

Investigations in Cognitive Grammar



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by

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To David and Sharon

Preface

In its general outline, Cognitive Grammar (CG) has been in existence for roughly three decades. Over this span of time it has not changed in any fundamental way. It has of course been subject to refinement and elaboration. Still, its continued evolution has mostly been a matter of working out the specifics of its application to varied linguistic phenomena. In a symbolic account of grammar, the key problem is to characterize the semantic structures it incorporates and serves to express. Progress in CG has therefore come about primarily through detailed conceptual analysis in numerous domains, requiring no substantial modification of the basic descriptive framework.

Reports of this progress are scattered in many venues often not readily accessible. The need to make them easily available was accommodated by two previous volumes in this series (Langacker 1990a, 1999a) and has now resulted in a third. The present volume brings together a dozen innovative papers reflecting recent work. Although they were first written independently, and pertain to diverse topics, they have been revised and integrated to form a coherent whole. And while they deal with important grammatical problems in considerable depth and analytical detail, the presentation builds from fundamentals and introduces the background needed for comprehension.

One source of the volume's coherence is that a number of overlapping topics are examined in multiple chapters viewing them from different perspectives and in relation to one another. Among the topics covered in this fashion are grammatical constructions (their general nature, their metonymic basis, their role in grammaticization), nominal grounding (quantifiers, possessives, impersonal *it*), clausal grounding (its relation to nominal grounding, an episodic account of tense, a systemic view of the English auxiliary), the "control cycle" (an abstract cognitive model with many linguistic manifestations), finite clauses (their internal structure and external grammar), and complex sentences (complementation, subordination, coordination). Though necessarily selective, the book thus provides a reasonably comprehensive survey of current research in CG and gives some indication of its future directions.

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Chapter 1

Constructions in Cognitive Grammar

1. Architecture

More than one linguistic theorist has voiced the opinion that cognitive linguists, including myself, fail to recognize the existence of grammar. That is simply false. The question is not whether grammar exists – for it does – but rather, what is it like? Cognitive Grammar (CG) diverges from standard assumptions in two fundamental respects: (i) its claim that grammar is symbolic in nature; and (ii) its focus on constructions (rather than “rules”) as the primary objects of description (Langacker 1987a, 1990a, 1991, 1999a).

The first claim denies the autonomy of syntax. Crucially, though, we need to distinguish between two definitions of autonomy that have often been confused. By the first definition, syntax (and more generally, grammar) is autonomous unless it is fully predictable in terms of meaning and other independent factors. Let us call this **weak autonomy**. It implies that grammar does not just “fall out” or emerge automatically from other phenomena. Rather, it has to be specifically learned by children and explicitly described by linguists. Observe that weak autonomy says nothing about the nature of grammatical structure, bearing only on its non-predictability. The second definition says that grammar is autonomous by virtue of being distinct from both lexicon and semantics, constituting a separate level of representation whose description requires a special set of irreducible grammatical primitives. Let us call this **strong autonomy**.

All cognitive linguists accept weak autonomy. Grammar exists and has to be described as such. Only its nature and proper characterization are at issue. The basic claims of CG presuppose weak autonomy but constitute a radical alternative to strong autonomy. For one thing, CG holds that lexicon, morphology, and syntax form a continuum, divided only arbitrarily into discrete components. Moreover, it claims that lexicon and grammar are fully describable as **assemblies of symbolic structures**, where a symbolic structure is simply the pairing between a semantic structure and a phonological structure (its semantic and phonological **poles**). This has several consequences. First, grammar is not distinct from semantics, but rather incorporates semantics as one of its two poles. Second, grammatical description does not rely on special, irreducible grammatical primitives, but only on symbolic structures, each reducible to a

form-meaning pairing. Third, every construct validly posited in grammatical description has a semantic pole and is therefore meaningful (though the meanings are often quite schematic).

Like Construction Grammar, CG takes constructions, rather than “rules”, to be the primary objects of grammatical description (Fillmore 1988; Fillmore, Kay, and O’Connor 1988; Goldberg 1995; Croft 2001; cf. Langacker 2005c). Grammar comprises regularities of varying degrees of generality – patterns that speakers internalize and that linguists need to discover and describe. What are these patterns like, and how can we best describe them? Three kinds of devices have commonly been employed in linguistic description: rules, filters, and schemas. These imply different kinds of relationships between specific expressions (e.g. sentences) and the patterns they manifest.

By **rules**, I mean constructive rules analogous to the phrase structure rules and transformations of classic generative syntax. What is important here is the notion that rules and expressions are quite different in nature and related only indirectly. It is only required that, through their cumulative application, some set of rules serve collectively to “construct” a given expression. Rules do not necessarily resemble the expressions they help derive. **Filters** are negative statements indicating that a particular configuration of elements is not permitted. By definition, filters are distinct from the expressions they help describe. **Schemas** bear the closest relation to expressions. They are templates for expressions, representing the abstracted commonality of sets of expressions parallel in certain respects. Schemas are thus directly analogous to the expressions they characterize apart from their level of specificity.

In CG, grammatical patterns are represented by means of schemas. A **construction** is defined as either an expression (of any size), or else a schema abstracted from expressions to capture their commonality (at any level of specificity). Expressions and the patterns they instantiate are thus the same in their basic nature, differing only in degree of specificity. Both specific expressions and abstracted schemas are capable of being entrenched psychologically and conventionalized in a speech community, in which case they constitute established **linguistic units**. Specific expressions with the status of units are traditionally recognized as lexical items. More schematic units correspond to what is traditionally regarded as grammar. The difference, though, is a matter of degree, and in CG these form a continuum. Every construction – whether lexical or grammatical – is characterized as an assembly of symbolic structures.

CG is highly restrictive owing to the **content requirement**. The elements permitted in a linguistic description are limited to: (i) semantic, phonological, and symbolic structures that actually occur as (parts of) expressions; (ii)

schematizations of permitted structures; and (iii) categorizing relationships between permitted structures. Thus the only elements ascribable to a linguistic system are those which are either part of the primary data (namely, occurring expressions), hence directly apprehended, or else emerge from the primary data by means of the basic psychological phenomena of schematization and categorization. Ruled out by the content requirement are such elements as filters, purely syntactic primitives (with neither semantic nor phonological content), and derivations from underlying structures.

Let us then consider what the content requirement does permit. Permitted first, as shown in Figure 1.1, are semantic structures (abbreviated S) and phonological structures (P). These can be of any size and any degree of internal complexity. A symbolic structure (Σ) consists in the linkage of a semantic and a phonological structure (its two poles). Symbolic structures combine with one another (in ways to be discussed) to form assemblies of symbolic structures, which can also be of any size and any degree of internal complexity. When these assemblies are specific (rather than schematic), they constitute expressions (E), such as words, phrases, clauses, etc.¹

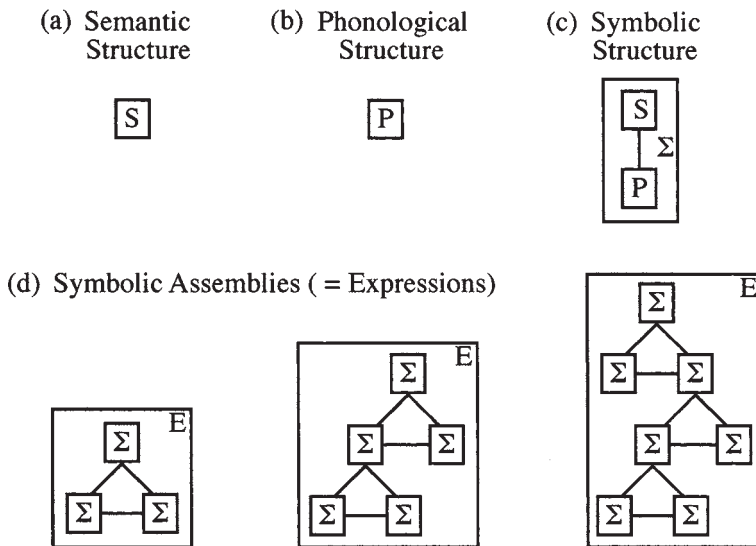


Figure 1.1

1 When those expressions are entrenched and conventionalized, they are recognized as lexical items.

Permitted next, as shown in Figure 1.2, are schemas (Sch). Each represents the abstracted commonality observable in sets of occurring expressions, or in schemas previously extracted. Schematization can be carried to whatever level of abstraction the data supports.

