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Attention Phenomena

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1. Introduction

1.1 Content of the Study

This chapter introduces new work on the fundamental attentional system of language (Talmy, forthcoming), while in part providing a framework in which prior linguistic work on attention can be placed. In a speech situation, a hearer may attend to the linguistic expression produced by a speaker, to the conceptual content represented by that expression, and to the context at hand. But not all of this material appears uniformly in the foreground of the hearer's attention. Rather, various portions or aspects of the expression, content, and context have different degrees of salience. Such differences are only partly due to any intrinsically greater interest of certain elements over others. More fundamentally, language has an extensive system that assigns different degrees of salience to the parts of an expression or of its reference or of the context. In terms of the speech participants, the speaker employs this system in formulating an expression; the hearer, largely on the basis of such formulations, allocates her attention in a particular way over the material of these domains.

This attentional system in language includes a large number of basic factors, the "building blocks" of the system, with over fifty identified to date. Each factor involves a particular linguistic mechanism that increases or decreases attention on a certain type of linguistic entity. The mechanisms employed fall into some ten categories, most with subcategories. The type of linguistic entity whose degree of salience is determined by the factors is usually the semantic referent of a constituent, but other types occur, including the phonological shape of a constituent, or the vocal delivery of the utterance. Each factor contrasts a linguistic circumstance in which attention is increased with a complementary circumstance in which it is decreased. A speaker can use a factor for either purpose -- or in some cases for both at the same time. For some factors, increased attention on a linguistic entity is regularly accompanied by additional cognitive effects, such as

distinctness, clarity, and significance, while decreased attention correlates with such converse effects as muddledness, vagueness, and ordinariness. The bulk of this chapter, section 2, presents in highly excerpted form some of the attentional factors in their taxonomy.

Although able to act alone, the basic factors also regularly combine and interact -- whether in a single constituent, over a sentence, or through a discourse -- to produce further attentional effects. Several such factor patterns are abbreviatedly presented in section 3.

Many further aspects of language's attentional system cannot be examined in this short chapter, but a few can be touched on here to give a fuller sense of the system. First, language-specific and typological differences occur in the use of attentional devices. For a language-specific example, some individual languages (like Tamil) manifest factor Ca1 by using special morphemes to mark an adjacent constituent for foregrounding as topic or focus. Other languages (like English) do not use this mechanism at all. For a typological example, sign languages (cf. Talmy, 2003a) appear to differ systematically from spoken languages in the use of a special mechanism for attentional disregard. To illustrate with American Sign Language (ASL), consider that I want to sign that a particular wall was architecturally moved further out to enlarge a room. To represent the wall in its initial position, I begin the sign by holding my hands horizontally before me joined at the fingertips, with the flattened hands oriented vertically, palms toward myself. If the wall was physically moved along the floor while still standing, I would then move my hands horizontally away from myself with a steady deliberative movement. But the wall may instead have been removed and set up again at the more distant position. In that case, I now move my hands through a quick up-and-down arc, in effect showing them "jump" into the new more distant position. This quick arc gesture signals that one is to disregard the spatial path that the hands are seen to follow, and to take into consideration only the initial and final hand positions. Thus, this gesture can be regarded as a linguistic form with the function of calling for reduced attention to -- in fact, for the disregard of -- the path of the hands, which would otherwise be understood as a semantically relevant constituent. In addition to individual mechanisms of this last type, signed languages also have unique factor combinations. In ASL, for example, the nondominant hand can sign a specific topic, and then be held fixed in position throughout the remainder of the clause as the dominant hand signs the comment (cf. Liddell, 2003). That is, the nondominant hand maintains some of the viewer's background attention on the identity of the topic, even as the dominant hand attracts the viewer's attentional foreground to certain particulars of content. No obvious counterparts of these attentional devices occur in spoken languages.

Next, in the developing theoretical account of the attention system in language, some broad properties are already evident. For example, in terms of the qualities

of attention per se, linguistic attention functions as a gradient, not as a dichotomous all-or-none phenomenon. The particular level of attention on a linguistic entity is set in terms of foregrounding or backgrounding relative to a baseline for the entity, rather than absolutely on a zero-based scale. And the linguistic aspects realized in the course of a discourse range along a gradient of "access to attention", from ones with "interruptive" capacity, able to supplant whatever else is currently highest in attention, to ones that basically remain unconscious. Further, in terms of attentional organization, a number of the factors and their combinations accord with -- perhaps fall out of -- certain more general principles. By one such principle, attention tends to be more on the reference of some linguistic material -- that is, on its semantic content -- than on the form or structure of the material. And by a related principle, attention tends to be more on higher-level units of such content than on lower-level units. For example, attention is characteristically more on the overall literal meaning of a sentence than on the meanings of its individual words, and still more on the contextual import of that sentence's meaning than on the literal meaning of the sentence.

Finally, the attentional properties found in language appear to have both commonalities and differences with attentional properties in other cognitive systems. An example of commonality is that greater magnitude along a cognitive parameter tends to attract greater attention to the entity manifesting it. This is seen both in language, say, for stronger stress on a linguistic constituent, and in visual perception, say, for large size or bright color of a viewed object. On the other hand, one mechanism in the attentional system of language is the use of special morphemes -- for example, topic and focus markers -- dedicated to the task of directing attention to the referent of an adjacent constituent. But the perceptual modalities appear to have little that is comparable. Contrariwise, abrupt change along any sensory parameter is one of the main mechanisms in the perceptual modalities for attracting attention to the stimulus exhibiting it. But it has a minimal role in the attentional system of language.

Thus, the larger study -- which this chapter only introduces -- covers the linguistic system of attentional factors and their patterns of interaction, a theoretical framework that includes the universal and typological aspects of this system, the general principles that the system is based on, and a comparison between this linguistic attentional system and that of other cognitive modalities.

1.2 Context of the Study

Much previous linguistic work has involved the issue of attention or salience. Areas within such work are familiar under terms like topic and focus (e.g., Lambrecht 1994), focal attention (e.g., Tomlin 1995), activation (e.g., givon 1990, Chafe 1994), prototype theory (e.g., Lakoff 1987), frame semantics (e.g., Fillmore, 1976, 1982), profiling (e.g., Langacker 1987), and deictic center (e.g.,

Zubin and Hewitt 1995). My own research on attention has included: the relative salience of the "Figure" and the "Ground" in a represented situation (Talmy 1972, 1978a, 2000a chapter 5); the "windowing" of attention on one or more selected portions of a represented scene, with attentional backgrounding of the "gapped" portions (Talmy 1976, 1983, 1995b, 1996b, 2000a chapter 4); the attentional backgrounding vs. foregrounding of concepts when expressed by closed-class (grammatical) forms vs. by open-class (lexical) forms (Talmy 1978c, 1988b, 2000a chapter 1); the "level" of attention set either on the whole of a scene or on its componential makeup (Talmy 1988b, 2000a chapter 1); the differential attention on the Agonist and the Antagonist, the two entities in a force-dynamic opposition (Talmy 1988a, 2000a chapter 7); "fictive motion", in which a hearer is linguistically directed to sweep his focus of attention over the contours of a static scene (Talmy 1996a, 2000a chapter 2); the backgrounding vs. foregrounding of a concept when it is expressed in the verb complex vs. by a nominal complement (Talmy 1985, 2000b chapter 1); the backgrounding vs. foregrounding of a proposition when it is expressed by a subordinate clause vs. by a main clause (Talmy 1978b, 1991, 2000a chapter 6); the conscious as against unconscious processes in the acquisition, manifestation, and imparting of cultural patterns (Talmy 1995a, 2000b, chapter 7); and attentional differences between spoken and signed language (Talmy 2003a, 2003b). However, the present study may be the first with the aim of developing a systematic framework within which to place all such prior findings -- together with a number of new findings -- about linguistic attention. In fact, this study is perhaps the first to recognize that the linguistic phenomena across this whole range do all pertain to the same single cognitive system of attention.

