense, and if a state or a habit is represented it can be either in the past or nonpast tense.
10. There are occasional exceptions to this obligatory control in the present day Japanese, however. Such exceptions in fact appear to have been present throughout the history of *tame*. See Yoshino (1990) for a few examples in which the purpose-marking *tame* took a non-controlled subject in Old Japanese.
11. In fact, Yoshino (1990) claims that *tame* in Old Japanese did indicate reason (his 'future reason' and 'purpose reason'), assuming that (13) above means 'because I will / want to show it to my wife'. This position does not seem to be compatible with the fact that *tame* modified by an NP was not used to indicate reason in Old Japanese. His argument, however, does suggest that *tame* in Old Japanese was ready to be reinterpreted as a reason marker.
12. This is an example of what Sweetser (1990) calls speech-act use of causal conjunction (cf. 'I perform this speech act of request because ...'). This use is lost in the modern Japanese, in which the conjunction *-kara* or *-node* is used for this purpose.
13. Such use of past tense verb in the cause/reason *tame* clause is found in the Kanbun Kundoku discourse in the Heian Era (9-12th century). This use was clearly motivated by the assignment of *tame* as an equivalence of one Chinese purpose/cause marker, which was used for the events described by past tense verb in Japanese. This use, however, did not become a part of this expression outside such discourse.
14. *PRO* in (17) represents an unexpressed, obligatorily controlled noun phrase; *pro*, on the other hand, is an unexpressed noun phrase which is not necessarily interpreted as coreferential with other arguments. I will not discuss the changes involving the distinction between the two.
15. Given that this process is a generalization from an internal reason (purpose) to cause/ reason in general, and that this kind of generalization is typical in grammaticalization (see Bybee, Perkins and Pagliuca 1994), it might be the case that the syncretism between purpose and cause in different languages might have arisen from the change from purpose to reason, not vice versa.
16. Croft (1991: 190) is not unaware of such examples, but does not seem to think that this poses a major problem to his causal order hypothesis.
17. Note, however, that even image-schema-preserving changes might not necessarily be driven by metaphor. König and Traugott (1988) argue that the development of *since* as a cause marker from a temporal source marker is inference-based.

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Appendix

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Part IV:

Degrees of Transitivity

Reflexive Markers in Polish: Participants, Metaphors, and Constructions

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Reflexive markers have puzzled and intrigued linguists for a number of excellent reasons. They are saliently polyfunctional morphemes, displaying an imposing array of meanings and uses in a broad spectrum of languages (as described by Genusiene 1987, Pederson 1991). They present interesting problems for the description of anaphoric coreference (see Zribi-Hertz 1989, Reinhart and Reuland 1991, Baker 1995, van Hoek 1995), and their semantics is central to analyses of broader linguistic categories such as middle voice (e.g. Kemmer 1993).

From a syntactic viewpoint, reflexive markers are central elements in a variety of syntactic constructions, and reflexive use interacts in interesting ways with case-marking (Janda 1993a, 1993b, Rudzka-Ostyn 1992). This particular study will be concerned with the semantic and syntactic contrasts between two different morphemes in Polish, both of which have been labelled reflexive pronouns. Careful semantic analysis of the various constructions in which these markers occur provides us with an opportunity to distinguish the separate semantic functions of the two (supposedly isofunctional) morphemes. And by examining the ways in which these morphemes interact with grammatical constructions in Polish, we can also gain insight into the interaction between morphological or lexical semantics and syntax in motivating the interpretation of complex constructions.

As is not uncommon in the world's languages, Polish has a contrast between a so-called heavy reflexive marker, *siebie*, and a light one, *się*. The heavy marker is inflected for case: *siebie* (GEN), *sobie* (DAT), *siebie* (ACC), *sobą* (INS), *sobie* (LOC) - there is no nominative form. The light marker, *się*, is invariant in form and is often (though not always) considered Accusative.[1] Although there are a few cases where they may appear to be variants of similar meaning in similar context (*siebie* being more "emphatic"), each of the two morphemes in fact has its own complex set of semantic functions, and thus its own possible range of uses in particular syntactic contexts. I shall argue that at least the central range of the uses of *się* are closer to the classic middle range of meanings, while *siebie* is a classic reflexive - but even this is an oversimplification. I shall briefly introduce the two morphemes, before beginning to detail their contrasting behaviors.

Linguistic literature on Polish gives reflexives a very prominent position; numerous analyses exist, offering divergent classifications of the uses of the reflexive. The common assumption shared by all such studies is that only the light marker *się* is at all problematic or interesting, since the meanings and forms of the heavy

markers appear to lend themselves to a straightforward "reflexive" analysis. On the other hand, as Schenker (1985, 1993) has noted, the research on *się* has focused on documenting the various meanings of the marker, but practically no attempts have been made to reveal the semantic invariant, "the common core", behind all the divergent uses. As a result, the studies have identified as many as fourteen types of reflexives (Wilczewska 1966) or as few as seven (Saloni 1976), and opinions about some of those uses are distressingly different. What one study refers to as an inflectional use of *się* (Wilczewska 1966), another one calls derivational (Koneczna 1955); in some constructions *się* is given the status of the subject (Netteberg 1953, Wierzbicka 1966), while in others it is seen as a straightforward Accusative object (Saloni 1976); in still other interpretations *się* is "an empty morph" (Grzegorczykowa, Laskowski, and Wrobel 1984). Even if this variety results from differing ways of dissecting the data, it is still difficult to accept the conclusion that the same form can represent so many widely different linguistic categories. Following Schenker's suggestion, I will try to show that *się* has at any rate one central function to all the uses, if not actually a common core explicitly present in all.

It seems clear from the above review that the question of the similarity or difference between *się* and the heavy markers is usually not considered. This follows from the assumption that heavy markers are reflexive pronouns in the proper sense of the word, while *się* is either not a pronoun or sometimes not actually reflexive. Saloni (1976), for example, claims that *się* can be interpreted as a reflexive pronoun marked Accusative only in those cases in which the verb can have a full nominal object instead of *się*, as in *myć okna* 'wash the windows' versus *myć się* 'wash oneself'. Even if such a dividing line can indeed be drawn (and I will argue below that it should not), such an analysis has not even addressed the nature of the difference between the accusative reflexive pronoun *się* and the accusative reflexive pronoun *siebie*, which can also be used with a verb like *myć*. Two questions emerge, then: first, what is the difference between the two "reflexive" morphemes in cases where both appear to be permissible; and second, what is *się*, if it is not a reflexive pronoun? I intend to address the semantic side of these issues.

In what follows, then, I will consider the difference in the meaning and use of the two markers: *siebie* and *się*. They are not clearly distinguished by grammars, and, in view of the fact that *się* is a dominant form, *siebie* is sometimes presented as its stylistic variant, used mostly in contrastive contexts. I will claim, however, that the two markers are in fact different: *się* weakens the salience of the distinction between the semantic roles involved (often thus reducing the number of participants to one from two), while *siebie* proposes two separate participant roles, in spite of their being coreferential (i.e., filled by what coincidentally happens to be the same entity). I will first review the contexts in which *się* and *siebie* can both be used, to show the differences in their interpretation. I will also discuss the uses in which only one of the markers is appropriate, and, finally, I will look at some constructions in which these markers are used.

1. Referents, Roles, and Participants: One or two?

Się and *siebie* are permissible in some of the same contexts, but rarely with the same interpretation. The verb which is often cited as freely choosing between the light and heavy marker is *myć* 'to wash', as in (1):

(1) *Umyłam* *się* / *Umyłam* *siebie*.
Wash-1SG-PAST self-ACC / Wash-1SG-PAST self-ACC
'I washed myself.'

However, the variant with *się* is definitely more standard, while *siebie* is more likely in contrastive contexts, where there are other candidates for the filler of the patient role, and self-washing thus stands in comparison with a washing activity involving distinct participant entities. In many contexts, *siebie* invites an interpretation whereby the agent and the patient of washing are in fact separate from each other. It would indeed be the only choice if the speaker were to describe washing a statue, photograph, or other physically independent representation of him/herself. In such cases, the subject and *siebie* represent two referentially distinct participants which are counterparts across mental spaces. As a result, the semantic roles of both participants remain the same as they would be in a prototypically transitive non-reflexive use of the verb: the subject is an agent, while the object is a patient. The verb retains its typical transitive frame and would not be classified as a reflexive verb by any of the grammars of Polish. The only restriction that the use of *siebie* instead of a non-reflexive noun phrase brings into the situation is the impossibility of forming the passive; it would not be acceptable to say *Zostałam umyta przez siebie* 'I was washed by myself'.

Się and *siebie* also contrast in their ability to co-occur with the emphatic marker, *sam*[2]. The emphatic marker is independent from the reflexive, and has a full paradigm of forms marked for number and case. Interestingly, emphatic markers are not restricted to accompanying nouns and personal pronouns, as in *Ty sam musisz to podpisać* or *Marysia sama musi to podpisać* 'You have to sign it yourself', 'Mary has to sign it herself'. They can also be used to emphasize the participant who is repesented by a reflexive pronoun, but it has to be a heavy marker, like *siebie*, not a light one, like *się*. Consequently, we can use *sam* only to emphasize the subject in the *się* variant of (1), while in the variant with *siebie*, emphasis can be put on either of the participants, and the case marking of *sam* has to agree with the case marking of the noun or pronoun in question:

(1) a. *Sama* *się* *umyłam*.
EMPH-NOM self-ACC wash-1SG-PAST
'I (myself) washed myself.'
(could be said by someone whose ability to wash oneself without external help can be questioned, like a child, or a disabled person).

b. *Sama* *siebie* *umyłam.*
EMPH-NOM self-ACC wash-1SG-PAST
umyłam *samą* *siebie*
Wash-1SG-PAST EMPH-ACC self-ACC
'I (myself) washed myself' / 'I washed myself (not anyone else).'

The restrictions seem to confirm the claim that the verb with *się* has one participant-role in its frame, while the one with *siebie* has two. If that is the case, what kind of a participant does *się* require? In the broadest sense, it seems to reduce the salience of the distinction between participant roles. In the case of a verb like *myć* 'wash', the non-reflexive meaning requires the subject to be an agent, thus presenting the participant as intentionally undertaking the action of washing and being reponsible for it (see Lakoff and Johnson [1980] for a discussion of prototypical agentivity). This construal also involves a patient, who/which is being washed. With the use of *się*, however, these two roles are not separate, so that it is not sufficient to say that in such a use the same participant fulfills two roles. The patienthood of the participant is practically absent from the construal, as the body of the participant is not presented as an object of the subject's manipulation. At the same time, the participant is not presented as causally responsible for the activity, but rather, as Schenker (1985) puts it, he/she is "engulfed by the activity", or "in its midst". We have a "self-washer" or "bather", rather than a washer and a washed entity.

This essentially "middle" construal often involves lowering the degree of the participant's responsibility and volitional involvement. A bather is responsible for the self-affecting activity of bathing, or at least may be responsible for it; but the absence of a separate role of agent, distinct from patient, opens the door to less volitional interpretations of the single participant's ill-defined role. As Schenker (1985) notes, the neutralization of the agent and patient roles in the uses with *się* can go as far as making some sentences with *myć* ambiguous. For example, in a sentence like *Jaś się myje* 'Johnny is washing himself' two construals are possible: one where Johnny is indeed washing himself, and the other, whereby he is being washed by someone (suppose Johnny is a child). This is, says Schenker, because a sentence with *się* does not have an agent or a patient, but is unmarked in this respect. In other words, we could say, the participant role is neither agent nor patient in the construals with *się*, but the context will help one select the more likely interpretation of the role of the named participant. The construal will involve explicit mention of one participant role only, although other roles may be inferred (for example, an agent who is washing the child) from the context.

This analysis of *się* does not directly address the question of coreferentiality. In construing an utterance concerning self-affecting action, there is normally no need to address the issue of coreference; the two semantic slots normally evoked by a verb such as *wash* have been merged, and only one filler is really in question. However, another possible way to reduce the number of distinct roles is to refer

primarily to the patient role (as in the 'Johnny is being washed' interpretation above). Here one might say that the non-coreference is inferred from context, which allows one to construct a picture involving an agent doing the washing as well as a victim of the washing activity. A default interpretation of *się* with a basically transitive verb would thus not even need to actively infer coreference, but other interpretations would be possible depending on the construal of the role-reduction function of *się*. This analysis of Polish at least partially parallels van der Leek's (1991) proposed analysis of light reflexive markers in Dutch as involving inferred coreferentiality, while in the case of the heavy markers coreference is asserted.

Whether the use of *się* results in a merged agent-patient role, or in complete elimination of the agent role, it often results in a less volitional or controlled interpretation of the activity referred to. No such reduction of volitionality or responsibility on the part of the central participant is observable when *siebie* is used. The contrast between responsibility-preserving uses of *siebie* and responsibility-reducing uses of *się* is best seen in sentences with verbs like *uderzyć* 'hit', which are also typically agentive and transitive. We cannot use *siebie* to describe the cases where one hurts oneself while passing an object and accidentally hitting it. It is thus unacceptable to say **Uderzyłam siebie o róg stołu* 'I hit myself on the corner of the table', because *siebie* implies an intentional act of the subject. On the other hand, the sentence *Uderzyłam się o róg stołu* is fully acceptable to mean that some part of my body hit against the table, without my conscious involvement. At the same time, we can describe the acts of intentionally hitting oneself with the use of *siebie*, as in *Wzięłam magiczna różdżke i uderzyłam nią siebie, a potem dzieci.* 'I took the magic wand and I hit myself and then the children'. Here, the reflexive pronoun invites the interpretation whereby the agent and the patient are understood prototypically, but happen to have the same referent. Following Langacker (1991), we can say that the cases with *siebie* involve the unidirectional flow of energy from the agent (the energy source) to the patient (the energy sink); that is, they represent typical action chains. In the cases with *się*, on the other hand, there is no transfer of energy between two distinct participants, although the participant involved is not entirely non-energetic and there is some energy flow.

Such double construals with reflexives are possible also in the cases where the subject is an experiencer, as in (2):

(2) *Zobaczyłam* *się/siebie* *w lustrze.*
See-1SG-PAST self-ACC in mirror-LOC
'I saw myself in the mirror'.

Here, *się* invites the construal whereby the unity of the sentient subject and the perceived object comes as no surprise to the experiencer (and indeed, self-observance in mirrors is in some sense the "standard" activity). *Siebie*, on the other hand, by separating the two roles, calls for an interpretation such that seeing one-

self was not expected. As Langacker (1990: 20) observes, examining a representation of oneself invokes a highly objective construal, such that the entity perceived is fully salient and in focus of attention. This is indeed the case in the interpretation of the sentence with *siebie*. On the other hand, in Langacker's terms, entities construed subjectively are implicit and therefore non-salient. This description seems to apply to the interpretation of the sentence with *się*, where, as in the instances discussed above, seeing and at the same time being seen is one, unified type of experience, with no highlighting of the asymmetry involved.

The sentences above represent the "standard" reflexive cases where the reflexive marker is added to a transitive verb in the position normally reserved for the object (patient), while the subject may remain the same, even though with *się* the salience of the subject's distinct role is reduced. In a number of other instances, which are often quoted as typical uses of the Polish reflexive forms, the verb is instead de-transitivised[3], and the patient occupies the subject position, while the agent/subject may be entirely absent from the structure. This is the case in (3b), which uses the reflexive form of the verb *gotować* 'to cook', the transitive use of which is shown in (3a):

(3) a. *Gotuję* *zupę*
Cook-1SG-PRES soup-ACC
'I'm cooking the soup'
b. *Zupa* *się* *gotuje*.
Soup-SG-NOM self-ACC cook-3SG-PRES
'The soup is cooking'.

In such cases there is no question of any "true" reflexivity: the soup is not acting on itself. The construction will more typically be called "middle": in some sense the soup is the central participant in an activity which is affecting it. If, however, we look at how (3b) relates to (3a), some similarities between all the *się* sentences considered so far and their transitive relatives is clear. In (3b), the participant role of agent is not only made less salient, but entirely removed from the immediate scope of reference, since 'the soup' is no longer portrayed as affected (or effected) by the agent's doings: it is in the course of a process called 'cooking', and the responsible participant (if any) is not mentioned in the structure. So the construction with *się* has again reduced the number of participants to one, removed salience of contrast between roles (in this case, by entirely backgrounding one of the roles), and, additionally, promoted the single profiled participant to subjecthood. It is thus not surprising that the only variant acceptable in such uses is the one with *się*. *Siebie* is not acceptable in such an intransitive use, because it would obligatorily indicate coreference between the fillers of two distinct roles, and thus imply that the soup is capable of volitional action and can direct the action onto itself.

Other interesting cases of de-transitivisation are verbs which have experiencer subjects, while the stimulus which is the source and cause of the experience in question may either remain absent from the valence or be mentioned in a peripheral syntactic slot. A good example here is the verb *nudzić* 'bore', as used in (4):

(4) a. *Ta książka mnie nudzi.*
This book-NOM 1SG-ACC bore-3SG-PRES
'This book bores me.'
b. *Nudzę się (tą książką).*
Bore-1SG-PRES self-ACC (this-INSTR book-INSTR)
'I'm bored (with this book).'

Although it does not involve a typical action chain, the non-reflexive variant (4a) is asymmetrical in the sense proposed by Langacker, for the book is the cause of the effected boredom in the reader, while the reader has no equivalent effect on the book. As in the other cases with *się*, (4b) does not express such an asymmetric relation between distinct participants, even if the instrumental phrase specifying the source is there. The reflexive form is interpreted again as if there were no separate participant responsible for the experiencer's state, and the experiencing participant is in a way "immersed" in the feeling of boredom. The book is interpreted rather as part of the content of the experience than as the causal stimulus. As in the case of (3), *siebie* is not an acceptable form of the reflexive in (4b), without some rather extensive contextualization. If we imagine somebody giving a boring speech and being presented both as the speaker and as (inevitably) also a bored listener, that person could reasonably say: *Znudzilam siebie i wszystkich na sali* 'I bored myself and everybody in the room'. In such a use, however, *siebie* again presents an independent participant, who happens to be coreferential with the speaker.

Another interesting case of the *się/siebie* contrast is that of the so-called *reflexiva tantum*, verbs which occur only in the reflexive form, such as *bać się* ('be afraid'), *gniewać się* 'be angry', or *podobać się* 'be liked'. As in many other languages (see Geniusiene 1987, Kemmer 1993, Pederson 1991), verbs of this reflexive class often describe states of the body or mind, emotions and feelings. They do not have agentive or transitive uses. The really interesting fact about these verbs is that they do not allow the *się*, which marks them as inherent reflexives, to be replaced by *siebie* in any context, but they do allow *siebie* (or a differently case-marked heavy reflexive marker) elsewhere in the structure. It is thus unacceptable to say **Boję siebie* 'I'm afraid', using a heavy marker to express a one-participant experience of fear, but it is acceptable to say (5):

(5) *Boję się siebie.*
Fear-1SG-PRES self-ACC-LIGHT self-ACC-HEAVY
'I'm afraid of myself.'

whereby the speaker is both the experiencer and the source of the feeling of fear and thus fills two participant roles at the same time. As in some examples of the use of heavy markers above, both of the participants can be presented with emphasis, so that in the two-participant-role examples such as (5) we can use emphatic markers either with the subject (a nominative emphatic marker) or with *siebie* (an accusative emphatic marker), but not with *się*. As a result, no accusative emphatic marker can be used in a sentence such as *Boję się*, since the only non-nominative case-marked entity present is *się*, which does not represent a separate participant-role capable of sustaining emphasis.

The two Accusative reflexive markers thus have different functions: the light marker (*się*) marks construals where there is only one participant role or minimal differentiation between the two roles normally specified in the verb's valence. As a result, it tends to mark weakening of the prototypical semantic features of the classic two-participant frame. The heavy marker (*siebie*), on the other hand, sets up a scenario in which one referent fills two distinct roles. Thus, the uses of *siebie* do not affect the interpretation or constellation of roles in a frame: valence is not reduced, the case frame is unchanged, and the semantics of transitivity (volitionality, responsibility, etc.) are also unaltered. In the further sections of the paper we will look at some specialized constructions based on the valence-reducing role of *się*, and at the types of construals that invite the use of a heavy marker like *siebie*.

2. Light Reflexive Markers and Generic Constructions

A Polish construction which has attracted an unusually divergent set of linguistic analyses is the impersonal, generic construction, in which *się* is used with a verb in the third person singular neuter without a nominative subject. Practically any verb can be used in this construction: (6a) exemplifies the construction with an intransitive verb, (6b) with a transitive one.

(6) a. *Telefonuje* *się* *z* *sekretariatu.*
Make-a-call-3SG-PRES self-ACC from office-GEN
'Telephone calls are (should be?) made from the office.'

b. *Zupę* *się* *gotuje* *w* *tym* *garnku*
Soup-ACC self-ACC cook-3SG-PRES in this-LOC pot-LOC
'Soup is (should be) cooked in this pot.'

No full nominative NP occurs in this construction. In such sentences the agent role appears to be relevant but backgrounded in that, first, it is unmentioned, and, second, these sentences are taken as statements of what normally is or should be done - they apply to any potential agent, not to some particular referentially spe-

cific agent. This impersonal or generic meaning seems motivated at least in part by the fact that *się* in other contexts reduces agent responsibility, by reducing the differentiation between agent and patient roles. In this case, the agent participant is presumably responsible for the act, and presumably also separate from the patient.[4] But the sentence focuses on the procedure (sometimes including the patient participant in the procedure); *się* once again marks deviation from a prototypical transitive action chain, in removing the possibility of reference to or salience of the agent role.

There remains the question of whether *się* itself can be assigned any particular semantic or syntactic role. Since it cannot fill the slot of the object (or patient) in sentences like (6a), where the verb's valence has no such role, some researchers (e.g. Netteberg 1953) have proposed that it stands for the nominative subject (and agent). This proposal not only ignores the historically accusative pedigree of *się*, but also, perhaps more importantly, it suggests that this use of *się* is entirely separate from all the other contexts where a nominative interpretation would obviously be inappropriate. The motivation for this multiple-case analysis is the desire to assign a specific semantic role to each occurrence of *się* I have argued above that *siebie* in fact does always take up a slot in the semantic valence. But it seems that the role of *się* is not to fill a slot, but to reduce the salience of differentiation between slots and to mark deviation from the transitive scenario.

The construction in (6a) and (6b) is far more restricted semantically than is often claimed. It is commonly described as impersonal and generic, but it seems further to necessarily refer to some standard, approved way of performing the activity in question (hence the suggested translation with 'should be'). (6a) says that calls are normally made from the office, (6b) points to a particular pot which is customarily used for cooking soup. It is difficult to find a context in which the two sentences could be used without indications such as 'from the office' or 'in this pot', describing this "standard procedure". Still, one could imagine somebody saying *Telefonuje się* 'One makes a call' in response to a question of the type 'What does one do to find out about the store hours?'. Similarly, we can imagine a parent explaining to a small child that soup is cooked, not fried, by saying *Zupę się gotuje* (with some emphasis on *gotuje*). In both of these cases the reflexive verb in itself describes (or prescribes) the standard way of doing things.

The generic reflexive construction also contrasts with another generic construction, in which the noun *człowiek* (generic 'man') is used instead of *się*. The latter construction has no "prescriptive" undertones but is also impersonal and generic. It would be awkward to say *Człowiek telefonuje z sekretariatu* 'One calls from the office' because it is not the speaker's intention to say that every phone call ever made is necessarily made from the office. On the other hand, it would be acceptable to say *Kiedy człowiek telefonuje, nie można głośno słuchać radia* ('When someone is making a phone call, you cannot turn the radio on full blast'). Even if the second clause has some prescriptive sense, the when-clause does not.

At the same time, it is interesting to note that the prescriptive generic construction with *się* is not open to verbs which conventionally use *się* in a different function, such as *reflexiva tantum* and directly self-affecting actions, which are normally expressed as reflexives. We can contrast two uses of *myć* 'wash', a normally reflexive use as in *Myję się* 'I am washing myself', and a normally non-reflexive use as in *Myję zęby* 'I-brush teeth-ACC', 'I am brushing my teeth'. It is acceptable to use the non-reflexive form of the verb *myć* in the generic "reflexive" construction, as in *Zęby myje się pastą* 'Teeth-ACC should be washed/brushed with toothpaste', but it is unacceptable to use the generic *się* construction to say that one washes oneself with soap. This meaning can only be rendered by another generic construction using the first person plural to indicate prescribed behaviour (as in *Myjemy się mydłem*, 'We should wash ourselves with soap'). Similar restrictions apply to verbs like *bać się*, 'be afraid', members of the *reflexiva tantum* group, which require the use of the noun *człowiek* to represent the potential experiencer, as in (6c). In fact, it would be difficult to imagine a situation where being afraid would be a standard procedure, so it is not surprising that the semantic class of *reflexiva tantum* do not coexist with the generic *się* construction.

(6) c. *Nocą* *w obcym* *mieście* *człowiek.*
Night-INSTR in unknown-LOC city-LOC man
się *boi*
self-ACC be-afraid-3SG-PRES
'One is afraid in an unknown city at night.'

The generic and middle uses of *się* can appear in sentences which may appear structurally quite similar. A middle sentence such as *Zupa się gotuje w tym garnku* ('The soup is cooking in this pot' - cf. [3b]) differs from the generic (6b) only in one respect: the middle example uses the noun in the Nominative *zupa*, while (6b) requires the Accusative form *zupę*. This difference has of course been noted and documented (e.g. Kanski 1986), but it is usually assumed that the verb in both cases is the same reflexivized variant of the transitive verb *gotować*. I think that this is true only of the sentence with the Nominative, because the addition of *się* here requires a middle construal where a single participant is involved in a process affecting the participant. In the case of a sentence like (6b) the verb does not really take on middle semantic valence, and the patient remains Accusative, while the unspecified agent is not expressed. Although in both cases *się* reduces the number of distinct semantic roles explicitly expressed, the generic case does so in a different way from the middle case, and we probably would not want to describe the verb in (6b) as semantically reflexive in any sense[5].

3. Reflexives and Perfective Aspect

There are numerous documented constructions with *się* which use the marker in ways similar to the ones considered above. However, linguists and grammarians have ignored an interesting role played by *się* in the construal of aspect. There seems to be a consistent pattern changing imperfective verbs like *spacerować* 'walk' into perfective/"reflexive" verbs like *przespacerować się* 'take a walk'. In Polish grammars, however, such forms are presented as independent verbs because the reflexive variants are lexicalized to a significant degree. In what follows I want to show that the presence of *się* cooperates with the aspectual meaning in changing construals of situations described, and that such uses are also related to the general function of *się* as a reducer of the distinctness of participant roles.

Several types of verbs construct some of their perfective forms with the help of the reflexive marker[6]. First, there are intransitive verbs like *spacerować* 'walk' above, which imply the volitional involvement of the person walking. The change brought about by the change of aspect and addition of the reflexive marker, as in (7), affects the understanding of participation and also presents the activity as completed:

(7) *Przespacerowałam się.*
Walk-PERF-1SG self-ACC
'I took a walk'.

The presence of *się* in the object position implies that, in spite of the intransitive type of activity involved, the participant actually doing the walking is at the same time affected by the activity. In fact, the patient-like role of the main (and only) participant may be the one primarily intended, so that the sentence is not really about what X did, but rather about what happened to X, in spite of the fact that X is really the energy source here. X is thus simultaneously agent and affected entity, and taking a walk is construed explicitly as self-affecting. As Eve Sweetser pointed out to me, there is a well-known connection between patient focus and perfectivity (perfect participles, for example, tend crosslinguistically to be passive, unlike present participles), so it is perhaps not surprising that this use of *się* to bring the agent into an affected or patient-like role also makes for a perfective interpretation. Perfectivity focuses on the end state of the action, which is manifested in the effect on the patient.

Aspect and reflexivity can change construals in a different way if the verb is not an activity verb to begin with, as in the case of *spać* 'sleep') or *marzyć* 'dream'. One can use the verb *spać* similarly to *spacerować*: the form *przespać się*, like *przespacerować się*, means that for a complete period of time the participant intentionally puts himself/herself into sleep 'take a nap'. Again the reflexive form presents the participant as to some degree an agent, and to some degree a patient,

even though none of these roles figures prominently in the typical state of being asleep. We can say that the resulting construal is state-inchoative.

The state-inchoative meaning of such perfective/reflexive constructions is seen even better in uses such as *rozmarzyć się* or *rozespać się* 'dream/sleep until you are in a state where you do not want to stop', whereby sleeping or dreaming puts the participant into a state of dreaminess or sleepiness. The participant is thus at the same time experiencing the state of being asleep or dreaming and being affected by it. Neither role is capable of being distinguished from the other by reference to a distinct participant.

Interestingly, the above state-inchoative pattern applies also to various activity verbs, like *tańczyc* 'dance', *śpiewać* 'sing', or *gadać* 'chat'. They all can be used with the perfective prefix *roz-* and *się*, to mean that the participant undertakes an activity and is so overwhelmed by it that he/she cannot interrupt it. Some of such uses are fully lexicalized, as in the case of the pair *pić* 'drink' and *rozpić się* 'become a drunk', where the new state described is indeed one where one has a problem stopping the drinking, even though the use is restricted to drinking alcohol. One might say that the most permanent effect of an activity is the addiction or habituation of the participant to the activity. In such a case, the participant is definitely both actively involved in the activity and affected by it to the extent of losing control. This pattern is quite productive, as we can see in fairly novel uses of verbs such as *podróżować* 'travel' (*roz podróżować się*, 'become a regular/habitual traveller'). Overall, examples of such uses are very numerous.

Perfective reflexives of the type described above are also common among verbs derived from transitives, as in (8) and (9):

(8) *Czytałam* *książkę* / *Zaczytałam* *się.*
Read-1SG-PAST book-ACC / Read-1SG-PERF self-ACC
'I was reading a book.' / 'I got deeply involved in reading.'

(9) *Piłam* *wino.* / *Upiłam*
Drink-1SG-PAST wine-ACC / Drink-1SG-PERF
się *winem.*
self-ACC wine-INSTR
'I was drinking wine.' / 'I got drunk with wine.'

In the non-perfective variants in (8) and (9) there are agents and patients in the traditional sense. In the perfective/reflexive variants, the agents no longer fill only an agent role, since they are presented as moving into a certain state as a result of the activity, rather than just performing it. They are also partly patients because they are (to a degree) affected by their own activity. When it is completed, they find themselves in a state that the activity brought about: total concentration on reading or feeling intoxicated. These uses are thus also state-inchoative. At the same time, the patients of the imperfective sentences are either not profiled (as in

[8]), or are construed differently, which is marked by the change of case of the noun *wino* in the perfective version of (9). Thus, as in the other instances, *się* participates in the construals in which there is only one central participant, having some features of an agent and some of a patient, but with neither role appearing with full salience.

4. Heavy Reflexive Markers and some Metaphors of the Self

Contrary to common belief, *się* and *siebie* share very few aspects of interpretation. The minimal expected similarity is that in both cases there is physically one referent, but even this is not entirely true of the generic construction with *się*, where there is no particular referent (cf. intransitives like [6a]), or of the examples where *siebie* involves counterparts rather than one entity (a person and the photo of that person). Sentences with *siebie* have two distinct semantic roles filled by the subject and *siebie*, while sentences with *się* neutralize distinctions between roles, often attributing to a subject some features of both.

Thus, *siebie*, not *się*, is the reflexive marker which represents the "multiple selves" metaphors, as described by Lakoff (1996). These metaphorical models construe, as Lakoff proposes, the person's Subject (center of consciousness) and Self (the rest of the person) as filling separate roles in some activity. *Się* is never used to represent such construals, because it merges the roles, rather than separating them. On the other hand, *siebie* is consistently used to represent these models. For example, (10) represents the Objective-Subject metaphor, (11) is an example of the Split-Self metaphor, while (12) and (13) exemplify the Real-Me and the True-To-Yourself metaphors respectively:

(10) *Spójrz na siebie z zewnątrz.*
Look-IMP on self-ACC from outside.
'Step outside yourself and take a look at yourself.'

(11) *Walczy z sobą.*
Fight-3SG-PRES with self-INSTR.
'He's struggling with himself.'

(12) *Nie jestem dziś sobą.*
Not be-1SG-PRES today self-INSTR.
'I'm not myself today.'

(13) *Nie zdradzaj siebie.*
Not betray-IMP self-ACC.
'Don't betray yourself.'

