

TIME IN GRAMMAR

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1. Meaning and construal

Few values in natural language are autonomously determined by, or reflexive of, physical aspects of the speech environment. Conversely, the logical representation of contextual indices, as deployed in much of the formal-pragmatic description of spatial and (especially) temporal reference, does not generally exhaust the meaning range that is covered by those grammatical predication types that do imply, in one way or another, the relevance of such physical features. The key question then is whether this reference is a direct function of a predication's meaning, projecting a "phrase" or proposition to a context (including time, place, and possible world), or whether it derives from some more primitive act of communication that does not per se orient to spatial or temporal location.

As shown in Vandeloise (1991), even such seemingly prototypical instances of pure spatial reference as projective prepositions are not geometric words describing Cartesian axes. If this were the case, then *a is in front of b* would have to be semantically equivalent to *b is behind a*, just like *a is beside b* should be synonymous to *b is beside a*. But whereas example (1) constitutes a normal sentence in English, its complement, in example (2), sounds decidedly odd under "normal" circumstances, for obvious pragmatic reasons:

- (1) *The bird is **in front of** the house.*
- (2) *The house is **behind** the bird.*
- (3) *Your pen is (lying) **beside** the armchair.*
- (4) *The armchair is (standing) **beside** your pen.*

Likewise, it is not the case that any situation in which an otherwise perfectly symmetrical relation is presented from different viewpoints can be said to bear the exact same meaning. For construing different viewpoints for any given situation makes a contribution in its own right to a construction's overall meaning. Even though two such construals may in fact be referentially

equivalent, in that they express an identical configuration, there are basic communicative or functional reasons why speakers should decide to resort to one form of expression over another. For one, a singular element, *a* (rather than *b*), may be taken as the topic of a discourse and accordingly receive special formal prominence, e.g., with respect to word order and syntactic role. This is so because the *purpose* of these prepositions is to localize a target relative to a reference point, such that it would be hard to conceive of a situation in which it is helpful to point out a relatively nondescript object (say, a bird) in order to facilitate access to a prominent “address”, like a house. The same reservations apply to seemingly synonymous expressions of symmetrical relations. Sentence (3) differs semantically from something like (4), at least if one’s objective is to help someone find a pen, not an obviously (perceptually) available armchair. We might thus conclude that directional prepositions, specifying relative locations between three-dimensional objects (also called “projective”), do not describe space but provide instructions as to how to use it in recovering spatial referents.

Nonprojective prepositions like *in* and *on* cannot be analyzed either by geometric dimensionality alone, or even by topological concepts like inclusion and contact. Instead, the functional relationships that these forms express relate more to issues of containment and support, which, though based on some geometric and/or topological base, additionally include considerations of energy transmission, force dynamics, and physical control within those bases. The latter notions are explicitly functional, because they cannot be defined without making reference to (assessments of) an agent’s will or intrinsic dynamics, or to beneficial and detrimental effects of an entity’s action or state. As we shall see for temporal markers as well, extending the range of analysis for grammatical expressions to comprise such interactive features allows us at once to abandon a strictly referentialist approach to their semantics, and to unify their analysis in such a way as to produce a “flat” description of the family of meanings associated with these forms. Unification, in this light, should avoid the traps of a-priori postulations regarding the logical nature of grammatical meaning, and the *essentially* spatial and temporal meaning of grammatical markers of space and time in particular. Examples of grammatical space are locative adpositions, demonstratives, and certain case markers, and tense and aspect instantiate grammatical time.

An important claim, with respect to both spatial and temporal relations, is that they depend on a fundamental asymmetry of figure and ground. This asymmetry implies that the figure constitutes new information as opposed to the ground (e.g., the prepositional object, or the time of speaking), whose