The theoretical orientation of this study is of course that of cognitive linguistics. This linguistic approach is centered on the patterns in which and the processes by which conceptual content is organized in language. Cognitive linguistics addresses this linguistic structuring of conception not only with respect to basic physical categories like space and time, force and causation, but also with respect to cognitive categories -- the ideational and affective categories ascribed to sentient agents. These forms of conceptual structuring fall into several extensive classes, what Talmy (2000a, chapter 1) termed "schematic systems". One such system is that of "configurational structure", which comprises the schematic structuring or geometric delineations in space or time (or other qualitative domains) that linguistic forms can specify (Talmy 2000a, chapters 1-3; 2000b, chapters 1-4). Another schematic system is "force dynamics", which covers the structural representation of two entities interacting energetically with respect to opposition to a force, resistance to opposition, and overcoming of resistance, as well as to blockage, hindrance, support, and causation (Talmy 2000a, chapters 7-8). And a third schematic system is that of "cognitive states and processes", which includes the structural representation of volition and intention, expectation and affect, perspective and attention (Talmy 2000a, chapters 1, 4-5, 8). Thus, the present study

of attention is an elaboration of one subportion within the extensive conceptual structuring system of language. In turn, the properties that attention is found to have in language can be compared with those of attention as it operates in other cognitive systems, such as in the various perceptual modalities, in the affect system, in the reasoning/inferencing system, and in motor control. This kind of comparative procedure was introduced in Talmy (2000a), designated as the "overlapping systems model of cognitive organization". Accordingly,

it is assumed that the findings on attention in language will enable corroborative investigation by the methods of other fields of cognitive science, including the experimental techniques of psycholinguistics, the brain imaging techniques of cognitive neuroscience, and the simulation techniques of artificial intelligence. The present study can thus help to develop a framework within which attentional findings from a range of research disciplines can be coordinated and ultimately integrated.

2. Some Linguistic Factors that Set Strength of Attention

2.1 factors involving properties of the morpheme (A)

A morpheme is here quite generally understood to be any minimal linguistic form with an associated meaning. This thus includes not only simplex morphemes, but also idioms and constructions (e.g., the English auxiliary-subject inversion meaning 'if').

2.1.1 Formal Properties of the Morpheme (Aa)

Factor Aa1: expression in one or another lexical category.

A concept tends to be more or less salient in accordance with the lexical category of the form representing the concept. First, open-class categories in general lend more salience than closed-class categories. Further, within open-class categories, nouns may tend to outrank verbs while, within closed-class categories, forms with phonological substance may tend to outrank forms lacking it. Accordingly, lexical categories may exhibit something of the following salience hierarchy:

(1) open-class (N > V) > closed-class (phonological > aphonological)

Only the open-/closed-class contrast is illustrated here. Consider a case where essentially the same concept can be represented both by a closed-class form and by an open-class form. Thus, English tense is typically represented for a verb in a finite clause by a closed-class form, either an inflection or a modal, as in (YYa) with an *-ed* for the past and an *-s* or *will* for the future. But a nominal in a prepositional phrase cannot indicate tense in that way. If relative time is to be indicated here, one must resort to open-class forms, as in (YYb) with the adjectives

previous to mark the past and *upcoming* to mark the future. The concepts of relative time seem much more salient when expressed by adjectives than by closed-class forms (see Talmy 2000a, chapter 1).

- (2) A. a. When he *arrived*, ... b. When he *arrives* / *will arrive*, ...
 B. a. On his *previous* arrival, ... b. On his *upcoming* arrival, ...

Factor Aa2: degree of morphological autonomy.

The term "degree of morphological autonomy" here refers to the grammatical status of a morpheme as free or bound. A concept tends to receive greater attention -- and abetted by that attention, greater distinctness and clarity -- when it is represented by a free morpheme than by a bound morpheme. Thus, the English free verb root *ship* and the bound verb root *-port* have approximately the same sense in their concrete usages, 'convey bulky objects by vehicle over geographic distances'. and they appear in constructions with comparable meanings, e.g., *ship in*, *ship out*, *ship away*, *ship across*, and *import*, *export*, *deport*, *transport*. However, due at least in part to the difference in morphological autonomy of these two verb roots, *ship* foregrounds its concept with clarity and distinctness to a greater degree than *-port* does with its otherwise similar concept.

2.1.2 Componential Properties of the Morpheme (Ab)

Factor Ab1: Solo vs. Joint Expression of a Component in a Morpheme

When a concept constitutes the sole and entire referent of a morpheme, it tends to have greater salience and individuated attention, but when it is conflated together with other concepts in a morpheme's reference, it tends to be more backgrounded and to meld with the other concepts. For example, the concepts 'parent' and 'sister' each receive greater individual attention when expressed alone in the separate morphemes *parent* and *sister*, as in *one of my parents' sisters*. But they receive less individual attention when expressed together in the single morpheme *aunt*, as in *one of my aunts*.

factor Ab2: the ensemble vs. the individual components of a morpheme's meaning

In general, a language user directs more attention to the combination or ensemble of the semantic components that make up the reference of a morpheme than to the individual components themselves. That is, more attention is on the Gestalt whole of a morpheme's meaning than on its parts. Even where the components are all essential to the morpheme's use, a speaker or hearer is typically little aware of them, attending instead to their synthesis.

Consider the English verb *pry* as in (YYa). Analysis shows that certain semantic

components are part of the meaning of *pry* and must all be matched in the referent situation for this verb to apply to it. If any component does not fit the situation, a speaker must switch to some lexical neighbor of *pry*. A series of alterations to the situation reveals the essential components. Thus, if there is a one-foot board stuck vertically to a wall with a handle near the top and I tug on the handle, I cannot say (YYa) but rather something like (YYb). Sentence (YYa) becomes acceptable here if instead of using the handle I levered the board away from the wall. Accordingly, one semantic component essential to the use of *pry* is that the force for removal of a Figure object from a Ground object comes from a third object inserted and pivoted between them. But now say that I do insert and pivot a lever between them so that the board comes away from the wall, but the board is hinged at the bottom and had been loosely upright against the wall. I now must say something like (YYc). Sentence (YYa) again becomes appropriate only if the Figure is fixed to the Ground and resists removal: the second essential component. But these two components are still not enough. Let us now say that the board is fixed to the wall and that I use a lever between them, but the board comes away from the wall all at once. A more apt sentence is now that in (YYd). Sentence (YYa) now becomes apt again only if the Figure moves gradually and progressively away from the Ground because it has some flexibility: a third essential component. But now say that instead of a board, a wide foot-long strip of masking tape is stuck to the wall and that I am progressively removing it with a lever inserted between the tape and the wall. Now I must say something like (YYe). A fourth essential component is thus that the Figure must be rigid (though with enough give to be somewhat flexible). What should here be noticed in this whole analysis is that

most of the components just identified do not come readily to mind on hearing the verb *pry*.

- (3) a. I pried the board off the wall.
 /*ab. I pulled the board off the wall.
 c. I flipped the board off the wall.
 d. I popped the board off the wall.
 e. I peeled the masking tape off the wall.