It is interesting to note that some verbs can be used with both *siebie* and *się* in ways that contrast the "multiple selves" use with the use that reduces salience of participation in the way typical for the uses of *się*. For example, (13) above is interpreted to mean that one's Self can push one to do something against the beliefs of the Subject, to betray the Subject's values. In a use with *się*, as in *Zdradziłaś się!* ('You gave yourself away!'), the interpretation is that the person unintentionally did something to reveal a secret it was in her best interest to keep. Thus she did something to hurt herself, which could represent a conflict between the Self and the Subject if it were not for the fact that she did it unintentionally. Thus *się* is used here in its most common function: to mark a self-affecting action which is not prototypically agentive (for instance, the participant is not fully responsible for the result achieved, and is also affected by it as well as bringing it about).

(14) a. *Poświęciła* *siebie* *i*
Sacrifice-3SG-PAST self-ACC-HEAVY and
swoją *karierę* *dla* *rodziny.*
self-POSS-ACC career-ACC for family-GEN.
'She sacrificed herself and her career for her family.'

b. *Poświęciła* *się* *dla* *rodziny.*
Sacrifice-3SG-PAST self-ACC-LIGHT for family-GEN
'She sacrificed herself for her family.'

An even more subtle contrast is manifested in (14a) and (14b). (14a), which represents the Self-Sacrifice metaphor, uses the heavy marker, which is the normal usage to mark coreference inside a compound noun phrase in object position. But the use of *siebie* here does not simply satisfy the requirement that all parts of the conjoined object phrase need to have a full nominal status. It also represents one of the "multiple selves" metaphors in that the subject of the sentence ('she') is here construed as a fully salient participant (Subject), undertaking a volitional action, while the sacrificed Self is affected by the doings of the Subject as an independent participant. The salience of participation brought into the interpretation by the "mutiple selves" metaphor makes it possible (as in example [2] above) for both participants (the Subject and the Self) to be construed objectively (cf. Langacker 1990). Consequently, both participants can be described, in terms of Langacker's (1990, 1991) theatre metaphor, as being onstage, in the focus of attention. The Subject is acting, and the Self (along with her family) is affected by the action.

In (14b), on the other hand, there is only one onstage participant, as *się* is not an expression of explicit self-reference. The participant is "immersed" in a situation and the construal focuses not on the person's doings, but on her experience. It is thus a highly subjective construal, in Langacker's sense. One of the differences between (14a) and (14b) is, then, that of perspective. In (14a), the situation is presented from the speaker's point of view, that is, with some degree of objectivity. (14b), on the other hand, takes the perspective of the subject ('she'), and looks at

the situation from "within", that is, with regard to her feelings. Is "self-sacrifice" in this case something that one does or undergoes?

To sum up, the data discussed above seem to support several conclusions. First, light and heavy reflexive markers in Polish represent the category of "reflexivity" in different ways. The heavy marker seems to be the only "true" reflexive, centrally representing two distinct semantic roles as both filled by one entity. This semantics is particularly amenable to representing what Lakoff describes as "multiple selves" metaphors. The light marker, on the other hand, has a role-neutralizing function. It reduces the number of expressed participant roles, by eliminating syntactic expression of some of those roles in central syntactic slots, and/or by diminishing the distinction between roles held by the central participant. In general, this prevents the sentence from referring to a "classic" transitive scenario where strongly differentiated agent and patient roles are attributed to distinct entities. Instead, atypical agents are seen as affected by their action, atypical patients are seen as involved in autonomous activity, or activities are viewed as generic rather than specific. Further research will be needed to fully investigate the complex network of construals arising in different *się* constructions.

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Endnotes

1. Spoken Polish may also be beginning to use a "light" form of the Dative (independently of the already existing light dative form *se*, which is considered substandard). However, this usage is not well described, and since we have no recorded corpus of modern spoken Polish, collecting relevant spoken data for the purposes of this paper was not possible.
2. The word *sam* has a number of uses and meanings, both in its basic sense of 'alone' and in its emphatic function. The examples here represent only the most common emphatic use, similar to the emphatic use of reflexives in English.
3. It is commonly claimed that the basic role of reflexive markers like *się* is to de-transitivise a transitive verb. In view of the data presented here this seems to be a much too narrow interpretation.
4. The form of the verb (3rd person neuter) is very important here and makes its own contribution to the constructional meaning, describing the situation as "a general state of affairs". A detailed presentation of this aspect of the construction's meaning is beyond the scope of this paper.
5. Interestingly, the verb *gotować* can also be used with the heavy dative reflexive marker *sobie*. Such sentences are ambiguous between two meanings: where the dative participant is the recipient, and where the subject participant wants to emphasize his/her involvement in the activity and exclude others from its scope:

Gotuję *sobie* *zupę.*
Cook-1SG-PRES self-DAT soup-ACC
'I'm cooking some soup for myself' / 'I'm just cooking soup.'

6. Perfective aspect in Polish is a lexical category, realized by various prefixes, often derived from prepositions. That is why the same verb may have several perfective forms.

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Transitivity and the Incorporation of Ground Information in Japanese Path Verbs

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1. Introduction

In Talmy's (1985) typological classification of languages with respect to how they lexicalize information about events into the main verb and the satellite, there are three main types of languages: those that conflate motion and path, those that conflate motion and figure, and those that conflate motion and manner or cause. In this framework, Japanese has often been characterized as the second type, the 'motion+path' type like Spanish. In this paper, we argue that this characterization is not exact because a significant portion of Japanese path verbs also contain specific information about the nature of the ground[1], i.e., the space traversed by the path. We will give a detailed analysis of motion+path verbs in Japanese, arguing that two subclasses should be distinguished, "pure" motion+path verbs (which we call Directional Path verbs) and motion+path verbs which also include information about the ground (Ground Path verbs). Although previous research has treated both types of path verbs uniformly, characterizing them as intransitive, unaccusative verbs (Tsujimura 1991, Miyagawa 1989), we will demonstrate that different semantic properties across the two types of motion verbs result in different syntactic behavior; syntactic tests converge to show that the Ground Path verbs (hereafter GP verbs) have more "transitive properties" than the Directional Path verbs (hereafter DP verbs). This increased transitivity of GP verbs is most clearly manifested in the selection of case marker for the locative noun phrase, in that the locative argument expressing the Ground component is marked with *-o*, the accusative case marker. Finally, we will use Dowty's (1991) notion of Incremental Theme to explain why the transitivity is increased in GP verbs.

2. The two Types of Path Verbs

With the DP verbs, one of the two types of Japanese path verbs, the focus is on the direction of motion relative to a starting point or goal. All these verbs can be used with noun phrases naming the starting point of the motion (marked with the post-position *-kara*, 'from') or the goal (marked with the post-positions *-ni* or *-e*, 'to', or *-made*, 'as far as'). The basic DP verbs are listed below in (1).

(1) Directional Path verbs
agaru 'rise', *deru* 'go out, leave', *hairu* 'enter', *iku* 'go', *kaeru* 'return', *kuru* 'come', *modoru* 'return', *oriru* 'go down/get off', *sagaru* 'fall/step back', *saru* 'leave', *susumu* 'advance'

With the GP verbs, listed in (2) below, there is more focus on the nature of the ground that is being covered by the motion. Although the rough glosses here do not reflect this, most of these verbs are highly specific as to the nature of the ground; detailed descriptions of the ground information will be given in Section 3.2. All of the GP verbs occur in a basic syntactic frame in which the noun phrase that expresses the ground is marked with *-o*, the accusative marker.

(2) Ground Path Verbs
koeru 'go over', *kudaru* 'go down', *kuguru* 'go under', *noboru* 'climb', *nukeru* 'come out', *touru* 'go through', *wataru* 'go across'

The verbs listed in (1) and (2) above are a significant portion of the motion verbs in Japanese. [2]

3. Basic Semantic Representations of the two Types of Verbs

We will first describe semantic characteristics of the two types of verbs through case studies of a few representative verbs of each type (Sections 3.1. and 3.2.). We will then compare the semantic properties of the two classes in Section 3.3.

3.1. Directional Path Verbs

3.1.1. agaru

The meaning of *agaru* describes the direction of the motion, but it doesn't restrict the ground through which the motion occurs. The examples below further illustrate this.

(3) a. *Kemuri ga agatta.*
smoke NOM rise-PAST[3]
'The smoke rose'
b. *Neko ga nikai ni agatta.*
cat NOM second-floor to rise-PAST
'The cat went up to the second floor.'
c. Shadanki ga agatta.
crossing-guard-arm NOM rise-PAST
'The crossing guard arm went up.'

d. *Te ga issei-ni agatta.*
hand(s) TOP simultaneously rise-past
'The hands all went up together.'
e. *Kare wa suteeji ni agatte aisatsu o shita.*
he TOP stage to rise-GER greeting O do-PAST
'He went up on stage and greeted (the audience).'

For most of the examples, we can imagine that the motion is through the air, without the figure coming into contact with any surface, but in (3b) and (3e), the ground is presumably a stairway, although it is possible that the cat or the person went up in some other way, such as by jumping, climbing, or being lifted. Examples (3b) and (3e) show the use of a noun phrase which names the goal of the motion, while examples (3a), (3c) and (3d) show the use of *agaru* with inanimate subjects.

3.1.2. iku

Iku, a deictic verb describing motion away from the speaker, is another Directional Path verb. Like *agaru*, *iku* does not specify the ground through which the motion takes place. A sentence like (4a) below can be used whether the speaker's father gets to his office by walking or whether he drives though streets crowded with traffic. (As we will see in Section 3.2., the GP verbs are much more restricted in this respect.) Examples (4a) and (4c) show *iku* used with goal phrases, while (4d) has both an inanimate subject and source phrase, *kaisha kara,* 'from the company'.

(4) a. Chichi wa ashita kaisha ni iku.
father TOP tomorrow company to go
'Father will go to work tomorrow.'
b. *Kanojo wa mou itte-shimatta yo.*
she TOP already go-GER-finish-PAST PART
'She's already gone.'
c. *Erebeeta ni notte, go-kai made itta.*
elevator on ride-GER fifth-floor as-far-as go-PAST
'(I) took the elevator to the 5th floor.'
d. *Anata ni kaisha kara denwa ga ikimashita ka?*
you to company from call NOMgo-POL-PAST PART
'Did a call come to you from the company?'

3.2. Ground Path Verbs

In contrast with the DP verbs, which simply describe motion in a particular direction, the meanings of GP verbs are more specific, incorporating information about the nature or the shape of the ground covered in the course of the motion along with information about the direction of motion. All of these verbs occur in a basic

syntactic frame in which an *-o* marked noun phrase names the ground. (Most of these verbs also have related non-motional senses with inanimate subjects, as we will discuss in Section 4.3.). The figures and examples below illustrate the basic meanings of some of the GP verbs.

3.2.1. wataru

Figure 1 below shows a schematic representation of the meaning of *wataru*. Although the meaning of this verb implies that there are both a starting point and a goal, the focus is on the nature of the ground which is crossed.

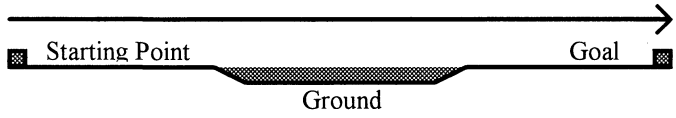


Figure 1. Schematic representation of wataru

The examples below show some of the constraints on the use of *wataru*. In the grammatical sentences, *kawa* 'river' and *michi* 'street' describe kinds of flat barriers (5a). If we try to use this verb in a case where there is no barrier and no ground separating two points, as in (5b), the result is ungrammatical. Likewise, if the barrier is not of the correct shape the result is also ungrammatical, as in (5c) in which the barrier, a mountain, is not flat.

(5) a. *Jun wa kawa/michi o watatta.*
Jun TOP river/street O cross-PAST
'Jun crossed the river/street.'
b. **Jun wa heya o watatta.*
Jun TOP room O cross-PAST.
'Jun crossed the room.'
c. **Jun wa yama o watatta.*
Jun TOP mountain O cross-PAST
'Jun crossed the mountain.'

Wataru has an extended meaning, $wataru_2$, which occurs in a construction in which the starting point and goal are explicitly mentioned while the ground is not. In $wataru_2$, even though the ground information is not expressed on the surface, the constraints on the type of ground are the same as for $wataru_1$. Sentence (6a) is acceptable because Kanagawa Prefecture and Chiba Prefecture are separated by Tokyo Bay. However, (6b) is unacceptable because Saitama Prefecture and Kanagawa Prefecture are not separated by any body of water; Tokyo lies between them. When $wataru_2$ is used with unknown place names, a hearer will assume that these places are separated by a body of water.

(6) a. *Jun wa Kanagawa kara Chiba ni (fune de) watat-ta.*
Jun TOP K. from C. to (boat by) cross-PAST
'Jun crossed from Kanagawa to Chiba (by boat).'
b. **Jun wa Saitama kara Kanagawa ni watat-ta.*
Jun TOP S. from K. to cross-PAST
'Jun crossed from Saitama to Kanagawa.'

3.2.2. koeru

Koeru is similar to *wataru* in that the ground is a barrier, but where *wataru* specifies a flat, extended surface, *koeru* typically specifies a vertical barrier such as a mountain or a wall, as shown in Schema A below. The barrier itself may be something that can be passed in a moment, such as a gate, but the action described by *koeru* necessarily starts before the barrier and continues past it toward a goal. *Koeru* can also be used with flat, border-like barriers, as represented in Schema B. Schema B probably is derived from Schema A[4].

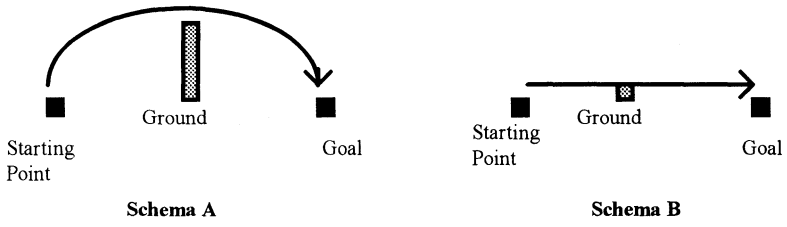


Figure 2. Two schematic representations of koeru.

Examples (7a) to (7c) are all typical examples of the types of barriers associated with *koeru*. In (7d), the barrier is not the right shape and *wataru* would be preferred in this case; when the ground is a gate or gate-like object as in (7e) and consequently the figure goes under the ground, *koeru* is inappropriate. In this case, *kuguru*, another GP verb, is used instead.

(7) a. *Ikkou wa hakone no yama o koeta.*
group TOP Hakone GEN mountain O go-over-PAST
'The group went over the Hakone Mountains.'
b. *Sono otokonoko wa sono hei o karugaruto koeta.*
That boy TOP that wall O easily go-over-PAST
'That boy went over that wall easily.'
c. *Ikkou wa kokyou/sabaku o koeta.*
group TOP border/desert O go-over-PAST
'The group crossed the border/desert.'

d. ?? *Ikkou wa kawa o koeta.*
group TOP river O go-over-PAST
'The group crossed the river.'
e. **Ikkou wa torii o koeta*
group TOP shrine-gate O go-over-PAST
'The group went through the shrine gate.'

3.2.3. nukeru

Nukeru provides another interesting case. *Nukeru* describes the motion of something from a constricted area (one that is narrow, crowded and/or bounded) out into a wide open space. Although the ground in this case is not clearly a barrier, the nature of the ground in some way hinders movement along the path, and as with *wataru*, the ground is necessarily extended, not two-dimensional. *Nukeru* cannot be used when the constricted area can be passed through in just an instant, as with a gate. The figure below shows the prototypical schema for *nukeru*. In this schema, the ground is a narrow space, partially or completely enclosed on the sides, such as a narrow street or a tunnel. This prototypical schema is extended to another situation in which the area itself is wider, but is felt to be constricted because movement of the figure is hindered by obstacles. Typical examples of this are a crowded hallway or a street filled with traffic.

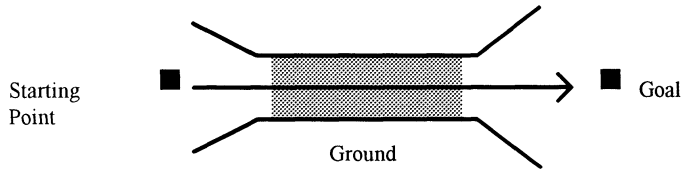


Figure 3. Schematic representation of nukeru.

The examples below illustrate the ground information constraints of *nukeru*. In sentences (a) and (b), the *-o* marked noun phrases describe different kinds of constricted areas, but (c), (d) and are unacceptable because the noun phrases describe areas which can be easily passed through.

(8) a. *Watashi wa semai roji o nuketa.*
I TOP narrow road O go-out-of-PAST
'I passed through a narrow road (out into a wide open space).'
b. *Watashi wa hitogomi o nuketa.*
I TOP crowd O go-out-of-PAST
'I passed through the crowd.'

c. ?*Watashi wa oodouri o nuketa.*
I TOP big-road O go-out-of-PAST
'I passed through a wide road.'
d. **Watashi wa hirobiroto-shita heigen o nuketa.*
I TOP wide-open-PAST plain O go-out-of-PAST
'I went across the plain.'

3.3. Semantic differences between the two types of verbs

When we compare the two types of verbs, we see that the GP verbs are much more specific than the DP verbs about the ground over which the motion takes place; accordingly, with the GP verbs, but not the DP verbs, there is an implication that a surface is progressively and completely covered by the motion. We can see this by comparing two verbs which describe the motion in the same upward direction, *agaru* and *noboru*.

(9) a. *Jun wa sanchoo ni agatta.*
Jun TOP summit to go-up-PAST.
'Jun went up to the summit.'
b. *Jun wa yama o nobotta.*
Jun TOP mountain O go-up-PAST
'Jun went up the mountain.'

Sentence (9a) can be used regardless of the way Jun reached the top of the mountain, whether it was by walking or by taking a helicopter to the top. However, sentence (9b) with *noboru* implies that Jun reached the top of the mountain by climbing up the slope from the bottom; it would not be used if Jun reached the top directly by taking a cable car or helicopter.

We should also note here that there is some difference in the kinds of subjects the two verbs tend to take. In particular, the DP verbs occur with a wider range of subjects, from prototypical agents (self-moving and sentient), to inanimate entities and even non-concrete entities. The GP verbs, when used in their motional senses, tend to have animate beings or vehicles as subjects.

4. Syntactic Behavior of the two Classes of Verbs

In this section, we will show that the two types of verbs are different not only semantically but also syntactically. As discussed above, the largest difference between the two types of verbs lies in whether the locative argument is essential to the meaning of the verb. This semantic difference is reflected in the different results in the quantifier floating test.

4.1. Quantifier floating

Quantifier floating is a term used to refer to structures such as the one in (10) and (11). Canonically, a numeral quantifier appears to the left of a noun and is marked with the genitive case marker *-no*, as in (10a) and (11a). In some cases, however, with no change in meaning, the quantifier phrase can be moved ("floated") to the right of the noun as in (10b) and (11b). According to Jacobsen (1992), quantifier floating is allowed only when the noun phrase with which the quantifier is associated constitutes an obligatory argument of the predicate. Thus, floating is generally permitted from the noun phrases marked with nominative *-ga* and accusative *-o*, as shown in (10) and (11).

(10) a. *Taro wa mise de ni-ko no pan o katta.*
Taro TOP store at 2-Q GEN bread-O buy-PAST
'Taro bought two loaves of bread at the store.'
b. *Taro wa mise de pan o ni-ko katta.*

(11) a. *Futari no gakusei ga kita.*
2-Q GEN students NOM come-PAST
'Two students came.'
b. *Gakusei ga futari kita.*

In contrast, floating is not permitted from locative noun phrases marked with *-ni* or *-de*, which are usually considered adjuncts, as in (12).

(12) **Taro wa mise de ni-ken pan o katta.*
Taro TOP store at 2-Q bread O buy-PAST
'Taro bought bread at two stores.'

The importance of this test is that it distinguishes "true" arguments of a predicate from "adjuncts". This holds not only for *-ga* or *-o* marked noun phrases, but also for noun phrases marked with other cases. For example, floating is allowed with a comitative *-to* marked phrase only when the noun phrase is essential to the meaning of the verb, as with *au*, 'to meet', in a sentence like *Sono daigaku no gakusei to futari atta*, '(I) met two students of that university'.

What does this test tell us about the two types of path verbs? With the GP verbs, the noun phrase which describes the location of the motion is specified to some extent by the verb's meaning, and thus it is like a true argument, so we should expect that the quantifier of the locative phrase (the ground argument) can be floated. This is in fact what we see in examples (13) and (14) below. In contrast, with the DP verbs, floating the quantifier of the locative phrase yields an ungrammatical, or at least a highly questionable sentence, as in (15) and (16). This shows

that the locative phrases which occur with the DP verbs are not obligatory arguments; rather, they are adjuncts.

(13) a. *Mit-tsu no kawa o watatta.*
3-Q GEN river O cross-PAST
'(We) crossed three rivers.'
b. *Kawa o mit-tsu watatta.*

(14) a. *Mit-tsu no tonneru o nuketa.*
3-Q GEN tunnel O go-through-PAST
'We went through three tunnels.'
b. *Tonneru o mit-tsu nuketa.*

(15) a. *Neko ga ni-hon no ki e agatta.*
cat NOM 2-Q GEN tree in go-up-PAST
'The cat went up three trees.'
b. **Neko ga ki e ni-hon agatta.*

(16) a. *Bukatachi wa itsu-tsu no ginkou kara kita.*
employees TOP 5-Q GEN bank from come-PAST
'The employees came from five banks.'
b. **Bukatachi wa ginkou kara itsu-tsu kita.*

4.2. Interpretation of the -te-iru *construction*

The semantic differences in the two types of path verbs also affect their aspectual properties, as is reflected in the interpretation of the *-te-iru* construction. The aspectual verbal suffix *-te-iru* is comprised of the gerund form of a verb and *iru* "be/exist". Depending on the meaning of the verb, the resulting construction yields either a perfective or a progressive reading. Therefore, the interpretation of *-te-iru* has been used to diagnose different verb classes (e.g., Kindaichi, 1950). For example, there exists a class of verbs which Kindaichi labeled "continuitive", which take a progressive reading with *te-iru*. The continuitive verbs roughly correspond to activity verbs in Vendler's classification, and include verbs such as *asobu* (to play), *hashiru* (to run), and *kaku* (to write). Another important class in Kindaichi's classification is the instantaneous verbs, which take a perfective reading with *-te-iru*. This class includes *kimaru* (to be decided), *tomaru* (to stop), *mitsukaru* (to be found), and *shinu* (to die). Recently, some researchers have pointed out a correlation between the perfective reading of *-te-iru* construction and unaccusativity (Takezawa, 1989; Tsujimura, 1991).

The semantic difference between the GP verbs and the DP verbs - a focus on information about the ground or the lack of such focus - yields different readings of

-te-iru for the two classes. In a neutral context, with no adverbial cues, DP verbs in the *-te-iru* construction are interpreted as perfective, as shown in the examples in (17), but GP verbs with *te-iru* are interpreted as progressive, as shown in (18).

(17) a. *Fuusen ga sora ni agatte-iru*
Balloon NOM sky into rise-TE-IRU
'The balloon has gone up into the sky.'
b. *Chichi wa kaisha ni itte-iru.*
father · TOP company to go-TE-IRU
'Father has gone to work.'

(18) a. *Jun wa kawa o watatte-iru.*
Jun TOP river O cross-TE-IRU
'Jun is crossing the river.'
b. *Ikkou wa hakone no yama o koete-iru.*
group TOP Hakone GEN mts. O go-over-TE-IRU
'The group is crossing over the Hakone Mountains.'

DP verbs pattern with the instantaneous verbs because the starting point is left or the goal is reached at a single moment. In contrast, with the GP verbs, the focus is on movement through (or over or under) the ground, movement which cannot occur in just one moment, but necessarily takes a certain amount of time. Thus, these verbs pattern with continuative verbs in which an activity continues over a period of time.

4.3. Transitive-intransitive pairs and the causative construction

As we saw in Section 4.1., the locative argument of the GP verbs appears to be an obligatory argument; this noun phrase is marked with *-o*, the accusative case marker. Why, then, have these verbs usually been considered intransitive? According to Jacobsen (1992), the traditional classification of these verbs is based on morphological patterns: many intransitive Japanese verbs have a morphologically related transitive (causative) counterpart. Most of the DP verbs and GP verbs have a transitive counterpart, so by the traditional classification, they are considered intransitive regardless of the kind of case marking they assign to nouns. A few examples of intransitive-transitive pairs for each verb type are shown below in (19); (see Appendix of Jacobsen 1992 for a more complete list).

(19)

"intransitives"	"transitives"
Directional Path verbs	
agaru 'rise'	*ageru* 'raise'
deru 'go out, leave'	*dasu* 'take out'
kaeru 'return'	*kaesu* 'return; give back'

Ground Path verbs	
nukeru 'come out'	*nuku* 'pull out'
touru 'go through'	*toosu* 'let s.o. pass'
wataru 'go across'	*watasu* 'hand over, lay over'

However, this classification is misleading in the case of GP verbs because it is based only on non-motional senses of these verbs. When these verbs are used as verbs of motion, they do not have the same kind of lexical causative counterparts. For example, in addition to being a verb of motion, *wataru* has a stative, inchoative meaning in which it is used with an inanimate subject, as in (20a); this sense of *wataru* has a causative counterpart, *watasu,* as shown in (20b). This is a case of the kind of Inchoative/Transitive alternation described in Levin (1993).

(20) a. *Hashi ga kono kawa ni watatta.*
bridge NOM this river at cross-PAST
'The bridge has come to be across the river.'
b. *Murabito wa kono kawa ni hashi o*
villagers TOP this river at bridge O
watashita
cause-to-be-across-PAST
'The villagers put a bridge across the river.'

However, when *wataru* is used as a verb of motion, a use in which the moving figure has volitional control over the motion (that is, when *wataru* means 'cross' rather than 'come to be across'), the lexical causative is not used, as shown in (21b) below. Instead, a morphological causative, *watar-ase-ru*, is normally used in this case, as shown in (21c).

(21) a. *Oyako ga michi o watatta.*
parent&child NOM street Ocross-PAST
'The parent and child crossed the street.'
b. ?*Keikan wa oyako o michi no mukou e*
police TOP par.&child O street GEN far-side to
watashita.[5]
cause-to-be-across-PAST
'The police officer let the parent and child cross the street.'
c. *Keikan wa oyako o michi no mukou e*
police TOP par.&child O street GEN far-side to
watar-ase-ta.
cross-CAUSE-PAST
'The police officer let the parent and child cross the street.'

What is significant here is not that a morphological causative can be formed from the motional sense of *wataru* (morphological causatives can be made from many types of verbs, including many transitive verbs), but that this sense of *wataru* has no lexical causative counterpart.

With *nukeru*, as with *wataru*, only the inchoative sense (which means something like 'come to be out; be pulled out,') has a lexical causative counterpart *nuku*, as shown in (22). However, we can think of no reasonable sentence with a lexical causative counterpart of the motion verb *nukeru* in (23).

(22) a. *Maeba ga nuketa.*
front-tooth NOM come-to-be-out-PAST
'The front tooth came out.'
b. *Haisha ga maeba o nuita.*
dentist NOM front-tooth O pull-out-PAST
'The dentist pulled out the front tooth.'

(23) a. *Kisha ga tonneru o nuketa.*
train NOM tunnel O go-out-PAST
'The train came out of the tunnel.'

In contrast to the GP verbs, the DP verbs need not be divided into motional and non-motional senses, because as instantaneous verbs, they have both a motional and an inchoative meaning at the same time. It doesn't matter whether the subject is inanimate or animate; in either case, the lexical causative is available, as shown in (24b) and (25b). When the moving figure is animate, thus having volitional control, a morphological causative (25c) can also be derived. The amount of control that the subject has over the object is felt to be weaker with morphological causatives than with lexical causatives.

(24) a. *Fusen ga sora ni agatta.*
balloon NOM sky into go-up-PAST
'The balloon went up into the sky.'
b. *Fusen o sora ni ageta.*
balloon O sky into put-up-PAST
'(Someone) sent the balloon up into the sky.'

(25) a. *Kodomo ga nikai ni agatta.*
child NOM 2nd-floor to go-up-PAST
'The child went up to the second floor.'
b. *Kodomo o nikai ni ageta.*
child O 2nd-floor to put-up-PAST
'(Someone) took the child up to the second floor.'

c. *Kodomo o nikai ni aga-rase-ta.*
child O 2nd-floor to go-up-CAUSE-PAST
'(Someone) let the child go up to the second floor.'

The patterns we see with causatives give us additional reasons to distinguish the GP verbs and the DP verbs; when they are used as motion verbs, the GP verbs show many properties associated with transitivity, including, as we have shown, the fact that they do not have lexical causative counterparts, the progressive reading in *-te iru* construction,[6] and the fact that they support quantifier floating. It seems likely that previous analyses which treated both types of path verbs alike, as unaccusative, single-argument verbs, (Miyagawa 1989, Tsujimura 1991), were considering only the non-motional senses of GP verbs.

5. Transitivity of the Ground Path Verbs: Where does the *-o* marking come from?

We have argued that the GP verbs and the DP verbs have distinct properties both semantically and syntactically. The three syntactic tests we used suggest that the GP verbs, at least in their motional senses, are not simple intransitives. What then is their status?

Employing the notion that transitivity is a graded quality rather than a dichotomous distinction between transitive and intransitive (Hopper and Thomson 1980), we conjecture that the GP verbs are located somewhere in between the intransitive DP verbs and the typical transitive verbs such as *kowasu* 'break', in which a theme object is totally affected. Unlike prototypical transitive verbs like *kowasu*, the GP verbs cannot be passivized, but in a weaker test of transitivity such as quantifier floating, GP verbs behave just like prototypical transitive verbs. (DP verbs, in contrast, do not show transitive-like properties in either test.)

Above all, however, the fact that, in the motional sense GP verbs' obligatory locative argument is marked with the accusative case marker *-o* indicates an increased transitivity in these verbs. Below, we will discuss exactly what semantic property puts these verbs further along toward the transitive end of the continuum than the DP verbs are.

Jacobsen (1992) explains the *-o* marking with locative objects by first noting that these objects only occur with verbs that have a somewhat reflexive meaning, in that the subject of the verb functions both as the agent of the motion and the object which moves. Jacobsen then argues that the reflexiveness of some verbs of motion makes them more transitive and this in turn allows them to assign objective case to another noun phrase.

The problem with this analysis is that it does not explain why all the GP verbs can occur with a locative object but why the DP verbs usually don't. After all, both types of verbs are verbs of motion. In this account, it seems as if the location noun

phrases pick up some residual case marking, created by the "quasi-transitive status'; why, then, is this *-o* marking usually not assigned to starting points or goals, or to any other noun phrases that happen to be there in the sentence?

We think that *-o* marking of locative arguments in the GP verbs is better explained in light of Dowty's (1991) idea of proto-roles. Dowty argues that syntactic behavior can be explained using two basic proto-roles, the Agent Proto-Role and the Patient Proto-Role. The Agent Proto-Role is associated with nominative case marking and the Patient Proto-Role is associated with accusative case marking. The properties of the proto-roles are repeated below from Dowty (1991).

(26) Contributing Properties of the Agent Proto-Role:
a. volitional involvement in the event or state
b. sentience (and/or perception)
c. causing an event or change of state in another participant
d. movement (relative to the position of another participant)
e. exists independently of the event named by the verb

(27) Contributing properties for the Patient Proto-Role:
a. undergoes change of state
b. incremental theme
c. causally affected by another participant
d. stationary relative to movement of another participant
e. does not exist independently of the event, or not at all

The Incremental Theme is particularly important to our analysis. According to Dowty, the Incremental Theme is an argument that determines the 'aspect' of the event. In Dowty's example (Dowty 1991: 567), in the event of 'mowing the lawn', the aspect of the event, e.g., whether it has been started, is half done, or completed, can be determined by looking only at the state of the lawn; the state of the person who is mowing is irrelevant. In this case, Dowty says, the person who is mowing is the Agent, and the lawn is the Incremental Theme. Thus, according to Dowty, if an argument denotes something that is progressively acted upon in some way and thus the aspectual state of the event is determined by it, the argument has one of the contributing properties of the Proto-Patient.

