

HOW TO BUILD AN ENGLISH CLAUSE

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1. Introduction

I will be examining central aspects of English clause structure from the standpoint of Cognitive Grammar (CG). Though well known and extensively studied, these phenomena have eluded definitive treatment; they still have much to tell us. Indeed, working out their theoretical basis has contributed to further development of the CG framework (Langacker 1991, 2008a, 2012). Especially relevant are two general notions: the organization of structure in terms of **baseline and elaboration**; and grammar as the **implementation of semantic functions**.

The elaboration of a baseline, which I refer to as **B/E organization**, is a kind of asymmetry pervasive in conceptual and linguistic structure. In one way or another, the baseline has a certain priority, being more fundamental and providing the basis for the elaborated structure: (B) > ((B)E). The baseline is generally simpler than ((B)E), tends to be more substantive than E (the elaborating element), and presupposes fewer and more basic capacities. Well-known examples of B/E organization include the centrality of a prototype in a complex category, the stem/affix asymmetry in morphology, as well as privative oppositions, such as [a] vs. [ã], where the unmarked member “lacks” an elaborating feature. Importantly, baseline status is only relative, since an elaborated structure functions as baseline for higher-level purposes: (B) > ((B)E)_B > (((B)E)_B E)_B > (((((B)E)_B E)_B E)_B E)_B ... To some extent structure is therefore organized in **strata**, each a **substrate** for the next, which draws on additional resources and affords a wider range of options.

A second general notion is that grammar exists for the implementation of **semantic functions** (Croft 2007; Harder 2010), which are more fundamental and more consistent than any particular structural manifestation. As a case in point, nominals exhibit very different structures (e.g. *Ellen, big dogs, the teacher, those with children, that she likes him*) reflecting alternate strategies for fulfilling their referential function. We can note a broad (and permeable) division between **descriptive** vs. **discursive** functions. The former involve the conceptual content representing the **objective scene** (OS), i.e. the “onstage” situation being jointly apprehended by the offstage interlocutors. The latter concern the negotiation and effective presentation of descriptive content in a coherent discourse. Grammar is shaped by the interplay of descriptive and discursive functions. As viewed in CG, lexicon and grammar form a continuum consisting in flexible **assemblies of symbolic structures** (form-meaning pairings).

2. Descriptive Organization

2.1 Baseline

A clause expresses a proposition. That is, it describes an occurrence—an event or situation—in enough detail to be significant and potentially assessed for validity. The function of describing an occurrence is often referred to as **predication**, a term that needs explication. In the CG analysis, a key notion is **profiling**: within the content invoked, an expression selects a particular substructure as its **conceptual referent** and thus a focus of attention. Its profile is either a **thing** or a **relationship** (under abstract definitions of those terms). As a special case of the latter, it is claimed that a clause profiles a **process**, characterized as a relationship followed in its evolution through time (Langacker 1991: Part II, 2008a: ch. 11, 2008b).

The baseline for predication is a simple lexical verb (V), such as *run*, *break*, *see*, or *admire*. It functions as the clausal **head**, in the sense of providing the essential conceptual content serving to characterize the profiled relationship. We will not be greatly concerned with alternative means of forming the clausal head. It can be non-lexical, representing either a nonce verb or the extended use of a non-verbal element (e.g. *The delivery boy porched the newspaper*). Many heads are morphologically complex, obtained by derivation (*solidify*) or compounding (*counterattack*). There is also a productive pattern for deriving phrasal verbs (*look up*, *turn off*, *back down*), as well as a serial verb construction with *come* and *go* (*You should come see our new house*).

Another alternative to a lexical verb is a clausal head consisting of *be* plus an adjective or a prepositional phrase: *She is tall*; *It is on your desk*. The construction is sketched in Figure 1, where the relation profiled by the adjective or prepositional phrase is labeled **r**. Though it typically endures, the profiled relation does not require a span of time for its manifestation: it obtains at a single moment (and can thus be observed in a photograph). This holistic nature makes it suitable to modify a noun (*the tall girl*; *the picture on your desk*), but not to head a clause (**The girl tall*s; **The picture on*s your desk), since a clause profiles a process—a relationship tracked through time. For clausal use, English invokes the schematic verb *be*, which profiles the continuation through time of a relationship that is wholly non-specific; the arrow drawn in bold indicates this scanning through time. The result of their integration is a derived

process (labeled **p**) which tracks through time the specific relation profiled by the adjective or prepositional phrase. Note that this construction overtly reflects the conceptual characterization proposed for verbs and clauses in CG: that they profile a relationship scanned through time. *Be* extends through time the relationship specified by its complement.

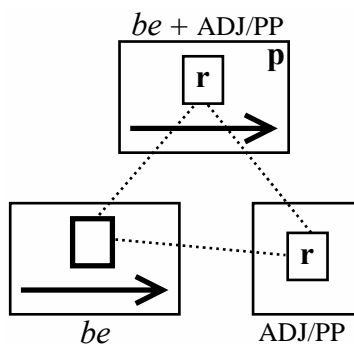


Figure 1

By itself, a lexical verb (or other clausal head) fails to express a usable proposition, as it merely describes a **type** of occurrence. Starting from this baseline, we build a clause through various **dimensions** of elaboration. The minimal elaboration—producing what I call a **baseline clause**—involves just two dimensions.

There is first the specification of clausal participants. A verb makes schematic reference to its participants: a **trajector** (primary focal participant) and often a **landmark** (secondary focal participant). Nominals that specify these schematic elements thereby function as clausal subject and object. The resulting expressions—e.g. *the boy break a cup* or *Alice admire Bill*—describe an **elaborated process type** specific enough to be worth expressing.

A proposition whose validity can be assessed represents a particular **instance** of this type, where the profiled occurrence is accorded some status in relation to the interlocutors and their conception of reality. This dimension of elaboration is known as **grounding**, the **ground** (G) being the interlocutors and their immediate circumstances. In English, minimal grounding is done by means of tense. An elaborated process type grounded by tense constitutes a baseline clause: *The boy broke a cup*; *Alice admires Bill*.

Baseline clauses are a fundamental way of fulfilling the clausal function of expressing a proposition, i.e. describing an occurrence in sufficient detail to be useful and assessed for

validity. This global semantic function decomposes into three subfunctions—type specification, type elaboration, and grounding—representing one strategy for its structural implementation. Each subfunction is implemented by a particular structural element: type specification by the lexical verb, type elaboration by the subject and object nominals, and grounding by tense.

Though minimal in terms of overt structure, a baseline clause is hardly self-contained. Every linguistic structure presupposes a **conceptual substrate** of indefinite extent, comprising mental capacities, background knowledge, and apprehension of the context. The substrate allows the structure to emerge, provides its coherence, and is thus an inherent aspect of its meaning. For baseline clauses—representing what is plausibly regarded as the minimal and canonical linguistic interaction based on propositions—the substrate includes the **baseline viewing arrangement**, shown in Figure 2.

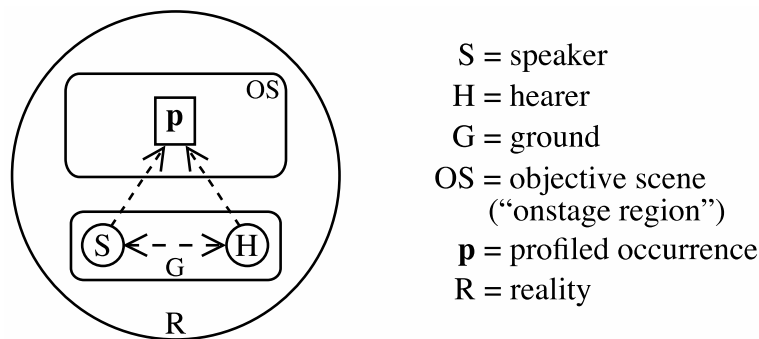


Figure 2

In the baseline arrangement, both the ground and the profiled occurrence are **real**. The interlocutors are together in a fixed location, engaged in observing and describing actual phenomena in the world around them. They are offstage conceptualizers, whose interaction establishes the profiled occurrence (**p**) as the shared focus of attention within the **objective scene** (OS), i.e. the “onstage” situation being described. The **baseline speech act** is a simple **statement**, where the speaker describes an occurrence for the benefit of the hearer, who is expected to listen, understand what is said, and accept it. A single statement of this sort constitutes a **baseline discourse**.

Given this substrate, a baseline clause contains the minimum needed to fulfill the clausal function: a lexical verb to describe an occurrence, nominals to specify its participants, and tense to ground it. When restricted to the baseline, there is no need for various elements that appear in more elaborate expressions representing higher strata. The substrate specifies the description of actual occurrences, so there is no need for elements like negation or modals, which exclude the profiled occurrence from reality. There is no indication of speech act, since the substrate incorporates the baseline act of statement. And as a stand-alone description, a baseline clause ignores discursive factors such as topic, informational focus, and connections with other clauses.

So if you want to build an English clause, the elements of a baseline clause represent the simplest, most straightforward way to fulfill the essential semantic functions. These are summarized in Figure 3. Together, the lexical verb and its participants specify an elaborated process type (**p**), which functions as the grounded structure. Grounding by tense yields a proposition (**P**), which profiles an instance of that type situated with respect to the ground. Hence the clause both describes an occurrence and offers a rudimentary assessment of its epistemic status vis-à-vis the interlocutors.

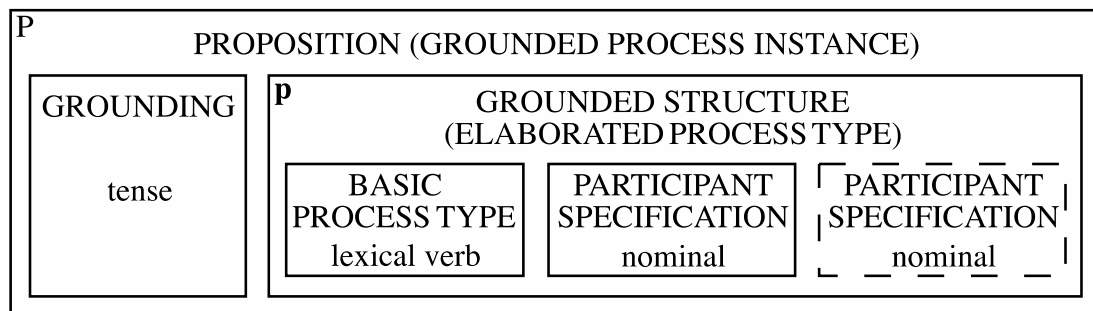


Figure 3

2.2 Perspective

From a **baseline clause**, further elaboration produces expressions of greater complexity that I will refer to as **basic clauses**. There are two dimensions of elaboration. The first, pertaining to the grounded structure, consists in a range of alternatives for **perspective**.

A lexical verb embodies a particular way of apprehending the profiled occurrence (**p**). The verb being a conventional linguistic unit, this way of viewing it constitutes the **neutral** or **baseline perspective**. English clauses have three grammaticized means of effecting a perspectival adjustment: the familiar trio of **passive**, **progressive**, and **perfect**. Since these require additional conceptual capacities and afford a wider array of options, the resulting expressions represent a higher stratum. This is shown in Figure 4(a), where the dashed arrow indicates perspectival elaboration. At the lower stratum, S_1 , **p** is the process profiled by the lexical head, e.g. *wash*. At the higher stratum, S_2 , **p'** is the one profiled by a composite expression: *be washed*, *be washing*, or *have washed*.