The point here is not to work out a specific semantic decomposition but to observe that, on hearing a morpheme, one may have a vivid sense of its meaning as a whole but have little conscious access to the particular components essential to that meaning. Such components typically do not spontaneously appear in our consciousness -- so attentionally backgrounded are they -- but instead require specialized linguistic techniques of analysis for us to become aware of them.

Factor Ab3: weighting among the components of a morpheme's meaning

Under the present factor, one semantic component within the meaning of a

morpheme can be more salient than another. That is, the semantic components expressed by a morpheme can have different attentional weightings. This attentional allocation must be understood as part of the morpheme's lexicalization pattern. For example, while the verb *eat* includes both the components of 'chewing' and of 'swallowing', the 'chewing' component appears to be more salient in one's regard of the eating process than the 'swallowing' component, even though the latter can be shown to be criterial. This observation is perhaps corroborated by the fact that manner adverbs with *eat* tend to pick out the 'chewing' component rather than the 'swallowing' component as the target of their qualifications. Thus, the sentences *You should eat carefully / faster* would not generally be taken to mean that you should swallow carefully or faster, but more likely that you should apply those manners to your chewing.

A consequence of the present factor is that two different morphemes -- or two distinct senses of a polysemous morpheme -- can have roughly the same semantic components, but weight them differently. Hence, a particular semantic component can be more salient in one member of such a pair than in the other member. An example is the semantic component 'multiple intentional causal agency' in the two polysemously related verbs, transitive *pass* and intransitive *pass*. The reference of both these verbs includes the same three semantic components: 'a Figure object' (in (YY) below, a goblet), 'multiple intentional causal agency' (below, diners around a table), and 'the motion of the Figure in transit from the grasp of one Agent to that of another'. But transitive *pass* is lexicalized to foreground the 'agency' component, in correlation with its representation as subject, as in (YYa). By contrast, intransitive *pass*, as in (YYb), is lexicalized to foreground the Figure as subject, while the agency is now comparatively backgrounded. In fact, this verb has no ready complement structure in which to represent the agency.

- (4) a. They slowly passed the goblet of wine around the banquet table.
 b. The goblet of wine slowly passed around the banquet table.

2.1.3 frame and prototype properties of the morpheme (Ac)

Factor Ac1: a morpheme's direct reference vs. associated concepts

The present factor involves the distinction between a morpheme's scope of direct reference and outside concepts only associated with that reference. Under it, more attention is on the direct than on the associated concepts. At the same time, the associated concepts are activated into the "midground" of attention. In one type of frame, the associated concepts "augment" the direct reference because, on the one hand, they add some related conceptual material to it but, on the other hand, they are incidental to it in that they could be dropped or replaced by alternative concepts. To illustrate, the morphemes *north* and *east* in their path sense, as in *I kept flying North* and *I kept flying East*, on initial hearing seem semantically

identical except for the compass orientation. But then one may realize that I can fly eastward indefinitely, circling the globe repeatedly, but that I can fly northward only until reaching the North Pole, after which I am flying south. With respect to differences in salience, it seems clear that the concept of compass orientation is foregrounded in attention, while greatly backgrounded are the concepts of boundedness for *north* and unboundedness for *east*. Further, in addition to being backgrounded, these latter concepts seem not to be an intrinsic part of the direct lexicalized references of the morphemes, but only incidentally associated with them. First, for most local terrestrial usage today -- and certainly for the usage of past centuries before knowledge of the global earth -- *north* and *east* in fact differ only as to compass orientation and do not depend on any concept of polar terminuses, which could then be dropped from their associative ambit. Second, such polar terminuses are themselves a convention that could be otherwise. For example, geographers might have instead agreed to designate travel that starts northward along longitudes in the Western Hemisphere as remaining continuously northward around those great circles, while travel in the reverse direction would be southward. Our present understanding about longitudes and polar terminuses, therefore, appears to be a conception only incidentally associated with 'north', not necessary to it.

A second type of frame involves a set of concepts, ones within a particular structured interrelation, that coentail each other. A morpheme can be so lexicalized as to refer directly to just one portion of such a set of coentailed concepts, while treating the remainder as concepts merely associated with the direct portion. Two different morphemes can involve the same structured set of coentailed concepts, while selecting different portions of it for their direct references. The portion in the morpheme's direct reference is foregrounded relative to the associated concepts, while the associated concepts come into the midground of attention. Both Fillmore's (1976, 1982) term "frame" and Langacker's (1987) term "base" apply to such a structured set of coentailed concepts in the midground of attention. Further, Fillmore's term "highlighting" and Langacker's term "profiling" both refer to the foregrounding of one portion of the set in a morpheme's direct reference.

Morphemes of this coentailment type differ as to whether the associated concepts must be copresent with the direct reference in both space and time, in only one of these domains, or in neither. Thus, Langacker's (1987) example of *hypotenuse* does not merely entail the existence of a right triangle in the midground of attention while referring directly to a particular side of such a triangle in the foreground of attention. It also requires that the coentailed triangle be copresent with the hypotenuse in space and time, with its parts in the proper arrangement. An isolated length of line is not a hypotenuse but a *line segment*. Adapting Husserl's (1970) example, it can next be noted that, in a monogamous context, the English nouns *husband* and *wife* both evoke a married couple in the midground of

attention, while each directly refers in the foreground to one or the other member of such a pair. Here, the use of, say, *wife* does not require that the coentailed husband be copresent in space, but does require that he be copresent in time, or else the referent would not be a wife but a *widow*. Finally, Fillmore's (1976) "commercial scene" is a structured set of coentailed concepts, including a seller, a buyer, goods, money, and their transfers, that any of a number of verbs -- such as *sell, buy, spend, pay, charge, cost*-- refer to in the midground of attention, while referring directly in the foreground to a particular subset of the scene's components. Here, though, many of these components can be separated in both space and time, as seen in (YY).

(5) I bought her old banjo from her over the phone -- she'll mail it to me next week, and I'll send her a check for it after it arrives.

Factor Ac2: Degree of Category Membership

In general, when an addressee hears a morpheme, more of her attention is on the prototype member of that morpheme's referent, or on an entity with a greater degree of membership, than on a peripheral or lower-degree member (see e.g., Fillmore 1975, Lakoff 1987 for linguistic prototypes and some of their attentional correlates). Thus, on hearing the word *bird*, an American is likelier to have a robin in consciousness than an ostrich. Comparably, a prototype or higher-degree member gets more attention than the referential scope of a morpheme as a whole. Thus, if one hears *bird*, a robin is likelier to be in consciousness than the whole range of birds.

2.1.4 Polysemy Properties of the Morpheme (Ad)

Factor Ad1: size of the polysemous range of a morpheme

A concept tends to be more salient when it is expressed by a morpheme that has a smaller polysemous range and that accordingly can express fewer other concepts, than when it is expressed by a morpheme with a larger polysemous range covering more concepts. To illustrate with closed-class forms, the concept 'higher than and vertically aligned with' is expressed by both the prepositions *above* and *over* as in (YYa). But *above* can refer to relatively few other concepts, whereas *over* can express a rather larger set of other concepts, including, for example, that of 'covering a surface' as in *There is a tapestry over the wall* (see Brugman and Lakoff, 1988). It accordingly appears that the verticality sense is more prominently, clearly, and unambiguously evoked by *above* than by *over*. This difference is especially observable in a case where the context does not readily eliminate the other senses of the morpheme with the larger polysemous range, as in (YYb).

(6) a. There is a light above / over the chair.

- b. There is a poster above / over the hole in the wall.