Looking at *-o* marking in Japanese, sentences with typical transitive verbs show us that *-o* marks the noun phrase which has some or all of the contributing properties of the Proto-Patient. For example, in (28), the vase undergoes change of state and is causally affected by another participant.

(28) *Kodomo wa kabin o kowashita.*
Child TOP vase O break-PAST
'The child broke the vase.'

We can also see that most of the time, locations, such as *kooen*, 'park,' in (29), do not have many properties of the Proto-Patient, and so they are not marked with *-o*.

(29) *Kodomotachi wa kooen de hashitta.*
Children TOP park in run-PAST
'The children ran in the park.'

In (29), conditions (a), (b), (c) and (e) do not apply to *kooen*, and since a park cannot be considered "stationary relative to movement of another participant" if it is not itself conceived of as a participant, condition (d) does not apply either.

With GP verbs, the nature of the location is specified as part of the verb's meaning which may make it possible to conceive of the location as a stationary participant. But in addition to this, the locative argument of the GP verb is actually an Incremental Theme, in particular, a sub-type called the Incremental Path Theme, thus giving the locative argument property (b) in (27). Like the lawn in the Dowty's illustration, the ground in a sentence such as *Jun wa yama o nobotta,* ('Jun went up the mountain.') is progressively covered in the course of the action. At any point in the action, we can tell how far Jun has progressed along the path and whether or not Jun has yet reached the top.

In fact, this kind of Incremental Theme occurs with other motion verbs too (including some special uses of DP verbs); in these cases too, the locative argument is marked with *-o*. The examples in (30) and (31) below show *-o* marked locative arguments with verbs that do not obligatorily require them[7]. In both cases, the locative argument is an Incremental Theme.

(30) *Pat wa mainichi kono torakku o go-shuu hashiru.*
Pat TOP everyday this track O 5 laps run
'Pat runs five laps on this track everyday.'

(31) *Kono michi o ikeba eki ni tsukimasu.*
this street O go-COND station to reach
'If (you) go down this street, you'll reach the station.'

The properties of a verb's subject also influence its transitivity. In the case of the motional senses of GP verbs, the moving figure seems to have properties of both the Proto-Agent and the Proto-Patient. Since the event named by the Ground Path verb necessarily involves movement from one place to another, the figure undergoes a change of location (which is also a change of state); thus unlike the subjects of pure activity verbs such as *hashiru*, the subjects of the GP verbs have at least one property of the Proto-Patient role, namely (27a). However, these subjects have some properties of the Proto-Agent role in that they have volitional control over the event, and are in most cases sentient beings. While the moving figures

have properties of both Proto-Patients and Proto-Agents, there is another argument of the verb, i.e., the locative argument, which has more properties of the Proto-Patient and which is therefore assigned the accusative case marker *-o*. The moving figure is thus assigned the case marking of the Proto-Agent, nominative *ga*.[8]

As we saw above, with the DP verbs, the locative noun phrase describing the starting point or the goal does not have any of the properties of the Proto-Patient, and certainly it has none of the Proto-Agent, and thus it is not an argument at all. The moving figure, which is the surface subject, has at least one of the contributing properties of the Proto-Patient, ([a] in [27]), since, as with the events described by GP verbs, the event involves a change of location. However, while the subject of a GP verb used in the motional sense is animate or at least self-moving, the DP verbs can take either an animate or inanimate subject (see Section 3). When the figure of a Directional Path verb is inanimate, as in (3a), (3c) and (3c), it does not have any property that counts toward the Agent Proto-Role. As the single argument of the verb, the moving figure becomes the surface subject, but one which lacks any properties of an Agent (what is traditionally called a Theme). Thus with inanimate subjects, the DP verbs are clearly unaccusative. When the figure is an animate entity, as in (3b) and (3e), the status is less clear. The animate figure has properties of both the Proto-Patient and the Proto-Agent, and as Dowty points out (1991: 607-609, especially Table 1), in this situtation, the distinction between unaccusatives and unergatives is somewhat ambiguous. Given that the DP verbs behave the same regardless of the animacy of the subject in the three syntactic tests (the Inchoative/Transitive alternation in particular), it seems likely that in Japanese, change of location is weighed more heavily than the properties of volitionality and sentience, as seems to be the case in English (Levin and Rappaport Hovav 1995), and if so, then the DP verbs are unaccusative even with animate subjects.

6. Conclusion

In this paper, arguing against the previous characterization of Japanese as a Spanish-type Path Language, we have pointed out that a substantial proportion of Japanese motion verbs show a conflation pattern Talmy did not consider, the conflation of the Ground information with path. We have argued that these verbs are an important subclass of Japanese motion verbs, which should be distinguished from pure directional verbs. We have shown that the semantic difference between the GP verbs and the DP verbs is reflected in their syntactic behavior as shown by quantifier floating, the interpretation of the *-te-iru* construction, and the availability of the Inchoative/Transitive alteration. Finally, in this line of argument, we discussed the semantic property of the GP verbs, i.e., the inclusion of information about the ground, which makes the locative noun phrase an Incremental Theme, and which in turn results in the assignment of the accusative case marker *-o* to it.

Endnotes

1. Korean also may be characterized as a Ground incorporation type language. See Choi and Bowerman 1991.
2. Although it may seem that these lists are quite short, Japanese has very few native verbs of motion compared to a language like English. There is a large vocabulary of Sino-Japanese verbs, but these are all formed of a combination of a Chinese noun and the Japanese verb *suru* 'do'.
3. Grammatical abbreviations

CAUS	causative affix	GER	gerund affix	PAST past tense affix
COMP	sentential complementizer	NOM	nominative case	POL polite affix
COND	conditional affix	O *-o*	accusative case	Q quantifier
GEN	genitive (possessive)	PART	sentential particle	TOP topic

4. A similar pattern of semantic extension can be seen in English preposition *over* (see Brugman 1984).
5. *Michi o* is replaced with *michi no mukou ni* because only one *-o* marked phrase per clause is allowed.
6. We should note here that when the GP Verbs are used in the non-motional sense, the *te-iru* construction yields a perfective reading, which has been said to be correlated with unaccusativity.
7. We can observe a parallel alternation in English. Compare 'swim in the river' and 'swim the river', or 'walk on the floor' and 'walk the floor'.
8. For stylistic reasons, a nominative argument will often show up as a topic, marked with *wa* rather than *ga*.

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The Samoan Transitive Suffix as an Inverse Marker

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1. Introduction

When a linguist thinks of "inversion", he or she probably thinks of at least one of three things: (1) the network from Relational Grammar in which an underlying subject is demoted to an indirect object (Perlmutter and Rosen 1984), (2) the subject-auxiliary inversion which in a language like English occurs in questions, etc., or (3) an inverse construction, i.e. a construction which is similar to passive, but, at least in some versions, does not involve a change in grammatical relations (Givón 1994). I will have nothing to say about the Relational network of inversion in this paper, but I will discuss, with respect to some Samoan phenomena, the other types of inversion, i.e. word order inversion and the inverse construction, and I will try to show that a constellation of apparently disparate phenomena associated with the so-called "mysterious Samoan transitive suffix" can be brought together under the rubric of "inversion".[1]

This suffix has previously been analyzed as (among other things) a marker of passive (Pratt 1960 [1911]), transitivity (Churchward 1951), perfectivity (Milner 1962, 1966), a flag for a missing transitive subject (Chung 1978), a marker of terminal bias (Cook 1989), an indicator of agent defocussing (Cook 1991), and a marker of a pragmatically salient agent (Mosel and Hovdhaugen 1992). It would be beyond the scope of this paper to review the previous analyses of the suffix or attempt to compare my present proposal with the earlier ones. What I will try to do instead in this paper is show that the functions of the suffix are similar to those of an inverse suffix in that although the suffix does not signal a change in grammatical relations, some aspect of the encoded situation or the sentence in which the suffix occurs is reversed.

2. *Ina* vs. *Cia*

Previously, the "mysterious Samoan transitive suffix", which takes the forms given in (1), i.e. *a* or *ina*, has been analyzed as a manifestation of the *Cia* suffix, whose forms are given in (2). However, as both Chung (1978: 57; 284) and Mosel and Hovdhaugen (1992: 198; 743) have argued, there are reasons to treat *ina* and *Cia* as separate (but probably historically related) morphemes. I will refer to the two manifestations of *ina*, given in (1), as simply "*ina*".[2]

(1) *ina* = *a, ina*

(2) *Cia* = *ia, 'ia, fia, gia, lia, mia, sia, tia*
(where C = consonant)

3. Basic Samoan Clauses

Before dealing with the distribution of *ina* in Samoan, let us look at some basic Samoan clauses. Samoan is a morphologically ergative language with basic VSO word order. As shown in (3), the subject of an intransitive clause is encoded as an absolutive. Absolutives are usually unmarked but sometimes marked *'o* or *ia*.[3]

(3) *'Ua alu le tama 'i Sâmoa.* (intransitive clause)
PERF go the boy to Samoa
'The boy has gone to Samoa.'

As can be seen in (4), the subject of a transitive clause is encoded as an ergative and the object as an absolutive. Ergative nominals are marked *e*. The basic word order of transitive clauses is verb-ergative-absolutive.[4]

(4) *Na sasa e le tinâ lana tama.* (transitive clause)
PAST beat ERG the mother her boy
'The mother beat her boy.'

4. The *ina* Suffix and Changes in Grammatical Relations

Upon occasion, a transitive verb is suffixed with *ina*. See example sentence (5). When the verb is suffixed, the postverbal nominals often occur in the order absolutive-ergative rather than the order ergative-absolutive exhibited in (4) (Chung 1978: 15 and 55). I will deal with this word order inversion later in this paper.

(5) *Sâ si'osi'o-ina le fale e leoleo.*[5]
PAST surround-ina the house ERG police
'The police surrounded the house.'
(Milner 1966: 210)

As argued by Chung (1978: 82-3), such suffixation does not signal a change in grammatical relations. Chung's arguments involve three rules which pick out subjects: Equi, Raising and Clitic Placement. Equi deletes a coreferential subject of an embedded infinitival clause. Sentences (6a, b) illustrate that the ergative (but not the absolutive) of an embedded transitive clause can be the target of Equi. This is

true whether or not the verb is suffixed with *ina*. Hence the suffix does not correlate with a change in grammatical relations.

(6) a. *E alu le fili e fa'aleaga(-ina) le nu'u.*
IMP go the enemy INF destroy(-ina) the village
'The enemy is going (literally moving through space) to destroy the village.'

b. **E alu le teine e opo(-ina) e le tama.*
IMP go the girl INF hug-*ina* ERG the boy
'The girl is going [literally moving through space] to be hugged by the boy.'

Raising, a rule which Chung (1978: 156-69) describes as moving agentive subjects from an embedded clause into a matrix clause, relates sentences like (7a, b).

(7) a. *E mafai ona fufulu e le tama le ta'avale.*
IMP able COMP wash ERG the boy the car
'The boy can wash the car.'

b. *E mafai e le tama ona fufulu le ta'avale.*
IMP able ERG the boy COMP wash the car
'The boy can wash the car.'

Of interest is the fact that only the ergative of an embedded transitive clause undergoes Raising whether or not the verb is suffixed with *ina*. This is illustrated in (8a, b).

(8) a. *E mafaie le tama ona fufulu(-ina) le ta'avale.*
IMP able ERG the boy COMP wash-ina the car
'The boy can wash the car.'

b. **E mafaile ta'avale ona fufulu(-ina)e le tama.*
IMP able the car COMP wash(-ina) ERG the boy
'The car can be washed by the boy.'

Clitic Placement moves a postverbal pronominal subject into a position between the tense/aspect marker and the verb. (9) illustrates how this rule affects the absolutive subject of an intransitive clause.

(9) a. *'Ua ô lâtou i Sâmoa.*
PERF go they LD Samoa
'They have gone to Samoa.'

b. *'Ua lâtou ô i Sâmoa.*
PERF they go LD Samoa
'They have gone to Samoa.'

Sentences (10b, c) show that it is the ergative and not the absolutive of a transitive clause that can be pronominalized and moved into clitic position. Compare basic clause (10a). This fact argues that the ergative is the subject of a transitive clause.[6]

(10) a. *Na opo e le tama le teine.*
PAST hug ERG the boy the girl
'The boy hugged the girl.'
b. *Na ia opo(-ina) le teine.*
PAST he hug-ina the girl
'He hugged the girl.'
c. **Na ia opo(-ina) e le tama.*
PAST he hug-ina ERG the boy
'She was hugged by the boy.'

Sentence (10b) also shows that the ergative of a transitive clause can be replaced by a clitic pronoun whether or not the verb is suffixed with *ina*. I will return to the presence of *ina* in clauses like (10b) when I later discuss the correlation of the presence of *ina* with certain non-basic word orders.

In sum, the presence of the suffix makes no difference in the operation of these subject-referring rules and, therefore, does not indicate a change in grammatical relations. The presence of the suffix, I would claim, correlates with some type of reversal other than a change in grammatical relations. The reversals with which it correlates have to do with the semantics of the agent, word order, negativity, stativity, and switch reference. Let us look at each these one by one.

5. The Semantics of the Agent

Givón (1994) discusses the various types of inverse constructions that have been observed in a number of languages, but he also points out that "an exhaustive cross-linguistic typology of inverse-voice clauses is somewhat premature". Although inverse constructions differ in their structural nature, what seems to unite them is what Givón (1994: 23) calls "norm reversal vis-a-vis the expected relative topicality of event participants".[7]

Some inverse constructions use case marking and/or verbal indexing to make a distinction in third person participants (Givón 1994: 16). If the subject is the proximate participant (i.e. the closer or more topical participant), then the direct form of the verb is used; if the subject is the obviate participant (i.e. the one more

distant or less topical in nature), then the inverse form is selected. This breakdown is summarized in (11):

(11) a. If subject = proximate participant -> direct form
b. If subject = obviate participant -> inverse form

As for Samoan, the direct form is the plain form of the verb, and the inverse form is the one suffixed with *ina*. There are no special case markers for obviate or proximate third person nominals. Nevertheless, it is possible to show that the transitive subjects that occur in clauses with the *ina* suffix are obviate, i.e. distant from the speaker/conceptualizer in some way. They may be physically, temporally, or socially distant, or they may be distant in the sense of dissimilar (in terms of animacy, etc.) to the speaker/conceptualizer. In other words, the location in time and space and the nature of the speaker/con-ceptualizer are taken as norms and transitive subjects which differ from those norms are considered obviate (cf. Langacker 1990: 248).

To illustrate the contrast between proximate and obviate agents in terms of time and space, consider the active and passive English sentences (12a-d). For English, I would say that proximate agents in transitive relationships are typically coded as transitive subjects, while obviate (i.e. remote) agents are coded as passive agents.

(12) a. My wife painted this picture.
b. This picture was painted by my wife.
c. Picasso painted this picture.
d. This picture was painted by Picasso.

If you and I are standing looking at a picture in the house that my wife and I inhabit, I would say that (12a, d) would be appropriate sentences, given that my wife, who lives in the same house as I do, is in many respects close to me-the speaker. Therefore she is a proximate agent. Picasso, who lived in a different time and place, and whom I never met in person, is an obviate (i.e. remote) agent. (12b), in contrast, makes it sound like my wife is no longer with me, and (12c) sounds like I knew (or want to act like I knew) Picasso personally.

While the contrasts in (12) involve the reversal of grammatical relations associated with passive, keep in mind that the presence or absence of the *ina* suffix in Samoan does not correlate with a change in grammatical relations.

The Samoan data to which we now turn show that distance in terms of animacy and other factors motivates the presence of the suffix. With respect to animacy per se, an ergative may be conceived of as distant because it is an animal rather than a human. Contrast (13a, b). In (13a) the subject is an animal while in (13b) it is a human. Note that the suffix occurs in (13a) but not in (13b).

(13) a. *'Ua etoeto-ina lona lima e le pusi.*
PERF lick-ina his hand ERG the cat
'The cat licked his [i.e. a person's] hand.'
(Milner 1966: 42)
b. *Na opo e le tama le teine.* (=[10a])
PAST hug ERG the boy the girl
'The boy hugged the girl.'

Or an ergative might be conceived of as remote because it is inanimate, as in (14).

(14) *'Ua taliala-ina tâtou e fa'alavelave.*
PERF lie-in-wait-ina us ERG trouble
'Troubles lie in wait for us.'
(Milner 1966: 235)

Having seen only (13a, b) and (14), one would be tempted to propose an animacy hierarchy like the one in (15) and say that if the subject is lower on the hierarchy than the object, then the suffix is used.

(15) animacy: human > animate > inanimate

Sentence (16), however, shows that it is the lack of animacy on the part of the ergative subject alone that matters and not the relative animacy of the subject and object. If the latter mattered, we would not expect the suffix to appear in (16) given that the subject outranks the object on the hierarchy in (15).

(16) *'Ua fa'atâma'i-a fa'ato'aga e manu 'âivao.*
PERF devestate-ina plantation ERG animal wild
'Wild animals ravaged the plantations.'
(Milner 1966: 240)

Let us look at some other ways in which an ergative can be remote. In the domain of social relationships, an ergative may be distant because it represents a socially remote role, such as that of a doctor (17), the police (18), the government (19), an enemy (20), an institution (21), or the chiefs known as *matai* (22):[8]

(17) *Na fa'atonu-ina e le fôma'i se mâlôloga.*
PAST order-ina ERG the doctor a rest
'The doctor ordered some rest.'
(Milner 1966: 276)

(18) *Sâ 'ave'ese-ina e leoleo le pâgotâ.*
PAST take-away-ina ERG police the prisoner
'The police took the prisoner away.'
(Milner 1966: 38)

(19) *'Ua tâofi-a lona 'alauni e le Mâlô.*
PERF stop-ina his allowance ERG the Government
'The Government has stopped his allowance.'
(Milner 1966: 241)

(20) *'Ua vagai-a le 'a'ai e le fili.*
PERF surround-ina the village ERG the enemy
'The enemy has surrounded the village.'
(Milner 1966: 309)

(21) *Sâ talilelei-a le Kôvana e le â'oga.*
PAST welcome-ina the governor ERG the school
'The school welcomed the governor.'
(Milner 1966: 236)

(22) *'Olo'o palepale-ina 'o ia e matai 'uma.*
PROG support-ina ABS he ERG matai all
'All the matai are backing him.'
(Milner 1966: 112)

In the spiritual domain, demons qualify as remote ergatives, as do Jesus and the Christian God. See (23), (24), and (25).

(23) *'Ua uluitino-ina 'o ia e le ti'âpolo.*
PERF possess-*ina* ABS he ERG the demon
'The (a) demon has possessed him.'
(Milner 1966: 300)

(24) *'Ua. ` sâuni-a e Iesû le fa'aolataga.*
PAST prepare-*ina* ERG Jesus the salvation
'Jesus has prepared the salvation.'
(Milner 1966: 220)

(25) *'Ia fa'asao-ina e le Atua le Tupu.*
SUBJ save-*ina* ERG the God the Queen
'God save the Queen.'
(Milner 1966: 199)

An agent may also be remote in that it comes into the conceived event from some hidden location. Consider (26).

(26) *Na uitua-ina le ali'i e le taule'ale'a.*
PAST attack-ina the chief ERG the youth
'The youth attacked the chief from the back (or by surprise).'
(Milner 1966: 296)

6. Word Order Reversals

A second type of reversal with which *ina* correlates is the reversal of the order of certain major constituents in the clause. The basic word order of transitive clauses, as we saw in (4), is verb-ergative-absolutive. However, as mentioned in connection with (5), there is a tendency for *ina* to appear in clauses with the opposite order of ergative and absolutive, i.e. with verb-absolutive-ergative word order. This is not obvious, looking at sentences (13) through (26) since many of these have verb-ergative-absolutive order, but if one were to look at a larger sampling of sentences, one would see that this is the case. In Milner (1966), for example, there are 30 clauses with an *ina*-suffixed verb and verb-absolutive-ergative word order and only 6 such clauses with verb-ergative-absolutive. In other words, 83% of the clauses containing an *ina*-suffixed verb and an ergative and an absolutive after the verb have the word order in (27a) and 17% have that in (27b).

(27) a. VERB-*ina* absolutive ergative (30/36 = 83%)
b. VERB-*ina* ergative absolutive (6/36 = 17%)

In the inverted verb-absolutive-ergative word order of (27a), the absolutive comes right after the verb, in the position which Ochs (1988: 113) and Mosel and Hovdhaugen (1992: 448-50) have claimed is the position of greatest pragmatic focus in Samoan. Hence it makes sense if *ina* is an inverse marker, that its presence would correlate with maximum focus on the absolutive direct object. As Thompson (1994: 49) points out, crosslinguistically, inverse constructions share topicality of direct objects.

In addition to the reversal of ergative and absolutive after the verb, there is another type of word order reversal with which *ina* correlates well. I am referring to clauses in which the ergative has been fronted in the formation of a relative clause (28b), a sentence in which the ergative is questioned (28c), or a cleft sentence (28d). Compare these clause types with the corresponding basic clause in (28a). When an ergative is moved leftward over the verb in the formation of these clause types, it loses its characteristic case marker *e* and *ina* is regularly suffixed to the verb. If the ergative is the first nominal in the clause, it is also marked with the predicative marker *'o*.

(28) a. *Na fufulu e le tama le ta'avale.*
PAST wash ERG the boy the car
'The boy washed the car.'

b. *'O fea le tama na fufulu-ina le ta'avale?*
PRED where the boy PAST wash-ina the car
'Where is the boy who washed the car?'

c. *'O ai na fufulu-ina le ta'avale?*
PRED who PAST wash-ina the car
'Who washed the car.'
lit. 'Who is it that washed the car?'

d. *'O le tama na fufulu-ina le ta'avale.*
PRED the boy PAST wash-ina the car
'It is the boy who washed the car.'

Similarly, as we have already seen in (10b), when an ergative pronoun is moved leftward over the verb in Clitic Placement, it loses its case marker, and *ina* is often suffixed to the verb. This is illustrated again in (29a, b).[9]

(29) a. *Na fufulu e ia le ta'avale.*
PAST wash ERG he the car
'He washed the car.'

b. *Na ia fululu(-ina) le ta'avale.*
PAST he wash-ina the car
'He washed the car.'

7. Negativity

The type of inversion exhibited in both (28) and (29) is similar to the type that is seen in many European languages in which a subject and verb are inverted in certain sentence types, notably interrogative sentences. The appearance of *ina* in these Samoan clauses is also reminiscent of the use of *do* in certain English interrogative and negative sentences. Having made that observation, it may come as no surprise that the presence of *ina* also correlates with negativity. Given that an affirmative assertion is the norm, a negative assertion is in some sense the reversal of that norm. According to Chung (1978: 90) and Mosel and Hovdhaugen (1992: 756), *ina* has the tendency to appear in negative clauses containing transitive verbs. Compare the affirmative and negative clauses in (30):

(30) *Ua vavalu tasi talo, a e le valu-a tasi talo.*
PERF scrape one taro, but IMP not scrape-*ina* one taro

'(She) scraped one taro, but didn't scrape the other taro.'
(Sierich 1902: 175)

The suffix generally appears in negative (but not affirmative) imperatives. This fact is illustrated in (31):

(31) a. *Fufulu le ta'avale.*
wash the car
'Wash the car.'
b. *'Aua le fufulu-ina le ta'avale.*
don't the wash-ina the car
'Don't wash the car.'
c. *'Aua ne'i fufulu-ina le ta'avale.*
don't even wash-ina the car
'Don't even wash the car.'
d. *'Aua 'e te fufulu-ina le ta'avale.*
don't you IMP wash-ina the car
'Don't you wash the car.'

Ina also appears regularly in clauses containing the emphatic negative particle *le'i*. This particle occurs with the imperfect tense marker *e* in clauses which are translatable as either past or present perfect. Compare (32a, b):

(32) a. *Na tatala e le tama le faitoto'a.*
PAST open ERG the boy the door
'The boy opened the door.'
b. *E le'i tatalaina e le tama le faitoto'a.*
IMP NEG open-ina ERG the boy the door
'The boy has not opened/did not open the door.'

In agreement with my claim that *ina* indicates some kind of reversal with respect to a norm is Mosel and Hovdhaugen's observation that *le'i* "expresses that an event which was expected to happen or was thought of to have already happened did not occur..." (1992: 479). Consider (33).[10]

(33) *'Ua fa'afiti 'o ia na te le'i fasioti-a lana uô.*
PERF deny ABS he he IMP NEG kill-*ina* his friend
'He denied having killed his friend.'
(Milner 1966: 45)

8. Stativity

A fourth reversal that *ina* correlates with is that of stativity. Given that a transitive verb is typically used to designate an action, using one to profile a state is in some sense a reversal of a norm. Consider the contrast in (34a, b). In (34a) we have an action with an unspecified agent. In (34b), a state that results from an action is designated. *Ina* occurs in the stative clause but not in the active.

(34) a. *'O le 'âfa'aitiiti lana totogi.*
FUTURE reduce his salary
'His salary will be reduced.'
(Milner 1966: 88)
b. *'Ua fa'aitiiti-a le 'âiga.*
PERF reduce-*ina* the family
'The family has been reduced in numbers.'
(Milner 1966: 88)

Sentences (35a, b) give further examples of *ina* occurring in stative descriptions.

(35) a. *'Ua fa'amamalu-ina le tulâfono.*
PERF honor-ina the law
'The law is in force.'
(Milner 1966: 127)
b. *E fa'asâ-ina le fa'atauga o 'ava.*
IMP prohibit-ina the sale of liquor
'The sale of liquor is prohibited.'
(Milner 1966: 195)

Since adjectives are stative in nature, the fact that suffixed forms are used as adjectives as in (36a, b) supports the claim that suffixed forms are used in stative descriptions.

(36) a. *'o le ofo sâuni-a*
PRED the offer prepare-*ina*
'the (a) formal, definite offer'
(Milner 1966: 203)
b. *tusi puipui-a*
letter protect-*ina*
'registered letter'
(Milner 1966: 190)

9. Switch Reference

Switch reference is a fifth reversal that is associated with the *ina* suffix. By "switch reference" I am referring to the phenomenon in which special morphology is used to mark a change in subject. Mosel and Hovdhaugen (1992: 755) observe that *ina* is used when there is a change in agent (transitive subject in my terms) and the "new' agent is not identifiable. They offer (37) as an example of this observation. Puluti in (37) is the subject of *fia iloa* 'want to know' but some unidentified generic agent is the subject of *faia*, the suffixed form of *fai* 'do'.

(37) [Another day Puluti went for a walk to the school house]
...ona o lona fia iloa mea o
...because PRED his want know thing PROG
lo o fai-a ai
do-*ina* ANAPH
'because he wanted to know what [they] were doing there'
(*'O le Tiuga Malie ma Isi Tala* 1972: 30)

This is in contrast with a situation in which there is no change in subject. In (38), for example, *'ou* 'I' is the subject of both *tû* 'stand' and *tapê* 'put out'. Since there is no change in subject, the transitive verb *tapê* is in its plain form.

(38) *Na ou tu atu ma tape le moli.*
PAST I stand forth and put-out the light
'I stood up and put out the light.'
(Moana 1981: 4)

10. Summary and Conclusion

In sum, we have seen that *ina* occurs in different kinds of clauses that involve reversals in terms of the following: the semantics of the agent, the sentential word order, the polarity of the sentence, the activity of the event, and the persistence of a subject across clauses. In each case, something is the opposite of a norm. The *ina* suffix appears when the agent is obviate rather than proximate; when the word order is other than the basic verb-ergative-absolutive word order; when the sentence is negative rather than affirmative; or when it profiles a state rather than an action. In effect, the suffix indicates reversals in a variety of semantic and syntactic domains. If we can use the term "inversion" as a cover term for these reversals, then I think we can safely conclude that *ina* is a marker of inversion.[11]

11. *Ina*: The Product of Phonological Inversion

Finally, since these reversals have to do with both the semantics of the construal and clause structure, one might ask whether there is a related reversal at the level of phonology as well. I suspect that there is such a reversal, at least a historical one. Earlier in this paper I mentioned that the *ina* suffix is probably related historically to the *Cia* suffix. (Recall that *Cia* stands for Consonant-*i*-*a*.) Specifically, it has been proposed by Lynch (1971: 7 fn. 15) and Pat Hohepa (personal communication) that *ina* derived historically from a variant of *Cia* which had *n* as the consonant-in other words, *ina* came from **nia* by way of metathesis. Could it be the case that a morpheme that itself came into existence through the inversion of sound units also came to be one which represents inversions at different levels of grammar within the Samoan language? Given that iconicity is something to be expected in language (cf. Haiman 1985), I do not find this connection at all implausible.

Endnotes

1. I thank Fa'afetai Lesâ, an instructor in the Samoan language program at the University of Hawai'i at Mânoa, for his help with some of the Samoan data, and Ann Cooreman for pointing out to me that ergative languages have been known to have inverse constructions.
2. I attribute the term "mysterious Samoan transitive suffix" to Chung (1976 and 1978). *Ina*, as well as *Cia*, also plays a role in lexically deriving transitive from middle verbs (Cook 1988: 121-133). In this paper I will only discuss the suffixation of *ina* to verbs that are already transitive. There is another suffix, *na*, which, for some speakers, is a manifestation of both *Cia* and *ina*. *Cia* also has an alternate form *a*. The two *a*'s can be distinguished, however, in that the "*Cia a*" causes changes in vowel length and reduplication of the verb stem, while the "*ina a*" does not. A third *a*, which Mosel and Hovdhaugen (1992) call the "ornative suffix", derives adjectives from nouns.
3. I am using circumflexes and apostrophes to indicate long vowels and glottal stops, respectively, instead of the conventional macrons and inverted commas. It is currently common practice among native writers not to indicate long vowels or glottal stops. Hence some of the example sentences in this paper which are from native sources do not have such indications. The abbreviated grammatical glosses in the examples are as follows: PERF: perfect, ERG: ergative, IMP: imperfect, INF: infinitive, COMP: complementizer, LD: locative/directional, PROG: progressive, ABS: absolutive, SUBJ: subjunctive, PRED: predicative, NEG: negative, and ANAPH: anaphor.
4. See Cook (1994a: 80-82) for arguments in favor of verb-ergative-absolutive as the basic word order of Samoan transitive clauses. See Duranti (1990, 1994) for observations concerning the occurrence of the ergative marker in clauses of accusation and praise and the correlation of its usage with political power.
5. The hyphen that I am using in the example sentences to set of the *ina* suffix does not occur in normal Samoan writing. Many of the Samoan sentences in this paper are from Milner (1966). At times I have altered Milner's glosses. In Cook (1988) I claimed that clauses with a transitive verb and verb-abs-erg word order are passive. I am not making that claim in this paper.

6. Elsewhere (in Cook 1988: 91-92) I argued that the preverbal pronoun of a transitive clause is not a subject. However, I currently believe that it is a subject because it can control reflexivization. This fact is illustrated in (i).

(i) *Aisea e te faapologaina ai oe*
why you IMP repress-*ina* ANAPH you
'Why do you repress yourself'

i le taunana o lena mea.
LD the try hide of that thing
'trying to hide that thing.'

Sentence (i) is from Mosel (1991: 180), an article in which the author puts forth the claim that Samoan does not have a reflexive construction. See Cook (1994a: 569) for why I believe that it does.

7. For functionalists like Givón, topicality is something that can be stated in terms of 'topic persistence' and 'referential distance', measures of topic importance and predictability which can be calculated by counting, respectively, the number of clauses in which a topic continues to appear and the number of clauses back through which one must go to find a previous mention of a nominal. I have not done such counts on Samoan texts, and I am not sure that they would be revealing, given that Samoan often zero-pronominalizes pragmatically salient entities. The type of reversal with respect to participants that I think is relevant for the *ina* suffix has to do with the construal of a given event rather than topicality in a discourse sense.
8. *Matai* are the titled heads of Samoan extended families (Milner 1966: 136).
9. See Cook (1994b) for more on preverbal pronouns. My analysis there that the suffix is motivated by reduced focus on the agent and/or increased focus on the patient is not at odds with the proposals I make in this paper, given that inverse constructions involve increased focus on objects.
10. The suffix in (33) could also be explained as being motivated by the clitic pronoun *na*. In the case of the imperfect tense/aspect marker *te*, the clitic pronoun precedes rather than follows the tense/aspect marker, and *na* rather than *ia* is used as a third person clitic pronoun.
11. A reviewer has suggested that the reversals that correlate with the presence of *ina* may be analyzed as switches between prototypical and non-prototypical usages. I took that approach in my analysis of the *Cia* suffix in Cook (1988). (See Section 2 of this paper for the relationship between *ina* and *Cia*.) Here I have chosen to describe the phenomena associated with *ina* as inversion because I feel that this term is more specific than merely "a departure from a prototype", which was the term I used in Cook (1988). In other words, I view forms of inversion (i.e. reversals) as particular subtypes of departures from prototypes.