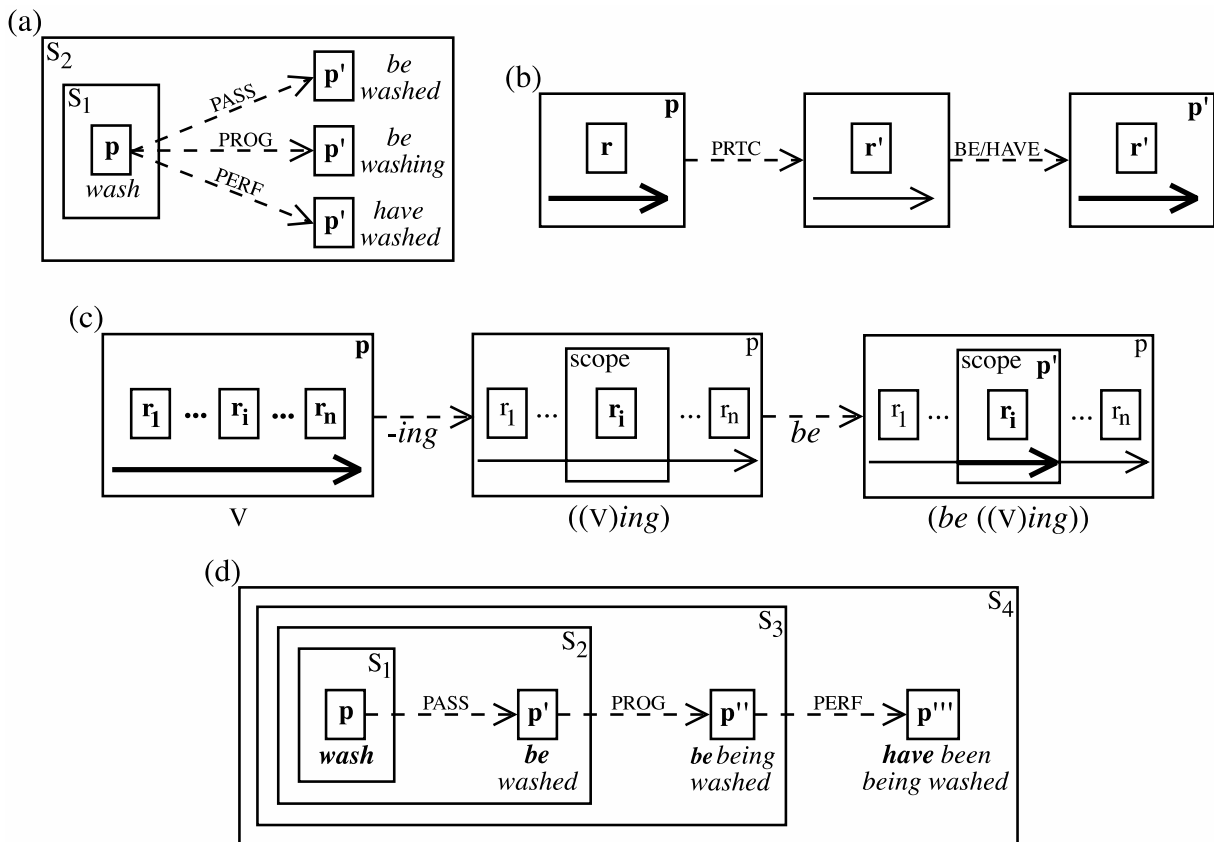


Figure 4

The passive, progressive, and perfect constructions form a cohesive **system** of perspectival elaboration. They are mutually exclusive—a set of opposing options—as only one

can appear on the lexical verb. They are also parallel in formation, each residing in a complex construction involving a participial element (*-ed* or *-ing*) and a schematic verb (*be* or *have*).

These constructions all follow the pattern shown abstractly in Figure 4(b). The structure at the left is the process (**p**) profiled by the lexical verb; it profiles a relationship (**r**) scanned through time (thick solid arrow). From this, the participial morpheme derives a structure in which the verbal process is viewed holistically (thin solid arrow) from an altered perspective, indicated by using **r'** (instead of **r**) for the profiled relationship. This holistic view implies that the participle is not itself a verb, so it cannot itself function as clausal head. For clausal use, it combines with the schematic verb *be* or *have* in much the same way that *be* combines with an adjective or prepositional phrase (Figure 1). The composite verbal expression that results designates a process, **p'**, in which **r'** (not **r**) is the relationship tracked through time.

Each perspectival option affects the lexical process in a different way: the passive elevates the processual landmark to the status of trajector (primary focal participant); the progressive “zooms in” on **p**, taking an internal perspective that excludes its endpoints; while the perfect views the verbal process from a temporally posterior vantage point defining a sphere of interest (“current relevance”). The details are not essential here (see Langacker 1991: §5.2), but for sake of concreteness let us briefly consider the progressive.

In 4(c), the complex relationship (**r**) profiled by the lexical verb (**v**) is decomposed into the series of component relationships, **r**₁...**r**_i...**r**_n, manifested at successive points in time. The participial morpheme *-ing* views this holistically, imposing a limited temporal **scope**—or locus of attention—that excludes **r**₁ and **r**_n. As the specific focus of attention, the profiled relation is confined to this scope and is further construed as being internally homogeneous: the same relation (**r**_i) obtains throughout. Being a relationship viewed holistically, *ving* is actually adjectival, so it can modify a noun (e.g. *the girl washing her dog*). But clausal use requires a verbal head. So at the second level of composition, the verb *be* effects the scanning through time of the profiled relation **r**_i to form a higher-level process, **p'**. The essential point is that **p'** embodies a perspective which makes it distinct from the baseline process **p**.

If these perspectival adjustments are mutually exclusive, as in 4(a), how can they co-occur in complex expressions like *be being washed*, *have been washed*, and *have been being washed*? The answer is that they are mutually exclusive with respect to any one verbal process, **p**, but since the result of perspectivalization is a higher-level process, **p'**, that in turn is subject to

perspectivalization. The maximal sequence is exemplified in 4(d): *wash* ---> *be washed* ---> *be being washed* ---> *have been being washed*. The permissible combinations represent well-entrenched conventional patterns, which are largely determined by semantic compatibility (Langacker 1991: §5.3.2).

The system comprising perspectival adjustments and their combinations provide a substantial range of options for viewing the occurrence profiled by the lexical verb. As shown in 4(d), this ability to iterate adjustments produces progressively more complex structures representing successively higher strata. At each stratum, a verb is introduced—the lexical verb, *be*, or *have*—which functions as the **constructional head**: this verb (marked in bold) imposes its profile on the whole, designating the same process (**p**, **p'**, **p''**, or **p'''**) as the composite expression formed at that level. The structure produced at the highest stratum is the **grounded structure**. Its constructional head is the **grounded verb**.

- (a) (((V) PASSIVE) PROGRESSIVE) PERFECT
 -ed be *-ing be* *-ed have*
- (b)
- $$V + \begin{bmatrix} \text{ACTIVE} \\ \emptyset \\ \text{PASSIVE} \\ \textit{-ed be} \end{bmatrix} + \begin{bmatrix} \text{NON-PROGRESSIVE} \\ \emptyset \\ \text{PROGRESSIVE} \\ \textit{-ing be} \end{bmatrix} + \begin{bmatrix} \text{NON-PERFECT} \\ \emptyset \\ \text{PERFECT} \\ \textit{-ed have} \end{bmatrix}$$
- (c)
- $$\begin{aligned} \textit{wash} &= \textit{wash} + [\emptyset] + [\emptyset] + [\emptyset] \\ \textit{be washing} &= \textit{wash} + [\emptyset] + [\textit{-ing be}] + [\emptyset] \\ \textit{have washed} &= \textit{wash} + [\emptyset] + [\emptyset] + [\textit{-ed have}] \end{aligned}$$

Figure 5

A conceivable alternative to B/E organization, with successively more complex structures at multiple strata, would be to posit a zero-morpheme counterpart to each perspectival construction. So instead of the layered structure in Figure 5(a), where *wash* is simply *wash*, a clause would always include the four-term structure in 5(b). *Wash* would thus be analyzed as *wash* + $[\emptyset]$ + $[\emptyset]$ + $[\emptyset]$, *be washing* as *wash* + $[\emptyset]$ + $[\textit{-ing be}]$ + $[\emptyset]$, and so on. I doubt that anyone would seriously propose this account (which amounts to treating **privative** oppositions as

equipollent). Among its drawbacks is the infelicity of viewing a simple form as being analogous to a complex one that is clearly based on it. Though just a straw man, the analysis serves to illustrate the dubious consequences of allowing zero elements. These are avoided in CG, B/E organization being a means of doing so.

2.3 Grounding

Perspectival adjustment elaborates the grounded structure of a baseline clause. A second dimension of elaboration pertains to grounding. I have often described English grounding (e.g. in Langacker 2011, 2012) in terms of two sets of opposing elements, each with a zero member, as in Figure 6(a). Within the tense system, present is marked by zero or *-s*, and past by *-d* (or some variant). In the modal system, zero contrasts with the other options by indicating that the profiled occurrence is real. Omitting third singular *-s* (which marks person as well as tense), these parameters define the paradigm in 6(b). Instead of PRESENT and PAST, I use the more general labels IMMEDIATE and NON-IMMEDIATE. The non-immediate modals (lacking in the case of *must*) are of course less than fully analyzable in both form and meaning.

(a)

TENSE SYSTEM: \emptyset , *-s*, *-d*

MODALITY SYSTEM: \emptyset , *may*, *can*, *will*, *shall*, *must*

(b)

	IMMEDIATE	NON-IMMEDIATE
REAL	$\emptyset + \emptyset$	$\emptyset + -d$
UNREAL	M + \emptyset { <i>may</i> , <i>can</i> , <i>will</i> , <i>shall</i> , <i>must</i> }	M + <i>-d</i> { <i>might</i> , <i>could</i> , <i>would</i> , <i>should</i> }

Figure 6

The description in 6(a) is reasonable if \emptyset is taken as merely indicating the absence of explicit tense or a modal. It is less so if \emptyset is interpreted as an actual structural element (a zero morpheme), as suggested by 6(b). I am proposing a B/E alternative to such an account. In this alternative, the present-tense form of a lexical verb (*v*) is just *v*, not *v* + \emptyset (analogous to *v* + *-d*).

Likewise, the absence of a modal is just that—not the presence of a zero modal. So in the baseline clause *We admire her*, the verbal element is just *admire* (rather than \emptyset *admire* + \emptyset).

Except for third-person singular (where *-s* **preempts** the general pattern), English does not mark present tense. Can we then speak of tense or grounding in such clauses? Can we characterize *We admire her* as a grounded clause in the present tense? We can if tense and grounding are regarded as **semantic functions** as opposed to specific structural elements. A clause serves the intersubjective function of coordinated mental reference, whereby the interlocutors direct attention to what is taken to be the same occurrence. This global function incorporates grounding as a subfunction: that of the interlocutors situating the profiled occurrence with respect to time and their conception of reality. This can be accomplished in different ways. It can be done by means of an explicit grounding element, like a modal or a tense marker. Alternatively, it may simply be inherent in the conceptual substrate presupposed by the clause as the basis for its form and meaning. If the substrate ascribes a certain status to the profiled occurrence, that alone fulfills the clausal grounding function.

For English clauses, the baseline substrate includes the supposition that the interlocutors are engaged in describing **real** occurrences (Figure 2). Although the linguistically relevant notion of **reality** is quite complex (involving dimensions and levels of elaboration), we need only consider the baseline version. Out of all conceivable occurrences, only some are **realized**. Through time there is thus established a **history of realized occurrences**, which is continually being augmented. For a given conceptualizer, at a given moment, the **established history** of occurrences constitutes **reality**. Note that future occurrences are precluded, as they have not (yet) been realized.

Reality (R) can thus be visualized as a cylinder which “grows” through time with new occurrences, as shown in Figure 7(a). The face of this cylinder—where the growth takes place in the form of new events and continuing situations—constitutes **immediate reality** (IR). In the baseline viewing arrangement, R includes both the ground (G) and the profiled occurrence (**p**). G is specifically in IR (defining the temporal deictic center), but **p** can be anywhere in R, as shown in 7(b).