Factor Ad2: weighting among the senses of a polysemous morpheme

The various senses of a polysemous morpheme can be differently weighted with respect to how readily they are evoked by the morpheme. That is, when a listener hears the morpheme, some of its senses may come to mind more strongly, while other senses are more obscure. Accordingly, if the target concept that a speaker wishes to convey is one of the less salient senses, it might tend to get overwhelmed by more salient senses unless the context strongly selects for the target concept. Note the difference between the present factor and factor Ab3. The present factor pertains to the salience of a whole concept when it is one sense of a morpheme, relative to the other senses. Factor Ab3 pertained to the salience of one component of a single concept relative to the remaining components of that concept.

To illustrate with open-class forms, the concept ‘the particulate material that plants grow in’ is perhaps the most salient of the senses of the noun *soil* -- certainly more salient than its sense of ‘land, country’ as in *my native soil* or of ‘farmland (as contrasted, e.g., with an urban setting)’, as in *I live on the soil*. By contrast, the target concept is less readily evoked by the noun *dirt*, which on the contrary allocates greatest salience to another of its senses, that of ‘grime’. Similarly, the target concept is relatively weak in the polysemous range of the noun *earth*, which rather accords greater salience to the sense ‘this planet’ or the sense ‘the surface land mass’, as in *It settled to earth*. Where a context clearly selects for the target concept, as in (YYa), a speaker can easily use any of the three nouns. But in an underdetermined context, as in (YYb), -- where a morpheme’s most salient sense tends to be the one that first pops into attention -- a speaker might best use the noun *soil* to evoke the target concept with minimum confusion.

- (7) a. I need to put more soil / dirt / earth in the planter.
 b. The soil / ?dirt / ?earth is slowly changing color.

2.2 Factors involving Morphology and Syntax (B)

2.2.1 Grammatical and Constructional Properties (Ba)

Factor Ba1: Positioning at Certain Sentence Locations vs. Other Locations

Each language may have certain locations within a sentence -- e.g., initial position or pre-verbal position -- that tend to foreground the referent of a constituent placed there. Such added salience usually accompanies or facilitates a further cognitive effect, such as making that referent the target of a conceptual contrast. Many properties of topic and focus, as these have been regarded in the literature,

are often engaged by such special positioning. To illustrate, a sentence like (YYa) has its constituents in their basic locations. But the initial position of the temporal referent in (YYb) foregrounds that referent and suggests a contrast: some other time would be all right. And the initial position of the Patient referent in (YYc) foregrounds *that* referent and suggests a new contrast: another kind of music would be all right.

- (8) a. I can't stand this kind of music right now.
 b. Right now I can't stand this kind of music.
 c. This kind of music I can't stand right now.

Factor Ba2: Expression in One or Another Grammatical Relation.

A cline from greater to lesser prominence tends to be associated with nominals in accordance with their grammatical relation in a sentence as follows: subject > direct object > oblique. Consider for example, the two sentences in (YY) which can refer to the same situation involving a landlord and a tenant, but which represent these two entities oppositely with subject or oblique nominals. In the referent situation, the landlord and the tenant are equally agentive. The landlord has perhaps prepared the apartment for new occupancy, advertised it, and interviewed interested parties. The tenant has perhaps checked newspaper listings, made phone calls, and visited other vacancies. But greater attention tends to be focused on the entity mentioned as subject. Associated with this attention is a greater sense that the subject entity is the main Agent, the one that is the more active and determinative in the situation, whose volition and intentions initiate and carry forward the reported action, and whose assumed supplementary activities are taken to be the relevant ones.

- (9) a. The landlord rented the apartment to the tenant.
 b. The tenant rented the apartment from the landlord.

The present factor underlies much of the Figure / Ground phenomena described in Talmy (2000a, chapter 5). It was noted there -- to take just one sector of the phenomena -- that a predicate like *be near* is not symmetrical, since a sentence like that in (YYa) is semantically distinct from the sentence in (YYb). The reason is that, in such sentences, the subject nominal and the oblique nominal have different roles, those of Figure and of Ground, respectively. The Figure is a moving or conceptually movable entity whose path, site, or orientation is conceived as a variable the particular value of which is the relevant issue. And this variable is characterized with respect to the Ground, a reference entity that has a stationary setting relative to a reference frame. These are the definitional characteristics. In addition, there are a number of typically associated characteristics, some of which pertain to attention. Thus, the Ground is more familiar and expected, while the Figure is more recently in awareness. The Figure is of greater relevance or concern than

the Ground. The Figure is less immediately perceivable than the Ground but, once perceived, it is more salient, while the Ground is less salient once the Figure is perceived. Because of the associated characteristics, a bike is a more natural Figure than a house, given everyday circumstances, hence the oddity of (YYb).

(10) a. The bike is near the house. b. ?The house is near the bike.

2.2.2 Compositional Properties (Bb)

Factor Bb1: The Composition vs. its Components

It was proposed under factor Ab2 that the overall meaning of a morpheme is more in attention than the semantic components analyzable as making it up. In a parallel way, there seems to be a general tendency for more attention to go to the meaning of the whole of a composition than to the meanings of the linguistic constituents that make it up. This tendency manifests at two levels of linguistic organization: the morphemes that make up a word, and the words that make up a phrase or clause. The tendency perhaps applies more strongly to the former of these. Thus, a speaker or hearer typically might well be more aware of the overall meaning of the form *uneventfulness* as a unified word than of the separate meanings of the four morphemes that make it up, which tend not to stand out individually. This direct observation may be corroborated by the possibility that there would be only a small difference in the contents of our consciousness if this complex word were replaced by a monomorphemic word like *calm* with roughly the same meaning (full synonymy of course being virtually impossible), -- as in a sentence like (YY).

(11) The *uneventfulness / calm* in our household that morning
was in stark contrast with the commotion of the night before.

Although less clearly so than for the word-internal case, more speaker or hearer attention seemingly tends to be on the overall meaning of a portion of discourse than on the meanings of the words and constructions that make it up. For example, the overall meaning of the sentence *Everyone there gathers in the yard to start the school day* may evoke a Gestalt conception more salient than any of the constituent word meanings -- say, 'day', 'yard', or 'school'. And this Gestalt conception may even be more salient than the sum of all the word meanings and of all the constructions that the words are in.

Factor Bb2: an idiomatic vs. a Compositional Meaning

An idiom is a linguistic form consisting of two or more morphemes in a construction, whose overall meaning is not derivable by compositional means from the meanings of the component morphemes in that construction. The present factor

holds that, once such a form has been selected by a speaker or identified by a hearer as in fact being an idiom, its overall meaning is stronger in consciousness than any compositional meaning that might otherwise be attempted for it. For example, once the *turn down* in (YYa) is determined -- in this case by the context provided by its direct object-- to be an idiom basically with the meaning 'reject', that meaning is stronger in attention than the compositional meaning 'rotate (something) in a downward direction'. For comparison, just such a compositional meaning does emerge in the context of sentence (YYb).

(12) a. I turned the offer down. b. I turned the propellor blade down.

2.3 Factors involving Forms that Set Attention Outside Themselves (C)

The attentional factors outside the present category generally involve properties of a linguistic unit that set the level of attention for that unit itself. For example, by factor Aa1, a morpheme's lexical category affects the attentional strength of its own referent. By contrast, in the factors of the present category, a certain linguistic unit sets attention for some linguistic unit or nonlinguistic phenomenon fully outside itself.