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The Transitive-Ergative Interplay and the Conception of the World: A Case Study

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1. Introduction

In this paper, I will present a specific illustration of how the English grammar of actions and events is governed by two distinct models of causality, viz. the ergative and the transitive models. The lexical field on which this paper is based may be somewhat unusual, yet the English *abort*-cluster has proven to shed light on the interaction of lexical and constructional meaning. In accordance with the principles of Cognitive Grammar, I defend the view that the different constructions in which a verb can occur, e.g., a transitive or intransitive construction, are inherently meaningful. In order for a verb to occur in a given construction, the semantics of both verb and construction must be compatible. What I want to show in this paper is how changes in the meaning of *abort* have led to semantic incompatibility with constructions that used to be possible for the verb. As such, I will present a specific illustration of how a verb's meaning determines its constructional potential. At the same time, and this goes in the direction of Goldberg's (1995) views, my description shows how the semantics of the construction also affect the interpretation of the verb's usage.

2. Lexical and Constructional Variation in Modern English

The starting point of the discussion is the present-day English polysemic complex *abort*. Included in this complex are not only the various verb forms, but also forms such as *abortive*, *abortion*, etc. My major source for the contemporary situation has been the ACL Wall Street Journal corpus, a collection of 3 continuous months (25/07 to 02/11/1989) of this newspaper in computer format. The *abort*-extractions from this corpus has yielded insights concerning two major types of variation: (1) metaphorical and metonymical variation and (2) causative variation. The first type of variation is illustrated by examples (1) to (5); since the type of Affected entity is crucial in these examples, it has been highlighted in italics.

metonymical variation

(1) ... testing ... might motivate some pregnant women to abort *fetuses* afflicted with cystic fibrosis.

(2) ... black women are more than twice as likely to abort *their children* as white women.

(3) ... some 400,000 black *pregnancies* are aborted each year.

metaphorical extensions

(4) ...the company had aborted *a probe* into fraud and waste...

(5) The requirement "could have the unfortunate result of ... aborting *other technologies now under development*," she said.

Examples (1) to (3) are instantiations of the prototypical meaning of the *abort* cluster, viz. 'to cause a premature expulsion of the fetus from the womb, thereby preventing the pregnancy to successfully culminate in the birth of a mature baby' (*abortus provocatus* or sometimes also called *criminal abortion*). At the same time, the three sentences illustrate the metonymical variations that may occur in the literal domain. The relation between (1) and (2) is a Part/Part metonymy: the profile shifts from the developing entity, the unborn fetus, to the developed entity, the newborn child. Example (3) extends to profiling the pregnancy, which can be seen as an instance of a Part/Whole relationship. It is a shift from the focus on the 'entity-in-the-process' to the process itself. Similar metonymical variations also occur in the metaphorical extensions of *abort* to other domains, as illustrated by examples (4) and (5). In example (4) the thing affected by the action is an ongoing development, a *probe*, the outcome of which would have been, say, a report on its results; as such it is the metaphorical counterpart of (3), in which the development is a pregnancy. In (5), the entity affected is not the development itself, but the thing undergoing the development, viz. the *technologies* (for safer air traffic), which, similar to developing fetuses in literal counterparts as in example (1), should have been able to grow to full maturity, to be used in airplanes. The lexical semantic variations of *abort* can simplifyingly be summarized by Figure 1.

For the sake of convenience, the different states of the *abort*-process have been collapsed to one single box; the time arrow underneath the relational profile signals its temporal nature. The heavy lines within a box represent the profiled landmark. The item's most prototypical configuration (at least in the WSJ corpus, i.e. 75%), namely *to abort a child*, has been marked by the heavy-line rectangle. The construction *to abort a fetus* is less salient (12%). The story of prototypicality and metonymical variation is, however, more intricate as the speaker's ideology influences the choice, as I will further elaborate below.

Figure (1) shows that the metonymical variation, represented by the squiggly line, stays within the domain (cf. Lakoff 1987: 288), while metaphorical extensions establish correspondences between different domains; a metaphorical extension

occurs if "the path from instantiation to schema crosses domain boundaries" (Rudzka-Ostyn 1994: 417).

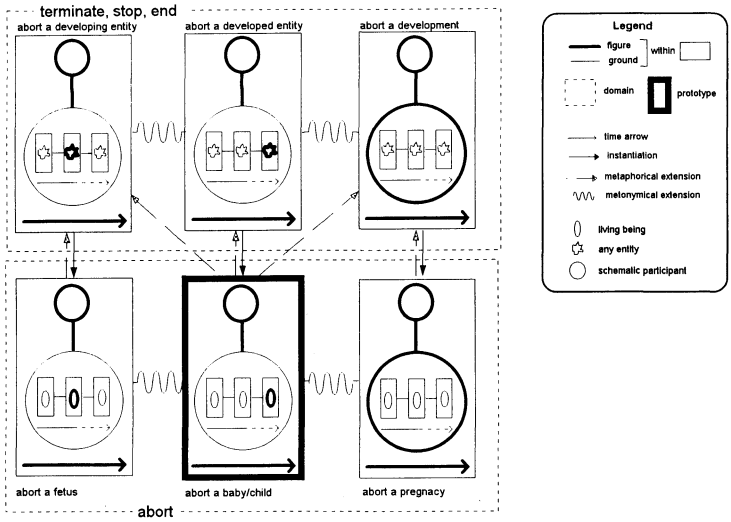


Figure 1. A simplified network of metonymical and metaphorical extensions of abort

To complete the description, I mention that Collins Cobuild lists another metonymical extension in the literal domain viz. the construction *the doctor aborted the woman*. Many people find this an odd construction or will reject it altogether.[1] It is not attested in the WSJ corpus (and not digrammed in Figure 1), but I did find a similar construction in postings to (unmoderated) newsgroups on the Internet (e.g., *Helen and other* aborted women *failed to get an informed consent law enacted*; newsgroup *talk.abortion*). At the end of this article, I will be in a position to explain why the metonymical shift to profiling the woman has become possible.

Let us now first consider the causative variation, as exemplified by examples (6) to (7).

(6) The pilot told the control tower he was aborting *the takeoff* moments before the crash. [causative]

(7) *The takeoff* aborted due to obscured visibility. [non-causative]

These examples show that *abort* behaves like many other English verbs, such as *break*, *melt*, *freeze*, or *starve* that allow a causative/non-causative alternation. Anticipating the discussion in section 4, I point out that for contemporary *abort*,

the causative construction is most common. As is also typical of verbs allowing the causative/non-causative variation, participial constructions can be ambiguous. Examples (8) and (9) represent the two possibilities.

(8) Aborted programs include decontrol of prices, sales of state-owned enterprises and strengthening the private sector - all of which seemed likely to move forward a year ago. [causative]

(9) The company ... lost about $80 million earlier this decade on an aborted attempt to start a direct-broadcast satellite network. [non-causative]

Despite the fact that the larger context of (8) specifies that the reform programs were halted by the government, the participial construction is still potentially ambiguous; it can be interpreted as referring to programs that aborted and programs that were aborted. I will come back to this ambiguity at a later point. Note, however, that the adjective *abortive* (meaning 'non-successful') is exclusively non-causative. While the construction *an aborted attempt* may still imply a causer, the phrase *an abortive attempt*, as in example (10), refers to attempts that aborted, not attempts that were aborted.

(10) After two abortive attempts at securing a foothold above the crucial 2.00 Deutsche mark level, the dollar sagged to finish softer. [non-causative]

How can the causative/non-causative variation be explained? Against the background of the action chain model, Langacker (1991) accounts for it in terms of a different path in the conceptual assembly of the event. For some events, Langacker says, it is possible to factor out the causing element, which makes the caused event conceptually autonomous (see also Talmy 1985). Figure 2 is an adaptation of how Langacker represents the difference between *the glass broke*, *the hammer broke the glass* and *Floyd broke the glass with a hammer*.

The double arrow symbolizes transmission of energy; the change of state which the patient undergoes is represented by the squiggly arrow. The differences between the constructions concern (1) the profile that is imposed onto the complex event and (2) the natural path in which the event is assembled (represented by the leftward arrows underneath each box).

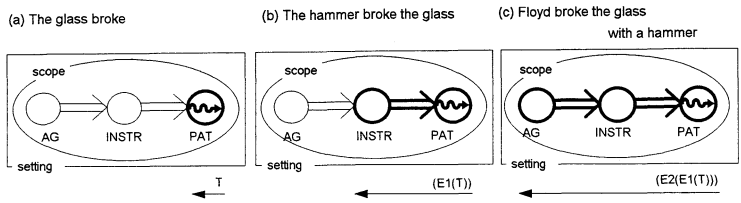


Figure 2. Scope, profile and A/D layering of a complex event conception

In the ergative system, the assembling of the event starts with the *theme* (T) and works its way "upward" against the energy flow, from the tail of the chain towards the head, the energy source of the action chain. The thematic participant is the participant that is evoked as part of the conceptually autonomous core of a processual predication.

I certainly do not want to deny the inspirational value of Langacker's account of the constructional alternations with verbs like *break* or *melt* which display the *ergative* pattern. However, by using the construct of the action chain, Langacker is biased towards the linear transitive system. Further, he overlooks the systematicity of the ergative system in the English grammar as radically different from the transitive system. More specifically, Langacker's account does not really explain why it is possible to group English verbs into those that do and those that do not allow the causative/non-causative alternation. For instance, the causative construction *John kills Mary* does not take a non-causative counterpart: one cannot say *Mary kills* referring to Mary as the affected participant. It is beyond the scope of this article to give further comments on Langacker's account; see Lemmens (1995) for more elaborate criticism especially concerning Langacker's use of the notion *thematic participant* which conflates semantic roles which are clearly different.

For an alternative analysis of the constructional variability of causative verbs I turn to Davidse (1991). Her account is largely compatible with that of Langacker, but being situated in the functional-systemic model, it does more justice to the semantics of the construction and to the place of the construction in the grammatical system. By carefully examining grammatical correlations, she arrives at a fine-grained paradigmatic opposition between two models of causation that govern the English grammar of actions and events, namely the transitive and the ergative paradigms. These two semantic models project quite different process-participant constellations in their conception of events, i.e. different ways in which the participants *participate* in the process.

In an ergative representation of an event, as in *Floyd broke the glass/The glass broke*, the participant that is affected by the event is called the *Medium*. It is presented as most crucially involved: in addition to being affected it also *co-participates* in the process. The structural centrality of "the Medium-Process nucleus" is reflected in the fact that it is precisely this nucleus that is isolated in the

non-causative construction as in e.g. *The glass broke*. This signals that the Medium has the potential of self-instigating the event. In fact, the non-causative construction neutralizes whether the process was self-instigated or instigated by some external force. Halliday has called this the "inherent voice vagueness" of the non-causative constructions. However, the ergative system typically opens up to the left to incorporate an external Instigator, the "causer" of the action, as in *Floyd broke the glass*. This construction resolves the voice vagueness and explicitly codes the process as externally instigated. The ergative model is thus a nuclear one, with an Instigator added to a process which is already semi-autonomous. To use Davidse's metaphor of a dance, the Instigator joins in from the outside. Figure 3 is how Davidse represents the nuclear ergative system:

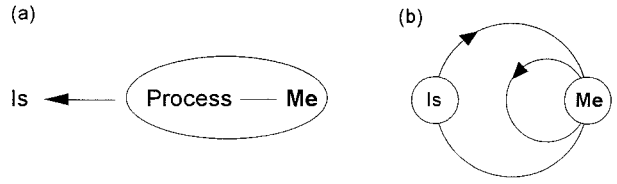


Figure 3. The ergative paradigm

The transitive model is a linear paradigm that centres around the Agent, or more accurately the transitive instantiation of this category, the Actor. The ergative instantiation of the Agent category is the Instigator. So the category Agent schematizes over the transitive Actor and the ergative Instigator. The Actor-centredness of the transitive paradigm is reflected in the fact that it is the Actor that can be isolated in a pseudo-intransitive construction, as in *God saves* or *Psychopaths kill*. I will call this construction the *transitive absolute*. The transitive paradigm is thus *right*-oriented. That is, the event finds its starting point in the Actor, the most central participant, and prototypically extends to the right to the participant affected by the event. This participant, however, is fundamentally different from the ergative Medium as it does *not* co-participate in the event; it is the inert target of the Actor's action and hence called the Goal. Figure 4 visualizes the linear transitive system:

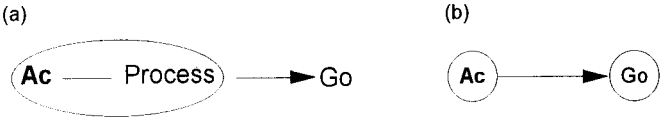


Figure 4. The transitive paradigm

To further clarify the above description, Figure 5 presents the (traditional) typological characterization of the transitive and the ergative systems yet reinterprets them semantically.

The difference between the ergative and the transitive models of causation makes itself felt in a variety of ways on different levels of the grammar, which, however, cannot all be discussed here (see Davidse 1991 and Lemmens 1995 for details).[2] For the present purposes, it suffices to see that the absolute construction (as in *God saves*) is a transitive phenomenon and the causative/non-causative alternation is an ergative one. It can be noted that true intransitive constructions, like *John died* or *Mary is running* are a special subtype of the transitive model. They code a process that centres around an Actor but which does not extend to the right, although sometimes they can, as in *John is singing a ballad* or *We prowled the city*. The story of these types of constructions is not really at issue here.

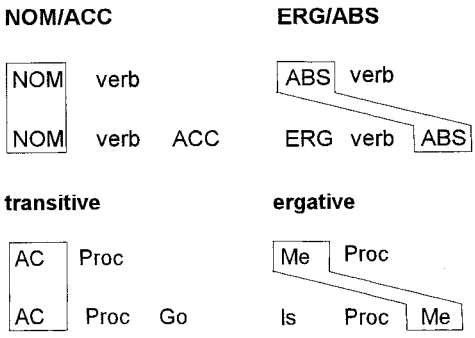


Figure 5. Transitive/ergative typology

Returning now to the constructional variation with *abort*, it can be concluded that *abort* is an ergative verb that allows a causative and a non-causative construction. There are, however, two problems. First, the data show that the non-causative construction is primarily restricted to metaphorical usage: a construction like *the fetus aborted* is marked and predominantly restricted to medical jargon. Second, there is a problematic transitive absolute in literal use, as evidenced by examples (11) and (12):

(11) Thus, a woman who used RU-486 to have an abortion would have to make three trips ... and a third trip a week later to make sure she has completely aborted.

(12) I assert that a mother has rights, and a baby does not. That being the case, the mother can abort, if she so chooses. (source: *alt.abortion*, pro-choicer)

Normally, ergative verbs do not tolerate such an absolute construction; for instance, *Floyd broke the glass* does not find its correlate in *Floyd broke*, with Floyd as the agent effecting the breaking of some other participant that is not further specified. What then motivates the intransitive usage in (11) and (12)? There are two possible options to account for the situation.

One plausible account is that *abort*, a loan word from Latin (a pronounced accusative language) has been subject to an *ergativization* process with the absolute construction in (11) as a relic from the earlier transitive period. Halliday (1985) notes that such an ergativization has been taking place over the past five hundred years or more. Keyser and Roeper (1984) show that the ergativization is still productive, especially in modern scientific and bureaucratic English. This is, for instance, reflected in the ergativization of processes expressed by verbs ending in *-ize* (*oxidize*, *federalize*, etc.).

The alternative hypothesis suggests exactly the reverse, viz. a *transitivization* process of an originally ergative verb, with the transitive absolute construction in (11) and (12) as its logical exponent. The disadvantage of this hypothesis is that many of the examples cited so far would then have to be regarded as relics of the older ergative situation, despite the contemporary productivity of the ergative pattern. This is especially true for the metaphorical usages, as in *the takeoff aborted* or *the aborted coup*. Also arguing against this hypothesis is that it posits a development going against the tide of ergativization.

Strangely enough, a careful examination of historical data reveals that both hypotheses apply to *abort*, with the understanding that (1) the processes of ergativization and transitivization have operated in different time periods and (2) the transitivization *selectively* applies to the literal uses only.

To elucidate the complex interplay of the ergative and transitive paradigms, the next section will present a more elaborate description of the diachronic development of the cluster. The discussion will illustrate how the specific semantic structure of *abort* realized, and in turn influenced these schematic grammatical patterns. I would like to emphasize that this historical reconstruction will have a qualitative rather than quantitative orientation since it is not based on a meticulous analysis of an extensive corpus of representative historical data that might reveal, for different time periods, which meanings (or types of construction) were prototypical and which were peripheral. Nevertheless, the description is more than just speculation, since, first of all, the information in the OED and the Middle English Dictionary (Kurath and Kuhn 1956) has been sufficient to outline the main tracks along which the cluster developed and secondly, the data fit the ergative-transitive interplay hypothesis so nicely that it would be unfortunate not to consider them.

3. Ergativization of *abort* in Early Modern English

According to the OED, *abort* originates from the past participle form *abort-* of the Latin intransitive verb *ab+oriri* (literally, 'away' + 'come into being') meaning 'to miscarry' or in figurative use, 'to go wrong; to disappear'. Most etymological dictionaries (e.g. Shipley 1945) and other dictionaries (e.g. Webster's 1973) confirm this etymology. Partridge (1966), however, says that the Latin past participle *abortus* was the basis for the formation of a new *Latin* verb *abortare* (meaning 'to miscarry') from which English *abort* is derived. This verb is also referred to by the OED, but only as an element of cross-linguistic comparison. In a sense all these etymologies are correct, yet they raise more questions than they answer. Let us, therefore, take a closer look at the Latin data.[3]

The *Thesaurus Linguae Latinae I* (col. 125-127) shows that the earliest form is the deponent verb *aboriri*, which (in opposition to *oriri*) means 'to disappear, to cease existing'. In its most common use, i.e. referring to an unsuccessful pregnancy, it assumes the fetus as the figure, i.e. the participant that is born too early in the pregnancy and as a result ceases to exist or fails to come into existence. The following sentences may serve as examples (the figure is indicated in Roman type):

(13) *ut* fetus... *in corpore suo concepti aboriantur.*
'such that the fetuses...conceived in her body would be born prematurely'

(14) ...qui *imperfecti adhuc et de ventre aborsi sunt*
'...that still are not yet developed and are born prematurely from the womb'.

Of course, the woman is also part of the conceptual cluster of *aboriri*, as the ground, and is often expressed periphrastically in the clause (cf. *in corpore suo* and *de ventre* in the two examples above). It is precisely this proximity that triggered a change in the verb's usage into one in which the woman becomes the figure, the participant most affected by the event. Löschhorn (1976: 111) sees constructions such as the following as creating the possibility of this evolution.

(15) ...*vinum si praegnans biberit, fieri ut Δ aboriatur.*
'If (a woman who is) pregnant drinks wine, it might cause (the fetus) to be born prematurely'

In Varro's time (first century B.C.) the subject of *aboriantur* was undoubtedly the omitted *fetus*. A later syntactic reconstruction allows, according to Löschhorn, the implied antecedent of *praegnans* (*mulier*) to be taken as the subject of the verb. Löschhorn's explanation is correct, yet his restricted view of the change as a pure syntactic phenomenon - which has the unwarranted extrapolation that most usages

of *aborori* must have manifested a syntactic ambiguity of the type illustrated in (15) - misses the point. It is the conceptual rather than the syntactic proximity of the woman that can explain why speakers of late Latin came to a reinterpretation of utterances like (15). I argue that what is at stake here is an example of a metonymical figure-ground reversal: the woman, who was initially the ground (cf. *de ventre* and *in corpore suo*) becomes foregrounded as the figure in the relation designated by *aborori*. What triggered this reversal in Latin (and what later standardized the reversed situation) is food for thought, but I will not probe into this matter here. What is important for the present discussion is that *aboriri* developed into a verb that, as unequivocally illustrated by the following examples, had the woman (or its metaphoric counterpart as in one of the examples) as the figure (it became the subject of the verb, indicated in Roman type).

(16) Babylonia *cum alienis etiam suas aborsa est pereundo*
'With its destruction, Babylonia has, together with the wealth of others, also lost its own wealth.'

(17) *xvij* matres *[*oves*] fuerunt mortue ante partum et xxj stereles et xxiiij abortae.*[4]
'17 mother sheep were dead before the delivery, 21 were sterile and 24 had a miscarriage.'

This new use of the verb *aboriri* (to which Donatus (4th century) still depreciatorily reacts *non est Latinum 'aborsa est'* [*aborsa est* is not Latin]) becomes conventionalized in the later forms *abortare* and denominative *abortire* (or deponent *abortiri*). The Medieval tendency to turn irregular verbs into regular ones (usually by changing them into verbs ending in *-are*) also serves, at least in this particular case, as a regularization of the semantic structure: the new verb forms can only occur with the woman as subject (cf. Hiltbrunner 1981:48*ff*). There are also attestations which take the fetus as the direct object, as in (18).

(18) *si percussint mulierem in utero habentem et abortavit non deformatum*
'if they hit a pregnant woman and she prematurely delivered a child not yet formed'[5]

(19) *sic mater ecclesia pariendo filios abortiri compellitur*
'such that the mother, the church, while bringing forth offspring, is compelled to miscarry'

Although there is much more to say about the evolution of *aboriri* from a "fetus-oriented" to a "woman-oriented" verb, the foregoing discussion suffices to explain some of the peculiarities of the English attestations.[6] It should be clear from the outset that it would be incorrect to assume that the Latin constructions

were simply copied into English, since the way in which a situation is construed closely depends on what imagery is embodied in the linguistic convention of a language (cf. Langacker 1991: 294). However, some of the semantic features of the Latin source were transferred to English equivalents.

One of these is the figure-ground alignment. The earliest *abort*-forms take over the fetus-orientation which characterized classical *aboriri*, as shown in the following examples:

(20) ...*medicynez prouokyng aborsum i. dedechilde* (?a1425)

(21) ...*Þe childir Þat es* abortiues, *Þaa Þat er not born oliues*... (a1300)

In the middle of the 16th century, the English *abort*-forms, and most notably the verbal forms and their derivations (*abort, aborted*, and *aborting*) start to have the woman as figure, still continuing the meaning of a spontaneous abortion as its prototype. This change suggests that, some 250 years after the first occurrence of *aborsum*, there was a new import from the Latin source, where, however, the verb *aboriri* and its younger derivations *abortare* and *abortire* had meanwhile taken on the woman as figure. The hypothesis of a second borrowing gains in plausibility when we consider that in Latin documents written in England in the 14th century (cf. Latham 1975) and later the *abort-* verbs (*aboriri* and *abortiri*) have the woman as central participant; we may assume that there was a close 'interaction' between Medieval Latin and English. Consider the following attestations from the OED:

(22) Abhorsion is when a woman is delyvered of her chylde before her tyme. (1547)

(23) What wilt thou give them? barren wombes (or aborting wombs). (1632)

(24) This Spring the Queen ... aborted of a son. (1655)

The introduction of the woman as a prominent participant allowed a harmonious resolution of both the older uses that have the fetus as figure and the newer ones that have the woman as figure. The resolution lies in an overall *ergativization* of the conception of the abort-event. At its most schematic level, this ergative conception involves two participants, the most central of which is the Medium, the entity affected but also co-participating in the event. The other participant is the second energy source; it is the Instigator of the event. Given that in the 16th century and later, the literal use of *abort* mostly referred to a spontaneous abortion, it is only natural to arrive at a conception of the event which transcends the control of the woman and finds its primary energy source in the fetus, a participant conceived of as capable of self-instigating the event. However, it was not until the

19th century that the ergative paradigm became the standard coding. Nevertheless, although not yet fully attuned to each other, the 16th and 17th century *abort*-forms can all be considered as instantiations of an ergative system, each of course with their own particulars of construal.

However, also in this period there is an intransitive pattern, as in example (24) *the Queen aborted of a son*. The question is: what is this construction? Is it a one-participant instantiation of the transitive paradigm? If so, there are two possibilities: either it is an intransitive construction like *John died* or it is a transitive absolute like *soldiers trained to kill*. On the other hand, the question is whether it is a one-participant construction within the ergative system, yet such a construction is generally not possible with ergatives.

While this construction presumably originated as a translation, both semantic and syntactic, of the Latin intransitives, I suggest that it has been reinterpreted as an *unprototypical ergative absolute* construction with the instigator in subject position. My arguments for this hypothesis are the following. First, the Medium is sufficiently present as part of the conceptual cluster of a spontaneous abortion. In other words, the elaboration-site for the omitted entity is salient and minimally schematic. Second, despite the self-instigating capacity of the fetus in the case of a spontaneous abortion, the woman remains a participant who is seriously affected by the event. There is a significant difference between the degree of affectedness of the Queen in example (24) and, for instance, that of Floyd in *Floyd broke the glass* or *Floyd opened the door*. It is precisely the high degree of affectedness which in this particular case may sanction an intransitive use of *abort* that isolates, and thus profiles, the Instigator. Third, indirect evidence comes from the observation that there are no attestations of such an ergative absolute construction in metaphorical usage. Since in these construals, the e-site is necessarily more schematic and the Instigator is not affected, the absence of a metaphorical Instigator-Process construction seems entirely logical. I have to admit, though, that unfortunately my sources do not provide direct confirmation, viz. a two participant construction in literal use. Such two-participant constructions have only been attested in metaphorical use. Given the absence of direct evidence, I acknowledge that my interpretation of the construction in (24) requires much more historical research.

By the middle of the 19th century, the situation seems to have been stabilized into a clear ergative pattern, as nicely illustrated by the following OED attestations (both from Darwin's work), the first presenting a non-causative construction (Me-Process) and the second a causative with an implied instigator ((Is)-Process-Me):

(25) If the discs had been small...we might have concluded that they had begun to abort. (1862)

(26) When this occurs, the adherent nectary is quite aborted. (1859)

The continuation of the unusual ergative absolute construction indicates its high degree of entrenchment. Another indication of its entrenchment is that from the 16th century onwards, this usage competed with intransitive *miscarry*, yet maintained its ground until the late 19th century. The use of *miscarry* in reference to a spontaneous abortion is an extension of the verb's prototypical meaning 'to come to harm, misfortune or destruction; to fail in one's purpose'. In modern English this meaning has been preserved in *a miscarriage of justice*. This is not the place to expand on the semantic competition between *abort* and *miscarry* which I have described in more detail elsewhere (Lemmens 1995:255-259), yet the semantic competition signals the special status of the 'intransitive' use of *abort* as in example (24). Significantly, all other constructions with *abort* and its related forms that do not fit the ergative paradigm disappear altogether.

4. Transitivization of *abort* in Modern English

The ergative crystallization of the *abort*-cluster is a specific instance of an ergativization that has been operative in English for quite some time. Halliday suggests that "the coming of this [ergative] pattern to predominance in the system of modern English is one of a number of related developments that have been taking place in the language over the past five hundred years or more together amounting to a far-reaching and complex process of semantic change" (1985: 146). As a result of this ergativization, for a great number of English verbs the process need no longer be represented as being controlled by an intentional Agent and can be coded as being self-instigated. In addition to the productive ergativization in scientific English discussed by Keyser and Roeper (1984: 389*ff*) - e.g. verbs in *-ize* as in *The US was quick to Reaganize* - Davidse (1991: 114) suspects that "the most massive ergativization has been - and still is - operating on intransitives with inanimate Actor", a shift for which she finds a plausible explanation in the advent of modern technology and automation, as various types of machines and technical devices mostly have two 'energy sources' both of which directly operate in the process. So, next to *He switches off the machine* we have now *the machine switches off*.

Ironically, the advent of modern technology and modern health care in particular have had an opposite effect on the semantic structure of *abort*. Modern science has made it possible for spontaneous abortions to be prevented more efficiently than before, and, more importantly, has also brought about the reverse, viz. an easy access to drugs or clinical facilities which enable women to deliberately terminate their pregnancy prematurely, without many risks. These factors have contributed, and still do, to a sharp *reduction* in the self-instigatable character of the abortion process. More and more, the process is moving *away* from the ergative paradigm into a linear transitive model. In this conceptualization the woman (or the doctor acting on behalf of the woman) is seen as doing something to the fetus. The fetus

itself has become a participant that no longer co-participates in the process, but is merely an affected entity.

While technological changes may have initiated the transitivization of *abort*, the ethical debate on the abortion issue ensures that it will continue to entrench as the item's new prototype. People have stopped using the *abort* forms to refer to a spontaneous abortion and have resorted instead to more neutral codings, such as *to have a miscarriage*. It will also come as no surprise that pro-lifers, for ethical or rhetorical reasons, often level *abort* with other, more typically transitive codings, such as *kill*, *slaughter*, or *murder*. Such parallels, morally justified or not, will certainly enhance the transitive character of *abort*. This is not to say that an ergative construal of the literal abort-event is no longer possible, but such usage has become marked and basically restricted to medical jargon, as illustrated by examples (27) and (28).

(27) In case of this type of genetic malformation, the embryo$_{(Me)}$ will abort.

(28) In case of this type of genetic malformation, an embryo$_{(Is)}$ will abort itself$_{(Me)}$.

Such ergative construals refer to a spontaneous abortion and not a procured one. [7] In medical jargon, the noun *abortion* can also be used to refer to a miscarriage.

Recall from the presentation of the contemporary data (Section 2) that a one-participant construction is still possible in literal use (examples [11] and [12]). Or consider also the following example:

(29) Too many pregnant teen-agers are urged to take the "easy way" and abort, convinced by twisted logic that it is kinder to abort than to bear the child and place it for adoption. (WSJ35 890810-0108)

In these examples, *abort* has acquired the meaning of deliberately procuring an abortion. In these usages, the subject-verb construction no longer realizes the INSTIGATOR-PROCESS construal, but has shifted to an ACTOR-PROCESS cluster typical of the transitive paradigm (transitive absolute). The reason for this is twofold. First of all, the woman is no longer thought of as a victim highly affected by the event, a semantic specification which in the Instigator-Process hypothesis was indispensable for the construction to be sanctioned. Secondly, in the new conception of the abort-event, changed because of scientific advances and coloured by ethical considerations, the 'true' victim of the event is the fetus; it is no longer a Medium that somehow contributes to the process but is degraded to a Goal subject to the control of the woman. The second *abort* in example (29) may be considered as a nice intermediary, since it occupies the middle ground between a transitive absolute and a transitive effective with postponed object (*it is kinder to abort [the*

child] than to bear the child). It should, however, be emphasized that the transitive absolute may not be equated with those uses that explicitly extend to the right (see Lemmens 1995: 163-169). For the present purpose it is important to see that the construction is now an instantiation of the *transitive* paradigm, whereas formerly it was an instantiation of the ergative one.

There may, however, be an alternative account for the one-participant construction, which also brings in the new formations *the doctor aborted the woman* and *aborted women*.[8] When the two constructions, *the woman aborted* and *the doctor aborted the woman*, are compared, one realizes they can both be interpreted as instantiations of the ergative paradigm. In the conceptions coded by these constructions, the woman has taken on the role of the Medium and the doctor that of the Instigator. This conception is quite plausible in view of the technological advances of medical science, which downgrade the involvement of the fetus in the whole process and bring in the responsibility of the medical staff. The reinterpretation shifts the event episode further to the left on the action chain, which results in a conception in which the *doctor* instigates a premature delivery, a process which requires physical co-participation of the *woman*. A similar line of reasoning can be extended to the Dutch construction *minder vrouwen werden geaborteerd* cited earlier. Although the account is a most plausible one, it has to be stressed that this ergative reinterpretation has not yet stabilized into an acceptable pattern. Assigning the role of Medium to the woman seems, for instance, more acceptable for example (11) than for the first *abort* in example (29). Further, many people still reject a construction like *the doctor aborted the woman* (in the Internet enquiry (see footnote 7), an overwhelming majority found it totally unacceptable or very bad at best).[9] The intransitive construction is more common in the more recent newsgroups postings (1996) than in the WSJ (1989), which may be taken as additional evidence to the transitivization process. Nevertheless, a two-participant construction with the woman as Agent and the fetus as Affected is more common and these codings do not fit into the new ergativization. I therefore believe that at present the literal uses evoke the transitive model, yet that they may gradually move into an ergative conception once more.