specifications are assumed to be known or given. The givenness of a landmark, then, guarantees its strategic use as a reference point in searching for the actual target of localization. Another important claim is that the symbolic association between a (lexical or grammatical) form and its meaning must have been transparent at one point in that form's history. Vandeloise (1991: 43) calls this original referent the *IMPETUS* of a form. Since not all uses of a form have the same status, Vandeloise teases out different *USAGE RULES* starting from a single impetus. This is in effect an argument in favor of a monosemist approach to grammatical meaning, but not because one essential, logically prior meaning should be distinguished from various connotative ones that are to be derived through formal mechanisms of inferencing (as in Ruhl 1989). Rather, the approach advocated here is empiricist and bottom-up, in that it first generates a flat description of factual polysemy that is nonhierarchically organized, as it does not assign a privileged or peripheral status to any of the sense types that can be distinguished. Only then does it attempt to reduce the polysemy to one (though quite possibly more than one) schematic meaning that covers abstract commonalities between usage types. This schematic meaning, I will argue, need not be spatial or temporal at all for grammatical expressions that are canonically thought to indicate space and time. In fact, it may frequently turn out (*pace* Bowerman 1996) that these expressions are a good place to look for basic meaning distinctions that seem to matter to grammatical structure overall, and that diverge from the original (lexical or grammatical) meanings of these forms, i.e., from their impetus. It would be surprising, after all, to find that such a referentially crude field as grammar, which does not strictly encode much information, would have sophisticated conceptual systems of geometric and topological relations among its central players.

A problem that is usually addressed only sideways in formal semantics is that two or more grammatical expressions are not necessarily synonymous simply because they can be used to describe the same situation. In such cases, each form presents a different aspect of the same objective scene, a property which is captured in cognitive linguistics under the psychological notion of *CONSTRUAL*. Cognitive Grammar (CG; cf. section 3) specifically proposes a conceptualist semantics that does not explain the meaning of an item (solely) in terms of its role in the truth value of a proposition. In CG, accordingly, it is explicitly acknowledged that several forms can be semantically distinct, even if they refer to the same scene, and that the distinction will lie primarily in a difference in perspective. This notion of perspective can, of course, be interpreted in domains other than that of space, including time. It now remains to

be outlined what a temporal perspective might look like, and which features are important in defining a subjective conception of grammatical time.

The idea of construal suggests that the best method of finding out about meaning contrasts between semantically close neighbors is to see how they differ in contexts where, referentially speaking, they could be seen as interchangeable. The assumption then is that, regardless of their semantic proximity, distribution patterns and usage contexts always differ for distinct constructions, if only by virtue of the fact that the constructions differ formally amongst each other. This assumption is empirically borne out by numerous case and corpus studies, yet it is hardly taken up theoretically, because the main agenda still seems to be set by the resolute reduction of semantic ambiguity. But the same move to reduce ambiguity also leads many tense scholars to misconstrue or, worse, ignore certain complex facts of usage — where ambiguity/polysemy seems to be the norm. The problem is twofold. On one hand, it is generally not appreciated by formalists that one (temporal or spatial) form can have several, mutually exclusive, referential meanings. Typically, what is done in such cases is to appoint a basic semantics, usually on quite suspicious grounds (e.g., traditional nomenclature), and treat all other meanings as pragmatic in the wastebasket sense of the term. And on the other hand, given a definite temporal configuration, it is difficult to calculate or predict its specific linguistic realization if competing constructions are available that denote the same temporal interval. I will now turn to the domain of tense logic and related formalisms and demonstrate how both issues are motivated by the ultimately misguided need to view tense solely as the grammaticalized expression of location in time (Comrie 1985).

2. *The “logic” of tense*

The formal study of grammatical time, including tense and aspect, traditionally concentrates on the question of how specifically temporal relations can be established between the situations expressed by two consecutive clauses in a discourse: the sequencing problem. Thus, the normal reading of an utterance like (5) would have it that the pushing event occurred before the falling event, that the latter was caused by the former, and furthermore that the falling occurred as soon as its protagonist was pushed, not several seconds or minutes thereafter:

(5) *I pushed her and she fell.*

In this, it is expressly assumed that the meanings of tense/aspect forms, which are constant, directly determine such ordering and, thus, that their main import to the interpretation of discourse lies in spelling out the metric organization of objective events (mainly in terms of their duration and sequential structure). No accommodations are made in this framework to integrate temporal and other, nontemporal, uses of the same forms and, indeed, there is a systematic intolerance vis-à-vis the occurrence of both referential ambiguity and temporal indeterminacy.