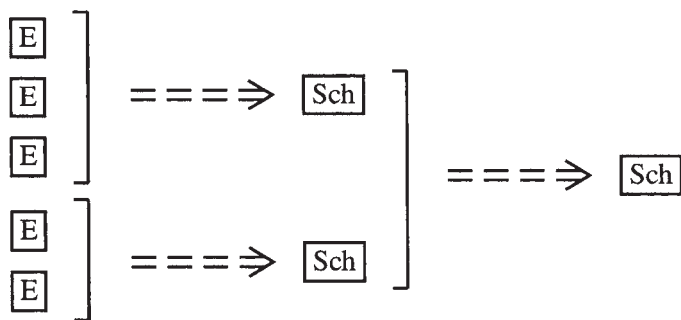


Figure 1.2

Also permitted are relationships of categorization, of which there are two basic sorts, described in Figure 1.3. One sort is the relation between a schema and more specific structures in which the schema is immanent (i.e. observable without distortion). These more specific structures thus elaborate (or instantiate) the schema. For this I use a solid arrow. A dashed arrow represents extension, implying some conflict between the categorizing structure and the one it categorizes. In this case the categorizing structure can be regarded as a prototype (at least in local terms).



Figure 1.3

A linguistic system thus comprises vast networks of structures linked by categorizing relationships, as sketched in Figure 1.4(a). Included in such networks are specific expressions with the status of conventional units, as well as schemas representing various levels of abstraction (or schematicity). Of course, a particular expression – whether fixed or novel – is categorized simultaneously by many schemas, each corresponding to a particular facet of its structure. Collectively, the set of schemas which categorize it constitutes its structural description (i.e. its interpretation with respect to the linguistic system), as shown

in Figure 1.4(b). The expression is well-formed (or “grammatical”) to the extent that these categorizations involve elaboration rather than extension.

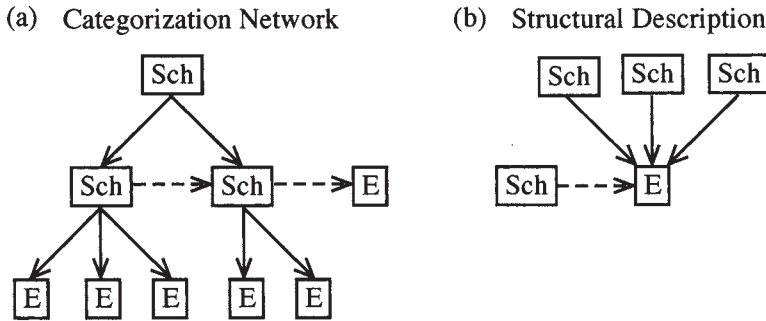


Figure 1.4

In this framework, grammatical patterns are captured by **constructional schemas**, i.e. schematic symbolic assemblies (Langacker 1987a: ch. 10, 1988a, 2000). A constructional schema describes, in schematic terms, how simpler expressions combine to form a more complex expression. It can therefore function as a template guiding the formation of new expressions, and also serves to categorize the relevant facets of such expressions, as shown in Figure 1.5.

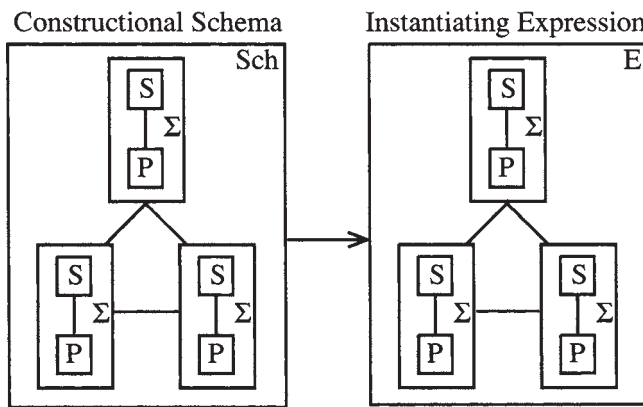


Figure 1.5

Why does grammar exist? There would be no need for grammatical patterns if a minimal symbolic structure (i.e. a morpheme) were available to symbolize every notion we might have occasion to express. That of course is not feasi-

ble because conceptualization is so flexible and open-ended. Grammar allows the formation of symbolically complex expressions capable of evoking novel conceptions of any degree of complexity. It does so by means of constructional schemas. Each such schema is a pattern for combining simpler symbolic structures to form more complex ones. As such, it specifies how their component elements are semantically integrated, and how they are phonologically integrated to symbolize their semantic integration. Consequently, patterns of semantic composition can be identified as the semantic poles of constructional schemas. Semantic composition is not distinct from grammar, but constitutes the semantic pole of grammar (just as lexical meanings are not distinct from lexical items, but constitute their semantic poles). These patterns of semantic composition do not completely determine the meanings of complex expressions (Langacker 2003b). Here, though, I will concentrate on grammatical constructions and the compositional aspects of linguistic meaning captured by constructional schemas.

2. Basic semantic notions

To describe in detail the CG view of grammatical constructions, I must first introduce some basic notions pertaining to semantic structure. In cognitive semantics, meaning is identified with conceptualization, in the broadest sense. Pivotal to linguistic semantics is our ability to **construe** the same situation in alternate ways (Langacker 1993a). Among the dimensions of construal are the level of specificity at which a situation is characterized, the perspective adopted for “viewing” it, and the degree of prominence conferred on the elements within it.

By **specificity** (or conversely, **schematicity**) I mean the level of precision and detail at which a situation is characterized (how coarse-grained or fine-grained). This can be exemplified by an expression hierarchy like that in (1). Under appropriate circumstances, the same entity might be designated by any of these expressions.

- (1) *thing* → *object* → *vehicle* → *truck* → *pick-up truck* → *battered old pick-up truck*

Perspective is multifaceted. Two of its facets are vantage point, illustrated by the contrast in (2), and direction of mental scanning, exemplified in (3). Sentence (2)a construes the situation as being seen from a vantage point in the attic, (2)b from a vantage point down below. The sentences in (3) describe precisely the same situation. They contrast semantically by inducing us to

mentally scan through the scene in opposite directions in building up to its full conception.

- (2) a. *Come on up into the attic!*
 b. *Go on up into the attic!*
- (3) a. *From home plate to the pitcher's mound, the grass has all been worn away.*
 b. *From the pitcher's mound to home plate, the grass has all been worn away.*

There are many kinds of prominence that need to be distinguished. Only two concern us directly, namely **profiling** and **trajector/landmark** organization. Each is strongly motivated in purely semantic terms, and subsequently proves essential for describing grammar (cf. Langacker 1993b, 1999c).

Every expression evokes some conception – simple or complex – as the basis for its meaning. Within its conceptual **base**, an expression singles out a particular substructure as a kind of focus of attention. This substructure, called the **profile**, is the one the expression designates (its conceptual referent). For example, as sketched in Figure 1.6(a), the word *arc* evokes as its base the conception of a circle, within which it profiles any segment.² The base for *roof* is the conception of a house, within which it profiles the upper part that covers it. Two expressions can have exactly the same base yet differ in meaning because of the alternate profiles they impose on it. For instance, *husband* and *wife* both evoke as their base the conception of a male (M) and a female (F) linked in a relationship of marriage (represented by double lines). The semantic contrast between them is not a matter of conceptual content, but rather one of prominence, the choice of profile.