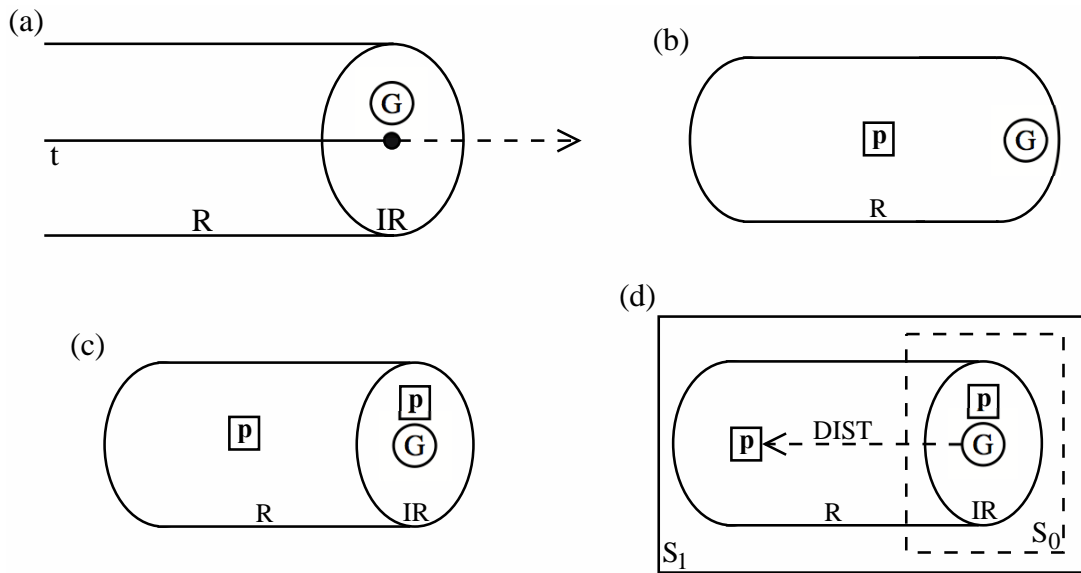


Figure 7

With 7(b) as part of the supporting conceptual substrate, a language might forgo explicit grounding in baseline clauses. One such language is Hopi, where a bare verb describes either a completed event or a stable situation: *Taaqa wari* ‘The man ran’; *Taaqa qati* ‘The man is sitting’. These usually correlate with past vs. present, since a realized event is only describable as such upon completion whereas a stable situation is fully instantiated at the time of speaking (Langacker 2009: ch. 7). English, on the other hand, differentiates 7(b)—where **p** is simply in R—into the alternate configurations shown in 7(c); baseline clauses are conceptually more elaborate by virtue of indicating whether **p** is in IR or in its complement. A stable situation can thus be specified as either present or past: *I love her*; *I loved her*.

Third-singular *-s* departs from the basic English pattern by preemptively marking person as well as tense. If we limit our attention to tense per se, baseline grounding can itself be seen as exhibiting the B/E organization in 7(d). Present occurrences, fundamental in the sense of being immediately accessible to the interlocutors, represent a lower stratum, S_0 . Describing past occurrences involves both formal elaboration, by *-d*, and conceptual elaboration based on an additional mental capacity, namely recall. The dashed arrow indicates elaboration as well as the distancing (DIST) whereby **p** is non-immediate to G.

Baseline grounding is further elaborated by the grammaticized modals. They represent a higher stratum characterized by additional conceptual resources, notably the ability to **project** the growth of reality to encompass occurrences not yet accepted as having been realized. So as a departure from the baseline substrate, modals situate **p** outside of R. This is true of both **root** and **epistemic** modals, as shown in Figure 8. In an abstract sense both are **force dynamic** (Talmy 1988; Sweetser 1990; Langacker To appear). The difference is that root modals are primarily **interactive**, intended to have some effect on the course of events: *You **may** go to the party; They **should** be more polite; You **must** tell her the truth.* By contrast, epistemic modals are primarily **individual**, the modal force consisting in the speaker's own assessment of the prospects for **p** being realized: *She **will** refuse the offer; They **may** not be home; We **could** fail.*

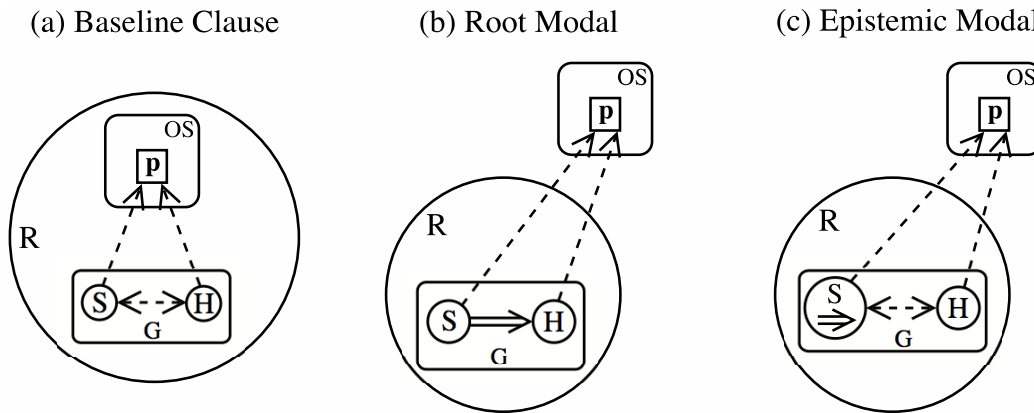
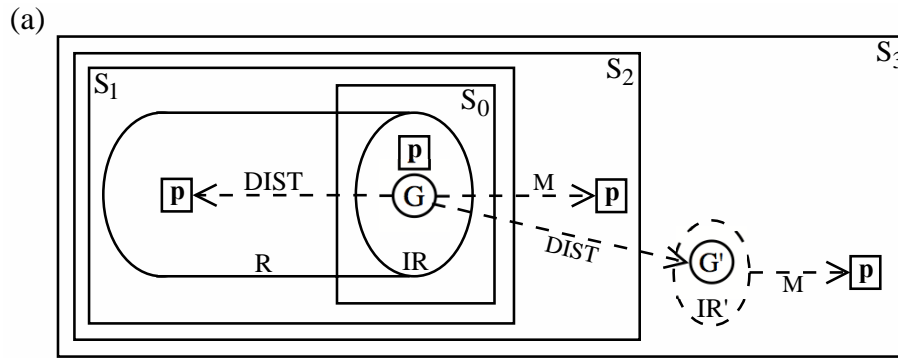


Figure 8

Elaboration by modals (M) defines the higher strata shown in Figure 9(a). The **basic modals**—*may, can, will, shall, must*—distance **p** from the ground by placing it outside of R (S₂). Relative to this, the **elaborated modals**—*might, could, would, should*—consistently imply a longer “epistemic path” from G to **p** than their counterparts. An example is *She will do it because she can* vs. *She would do it if she could*, where *will* and *can* are matters of future potential while *would* and *could* are counterfactual. They represent a higher stratum (S₃), since compared to their basic counterparts they are morphologically and conceptually more complex: ((M) DIST)_M.



(b) *[If he were not so poor] she **would** marry him.*

[he be poor] [he not be poor] [she marry him]
 (G) — DIST —> (G') — will —> [p]

Figure 9

Their conceptual complexity reflects an additional mental capacity: that of imagining a situation (G')—distinct from G—from which a basic modal projection could be made. It is exemplified in 9(b), where *would* effects the grounding of *she marry him*. The actual situation (immediate to G) is that he is poor. The imagined situation (at G') is that he is not poor. It is from the latter that the basic modal projection can be made: **p** is predictable (*will*) given the counterfactual situation of his not being poor (as part of IR'). So with modals the import of the non-immediate form is that the basis for prediction is distant (DIST) from G in the sense of not being real. In contrast to the basic modals, there is thus a two-step epistemic path from G to **p**.

2.4 Basic Clauses

In Figure 10 I give an interim summary. In a **baseline** clause, grounding is effected by tense, with the grounded structure comprising the lexical verb and its participants. Each can be elaborated to form a **basic** clause; for grounding this is done by modals, and for the grounded structure through perspectival adjustment. These elaborations are primarily **descriptive**, serving to refine the characterization of the occurrence and its status. Either a baseline or a basic clause

expresses a **negotiable proposition** (P). By definition, a baseline clause represents the default option—when unelaborated, it stands alone as a basic clause with this function.

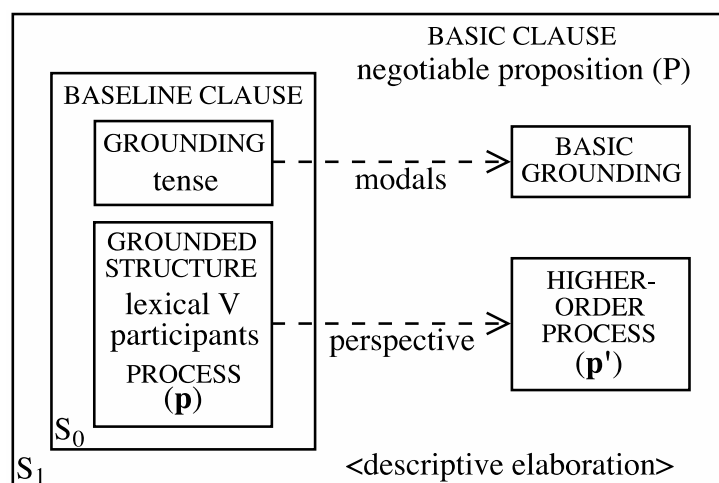


Figure 10

The general grounding construction, exemplified by the baseline clause *We liked her*, is sketched in Figure 11(a). An overt grounding element—be it *-d*, *-s*, or a modal—profiles a fully schematic process, putting it onstage as the focus of attention within the objective scene (OS). This schematic process is identified with the specific one (p) profiled by the grounded structure (an elaborated process type). The clause thus designates an instance of **p** and indicates its epistemic status vis-à-vis the ground.

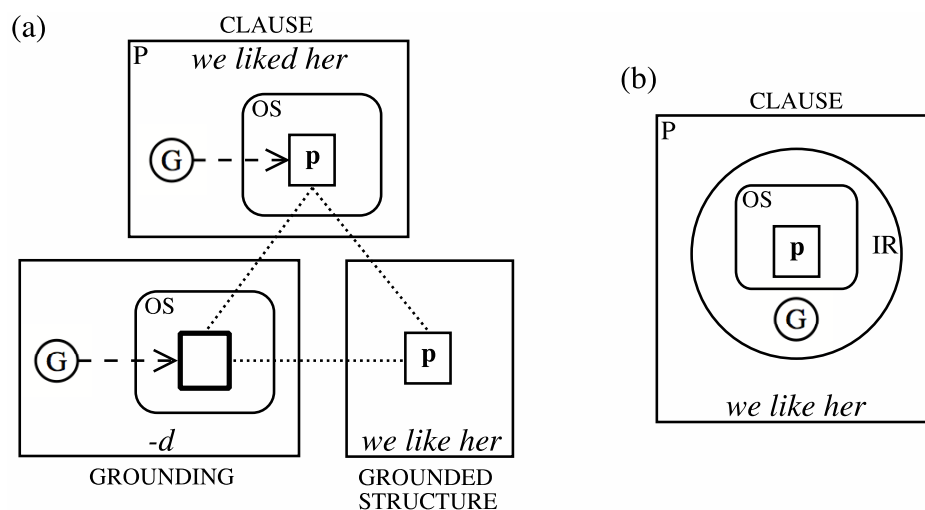


Figure 11

Grounding remains implicit in present-tense expressions such as *We like her*, represented in 11(b). Their formal simplicity reflects the baseline situation of the profiled occurrence being immediate to the ground. In terms of a path from G to \mathbf{p} , this is the limiting, degenerate case: there is no path, since both are in IR . This pattern is conventional in English, hence an established linguistic unit. It simply specifies that the description of \mathbf{p} itself—equivalent to the grounded structure in 11(a)—qualifies as a clause when its epistemic status is that of immediacy to G .