2.3.1 specific linguistic forms with an attentional effect outside themselves (Ca)

Factor Ca1: a form designating an outside referent as the object of attention

A morpheme or construction can set the level of attention on the referent of a constituent outside itself. Considering here only the case of foregrounding, an example of a simplex morpheme with this effect is the Tamil particle *-ee*, which is cliticized to the constituent whose referent it foregrounds. One of several attention-directing particles, *-ee* is mostly associated with the marking of a semantic contrast, as exemplified by the sentence in (YY), taken from Asher (1985).

(13) *avan kaaley-iley-ee va-nt-aan he morning-LOC-EMPH come-PAST-MASC*
 "He came in the **morning** (and not at some other time of day)."

Factor Ca2: a form designating a concomitant of an outside referent as the object of attention

Whereas forms under factor Ca1 set attention for the *referent* of an outside constituent, those of the present factor direct attention to attributes of an outside constituent apart from its referent. Examples of such attributes are the phonological shape of the constituent, its vocal delivery, its exact composition, and its shape-referent linkage.

In directing some attention away from the direct referring function of the

constituent -- its default function -- such forms establish a certain degree and kind of meta-linguistic awareness of the constituent.

For example, the linguistic form *be called* (compare the monomorphemic German form *heissen*) as in (YYa) directs the hearer to attend not just to the referent of the following constituent, but especially to the phonological shape of that constituent and to the linkage of that shape with that referent. By contrast, when the same constituent appears in a sentence like (YYb) without a form like *be called*, its presence has the hearer attend simply to its referent.

(14) a. This gadget is called a pie segmenter. b. Please hand me that pie segmenter.

As a further example, the current youngsters' expression *be like*, as in (YY), though often frowned on, is actually unique in English. It presents the expression that follows as an enactment of an utterance -- either an actual utterance or what likely would be the utterance if the subject's state of mind were verbalized. The particular intonation pattern and vocal tones of the expression's delivery are necessarily divergent from a neutral delivery. The form thus directs hearer attention not only to the overall referent of the utterance, but also to its style of delivery and, hence, to the affective state of the subject inferable from that style.

(YY) So then I'm like: Wow, I don't believe this!

factor Ca3: a form designating an outside entity or phenomenon as the object of attention

A form covered by factor Ca1 or Ca2 sets attention only for a *linguistic constituent* outside itself, and it indicates which constituent this is to be by its sentential positioning relative to it. A form covered by the present factor also indicates the setting of attention for something outside itself. But that something can be any entity or phenomenon within local space or time, not just another linguistic constituent. Further, the form does not directly indicate which outside entity or phenomenon is to be the object of attention through its sentential positioning. Rather, it denotes that some other mechanism is to indicate the object of attention. There is a taxonomy of such mechanisms. These include temporal proximity (combined with the relative salience of the intended object of attention), bodily movements by the speaker, and the speaker's physical manifestation. All these types are illustrated below. The category of deictics traditionally termed "demonstratives" are generally the type of forms covered by the present factor. In English the simplex forms of this sort are basically *this (these)*, *that (those)*, *here*, *there*, *yonder*, *now*, *thus*, *yea*, and stressed *he*, *she*, *they*.

For the function of singling out one entity from among others, one mechanism is

the temporal proximity of its occurrence to the moment of speaking, combined with that object's own intrinsic salience relative to the remainder of the field. This mechanism works for any sense modality. Thus, one person can say to another: *That's a cruise ship* as they both stand on a pier watching vessels sail by; *That's a fog horn* on hearing such a sound; *That's diesel fuel* on catching a whiff of its smell; or *That's the east wind* on feeling the air blowing on their skin. (

Another mechanism for singling out the speaker's intended object of attention is a bodily movement by the speaker. Though such a movement is typically viewed by the hearer, it could be felt (or in some cases even heard). With such a movement, say, a pointing finger, the object of attention can be a thing or an activity (*That's my horse / a gallop*), a region of space (*My horse was over there*), or a direction (*My horse went that way*).

Third, the speaker's own sheer bodily presence or verbal activity can function to single out a sufficiently coarse-grained component of the surround from alternatives. Thus, where the region of space around the speaker's body does not need the finer differentiation that the demonstratives described above can provide, uttering the word *here*, as in (YY), is enough to identify that region without further bodily motion.

(15) a. Pull your wagon over here. b. There are plenty of restaurants around here.

Comparably, where the temporal interval around the speaker's current act of talking needs no finer differentiation than, say, the length of a sentence, uttering the word *now*, as in (YY), is enough to identify that interval.

(16) a. The telephone is available now. b. I was sick, but I'm fine now.

On the other hand, if the interval to be singled out is shorter than the length of a sentence, a speaker can use a finer-grained temporal demonstrative mechanism. This mechanism is the counterpart of body movements for finer-grained spatial singling out. Each word in a sentence occupies a specific temporal location in the stream of time. Some point of that stream can be singled out by designating the word that is coincident with it. The means for designating the relevant word include stressing it, as well as introducing pauses and stretches in the leadup to it, as seen in (YY).

(17) a. You can save my life if you push the green button ... riiiiight ... NOW!

(adapted from Fillmore 1997)

b. The time is exactly ... 3 ... o'CLOCK!

2.3.2 context with an attentional effect outside itself (Cb)

factor Cb1: context designating one sector of a morpheme's extended reference as the object of attention

To explain the present factor, I begin by observing that there is no known principled way to distinguish what might be inside a morpheme's reference "proper" and what might be outside and only associated with it. I will use the term **extended reference** to cover this whole range (since Fillmore's (1976) term "frame" tends to suggest only external associations). In accordance with one's conceptualization of it, a morpheme's extended reference can have indefinitely many different aspects, parts, or sectors. By the process at issue here, some one or a few of these can selectively be given more attention than the remainder. The current process is driven by the morpheme's context, whether linguistic or nonlinguistic. When a morpheme occurs as a particular token in an utterance, its context may indicate the current relevance of only certain elements of the morpheme's extended reference. Such context thus largely determines where greater attention is to be located within this extended reference. This process fits under the present group of factors because the context directs attention outside itself, namely, with respect to the morpheme for which it *is* the context.

This idea is advanced in Fillmore's (1976, 1982) "frame semantics". This proposes that every morpheme is associated with a network of concepts, any of which can be invoked by a question or additional comment outside the morpheme. Thus, the English verb *write* has an associated conceptual frame. Reference to a writing implement, as in (YYa) directs greater attention to a particular aspect of that frame, namely, to the physical realization of the writing process. Reference to a language, as in (YYb), foregrounds another aspect of writing, the fact that it is always a linguistic phenomenon. And reference to a topic, as in (YYc), foregrounds attention on a third aspect of writing, that it communicates conceptual content.

(18) I wrote-- a. with a quill. b. in Russian. c. about daffodils.

Comparably, Bierwisch (1983) observed that different contexts can single out at least two different aspects of the referent of a word like *university* in a systematic way -- hence, not as different senses of a particular polysemous morpheme. Thus, attention is directed to the character of a university as a physical entity in *The university collapsed in the earthquake*, and as an institution in *He got his Ph.D. from that university*.