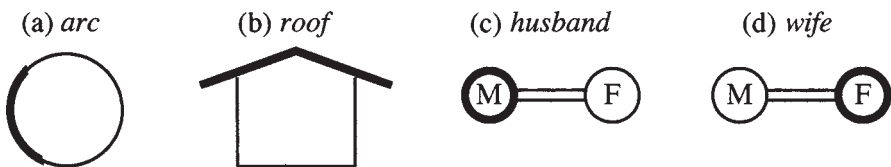


Figure 1.6

Crucially, an expression can profile either a **thing** or a **relationship**. Both notions are defined quite abstractly (Langacker 1987b). Here I can merely note

² Observe that heavy lines indicate profiling.

that things are not limited to objects or physical entities, and a relationship does not necessarily involve multiple participants. The expressions in Figure 1.6 profile things. Some examples of profiled relationships are given in Figure 1.7. As abbreviatory notations, I often employ circles or ellipses to represent things, and various kinds of lines or arrows for relationships. Note further that, because the conception of a relationship presupposes and incorporates the conception of its core participants, those participants are part of the profiled relation and are thus depicted with heavy lines.

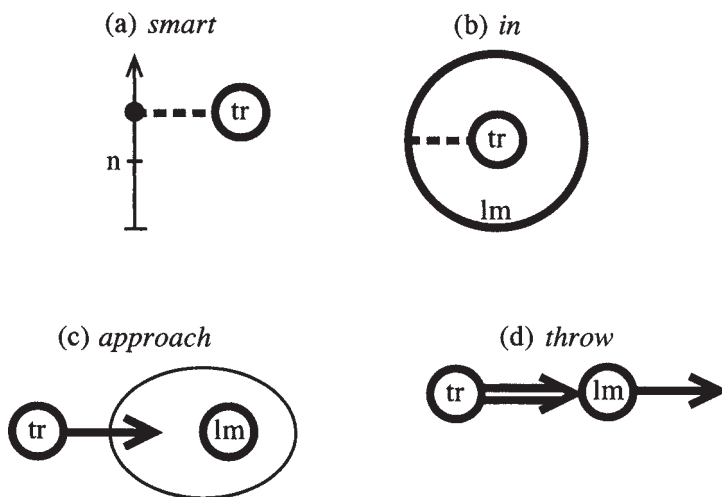


Figure 1.7

The adjective *smart* exemplifies a one-participant relation. The profiled relationship consists of this participant (shown as a circle, since a person is a kind of thing) being situated beyond the norm (*n*) on a scale of intelligence. Prototypically, the preposition *in* profiles a two-participant relationship of spatial inclusion (but cf. Vandeloise 1991, ch: 13). The verb *approach* profiles an event in which one participant moves (single arrow) toward the other without reaching it, but does arrive in its neighborhood (given as an ellipse). In the case of *throw*, one participant exerts force (double arrow) on the other, causing it to move rapidly along an extended trajectory.

With expressions that profile relationships, a second kind of prominence comes into play. It consists in the degree of prominence conferred on the participants in the profiled relation. There is generally a **primary focal participant**, called the **trajector** (*tr*). This is the participant the expression is concerned with locating or characterizing. Often there is also a **secondary focal**

participant, called a **landmark** (lm). Metaphorically, we can think in terms of primary and secondary spotlights, which can be directed at different elements within the scene onstage. Trajector and landmark can also be characterized as primary and secondary figures within the profiled relationship (Langacker 1999c, 2001a).

Relational expressions that evoke essentially the same content for their base can nonetheless differ in meaning by virtue of their profiles and/or their trajector/landmark alignment. A well-known example is the contrast between *like* and *please*. For both, we can posit a conceptual base involving two participants, with the roles of stimulus and experiencer, which interact as shown in Figure 1.8. The stimulus somehow impinges on the experiencer, who perceives or apprehends it and has a positive (+) affective reaction. The verb *like* describes the experiencer's role in this interaction, so the experiencer functions as trajector, whereas *please* focuses the stimulus. Focusing one or the other participant naturally serves to highlight those aspects of the overall relationship it is responsible for. Consequently, the profile of *like* saliently includes the experiencer's apprehension of the stimulus, while that of *please* centers on the latter's stimulation of the former.

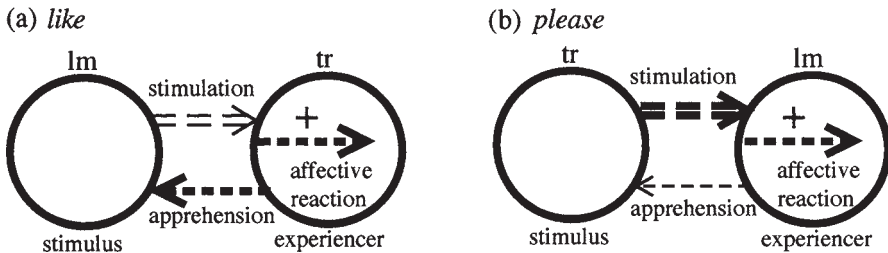


Figure 1.8

The constructs profile, trajector, and landmark are justified for purposes of semantic description but also prove essential to grammar. An expression's profile – not its overall conceptual content – is what determines its grammatical category. For instance, a noun profiles a thing, as in Figure 1.6. Such classes as verbs, adjectives, adverbs, and prepositions profile various sorts of relationships. A verb designates a **process**, defined as a relationship followed in its evolution through time. The other classes mentioned profile relationships that are **non-processual** (or **atemporal**) – though time may well be involved, the profiled relationship is viewed holistically (rather than being scanned sequentially through time). They are distinguished by the nature of

their focal participants. An adjective (e.g. *smart*) has a thing as trajector, but no focused landmark. An adverb is comparable except that its trajector is a relationship rather than a thing. By contrast, a preposition (e.g. *in*) does have a thing as focused landmark, while its trajector can either be a thing or a relationship.

Trajector/landmark organization provides the conceptual basis for the grammatical notions subject and object. A subject can be characterized as a nominal expression that specifies the trajector of a profiled relationship, and an object as one that specifies the landmark of a profiled relationship. Hence the subject of *like*, for example, designates the experiencer, and that of *please* the stimulus. Conversely for their objects.

3. Prototypical constructions

A construction is simply an assembly of symbolic structures. The CG characterization is basically the same whether a construction is specific or schematic, whether it is fixed or novel, and whether it is morphological or syntactic.

In a typical construction, two **component** symbolic structures are integrated to form a **composite** symbolic structure. They are integrated at both the semantic and the phonological poles, their phonological integration serving to symbolize their semantic integration. At either pole, integration is effected by correspondences (marked by dotted lines) that equate particular elements within the two component structures. To form the composite structure, corresponding elements are superimposed, their specifications being merged (or “unified”). As a consequence, component elements that correspond each correspond to the merged composite element derived by their superimposition.

Consider the phrase *smart woman*, sketched in Figure 1.9. The two component structures, *smart* and *woman*, are shown at the bottom. The composite expression *smart woman* is shown at the top. At the semantic pole, the adjective *smart* profiles a relationship that situates its trajector on a scale of intelligence. The noun *woman* profiles a thing. To simplify the representation, its many semantic specifications are simply abbreviated as W. The semantic integration of *smart* and *woman* hinges on a correspondence between the adjective’s trajector and the noun’s profile. By superimposing these elements and merging their specifications, we obtain the composite semantic structure, in which a thing characterized as a woman is located on a scale of intelligence. The composite expression profiles the woman (a kind of thing), so the overall expression is classed as a noun.