What is interesting is that for the transitive two-participant constructions, the choice of object is significant. In most cases, it is a *child*, a *baby*, or a *human being*. This metonymical shift to profiling the *endpoint* of the pregnancy is most likely also determined by the ethical considerations. More specifically, the preference for a certain profile may be inspired by the speaker's stance with regard to the issue of abortion: pro-choicers tend to downplay the 'life' feature; they will uses terms such as *fetus*, *embryo*, *zygote*, or *pregnancy*. I even came across the coinage *pre-embryo* (cf. Jansen 1993). Pro-lifers, on the other hand, may try to emphasize the 'life'-feature by selecting terms like *child*, *baby*, *human being*. A recent study by Coulson (1992) confirms this tendency. Analyzing the rhetoric of both pro- and anti-abortionists, she notes that "although they share the proposition that abortion

eliminates the fetus, their differing cultural models have different inferential properties and correspondingly different moral implications" (Coulson 1992).[10]

Returning now to the constructional variability of *abort*, it should be stressed that the metaphorical uses of the cluster have *not* been subject to the transitivization that shapes the literal uses, but continue as instantiations of the ergative pattern. In metaphorical uses, the process can still be coded as instigatable and the affected participant can be attributed an activity concurrent with that of an external Instigator. Given the impact of the ethical debate on the transitivization, the conservative nature of the metaphorical uses seems entirely natural, since there is no ethical need for these metaphors to be recast into transitive ones: developments other than pregnancies can safely be said to either *abort* or *be aborted*. The contrast between, for instance, *The pilot aborted the takeoff* and *The takeoff aborted* can thus be represented as in Figure 6.

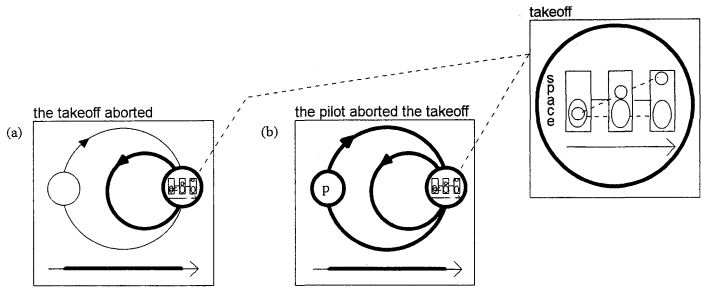


Figure 6. Non-causative (a) vs. causative construals (b) with abort

The diagram combines Davidse's representations with Langackerian conventions. For the sake of completeness, I added a representation of the takeoff process as well. Recall that the non-causative construction is characterized by an inherent voice vagueness as it leaves open the question whether the process was self-instigated or instigated by an external Instigator. This is represented by leaving the Instigator cycle unprofiled. The participial constructions, as in *an aborted coup* or an *aborted raid*, are also characterized by this ambiguity.

As a result of these evolutions, the semantic network of *abort* is somewhat out of balance: the ergative construal has virtually completely disappeared in the literal use but the metaphorical extensions still allow an ergative coding. This I have tried to represent in Figure 7, which also includes the metonymical variations.

While focusing on the verb *abort*, Figure 7 is considered sufficiently representative for the semantic structure of the entire cluster. The figure is still a simplification of the actual situation, omitting, for instance, the temporal dimension and the distinction into different states, which are both an essential part of full representation of processes but are taken for granted in the present diagram. The diagram

nicely shows how the literal and the metaphoric uses of the verb instantiate the two different models of causality. Within the literal domain, the meaning structures 'abort a fetus/baby/child' are indicated in bold as the cluster's prototype. For the sake of completeness, the now obsolete ergative absolute has also been included in the diagram as well as the marked ergative *the fetus aborted* (the markedness is indicated by the brackets). Obviously, both are part of the source domain of *abort*. In order not to clog up the diagram too much, I have left out the alternative account in which *the doctor aborted the woman* is considered an INSTIGATOR-PROCESS-MEDIUM constellation.

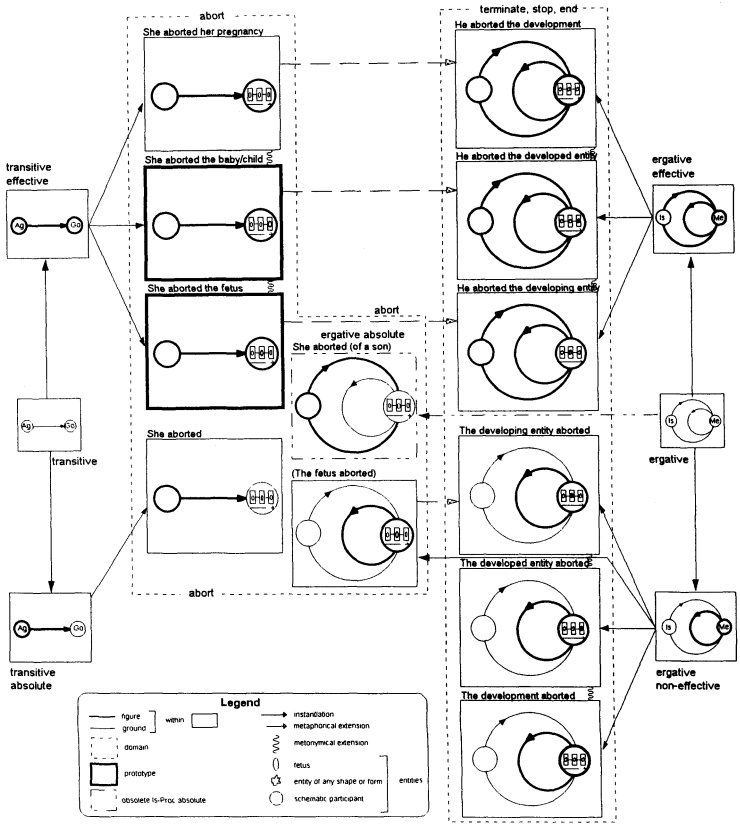


Figure 7. A schematic network of the meanings of abort

5. Conclusion

The above discussion has, first of all, evidenced that English grammar of causation is governed by the transitive and the ergative models of causation, which each have their own semantic specifications. Secondly, I have shown how the meaning of a verb influences its constructional potential, and more specifically, the type of causative model that can be activated. The ergative paradigm that governed the *abort*-cluster in the previous centuries is well-motivated in view of the fact that in that period the item referred to a spontaneous abortion. The conception of such an event involves two central participants, the woman and the fetus, fulfilling the role of Instigator and Medium respectively. The woman is not in control of the process, it is the fetus that is the primary energy source of the process and whose co-participation is crucial. That both cultural and experiential factors influence the conception of abortion is irrefutably demonstrated by the transitivization of *abort* in contemporary English. Against the background of the medical and technical advances through which people have gained (more) control over human physiology, the conception of abortion has shifted to a transitive one in which the woman controls the process. In the extreme case, she herself has the right to decide whether or not to terminate her pregnancy. In this conception, the fetus is no longer seen as potentially initiating the process, but figures as an inert Affected. The transitivization is further enforced by ethical considerations. It is, in short, a direct result of our experience of and interaction with the world.

This process of transitivization has led to a peculiar imbalance in the semantic network of the *abort*-cluster: while instantiations referring to a premature termination of a pregnancy are governed by the transitive system, the metaphoric uses continue to realize the older ergative paradigm. The paradigmatic contrast deepens the division between the literal and metaphorical usages. Undeniably, the two are still semantically related - one would not want to characterize the *abort*-cluster as homonymous - but the degree of similarity is certainly reduced because of the additional paradigmatic breakpoint. Note further that the transitivization of literal *abort* does not undermine the ergativization that has characterized English over the last centuries. It only shows that, at least for literal *abort*, the ergative construals have become quite unconventional, since they are no longer compatible with the verb's meaning.

Endnotes

1. Recently, when the revision of the Belgian abortion legislation was evaluated in the media, I heard on several occasions people use the phrase *vrouwen werden geaborteerd* "women were aborted" which also profiles the women as affected entities. As with the English equivalent, many Dutch speakers object to it.

2. The transitive absolute as well as the ergative non-causative are the two most prominent exponents of the two paradigms. In Lemmens (1995), I show, for instance, how the *-er* derivation, as in *maker*, *killer*, etc. are also governed by the transitive paradigm.
3. I am grateful to Willy Clarysse and Willy Evenepoel for their help with the Latin data.
4. *Aborsus* and *abortus* are variants of the past participle of *aboriri*. The roman numbers are taken over as attested in the dictionary.
5. Note that Latin *deformatum* literally means "away from being fully formed" and is thus not fully equivalent to English *deformed*.
6. For reasons of formulation, I will occasionally use the expression *X-oriented* to indicate that X is the figure in the construal. In similar fashion, I will say that a given usage may *feature* a particular entity.
7. I did a small enquiry on the Internet in which I asked people to judge the acceptability of sentences like (27) and (28). Although the results of that enquiry are statistically unreliable, it is significant to note that some people reject these constructions altogether. Strikingly, when a modal commentary was added, *the fetus will {*most likely/readily*} abort*, the acceptability increased, which is another indication of the growing transitivity of literal *abort*. On the interaction between modality and transitivity, see Rice (1987a, b).
8. The formulation of this alternative interpretation has benefited greatly from a discussion with students, following a talk (November 18, 1994) on my findings.
9. Interestingly, the one person that found the usage perfectly acceptable, totally rejected the construction in example (28) *the fetus will abort itself*, which may be indicative of a changing conception of participants. Recently, I saw a poster by an anti-abortionist group with a picture of an unborn baby. The caption above it read (translated from Dutch): "If people tell you abortion is a decision which concerns the woman and her doctor only, they are forgetting someone". This is an overt reaction against the recent tendency to demote the fetus in the conception of abortion.
10. References to Coulson's paper are without page numbers since it was sent to me via electronic mail as a plain ASCII file on April 27, 1995. Full reference to the paper issue (unavailable to me) is in the references.

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The Relationships between Verbs and Constructions*

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1. Introduction

This paper focuses on the types of possible semantic relationships between a verb's semantics and a construction's semantics. In order to understand this topic, it is important to make clear what I have in mind by "constructional semantics". Section 2 briefly reviews this idea and provides three arguments in support of recognizing constructional semantics.

Section 3 explores the range of possible semantic relationships that the verb can bear to the construction. It is suggested that the analysis sheds light on the larger issue of which actions within a given scene are the most salient.

2. Constructional Semantics

The basic idea I will be assuming is that the simple sentence types in English are directly correlated with one or more semantic structures. For example,

1.	Ditransitive:	
	Subj V Obj1 Obj2	X CAUSES Y to RECEIVE Z
2.	Caused-Motion:	
	Subj V Obj Obl	X CAUSES Y to MOVE Z
3.	Resultative:	
	Subj V Obj Pred	X CAUSES Y to BECOME Z
4.	Transitive:	
	Subj V Obj	X ACTS on Y; X EXPRESSES Y

This idea is at odds with the widespread view that assumes that the basic sentence patterns of a language are determined by semantic or syntactic information specified by the main verbs. Thus, the sentence pattern in (1) appears to be determined by the specifications of *put*.

(1) *Pat put the ball on the table.*

That is, *put* is a verb which requires an agent, a theme and a location, and it appears overtly with those three arguments. Below I argue that while (1) repre-

sents the prototypical case, sentence patterns of a language are not reliably determined by independent specifications of the main verb.

2.1. Three arguments for constructional meaning

Goldberg (1995: Chapter 1) lays out several arguments for distinguishing a verb's semantics from the semantics of the construction in which the verb can appear (cf. also Goldberg 1991, Goldberg 1992a,b). Although the particular implementations vary, there appears to be a growing consensus that it is necessary to distinguish a verb's "core" semantics from the semantics of the expression when the verb appears in different argument structure arrays (Fauconnier and Turner 1994, 1995; Pinker 1994, Hovav and Levin 1996; see Leek 1995 for an alternative view). Below, I briefly outline three motivations for distinguishing between the verb's meaning and the construction's semantics.

2.1.1. Implausible verb senses are avoided

The first argument for constructional meaning comes from the following types of sentences:

(2) a. The train screeched into the station.
b. Elena sneezed the foam off the cappuccino.
c. Pat smiled her appreciation.

If argument structure were projected exclusively from the verb's semantics, we would need a special verb sense for each of the verbs in the above expressions. In particular, we would require a special sense of *screech* that would mean, "Y MOVES while screeching", a special sense of *sneeze*, "X CAUSES Y to MOVE Z by sneezing", and a sense of *smile* that would mean, "X EXPRESSES Y by smiling". Such senses are intuitively implausible; one does not find unique stems to code such meanings in other languages. For example, one does not find a unique stem *blick* alongside an unrelated term for "sneeze" that means, "X CAUSES Y to MOVE Z by sneezing". Similar attested examples include:

(3) a. If time is money then save yourself rich at Snyder's! (found by Mark Turner)
b. The people of this small town ... have been unable to pray Mrs. Smith's two little boys home again. (found by Mark Turner})
c. She tried to avoid blinking the tears onto her cheeks. (Anne Tyler, 1992, *Dinner at the Homesick Restaurant*, NY: Knopf)

Again, the senses that would be required if one wished to project the clausal pattern exclusively from the verb's lexical semantics, are intuitively implausible.

2.1.2. A generalization about construction meaning is predicted

A second motivation stems from an observation made by Pinker (1989). He points out that what he terms, "the syntactically relevant aspects of verb meaning" are like the meanings of closed class items. What he has in mind by the syntactically relevant aspects of verb meaning are the skeletal meanings such as "X CAUSES Y to MOVE Z_{path}", "X CAUSES Y to RECEIVE Z", "X ACTS ON Y", etc. Pinker observes that the elements of meaning involved, e.g., CAUSE, MOVE, ACT, PATH etc., are like the meanings of closed class items. On a constructional account, these semantic elements combine to form constructional meanings, and constructions are closed class items. Therefore, Pinker's observation is predicted: we expect constructions to have the semantics of closed class elements because they are closed class elements.

2.1.3. Support from language acquisition

The third motivation arises from a debate in the language acquisition literature. Landau and Gleitman (1985) propose that children use the syntactic frames that a verb is heard used with in order to determine the verb's meaning. There is in fact experimental evidence that children do pay attention to the syntactic frames and that they can use that information to narrow down the choice of possible verb meanings (Naigles 1990, 1995; Naigles et al. 1993; Sethuraman et al. to appear).

However, Pinker (1994) points out that the syntactic frame cannot help the learner directly identify what is intuitively the meaning of the verb. The syntactic frame corresponds to more abstract meanings such as "X CAUSES Y TO MOVE Z", "X CAUSES Y to RECEIVE Z". He notes that the conjunction (or disjunction) of all of the more abstract meanings will not lead to inferences about the "root" meaning of the verb.[1] Pinker also correctly points out that such abstract meanings will not serve to distinguish between *kick* and *throw* or between *give* and *hand*. But the proponents of syntactic bootstrapping have not claimed that this type of finer grained learning takes place solely on the basis of syntactic frames. They assume that context plays a crucial role in acquiring these distinctions. For example, hearing (4a) should not lead the child to infer that *rumble* has a motion component to its meaning, since *rumble* can be used in expressions that do not entail motion as in (4b):

(4) a. The bus rumbled down the alley. (motion)
b. Elena's stomach rumbled loudly. (no motion)

Once constructions are recognized to be distinguishable from verb meanings, we need not assume that the constructional frame directly reflects the meaning of the verb. Instead, the constructional frame can be used by the child in a more subtle way. Instead of the child assuming that the construction' semantics directly reflects the verb meaning, the child instead uses the construction to determine the general scene that is being referred to. That is, the construction encourages the learner to

focus on the particular scene under discussion (see Fisher et al. 1994; Gleitman 1994, Sethuraman et al. 1996).

On this view, the verb is recognized to code some salient action within the scene. For instance, the first time a child hears the verb *kick* as in (5), the child need not assume that *kick* itself lexically codes "transfer", the meaning associated with the ditransitive construction.

(5) Pat kicked Chris the ball.

Instead, the construction focuses the child's attention on the scene of transfer being described. The verb can be used to pick out a salient action within that scene. In this case, the action of "giving" is certainly one choice of a salient action, but another salient action is that of "kicking". If the child chooses the latter meaning, then she will have correctly determined the content of the verb upon a single exposure.

Assuming this proposal for how constructions aid in the acquisition of verb meaning is roughly correct, the main subject of the present paper is to determine what actions are considered salient within a given scene; or, more concretely, what is the range of possible semantic relationships that verbs can bear to constructions?

3. Relating Verb and Construction

3.1. Elaboration

It is clear that the most prototypical, the most common and the most universal case is one in which the verb designates an elaboration of the meaning of the construction.[2] For example, if we assume that the ditransitive construction has roughly the meaning of transfer, "X CAUSES Y to RECEIVE Z" then it is clear that verbs such as *give* or *pass* lexically code this meaning. Similarly, if we assume that the caused-motion construction has roughly the meaning, "X CAUSES Y to MOVE Z_{path}", then it is clear that *put* lexically codes this meaning.

(6) a. Hana gave/passed Martin the salt.
(ditransitive: X CAUSES Y to RECEIVE Z ≈ "give", "pass")
b. Laura put the book on the table.
(caused-motion: X CAUSES Y TO MOVE Z_{path} ≈ "put"

It is perhaps the prototypicality of this case, that the verb codes an *elaboration* of the meaning of the construction, that has led so many researchers to assume that the verb must always code an elaboration of the meaning of the construction; i.e., that the verb's meaning determines, or "projects", the meaning associated with the entire sentential frame.

3.2. *Means*

More interestingly for the present purposes are cases wherein the verb does not itself lexically designate the meaning associated with the construction. For example, a common pattern in English, Chinese, and Dutch is that the verb codes the means of achieving the act designated by the construction (Talmy 1985). This is the case in each of the following examples:

(7) a. Amy kicked Paul the ball.
b. Elena sneezed the foam off the cappuccino. (from Kathleen Ahrens)
c. Ken wrote his way to fame and fortune.

Kicking is the means of achieving transfer; sneezing is the means of achieving caused-motion; writing is the means of achieving metaphorical motion. Pinker (1989) discusses the following example from Talmy (1985):

(8) The bottle floated into the cave.

He notes that this sentence is not felicitous in the situation in which the bottle is carried into the cave in a bowl of water. It is only acceptable in the case that the floating was the means by which the bottle moved into the cave. Croft (1991) similarly observes the difference in the following two examples:

(9) a. The boat sailed into the cave
b. *The boat burned into the cave.

He notes that (9a) is acceptable because sailing is the means by which the boat moves into the cave; (9b) is not acceptable because the burning is not the means of effecting motion.[3] On the basis of these examples, Croft proposes that "individual lexical items appear to denote only causally linked events". It is an interesting question as to whether or not Croft's generalization is actually true for lexical items. It raises a number of issues including what should count as a distinct subevent within a lexical item's designation. I do not attempt to address this question here, but see Goldberg (ms) for a comparison of the range of possible relationships between a verb and construction on the one hand, with the range of possible relationships between subevents within a single lexical item's designation on the other. In the following section the question concerning the nature of the relationship between verb meaning and constructional meaning is addressed.

3.3. *Causal relations hypothesis*

If we leave aside the question of whether individual lexical items only denote causally linked events, we can ask a different question: are the meaning of the verb

and the meaning of the construction always causally related? In answer, we might propose the following hypothesis:

Causal Relation Hypothesis:
The meaning designated by the verb and the meaning designated by the construction must be integrated via a (temporally contiguous) causal relationship.

In this section it is shown that verb and constructional meanings are typically related by some kind of causal relation if the verb does not simply designate an elaboration of the constructional meaning. In the following sections, however, it is argued that the Causal Relation Hypothesis must be broadened to allow several other types of semantic relations as well.

A clue that the Causal Relations hypothesis may play some role is clear from the following pairs of examples:

(10) a. The car screeched out of the driveway.
b. The truck rumbled down the street. (Levin and Rappaport 1990)

(11) a. The bird screeched out of the tree.
b. Her stomach growling loudly, Sheila rumbled down the street.

Notice the same verbs, *screech* and *rumble*, are used in both (10a-b) and (11a-b), and yet the examples in (10) are fully acceptable to all speakers, while those in (11) are rejected by many. The difference seems to be that in the examples in (10), the sound is caused by the motion, whereas in the examples of (11), the sound is not caused by the motion, but is simply a co-occuring event. Thus verbs of sound emission provide tentative support for the Causal Relation Hypothesis: that the meaning of the verb and the meaning of the construction must be causally related (at least for speakers who reject [11a-b]).[4]

In order to look more closely into whether the Causal Relations Hypothesis plays an important role, I looked for novel uses of verbs in various constructions. Many of my examples were drawn from Clark and Clark (1979), "When nouns surface as verbs".

Consider the following sorts of examples:

(12) a. Ken Houdini'd his way out of the mailbag.
b. Arthur wristed the ball over the net.
c. The trainer kennelled the dogs.
d. The Jones' summered in New Hampshire.

The first thing to notice is that each of these cases involves a metonymy. In (12a), a general metonymy, Agent stands for the Action associated with that Agent, licenses *Houdini* to be used to convey the action(s) associated with

Houdini. This metonymy is at work in many cases involving both proper and common nouns, including:

(13) a. Nixon the tapes
b. Reagan the public
c. butcher the cow
d. jockey the horse

Example (12b) involves the metonymy, Instrument stands for the Action associated with that Instrument. In this case, *wrist* is interpreted as an instrument conveying the action associated with the wrist. Other examples include (examples again from Clark and Clark 1979):

(14) a. Crisco the pan
b. sweater the child
c badge the members

There are also cases which have become conventionalized, so that what was initially an on-the-fly metonymy has become a lexicalized verb meaning:

(15) a. Azita elbowed her way through the crowd.
b. Dave hammered the metal flat.
c. Kathleen handed Dave a letter.

Example (12c), (*The trainer kennelled the dogs*), involves the metonymy: Result stands for the Action leading to that Result. In this case *kennel* is the result of the trainer acting on the dogs. The question arises as to how it is that the result involves the dogs being *in* the kennel. I would like to suggest that the containment relation follows from general world knowledge about kennels and dogs.

Support for this idea can be found in an experiment described by Clark (1973). She asked 18 month olds to "Do this", as she placed a block in a crib. The children dutifully did as they were asked. But the experiment continued with Clark placing the block beside or under the crib and asking the child to "Do this". In these conditions as well, the child put the block *in* the crib. That is, given a block and a crib, or a movable object and a container, children construe the natural relation between the two to be one of containment. It is claimed here that adults do the same.

As we saw was the case with instrumental denominal verbs, there is some conventionalization in this class as well. That is, many denominal result verbs are highly conventionalized. These include not only cases in which the verb codes the resulting location (16a-b), but also cases in which the verb codes other types of result, e.g. the resulting shape (16c).

(16) a. They housed the furniture.
b. She booked reservations at the Bed and Breakfast.
c. The chef cubed the meat.

More generally, verbs often designate the result achieved by some action, and they do not need to be denominal:

(17) a. Herb melted some butter.
b. Ann burped her grandchild.

To summarize, examples (11a-c), repeated in (18a-c), each involve a particular metonymy:

(18) a. Ken Houdini'd his way out of the mailbag.
Metonymy: Agent for Action performed by Agent
b. Arthur wristed the ball over the net.
Metonymy: Instrument for Action performed with Instrument
c. The trainer kennelled the dogs.
Metonymy: Result for Action leading to that Result

If we consider a simple causal event an event that has an agent, an optional instrument and a result, it becomes clear that the denominal verbs fall into a pattern. These verbs can metonymically stand for the action associated with the agent, the action associated with the instrument or the action leading to the result. Thus each of the denominal verbs in (18a-c) is used to stand for a critical part of a causal event.

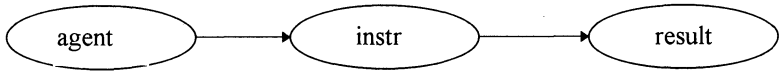


Figure 1. Causal Sequence

The verb can also code the causally related notion of enablement, as noted by Fauconnier and Turner (1994):

(19) Carolyn let the water out of the tub.

This case also falls squarely within the purview of the Causal Relations Hypothesis.

The fact that many of these verbs are conventionalized should not take away from the fact that the larger generalization also exists: verbs are often related to a construction by lexicalizing a critical part of a causal event: the action, the instrument or the result.

Examples (12d) = (20a) and the similar (20b) seem to pose a clear challenge to the Causal Relations Hypothesis:

(20) a. The Jones' summered in New Hampshire.
b. They were going to weekend in Catalina.

Clark and Clark describe these cases as involving denominal verbs of duration. Let us assume that the construction involved, Subj V Obl, has roughly the semantics, X BE-LOCATED Y. The verbs *live, reside, stay* can be considered semantic elaborations of this meaning. It is clear that the duration of a stay is not causally related to being in a location. Thus the appearance of denominal verbs such as *summer* and *weekend* appears to pose a challenge to the Causal Relations Hypothesis.

However note that this pattern is severely restricted:

(21) a. *She was going to summer where she lived.
b. *She was going to weekend at work.
c. ??She intended to lunch-break at the mall.

Notice further that not every denominal verb of duration is acceptable:

(22) a. *The Jones' were going to month in New Hampshire.
b. *They were going to week in Catalina.

What seems to be critical is that the noun be construed as conventionally associated with travel, for example, a vacation, and not a temporal duration. Summer and weekends are conventionally associated with vacations. Weeks and months are not. If the noun itself designates a vacation, the expressions are as expected, fully acceptable:

(23) a. They planned to vacation in Spain.
b. Azita and Peter were going to honeymoon in Greece.
c. Carolyn was going to holiday in France.

Other nouns that designate periods in which travel can be expected are also acceptable:

(24) a. The Goldstein's sabbaticalled in England.
b. Nina sojourned in Italy.

Once it becomes clear that the denominal verbs must designate periods of expected travel, it is clear that they are in fact causally related to the meaning of the

construction. The travel is the cause of being in a location. Thus these cases are not exceptions to the Causal Relations Hypothesis after all.

Recall our initial question, what are the most salient actions within a given scene? It should not come as a surprise that causally related events are particularly salient, because causally related events have been argued to be central to other cognitive phenomena as well. In particular, they have been argued to be among the most likely inferences to map from source to target domain both in metaphorical mappings and in explicit analogies (Carbonell 1982, Gentner 1983). It is clear that when choosing which aspects of a scene are relevant, causality plays a central role.

Nonetheless, there exist certain cases that do violate the Causal Relations Hypothesis as stated at the outset of this section. These cases are discussed in the following section.

3.4. Relationships between verb and construction

3.4.1. Denial of the frame designated by construction

In certain cases, the verb may specify that the scene designated by the central sense of the construction does not hold. For example, again, assuming the ditransitive construction designates roughly "X CAUSES Y to RECEIVE Z", the verbs in the following serve to deny that entailment:

(25) a. Pat denied Chris a popsicle.
b. Pat refused Chris a kiss.

This is also possible in the caused-motion construction, the basic sense of the construction being "X CAUSES Y to MOVE Z" (Goldberg 1995). Example (26), for example, entails that Pat caused Chris not to move into the room, thereby contradicting the entailment of motion associated with the construction.

(26) Pat locked Chris out of the room.

A parallel possibility exists with the transitive construction. If we take the relevant constructional sense to be "X ACTS ON Y", the following verbs serve to contradict the meaning of the construction:

(27) a. Pat ignored Chris.
b. Adam resisted the marshmellows.

These cases are interesting in that the meaning of the construction and the meaning of the verb are not simply composed in an additive or monotonic fashion. Instead, the meaning of the verb is integrated with the meaning of the construction, resulting in entailments that neither the verb or construction have independently.

In these cases involving verbs with negative import, the claim as to how verb meanings relate to constructional meanings must be adapted slightly. The construction does not serve to pick out a scene and the verb a salient causally related action within that scene. Therefore the Causal Relation Hypothesis does not apply straightforwardly. Still, there is a sense in which the negation of a proposition is closely related to its assertion. It has often been noted that sentences with negative import typically presuppose that the corresponding positive assertion is "on the table" (Givón 1979; Horn 1989 and references therein). That is, the scene associated with the construction is accessible in the discourse. Support from this idea comes from a number of sources. Horn (1989) discusses this idea at length. He cites an early reference from Baldwin (1928: 146-48, cited by Horn 1989: 68):

> In order that a negative statement may have any value, there must have been some reason to suppose that the affirmative statement of which it is the exact denial was true, either that it had been proposed for our acceptance by an interlocutor, that it had been part of our stored-up knowledge or purported knowledge, or that we had in mind what we took at the moment to be sufficient ground for its acceptance ... Negation is a secondary function of thought, which presupposes the existence of positive judgments.

Givón similarly states, "Negatives in general are uttered in a context where the corresponding affirmative has been discussed, or else where the speaker assumes ... the hearer's bias toward or belief in - and thus familiarity with - the corresponding affirmative" (1979: 139).[5]

The close relationship between a positive assertion and its negation is also evident in the interpretation of sarcasm. For example, *I'm sure the cat likes you pulling its tail*, can be used to convey that the cat does *not* like having its tail pulled. The close relation between positive and negative is also attested in certain diachronic meaning shifts, e.g. words like *bad* and *nasty* coming to be used to mean "good".

It is in this way that the meaning of the verb is related to the meaning of the construction. The verb serves to negate the positive meaning of the construction. As noted above, these cases do not conform to the Causal Relation Hypothesis in a straightforward way. However, like causal notions, the negation involved is in each case "force-dynamic" in the sense of Talmy (1985b). Force dynamic relations are those relations that involve causes, forces, counterforces and tendencies. Thus, we might broaden the Causal Relation Hypothesis to include all force-dynamic relations as follows.

> *Force Dynamic Relation Hypothesis:*
> The meaning designated by the verb and the meaning designated by the construction must be integrated via a (temporally contiguous) force-dynamic relationship.

This reformulation allows us to include both causal relations and denial under the broader notion of force-dynamic relations. However, in the following two sections, two more ways in which verbs can be related to constructions are discussed. Neither of these is a force-dynamic relation. Interestingly, however, each of these cases is somewhat limited in its application and judgments often vary across speakers. Thus, it seems there is a hierarchy of possibilities, with elaboration being the most prototypical, force-dynamic relations being the next prototypical, and the following cases being possible, but non-prototypical.

3.4.2. Preconditions

If we assume that the ditransitive construction has roughly the meaning of transfer, i.e., "X CAUSES Y to RECEIVE Z" (e.g., Goldberg 1992b), then we find that this construction allows the verb to designate a precondition of transfer, namely, the creation or preparation of the transferred entity. For example:

(28) Dave baked Elena a cake.

Here the preparation of the cake is a precondition for Dave's transferring the cake to Elena. Transferring something from an agent to a recipient is associated with certain frame-semantic knowledge. In particular, we know that what is transferred from one person to another is often prepared for that purpose. The preparation or creation of the transferred entity can thus be viewed as a salient action within our frame semantic knowledge of transferring.

Interestingly, for many speakers, the verb does not designate a precondition as readily in other English constructions. For example, for a theme to move in a direction requires the precondition that the theme be free of physical restraints. In the following construction which designates caused motion, the verb designates the precondition of removing constraints that will enable motion. However, judgments on the following examples vary, with speakers ranging from finding them fully acceptable to clearly unacceptable:

(29) a. % The warden freed the prisoner into the city.
b. % Pat unleashed the dog into the yard.

The reason that the precondition of preparation in the scene of transfer may be more available than the precondition that restraints be removed in the scene of caused motion may be simply that the preparation preceding transfer may be a more frequent occurrence in our experience than removal of restraints enabling motion. In transferring something from one person to another, it often happens that the transferred goods have to be prepared or created for the purpose. On the other hand, it is generally not necessary to remove any restraints before causing an entity to move: most movable entities in the world are unrestrained.

3.4.3. Co-occurring activity

The *way* construction allows the verb to designate a co-occurring activity that is not causally related to the action designated by the construction. For example,

(30) "He seemed to be whistling his way along." (Oxford University Press Corpus)

Certain speakers find the same relation possible with the intransitive motion construction (recall also examples [11a-b]):

(31) % He whistled out of the room.

Notice a co-occurring activity is not possible in the resultative (32) or ditransitive (33) constructions:

(32) *She whistled the metal flat.
(To mean, she caused the metal to become flat while whistling.)