In a similar way, Langacker's (1984) notion of an "active zone" -- though it is not characterized in terms of differential attention -- designates the particular portion of a morpheme's extended reference that "participates most directly" in a relationship. This relationship is expressed by a morpheme or morphemes outside the affected one. For example, in *My dog bit your cat*, the outside morpheme *bit*

determines that, of the extended reference of the morpheme *dog*, the teeth and jaws are most directly involved, as well as determining that only some (unspecified) portion, and not the whole, of the cat is involved.

factor Cb2: context designating one of a morpheme's multiple senses as the object of attention

A particular morphemic shape in a language can have -- and typically does have -- a number of distinct referents, whether these are judged to be the related senses of a single morpheme's polysemous range or the separate senses of distinct homophonous morphemes. Yet, in any given portion of discourse, a hearer is usually aware of only one sense for each morphemic shape. This apparently results from two complementary operations of our linguistic cognition. One operation is to pick out the one sense of a morphemic shape that seems the most relevant in the current context and foreground this sense in attention. The selection phase of this operation is remarkable for its speed and efficiency. The second operation is to background all the remaining senses. This second operation is here termed **masking**: all but the one apparently relevant sense are masked out from attention.

The pertinent context of a morphemic shape often largely consists of other morphemic shapes around it. Hence, in processing an expression, linguistic cognition must determine the single sense within each of the assembled morphemic shapes that are contextually relevant to each other, and mask out all the remaining senses within each morpheme. Thus, the present factor can be regarded either as operating on a single morpheme at a time, a morpheme for which all the surrounding morphemes are context, or interactively on the group of morphemes as a whole, which thus forms its own "co-context". This process accordingly can be seen as yielding either a succession of sense selections, or a mutual disambiguation.

To illustrate, each of the five open-class forms in (YY) has at least the several senses listed for it.

- (19) *check*, V: a. 'ascertain' b. 'write a checkmark beside'
 c. 'inscribe with a checkerboard pattern' d. 'deposit for safekeeping' e. 'stop'
market, N: a. 'outdoor area of vendors selling food'
 b. 'store for selling food' c. 'institution for financial exchange'
figure, N: a. 'shape' b. 'diagram' c. 'personage' d. 'number'
stock, N: a. 'soup base' b. 'stored supply' c. 'rifle part' d. 'line of descendants',
 e. 'farm animals' f. 'fragrant flowered plant species' g. 'financial instrument'
down, A: a. 'closer to earth's center' b. 'reduced' c. 'recorded' d. 'glum'

But when these five forms are combined as in (YY), by the operation of the

present factor, the hearer typically settles swiftly on one sense for each form. In this example, the likeliest selection -- especially in an otherwise financial context -- is of the 'ascertain' (a) sense of *check*; the 'financial exchange' (c) sense of *market*; the 'number' (d) sense of *figure*; the 'financial instrument' (g) sense of *stock*; and the 'reduced' (b) sense of *down*.

(20) I checked the market figures -- my stock is down.

2.4 Phonological Factors (D)

This category of factors covers all phonological properties within an utterance, including those of individual morphemes (not covered in the first category). For reasons of space, only one subcategory is presented.

2.4.1 phonological properties of intrinsic morphemic shape (Da)

Factor Da1: morpheme length.

The phonological length of a morpheme or word tends to correlate with the degree of salience that attaches to its referent. One venue in which this correlation is evident is where basically the same concept is expressed by morphemes or words of different lengths. Here, a longer form attracts more attention to the concept, while a shorter form attracts less attention. Thus, roughly the same adversative meaning is expressed by the English conjunctions *nevertheless* and *but*. Despite this, apparently the greater phonological length of *nevertheless* correlates with its fully imposing and prominent effect on narrative structure, while the brevity of *but* correlates with its light backgrounded touch, as in (YY).

(YY) They promised they would contact me. Nevertheless / But they never called back.

factor Da2: phonological similarity to other morphemes in the lexicon

The phonological shape of an uttered morpheme may tend to activate other morphemes in the language's lexicon that sound similar. Here, "activate" means to raise or to potentiate a rise in attention. This effect can be desirable where the activated morphemes enhance the communicative intention, or undesirable if they detract from it. To illustrate the desirable case, a new product name like *Nyquil* for a medication to aid sleep was presumably coined because it phonologically suggests the words *night* and *tranquil*, whose meanings suit the product's intended image. And undesirable associations may have motivated people who used to stress the second syllable of *Uranus* and *harass* to switch to stressing the first syllable.

2.5 Factors involving Properties of the Referent (E)

All the factors in this chapter outside those in the present group raise or lower attention on an object *regardless* of its identity or content. The present factors raise or lower attention on an object *because* of the identity or content of that object.

Factor E1: referential divergence from norms

A referent's divergence from certain norms tends to

foreground it. Such norms, and deviations from them, include: ordinariness vs. unusualness; neutral affect vs. affective intensity; and genericness vs. specificity.

To illustrate, relative to cultural and other experiential norms, a more unusual referent tends to attract greater attention than a more ordinary referent, as the referent of *hop* does relative to that of *walk*, as in (YYa). Similarly, a referent with greater affective intensity tends to evoke greater attention than one with lesser intensity, as the referent of *scream* does relative to that of *shout*, as in (YYb). And a more specific referent tends to attract greater attention than a more general referent, as the referent of *drown* does relative to that of *die*, as seen in (YYc).

(YY) a. He hopped / walked to the store.

b. She screamed / shouted to him.

c. He drowned / died.

Factor E2: Direct reference to attention in the Addressee

All the other factors presented in this chapter exert their effect on the hearer's attention by acting directly on the cognitive mechanisms in the hearer that automatically direct and set attention with respect to some element within his experiential field. For example, heavy stress on a form automatically engages the hearer's attention on the referent of the form. Only the present factor explicitly refers to the dimension of attention itself and to some value along it, and prescribes how the hearer is to direct and set her attention. The effectiveness of this factor relies not on the triggering of automatic cognitive mechanisms, but on a further cognitive mechanism in the hearer, one that is under his conscious control and that can affect the directing and setting of attention deliberately.

*Simply as part of their basic meaning, many predicative morphemes refer to higher or lower attention in the sentient referent of their subject NP, as in *I paid attention to / ignored what he said*, as well as in the sentient referent of their object or other complement, as in *I alerted her to the risk*. When such morphemes are used as directives to the addressee -- for example, in (active or passive) imperative, hortative, or modal forms -- they directly call on the hearer to*

allocate either more or less attention to an indicated entity, as seen in (YYa) and (YYb) respectively.

- (21) a. Pay attention to the movie!
 Be alerted that this is only a copy of the original painting.
 You should note their sincerity.
 b. Nevermind what I said!
 Disregard their appearance.

2.6 Factors involving the relation between reference and its representation (F)

There appears to be a general attentional bias in language users toward content over form. The hearer typically attends to what the speaker means or can be inferred to mean, more than to what the speaker has actually said in order to represent this meaning. The hearer even strains against distractions to stay attuned to the speaker's meaning, though as they increase, such distractions can garner progressively more of the hearer's attention.

Factor F1: The reference vs. its representation

The present factor captures what appears to be a general and default attentional tendency for both speaker and hearer: More attention goes to the concept expressed by a linguistic form than to the shape of that form. That is, a form's reference is more salient than how the form is constituted as a representation. This holds for forms ranging from a single morpheme to an expression (or to an extended discourse, for that matter). For example, at the single morpheme level, if a wife says (YYa) to her husband, the occurrence of the morpheme *sick* is likely to direct the husband's attention more to its referent 'sickness' than to its phonological representation consisting of the sound sequence [s] - [ɪ] - [k]. This same phonological point can be made at the level of the whole expression in (YYa). In addition, though, if the "representation" of an expression as covered by the present factor can be taken also to include the particular words and constructions selected to constitute the expression, a further observation follows. The husband in this example is later more likely to remember the general reference of the sentence than its specific wording. Thus, he might well be able to recall that his wife telephonically learned from her sister of her illness earlier that day, but he might not be able to recall whether this conception was represented, say, by (YYa), (YYb), or (YYc) (here, knowing that "Judy" is her sister's name). If the pattern of memory of an event correlates at least in part with the pattern of attention on an event during its occurrence, then findings like the present type would be evidence for greater attention on a reference than on its representation.