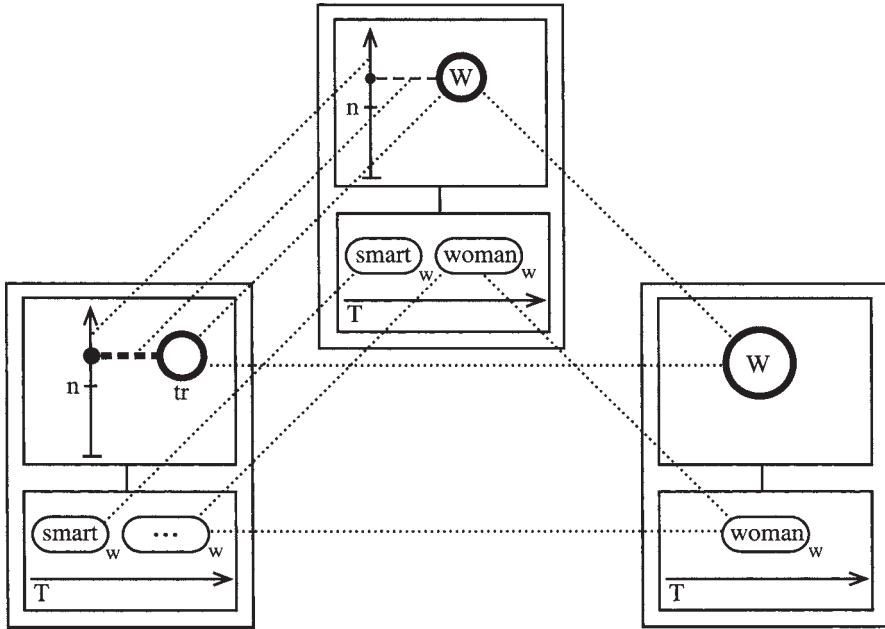


Figure 1.9

This semantic association of *smart* and *woman* is symbolized by the integration of these words at the phonological pole.³ That is, the fact that *smart* qualifies *woman* semantically is symbolized by the fact that these words occur together in the speech stream in a particular linear (i.e. temporal) order. The speech stream is represented diagrammatically by the arrow labeled T (for processing time). The horizontal correspondence line equates *woman* with the word that directly follows *smart* in the speech stream. Phonologically, then, the composite expression derived by superimposing corresponding elements is *smart woman*.

The dynamic language employed above – saying that the component structures are “integrated” to form the composite structure by “superimposing” and “merging” corresponding elements – should not be taken too seriously. It is not being claimed that, in terms of actual processing, the component structures exist first, and the composite structure only subsequently. Nor is the composite structure seen as being constructed out of the component structures, which supply all its content. The composite structure is viewed as an entity in its own right, which may have properties not derived from either component.

3 Words are indicated by ellipses subscripted with lower-case ‘w’.

More neutrally, then, I say that a construction is an assembly of symbolic structures linked by correspondences and categorizing relationships. Figure 1.9 illustrates how they are linked by horizontal and vertical correspondences. I will now describe how they are also linked by categorizing relationships. Though I will concentrate on the semantic pole, all the constructions discussed must be understood as being bipolar.

It is typical for one component structure to contain a salient schematic element which the other component structure serves to elaborate. This schematic element, corresponding to the profile of the other component, is called an **elaboration site** (or **e-site**) and is marked here by shading. In Figure 1.10, the semantic pole of *smart woman*, the elaboration site is the trajector of *smart*. The trajector is quite salient, the primary focus within the profiled relationship. Within the adjective itself it is also quite schematic; elaboration by *woman* serves to make it more specific.

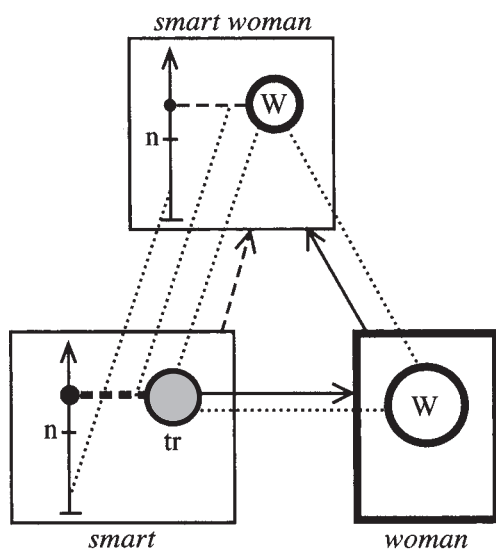


Figure 1.10

The vertical arrows in Figure 1.10 indicate that the two component structures (taken as wholes) categorize the composite structure (taken as a whole). In what sense is their relationship one of categorization? Within a construction, the composite structure has special status: it stands in the foreground as the structure primarily employed for higher-level purposes. The component structures tend not to be invoked for their own sake, but rather as stepping stones allowing one to arrive at the composite structure. I take this asymmetry as being

a special case of the asymmetry inherent in the relation between a categorizing structure and the target of categorization. Moreover, the composite structure is an entity in its own right, often with special properties not strictly derivable from the meanings of component elements considered individually. In other words, the composite structure is not literally constructed out of the components – the stepping stones are not building blocks. Rather, the components serve merely to evoke and motivate certain facets of the composite conception. As a general matter, the relation between them is more akin to categorization than strict composition.

In Figure 1.10, the categorizing relationship between the component structure *woman* and the composite structure *smart woman* is one of elaboration (solid arrow). This is because the two are fully consistent in their specifications and *smart woman* offers a finer-grained characterization of the profiled entity. On the other hand, the relation between *smart* and *smart woman* is given with a dashed arrow, indicating extension rather than elaboration. Considered as wholes, *smart* and *smart woman* are inconsistent in their specifications, particularly in regard to profiling: *smart* profiles a non-processual relationship, whereas *smart woman* profiles a thing. Thus, while *smart* contributes to the composite conception (or motivates a certain aspect of it), it is not precisely schematic with respect to it.

This is quite typical. In a construction, it is normally the case that the profile of one component structure, but not of the other, corresponds to the composite structure profile. The component structure whose profile is thus inherited at the composite structure level is called the **profile determinant**. Diagrammatically, the profile determinant is enclosed in a heavy-line box. In Figure 1.10, *woman* functions as profile determinant because *smart woman* designates the woman, not the relationship of being intelligent.

The phrase *smart woman* represents a specific symbolic assembly, i.e. an expression. This expression instantiates a constructional schema describing a general syntactic pattern for combining adjectives with nouns. Diagrammed in Figure 1.11 is the semantic pole of this schema, representing the abstracted commonality of countless adjective + noun sequences. The component structure on the left is the schematic representation of an adjective: it profiles a non-processual relationship of unspecified nature, except that its trajector is a thing, with no focused landmark. The component structure on the right is the schematic representation of a noun, which profiles a thing. The adjectival trajector functions as elaboration site and corresponds to the nominal profile. The noun is the profile determinant, so the composite structure profiles a thing which, as an unprofiled part of its conceptual base, participates in the relationship coded by the adjective. At the phonological pole, the schema specifies that the adjective directly precedes the noun in the speech stream.

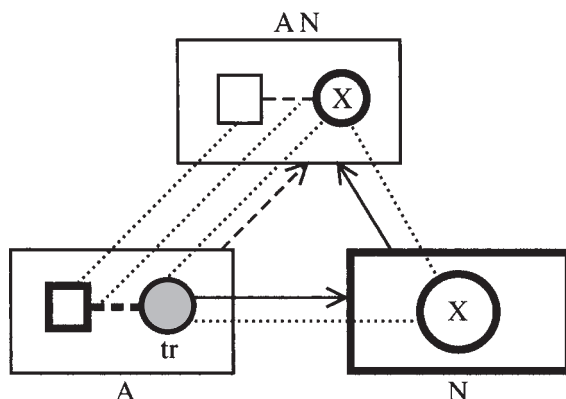


Figure 1.11

Constructional schemas provide the patterns a language makes available for the production of complex expressions. These schemas are themselves symbolic assemblies, hence meaningful, although their meanings are generally quite abstract. Their skeletal meanings are immanent in (i.e. they “lie within”) those of instantiating expressions, which elaborate them (“flesh them out”) in their own individual ways.

A constructional schema’s semantic pole constitutes a **constructional meaning**, the schema’s contribution to the overall meaning of composite expressions. With more abstract schemas, like Figure 1.11, constructional meaning is limited to specifying the grammatical category of symbolic elements, as well as organizational properties: how these elements relate to one another in terms of correspondences, categorization, and profile determinance. For instance, the specification that *smart woman* designates the woman (rather than the property of being intelligent) is a function of the entire construction, not of the component lexical items. It is likewise an aspect of constructional meaning that the profiled woman is the trajector of *smart* (the person whose intelligence is specified), rather than having some other role.

Whether specific or schematic, symbolic assemblies can in principle be of any size. When there are more than two component structures, it is usual for an assembly to exhibit multiple levels of organization, such that a composite structure at one level functions in turn as component structure with respect to another, “higher” level. The result is a kind of constituency. However, the constituency hierarchies posited in CG are not comparable to the syntactic “tree structures” of generative grammar, which are generally conceived as purely formal objects with no intrinsic conceptual or phonological content. On the contrary, CG constituency hierarchies consist solely of symbolic structures, each comprising a semantic and

a phonological pole. Grammatical constituency is simply the order in which simpler symbolic structures are progressively integrated to form more complex ones.