(33) *She whistled him a box.
(To mean, she gave him a box while whistling.)

On the one hand, a co-occurring activity in a scene can be salient. In a collection of attested examples of the *way* construction, a good percentage of the cases involving a non-causally related co-occurring activity actually had conjoined verbs, making their status as salient all the more apparent. For example:

(34) "...youth swore and snarled and sloganised its way round the lovely arcades..." (Oxford University Press corpus)

At the same time, however, there is by definition no inherent relationship between the the co-occurring activity and the scene designated by the construction, except for a temporal overlap. Therefore insofar as the co-occurring activity is deemed salient, attention would seem to be naturally drawn away from the scene designated by the construction. This may be why this possibility is so limited.[6]

4. Conclusion

We started out by framing the question of what types of semantic relationships verbs could bear to constructions in terms of a more general question, what types of actions are most salient within the event-types designated by simple clauses. The generalization that emerges from the data discussed here involves the following hierarchy of possibilities:

Hierarchy of Ways Verbs can be Related to Constructions

(35) Elaboration >
Force-dynamic Relation (means, instrument, result, denial) >
Precondition, Co-occurring activity

In particular, the most prototypical case is that in which the verb codes an elaboration of the construction. That the verb's meaning and the construction's semantics be related force-dynamically is the next most prototypical possibility. Correspondingly less common are cases where the verb codes a precondition or a co-occurring activity. These last possibilities appear to be somewhat construction specific, with a fair amount of variation among speakers.

More specifically, we can state the following hypothesis relating to the above hierarchy:

For any two relations in the hierarchy such that A > B, we predict that if a construction allows B then it allows A;

It follows that if a language allows B then it allows A.

Endnotes

* I would like to thank Mark Turner, Michael Israel, an anonymous reviewer for this volume, my graduate students at UCSD, and the audience at the ICLA in Albuquerque for helpful discussion on this topic. Some of the issues addressed here are discussed in compact form in Goldberg (1995: 61-65). The analysis here supersedes that analysis.

1. Pinker also correctly points out that such abstract meanings will not serve to distinguish between *kick* and *throw* or between *give* and *hand*. But the proponents of syntactic bootstrapping have not claimed that this type of finer grained learning takes place solely on the basis of syntactic frames. They assume that context plays a crucial role in acquiring these distinctions.
2. Goldberg (1995) refers to this case as *instance* instead of *elaboration*.
3. As an anonymous reviewer points out, example (35b) is of course acceptable if it is construed to mean that the boat embedded itself into the cave by burning. However, as the reviewer notes, this is what is predicted since on that construal, the burning is the means of achieving the relevant effect.
4. The dialect which accepts (35a-b) is addressed in Section 3.4.3.
5. The fact that the scene designated by the construction does not hold in the real world requires that novel verbs that are related in this way are not learned by simply recognizing a salient action within a scene as suggested in Section 2.3.1. In fact in many other cases as well as these cases with negative import, the scene designated by the construction does not have a real world physical correlate in the context. For example, we can and often do talk about hypothetical, past or future events. In all of these cases, the scene designated by the construction is one that is interpretable in the discourse context, but is not directly reflected in the immediate real world context. It is possible that in these situations, the constructional meaning does not

aid in the acquisition of verb meaning, although it still would be available when the scene designated by the construction is instantiated in context. More likely, speakers may be able to use the scene as construed in a given discourse (instead of in the real world) as a way of determining the meaning of the verb in much the same way: the verb would be assumed to code a salient action associated with the scene designated by the construction, whether or not that scene or the action itself are directly instantiated in the non-linguistic context.

6. It could be that the co-occurring activity is possible with the *way* construction and, for some speakers, with the intransitive motion construction because of a similarity with the intransitive plus motion adjunct:

   (i) She whistled all the way to the bank.

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German Impersonal Passives

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Modern standard German attests both personal and impersonal passive constructions. Personal passives have as their trajector an entity that is downstream in the flow of energy that moves from the originator of the energy to the recipient(s) (Langacker 1982). The originator of the energy, however, is not necessarily represented. For example, *Die Krankenschwester wurde erdrosselt* 'The nurse was strangled' is a personal passive that does not encode the agent. Personal passives have two participants that are in an asymmetrical, transitive relationship. In contrast, impersonal passive constructions have one participant. They need not encode the agent, i.e. the energy source, and there is no recipient of the energy. Consider the following example, *Es wurde geflüstert* 'lit. It was whispered or whispering occurred'.

In this paper, I will demonstrate that impersonal passive clauses show characteristics of transitivity, even though there is only one participant. Transitivity is characterized by a two-participant, asymmetrical relationship in which one participant is the energy source and the other participant is the energy recipient. Further, the energy source acts volitionally and is not construed to act under the influence of an external participant. I will show, following Moorcroft (1985), that the one participant in the event described by the impersonal passive clause is volitional and that volitionality is a relevant factor in the formation of an impersonal passive. This semantic characterization of impersonal passives stands in contrast to earlier syntactic theories that wrongly predict which types of verbs form impersonal passives based only on syntactic features (Perlmutter 1978; Postal 1986; Grewendorf 1989).

1. Literature Review

This paper begins with a brief discussion of previous theories designed to predict which verbs form impersonal passives. In this analysis, I argue that these theories do not account for the semantic properties of impersonal passives. After a discussion of the previous literature, I show, following Smith (1985, 1992, 1993), that the pronoun *es* has meaning and that it is an integral part of the impersonal passive. Lastly, I demonstrate that a semantic characterization of the impersonal passive is necessary. A semantic characterization shows what type of event construal is required to motivate the formation of an impersonal passive.

1.1. Traditional accounts

Traditional grammars and handbooks provide an incomplete and cursory description of the impersonal passive and often the discussion is included in the section with the personal passive (Curme 1905, Behaghel 1924, Paul 1959, Brinkmann 1962). The authors point out that the impersonal passive is different from the personal passive, but do not elaborate this any further. Behaghel (1924: 211ff) and Paul (1959: 40) state that the subject or causal elaboration is missing from the impersonal passive. Curme (1905: 304) suggests that impersonal passives are used where there is no person or thing represented that is acted upon. In these grammars and handbooks, there is also the tendency to conflate impersonal constructions with impersonal passives (Behaghel 1924: 211, Brinkmann 1962: 204). The grouping of impersonal passives with other impersonal constructions in the traditional grammars often leads to an incomplete description of the impersonal passive.

1.2. Relational Grammar (RG)

Perlmutter (1978) and Postal (1986) provide an interesting analysis of impersonal passives from the perspective of Relational Grammar (RG). They argue that *es*, which frequently appears in impersonal passives, is a dummy subject that is derived from the dummy object of an intransitive verb. Unaccusative verbs, i.e. intransitive verbs whose subjects originate as objects, stand in contrast to verbs that can passivize. Verbs that can passivize promote the object at the first stratum to subject position at subsequent levels. Verbs that are initially unaccusative cannot form impersonal passives because their subjects have already been promoted from object position. The formation of an impersonal passive would require an additional promotion of a dummy object to subject position. Under the 1-Advancement Exclusiveness Law, only one advancement from object to subject is possible (Perlmutter 1978: 166). Thus impersonal passives formed from unaccusative verbs are ruled ungrammatical.

According to Moorcroft (1985), Perlmutter (1978) makes two assumptions that are questionable. First, he assumes that the impersonal passive can be derived exclusively by syntactic means. Second, he assumes that intransitive verbs form passives from underlying dummy objects. Moorcroft (1985) faults this approach based on these assumptions and claims that *es* is a dummy topic, not a dummy subject.

1.3. Moorcroft (1985)

Perlmutter (1978) claims that the structural property that passives share is the ability to promote the object. This claim is justified if there is an object to promote, but impersonal passives do not have an object. Thus the claim relies on the creation of a dummy object to satisfy the syntactic criterion of object promotion. In contrast to

Perlmutter's claim, Shibatani (1985) and Moorcroft (1985) argue that the shared property of passives is the demotion of the active subject. In addition, Moorcroft (1985: 160) maintains that verbs that can form impersonal passives also share the semantic characteristic of an agent that is highly volitional. The agent need not be represented in the impersonal clause - it is enough that the property of volitionality is located in the lexical entry of the verb. The restriction of the formation of the impersonal passive to verbs with volitional agents has the effect that passives retain information about the active subject in the passive sentence (Moorcroft 1985). Moorcroft's reliance on the lexicon is an appeal to semantic factors to determine which verbs will allow impersonal passives and thus her approach is not incompatible with CG. Indeed, she provides support for other scholars who have also proposed that volitionality is an important feature of the impersonal passive (cf. Kirsner 1976, Perlmutter 1978, Fagan 1992, Shannon 1992). These scholars' discussions of volitionality and the impersonal passive are a major part of the analysis proposed in this paper.

1.4. Government-Binding Theory (GB)

Tests for ergativity are designed to show that surface subjects are objects at some level of syntactic representation (Perlmutter 1978). Grewendorf (1989) provides the most exhaustive study of ergativity in German. Grewendorf uses a number of diagnostics such as attributive participles, occurrence of participles in the prefield, split quantifiers, auxiliary selection, passivization and -er affixation to determine the class of ergative verbs. However, these diagnostics provide conflicting results and thus are useless for determining the class of verbs in German that can passivize (Shannon 1987; Fagan 1988, 1992). Tests for ergativity fail because they are based on the notion of an underlying object. This analysis does not account for examples such as *Da wird fieberhaft gelebt und gestorben* 'There is feverishly lived and died' (Shannon 1992: 104).

The Unaccusative Hypothesis proposed in both the RG and the GB framework claims that there are two discrete classes of verbs, unaccusative and unergative. Passivizability and other tests are used to distinguish unaccusative verbs from unergatives, but each test predicts a different set of unaccusative verbs (Fagan 1988, 1992; Shannon 1987, 1990). Thus the binary classification scheme of unaccusative or unergative as it is formulated within the RG and GB frameworks cannot predict which verbs will form passives in German. Therefore, an alternative account is needed that will motivate the formation of impersonal passives and adequately describe the morphology found in the impersonal passive.

2. Setting-Subject Construction

The notion of transitivity (Hopper and Thompson 1980, Rice 1987) is critical for both personal and impersonal passives. The characteristics of transitivity include number of participants, volitionality, agent potency, and the individuation of the object. Although the presence of transitivity can motivate the types of clauses that represent grammatically acceptable impersonal passives, it cannot account for all of the morphology of the impersonal passive, e.g. the setting-subject construction.

2.1. Setting/Participant distinction

In German, impersonal constructions are characterized by the occurrence of *es* 'it' or an adverb in sentence-initial position. In order to discuss the meaning of *es*, it is necessary to begin with Langacker's (1991: 343) setting/participant distinction. In a prototypical transitive clause, the trajector and landmark are construed as participants within a setting. In an active clause, the first participant in the action chain is the trajector and the second most prominent downstream participant is the landmark. In a passive clause, the most prominent downstream participant is the trajector. In the prototypical event model, the setting is distinct from the participants, i.e. the trajector and the landmark.

A clause can depart from the transitive prototype in one of two ways. It can deviate from the model by choosing a location or some other complement as landmark (see Langacker 1991: 345), or it can select the setting as trajector. Only the selection of setting as trajector is relevant for German, so I will focus on this point. The type of clause in which the setting is selected as trajector is called a setting-subject construction.

In a clause in which the setting is selected as trajector, the landmark is then encoded as a nominal that is a participant. This is shown in Figure 1 (Langacker 1991: 345):

Setting-subject constructions are usually intransitive, because they have only one participant and there is no transfer of energy between trajector and landmark (Langacker 1991: 343).

2.1.1. Setting/Participant distinction in German

The setting/participant distinction is a salient part of German impersonal constructions. Settings can be designated by a number of adverbs or *es* 'it'. For example (Smith 1985: 412):

(1) *Es steht eine Vase auf dem Tisch.*
'There is (lit. standing) a vase on the table.'

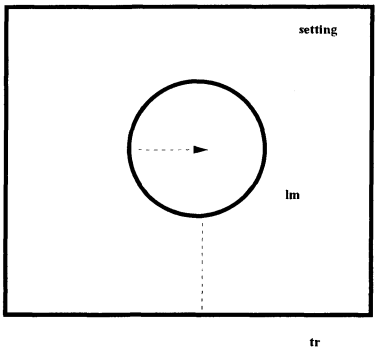


Figure 1. Setting-Subject Construction

Es has no definite referent in this example, although the word *es* also functions as a neuter pronoun in German. If *eine Vase* were replaced by a pronoun the sentence would read *Sie steht auf dem Tisch* 'It [feminine pronoun] is [lit. stands] on the table'. In impersonal constructions, *es* represents an abstract or schematic physical setting within which a state or activity takes place (Smith 1993). *Es* is selected as trajector of the clause but is not conceived of as part of the action chain. Thus, *es* in this function is part of a subject-setting construction.

2.2. *Presentational frame*

The functional purpose of *es* in the subject-setting construction is to set up a presentational frame (Smith 1993).[1] The other clausal participants are backgrounded in this type of construction. The setting is the primary figure and the clausal participants are in its dominion. Further evidence for the presentational function of *es* is the fact that **Es steht sie auf dem Tisch* 'It is [lit. stands] it on the table', in which *sie* refers to *eine Vase*, is ungrammatical. A presentational framework sets up the expectation that new information will be introduced into the discourse (Kirsner 1979; Helbig and Buscha 1988: 395; Smith 1993). Thus one would expect a full noun phrase or another construction that signals low accessibility.[2] This accounts for the grammatical acceptability of example (1). A high accessibility marker, such as the pronoun in the example above, is ungrammatical in a clause that sets up a presentational frame. It is ungrammatical to set up the expectation of low accessibility and then follow with information easily retrievable from context that is coded by a pronoun or another high accessibility marker.

2.3. *Impersonal Passives*

The term impersonal passive refers to the type of construction found in example (2).

(2) *Es wurde geflüstert.*
'There was whispering (lit. whispered).'

Impersonal passives often contain a presentational marker and an activity encoded with passive morphology. The agent is usually not coded in the clause. Impersonal passives differ from personal passives in that they represent events that involve one participant. Personal passives, represent events that involve two or more participants.

Many verbs in German can form both impersonal and personal passives, that is they can occur in clauses that show events with either one participant or two or more. The word *essen* 'eat' is one verb that can be used transitively or intransitively. Both *Ein Apfel wurde gegessen* 'An apple was eaten' and *Es wurde gegesssen* 'Eating took place' are acceptable, although stylistically marked. It is also possible to say *Es wurde ein Apfel gegessen* 'lit. There was an apple eaten'. This is an event that involves two participants and that takes place within an abstract setting. The presence of *es* is not the primary indicator that a passive is impersonal. The existence of an impersonal passive is dependent on the number of participants in the event conception as well.

Impersonal passives differ from personal passives with respect to two fundamental aspects of transitivity, number of participants and punctuality. Prototypical passive clauses encode a transitive event that has two or more distinct participants. The impersonal passive is not prototypical because it has only one participant and thus does not have an important component of a typical transitive event. Further, the impersonal passive does not express a punctual event. Impersonal passives encode an event that requires no transfer of energy and is often a non-punctual activity. In spite of important differences from prototypical transitive event structure, the impersonal passive does have some aspects of transitivity, such as a highly potent and volitional agent. In the impersonal passive, the sole participant and the activity it initiates are often, but not obligatorily, presented in a setting-subject construction.

3. Impersonal Passive Constructions

As established above, the setting that is the subject of impersonal passives is only one part of the construction. There is also a participle and an auxiliary verb. The participle is non-temporal and consists of a series of states that are viewed holistically (Langacker 1982: v3). As in the personal passive, it is the addition of the verb *werden* that provides the composite structure with a temporal profile. The fact that the auxiliary contributes a temporal profile to the passive construction has been noted by many scholars (for example Brinkmann 1962, Abraham 1992), although they did not use Langacker's terminology.

3.1. Event structure of German impersonal passives

The action that takes place within the setting in German impersonal passives is typically a one-participant, non-punctual activity. For the purposes of this discussion, I consider only the passive clause that designates the activity and not its interaction with its setting. As mentioned above, the setting is the trajector for the entire impersonal passive clause. However, at this point only the verb, i.e. activity, is under consideration and it has its own trajector/landmark organization.

As the discussion continues, I will schematically build an impersonal passive. To begin, a schematic diagram for the impersonal passive participle illustrates that there is only one participant in the process. The circle represents a participant and the square respresents an entity.

The trajector of the base process is a participant and the landmark is an entity. In this process, the entity is a relation and not a second participant. The process occurs over a period of time and all parts of the process are profiled. Processes that connect a thing and a relation are intransitive (Langacker 1991: 45).

The impersonal passive participle selects as its trajector the trajector of the base process. This stands in contrast to personal passive participles, which select the landmark of the base process as their trajector. Personal passives have two participants. In an active clause, the trajector is the agentive participant and the landmark is the patient participant. In a passive clause, the trajector, or most prominent participant, is the patient. Impersonal passives are distinct from personal passives because they have one participant instead of two and they select the trajector of the base process as trajector rather than the landmark. Thus impersonal passives differ from passives that represent prototypically transitive events with respect to the organization of profile and base.

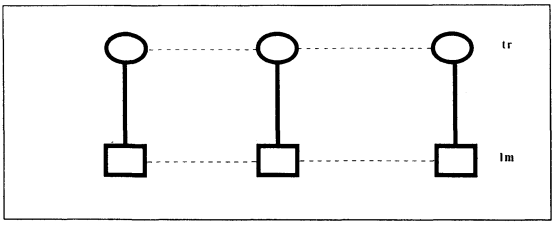


Figure 2. Impersonal Passive Participle

Impersonal passive participles are also distinct from other participles in that they encode non-puntual events. In impersonal passive participles, all states in the process are profiled. This distinguishes impersonal passive participles from participial adjectives in which only the final state is profiled. Further, impersonal passive participles are non-prototypical in that they designate an activity that is non-

punctual. Participial adjectives, statal passive participles and prototypical personal passive participles represent punctual events.

In order to further construct the impersonal passive, the auxiliary verb *werden* is added and the non-temporal participle receives a processual profile. For example:

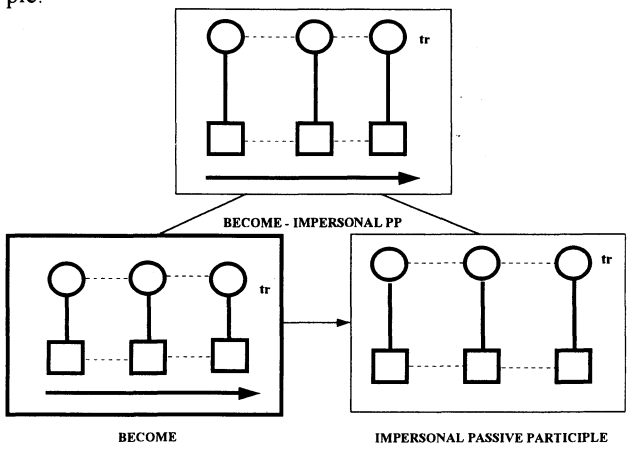


Figure 3. Become - Impersonal Passive Participle

The participle retains the same profile/base organization in the composite structure as in the base process. The composite structure takes its profile from the auxiliary *werden* and lexical content from the participle.

Figure 3 shows only an unspecified process. In the impersonal passive, this process takes place within a setting. The setting may be temporal, spatial, mental or maximally non-specific.

The composite structure of the impersonal passive can be diagrammed as follows:

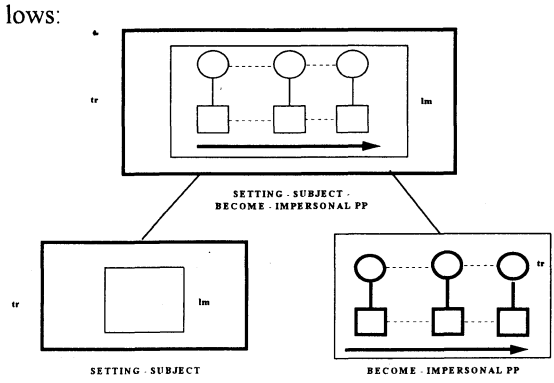


Figure 4. Setting - Subject - BECOME - Impersonal Passive Participle

The setting is selected as trajector and the process occurs within the setting. The trajector and landmark of the base process are a backgrounded part of the subject-setting construction. The trajector of the base process is no longer the most prominent participant. The setting is chosen as the figure and the participant in the activity is part of the base.

3.2. Profile/base organization of impersonal passives

The type of profile/base organization in which the setting is profiled and the participant in a process is backgrounded motivates the use of the passive. The passive has two primary functions. The first is to defocus the agent (Shibatani 1985) and the second is to choose a participant in the action-chain that is downstream in the flow of energy as the primary figure (Langacker 1982). Obviously, with only one participant, the impersonal passive cannot choose a downstream participant as most prominent; thus it fulfills the first function. The single participant in the impersonal passive would be the agent in an active construction or the first participant in the action-chain. The use of the setting-subject construction which backgrounds the participant reinforces the goal of de-emphasizing the agent. Indeed, the agent rarely occurs overtly in the impersonal passive.

4. Transitivity and Volitionality

Impersonal passives are used to encode activities that are marginally transitive. The properties that verbs that form impersonal passives share are that they have one participant that is construed to act volitionally. The significance of volitionality and its correlate of animacy has been noted by many scholars (for example Kirsner 1976; Perlmutter 1978; Drosdowski 1984: 183; Moorcroft 1985; Fagan 1992; Shannon 1992). Volitionality can be indicated by adverbial markers that elaborate on the intent of the participant. The volitionality of the participant can also be shown by phrases that state the goal of the participant. Volitionality is one of the parameters for transitivity established by Hopper and Thompson (1980). Below I argue for the presence of volitionality in impersonal passive constructions and further that it is this indication of marginal transitivity in the construal of an event/activity that allows the formation of the impersonal passive. I begin this section with a discussion of various markers of volitionality, e.g. prepositional phrases and adverbs. This is followed by a brief look at the correlation between animacy and volitionality. I conclude this section with a discussion of verbs that do not allow impersonal passives because they designate non-volitional processes, e.g. *schmecken* 'taste' or they have no participants at all, e.g. weather verbs.

4.1. Markers of volitionality

In the impersonal passive, the agentive participant need not be encoded in the clause, but additional words or phrases often attest to the intent of the participant. For example:

(3) a. *Und wo wird nicht gegraben!*
'And where is not excavated!'

In order to test the presence of volitionality, I gave two informants the following clause:

(3) b. *Und wo wird nicht gegraben, um die ehrgeizigen Archäologen zu beschäftigen.*
'And where is not excavated, in order to keep the ambitious archaeologists busy.'

They both judged this example to be grammatical and stated that the purpose of the excavation was to keep the archaeologists busy.

There are additional examples of words or phrases that attest to volitionality in impersonal passive clauses that have no agent encoded. Consider example (4) from Curme (1960: 338) as analyzed in Fagan (1992: 124).

(4) *Für den lieben König und Herren wird alles getan, wird treulich gekämpft, wird willig geblutet, wird freudig in den Tod gegangen, für ihn wird mehr als gestorben...*
'For the dear king and lords all is done, is loyally fought, is willingly bled, is happily gone into death, for him is more than died...'

The above example shows volitionality on the part of the participant. The participant is located upstream in the action-chain and can be considered to be agentive. Although the participant has many characteristics of an agent, it is not the subject of the sentence.

Example (4) shows an intransitive verb that is an unlikely candidate for passivization without establishing a volitional context in the clause (Fagan 1992; Shannon 1992). The verbs *leben* 'live', *kämpfen* 'fight', *bluten* 'bleed', *gehen* 'go' and *sterben* 'die' are all verbs that have one participant and are intransitive in these examples. The verb *kämpfen* can occur with an object in other contexts, but in example (4) it is used intransitively.

Example (4) also shows that volitionality is a factor in the formation of impersonal passives from intransitive verbs. At the beginning of the sentence, the reason for all of the actions designated by the verbs is given. Additionally, in each clause, there is an adverb that describes how the action is undertaken such as 'willingly

bled' and 'loyally fought'. The verb 'go' is combined with an abstract location, *in den Tod* 'into death' and an adverb, *freudig* 'happily', that describes the way of going.[3] The participant does not cause his own death but volitionally allows others to cause it for him. This example shows that one participant that is conceived of as acting volitionally is an integral part of the formation of impersonal passives from intransitive verbs.

The following set of examples further demonstrates that the unmentioned agent acts volitionally. Example (5) is from Lederer (1969: 103) and example (6) is from Moorcroft (1985: 161).

(5) *Bei der Feier ist viel gegessen und getrunken worden.*
At the party was much eaten and drunk.
'There was much eating and drinking at the party.'

(6) *Bei der Arbeit wurde oft gesungen.*
At work was often sung
'Singing often took place while working.'

It is part of a speaker's encyclopedic knowledge of eating and drinking that animate or animate-like entities can more or less control the quantity that they consume. Example (6) is a description of the activity that takes place within a specific setting. This sentence is a typical subject-setting construction in that the singing takes place within the work environment. The modifier *oft* 'often' describes the frequency of the activity and it is part of the speaker's network of knowledge about the verb 'sing' that it is prototypically done by humans or human-like entities. The participants producing the sound generally do so voluntarily and volitionally.

4.2. Animacy and volitionality

The activities designated by the verbs in example (7) are also usually undertaken by animate or entities that are construed to be animate (Kirsner 1976: 389; Fagan 1992: 119).

(7) *Es wurde geschrien/geschlafen.*
'There was screamed/slept.'

Although there is no modifier to describe the manner in which these activities are carried out or how often, these activities are usually understood to be initiated by the participant. The acts of 'screaming' and 'sleeping' require some volitionality on the part of the participant in order to cause the act to occur. Further, as Shannon points out the verb *schlafen* can be used in the imperative which often correlates with volitionality. However, the verb *einschlafen* 'to fall asleep' is a change

of state that usually is out of the control of the participant. This verb normally does not form an impersonal passive, e.g., **Es wurde eingeschlafen* 'It was fallen asleep'. However, when volitionality is demanded of the participant as in a command, *einschlafen* can form a grammatically acceptable passive. I return to impersonal passives used in commands below in Section 5.

4.3. Non-volitional processes

Verbs that designate processes that are out of the control of the participant cannot form impersonal passives. Consider the following examples and analysis from Fagan (1992: 119ff):

(8) **Es wurde gefallen/geschmeckt/gestunken/angekommen.*
'It was pleased/tasted/stunk/arrived.'

And (Shannon 1992: 104):

(9) **In den Tropen wird schnell gealtert/geähnelt.*
'In the tropics is quickly aged/resembled.'

The acts of being pleased, perceiving taste and emitting smell, shown in example (8), are all beyond the control of the participant. The participant can react to these sensations but cannot control whether or not they occur. In example (8), the verb *ankommen* 'arrive' could be construed to be under the participant's control given the proper context. However, it does not form an acceptable passive without a context that sets up the participant's volitionality. Example (9) shows a similar situation in which the participant is not conceived of as being in control of the process designated by the verb.

4.3.1. Weather verbs

Weather verbs are generally perceived to entail forces that act non-volitionally and thus they are unlikely to form acceptable passives in any context. Consider this example from Shannon (1992: 104):

(10) **Es wird geregnet/geschneit.*
'It is rained/snowed.'

Weather verbs cannot be divided into setting, process and discrete participants that would resemble the stage model (Langacker 1991: 366). There is no distinction between setting and discrete participants. According to Langacker (1991: 366), in many languages, weather phenomena can be classified as nouns or verbs depending on what is profiled. However, in English and German, the setting of

weather phenomena is accorded primary focus. The process of *rain* or *snow* occurs within the setting.

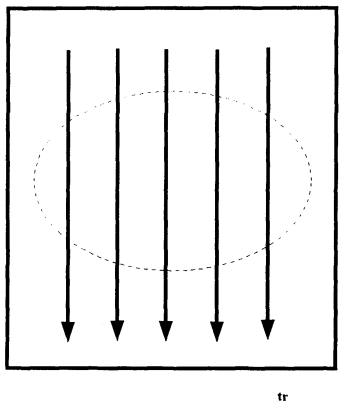


Figure 5. Process as Primary Figure

This is shown in Figure 5 (Langacker 1991: 366). In this diagram, the bolded arrows are the process of the weather verb, the bold square in the setting and the dotted line circle represents the abstract notion of space.

In Figure 5, there are no participants to act volitionally and no action-chain, only a prominent setting.

5. Commands

As shown above, verbs with one participant can form impersonal passives if the participant is construed to act volitionally. This semantic criterion motivates passivization for a variety of verbs. The notion of volitionality can be further extended to accommodate the formation of impersonal commands from intransitive verbs, i.e. verbs that have one participant. Impersonal commands do not encode the agent in the action-chain and it would be ungrammatical for the agent to occur. Impersonal commands are formed from both transitive and intransitive verbs as well as transitive verbs that are used intransitively such as *rauchen* 'smoke'. Further, impersonal commands can be formed from reflexive verbs, which do not usually passivize, if the proper semantic configuration is met.

5.1. Impersonal passive commands - transitive verbs

Impersonal commands formed from transitive verbs code the landmark of the base process of the verb in the clause. For example in the sentence, *Hier werden keine*

Zigaretten geraucht 'lit. Here are smoked no cigarettes/There is no cigarette smoking here' the landmark of the base process of the verb is present. This passive sentence reflects typical transitive event structure in that two participants, the unmentioned smoker and the cigarettes, are in an asymmetrical relationship. The sentence has two interpretations; it can be a description of a set of conditions or a command.

5.2. Impersonal commands - intransitive verbs

The following examples of impersonal passives formed from intransitive verbs and the analysis are taken from Shannon (1992). In the examples below, each sentence can be interpreted to be a command. The verbs *rauchen* 'smoke', *arbeiten* 'work' and *bleiben* 'stay' are used intransitively. These examples refer to activities that are non-punctual. The processes of smoking, working and staying are imperfective and durative. Until the conditions that are imposed by the command are changed, the situation of no smoking, no working and staying in place will obtain.

(11) *Hier wird nicht geraucht.*
lit. Here is not smoked.
'Don't smoke here.'

(12) *Es wird sonntags nicht gearbeitet.*
lit. It is not worked on Sundays.
'Don't work on Sundays.'

And example (13) as cited in Brinker (1971: 34), Fagan (1992: 123), Drosdowski (1984: 183) and Shannon (1992: 104)

(13) *Hier wird geblieben!*
lit. Here is stayed.
'Stay here.'

Examples (11), (12) and (13) can be construed to be either commands or descriptions of sets of conditions. The subject-setting construction and the present tense use of *werden* 'become' make the current relevance of the conditions prominent. In the construal that the setting specifies the conditions, the unmentioned participant fits into the situation described by not smoking or not working. In the case of a command, the participant is expected to conform to the set of conditions detailed in the clause. In spite of the outside demand, either by the conditions imposed by the setting or the pragmatic force of a command, the participant must act volitionally in order to conform. The outside force does not directly cause a change in the participant but rather causes the participant itself to initiate a process.

The pragmatic force of a command is stronger in examples (11) and (13). It is hard to imagine a context for example (13) where such a statement is a description of a situation and not an imposition. The combination of the adverb *hier* 'here' that specifies location and the verb *bleiben* 'stay' contributes to the interpretation of a command. It is part of a speaker's extralinguistic knowledge that animate entitities move around according to their will. The restriction of that will by stating that the agent remain in one specified location fits the pragmatic criteria of a command. Although the conditions in example (13) are imposed by the pragmatic force of a command, it requires volitionality on the part of the unmentioned participant in order to stay in one place. The participant is also free to violate the command. The trajector of the process designated by the verb can respond to the command in any way and thereby shows its volitionality.

5.3. Impersonal commands - reflexive verbs

Impersonal passives that function as commands can also be formed from reflexive verbs (Shannon 1992). This raises the issue of participant status for the reflexive pronoun (Shannon 1990: 484). Since the reflexive pronoun must refer to the agentive participant, it can be considered to be a lowly individuated object. Consider (14) as an impersonal passive formed from a reflexive verb (Drosdowski 1984: 183 as cited in Shannon 1992: 104):

(14) *Jetzt wird sich hingelegt/gewaschen.*
lit. Now is oneself laid down/washed.
'Lay down now/wash now.'