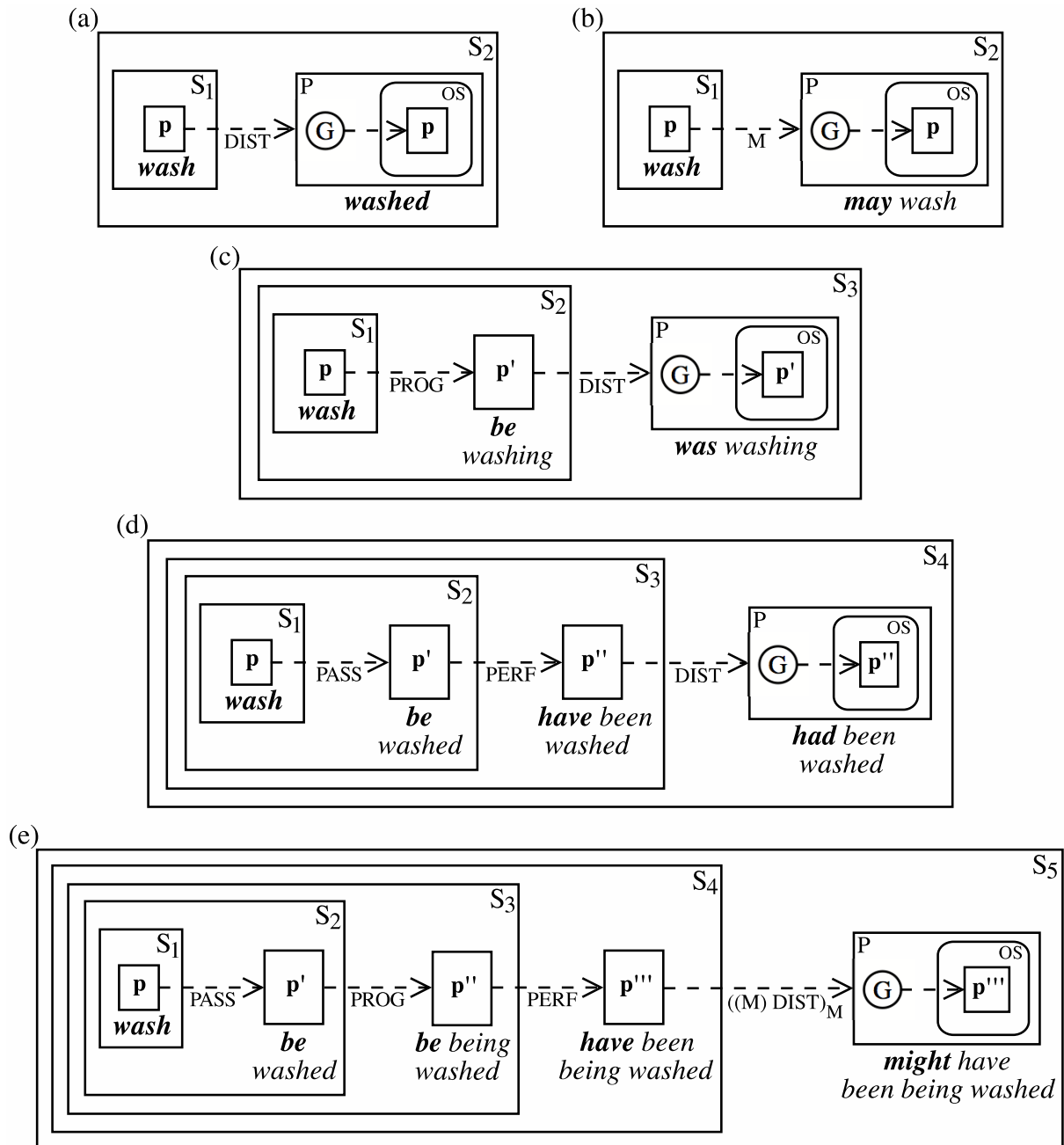


Figure 12

Thus a minimal clause consists of just a lexical verb and its participants, with grounding effected by the substrate: **p** is immediate to G and neutral in perspective. Other clauses have multiple strata reflecting elaborated grounding and/or perspectival adjustment. Various cases are

shown in Figure 12. In 12(a), overt grounding by the distal (past-tense) marker yields what is still a baseline clause (e.g. *She washed it*), while in 12(b) a modal results in a basic clause (*She may wash it*). The other examples combine explicit grounding with one or more perspectival adjustments. Each elaboration produces a structure representing a higher stratum by virtue of being formally and semantically more complex. The end result—at the highest level—is a full clause that profiles a grounded occurrence (**p**, **p'**, **p''**, or **p'''**) and expresses a negotiable proposition (**P**): *She was washing it*, *It had been washed*, *It might have been being washed*.

At each stratum I have used bold type to indicate the **verb word** which first appears there. This word is always initial in the verb group at that level, where it is also the **constructional head**, profiling the same process as the composite expression. The initial word at the highest level is what is traditionally known as the **finite** verb, defined as the verb bearing tense. In CG terms, the finite verb can be characterized as the **locus of grounding**: the verb which registers the epistemic status of the profiled occurrence with respect to immediacy and reality. Included as a special case is the pattern in 11(b), where an uninflected verb registers the baseline status of immediate reality.

Observe in this respect that a modal has all the properties of the finite verb. Being a grounding element, it is introduced at the **highest stratum**. It is also a **verb**, since grounding elements profile the grounded process, represented schematically as the onstage focus of attention. Clearly, a modal registers the **epistemic status** of this process in regard to both reality (by excluding **p** from **R**) and immediacy (indicating whether the basis for modal projection is **G** or **G'**). And in the generalized form of immediacy, it is the verb that **bears tense**. Finally, a modal (immediate or non-immediate) is a **word**. When present, therefore, a modal is itself the finite verb (hence excluded from non-finite complements). Otherwise the grounded verb functions in that capacity.

In baseline clauses, the lexical verb is also the grounded verb as well as the finite verb. Perspectival adjustment creates a discrepancy between the lexical verb and the grounded verb, which is either *be* or *have*. Likewise, modals create a discrepancy between grounded verb and finite verb by assuming the latter role. As is common with B/E organization, conceptual and formal elaboration of the baseline results in differentiation of these three semantic functions. They can all be represented by different verbs in a basic clause. In 12(e), for example, *wash* functions as the lexical verb, *have* as the grounded verb, and *might* as the finite verb.

3. Discursive Organization

3.1 Factors

A **basic clause** expresses a **negotiable proposition** (P), which describes an occurrence (**p**) from a certain perspective and indicates its epistemic status in regard to time and the speaker's conception of reality (R). It still reflects a central feature of the baseline viewing arrangement: that the speaker merely describes, with the hearer just accepting what is said. Usually, though, the interlocutors engage in a longer discourse where certain propositions are **negotiated** by way of establishing a "common ground". Employed for this purpose are **interactive clauses**, representing a higher stratum with a wider array of interactive and discursive options (cf. the "interpersonal metafunction" of Systemic-Functional Grammar [Halliday and Matthiessen 2004; Heyvaert 2001]). An interactive clause expresses an **elaborated proposition**, P', in which the validity of P is being negotiated.

As noted in Figure 13 (an expansion of Figure 10), an interactive clause augments **basic grounding** (by tense and modals) with another sort of grounding characteristic of negotiation. Whereas basic clauses are limited to positive statements, **interactive grounding** provides additional options in regard to **polarity** and **speech act**. Basic and interactive grounding both pertain to epistemic status, but at different levels: the former concerns the status of **p**, as part of a proposition (P); the latter concerns the validity of P as a whole. Hence a basic clause functions as the grounded structure at this higher stratum.

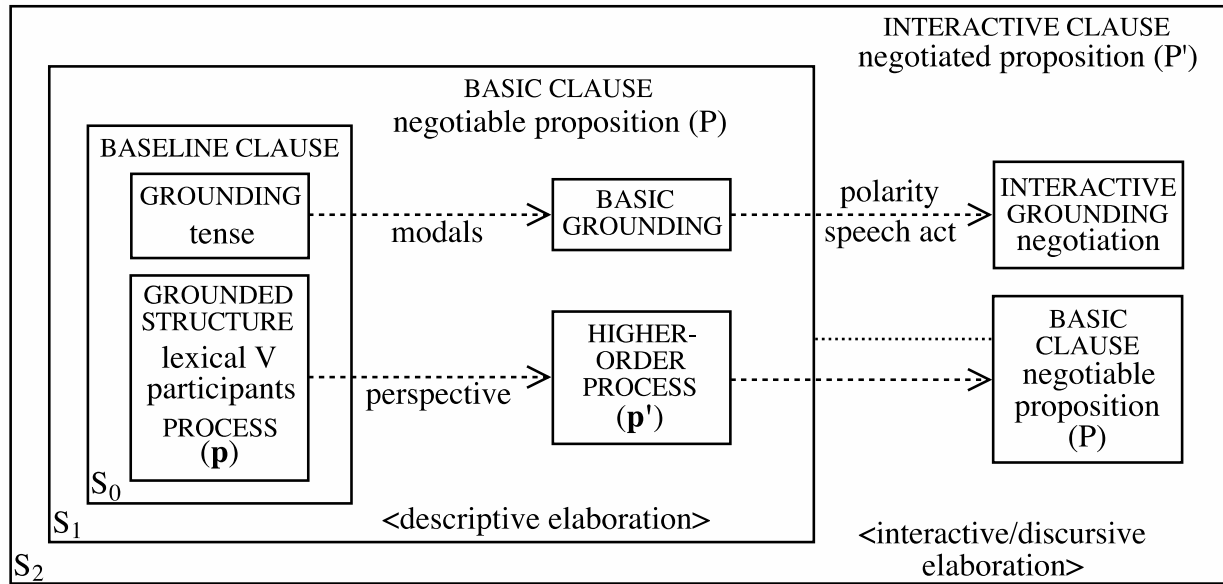


Figure 13

The negotiation of P's validity occurs through discourse (Verhagen 2005). There is no sharp distinction between descriptive and discursive functions, nor any precise correlation with strata or implementing structures. At most we can say that certain structures and functions are **primarily** descriptive or discursive. Factors that I regard as primarily discursive include **speech management, interclausal connections, information structure, order of presentation**, and the **packaging** of content.

Speech management includes such matters as turn taking, holding or yielding the floor, and offstage indications of assent or disagreement. Elements specifying interclausal connections range from having substantial descriptive content (*after, because, then*) to being purely discursive (*moreover, furthermore, and so*). Information structure (e.g. notions like topic and informational focus) pertains to the discourse status of entities with respect to their intersubjective availability. The order of presentation is a central aspect of discursive organization. It always contributes to linguistic meaning, since processing time is one dimension of semantic structure (just as it is for phonological structure). Finally, semantic and phonological content is packaged into "chunks" of manageable size. Lexical items offer prepackaged chunks

of conceptual content. At a higher level, exemplified in (1), packaging consists in allocating content to grammatical structures, like sentences and clauses, as well as to prosodically delimited processing windows—notably, what Chafe calls **intonation units** and I refer to as **attentional frames** (Chafe 1994, 1998; Langacker 2001a).