When it comes to tense, there are generally two options available within the formalist research program (see the discussion in Boogaart 1999). One is to define tense forms in terms of the relations they express with respect to the time of speaking. This constitutes the deictic dimension of tense, and its analysis seems to be of particular relevance to the discussion of such phenomena as *consecutio temporum* (sequence of tenses). But even there, when two or more clauses contain the same tense form, as in example (6), the deictic dimension of tenses offers no conclusive information on the temporal relation between the clauses at hand (here: simultaneity vs. precedence with respect to the main event *said*):

(6) *John said that Mary was ill.*

In cases like this and many others, it turns out that lots of encyclopedic, nonlinguistic information is called for to solve even the simplest of clausal sequences, just because so much (temporal) information is actually missing from the tense forms themselves, which hardly encode anything directly “conceptual” at all. A second approach is to stress the anaphoric dimension of tense meaning (e.g., Reichenbach 1947, McCawley 1971, Partee 1973), which links a situation to a reference point or antecedent on top of situating it deictically. The reference point itself can usually be inferred from the discursive context or the immediate surroundings of the situation of speech. The use of *imperfect* and *perfect* tenses to refer to a past situation would then be a typical example of a difference in reference-point construction. The difference is explained by claiming that an imperfect, like (certain uses of) the English simple past, relates the reference point to a past event, with which it is simultaneous, while the (present) perfect has the reference point coincide with the time of speaking and look back upon a past event. The latter configuration typically prompts the assignment of “current relevance” to a past event, which is often associated with uses of the present perfect. Within and outside of the formalist literature, then, it has become increasingly clear that

any substantiation of the reference-point character of tense meanings will invariably have to include psychological notions of perspectivization and thus leave the domain of tense logic proper.

A first problem in formal-semantic descriptions of tense concerns the exact nature of the perspectival contrasts between tenses that otherwise denote the same time frame, as well as its implications on the overall conception of tenses as temporal forms. Consider the case of past-tense markers again. From a deictic point of view, past tense should exclusively indicate ‘past’ or ‘precedence’ with respect to the time of speaking (or some shifted deictic center). Yet whenever a situation is presented by means of a past-tense form, the situation can *also* be linked to an independently provided, or inferable, reference point (in the past). And this is precisely where the French imperfect (*imparfait*) and simple past (*passé simple*) diverge (see also De Mulder, this volume):

(7) *Paul entra. Marie faisait la vaisselle.*

‘Paul came in–SIMPLE PAST. Marie was doing dishes–IMPERFECT.’

Both forms portray a situation as given in the sense of belonging to some facet of reality. But while the simple past presents past events as wholly appearing in the past, cut off from the present, and punctual, the imperfect construes them as ACTUAL, meaning that they are presented as unfolding and durational, as perceived from an internal perspective. The imperfect thus presupposes a (nonpresent) center of apprehension that is not immediately related to the primary deictic center and which can be directly linked to the psychological notion of a subjective, perceiving mind other than the current speaker’s. The reference point needed to set up this perspective is precisely provided by the preceding use of the simple past. This difference in the presentation of (past) facts between the imperfect and the simple past is one of construal, of course, and it is one that also allows any cognitive analysis of tense sensitive to it to proceed and unify *all* of the usage types that can be discerned for a given form, also counting the many modal uses that typify tenses.

Tense forms are, on the whole, extremely vague in the temporal interval they denote (if any). This constitutes a second formal problem, one that is taken up in Relevance Theory as a specifically pragmatic issue of “underspecification” (Wilson & Sperber 1998). Take the use of the English present perfect to refer to a past situation with current relevance, as in (8) and (9):

- (8) *I've had breakfast.*
 (8') *I haven't had breakfast.*
 (9) *I've been to Tibet.*

Here, the hearer, who supposedly wishes to find out for which specific time interval these propositions hold, embarks on a search guided by a heuristic procedure that might be characterized in terms of “optimal relevance”. In the ensuing inferential process, an ordered set of temporal indices (e.g., *within the last few minutes, hours, weeks, etc.*) is generated that is structured by logical relations of entailment and conforming to the general meaning of the simple present perfect in English, viz., that the event in question took place somewhere between the time of speaking and the origin of the universe (or, in this case, of the subject referent). Nothing in the meaning of the English present perfect itself suggests the availability of one generally “correct” or even “preferred” time interval for this tense; the interval for (9), something like *within my lifetime*, does not differ from that of (8) by virtue of anything that the present perfect per se additionally intimates, but depends entirely on context. At the same time, the hearer’s eventual choice of interpretation will affect the utterance’s truth conditions, in that the proposition at issue will be true or false with varying chosen intervals. We can see this clearly in the progressively declining acceptability of the same utterances under negation, depending on which interval is selected. With example (8’), for instance, it seems as if there is a basic temporal scale at which the utterance can readily be made sense of (presumably sometime *within the last few hours*), and that intervals situated at scales that are either too small or too large invariably yield questionable interpretations (*?I haven't had breakfast within the last few minutes/months*¹). Of course, the appropriate level or scale will differ for varying predications, since zooming in on the interval that fits a given predication best requires (nonlinguistic) knowledge of the real-world activities involved, and of the discourse conditions that are holding at the time of speak-