Reflexive verbs are not generally part of a typical transitive event structure and therefore do not passivize. But verbs that have one participant can often form impersonal passives if the condition of volitionally is met (Shannon 1992: 104). Reflexive verbs can be considered to be either low in transitivity and the reflexive pronoun *sich* is akin to an incorporated noun (Shannon 1990: 484).

Similar to the verbs *rauchen* 'smoke', *arbeiten* 'work' and *bleiben* 'stay', the verbs *hinlegen* 'lay down' and *waschen* 'wash' are processes that are usually under an individual's control. In addition, these verbs are prototypically used for humans, animals or things that are given animate qualities. Example (14) commands someone to wash or lie down but whether or not this takes place is under the control of the one who is to carry out the command. The one who is commanded corresponds to the trajector of the base process of the verb. The trajector is construed to be in control of the process designated by the verb.

6. Conclusion

A semantic characterization is able to adequately describe the morphology and event structure of the impersonal passive. The pronoun *es* is not a meaningless grammatical marker, but instead makes the setting of an event prominent. The meaning of *es* is maximally abstract, and it sets up a presentational frame for an event. Although the meaning of *es* is vague, it is clear that the pronoun is more than a grammatical place-holder.

The event that is contained within the subject-setting construction has a unique characterization because it is the setting rather than the event that receives prominence. In impersonal passive constructions, this allows the participant in the event to be maximally defocused. This contributes further evidence to the claim that the lack of focus on the agent is a primary function of the passive construction.

Impersonal passives differ from personal passives in that they have one participant instead of two. The presence of two participants is often the main criterion used to determine if a verb is transitive. A semantic characterization of transitivity shows that it is not a verb that is transitive, but the construal of a clause. A clause must have some of the properties of transitivity, e.g. two participants, agent volitionality, object affectedness, to be construed as transitive. For clauses that have one participant, such as those found in impersonal passives, the presence of transitivity is indicated by agent volitionality. Agent volitionality is also indicated by animacy or the agent's perceived ability to carry out the action. Events that are beyond an agent's control or have no participants cannot form impersonal passives.

Commands formed with impersonal passives show how the concept of agent volitionality is more subtle than a simple will to act. The pragmatic force of a command encourages or forces the participant to change or to take action. However, the participant initiates the action volitionality and is free to exercise his/her will by violating the command. This may not be a practical or wise course of action in certain circumstances, but nonetheless the participant is free to obey or violate the command. Either way the participant acts volitionally.

Endnotes

1. I do not mean to imply that *es* is only used in presentatives. Pütz (1975) classifies *es* into nine different categories based on distributional criteria and then analyzes the function of each type of *es*.
2. Accessibility theory claims that nominal categories mark differences between retrievability or accessibility in a given context (Ariel 1988, 1990; Ward, Sproat and McKoon 1991; Gundel, Hedberg and Zacharski 1993; van Hoek 1994). Full noun phrases signal low retrievability from the context and pronouns mark high retrievability.
3. The use of the accusative case in a prepositional phrase indicates that *Tod* 'death' is conceived of as a location. The use of accusative case + the preposition *in* designates movement into a location (Smith 1987).

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An Account of Implicit Complement Control in English and German

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1. Introduction

The term "control" is usually attributed to Paul Postal (1970). It is now widely used in generative grammar, especially in its more recent variant *Government and Binding Theory*, in which it is considered as a separate module (see e.g. Harbert 1995). The phenomenon as such has however been known for a much longer time (see e.g. Bech 1983). Control is a relation of referential dependence between an antecedent and an empty syntactic element that is called the "big" PRO in generative grammar. I will also use this term here for reasons of convenience; but this usage should not be taken as implying that I am committed to any of the views of generative grammar or to anything that has ever been said about control in this theoretical framework. In this paper, I will focus on what is sometimes called *complement control*, i.e. cases where a (subordinate) complement clause is embedded under a matrix clause and a matrix argument "controls" the reference of the empty subject of the non-finite embedded clause. I will furthermore deal with control verbs that, at the semantic level of analysis, prototypically require an "action" interpretation of the infinitival complement clause. Finally, I will restrict my attention mostly to *three-place control verbs* as exemplified by the following structures:

(1) a. *[Der Trainer]$_{Arg}$ forderte [Maradona]$_{Arg}$ auf [PRO seine überflüssigen Pfunde abzutrainieren]$_{Arg}$*
b. [The coach]$_{Arg}$ asked [Maradona]$_{Arg}$ [PRO to work off his extra weight]$_{Arg}$[2]

Sentence (1a) and its equivalent in English (1b) contain three arguments two of which are noun phrases and one of which is propositional. The "control problem" with regard to sentences such as (1) is simply this: Which of the two noun phrase arguments in the matrix clause determines the reference of the zero subject PRO in the infinitival complement clause, the subject or the object? How do speakers determine that in both sentences (1a) and (1b) the controller is the matrix object, i.e. the noun phrase *Maradona*? Do they identify this coreferential relation on the basis of syntactic and/or semantic/cognitive/pragmatic evidence?

The theory of control, at least in its Government-and-Binding version, has usually been cast in a universalist framework, neglecting important differences in

control behavior that are found among individual languages. In this paper, I will point out some of these differences, choosing as examples German and English, two languages which are genetically closely related, but quite different from a typological perspective (see e.g. Hawkins 1986). I claim that an adequate theory of control has to take *cognitive* and *pragmatic* factors into account and that purely *formalist* approaches to the problem of control are bound to fail. Control structures exhibit a complex and subtle interplay of language-specific form, content and extralinguistic "world knowledge" - three factors that guide speakers in determining the most plausible referent(s) for PRO.

As a first step towards an adequate account of control phenomena I would like to make a distinction between *prototypical control* and *non-prototypical control*. The notion of prototypical control, as applied to a three-place construction with two matrix arguments (subject and (prepositional) object) and a propositional argument (the infinitival clause), is meant to express the idea that if there are two possible controllers available for PRO, one of them is the "ideal" (i.e. prototypical) controller and the other is the "less ideal" (i.e. non-prototypical) controller (see Panther and Köpcke 1993 and Panther 1994 for a detailed justification of this proposal). For example, the German verbs *versprechen* 'promise' and *zusagen* 'guarantee' and the English verb *promise* usually induce subject control, i.e., the zero subject of the infinitival complement clause receives its reference from the subject of the main clause:[3]

(2) a. *Der Wirt$_i$ versprach dem Gast$_j$ PRO$_i$ ihn$_j$ um fünf Uhr zu wecken.*
b. ?The innkeeper$_i$ promised the traveller$_j$ PRO$_i$ to wake him$_j$ up at five o'clock.[4]

In contrast, there is a large class of control verbs that preferentially (prototypically) choose the object of the main clause as the controller:

(3) a. *Der Gast$_i$ bat den Wirt$_j$ PRO$_j$ ihn$_i$ um fünf Uhr zu wecken.*
b. The traveller$_i$ asked the innkeeper$_j$ PRO$_j$ to wake him$_i$ up at five o' clock.

(4) a. *Der Trainer$_i$ drängte Maradona$_j$ PRO$_j$ wenigstens die erste Halbzeit mitzuspielen.*
b. The coach$_i$ urged Maradona$_j$ PRO$_j$ to play at least the first halftime.

Some control verbs (though not all) that take an infinitival complement, under certain circumstances, allow a *switch* of the controller from the prototypical to the non-prototypical controller:

(5) a.	*Der Wirt$_i$*	*versprach*	*dem*	*Gast$_j$*	*PRO$_j$*	*um*	*fünf*
	The innkeeper$_i$	promised	the	guest$_j$	PRO$_j$	at	five

Uhr (von ihm$_i$) geweckt zu werden.
o'clock (by him$_i$) awakened to be.
'The innkeeper$_i$ promised the guest$_j$ that he$_j$ would be awakened (by him$_i$) at five o'clock.'

b. *Lee$_i$ promised Pat$_j$ PRO$_j$ to be allowed to leave.*

c. *Der Trainer$_i$ sagte Romario$_j$ zu PRO$_j$ die erste*
The coach$_i$ assured Romario$_j$ PART PRO$_j$ the first
Halbzeit mitspielen zu dürfen.
halftime with-play to be-allowed.
'The coach$_i$ promised Romario$_j$ PRO$_j$ to be allowed to play the first halftime.'

For sentence (5a) the pragmatically most plausible interpretation is that the guest will receive a wake call by the innkeeper. Sentence (5b) suggests the interpretation that Pat will be allowed to leave. The most plausible reading of sentence (5c) is that Romario will be allowed to play for one halftime. Thus the pragmatically most plausible interpretations of the sentences in (5) involve a switch from subject control, which constitutes the prototypical case for the verbs *versprechen* and *zusagen* to object control, the non-prototypical case in my terminology. An analogous switch of control can be observed for the English verb *promise* (as in (5b), although not all speakers find this construction fully acceptable.

Conversely, some verbs that usually lend themselves to object control, which is their preferred (prototypical) option, may switch to subject control in certain contexts:

(6) *Der Gast$_i$ bat den Wirt$_j$ PRO$_i$ um fünf*
The guest$_i$ asked the innkeeper$_j$ PRO$_i$ at five
Uhr (von ihm$_j$) geweckt zu werden.
o'clock (by him$_j$) awakened to be.
'The traveller$_i$ asked the innkeper$_j$ PRO$_i$ to be awakened (by him$_j$) at five o'clock.'

(7) a. *Romario$_i$ bekniete den Trainer$_j$ PRO$_i$ wenigstens die erste Halbzeit mitspielen zu dürfen.*

b. Romario$_i$ begged the coach$_j$ PRO$_i$ to be allowed to play for at least one halftime.

For (6a) the pragmatically most likely reading is that the guest will be awakened by the innkeeper (assuming that his request is complied with). Analogously for the gloss, which, however, does not sound completely natural in English. In (7a) and (7b), the most natural reading is the one where Brazilian soccer star Romario (the matrix subject) will be allowed to play on the team for at least one halftime.

I assume that control switch is a non-preferred (or non-prototypical) option because it requires a greater cognitive effort for speakers to encode and for hearers to decode information that involves non-prototypical controllers. In general, control switch seems to be much more acceptable and common in German than in English. It is usually facilitated (though not necessitated) in contexts where the complement clause has a "passive" meaning, i.e. in cases where PRO cannot be analyzed as an agent performing the action expressed in the complement clause. I hypothesize that in such cases speakers interpret the complement via the metonymy *Result for Action*: The complement clause is taken as the result of an action that itself remains unexpressed.[5] For example, in (7a) and (7b), the result expressed in the complement clause is that someone is allowed to play for at least one halftime. This result comes about through an action carried out by the coach (here it is most probably the linguistic action of *permitting*). Given that the coach is the "permittor", the most plausible interpretation is to regard PRO as the "permittee", who is normally regarded as being referentially distinct from the permittor. Thus, the most natural interpretation of (7a) and (7b) is the one where *Romario* has the role of permittee. Tests with native speakers conducted by Köpcke and Panther (1991) and Panther and Köpcke (1993) have shown that speakers of English adhere to the prototypical control reading as long as possible (in the case of non-actional complements), whereas speakers of German more readily switch to a non-prototypical control interpretation in such contexts.

The examples I have given so far, especially those that induce control switch, demonstrate that any account of the control relationship in terms of the *Minimal Distance Principle* (see Rosenbaum 1967, Rosenbaum 1970, Larson 1991)), which determines the matrix argument closest to PRO as the controller, is bound to fail.

2. Implicit Control

2.1. Preliminaries

So far I have given illustrations of what can be called *explicit control*, that is, the argument that assumes the controlling function is *lexicalized* in the matrix clause. The main bulk of this paper will however be concerned with *implicit control*, i.e. with cases where the controller in the matrix clause is not lexically manifest, though it is reasonable to assume that it is conceptually present. To see the difference between explicit control and implicit control consider the sentences given in (8) and (9):

(8) a. *Die Mutter*$_i$ *bat* *ihren Sohn*$_j$ *PRO*$_j$ *das Geschirr*
The mother$_i$ asked her son$_j$ PRO$_j$ the dishes
abzuwaschen.
to-wash.

'The mother asked her son to wash the dishes.'

b. *Die Mutter$_i$ bat PRO$_j$ das Geschirr abzuwaschen.*
The mother$_i$ asked PRO$_j$ the dishes to-wash.
'*The mother asked to wash the dishers.' (unacceptable in English in the intended implicit object control reading)

(9) a. *Johnny$_i$ asked Billy$_j$ PRO$_j$ to wash the dishes.*
b. *Johnny$_i$ asked PRO$_i$ to wash the dishes.* (acceptable for many speakers with a subject control reading)

In (8a) the controller of the zero subject of the infinitive clause is the NP *ihren Sohn* 'her son', i.e., the son is supposed to do the dish-washing. The controlling noun phrase is lexically realized, that is, made explicit, in the matrix clause of the sentence. Sentence (8b), in contrast, does not contain an overt controller in the matrix clause. The controller cannot be *die Mutter* 'the mother'.[6] Rather, the controller is some referent that is inferrable from the discourse context or the extralinguistic situation; it is not lexically manifest in the sentence itself. Cases like (8b) exemplify implicit control.

But now note an interesting contrast: In the English examples, (9a) behaves like (8a), with the matrix object as the controller; but the interpretation of (9b) where Johnny, perhaps surprisingly, wants to wash the dishes, is puzzling to speakers of German who would tend to interpret (9b) like (8b), with an implicit controller (the understood matrix object), whose reference has to be derived from the utterance context.

Implicit control poses a problem for any syntactically-based control theory. Like explicit control, it cannot be accounted for on the basis of the Minimal Distance Principle ("pick out the the matrix argument which is closest to PRO") since there is no overt matrix argument that is available for the controller function.

Even more sophisticated formalized control theories like the one developed within the framework of *Head-Driven Phrase Structure Grammar* by Sag and Pollard (1991) (see also Pollard and Sag 1994) cannot adequately deal with implicit control. Sag and Pollard (1991: 79) claim that what corresponds to PRO in their model is an anaphor, whose interpretation is constrained by Principle A of their version of binding theory: "A locally o-commanded anaphor must be locally o-bound."[7] Sag and Pollard realize that their account in terms of binding theory must be supplemented by a semantically-based control theory. Their approach correctly predicts the grammaticality of (10a) and the ungrammaticality of (10b), but it fails to account for the grammaticality of implicit control examples like (11b), which are quite common in German:

(10) a. *Hans$_i$ advised Bill$_j$ PRO$_j$ to leave early.*
b. *Hans advised PRO to leave early.

(11) a. *Hans$_i$ riet Bill$_j$ PRO$_j$ zeitig loszufahren.*
b. Hans$_i$ riet PRO$_j$ zeitig loszufahren.

Sag and Pollard's binding principle A requires that the zero anaphor PRO in (10a) should be bound by either *Hans* or *Bill*. In addition, their *semantic* control theory stipulates that with a verb like *advise* the NP *Bill* must be the controller, because *Bill* has the role *Influenced*, which typically functions as the controller in constructions involving directive speech act verbs.[8] Sag and Pollard's theory also accounts for the unacceptability of (10b) in English. According to Principle A of their binding theory, the zero anaphor must be locally o-bound by some matrix argument. The only argument available for binding purposes is the matrix subject *Hans*, but coindexation of PRO and *Hans* yields the wrong result: *Hans* cannot be the controller of PRO. On the other hand, the semantically-based control principle would pick out a NP with the role *Influenced*. *Hans*, the subject of the main clause, does not have this role, therefore it cannot function as the controller. Thus, in Sag and Pollard's view, the conflicting requirements of their syntactically-based binding theory and their semantically-based control theory are taken to be responsible for the illformedness of (10b).

As for the German examples, Sag and Pollard's theory accounts for sentence (11a), but it fails to explain (11b), because it (wrongly) predicts that (11b) (and (8b) should be ungrammatical for the same reason as (10b).

In conclusion, Sag and Pollard's theory correctly predicts a number of English data, but it fails to explain the relatively widespread phenomenon of implicit control in German. Thus, in view of the German data, it is clear that Sag and Pollard's model cannot claim cross-linguistic validity. Language-specific principles are needed to account for the differences just observed between English and German.

2.2. Implicit complement control: English vs. German

2.2.1. Prototypical implicit control

The differences between English and German with regard to implicit control are fairly systematic, though it is not possible to state regularities that hold to a hundred percent. I will mainly focus on cases where the controller is the matrix object, with occasional glances on subject control verbs. Consider the following examples, where the empty set symbol ''Ø' stands for the missing matrix object:

(12) a. Professor Miller$_i$ advised his student$_j$ PRO$_j$ to write a paper on Dative Movement.
b. *Professor Müller$_i$ riet seiner Studentin$_j$ PRO$_j$ ein Referat über Dativbewegung zu schreiben.*
c. *Professor Miller$_i$ advised Ø$_j$ PRO$_j$ to write a paper on Dative Movement.

d. *Professor Müller$_i$ riet Ø$_j$ PRO$_j$ ein Referat über Dativbewegung zu schreiben.*

(13) a. The waiter$_i$ recommended him$_j$ PRO$_j$ to try the Burgundy.
b. *Der Ober$_i$ empfahl ihm$_j$ PRO$_j$ den Burgunder zu probieren.*
c. *The waiter$_i$ recommended Ø$_j$ PRO$_j$ to try the Burgundy.
d. *Der Ober$_i$ empfahl Ø$_j$ PRO$_j$ den Burgunder zu trinken.*

(14) a. The general$_i$ ordered/commanded his men$_j$ PRO$_j$ to attack the city.
b. *Der General$_i$ befahl seinen Männern$_j$ PRO$_j$ die Stadt anzugreifen.*
c. *The general$_i$ ordered/commanded Ø$_j$ PRO$_j$ to attack the city.
d. *Der General$_i$ befahl Ø$_j$ PRO$_j$ die Stadt anzugreifen.*

(15) a. They$_i$ urged us$_j$ PRO$_j$ to go with them.
b. *Sie$_i$ drängten uns$_j$ PRO$_j$ mit ihnen zu fahren.*
c. *They$_i$ urged Ø$_j$ PRO$_j$ to go with them.
d. *Sie$_i$ drängten (darauf) Ø$_j$ PRO$_j$ mit ihnen zu fahren.*

Sentences (12) - (15) show that there is an important class of verbs that *require* an *explicit controller* in English, whereas their equivalents in German *allow* an *implicit controller*. In some cases, however, English has a substitute construction which makes implicit control possible:

(16) a. The doctor recommended reducing the amount of fat.
b. The doctor recommended a reduction of the amount of fat.

(17) a. The doctor advised (against) continuing the diet.
b. They warned (against) skating on such thin ice.

In these cases it is obviously the addressee of the speech act of recommending or advising that is identical with the referent of the implicit subject of the gerund clauses in (16a) and (17a) and (17b). The complement of the control verb may also become completely nominalized, as (16b) shows. Obviously, the "subject" of *reduction of the amount of fat* is some unspecified set of individuals, the addressees of the speech act of recommending, whose reference has to be inferred from the context. In general, the implicit subjects of infinitival complements *must* be controlled by an explicit controller in English. There are however some counter examples in English, exemplified by verbs like *signal*, *motion*, and *say*:

(18) The clerk signalled (to us) to approach the counter.

(19) Bill motioned (to us) to come in.

(20) My friend said (to us) to come to the party.

Sentences (18) - (20) can be used without the prepositional phrase *to NP* referring to the addressee (here: *us*) of the communicative act denoted by the matrix verb. In that case the reference of PRO is implicitly determined by the discourse context and/or the extralinguistic situation. Note that *signal* and *motion* can also exhibit subject control when they are used without the prepositional object as in *The driver signalled to turn left.*[9]

Another exceptional class of verbs that, at least to a certain extent, seem to allow implicit control in English are "verbs of manner of speaking" (see Levin 1993: 204f.):

(21) Susan whispered (to Rachel) to come.

This class, which according to Levin (1993) contains verbs like *babble, bellow, cry, groan, growl, holler, mumble, murmur, roar, scream, squeal, stutter, whimper*, and *whine*, to give just a few examples. I am not sure whether Levin's generalization that these verbs all allow implicit control is correct, but some of them are definitely possible as implicit object control constructions.[10]

Despite the existence of the above-mentioned exceptions I would now like to propose the following general principles for infinitival complement constructions:

(22) *Principle of explicit control*
In English infinitival complement constructions the prototypical controller of the implicit subject (PRO) tends to be lexically manifest.

(23) *Principle of implicit control*
In German infinitival complement constructions the prototypical controller may remain implicit for a certain class of control verbs.

It will be argued in Section 2.4. that the class of control verbs in German that allow implicit control is characterized by certain *semantic* properties.

2.2.2. Non-prototypical implicit control

So far I have considered implicit control cases in which the *prototypical controller* is not lexically manifest. Are there cases where the *non-prototypical controller* remains implicit? I will only briefly touch upon this issue here on the basis of the unacceptable examples in (24):

(24) a. *??Der Wirt$_i$ versprach Ø$_j$ PRO$_j$ um fünf Uhr geweckt zu werden.*

b. *The innkeeper$_i$ promised Ø$_j$ PRO$_j$ to be awakened at five o'clock.

Prototypically, the verb *versprechen* is like *promise* a subject control verb. However, sentence (24a) definitely induces a control switch interpretation (object control) because of its passive complement clause. The pragmatically most plausible controller would be some understood matrix object (cf. [4a]). But (24a) is hardly acceptable in German with an (implicit) object control interpretation, though a subject control interpretation is perhaps marginally possible. The same observation holds for English (see [24b]).Without going into more details I would like to suggest that non-prototypical implicit control is impossible is both German and English. We thus arrive at the following overall picture represented in Table 1:

Table 1. Implicit complement control

	Prototypical	*Non-prototypical*
English	rare	never
German	frequent	never

2.3. Passivized matrix clauses

Assuming that principles (22) and (23) are basically correct it becomes possible to account for some English and German impersonal passive constructions:

(25) a. *Es wurde versucht, eine Erklärung zu finden.*
b. *It was tried to find an explanation.

(26) a. *Es wurde versprochen, nach einer Lösung zu suchen.*
b. *It was promised to search for a solution.

The facts exemplified by (25b) and (26b) fall under the constraint known as *Visser's Generalization* ,which states that the passivization of subject control verbs is blocked in English. Given principle (22), we can surmise that these sentences are unacceptable because the implicit subject of the infinitival complement clause has no explicit controller. In contrast, (25a) and (26) are well-formed because implicit control is possible in German provided that the implicit controller is the prototypical controller. This is the case in (25a) where some agent (the "tryer") is retrievable from the discourse context *try to find an explanation* and in (26a) where some

implicit promisor who is searching for a solution is probably recoverable from the utterance context.

An analogous account can be offered for well-known cases like

(27) a. *Hans wurde versprochen, eine Lösung zu finden.*
b. *Hans was promised to find a solution.

(28) a. *Hans wurde versprochen, nach Albuquerque fahren zu dürfen.*
b. Hans was promised to be allowed to go to Albuquerque.

In my account sentence (27b) is not acceptable because there is no explicit controller for the implicit subject of the infinitival clause (principle of explicit control (22) stipulates an overt controller). Sentence (28b), although it is probably not accepted by all speakers, is much better because there is a possible (non-prototypical) lexicalized controller (*Hans*) for PRO. The German examples are both acceptable: (27a) is well-formed because no overt controller is required; (28a) is acceptable because it has a lexically realized (non-prototypical) controller like its English equivalent (28b).

In general, the same kind of restriction holds for object control verbs in English, as the following examples demonstrate:

(29) a. *Es wurde angeordnet/verfügt, die Universität zu schließen.*
b. It was *ordered/?decreed to close down the university.

(30) a. *Es wird (darum) gebeten, sich ruhig zu verhalten.*
b. *It is requested to keep quiet.

(31) a. *Es wird empfohlen, das Wagenfenster während der Fahrt zu schließen.*
b. ?It is recommended to close the window while driving.

(32) a. *Es wird (dazu) geraten, die Klimaanlage einzuschalten.*
b. *It is advised to switch on the air condition.

(33) a. *Es wurde (darauf) gedrängt, die Sitzung zu schließen.*
b. *It was urged to close the meeting.

My suggestion is that the overall low degree of acceptability of the English examples is due to the Principle of explicit control (22), which stipulates that English prefers the presence of overt controllers in infinitival complement constructions.

2.4. Semantic Constraints on Implicit Complement Control in German

We have seen that a number of German verbs (we have focussed on object control verbs) allow implicit (object) control, contrary to what we find in English. However, even in German, there many object control verbs that forbid the deletion of their matrix object and hence implicit control. Consider the following sentences:

(34) a. *Renate bat Paul, den Wagen in die Garage zu fahren.*
b. Renate asked Paul to drive the car into the garage.
c. *Renate bat, den Wagen in die Garage zu fahren.*
d. *Renate asked to drive the car into the garage. (in the object control interpretation)

(35) a. *Peter beschwor Paul, nicht zu rauchen.*
b. Peter beseeched Paul not to smoke.
c. **Peter beschwor, nicht zu rauchen.*
d. *Peter beseeched not to smoke.

(36) a. *Hans bekniete Maria, den Computer zu kaufen.*
b. Hans entreated Maria to buy the computer.
c. **Hans bekniete, den Computer zu kaufen.*
d. *Hans entreated to buy the computer.

In contrast to *bitten* 'ask, request' verbs like *beschwören*, *beknien*, and *anflehen* (cf. *entreat, beg, implore, beseech* in English) must have an overt controller in German. I assume that the reason for this is semantic: The above-mentioned verbs require a direct matrix object because they are very *specific* and *intense* kinds of requests. The opposition between *bitten* 'ask' and *beschwören* 'beseech', etc., is comparable to the contrast between *eat (NP)* vs. *devour NP* or *read (NP)* vs. *peruse NP*, where the latter, and semantically more specific, member in these pairs requires a noun phrase object whereas the former can be used intransitively. In general then, more specific and semantically intense directive speech act verbs require the presence of a matrix object, that is, the material presence of a controller, whereas the more or less generic verb *bitten* 'ask' may occur without one.

In addition, there are other control verbs (in both German and English) that do not allow the omission of the controller argument, as exemplified in the following sentences:

(37) a. *Paula überzeugte Paul, den Regenschirm zu kaufen.*
b. Paul convinced Paul to buy the umbrella.
c. **Paula überzeugte, den Regenschirm zu kaufen.*
d. *Paula convinced to buy the umbrella.

(38) a. *Der Autohändler überredete Paul, den Sportwagen zu kaufen.*
b. The car dealer persuaded Paul to purchase the sports car.
c. **Der Autohändler überredete, den Sportwagen zu kaufen.*
d. *The car dealer persuaded to purchase the sports car.

(39) a. *Sie veranlaßte ihn, ein neues Projekt zu beginnen.*
b. She induced him to start a new project.
c. **Sie veranlaßte, ein neues Projekt zu beginnen.*
d. *She induced to start a new project.

(40) a. *Helga zwang Otto, das Projekt aufzugeben.*
b. Helga forced Otto to abandon the project.
c. **Helga zwang, das Projekt aufzugeben.*
d. *Helga forced to abandon the project

These facts suggest the existence of another principle:

(41) *Principle of Manipulation*
The more manipulative the content of a control verb, the more likely the matrix object will not be deletable , i.e. the more likely implicit control will be ruled out.

Control verbs which are highly manipulative like the implicative verbs *zwingen* 'force' or *überreden* 'persuade, talk into' require a matrix object; verbs with a relatively weak manipulative force like *empfehlen* 'recommend' allow the deletion of the matrix object and thus implicit control in German. Table 2 represents this manipulative scale:

Table 2. Deletability of controller as a function of manipulative strength of the control verb in German

Control Verbs	*Manipulative Strength*	*Matrix Object*
	weaker force	
raten 'advise'	↓	optional
empfehlen 'recommend'		optional
bitten 'ask, request'		optional
beschwören 'implore'		obligatory
überzeugen 'convince'		obligatory
überreden 'persuade'		obligatory
veranlassen 'induce'		obligatory
zwingen 'force'		obligatory
	stronger force	

2.5. *The case of* demand *and* ask

Before concluding I would like to use the approach outlined in the previous sections to briefly analyze the historical development of the the two verbs *demand* and *ask* (see also Panther 1994: 199ff.) Both verbs exhibit interesting control properties which can be accounted for by the theoretical framework developed above.

The verb *demand* is a subject control verb in present-day English, as becomes transparent in the following examples:

(42) The policeman demanded to see their identity cards.

(43) I demand to see a doctor.

(44) She demanded to speak to the manager.

Originally, however, *demand* was a three-argument verb (derived from French) that induced object control. Examples are found as late as the 17th and 18th century (sentences are from the OED):

(45) He demanded the Catalanes to receive, and acknowledge him their king. (1652)

(46) After they were read, I was demanded to swear to the performance of them. (1726/7 Swift)

(47) He demanded the traitor to give up the lovely price [sic]. (1795)

According to Rohdenburg (1992), *demand* allowed implicit control, i.e. the deletion of the matrix object as in

(48) ... Antiochus rising up, demanded the solution of his Question, or to attend the sentence of his death. (1608, George Wilkins)

At some point in the history of the English language *demand* must have dropped its matrix object with a resultant shift from object control to subject control like in the modern examples (42) - (44). This development corresponds to the Principle of explict control (22) given above, according to which in English the controller should be lexically manifest. When the prototypical controller of *demand* was dropped, no overt controller was available anymore and a switch to the non-prototypical controller, the matrix subject, became necessary in order to fulfill requirement (22).

A similar story, only from a more synchronic viewpoint, can be told for the control behavior of *ask*. Prototypically *ask* is a three-place verb inducing object control as in

(49) The teacher asked Monica to leave the room.

But for many speakers (50) with subject control is also possible:

(50) Johnny asked the teacher to go to the bathroom.

A subject control reading is enforced when the matrix object is deleted:

(51) Johnny asked to go to the bathroom.

For those speakers who accept (50) and (51) (in the intended subject control reading) they mean something like 'Johnny asked (the teacher) to be allowed to go to the bathroom.'

Notice that, as in the case of *demand*, subject control becomes obligatory as soon as the matrix object is deleted. Thus the behavior of *ask* corresponds to the tendency stated as the Principle of explicit control (22). The deletion of the matrix object of *ask* and the resultant subject control reading is actually attested as early as Chaucer:

(52) I ... axe gretely to heeren the remedyes. (1374, Chaucer)

(53) I had delyte & axed to rede some good historye. (1472)

3. Conclusion

I have tried to show that implicit complement control is governed by different principles and tendencies in English and German. Control has often been regarded as a purely syntactic phenomenon, especially in the generative literature. I have tried to show in this paper that this assumption is wrong. Implicit control is at least partially governed by semantic and pragmatic principles, although these principles do not apply in the same way in the two languages I have considered. These findings are consistent with the commitment of cognitive linguistics that the best heuristics is to search for cognitive (i.e. semantic and pragmatic) explanations of the properties of linguistic form.

Finally, the results of this paper do not accord very well with Hawkins' (1986: 115) claim that "the number of [...] deletions" of understood semantic arguments "is much greater in English than in German." The existence of numerous cases of

implicit control in German where English appears to require or prefer explicit control suggests that this assumption might have to be revised in some respects.[11]

Endnotes

1. In this paper I will only provide morpheme-by-morpheme glosses for the German examples if they are not structurally equivalent to their English counterparts.
2. The label *Arg* stands for "argument" in these and the subsequent examples.
3. I follow the usual convention in using indices to mark coreference.
4. For many speakers *promise* is not acceptable with a matrix object when used with an infinitive clause. These speakers would have to resort to a finite complement in order to express the content of (2b): *The innkeeper promised the traveller (that) he'd wake her up at five o'clock.* In the case of *threaten*, in contrast to German *drohen*, the matrix object is obligatorily absent if the propositional argument is infinitival: **She threatened him to come.*
5. Sag and Pollard (1993: 314) speak of coerced complements.
6. For some speakers this seems marginally possible.
7. The relations of o-command is defined in terms of subcategorization in Sag and Pollard's theory. Otherwise the principles of their binding theory correspond to the well-known Chomskyan principles.
8. Sag and Pollard (1991) call this verb class the ORDER/PERMIT type.
9. Strictly speaking, this is a case of *control ambiguity*, which becomes more transparent if *driver* is replaced by *police officer*. In the former case, the most likely reading is a subject control interpretation; in the latter case, given our cultural knowledge about the function and status of police officers, an (implicit) object control reading is more plausible.
10. The manner of speaking verbs all seem to share the property that they have a prepositional object in the matrix clause, whereas the generalizations formulated in (22) and (23) hold for control verbs with non-prepositional (direct or indirect) objects.
11. I would like to thank Thomas Shannon (Berkeley) for this observation.