- (1)(a) //I came//↓ //I saw//↓ //I conquered//↓ [3 clauses, 3 intonation units, 3 pitch contours]
 (b) //I came // I saw // and I conquered//↓ [3 clauses, 3 intonation units, 1 pitch contour]
 (c) //I came / I saw / and I conquered//↓ [3 clauses, 1 intonation unit, 1 pitch contour]
 (d) //I came / saw / and conquered//↓ [1 clause, 1 intonation unit, 1 pitch contour]

Discursive structures have little content of their own, consisting instead in ways of organizing and presenting descriptive content for interactive purposes as a discourse unfolds. An example is the **informational focus**, where unreduced stress symbolizes new or significant information. This symbolic unit per se is too insubstantial to occur independently; it can only be manifested via the semantic and phonological content of the focused elements, e.g. *may* and *work* in *She MAY have been WORKing*.

Grammar accommodates descriptive and discursive structures as co-existing facets of symbolic assemblies. In Figure 14 I show the basic functional groupings for the clause *She MAY have been WORKing*. The ones at the top reflect the descriptive organization already discussed; those at the bottom are primarily discursive. The latter include: (i) the order of presentation (>); (ii) the packaging of content into words (w); (iii) packaging of the clause in a single processing window (W); (iv) the informational focus; (v) organization into subject and predicate (cf. Kuroda 1972); and (vi) a functional grouping I call the **existential core** (to be considered shortly).

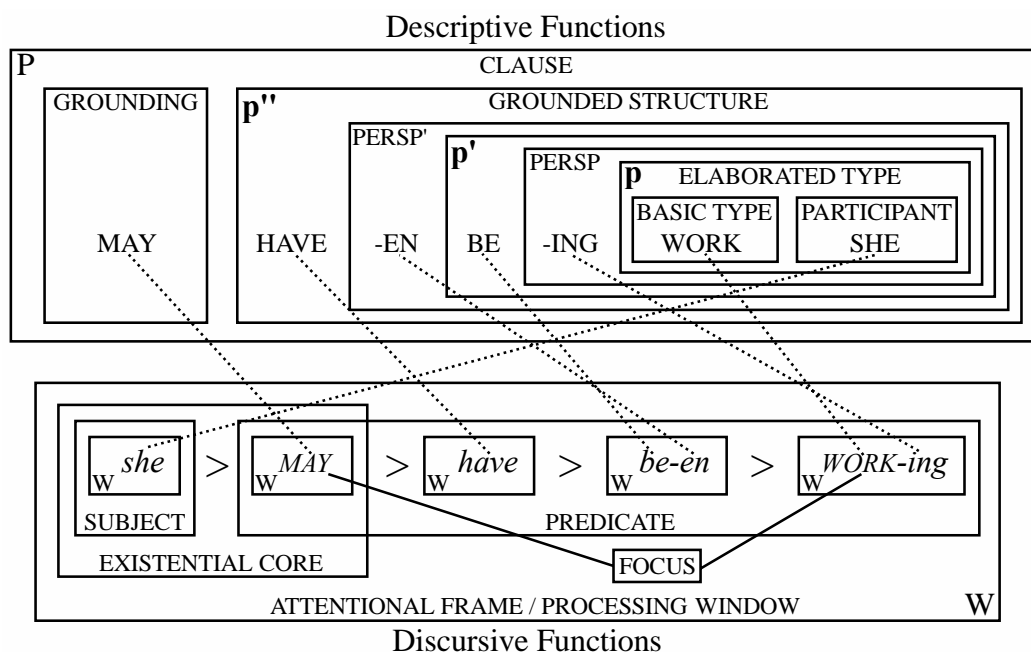


Figure 14

It is hardly surprising that structures reflecting different functions are often in conflict with one another. These cross-cutting groupings are unproblematic in CG: since grammar consists in **assemblies** of structures (as opposed to rigid hierarchies), the same elements can perfectly well be organized simultaneously in non-congruent ways. In Figure 14, for instance, the informational focus MAY WORK—symbolized by unreduced stress—does not coincide with any other semantic or phonological grouping (Langacker 1997). The need to accommodate both descriptive and discursive functions has the consequence that not every grouping is symbolized individually. As a composite whole, for example, the elaborated process type SHE WORK does not correspond to any independently observable phonological grouping (being discontinuous in the clause). Despite such discrepancies, descriptive and discursive structures are readily apprehended on the basis of the overall assemblies and the constructions employed.

3.2 Negotiation

The negotiation defining an interactive clause pertains to **polarity** and **speech act**. For polarity, the baseline status is POSITIVE, with NEGATIVE and AFFIRMATIVE as additional options at a higher stratum. Negative is marked by *not* (often contracted), and affirmative by unreduced stress. Affirmative differs from positive by specifically viewing P in relation to the negative alternative: *He IS smart* suggests that the possibility of his not being smart is somehow within the realm of consideration (e.g. *He may not be a genius, but he IS smart*). In the case of speech act, we will limit our attention to STATEMENT (the baseline) and QUESTIONING. The latter is clearly more elaborate because the question scenario includes a statement (the expected response).

The starting point for negotiation is thus a positive statement, i.e. a basic clause expressing a negotiable proposition (P). From this baseline, elaborations in regard to polarity or speech act produce an interactive clause representing a negotiated proposition (P'), as shown in Figure 15. The two dimensions of elaboration can also be combined, resulting in an affirmative or negative question (*Is he smart?*; *Isn't he smart?*).

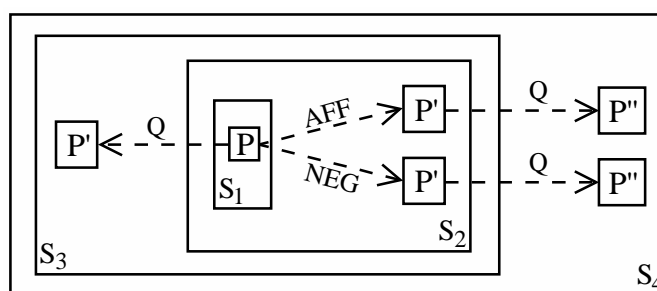


Figure 15

The various options in Figure 15 are all indicated by the subject and finite verb. In a positive statement, they simply occur in that sequence: *He is trying*. Non-baseline polarity is marked on the finite verb, by either unreduced stress or incorporation of *not/n't*: *He IS trying*; *He isn't trying*. And questioning is signaled by the finite verb preceding the subject: *Is he trying?*. As the manifestation of interactive grounding, the subject and finite verb—along with these basic indications of polarity and speech act—constitute a functional grouping with an important role in the grammar of English clauses. Underlined for ease of identification, I refer to this grouping as

the **existential core**. C_{\exists} is adopted as an abbreviatory notation (\exists being the logical symbol for the existential quantifier).

The term alludes to a basic claim concerning the semantic function of a clause: that it serves to predicate—and if need be, to negotiate—the **existence of a relationship**. In standard usage, of course, we do not speak of *relationships* as *existing*. But that is just a lexical idiosyncrasy of English. There is in fact good motivation for speaking this way, based on the wide-ranging parallelism between nominal and clausal structure (Langacker 2009: ch. 6). Consider just their prototypes, namely objects and events. We say that *objects exist*, while *events occur* (or *happen*), but these locutions obscure a fundamental similarity. An **object** consists of **substance** that occupies a continuous region in **space**; it **exists** by virtue of having spatial extension and a spatial location. Analogously, an **event** is an evolving **relationship** [given as $r_1...r_i...r_n$ in Figure 4(c)] that occupies a continuous region in **time**; it **exists** (or **occurs**) by virtue of having temporal extension and a temporal location.

In the case of nominals, existence is generally taken for granted; the **primary epistemic issue**, reflected in nominal grounding, is **identification**. But for clauses the primary epistemic issue is **existence**: whether the profiled relationship actually **occurs**. A relationship that occurs is referred to in CG as a **process**—or more perspicuously, as an **occurrence**. Since a verb or a clause profiles a process, by definition it makes an existential predication, describing an occurrence. In the form of interactive grounding, negotiation concerning the validity of this predication is registered in the existential core.

The core functions discursively by providing a compact, clause-initial presentation of the existential negotiation. It is optimal when (as very often happens) the subject is pronominal and the finite verb non-lexical; the core is then schematic, and in the absence of specific conceptual content negotiation comes to the fore. As non-lexical options, the finite verb is either *be*, *have*, *do*, or a modal—the so-called “auxiliary verbs”. These are better described as **existential verbs**: the profiled relationship being wholly schematic, their conceptual import centers on the very notion of its occurrence. Relevant here is the cross-linguistic prevalence of using *be*- and *have*-type verbs to predicate existence in the case of things. And despite some basic differences, an existential predication is clearly pivotal for both *do* and the modals.

Do and the modals are alike in that they profile the same process as their complement but describe it only schematically. In terms of their onstage content, therefore, the combinations *do* +

v and M + v are non-distinct from v itself. One difference is that modals are grounding elements, whereas *do* augments the grounded structure. As grounding elements, modals profile the onstage process, even though their essential content resides in the offstage grounding relationship (Langacker 2002). They contribute semantically by indicating, through their offstage assessment of its potentiality, that the profiled occurrence is as yet unrealized.

Unlike modals, *do* combines only with the lexical verb, which it elaborates for discursive reasons. This elaboration is not a matter of additional conceptual content, since *do* is schematic for the class of verbs. Its semantic contribution is rather to reinforce the notion of existence by expressing it individually. Observe that it occurs just when existence is being negotiated: in cases of negation, affirmation, and questioning (not in positive statements). *Do* + v can thus be characterized as a **discursively motivated elaboration** of v.

Defined most narrowly, the existential core is a closely integrated system that lends itself to paradigmatic representation, as shown in the following table. The one apparent anomaly is in the upper left-hand corner, where the finite verb is **lexical** rather than **existential**. But this is not at all anomalous when analyzed in terms of B/E organization: the expressions involved are **baseline clauses**, which occur by default if nothing dictates otherwise. It is only at a higher stratum, through descriptive or discursive elaboration, that an existential verb is introduced to impose its profile and function as the tense-bearing element. With descriptive elaboration, that verb is *be*, *have*, or a modal. If there is only discursive elaboration, the lexical verb (v) gives way to the periphrastic alternative *do* + v. Existential status can then be indicated by the subject and a schematic finite verb (*He didn't*; *He DID*; *Did he?*), in accordance with the general pattern.

	POS	NEG	AFF	Q	
v/do	<u>He tried.</u>	<u>He didn't try.</u>	<u>He DID try.</u>	<u>Did he try?</u>	BASELINE
be	<u>He is trying.</u>	<u>He isn't trying.</u>	<u>He IS trying.</u>	<u>Is he trying?</u>	ELABORATION (descriptive)
have	<u>He has tried.</u>	<u>He hasn't tried.</u>	<u>He HAS tried.</u>	<u>Has he tried?</u>	
M	<u>He will try.</u>	<u>He won't try.</u>	<u>He WILL try.</u>	<u>Will he try?</u>	

	POS	NEG	AFF	Q	
	BASELINE	ELABORATION (interactive/discursive)			

A brief summary will be useful. In all cases, existential status is indicated by the subject and the finite verb, the main elements of the existential core (C_{\exists}). As a succinct representation of the clause and its status, the core is optimal when the subject and finite verb are both schematic. Baseline clauses, where the verb is lexical and the subject may be as well, diverge from this general pattern but should not be thought of as **exceptional**—it is rather that they are more **fundamental**, for in the baseline substrate existential status is not at issue. At this lowest stratum, where negotiation is not a factor, core and clause are as yet undifferentiated. An important point is that the core is not a fixed, distinct, or discretely bounded structure but a functional grouping, variable in extent and membership depending on the function served.

The **finite verb**, being the locus of existential negotiation and the pivotal element of the existential core (C_{\exists}), will also be referred to as the **existential verb** (V_{\exists}). To be sure, every verb is existential in the sense that it predicates the existence of a relationship. And being schematic in regard to that relationship, auxiliary verbs are existential in the further sense that their conceptual import centers on the very notion of its occurrence. The finite verb of a clause is existential in yet another sense pertaining to discursive function: the process it profiles is the one whose existence is being negotiated and whose epistemic status is registered by the core.