- (22) a. My sister called and said she was very sick this morning.

- b. My sister called this morning to tell me that she was feeling really sick.
- c. Judy said she was very ill when she called today.

Factor F2: Intended vs. actual reference and representation

A speaker's actual linguistic expression often poorly represents the conceptual complex that he had intended to express. It can even literally represent a somewhat different complex. Using background and contextual knowledge, a hearer in this circumstance can often infer the conceptual complex that the speaker had intended to express. She can also infer the well-formed linguistic expression that might have best represented that complex. By the present factor, the hearer's attention tends to go more to the speaker's inferably intended reference and its presumed well-formed representation. It tends to go less to the speaker's actual representation and its literal reference.

As noted, a speaker's actual expression can literally represent a conception somewhat different from the inferably intended one. In one type of this phenomenon, the speaker uses a form whose referent does not correspond to the surrounding physical context, as in (YYa and b) (both constructed examples). Here, in processing the discrepancy, the hearer generally infers that the speaker must have meant to refer to the actual elements of the situation, and so attends more to that probably intended reference than to the expressed one. Here, as in all the following examples, the hearer might not even notice the flawed reference, and be aware only of the likely intended reference.

- (23) a. How can you stand there and tell me you have no time?!
- <said to someone sitting>
- b. Here, hand this to the baby.
- <passing spoon of applesauce to spouse to feed to baby>

In another type of misrepresentation, words with the appropriate referents are present but in the wrong locations in the expression, as in the case of the lexical spoonerism in (YYa) (an overheard example). Here, the hearer notices a conflict between the literal reference and his background knowledge of conceptual complexes that are more frequent or make more sense. He infers that the latter was the speaker's intended reference and attends more to that than to the literal reference.

(en+f) Students believe that every solution has a problem.

Other cases involve poor, rather than literally incorrect, representation. In one such type, the speaker talks around a forgotten term. Thus, the speaker of (YY) (heard on radio) presumably would have wanted to say *Haven't those negotiations been overtaken by events*, but was momentarily unable to retrieve the

predicate expression and so, through several false starts, found another way to convey roughly the same idea. Perhaps most hearers did not notice the false starts and circumlocution, but attentionally honed to the concept the speaker aimed to express.

(24) Haven't those negotiations [pause] sort of passed by events, [pause]
-- aren't they outdated?

Factor F3: degree of deviation by the actual representation from the intended one

For each way that a speaker's expression can deviate from a presumed intended one, there may be a certain approximate "grace" degree of divergence that would typically attract virtually no attention from the hearer. Beyond that grace amount, though, it would seem that the greater the degree of deviation, the greater the hearer's attention on the presence of the deviation, as well as on its shape and perhaps also on its referent. For example, a generous grace deviation seems to be accorded to such discourse phenomena as self-correction, overlap, incompleteness, and low specificity -- the kinds of characteristics that stand out in a linguistic transcription of a conversation but that are barely noticed by the interlocutors. On the other hand, some deviations can attract strong attention. Examples might be a speaker's addressing her interlocutor by the wrong name, or using an inappropriate marker along the familiarity-formality scale in a language that has such forms.

2.7 factors involving the occurrence of representation (G)

2.7.1 the inclusion of representation (Ga)

Factor Ga1: presence vs. absence of Explicit representation.

By the present factor, the presence within discourse of overt linguistic forms explicitly referring to a concept foregrounds the concept. And the absence of forms referring to a concept that might otherwise be represented backgrounds that concept. This is the factor underlying the whole of the "windowing of attention" analysis in Talmy (2000a, chapter 4).

As background for the present factor, a speaker in communicating can have a certain conceptual complex that she wants to cause to become replicated in the addressee's cognition. The conceptual complex is typically too rich to capture in full scope and detail in a brief enough interval for any cognitively feasible system of representation. For this problem, one of the solutions that seems to have emerged in the evolution of language is a cognitive process of **abstractive representation**. By this process, the speaker selects only a subset out of the multiplicity of aspects in her more extensive conceptual complex for explicit representation by the linguistic elements of her utterance. By a complementary cognitive

process of **reconstitution**, the hearer then uses this partial explicit representation to reconstitute or "flesh out" a replete conceptual complex sufficiently close to the original one in the speaker. In this reconstitution process, the hearer must assume or infer the nonexplicit material, mostly through contextual or background knowledge.

To illustrate, consider the case in which I am a guest in the house of a host, we are both sitting near an open window, and I am feeling cold. Here, my extended conceptual complex includes general background knowledge, for example, physical knowledge, such as that air is typically colder outside a house than inside and can enter through an aperture; psychological knowledge, such as that a person can feel uncomfortable from contact with colder air; and socio-cultural knowledge, such as that a guest typically does not act directly on the property of a host other than that assigned for his use.

As noted, even just this most immediately relevant conceptual complex cannot be explicitly represented briefly by language. Instead, by the principle of abstractive representation, I must select a subset of concepts in the complex for overt expression, for example, by saying (YY). My host will then reconstitute much of the remainder of my conceptual complex.

(25) Could you please close the window?

Where the present factor comes in is that the selection of concepts for explicit expression is not an attentionally neutral act, but rather one that foregrounds the selected concepts relative to those in the conceptual complex remaining unexpressed. Moreover, the explicitly represented concepts tend to determine the center of a gradient of attention: greatest at the explicitly represented concepts, less over the remaining concepts within the conceptual complex, and radially decreasing over the rest of one's skein of knowledge. Thus, my utterance will tend to direct my host's attention most on the window and its closing; somewhat less on the likelihood of my feeling cold or on her need to get up from where she is sitting to walk over to the window; and quite little on how her window compares with other window designs.

Factor Ga2: The occurrent reference instead of alternatives

The process of abstractive representation under factor Ga1 has a corollary. A speaker can generally choose a number of different subsets of aspects from the original conceptual complex, and each of these alternative subsets could be used equally well by the hearer to flesh out something like the original complex. This is a foundational property of language that was termed **conceptual alternativity** in Talmy (2000a, Chapter 3). Nevertheless, such alternatives of expression are not attentionally equivalent. Where one expression explicitly represents one set of

concepts, leaving the hearer to infer the remaining concepts, another expression would directly express some of the previously inferred concepts, while leaving to inference some concepts previously expressed overtly. Since overtly expressed concepts tend to attract more attention than concepts only inferred, the speaker's choice of one expression among alternatives ends up as a linguistic device for attention setting.

Thus, in the guest-host situation cited above, instead of saying (YYa), I as guest could alternatively have said (YYb) to my host. These two sentences select different subsets of aspects out of my extended conceptual complex. In fact, they do not share a single morpheme. But, given her largely comparable contextual and background knowledge, the addressee is likely to reconstruct roughly the same conceptual complex from one sentence as from the other and, indeed, roughly the same one as my own original conceptual complex. Nevertheless, the two reconstructions are not identical since, among other things, the choice in the first sentence to refer to window-closing foregrounds that aspect of the situation, leaving the addressee to infer the backgrounded elements, such as that I am feeling cold, while the second sentence's choice of referring to temperature now foregrounds that aspect, while leaving it to the host to infer the backgrounded notions, such as that she will need to close the window. In addition, the associated radial gradient of attention shifts its center, and hence its penumbra. The speaker choice of referring to window-closing might secondarily raise in salience, say, the path that the host must take to the window, while the choice of referring to the chilliness might secondarily foreground concern over catching cold.