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Predicate Adjuncts and Subjectification

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0. Introduction

The aim of this paper is to find a cognitive explanation that accounts for the seemingly arbitrary, unmotivated link between the use of predicate adjuncts in English after the following set of verbs:

(1) a. Michael *wiped* the table clean.
b. Michael *considers* the table clean.

Many theorists have assumed that the predicate adjunct constructions, *the table clean*, in (1a) and (1b) have little in common, except for the fact that they have the same NP XP surface structure. The most obvious syntactic difference is the fact that in (1a) *the table* is an argument of the verb *wipe* and in (1b) the whole clause *the table clean* is considered an argument of *consider*, which accounts for the fact that *consider* is traditionally taken to involve subject to object raising. The difference between the *wipe* and *consider* complement stuctures is therefore analogous to the well-attested *persuade* and *believe* structures.

Rather than focussing on syntactic properties exclusively, the cognitive paradigm seeks to establish links between similar forms and meaning. This does not mean that the cognitive paradigm assumes that expressions that have various senses can be presented by a single core meaning that accounts for all and only the various senses, but that the senses of each expression may form a radially structured category with a central member and links defined by image-schema transformations, metaphor, and metonymy (Lakoff 1987: 460).

Even though radial categories are often associated with different senses at the lexical level, the cognitive paradigm also assumes that types of larger units (phrases, clauses, sentences, and even texts) may have similar networks of related senses with common schematic meanings (Langacker 1991: 261-288). The differences and similarities in forms may in turn be related to the notion of construal, which can be defined as the particular image an expression imposes on the content that the expression evokes (Langacker 1991: ix).

In Goldberg's cognitive construction grammar (1995), the notion of common schematic meaning is stated explicitly at the sentence level for sentences containing a resultative such as (1a) in that such a construction is argued to have a specific meaning independent of its specific lexical constituents. Sentences with different

types of complements are also the subject of Verspoor (1990), which seeks to find semantic systematicity in English complement constructions. This analysis argues that a notion of CAUSE is a syntactically relevant semantic aspect in the use of most complement constructions. The analyis, however, does not show convincingly how the conceptual notion of cause may be mapped from verbs expressing physical causation to verbs expressing mental states.

Meanwhile, findings within the cognitive paradigm, notably by Johnson (1987) on metaphoric reasoning processes, Wierzbicka (1988) on English complement constructions, Sweetser (1990) on English modals, Langacker (1991) on subjectification, Kemmer and Verhagen (1994) on the grammar of causatives, Achard (1995) on French complementation, and Goldberg (1995) on Construction Grammar have shown to be consistent with this hypothesis, especially as they pertain to the predicate adjunct constructions in (1). Therefore, I will now attempt to make the image-schematic link explicit. In the case of *wipe* the causation is physical and concrete and in the case of *consider* the causation is mental and abstract. To support this claim I will first draw on Goldberg's work (1995) to show that the sentences in (1) should indeed be considered related constructions, in this case by means of a metonymy, with a meaning independent of their specific lexical constituents, and then I will show how a complexity of subjectification processes operating simultaneously in various ways can make the complexity of image-schematic transformations between the two constructions more explicit.

1. Resultative constructions with action verbs

It is generally accepted that a sentence such as *He wiped the table clean* is a resultative construction. Goldberg (1995) argues that a resultative is a metaphorical extension of the caused-motion construction (*John pushed it into the box*) in that a resultative codes a metaphorical change of location. So, the object attribute is metaphorically interpreted as an end-of-path or goal phrase.

According to Goldberg, a construction exists independent of particular verbs that instantiate it. Constructions have semantics and are capable of bearing arguments. When needed, for example to account for constructions with verbs and so-called fake objects, those that do not normally take patient objects as in (2), the construction itself can add a patient argument, but the particular verb retains its inherent semantics.

(2) a. *He talked himself.
    b. He talked himself blue in the face.

For a verb to occur in a particular construction, the participant roles associated with the verb must fuse with the argument roles associated with the construction.

[subject]	[verb]	[object]	[oblique/pp]
(agent)	(CAUSE BECOME element)	(patient)	(goal)

According to Goldberg (1995: 180-198), the necessary constraints on the appearance of resultatives can be stated in semantic terms. The semantic constraints of resultatives are:

1. the first argument must be an (animate) instigator,
2. the second argument potentially undergoes a change of state
3. as a direct result (without intermediary interval) of the action denoted by the verb
4. this change of state must occur simultaneously with the endpoint of the action denoted by the verb, and
5. also the resultative adjective must denote the endpoint of the scale

These semantic constraints apply to (1a). *He* is the animate instigator and *the table* undergoes a change of state as a direct result of *wipe*. As illustrated in Figure 1, there is no time interval between the action *wipe* and the final state *clean*, as the resultant state occurs simultaneously with the endpoint of the action denoted by the verb and the adjective *clean* denotes the endpoint of a scale.

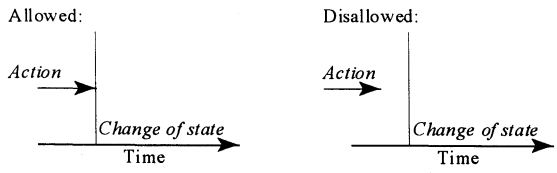


Figure 1. Time interval and predicate adjunct constructions

Goldberg presents this construction schematically as in the next diagram, where CAUSE BECOME represents the syntactically relevant semantic aspects of the verb meaning. This is not to say that the verb meaning can be reduced to these elements, but that they are included in the general meaning:

Sem	CAUSE-BECOME	<agt	pat	result-goal >
R: instance	PRED			
means				
Syn	V	SUBJ	OBJ	OBL (AP/PP)
	wiped	*Michael*	*the table*	*clean*

Even though there are obvious syntactic differences between *Michael wiped the table clean* and *Michael considered the table clean*, the surface structures of the sentences *Michael VERB the table clean* is the same. One could argue that the constructions happen to look and sound alike and are therefore homonyms; however, especially since there are other related structures with speech-act verbs such as *pronounce* and *declare*, I would like to argue that these constructions are polysemous.

2. Predicate Adjunct Constructions with Assessment Verbs

The notion of assessment as in a construction with *consider* can be related to Searle's observation concerning declarations. According to Searle (1979), when a speaker says X is guilty, and this speaker happens to be a judge, he or she performs a declaration with which he or she imposes a category on the world.

> ... because in certain institutional situations we not only ascertain the facts but we need an authority to lay down a decision as to what the facts are after the fact-finding procedure has been gone through. The argument must eventually come to an end and issue in a decision and it is for this reason we have judges and umpires. Both the judge and the umpire make factual claims you are out, you are guilty. Such claims are clearly assessable in the dimension of word-world fit. Was he really tagged off base? Did he really commit the crime? But at the same time both have the force of declarations. If the umpire calls you out (and is upheld on appeal) then for baseball purposes you are out regardless of the facts in the case and if the judge declares you guilty (and is upheld in appeal) then for legal purposes you are guilty (Searle 1979: 19).

When reporting a speech act with what is traditionally considered a performative verb, with which we indicate that the speaker causes X to be Y with his or her words, the main verb may be followed by a predicate adjunct:

(3) a. The umpire called the ball out.
    b. The judge declared him guilty.

It may be argued that constructions as in (3) are motivated by basically the same type of CAUSE BECOME sense as constructions involving a physical act such as *wipe*. The subject, because of his authority, is the pronouncer or declarer who, through his speech act (rather than a physical act like *wipe*), moves the object from one place to the other, from a source to a goal, focussing on the end state. The movement does not take place in a physical, but in an institutional or sociological sense. In other words, it involves a change in categorial status. As with the resultative construction, the end state occurs simultaneously with the endpoint of the action denoted by the verb and the change of state takes place at the moment

that the authority utters his words. Also the resultative adjective denotes the endpoint of the scale. For all intents and purposes, the ball is now out and the defendant is guilty because the authority says so.

Other speech act verbs followed by predicate adjuncts do not necessarily involve a recognized authority, but an individual with the authority to affect an object's sociological state. And, as exemplified by (4), even individuals who have no official power can affect an object's categorial state by means of naming it the way they want to.

(4) a. The parents called/named/christened their daughter Claire.
b. Even though his real name is Michael, I call him Mike.

Note that some of these constructions can and others cannot occur with a *to* infinitive. This is due to the fact that in some cases there is and in others there is not a time interval (cf Verspoor 1990: 80). In (5) it is possible that the naming event causes her to be president at the same time or causes her to take the office over at a later point in time. But, when we name a child, the child has that name at the moment that he is named so. Therefore the *to* constructions is not possible in (6b).

(5) a. We named her president.
b. We named her to be president.

(6) a. We named her Claire.
b. *We named her to be Claire.

The fact that the *to be* construction is not possible in (6b) is in accordance with Goldberg's finding that in the resultative construction the change of state must occur simultaneously with the action denoted by the verb.

What all these costructions do have in common, according to Borkin (1984), is that the subject of the sentence must have control of the change of status. In other words, a form of direct (without intermediary) cause is involved.

(7) a. NBC announced Snerd the winner in its latest popularity poll.
b. ?The John Birch Society announced Snerd the winner in NBC's poll.

Also processes that do not involve a physical or speech act, but a mental act of categorization such as *consider* and *find* can be argued to have some sense of CAUSE BECOME where the subject has control of the (change of) status. One of the senses of *consider* and *find* involve expressing assessment, a mental categorization act, a process by which one decides or fixes the value of something. For example, imagine a situation in which a student is 30 minutes late. A person in charge could say: "Even though you are here, I will consider you absent." This

sentence expresses a situation in which a speaker has some authority and control and decides to mentally put an entity into a category. This sense of authority is not necessarily present and obvious, but as Borkin (1984) points out, the frame must express a self-initiated original perception or opinion rather than the recognition of the truth of a proposition formed by someone else. Also, the perception of the object in question must have been direct and immediate. It cannot be an inference based on other factors.

(8) a. ?When I looked in the files, I found that she was Irish
b. *When I looked in the files, I found her Irish.

What I believe is at stake here is that the the verb expresses a two-way direct interaction between the subject and object. The subject directly perceives the object and directly puts the object in a category. As Goldberg (personal conversation) points out, the semantic constraints for this construction are analogous to those of the resultatives in that the subject argument initiates and is the cause of attributing the property to the entity designated by the direct object. This becomes especially clear in the following pairs of examples where the predicate adjunct construction, unlike the *that* clause and *to* infinitive, is possible only when the subject directly (without intermediary) can cause an entity to belong to a category.

(9) a. The doctor proved that she was pregnant.
b. The test proved that she was pregnant.

(10) a. The doctor proved her to be pregnant.
b. The test proved her to be pregnant

(11) a. *The doctor proved her pregnant.
b. The test proved her pregnant

To conclude this section, I have argued that in constructions such as (1b), *consider* expresses a mental process by which the subject rules one state of affairs equivalent to another. In other words, a subject moves mentally and in a metaphorical sense an object from a source to a categorial end state. The focus is on the end state. Of course, in a mental categorization act, the change of state in a sentence such as *Michael considered the table clean* does not take place objectively in the world, as in the sentence *Michael wiped the table clean*, or even in the sentence *I pronounce you guilty* but subjectively because it only arises as part of a conceptualizing process. In Lakoff's terms, this would be a metaphorical or metonymical mapping of an image-schema. These image-schematic mappings can be made more explicit if it is realized that the CAUSE element can be metonymically linked and the BECOME elements can be construed subjectively (Langacker 1991: 316-342).

3. Metonymic Mapping of CAUSE Element

To make the image-schematic mapping of CAUSE more clear, I will first define the relevant notion of causation as I will use it. Causation is a complex category with prototype effects (Lakoff 1987). For one thing, causal events may take place in the physical world or in the mental world. And causal (force-dynamic) events may occur when these two worlds meet (Talmy 1988). Since the conception of a causal event is related to the human interpretation of that event, it is always related to construal, which is often based on folk models (Lakoff 1987; Dirven 1995). More specifically, Sweetser argues that "a basic causal event-structure is mapped from our understanding of social and physical causality onto our understanding of our reasoning processes" (1990: 60). This mapping, which I will argue to be metonymic rather than metaphoric, motivates the use of the same modal form with two distinct meanings: root and epistemic.

(12) a. He must go to the store, I insist. (root, social and physical causation)
b. He must be at the store, because the light is on. (epistemic, causation in reasoning process)

The fact that constructions with root and epistemic modality often have similar surface forms is well-established (cf. Palmer 1986). The general distinction between root and epistemic modality is also a well-known one, but its relation to the notion of force dynamics or causation can be made more explicit with the following example. Suppose I see a ball rolling down a hill. I may construe the event simply according to my folk model and say that *the ball rolled down the hill* as illustrated in Figure 2 with an abstract force acting upon the ball, even though I may know through formal education that probably not a single agent (and certainly not the ball itself) caused the event by itself because the process of cause is extremely complex in that some physical force such as gravitational or kinetic energy may have acted on the ball and caused it or helped it to go down.

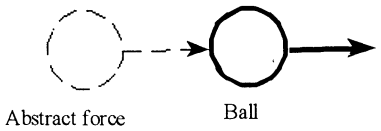


Figure 2. Event-internal force

Besides the event-internal causation (the abstract force acting upon the ball causing it to roll down the hill), there is an event-external causation. According to D'Andrade (1987), my perceiving or sensing the event is also considered as a causal event in itself in the Western folk model in that the event is a stimulus causing my perception. Therefore, one might say that a simple event such as the ball rolling down the slope always involves at least a dual causal relation, one involved in the event itself and the other in the event being the stimulus to the conception of that event and my reaction to it (cf Croft 1991: 219). See Figure 3, where the arrows denote the causation and C is the conceptualizer and/or viewer.

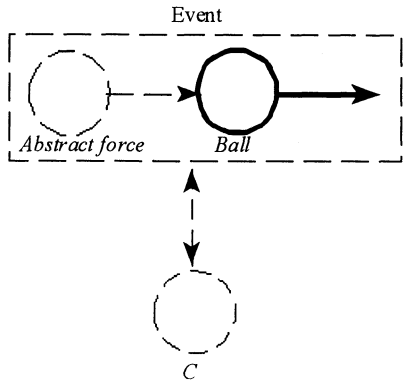


Figure 3. Event-internal and event-external causation

According to the Gricean maxim, we do not usually say what is obvious. Therefore, I assume that *The ball rolled down the slope* is a typical, unmarked sentence describing the event without making either the event-internal or event-external causal relation explicit. What caused it to go down or what caused me to know that it went down is not made explicit in the sentence. These implicit causal relations are marked with dotted lines in Figure 3.

But, since language is imagic, the conceptualizer may of course choose to profile either causal aspect. The causal relation related to the event itself, from force to process, could be lexicalized as *I, the wind, gravitational force, or the slope made the ball roll* or *I, the wind, gravitational forcer, or the slope caused the ball to roll*. The causal relation external to the event, related to what caused us to know about the event or how we reacted to the event, may be lexicalized with a verb of perception, sensation, emotion, or cognition as in *I saw/sensed the ball roll down the slope* or *I believe the ball to have rolled down the slope* or even *I know that the ball rolled down the slope*. If these notions of event-internal and event-external causation are related to Langacker's distinction between the objective and

subjective axis, Talmy's and Sweetser's notion of socio-physical force dynamics mapped by means of image-schemas to the world of reasoning can be illustrated.

In language we can make clear how we have construed an object, situation or event. Let's take photography as an analogy. We can take a photograph of a beautiful view. It is obvious that this view was seen by someone, but the someone is not necessarily in the picture. It is also possible to have a photograph of a person looking at the beautiful view. Now the photograph shows the photographer looking at the person who is looking at the landscape. It is also possible for the photographer (with time delay) to take a picture of him/herself looking at the view. Then the picture focusses on the photographer/photographed person looking at the landscape. Like a photograph, a speaker's words can portray different things: an object, a person focussing on an object, or the speaker him/herself focussing on an object. The one thing, though, that all these photagraphs have in common is that there is a photographer taking the photograph, who is always implicitly present in the photograph as the scene is seen from his/her viewppoint. According to Langacker, it is in all these cases that different forms of subjectification may take place. This may be illustrated as in Figure 4 (1991: 325).

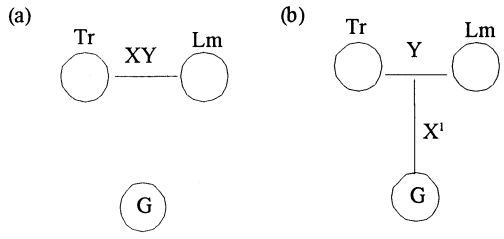


Figure 4. Objective versus subjective axis

A typical sentence depicts a canonical arrangement in which an external relationship labeled XY (cf *The ball / roll / down the hill*) is construed objectively by the conceptualizer. This relationship (depicted in Figure 4a) runs along the objective axis because it does not invoke the ground as a participant or a reference point. Of course, the conceptualizer also has a subjective involvement because he/she entertains the conception of the event, even if he/she is himself not part of the event, but in (a) this subjective involvement is not profiled. The only subjective involvement that is profiled in a clause like *The ball rolled down the hill* depicting this event is the fact that the speaker/conceptualizer relates this event to his/her own place and time of speaking by grounding it with a finite verb form. The analogy here is that the photograph (sentence) shows the "camera angle" of the conceptualizer with the finite verb.

The construal relation between the conceptualizer and the object of conception (see Figure 4b) is thought of as running along the subjective axis. When a sentence profiles this construal relation by invoking the ground as a participant or reference point, we speak of another level of subjectification. This is depicted in a sentence such as *John saw the ball roll down the hill*, where the construal relation itself is profiled and grounded. The analogy is that the photographer takes a picture of someone looking at an event from a specific camera angle.

To relate event-internal and event-external causation to the notion of subjectification we can argue as follows:

(13) a. The ball rolled down the hill.
b. John *made* the ball roll down the hill.
c. John *saw* the ball roll down the hill.

A sentence such as (13a) describes an event objectively in that it leaves the construal relation unmarked. In (13b) the event is still described rather objectively, but an extra focus is on an event-internal causal relation. In this case there is a direct interaction between the subject (John) and the object (the ball), which causes it to roll down the hill. In (13c) the objective focus is on the construal process, which is an event-external causal relation. The image the expression imposes on the content is that the object (together with the event in which it is involved) is directly perceived by the subject of the sentence.

What the constructions in (13b) and (13c) have in common is that in both there is a direct causal relation between subject and event. In (13b) the causal relation concerns an interaction between John and the event, where John is construed as an agent causing an event, even though the properties of the ball itself must of course also play a role in the development of the causal chain. In (13c) the role of the subject is more that of an experiencer and the event is the cause of the perception. But, here of course the experiencer him or herself is also actively involved in the seeing process because without the subject's attention being focussed in a certain direction there would not be a seeing event. Therefore, what is similar between the two constructions is that they both express a causal reaction, in (13b) mainly from subject to event, and in (13c) mainly from event to subject, but also some from subject to event.

I argue that this is a case of metonymic mapping rather than metaphoric mapping. In metaphor the conceptualization of one cognitive domain is associated in terms of components of another, usually more concrete, cognitive domain. The essence of metonymy resides in the posssibility of establishing a connection between entities which co-occur (Taylor 1989: 123). There is clearly a difference in the direction of the causal relation in the situations expressed in (13b) and (13c). This may be illustrated as in Figure (5):

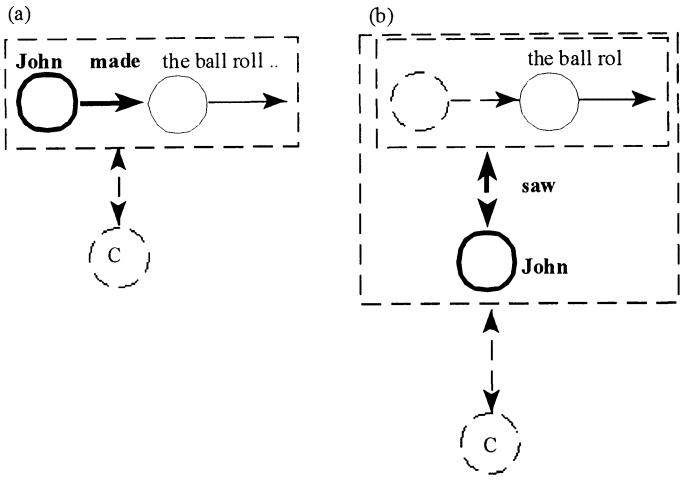


Figure 5. Two-way causal interaction: event internal versus event external

As with Sweetser's English modal constructions, it could be argued here that a physical causal image-schema as in (b) is metonymically mapped onto an abstract causal image schema as in (c) as the complement structures after *make* and *see* are similar; both are plain infinitive constructions. It might be argued that the parallel complement structures are motivated by a metonymic mapping of the event-internal causal schema, which is quite direct and immediate, on the objective axis to the event-external causal schema, which is also quite direct and immediate, on the subjective axis.

However, this does not explain the verb forms in the complement constructions. To do so, the conceptual status of the complement structures will be clarified with Figure 6 (adapted from Langacker 1991: 317), which makes the distinction between a sentence depicting an objective or subjective scene clear in a different manner (see next page).

On the one hand, the speaker can indicate to his hearer that he or she (C = the conceptualizer) has an off-stage view of the perceived object/event (P). In this optimal viewing arrangement, C has clear perceptual (or conceptual) access to P, with the specific focus of attention within OS (the onstage, objective region) and PF (the full expanse of the viewer's perceptual field), but C is external to both. C is the construing subject (and is therefore always subjectively involved), but P is viewed/construed as objectively as possible.

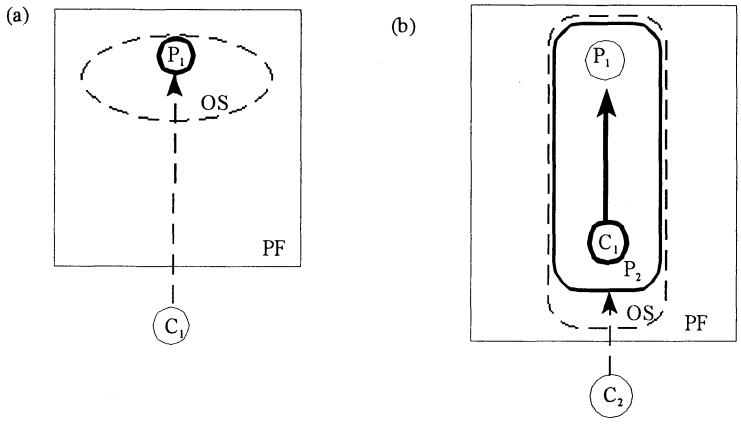


Figure 6. Conceptualizer versus perceived object

This would be depicted in a sentence such as in (13a) *The ball rolled down the hill,* or even (13b) *John made the ball roll down the hill,* where the focus is on the objective event, which is grounded, and the construal relation is not made explicit. The difference between these two constuctions is that in (13a) the rolling event is focussed on by the conceptualizer. Therefore it is grounded and finite.

As illustrated in Figure (5a), in (13b) *made,* the causal event rather than the rolling event is profiled and grounded. As mentioned earlier the grounded element is indicative of a strongly subjective construal as it relates an event to the time and place the conceptualizer is speaking. Metaphorically, it shows from what angle the photograph is taken. On the other hand, the non-finite element in (13b) *the ball roll down the hill* is an atemporal relation whose landmark (*made*) is a facet of the ground. The reason that the complement clause is not finite (grounded) here is the fact that a causal relation is being expressed between the "making" and the "rolling" event. However a causal relation is always subject to subjective interpretation as "the causal nexus is not observable" (Searle 1983: 113). In other words, since a causal relation cannot be "objectively" seen, the causal relation between "John did something" and "the ball rolled down the hill" are based on human interpretation. Therefore I assume that in (b) the conceptualizer commits him/herself only to the "making" event. The ensuing event, even if it takes place objectively, is construed as a result of the "making" event. It is not grounded because the conceptualizer cannot commit himself objectively to the fact that the event is caused by the action.

The fact that the ungrounded complement construction in (13b) contains a plain infinitive form rather than a predicate adjunct or *to*-infinitive form has in my opinion to do with the fact that it involves an event (rather than a state) which is

construed as taking place at the same time as the causing event (cf Verspoor 1990).

Figure (6b) illustrates the egocentric viewing arrangement, where the original viewing arrangement is viewed by another conceptualizer. The original C, which is now called C_1 may not only be aware of his or her own construal relation, referred to as CR, but C_1 + CR can even go onstage. In this case, C_1 + CR have become the focus or object of viewing attention (C_1 + CR = P) and are viewed quite objectively by another C, which I will call C_2. It is possible that C_1 and C_2 are the same person, but then the person is viewing him/herself objectively as if on a photograph and the original P (which is now called P_1) is now viewed by C_2 subjectively through the eyes of C_1 because the closer C_1 gets to P the more subjectively P is construed. For example, as illustrated in Figure (5b), in a sentence as *John saw the ball roll down the hill* the speaker reports on the rolling event as seen through John's eyes. Therefore, *saw,* the "objectified" construal event related to the speaker him/herself and his/her moment of speaking, is grounded and has the finite form. The non-finite element in (b) *the ball roll down the hill* is an atemporal relation whose landmark (*saw*) is a facet of the ground. This subjectified perceived event, *the ball roll down the hill*, is not grounded and has a non-finite form because the speaker (C_2) cannot commit himself to this event. What may be construed so subjectively here is the fact that we have to do with another causal relation subject to subjective interpretation. Can we be sure that the "event" has been seen? Is it not possible that in reality a perceiver can mistake one event for another? In other words, the only thing the conceptualizer can commit him or herself to is that there was a seeing event. The reported event is not grounded because it cannot be directly related in time and place to the speaker. The fact that the ungrounded complement construction in (13c) also contains a plain infinitive form is related to the fact that a plain infinitive expresses a "simultaneous" event. The seeing and rolling event are construed as taking place at the same time (cf Verspoor 1990).

These observations concerning parallel complement structures to *make* and *see* may apply to the *wipe* and *consider* constructions to a certain degree. It can be argued that the verb *wipe*, like *make*, expresses an event-internal and the verb *consider*, like *see,* an event-external causal relationship. But as was pointed out in the previous section, *consider*, unlike *see*, also expresses some form of event-internal causal relationship in that the subject of *consider* causes an object to belong to a category. I will try to account for this difference by arguing in the next section that the image-schematic notion of BECOME may be subjectified.

4. BECOME Subjectified

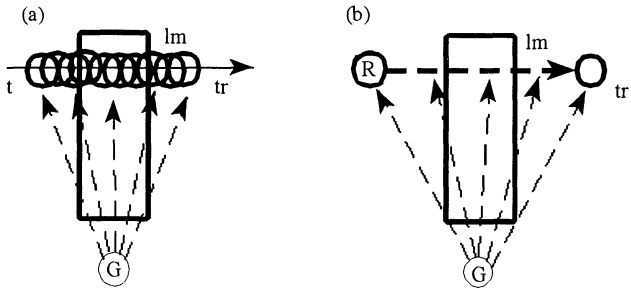
In the previous section I argued that the similar surface structures after verbs like *make* and *see* may be due to the fact that the image-schematic CAUSE element in

the verb *make* is metonymically linked to a CAUSE element in the verb *see*. In this section, I will look more closely at the *wipe/consider* constructions, and specifically at the conceptual differences between them: in the *wipe* construction, the table actually undergoes a change of state, whereas in the *considered* construction the table does not. I will argue that the state of affairs, the table is clean, is subjectified in yet another manner.

Earlier I argued that a predicate adjunct construction expresses that a subject metaphorically moves an object to a category status. The image-schema is of a subject causing a physical change, which is metaphorically mapped to a subject causing a categorial change. The conceptual process involved in such a metaphorical mapping of an image-schema can be illustrated with another form of subjectification (Langacker 1991: 327)

(14) a. Vanessa jumped *across* the table.
b. Vanessa is sitting *across* the table from Veronica.

In (14a) the word *across* designates that the trajector makes an objective change of location through time. Vanessa is on one side of the table at one time and through time she moves to the other side. In (14b), however, *across* does not designate an objective change of location, but a state, the final state designated by *across* in (14a) and it is the conceptualizer who mentally traces the path from a reference point (Vanessa) to the other side of the table.



across: objective motion *across*: subjective motion

*Figure 7. Objective versus subjective motion with 'across'*0

According to Langacker (1991: 327), this instance of subjectification represents a general type characterized by a central property: spatial motion on the part of an objectively construed participant is replaced by subjective motion

(mental scanning) on the part of the conceptualizer. He adds that numerous verbs have undergone an extension with this property:

(15) a. The balloon rose rapidly. (objective motion)
b. The trail rose rapidly. (subjective motion)

Still, in both (15a) and (15b) there is only one level of subjectification made explicit. The speaker has an off-stage, objective view of the event and reports on it. Both events are subjectified in that the grounded element *rose* indicates that the process is related to the time and place of the conceptualizer. The process *rise* expresses objective motion in (15a) and subjective motion (mentally scanning) by the conceptualizer in (15b). In these cases, English grammar does not require a distinct form for objective and subjective motion. We might conclude that the image-schematic mapping of construction (15a) for objective motion is metaphorically mapped onto construction (15b) for subjective motion, motivating the similar structures.

The notion of subjective motion may in part apply to the process in a sentence such as *He considered the table clean*; however, there is a yet another level of subjectification, because this subjectification cannot be attibuted to the conceptualizer but the subject of the sentence. I will try to clarify this with Figure 8 and the explanation of the complete process below:

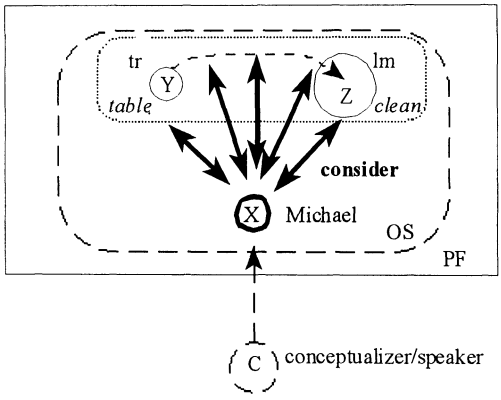


Figure 8. Double level of subjectification with verbs of construal/motion

1. The conceptualizer/speaker focusses on a construal relation (X *consider* YZ).
2. The mental act, *consider*, is the object of perception: it is subjectified (grounded) as it is related to the conceptualizer's time and place of speaking.

3. There is a strong two-way causal relation between X on the one hand and YZ on the other. First there is an act of direct perception (X sees YZ) and second there is an act of categorization where X moves Y metaphorically to Z.
4. Y is the object that is metaphorically moved to state Z. It undergoes a categorization act. There is no objective movement on the part of Y, but the movement takes place "subjectively" in the subject's mind. The expression focusses on the final state designated by the expression and is therefore equivalent to "Y = Z".
5. The conceptualizer cannot commit him/herself to the verity of this state of affairs as this "subjective" movement is not related to his or her own place and moment of speaking. Therefore, the YZ situation is not grounded.
6. Like with the *wipe* construction, the complement of *consider* in this case has the non-finite form YZ (rather than plain infinitive or *to* infinitive) because *Z* does not designate an event (an objective change of location) but a state, the final state designated by *Z*.

6. Conclusion

To conclude, the commonality between the resultative construction with *wipe* and the assessment construction with *consider* may very well motivated by a metonymic image-schematic mapping of a CAUSE element and a metaphoric image-schematic BECOME element. In a predicate adjunct construction, *consider* implies that the conceptualizer sees the subject (often co-referential with the conceptualizer) as mentally moving the object from a schematic reference point to a final categorial state.

Sem	CAUSE-BECOME	<agt	pat	result-goal >
R: instance	PRED			
subjective construal				
Syn	V	SUBJ	OBJ	OBL (AP/PP)
	considered	*Michael*	*the table*	*clean*

In trying to explicate the image-schematic mappings in terms of Langacker's theory of subjectification I have also shown that construal processes may be extremely complex as different levels of objectification and subjectification may interact: a subjective construal relationship like *consider* can be objectified in that it becomes the focus of attention and subjectified in that it is related to the time and place of the conceptualizer. In turn an objective event, when construed through this objectified construal relation, may be subjectified. This subjectified event itself may be one of subjective motion, a mental scanning on the part of the subject rather than the object.

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