3.3 Anchoring

The **order of presentation** has intrinsic conceptual import just by virtue of invoking semantic structures in a certain sequence. Order alone ensures that $X > Y$ is never precisely equivalent to $Y > X$: they constitute distinct mental experiences, hence subtly different meanings, even if the difference is negligible for most purposes. Nor is it just a matter of sequencing, as what goes before unavoidably influences the processing of what follows. The manifestation of Y is at least minimally different in the sequence $X > Y$, where X is part of the supporting substrate, from when it occurs alone. (To some extent the influence is bidirectional, the anticipation of Y being part of the substrate for X .)

A variety of experimental evidence indicates that the **initial element** in a sequence has special status in this regard. It serves as a “starting point” to which other content is attached (MacWhinney 1977). Though demanding more cognitive capacity, it lays a “foundation” for “structure building”; it “gains a privileged status in the comprehenders’ minds”, being more accessible in subsequent processing tasks (Gernsbacher and Hargreaves 1992). The initial element in a sequence will be referred to as the **anchor**.

Defined in this general fashion, an anchor can be a structure of any size or at any level of organization. Our concern here is with the anchor in a clause, so the elements involved are major clausal components, such as nominals, adverbials, and the existential core. The default in English is for the subject to function as anchor, whether it be a single word or a longer expression. The correlation of anchor and subject is natural from the standpoint of CG: the subject is the nominal expressing the clausal trajector (primary focal participant), characterized as **initial reference point** accessed in building up to a full conception of the profiled process (Langacker 1998, 1999; cf. Chafe 1994: ch. 7). A key point is that the extent and specific nature of their correlation differ at successive strata.

In baseline clauses, there is only one option: the subject is always initial (hence the anchor) and expresses the trajector of the lexical verb.

Things are slightly more elaborate in basic clauses owing to perspectival adjustment. In particular, the passive construction introduces a discrepancy between the trajector of the lexical verb and that of the clause as a whole. The anchor of a basic clause is still the subject—its primary focal participant (Tomlin 1995; Ibbotson, Lieven, and Tomasello 2013)—but in passives this coincides with the landmark of the lexical verb rather than its trajector.

Interactive clauses, where discursive factors come into play, present a considerably more complex picture. They are structurally more elaborate both by containing additional components (such as adverbs) and also by letting word order vary for discursive purposes. Most relevant here is a particular construction in which the subject is preceded by another element, e.g. the object nominal: *Dishonesty she can't tolerate*. By definition the preceding element functions as clause-level anchor. This construction therefore differentiates the anchor and subject roles, just as the passive differentiates the roles of subject and verbal trajector.

The element preceding the subject will be called the **discursive anchor** (labeled A'). A wide array of elements function in this capacity, including non-subject nominals, prepositional phrases, and adverbial expressions. They have varied functional motivations, exemplified in (2).

- (2)(a) ***Obama** he would never vote for.*
 (b) ***In parts of Hawaii** it rains almost every day.*
 (c) ***From Houston** he will drive to Dallas.*
 (d) *??**To Dallas** he will drive from Houston.*
 (e) ***Therefore** you shouldn't take the job.*
 (f) ***On the counter** it goes!*
 (g) ***Carefully** she unwrapped the present.*

One basic function is to provide a **mental address** for interpreting the clausal content, by directing attention to a certain portion of our conceptual universe. This is often a clausal participant, as in (a), in which case the anchor is said to be a clause-internal **topic**. But it can also be a location or a global **setting** (Langacker 1991: §8.1.3), as in (b). The discursive anchor has **iconic** motivation when it specifies the **origin of a natural path**, e.g. a path of motion, as in (c); note the relative infelicity of the counter-iconic order in (d). Another function is to indicate the **connection** of a clause with the previous one, as in (e). An alternative motivation is **urgency**: the anchor demands immediate attention. If I see you staggering under a heavy load, which you need to put down right away, I will probably state the location first, as in (f). The default order, *It goes on the counter!*, delays the essential information.

A clearly discernible motivation is not always evident. It may just be that the speaker chooses to favor a certain component with the intrinsic salience of initial elements. In (2)(g), for example, coming first makes the manner specification a bit more salient than it would be otherwise. Whatever its motivation, the discursive anchor has at least this minimal conceptual import. Moreover, it **frames** the clause in the sense of providing an initial point of access to its content. Because it is already active when subsequent elements are activated, it has the potential to influence their interpretation.

Discursive anchoring represents a dimension of B/E organization at the level of interactive clauses. The baseline—the most neutral order of presentation—is for the subject to be

initial as part of the existential core, as in Figure 16(a): *I may not finish this paper on time*. By definition the subject is then the clausal anchor (A), but as the default configuration this does not per se have any special discursive import. It is noteworthy that a clause of this sort displays a kind of functional optimality in having not just one but two natural starting points. The subject anchors the clause, as well as the existential core (C_{\exists}). But since an anchor can be of any size, the core itself can be thought of as a clausal anchor. It is a natural point of access which facilitates processing by offering a schematic preview of the profiled occurrence and its existential status. Whether taken to be the subject or the core, the anchor still **frames** the clause in the sense of being the initial point of access. Representing the baseline situation, this constitutes **neutral** framing, as distinct from the **special** framing giving rise to discursive alternatives at a higher stratum.

(a) Interactive clause: neutral framing (B)				(b) Interactive clause: special framing (E)				
C_{\exists}			R'	A'	C_{\exists}			R'
A	V_{\exists}	R			A	V_{\exists}	R	
<i>I</i>	<i>may</i>	<i>not</i>	<i>finish this paper on time.</i>	<i>This paper</i>	<i>I</i>	<i>may</i>	<i>not</i>	<i>finish on time.</i>

Figure 16

Special framing implies a more elaborate conceptual structure based on discursive factors like those in (2). As shown in Figure 16(b), it creates a discrepancy between the discursive anchor (A') and the subject: *This paper I may not finish on time*. Note, however, that the subject still anchors the core as well as the sequence that follows A'. Indeed, except for the “gap” corresponding to A', that sequence still constitutes a clause which the subject frames in the same way as at lower strata. This construction can thus be seen as elaborating an interactive clause by introducing an additional level of structural and functional organization. It partially differentiates what would otherwise be a single clause, resulting in two layers of clausal structure, each with its own anchor: [A' [A ...]_{CL}]_{CL}.

The two anchors have slightly different framing functions, which are not yet differentiated at lower strata. The function of A is primarily **descriptive**: an active clause describes what the agent does, while a passive describes what happens to the patient. The choice

of subject—a matter of perspective on the lexical process—emerges at a lower level. By contrast, the function of A' is primarily **discursive**, pertaining to discourse factors at a higher level of organization. This is not to deny, of course, that passives are used for various discourse purposes. The point is rather that special framing constitutes a **discursive overlay** on a more basic descriptive structure. It can thus apply to either actives or passives, as in (3).

- (3)(a) *Termites destroyed the house in just six months.* [A = SUBJ = AG]
 (b) *The house was destroyed by termites in just six months.* [A = SUBJ = PAT]
 (c) *In just six months termites destroyed the house.* [A' ≠ A = SUBJ = AG]
 (d) *In just six months the house was destroyed by termites.* [A' ≠ A = SUBJ = PAT]

Since A' and A represent semantic functions, rather than fixed or separate structures, different elements can assume either role. Nor does anything prevent the same element from functioning in both capacities. In (4)(a), we observe that a clause-internal topic, especially when contrastive, is fully stressed and prosodically salient in addition to being initial. When that element happens to be the subject, as in (4)(b), the **neutral framing** effected by a clause-initial subject is reinforced by the **special framing** of a discursive topic. In this case the subject functions as both A' (by virtue of being the topic) and as A (by virtue of being initial). The functions are **conflated** in a single element.

- (4)(a) **STUPIDITY** [A'] *she* [A/SUBJ] *can tolerate.* **DISHONESTY** [A'] *she* [A/SUBJ] *can't.*
 (b) **SHE** [A'/A/SUBJ] *can tolerate stupidity.* **HE** [A'/A/SUBJ] *cannot.*

4. Inversion

4.1 Existential Core

In Figure 16(b), and again in 17(b) *Zelda he will never understand*, we observe a parallelism between the core of an interactive clause and the clause as a whole. It is captured by the formula A > ∃ > R: an anchor (A), followed by an existential element (∃), followed by the remainder (R). Within the existential core, A is the subject, ∃ is the existential verb (V_∃), and R

is any remaining core element (e.g. *never*). At the clause level, the corresponding elements are a discursive anchor (A'), the full existential core (C \exists), and everything which follows it (R').

Representing a kind of fractal organization, this pattern repeats itself at multiple levels. We can recognize the same elements in a baseline clause, such as 17(a) *Floyd broke the glass*: A is the subject, \exists the lexical verb, and R the object. It is also evident in the higher-level elaboration of an interactive clause, as in 17(c): *Your son, at home he has always been pleasant, hasn't he?*. In this case A is a clause-external topic, \exists is a basic interactive clause, and R is a question tag.

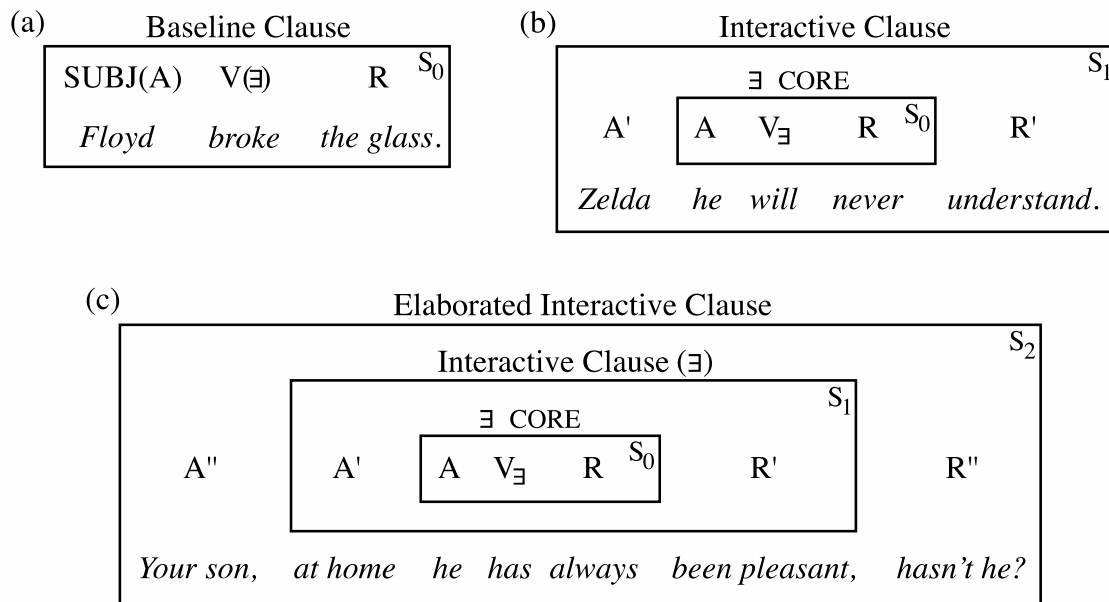


Figure 17

Our main concern is with an interactive clause and its existential core. Let us first consider the motivation for recognizing the core as being linguistically significant. Recall that C \exists was characterized as a functional grouping comprising the subject, the finite (or existential) verb, and basic indications of polarity and speech act. One indication of its significance is the fractal organization noted in Figure 17: the core is a particular manifestation of a pattern that recurs at multiple levels. Also, within an interactive clause the core serves the important function of registering the existential status of the profiled occurrence. And with a baseline interactive clause, as in 16(a) *I may not finish this paper on time*, the core is a natural point of access

providing a schematic representation of the clausal occurrence, its existential status, and its main participant.