¹ *I haven't had breakfast within the last few months* could have a plausible interpretation, but then the speaker would probably be talking about her habit of specifically not eating breakfast (as opposed to lunches or dinners) during the day. One would think that this differs from the more canonical interpretation of the utterance in (8’), without any temporal specification, which is that the speaker simply has not eaten yet, not focusing on the fact that the type of meal she missed was breakfast. This would imply that *I haven't had breakfast* is typically uttered before or around noon, and that any other time of utterance would by itself trigger the search for a more special reading.

ing, at least if the information provided by explicating the relevant interval is to produce communicative (possibly cognitive) effects relevant enough to merit attention.

Once more, we notice that precise temporal reference is not an issue in tense semantics, and that, to determine such reference, hearers will be better off if they rely on lexical means and context. The vagueness of the temporal reference effectuated by individual tenses does not end there, either, since it also affects the hearer's capacity to calculate, in one way or another, the relations between discursively connected events. In fact, the problem of determining exact referential values for temporal intervals is tightly linked to the sequencing problem, as Wilson & Sperber (1998: 1–2) demonstrate in their discussion of utterances like (10) or (11):

- (10) *John **dropped** the glass and it **broke**.*
 (11) *They **planted** an acorn and it **grew**.*

Despite being presented in exactly the same formal fashion, the events described in each of these utterances are separated by very distinct intervals, in a way that is difficult to predict on linguistic grounds only. For one, unlike with events like breaking or falling (ex. 5), we would not generally expect an acorn to sprout and start growing *as soon as* it hits the ground.

Methodologically speaking, the most consequential problem within tense theory is certainly that of the massive polysemy characterizing virtually all tense forms, regardless of which language one is looking at. This represents the third problem in our discussion. On the whole, meanings that do not agree with a tense's traditional nomenclature ("allotemporal"), or meanings that are downright "nontemporal" (typically modal), are all treated as derivative of the basic semantics of tenses, which is temporal and nonambiguous, and as to be inferred from a tense's essentially temporal meaning through such pragmatic or generally cognitive principles as implicature (see especially Dahl 1985: 11ff), metaphor, and other mechanisms of "loose talk". In the worst case, all of these diverging usage types are simply excluded from formalist analysis (cf. Brisard 1999 for discussion). And yet, when we have a closer look at the allotemporal tense uses, we find that each and every tense form can refer to practically all of the notional time frames — past, present, and future — that are canonically distinguished, at least in English (as portrayed in Table 1). Independently of the specific tense typologies that can be found throughout the world's languages, this result can be expected for each attested system (whether tripartite 'past-present-future', as in French, or binary,

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including, e.g., English ‘past-nonpast’ and Hua [New Guinea] ‘future-nonfuture’), because we are looking at the complete usage range of tense markers, not at a subset of theoretically sanctioned types of use. In this sense, ambiguity is the norm in tense semantics, rather than the exception.

Table 1. Possible semantic values for different paradigms of tense marking (in English)²

	<i>“allotemporal” usage types (simple tenses)</i>	<i>“nontemporal”/modal usage types</i>
PRESENT	‘Past’ (e.g., historical present) ‘Future’ (e.g., scheduled activities, near future)	General validity ³ /“timeless” Hypothetical Performative Stage and other instructions, photo captions, etc.
PAST	‘Present’ & ‘Future’ (in politeness contexts)	Hypothetical/counterfactual Optative Mitigation
FUTURE	‘Present’ (with epistemic uses)	Deontic modality Hypothetical General validity

Likewise, Table 1 shows us how the same tenses can be deployed for the expression of grammatical interests that have very little or nothing at all to do with the location of an event in time. With the possible exception of deontic types, these mood and modal categories are fundamentally concerned with the *epistemic* assessment of a state of affairs, that is to say, with the reality status that is attributed to a proposition representing that state of affairs. It is therefore not implausible that at least some of the functions of tense, too, can be directly inscribed within a general, ultimately modal, conception of clausal

² I have included a slot for the future tense here, even though this figure is meant to display the situation for English and English lacks a synthetic future-tense form. This is not in itself problematic, however, since (i) our focus lies on the analysis of grammatical expressions, including analytic ones, for which temporal reference is (perceived as) one of the prototypical functions, (ii) “future reference is never the exclusive property of the single paradigm which grammars label — often arbitrarily — future tense” (Fleischman 1982: 1–2), and (iii) similar observations also hold for true future tenses in other languages.