Consider the nominal expression *smart woman with a PhD*, sketched in Figure 1.12 (ignoring the article). It consists of several canonical constructions: *smart woman*, already examined; a prepositional phrase, where *with* takes a nominal object; and the higher-level construction where the composite expressions *smart woman* and *with a PhD* combine as component structures to form the overall expression.

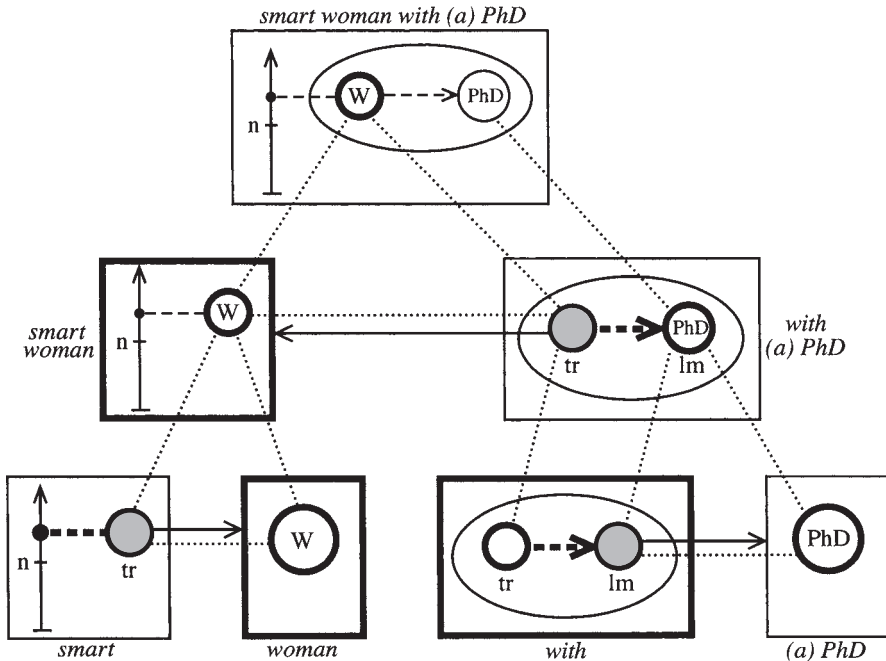


Figure 1.12

The representation of *with* is meant to indicate that it profiles a non-proc-essual, essentially possessive relationship such that the trajector anchors an experiential **dominion** (Langacker 1993c) in which the landmark can be found. The schematic landmark functions as e-site, corresponding to the profile of the nominal component *a PhD*. Since the composite structure *with a PhD* profiles the possessive relationship (not the academic degree), *with* is the profile determinant at this level. At the higher level, the schematic trajector of the prepositional phrase corresponds to the profile of *smart woman*, which elaborates it and imposes its own profile on the higher-level composite structure. Hence the overall expression, *smart woman with a PhD*, designates the woman.

Some basic grammatical notions are straightforwardly characterized in terms of symbolic assemblies as described thus far. As the term is most commonly understood, for example, a **head** can be defined as the profile determinant at a given level of organization (cf. Zwicky 1985; Hudson 1987). It is the component structure whose profile is inherited at the composite structure level, thereby determining the grammatical category of the composite expression. *Woman* is thus the head in the nominal expression *smart woman*, and *with* in the prepositional phrase *with a PhD*. Granted the constituency shown in Figure 1.12, the head at the higher level of organization, for the expression as a whole, is *smart woman* (and by extension, *woman* – as the head within the head).

We can go on to characterize the notions **complement** and **modifier** in terms of whether a component structure elaborates or is elaborated by the head. More specifically, a complement is a component structure which **elaborates** a salient substructure of the head. In Figure 1.12, the nominal expression *a PhD* is thus a complement of *with*, since it elaborates a salient substructure of *with*, namely its landmark (a focal participant). Conversely, a modifier is a component structure a salient substructure of which is **elaborated by** the head. Hence *smart* modifies *woman* in Figure 1.12, since the head – *woman* – elaborates its trajector. In the same way, *with a PhD* modifies *smart woman* at the higher level.

I should emphasize that these definitions refer exclusively to conceptual factors – profiling, profile determinance, correspondence, elaboration – observable at the semantic pole of symbolic assemblies. Despite their utility for describing grammar, these constructs are ultimately semantic in nature, not autonomous grammatical primitives.

4. Non-prototypical constructions

The constructions examined so far are reasonably considered canonical, or prototypical. They have a number of typical properties: (i) there are two component structures; (ii) one component profiles a thing, the other a relationship; (iii) the nominal profile corresponds to a focal participant of the relationship (its trajector or landmark); (iv) that participant is schematic, being elaborated by the nominal component; (v) the composite structure inherits its profile from one of the two component structures.

Grammatical constructions are nonetheless highly varied and deviate from the prototype in myriad ways (Langacker 1988b, 1999b, 2005a). Ultimately, it is only required that a construction comprise an assembly of symbolic structures linked by correspondences. Even this must be qualified if we make the terminological decision to regard single morphemes as constructions, so that

all of lexicon and grammar can be described as residing in constructions. With this approach, a morpheme constitutes a **degenerate** construction, a symbolic assembly consisting of just one symbolic element. Hence there is no distinction between component and composite structures, nor any correspondences.

Also deviating from the prototype are constructions with more than two component structures. The previous example, *smart woman with a PhD*, might be analyzed in this fashion. On this account, diagrammed in Figure 1.13, *smart* and *with a PhD* modify *woman* at the same level of constituency, in a tripartite construction.⁴ It will be observed that, despite the difference in constituency, the overall composite structures in Figures 1.12 and 1.13 are identical, and the necessary semantic and grammatical relationships are expressed in both (e.g. *woman* is the head, modified by *smart* and *with a PhD*).

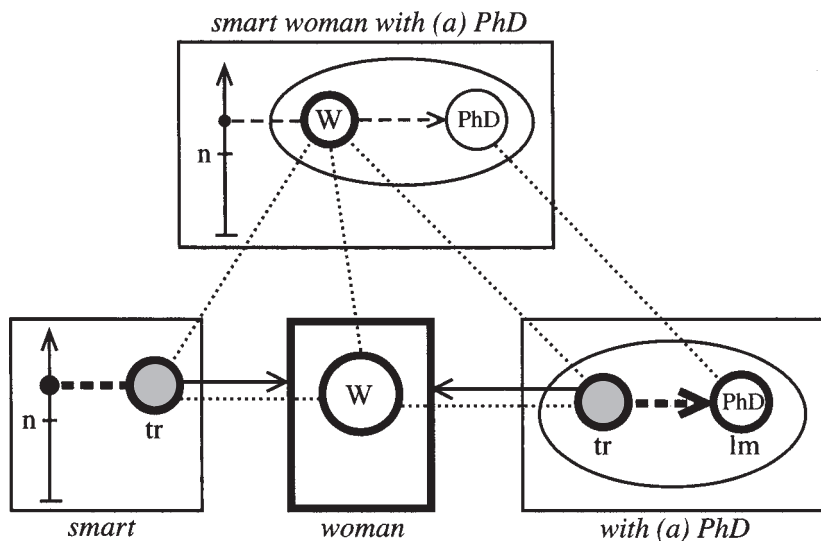


Figure 1.13

Which constituency is correct, the one in Figure 1.12 or the one in Figure 1.13? Actually, I suspect both of them are. In CG, essential grammatical relationships are conceptual in nature and captured by correspondences, not in terms of constituent structure. The same relationships can be captured with alternate constituencies, with the empirical consequence that constituent structure is often flexible, variable, and even indeterminate (Langacker 1995a, 1997a). In the case at hand, evidence for two alternate constituencies is pro-

4 I omit the internal structure of the prepositional phrase.

vided by the intonational possibilities in (4), where a slash (‘/’) indicates a slight pause. It is further corroborated by the ability of *one* to refer anaphorically to either *smart woman* or just *woman*, as seen in (5).