These are indications that the core has **functional** significance. It also has **structural** significance. First, the division between C_{\exists} and R' is a favored location for the interruptive occurrence of adverbs and other expressions pertaining to existential status, as in (5). Moreover, because C_{\exists} satisfies the abstract definition of a finite clause—namely, it profiles a grounded process—it has the potential to stand alone as such. We see in (6) that it does so both as a question tag (e.g. *will it?*) and also as part of an elliptic response (*No, it won't*).

(5)(a) *You should, I think, pass this test quite easily.*

(b) *He did not, apparently, tell his wife about his affair.*

(c) *She has, it seems, been complaining to her boss.*

(d) *Are they, perhaps, being criticized unfairly?*

(6)(a) **A:** *Our plan won't be affected, will it?* **B:** *No, it won't.*

(b) **A:** *The boys have been quiet, haven't they?* **B:** *Yes, they have for the most part.*

(c) **A:** *You're cleaning your room, are you?* **B:** *Yes, I am.*

(d) **A:** *He DID vote for Romney, didn't he?* **B:** *No, he didn't, actually.*

Despite its structural significance, the existential core is not a rigid structure with clear-cut boundaries. There is no definitive list of core elements, as they differ in degree of centrality and membership varies for different functions. The core is minimal, consisting of just the most central elements, in the case of question tags. There it is limited to the subject and existential verb—both of which have to be schematic—as well as baseline negation (*not/n't*) and indication of speech act. We see in (7) that a tag is infelicitous with a lexical subject or verb. Nor does it tolerate *ever*, which occurs in the core of either a full clause or an elliptic response.

(7)(a) *Floyd broke the glass, {did he? / *did Floyd? / *broke he?}.*

(b) *He has {never / not ever} broken one, has he (*ever)?*

(c) **A:** *He didn't break a glass.* **B:** *Has he ever (done so)?*

At the other extreme, the core is maximally inclusive in the case of interruptive adverbials, as in (8)(a). It allows both lexical subjects and a substantial array of elements with epistemic import. The core also figures in the phenomenon known as “subject-auxiliary inversion”—here just **inversion**—where the subject follows the existential verb instead of preceding it. This represents an intermediate case, as only a subset of the elements preceding interruptive adverbials function as core elements for this purpose. And as noted in (8)(b), the judgments are not always clear, suggesting that their status as core elements is a matter of degree.

(8)(a) *Floyd has {never / seldom / often / always / even / certainly / clearly / in fact / indeed}, according to the evidence, been guilty of glass breaking.*

(b) *{Never / Seldom / ?Often / ??Always / *Even / *Certainly / *Clearly / *In fact / *Indeed} has Floyd been guilty of glass breaking.*

I am proposing, then, that elements which induce inversion—like *never* and *seldom* in (8) (b)—belong to the existential core. Two issues must therefore be addressed. First, what is the basis for claiming that these “inversion triggers” are core elements? And second, why do they have this effect? How, exactly, does inversion come about?

The analysis of inversion has been a point of theoretical contention. In the generative tradition, it is treated (following Chomsky 1957) as a “purely formal generalization”, thus supporting the autonomy of syntax (Borseley and Newmeyer 2009). In the cognitive-functional tradition, an alternative is naturally sought in which all the structures involved have semantic or discourse motivation. Goldberg (2006, 2009) describes inversion as a polysemous family of constructions which share the property of departing significantly from a prototypical sentence, characterized by the features positive, predicate focus, assertive, independent, and declarative. In my own analysis—which has much in common with one proposed by Chen (2013)—inversion is not a construction per se, but results from the interaction of discursive factors.

4.2 The Basic Analysis

Simply stated, inversion is just a consequence of special discursive framing by a core element other than the subject. Notions already introduced make it apparent why this is so. Special framing implies that there is indeed a discursive anchor, A' . When A' is a core element, it frames the clause in terms of some facet of the existential negotiation by the interlocutors. Since A' is then initial as well as being a core element, it is initial in the core, making it the core-level anchor, A ; the functions A' and A are thus conflated. Now the existential core in English consistently follows the pattern $A > \exists > R$, where \exists is the existential verb (V_{\exists}). And only one core element can be initial. So when something other than the subject functions as both A' and A , the subject cannot, but has to follow V_{\exists} as part of the remainder (R).

Even if the basic outline is clear, the analysis requires more extensive discussion. Let us start with the observation that not every interactive clause has a discursive anchor. There is none in the case of neutral framing (the baseline in this respect), corresponding to the default word order of English clauses. As shown in Figure 18(a), the core is then initial, with the subject initial in the core. The subject thus functions as descriptive anchor (A) for both the core and the clause, but there is no discursive anchor (A').

(a)	<table> <tr> <th colspan="2">C_∃</th><th rowspan="2">R'</th></tr> <tr> <th>A</th><th>V_∃</th></tr> <tr> <td><i>She</i></td><td><i>can</i></td><td><i>tolerate stupidity.</i></td></tr> </table>	C _∃		R'	A	V _∃	<i>She</i>	<i>can</i>	<i>tolerate stupidity.</i>	(b)	<table> <tr> <th rowspan="2">A'</th><th colspan="2">C_∃</th><th rowspan="2">R'</th></tr> <tr> <th>A</th><th>V_∃</th></tr> <tr> <td><i>Stupidity</i></td><td><i>she</i></td><td><i>can</i></td><td><i>tolerate.</i></td></tr> </table>	A'	C _∃		R'	A	V _∃	<i>Stupidity</i>	<i>she</i>	<i>can</i>	<i>tolerate.</i>				
C _∃		R'																							
A	V _∃																								
<i>She</i>	<i>can</i>	<i>tolerate stupidity.</i>																							
A'	C _∃		R'																						
	A	V _∃																							
<i>Stupidity</i>	<i>she</i>	<i>can</i>	<i>tolerate.</i>																						
(c)	<table> <tr> <th colspan="3">C_∃</th><th rowspan="2">R'</th></tr> <tr> <th>A'/A</th><th>V_∃</th><th>R</th></tr> <tr> <td><i>Never</i></td><td><i>can</i></td><td><i>she</i></td><td><i>tolerate stupidity.</i></td></tr> </table>	C _∃			R'	A'/A	V _∃	R	<i>Never</i>	<i>can</i>	<i>she</i>	<i>tolerate stupidity.</i>	(d)	<table> <tr> <th colspan="3">C_∃</th><th rowspan="2">R'</th></tr> <tr> <th>A'/A</th><th>V_∃</th><th>R</th></tr> <tr> <td><i>What</i></td><td><i>can</i></td><td><i>she not</i></td><td><i>tolerate?</i></td></tr> </table>	C _∃			R'	A'/A	V _∃	R	<i>What</i>	<i>can</i>	<i>she not</i>	<i>tolerate?</i>
C _∃			R'																						
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<i>Never</i>	<i>can</i>	<i>she</i>	<i>tolerate stupidity.</i>																						
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<i>What</i>	<i>can</i>	<i>she not</i>	<i>tolerate?</i>																						
(e)	<table> <tr> <th colspan="2">C_∃</th><th rowspan="2">R'</th></tr> <tr> <th>A'/A</th><th>V_∃</th></tr> <tr> <td><i>Nobody</i></td><td><i>can</i></td><td><i>tolerate stupidity.</i></td></tr> </table>	C _∃		R'	A'/A	V _∃	<i>Nobody</i>	<i>can</i>	<i>tolerate stupidity.</i>	(f)	<table> <tr> <th colspan="2">C_∃</th><th rowspan="2">R'</th></tr> <tr> <th>A'/A</th><th>V_∃</th></tr> <tr> <td><i>Who</i></td><td><i>can</i></td><td><i>tolerate stupidity?</i></td></tr> </table>	C _∃		R'	A'/A	V _∃	<i>Who</i>	<i>can</i>	<i>tolerate stupidity?</i>						
C _∃		R'																							
A'/A	V _∃																								
<i>Nobody</i>	<i>can</i>	<i>tolerate stupidity.</i>																							
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(g)	<table> <tr> <th colspan="2">C_∃</th><th rowspan="2">R'</th></tr> <tr> <th>A'/A</th><th>V_∃</th></tr> <tr> <td><i>SHE</i></td><td><i>can</i></td><td><i>tolerate stupidity.</i></td></tr> </table>	C _∃		R'	A'/A	V _∃	<i>SHE</i>	<i>can</i>	<i>tolerate stupidity.</i>	(h)	<table> <tr> <th colspan="2">C_∃</th><th rowspan="2">R'</th></tr> <tr> <th>A'/A/V_∃</th><th>R</th></tr> <tr> <td><i>Can</i></td><td><i>she</i></td><td><i>tolerate stupidity?</i></td></tr> </table>	C _∃		R'	A'/A/V _∃	R	<i>Can</i>	<i>she</i>	<i>tolerate stupidity?</i>						
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A'/A	V _∃																								
<i>SHE</i>	<i>can</i>	<i>tolerate stupidity.</i>																							
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<i>Can</i>	<i>she</i>	<i>tolerate stupidity?</i>																							

Figure 18

Moreover, most cases of A' do not trigger inversion. For instance, it does not occur with a clause-internal topic, as in 18(b). Nor does it occur in the examples given previously [in (2)] to illustrate the varied functional motivations of discursive anchors:

- (9)(a) ***Obama** would he never vote for.
 (b) ***In parts of Hawaii** does it rain every day.
 (c) ***From Houston** will he drive to Dallas.
 (d) ***Therefore** shouldn't you take the job.
 (e) ***On the counter** does it go!
 (f) ***Carefully** did she unwrap the present.

In the spirit of Chen 2013, I am claiming that discursive anchors which do trigger inversion belong to the existential core. The basic rationale for this claim is that inversion triggers pertain directly to the clause's existential negotiation, which is localized in the core. The strongest triggers embody the central core functions of negation and questioning. Thus in 18(c), A' is a negative adverb (*never* = *not ever*). In 18(d), it is a question word. By occurring initially, these elements frame the clause in terms of the existential negotiation.

In such expressions the initial negative or question word is clearly a discursive anchor (A'): it is an anchor just by virtue of being initial; and it serves a discursive function, the interlocutors engaging in an existential negotiation which pivots on this element. And being pivotal to the existential negotiation, it belongs to the existential core (C_{\exists}). This is so even if it corresponds to an element that normally does not. In 18(d), the question word *what* functions as the clausal object, which is not per se a core element. What brings it into the core is not its status as an object, but its role in the existential negotiation.

Obviously, when A' belongs to the core it does not precede it, as in 18(b), but is rather included within it, as in 18(c)-(d). And being initial in the clause, *ipso facto* it is initial in the core, hence the core-level anchor (A). The two anchoring functions, A' and A, are thus conflated in a single element. Moreover, since only one element precedes the existential verb, the core conforms to the general pattern $A > \exists > R$.

To state it another way, the A-slot in the pattern $A > \exists > R$ can be occupied by a single element with multiple functions (e.g. A'/A), or one that is internally complex (like a multiword subject). But it cannot be occupied simultaneously by distinct structures functioning individually in that capacity. Expressions like (10)(a)-(c), with two core elements preceding the existential verb, are thus precluded. So when a non-subject functions as discursive anchor, occurring directly before V_{\exists} with the dual role A'/A, it fills the slot normally occupied by the subject. English resolves the conflict by having the subject follow V_{\exists} instead of preceding it; though still a core element, it is relegated to the remainder (R). This alternative construction, providing another way of implementing some of the same semantic functions, is what we call inversion.

(10)(a) *Never she can tolerate stupidity.

(b) *What she can not tolerate?

(c) *Never what can she tolerate?