³ The class of general-validity statements comprises any kind of proposition that is qualified as holding in some structural way, from habituais to generic/gnomic utterance types.

evaluation. In schematic terms, such an evaluative act relates more to how certain a speaker feels (or presents herself as feeling) about the validity or appropriateness of the claim that she is making, as an author with some sort of authority over her own statements, than with ways of anchoring a proposition in the real (i.e., temporal) world. In fact, in the course of tense analysis, we could rather easily take a complementary turn and ask how the temporal values of tenses, which make up a substantial part of their usage range, go with the more schematic, epistemic characterizations that can be given for the remaining uses, such that modal nuances may be thought of as tingeing the temporal character of even the “purest” of tense uses, regardless of which interval one is considering. In other words, we might simply want to ask what the epistemic characteristics of a given temporal interval (past, present, or future) are and how these may *motivate* the emergence of a polysemous category, for individual tense markers, containing manifestly nontemporal types of meaning.

In the end, all of the problems generated by the formal treatment of tense meaning, empirical, methodological, and conceptual, stem from the implicit orientation, on the part of most tense scholars, towards matters of denotation and reference. It is assumed that propositions systematically refer to definite time points or periods, and that this is done through grammar rather than lexicon. This is a consequence of the decision to work with the assignment of truth values to propositions, as the hallmark of semantic analysis. If we abandon the truth-functional approach to semantics, however, we might as well also revise its implications for the study of tense meaning. For one, we might also abandon the view of tenses as temporal indexicals, i.e., as indexicals bearing purely temporal information, and thus avoid the problems of informational redundancy conjured up by the combination of a tense marker with some (temporally corresponding) adverbial. This is what a theory like CG has to offer, and it is to this model that we now turn.

3. *A cognitive approach*

It is mandatory, from a cognitive point of view, to study the conceptual system underlying the linguistic description of time, if one is to make any analytically plausible claims with respect to the nature of tense meaning. One way to view this task is to take tense semantics as involving an analysis of the tacit, naïve presuppositions accompanying the use of temporal expressions. This implies that we do not assume on an a-priori basis that logical properties of time are to be transferred to the domain of tense, and that they serve there to provide the prime dimensions of meaning. Indeed, tense may not really be

about matters of duration and/or sequencing at all, which may be easier to derive from a combination of information about a verb form’s lexical aspect and discursive and real-world contextual knowledge, including the temporal information provided by adverbials, conjunctions, and so on. But if the basic function of tense is not one of temporal reference, then it remains to be specified which expressive functions tenses do serve.

In CG, tenses are GROUNDING PREDICATIONS relating a proposition to the ground. The ground is a cognitive model of the world, and specifically of its immediate manifestation at the time of speaking, and includes representations of the speech participants and their constitutive, including mental, environments. The cognitive nature of the ground also allows for a knowledge-oriented focus, in which speakers have some sort of epistemic control over what they are saying. This is indexed by the presence or absence of a modal (reflecting a proposition’s real and unreal/potential status, respectively) and, within the realm of reality, by various kinds of formal marking that may be taken as iconic for the degree of “separation” from the ground that is being expressed. What (indicative) tenses do, in the absence of a modal, is “locate the profiled process within the realm of reality, where the proximal and distal morphemes are susceptible to a temporal construal” (Langacker 1991: 250). Thus, temporal values of tenses, though undeniably prototypical in many cases, are analytically treated as interpretations of a schematic value that is qualified as epistemic and that holds for all conceivable grounding predications, including instances of modal marking. What tenses share with modal expressions that can be described as grounding, is that both types of predication indicate the relation between a proposition and the ground (as an assessment of the proposition’s likely occurrence in reality) without, importantly, focusing on this relationship itself. That is to say that the use of both tenses and modals implies that the speaker is judging a proposition’s epistemic status, as a matter of grammatical habit as it were, without making this the actual point of her message, as depicted in Fig. 1:

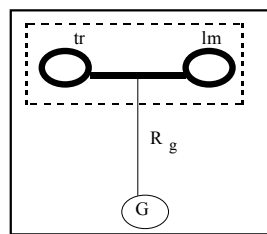


Figure 1. Clausal grounding in CG

Here, the relation between a TRAJECTOR (subject) and a LANDMARK (object) is what is specified by a verb's PROFILE, i.e., it is the relation together with its participants that is actually designated (represented by heavy lines). By itself, however, this profile does not single out a specific instance of the verbal process type, unless it is elaborated in a finite clause. This is established by using a clausal grounding predication, which may then refine the nature of the grounding relation at issue. For instance, it may specify that there is a complete coincidence between the profiled process and the ground, in which case the suggested interpretation seems to be that the corresponding proposition's epistemic status is considered as being 'immediately certain', and possibly, but not necessarily, this interpretation also leads to a temporal construal in which the given process is viewed as 'present'. But even with this temporal interpretation, what the grounding predication is *not* doing, is present the temporal status of a proposition as an issue in its own right. Instead, information about the ground and its relations is treated as "implicit and nonsalient, serving only as an 'offstage' reference point" (Langacker 2002: 9). This would make the meanings of tenses and other grounding predications fundamentally subjective, by virtue of their grammatical status, because the act of relating a process to the ground is a mental one performed by the speaker, and it is to be conceptually distinguished from the "objective" information (the profile) that the speaker wishes to communicate. If I'm being told that *Harry graduated with honors*, it would be difficult for me to respond to this by saying *What? He graduated?*⁴, if my aim were to question the pastness of the reported situation. Rather, I would have to resort to lexical means to indicate where exactly the interpretive problem is to be located: e.g., *What? He **already** graduated? (I thought he was still in high school...)*.

The schematic characterization of grounding predications as involving epistemic judgments is compatible with empirical work in the study of grammaticalization, where it is noticed that many grammatical meanings have lost much of their original contents (*bleaching*) in favor of more abstract, potentially even nonreferential, values, typically described as pragmatic rather than semantic in nature (e.g., Traugott 1989). This is certainly analogous to what occurred in the tense paradigms of numerous languages, where the original, grammatical function of a tense form (its impetus, i.e., to locate situations in time) has often been replaced, or at least vastly enriched,

⁴ Heavy stress on the past-tense morpheme is used here to suggest a meaning like 'What? Is his graduation located at a time prior to the time of speaking?'

by expressly modal meanings. As a result, the analysis of clausal grounding predications in CG starts from a highly schematic conception of tense and mood meaning, focusing on their respective epistemic contributions. In Fig. 2, an “elaborated epistemic model” is proposed for these purposes, specifying the possible addresses within and outside of reality that can be attributed to grounded clauses. Into this model, we incorporate the conceptualizer C’s realization that reality as she knows it “is not exhaustive of the world and its evolutionary history” (Langacker 1991: 243). The area of “irreality” is accordingly cut up into “unknown reality” on one hand, comprising situations whose reality has not been established (yet) or of which the conceptualizer is entirely ignorant, and that which is treated as “nonreality” on the other:

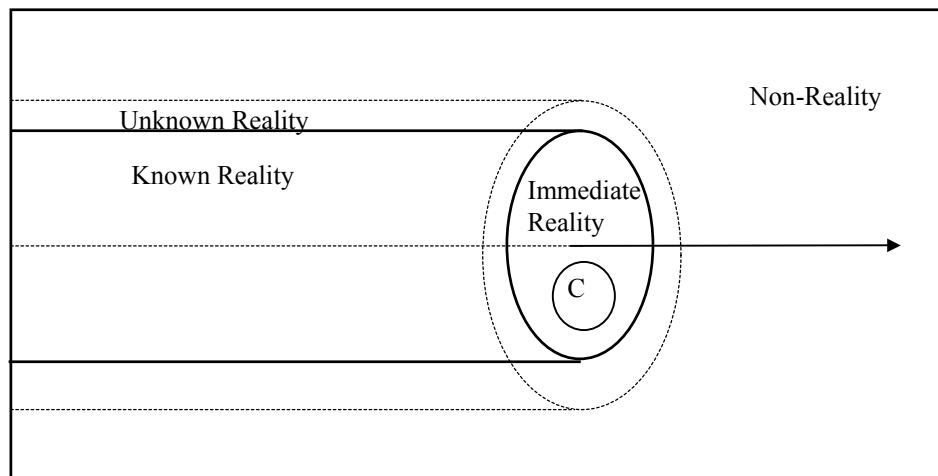


Figure 2. The elaborated epistemic model (Langacker 1991: 244)