- (4) a. *smart woman / with a PhD*
 b. *smart / woman / with a PhD*
- (5) a. *They’re looking for a **smart woman** with a PhD, not **one** with just a masters.*
 b. *A **smart woman** with a PhD is happier than a brilliant **one** with just a masters.*

More generally, a number of adjectival modifiers can be strung together with no indication of any particular constituency hierarchy, especially when pronounced with pauses between them and with equal degrees of stress: *big / ugly / vicious / dog*. In this case I see no reason not to posit a multipartite construction, as seen in Figure 1.14. Each adjective ascribes a property to the modified noun, so the trajector of each corresponds to its profile.⁵

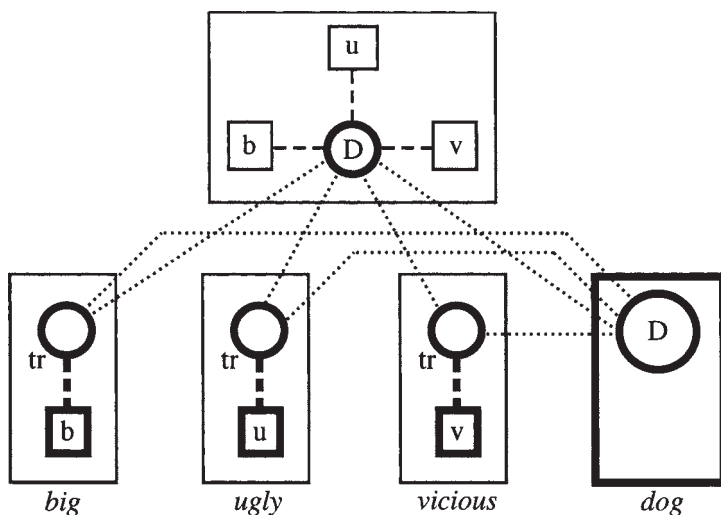


Figure 1.14

Many constructions depart from the prototype because they lack a head, or profile determinant, defined as a **single** component structure whose profile corresponds to the composite structure profile. Here we can distinguish three subcases. A unique profile determinant may be absent (i) because the compo-

5 Here I simplify by not indicating elaboration or e-sites.

nent structure profiles correspond to one another, so they all correspond to the composite structure profile; (ii) because the composite structure profile represents a conflation of the component structure profiles and is not equivalent to any one of them individually; or (iii) because the composite structure profile is distinct from that of any component.

The first case is exemplified by **appositional** constructions, where two nominal expressions each describe the same nominal referent, in different ways. The nominal components range in size from simple nouns to full noun phrases:

- (6) a. *pussy cat; sailor boy*
 b. *my friend Henry Kissinger; the famous French novelist Marcel Proust*
 c. *the {fact / claim / idea / notion / myth} that syntax is autonomous*

Abstractly, such expressions have the organization sketched in Figure 1.15. Each component structure profiles a thing, these things correspond, and both correspond to the composite structure profile.

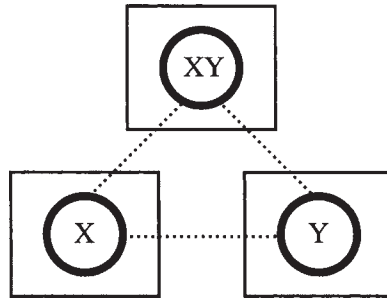


Figure 1.15

In cases like (6), we could make either of two terminological decisions: to say that both component structures are heads, or that neither is (since neither functions **uniquely** as profile determinant). I tend to follow the latter practice, essentially arbitrarily. I make the same terminological choice in the situation where the composite structure profile conflates the profiles of its components, none of which is thus equivalent to it taken individually. A favorite example is the “nested locative” construction:

- (7) *The hammer is in the garage, on the workbench, behind the electric saw.*

Any number of locatives can be strung together in this manner, with no apparent grouping into constituents. Each successive locative specifies the trajector’s location with greater precision (confines it to a smaller area). For our purposes, the important point is that the composite locative expression – *in the garage, on*

the workbench, behind the electric saw – simultaneously locates the trajector with respect to three different landmarks. No one of these locative relationships stands out as the single location described by the overall expression. Rather, as shown in Figure 1.16, all three specifications are simultaneously valid and equally focused. The profiled relationship is complex, for it evidently conflates the simple relationships expressed by the individual component structures.

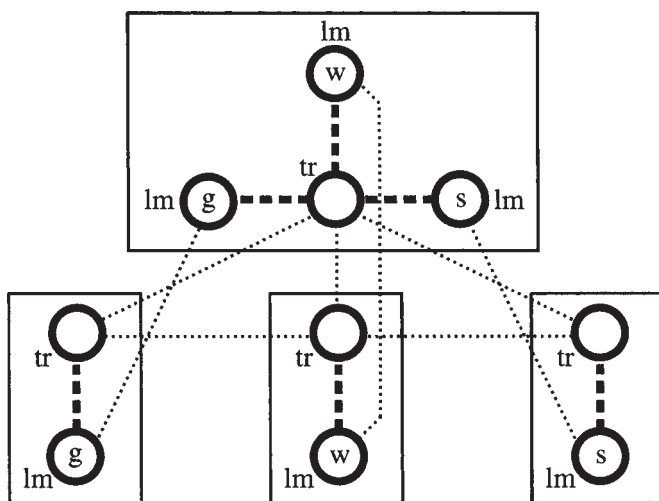


Figure 1.16

In the third type of construction lacking a head (traditionally called **exocentric**) the composite structure profile is distinct from that of both component structures. An example is *pickpocket*. In the verbal expression *pick someone's pocket*, the verb *pick* has the conceptual value sketched at the lower left in Figure 1.17: the trajector exerts a force (double arrow), thereby inducing some object to move (single arrow). This object moves from its original location, which is focused as the landmark, into the trajector's dominion (sphere of control). The noun *pocket* designates a location, shown as a rectangle, which functions as a kind of container. The circle within it represents the contents of the container, while the larger circle represents the article of clothing of which it is a part. In the compound *pickpocket*, correspondences identify the contents of the pocket with the object that moves, and the pocket itself with the landmark of *pick* (the location emptied of its contents). However, the composite structure does not inherit the profile of either *pick* (the action) or *pocket* (the location). Instead it profiles the actor, corresponding to *pick*'s trajector. Thus neither element of the compound functions as profile determinant.

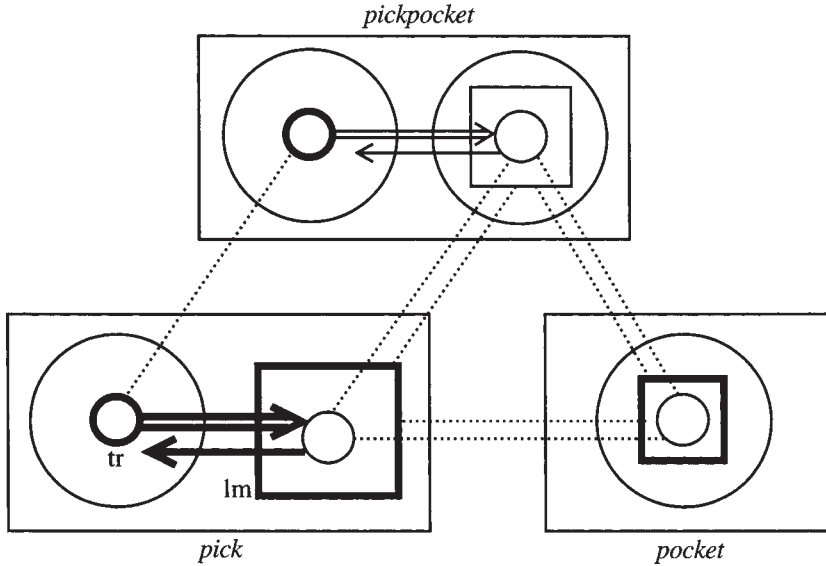


Figure 1.17

Pickpocket is idiosyncratic, in that the second element of an English compound normally functions as profile determinant (cf. Tuggy 2003). This can be contrasted with cases where an aspect of constructional meaning, while not inherited from either component, is nonetheless regular in the sense that it is specified by a productive constructional schema. Consider equative sentences in those languages where referential identity is marked simply by juxtaposing two nominal expressions. In Luiseño (a Native American language), a sentence like (8) predicates identity despite the absence of any verb or morphological element expressing this meaning.