Of course, the subject may itself take on the function of discursive anchor, as either a negative element, a question word, or a clause-internal topic. This has no effect on word order: as discursive anchor (A'), the subject must be initial; but as the default-case descriptive anchor (A), it is already initial in both the core and the clause. So instead of displacing the subject, this additional discursive function reinforces its claim to initial position. Merely the descriptive anchor (A) in 18(a), the subject has a dual anchoring role (A'/A) in 18(e)-(g). A classic problem—the absence of inversion in questions formed on the subject—is thereby resolved. The solution just falls out in the context of a more comprehensive analysis.

Inversion is thus a matter of a non-subject core element preceding V_{\exists} as discursive anchor, so that it preempts the A-slot in the pattern $A > \exists > R$. How, then, do we account for **polarity questions** (those answerable by *yes* or *no*), where nothing precedes V_{\exists} ? The analysis handles them straightforwardly. As seen in 18(h), polarity questions represent the special case where the existential verb is itself the discursive anchor. In *Can she tolerate stupidity?*, the core sequence *can she* conforms to the pattern $A > \exists > R$ with the minor qualification that the A- and \exists -slots are conflated in a single element (*can*). That element therefore has three semantic functions: A', A, and V_{\exists} . This is not just a formal solution, but directly reflects the meaning of polarity questions. The discursive anchor in a question assumes that role by virtue of being the **question focus** (Lambrecht and Michaelis 1998), i.e. it represents the information being sought. This, of course, is just what a question word does in content questions—in 18(f), *who* indicates that the question pertains to the identity of the human subject. In polarity questions, the information being sought is whether or not the profiled occurrence is real: existence per se is being negotiated. The existential verb is thus the question focus and discursive anchor.

4.3 Extensions

A variety of constructions show the inversion of subject and existential verb. A standard inventory comprises those exemplified in (11). The issue, then, is whether this is simply an arbitrary list, or whether a unified characterization can be found. Goldberg (2006) is certainly correct that these constructions amount to a prototype category with central and more peripheral members, the latter exhibiting degrees of acceptability. There being no precise boundary,

inclusion is based on motivation rather than strict predictability, so unification consists in mapping out natural paths of extension from the central cases. Let me briefly sketch what such an account might look like.

- | | |
|--|-----------------------------|
| (11)(a) <i><u>Have they</u> been complaining?</i> | [questions] |
| (b) <i><u>May you</u> have a happy marriage.</i> | [wishes] |
| (c) <i><u>Is Yao</u> ever tall!</i> | [exclamations] |
| (d) <i><u>Were he</u> rich I might marry him.</i> | [non-factual conditionals] |
| (e) <i><u>Never did they</u> suspect the truth.</i> | [negative adverbials] |
| (f) <i><u>Only with pizza</u> will she drink beer.</i> | [only] |
| (g) <i>The groom was more nervous <u>than</u> was the bride.</i> | [comparatives] |
| (h) <i>They should relax, and <u>so</u> should we.</i> | [certain conjunctions] |
| (i) <i><u>Truly are we</u> lucky to have survived.</i> | [certain positive elements] |

At the center, being fundamental to the existential negotiation, are questioning and negation. In (12) I list some elements that consistently induce inversion. Among these robust inversion triggers are the basic question words as well as any complex expressions containing them. Also included are basic negative words and an open-ended set of complex expressions incorporating *no*.

- (12)(a) *who, what, which, when, where, why, how, to whom, for what purpose, with whose wife ...*
 (b) *nobody, nothing, never, nowhere, neither, nor, at no time, in no way, to no avail ...*

Questioning and negation are primary interactive means of establishing **joint epistemic control**, i.e. building up a **shared conception of reality**. They embody different strategies for doing so. A content question, such as *What was she eating?*, is aimed at eliciting a response allowing a specific occurrence to be included in reality: *She was eating a banana*. It is a strategy of **specific inclusion**. By contrast, negation embodies the indirect strategy of **universal exclusion**: *Nothing was she eating* excludes all propositions of the form *She was eating X*.

The baseline in either case—implemented by polarity questions and basic negation with *not*—is a **global assessment** pertaining to the grounded process as an undifferentiated whole.

But in either case we also have the option of more nuanced assessments in which status vis-à-vis reality depends on a particular element. That element—the question or negative **focus**—is specified by the expressions in (12). These are core elements because they are pivotal to the existential negotiation. And as core elements, they function as inversion triggers.

These are core elements even if they correspond to non-core elements in positive statements. In (13)(a), for example, C_{\exists} does not include the direct object nominal *a banana*. But in (13)(b)-(c), *what* and *nothing* belong to the core—a functional grouping, it will be recalled—even though it is discontinuous. Their pivotal role in the existential negotiation also makes them prime candidates to be the discursive anchor (A'), as in (13)(d)-(e), in which case they trigger inversion. However, we do have the option of leaving them in place, since focus and special framing are distinct functions despite their natural affinity.

- | | |
|--|---|
| (13)(a) <i><u>She was</u> eating a banana.</i> | [OBJ is not in C_{\exists}] |
| (b) <i><u>She was</u> eating <u>what</u>?</i> | [OBJ is in C_{\exists} , does not function as A or A'] |
| (c) <i><u>She was</u> eating <u>nothing</u>.</i> | [OBJ is in C_{\exists} , does not function as A or A'] |
| (d) <i><u>What</u> was she eating?</i> | [OBJ is in C_{\exists} , functions as both A and A'] |
| (e) <i><u>Nothing</u> was she eating.</i> | [OBJ is in C_{\exists} , functions as both A and A'] |

In lists of inversion constructions, polarity questions are usually at the top. They represent a basic and obvious form of existential negotiation, being explicitly interactive and concerned with existence per se. The existential verb is therefore pivotal, whether we describe it as the default-case focus or say (from the standpoint of B/E organization) that there is no question focus. Either way, it is natural for V_{\exists} to function as discursive anchor, framing the question in terms of existential status. Of course we also have the option of relying on intonation alone, with no special framing: *She was eating a banana?*. This alternative construction downplays the negotiation—it is not so much a request for information as a matter of seeking confirmation. But when V_{\exists} does function as discursive anchor (A'/A), inversion is an automatic consequence: *Was she eating a banana?*.

Other inversion constructions with V_{\exists} as discursive anchor represent extensions from this prototype. Included are “wishes”, exclamations, and non-factual conditionals. They differ from polarity questions in regard to either the nature or the extent of the existential negotiation.

The first construction uses *may* as a root modal, being aimed at having some effect on the course of events. The sentence can be interpreted either positively, as a kind of wish (*May there be peace on earth*), or negatively, as a kind of curse (*May you burn in hell!*). In a departure from the prototype, the speaker is not negotiating with a human interlocutor, but is rather appealing to some higher power in the hope of inducing the profiled occurrence.

Exclamations are emphatic, so they often incorporate reinforcing elements: *Is he ever tall!*; *Man, is he tall!*. Moreover, they focus on degree: *Did he complain!* does not relate to the fact of complaining but to its vehemence. The expressive function of exclamations thus rivals or surpasses their descriptive function. They are also interactive, as the hearer is invited to share and confirm the speaker's reaction. Existence is still at issue with exclamations, but in a way that reflects their expressive and interactive function: what the interlocutors are negotiating is the **degree** of existence, i.e. its **exceptionality**.

In non-factual conditionals, like those in (14)(a), the existential verb appears in its non-immediate form, indicating distance from the ground in the sense of removal from reality. Being both initial and marked for distance, V_{\exists} frames the clause in terms of non-reality. To be sure, non-factuality is simply presented, rather than being negotiated in any strong or narrow sense. But existence is nonetheless the pivotal issue, and the epistemic assessment—effected via grounding—inheres in the interlocutors' apprehension of the scene. By contrast, in clauses introduced by *if*, as in (14)(b), non-factuality is directly symbolized and put onstage as an object of conception.

- | | |
|---|--|
| (14)(a)(i) <i><u>Were he</u> rich, I might marry him.</i> | (b)(i) <i>If <u>he were</u> rich, I might marry him.</i> |
| (ii) <i><u>Had he</u> won, he would have gloated.</i> | (ii) <i>If <u>he had</u> won, he would have gloated.</i> |
| (iii) <i><u>Should you</u> see her, say hello.</i> | (iii) <i>If <u>you should</u> see her, say hello.</i> |

Finally, we need to consider inversion constructions in which the discursive anchor is something other than V_{\exists} . Exemplified in (15), these all represent extensions (or chains of extensions) from the more typical situation where the inversion trigger (A'/A) is a question word or an overtly negative expression.

- (15)(a) *[Seldom / Rarely / Hardly ever] does he have any fun.* *Barely could he lift it.*

- (b) *Little* *do they* know. *On few occasions* *would he* complain.
- (c) ?*[Many times / Often]* *have I* asked myself that question.
- (d) *Only at parties* *does he* tell dirty jokes.
- (e) *Thus* *did she* learn the truth. *In that way* *did he* manage to survive.
- (f) *Truly* *are we* fortunate.
- (g) *Jack* fell, *{and so / as}* *did Jill*. *Jack* didn't fall, *{and neither / nor}* *did Jill*.
- (h) *Jack* was more nervous *than* *was Jill*.

The most obvious cases are quasi-negative expressions like *seldom*, *rarely*, *hardly*, and *barely*, which sanction negative polarity items such as *any* (Klima 1964). These constitute a natural extension—a simple matter of attenuation—from the negative strategy of **universal exclusion** to one of **near universal exclusion**. Further attenuation brings in the minimizing quantifiers *little* and *few* (Langacker 2009: ch. 3). These provide a bridge to positive expressions of quantity such as *many* and *often*, whose status as inversion triggers is rather marginal.

Only is also a case of near universal exclusion, but since it limits the range of options to just one, it blends this with the question strategy of **specific inclusion**. The latter provides the basis for the relatively small number of positive inversion triggers, among them demonstratives, as in (15)(e). Note that demonstrative TH is closely related to the WH of question words (Langacker 2001b), often occurring in the answers to content questions. Another positive trigger, the non-deictic *truly*, is assimilated to the existential core because inclusion in reality is essentially what it means. Moreover, it is emphatic in this regard, making it similar to exclamations.

Other positive triggers are *so* and *as* when they act as conjunctions, as in (15)(g). These, of course, are the counterparts of the negative triggers *neither* and *nor*. Their status as conjunctions is itself a motivating factor, as one function of discursive anchors is to specify a connection with the previous clause. The same is true for comparatives, as in (15)(h). And because it indicates non-identity of values, *than* is also quasi-negative.

Much more can and needs to be said about inversion constructions. This brief discussion may at least indicate that, instead of being an arbitrary list, they represent motivated extensions from central cases.

5. Conclusion

I have touched on many issues, both descriptive and theoretical, that are all deserving of far more extensive treatment. My main excuse for brevity is that they must all be considered together for an in-depth understanding of how to build an English clause. With even more egregious brevity, let me now conclude by reviewing some basic points.

The analysis illustrates the pervasive organization of conceptual and linguistic structure in terms of baseline and elaboration. Although I discussed various strata as if they were discrete, that is at best a convenient simplification. The boundaries are often permeable. Moreover, successive strata may arise through multiple dimensions of elaboration that do not occur in lock-step but are basically independent.

Another general notion is that grammar is the implementation of semantic functions. It consists in assemblies of symbolic structures, representing functional groupings whose emergence as fixed, discrete structures is a matter of degree. Grammatical structure reflects the interplay of discursive and descriptive functions.

Finally, these notions are essential for understanding the structure of English clauses, especially in regard to verbal elements. The clausal function of predicating and negotiating the existence of a relationship is represented schematically in a functional grouping—the existential core—with a basic role in English grammar. In particular, it is crucial for inversion, which is not a “purely formal generalization” but has a unified characterization in terms of meaning and discursive function.

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