One could analyze the emerging configuration for contemporary tense predications in two ways: if a temporal meaning is semantically relevant to a given tense marker, then one can view this either as the remnants of an impetus which has motivated, directly or through inference, many nontemporal, modal extensions (diachronic), or as just one of many possible interpretations of an abstract semantic schema which has always been there (synchronic). In the latter case, we would also have to say that the schema “immanent” in all meanings of a tense marker is epistemic, and that this alone ensures that any temporal interpretation is taken in a very specific, epistemically informed, way, i.e., that the tense imposes a particular epistemic substantiation of the time interval that is referred to. Obviously, this would imply that the process

of having a time interval conform with the epistemic specifications of a tense schema may differ from language to language, and that, say, the English present is not identical to the Dutch.

Using the tools of CG, a tense semantics based on the subjective assessment of temporal objects seems within reach. But we are still in need of an instrument to analyze the perspectival nature of grammatical markings of time, i.e., the fact that different tense forms may present distinct viewpoints on the same time interval. In CG, this is usually addressed by pointing out the default reference-point status of the ground, as the *origo* or starting point for building epistemic grounding relations, and by assuming that this default status of the ground can be overridden by a variety of factors, which may effectuate a shift in reference point from the ground to another (real or unreal) salient entity. An alternative, closely akin, tactic to solve the same problem consists in the mental-space approach (Fauconnier 1994, 1997), which postulates that language involves the construction of mental spaces, of relations between them, and of relations between elements within them. Reference identification or, in the case of tense, the location of a state of affairs in time, is a function of this dynamic construction work, and of the relative accessibilities of the spaces involved. It is explicitly not assumed that grammatical markers in themselves represent or encode such configurations. Mental spaces are built in accordance with instructions provided by linguistic expressions (SPACE BUILDERS), which give us “minimal, but sufficient, clues for finding the domains and principles appropriate for building in a given situation” (Fauconnier 1994: xviii). That these instructions are minimal should lead us to suspect that fairly schematic meanings are at work in the course of space tracking, i.e., of interpreting grammatical structures and morphemes. In fact, in her application of the mental-space frame to the analysis of tense, Cutrer (1994) explicitly introduces such putatively universal terms as “FACT” and “PREDICTION”, which help describe the semantic import of tense markers by extending their purely temporal characterization into the realm of epistemic judgments. Thus, “[i]n moving (mentally) from one mental space to another, we try to keep track of the time shifts and epistemic shifts between the spaces in focus” (Fauconnier 1994: 72; see also Dinsmore 1991 for an explication of the notion of “focus”).

The default BASE SPACE is the speaker’s reality space, R, to which all other spaces orient. This corresponds to CG’s claim that the ground, or what is considered immediately given, is the starting point for all of our epistemic assessments. But of course, not all communication is restricted by what is considered real or immediately (e.g., perceptually) available. Through lan-

guage, we can quite effortlessly construct alternative spaces that represent both realities that are removed from the speaker's here-and-now, and completely unreal configurations, from belief spaces⁵ over fictional ones to plain counterfactuals. It is this particular property that can also be exploited in the context of tense meaning, where differences in VIEWPOINT, i.e., the point from which a situation is conceptualized, may account for functional divergences between markers that otherwise refer to the same interval. A viewpoint, in this context, is again to be taken cognitively as the center of apprehension, that entity which is held "responsible" for some unit of content and which allows one to access any other conceivable entity (including events) associated with it. Consider the case of past-time reference once more (cf. also ex. 7). In French and Spanish, we may very broadly characterize the imperfect, but not the simple/preterit form, as involving a transfer of the conceptual point of view, but not necessarily of the designated situation itself, to the past. In mental-space terms, "[t]he role of the imperfect is to render accessible a space 'M' different from the speaker's reality space 'R' for the interpretation of the proposition it designates" (Doiz-Bienzobas 2002: 323). Thus, the choice of tense/aspect allows a shift of viewpoint to embedded spaces. In purely temporal contexts, this particular feature of the imperfect typically triggers the kinds of durational meaning that we also find in ex. (7), where an internal perspective evokes the experience of witnessing an unfolding event "in real time". Now, as soon as we leave the temporal realm, we still need to call upon the same feature to explain what are sometimes very subtle nuances of meaning, as in the Spanish examples in (12) and (13):

- (12) *En el sueño, la señora que **traía** el libro era mi tía.*
 'In my dream, the lady who brought-IMPF the book was my aunt.'
- (13) *En el sueño, la señora que **trajo** el libro era mi tía.*
 'In my dream, the lady who brought-PRET the book was my aunt.'