(8) *Wunaal ya'ash no-kaytu.* (that man my-enemy) 'That man is my enemy.'

This is not an idiosyncratic expression but a regular construction, where equative sentences are productively formed using any appropriate combination of nominal expressions (NML). The constructional schema specifies that both component structures profile things, whereas the composite structure profiles a relationship of identity between them (given as a double line). As shown in Figure 1.18, the relationship profiled by the clause emerges at the level of the overall construction rather than coming from either component, but does so in accordance with a productive pattern. A particular expression like (8) is thus quite regular in formation, despite the absence of a head.

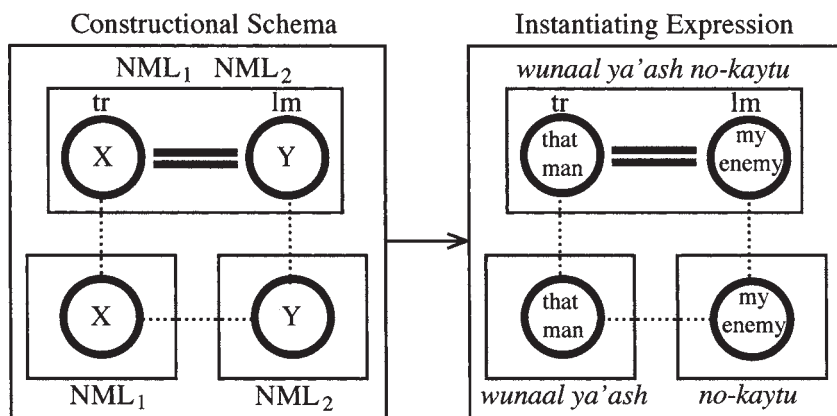


Figure 1.18

Equational and appositional constructions are non-prototypical in that both component structures profile things. Grammatical combination does not require a predicate-argument relationship, such that a nominal component specifies a relational participant. Moreover, an elaboration site does not have to be a thing, but may itself be a relationship. This is the case with adverbs, e.g. *fast*, whose trajector is a process situated on a scale of rapidity. In Figure 1.19, a box represents the schematic process functioning as the adverb's trajector. It will be seen that a phrase like *move fast* is analogous to *smart woman*.

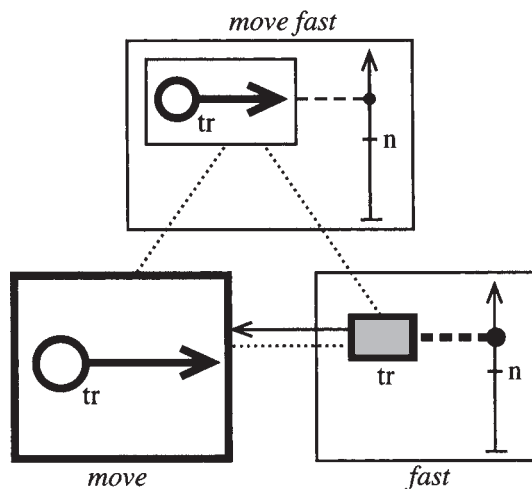


Figure 1.19

Nor is it required that an elaboration site be a focal participant. An e-site, defined as a substructure corresponding to the profile of the other component, need not even be particularly salient within the elaborated structure. An example is the compound *woman smart*, which is made-up but perfectly natural and well-formed. I interpret it as meaning ‘smart in regard to women’. We know that people often exhibit intelligence with respect to certain topics but not others. The notation in Figure 1.20 is meant to indicate that the property of being smart holds only in a particular domain of knowledge (represented as an ellipse), namely the one centered on a particular topic (given as a circle). This topic functions as e-site, being elaborated by *woman*. Though pivotal to the expression’s interpretation, this e-site is not a focal participant of *smart*, nor is it highly salient.

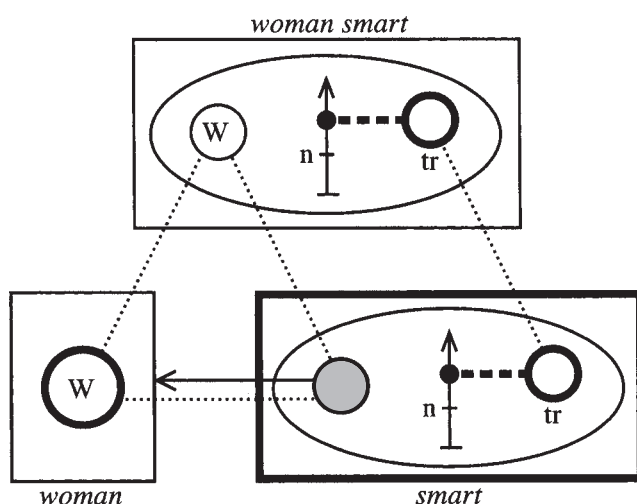


Figure 1.20

Observe that the phrase *smart woman* and the compound *woman smart* have the same component structures but very different composite meanings. They differ in their constructional meanings, contributed by the constructional schemas they instantiate. *Smart woman* instantiates the schema for the adjectival modification of nouns, sketched in Figure 1.11. On the other hand, *woman smart* instantiates a semantically more flexible schema for compounds, where in general the second element functions as profile determinant. Thus, whereas *smart woman* profiles the woman, the compound *woman smart* profiles the relationship.

Of course, it is not even necessary that there be an e-site at all. Two component structures are capable of combining grammatically even in cases where

neither contains a substructure corresponding to the other's profile. Consider the composite expression *go away angry* (e.g. *Don't go away angry!*). The meaning of *go away* makes no intrinsic reference to the mental state of its trajector, nor does *angry* evoke an action which this mental state accompanies.

Their integration is sketched in Figure 1.21. The arrow labeled 't' stands for time. As a complex verb, *go away* profiles a process, where development through time is salient as a matter of definition. The solid bar along the time arrow represents the span of time through which the event is followed in its temporal evolution. Being an adjective, *angry* merely profiles the situation of its trajector exhibiting a certain property. Continuation through time is not essential to its characterization – if a person is angry during a certain span of time, that person is angry at any single instant during that time span. It is however part of our understanding of *angry* that this emotion occurs in bounded episodes, enduring for some time on each occasion. A bar along the time arrow represents the duration of one such episode.

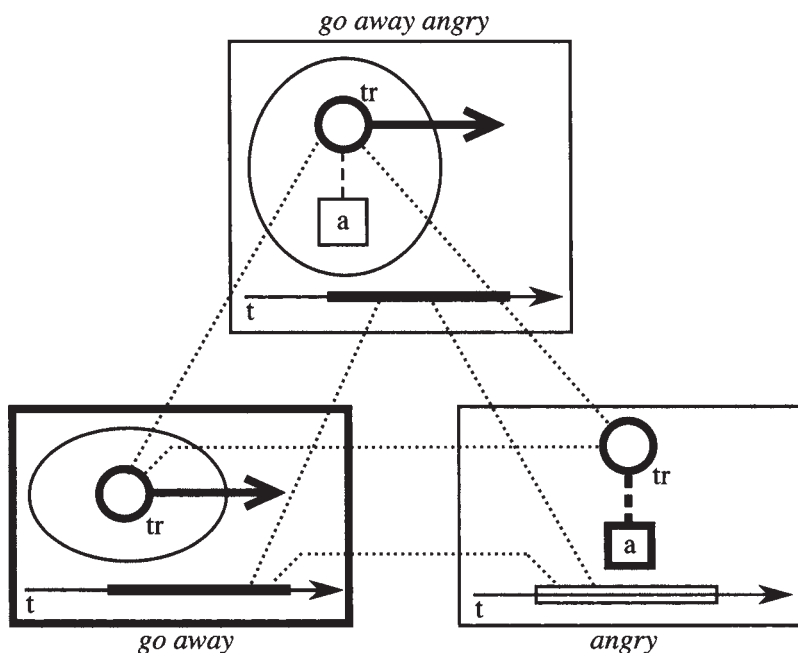


Figure 1.21

Although neither component structure elaborates a salient substructure of the other, they are integrated by virtue of two correspondences. First, their trajectors

correspond – the person who goes away is the one who is angry. Second, the span of time through which the departure occurs is equated with the time span constituting one episode of anger; the expression cannot mean that the trajector goes away at one time and is angry at another, only that the two are temporally coincident.