(26) a. Could you please close the window? b. It's a bit chilly in here.

2.7.2 the availability of representation (Gb)

Factor Gb1: presence vs. absence in the Lexicon of a morpheme for a particular concept

It may prove out that the occurrence of a morpheme, one that represents a particular concept, in the lexicon of a speaker's language potentiates speaker attention on that concept. There is of course no need to have monomorphemic representation of some concept for a speaker to be able to attend to that concept. Most concepts, after all, are represented compositionally. Nevertheless, the presence in the speaker's lexicon of a morpheme that represents a certain concept may facilitate that concept's appearance in the speaker's consciousness. For example, the concept 'a warm glow of pleasure from innocent pride in a close kin's (or one's own) accomplishment' *can* occur in the thought of an English speaker, but it is likelier to do so in the thought of a speaker of Yiddish, whose lexicon includes a morpheme for this concept, *nakhes*.

2.8 Factors involving properties of temporal progression (H)

2.8.1 the recency of representation (Ha)

factor Ha1: current vs. prior forms

One aspect of a hearer's attention, it seems, tends to be more on the linguistic forms currently being uttered by the speaker than on previously uttered forms. One function of this aspect of attention, perhaps in conjunction with working memory, might be to abet the hearer's processing of the forms, including double-checks on the identity of the forms, a first-level sorting of their content, and relating them to what had just preceded.

Optimally, it seems, a hearer's attentional capacity can concurrently cover -- or can switch fast enough among -- various aspects of the speaker's discourse. Such aspects can include the currently uttered forms, the significance of previously uttered forms, and the overall conceptual model that the discourse is progressively building up. But these various calls on the hearer's attentional capacity can at times conflict. Thus, if a hearer allocates too much attention, say, to the import of a previously uttered portion of discourse, he may miss aspects of the currently uttered portion.

factor Ha2: recency of last reference or occurrence

Under the present factor, the more recently a phenomenon has been referred to or has occurred, the more hearer attention that remains on that phenomenon or the more readily that her attention can be directed back to it. This factor corresponds to the "referential distance" component within the "referential accessibility" described by Givon (1990). He observes that, as the recency of a referent lessens, a speaker refers back to it by selecting a type of linguistic form located progressively further along a certain hierarchy, from a zero form through an unstressed pro-form through a stressed pro-form to a full lexical form. Although treatment of this behavior in the functionalist discourse tradition has seemingly dealt only with the case of prior linguistic reference to a phenomenon, we note that the non-linguistic occurrence of a phenomenon evokes the same reflex. For example, let us say you are visiting me in my office and a man enters, says a few words to me, and leaves. I can refer to that man using a pronoun if I speak to you within a few minutes after his departure, saying for example, *He's the director of our lab*. But after a while, I would need to use a full lexical phrase, as in *That man who came in and spoke to me was the director of our lab*.

3. Attentional Effects resulting from Combining Factors

When the basic attentional factors combine and interact, the further attentional

effects that result include incremental gradation, convergence, and conflict.

3.1 Gradation in strength of Attention through Factor Combination

Factors can be incrementally added to produce a gradation in the degree of attention directed to some particular linguistic entity. To illustrate, this linguistic entity can be the concept of ‘agency’. Attention on agency incrementally increases by the successive addition of factors in the following series of otherwise comparable sentences. These sentences are all taken to refer to the same scene in which a group of diners -- the agents -- hand a goblet of wine from one to another as they sit around a banquet table. In (YYa), a minimal backgrounded sense of agency is pragmatically inferable from the context (factor Ga1), though not specifically represented by the linguistic forms themselves. Agency is slightly more salient in (YYb), where the intransitive verb *pass* includes indirect reference to an agent within its lexicalization (factor Ab3). Still more attention is on agency in (YYc), whose passive syntax (in construction with a now transitive verb *pass*) directly represents the presence of an agent (factor Ba4 [not included above]). A sharp rise in attention on the agent occurs when it is explicitly referred to by an overt pronoun (factor Ga1), the oblique *them* in (YYd). The agency is further foregrounded by the occurrence of this pronoun as subject in initial position (factors Ba1 and Ba2) in (YYe). And finally, replacement of the pronoun by a full lexical noun (factor Aa1), as in (YYf), foregrounds the Agent to the greatest degree.

- (27) a. The goblet slowly went around the banquet table.
 b. The goblet slowly passed around the banquet table.
 c. The goblet was slowly passed around the banquet table.
 d. The goblet was slowly passed around the banquet table by them.
 e. They slowly passed the goblet around the banquet table.
 f. The diners slowly passed the goblet around the banquet table.

3.2 Reinforcement of an attentional pattern through Factor Convergence

Several factors can converge on the same linguistic entity to reinforce a particular level of salience, making it especially high or especially low. The grammar of a language is often so organized as to facilitate certain convergences. Thus, as seen in the final example sentence of the preceding series, (YYf), English regularly foregrounds the concept of agency strongly through the convergence of all the following factor values: explicit representation (Ga1) by an open-class nominal (Aa1) in initial sentence position (Ba1) as grammatical subject (Ba2) of a verb lexicalized to apply to an Agent subject (Ab3).

3.3 Attentional Resultants of Factor Conflict

Two factors can conflict in their attentional effects, with the resolution usually

either that one factor overrides the other, or that they are in competition, with the hearer's attention divided or wavering between the two claims on it. For an example of override, consider the sentence in (YYa). Here, the concept of 'aircraft' is relatively foregrounded in the constituent *plane* through the convergence of four factors. It is expressed in the lexical category highest on the attentional hierarchy, a noun (Aa1); it is the sole concept expressed in its morpheme (Ab1); it is in the prominent sentence-final position (Ba1); and it receives the heavy stress standard for such a final constituent (Dc4). By contrast, the same concept of 'aircraft' is relatively backgrounded within the constituent *flew* in (YYb). It is backgrounded there through the same four factors: it appears in a lexical category lower on the attentional hierarchy, a verb; it is joined there by other concepts, namely, 'go' and 'by means of'; it is in a sentence position non-prominent in English; and it receives the relatively low stress of that position. Accordingly, an English speaker may tend to hear this latter sentence as mainly conveying the fact of the journey per se to Key West, and as including the idea of aeronautic means only as incidental background information. However, the further application of extra heavy stress (factor Db1) to the verb, as in (YYc), now undoes the backgrounding effects of the four convergent factors. It overrides them and forces the foregrounding of the 'aircraft' concept.

- (28) a. I went to Key West last month by plane.
 b. I *flew* to Key West last month.
 c. I **FLEW** to Key West last month.

In the competition type of conflict, each of two or more factors calls on the hearer's limited attentional capacity for its own target, with the consequence that one or more of the targets receives less attention than it needs for adequate processing. For example, factor Ha1 calls on the hearer to allocate enough attention to the speaker's currently uttered forms for them to be processed in working memory. But if the speaker had just previously uttered an ill-formed sentence, factor F3 calls on the hearer to allocate enough attention to the discrepancy to puzzle out what the speaker might have intended to say. The hearer may not have enough attentional capacity to act on both factors adequately at the same time. The hearer might attend to the current words and leave the earlier undecipherable discourse unresolved, or may work on the prior discourse while missing what is now being said, or may allocate some attention to each task, performing neither of them well.

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