Because neither component structure elaborates a salient e-site within the other, we cannot describe *angry* as either a complement or a modifier of *go away*. In cases like this the non-head component (*angry*) is generally called an **adjunct**. I should note that in CG the status of elements as complements, modifiers, or adjuncts is a matter of degree, reflecting the relative salience of particular notions within the global meanings of component structures. It is neither expected nor required that a particular term be obviously or uniquely applicable. That is, notions like complement, modifier, and adjunct are not unanalyzable grammatical primitives, but rather convenient labels for typical sorts of configurations that emerge with various degrees of distinctness in grammatical constructions.

An e-site sometimes exhausts the content of a component structure, rather than being limited to a proper substructure of it. This is commonly the case with derivational elements, which I generally analyze as being schematic for the category they derive. Consider the nominalizing suffix *-er*, as in *swimmer*, *complainer*, *teacher*, *philanderer*, etc. Prototypically, it forms a noun designating some kind of actor. As shown in Figure 1.22, it can then be characterized as evoking for its base the schematic conception of an active process, which I have indicated by means of an arrow with ellipses (...). Within this base, it profiles the actor, a thing. The schematic process, representing the entire conceptual content of the suffix, functions as e-site in this construction, being elaborated by a specific verb, in this case *throw*. Since *-er* is the profile determinant, the composite expression designates the actor in the specific process of throwing, and since it profiles a thing, *thrower* is a noun.

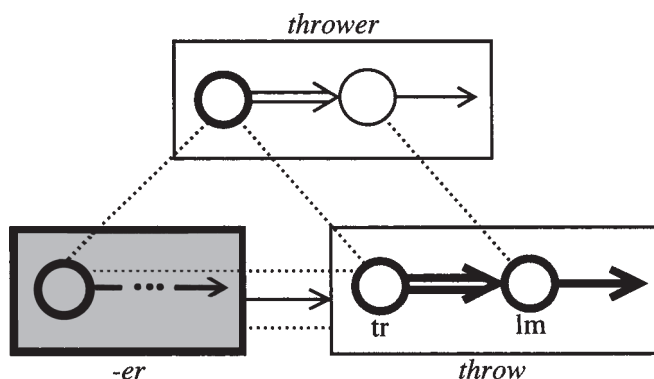


Figure 1.22

When established as lexical items, symbolically complex expressions vary in their degree of **analyzability**, defined as the extent to which speakers recognize the semantic contributions of component elements. Novel expressions are fully analyzable, since the speaker has to construct them from component elements on the basis of their meanings. Established expressions may be less analyzable. They come as prepackaged assemblies, whose composite forms and meanings are well-known and well-rehearsed, so it is not essential that the component structures be mentally accessed individually. In fixed and frequently occurring expressions, there is thus an overall tendency for component elements to be activated only to a lesser degree, and perhaps not on every occasion of their use.

The result is that familiar expressions can often be ranked in terms of their degree of analyzability, e.g. *flinger* > *complainer* > *computer* > *propeller* > *drawer*. A novel expression like *flinger* ‘something that flings’ is fully analyzable. The lexical item *complainer* is highly analyzable (it is always understood as ‘one who complains’), but the others listed are progressively less so. In using the term *computer*, we do not always specifically think of it as ‘something that computes’, and a *propeller* is seldom thought of as ‘something that propels’. At the extreme endpoint of the scale, a form like *drawer* may be fully unanalyzable, in which case it constitutes a single morpheme.

Degree of analyzability is an important dimension of linguistic organization which has largely been neglected. It is unproblematic in CG, where constructions are viewed as assemblies of symbolic structures. Since the composite structure is a distinct entity, existing in its own right, in established expressions it can perfectly well be activated independently of the component structures. The contrast between a fully analyzable expression like the novel *flinger* ‘something that flings’ and a partially analyzable form like *computer* is represented in Figure 1.23. Words in capital letters are used here to abbreviate the semantic structures, and lower-case letters for phonological structures. Dashed-line boxes enclose structures that are activated only partially or only sporadically.

On this view, the analyzability of a composite expression into component morphemes is a matter of degree – a form like *propeller* is neither completely monomorphemic nor completely bimorphemic. Moreover, once degree of analyzability is recognized and accommodated, other well-known problems of classic morphemic analysis disappear (Langacker 1995a).

First, as seen in Figure 1.24(a), it is quite possible for just one symbolic component to be recognized within a more complex expression. For instance, the day of *Monday*, *Tuesday*, *Wednesday*, etc. is certainly recognized by contemporary speakers, but the residue (*Mon*, *Tues*, *Wednes*, etc.) is not. We can simply characterize these expressions as **defective constructions** having a composite structure but only one (partially recognized) component structure.

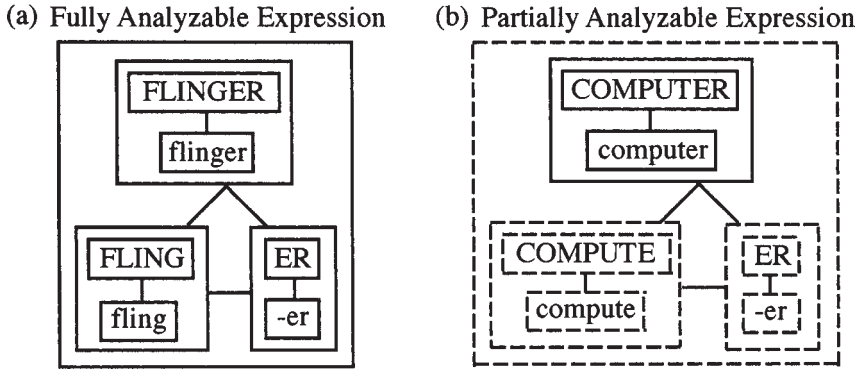


Figure 1.23

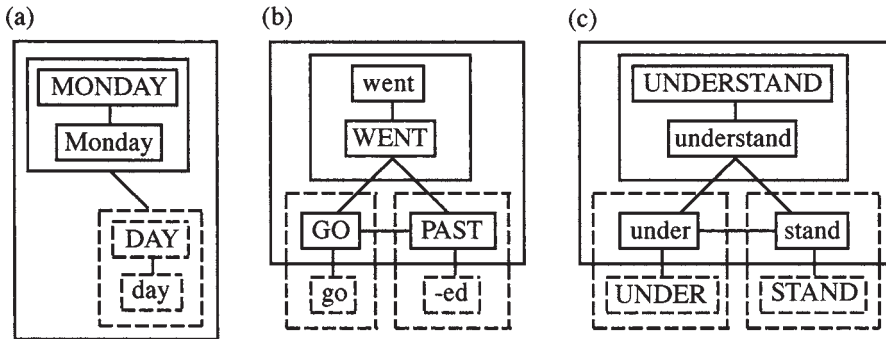


Figure 1.24

Beyond this, we can readily handle cases of **phonological suppletion** and **semantic opacity**. A case of suppletion is *went*, the past tense of *go*. Semantically the components GO and PAST are clearly evident, but phonologically there is just a single, essentially unanalyzable form. As shown in Figure 1.24(b), the symbolic unit *went* can be characterized as comprising a full, bipolar composite structure, while being defective in regard to component structures, which have a semantic pole but not a phonological pole.

Conversely, as shown in Figure 1.24(c), it is possible for a construction to be defective by including only the phonological poles of the component structures. An example is *understand*, which is clearly analyzable into the morphological elements *under* and *stand*, but which speakers find semantically opaque, making no connection to the meanings of the preposition and the verb. In the case of