⁵ In uttering *John thinks that p*, a new space is being generated representing the subject's beliefs. These need not correspond to what is actually the case in reality, and hence belief spaces are justifiably separated from the space of reality proper. Rather than calling them strictly unreal, however, we might prefer to point out that their reality status is unknown to the speaker at the time of speaking (or presented as such).

These utterances, by virtue of the initial adverbial, set up a dream space M which may or may not contain a representation of ‘the lady who brought the book’, depending on the tense form chosen. With the imperfect, the situation designated is interpreted as part of the speaker’s dream, such that the bringing of the book only occurred within that dream, as opposed to a “real” reading of this event with the preterit. To see how this may follow from a general characterization of the imperfect, a possible cognitive analysis is diagrammed in Fig. 3 (Doiz-Bienzobas 2002: 306):

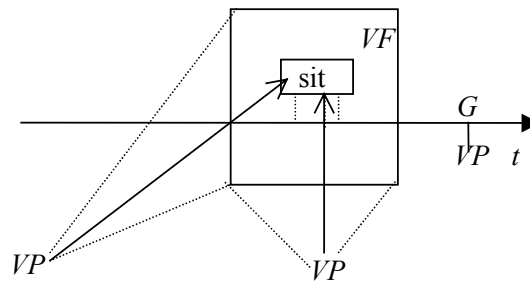


Figure 3. The Spanish imperfect (G = Ground, VF = Viewing Frame, sit = situation, VP = Viewpoint; t = conceived time)

Situations with the imperfect are conceptualized by a viewpoint which is removed with respect to the ground. The imperfect thus canonically imposes a past viewpoint upon the situation it designates, if its use is to be taken temporally. If, on the other hand, the point of the utterance is *not* primarily to construct a definite temporal point or interval in the course of interpretation, then the interpreter has the choice of filling in the exact nature of the domain that seems to be targeted. It might be that the imperfect form indexes a subjective consciousness other than the speaker’s, in which case it is this alternative center of consciousness that defines the perspective from which a situation is conceptualized. This is what happens in example (6), where the state of being ill is portrayed from the perspective of what John has said, creating a separate “speech space” (Fauconnier 1994: 88ff) with an inherent viewpoint, and it is also what motivates the durational interpretation of the imperfect in (7). Although time is indeed still an issue in the interpretation of example (7), it is important to realize that we cannot explain its aspectual characteristics, unless the analysis assumes the relevance of positing a locus of conceptualization other than the actual speaker’s. The example, moreover, shows that this locus need not be identified with any specific protagonist in the discourse, as in (6), but that it can be quite abstract and diffuse, corresponding to

some generalized viewer of the scene that is being described. Finally, it might also be that time is altogether irrelevant, and then it is once again the role of contextual information to help the hearer determine in which domain precisely there is a separation between the ground and the profiled situation. In the case of (12), this information is provided primarily by the explicit lexical space builder ‘in my dream’, from which the remainder of the clausal material is presented (in contrast with what goes on in Spanish preterit constructions).

Unfortunately, diagrams such as Fig. 3 are still misleading, because the relations between mental spaces are not necessarily temporal, as suggested by the timeline included in the figure. In fact, they are more like mathematical functions potentially linking the most abstract of domains. The figure should thus be read effectively as a hybrid representation of prototypical aspects of the use of the imperfect (i.e., its canonical interpretation vis-à-vis some conception of a timeline), combined with a more schematic account of space accessibilities, which are in se independent of any temporal conception. It is important to note that, analytically speaking, the temporal reference associated with the imperfect can be treated as a (possibly default) inference, a consequence of the fact that the event at issue is seen as given (or FACT, in a mental-space account). In general, then, no conceivably comprehensive account of tense usage can be offered *without* the inclusion of information regarding relative accessibilities and the distribution of mental viewpoints, in contrast with the exclusive focus on the objective location of event times exhibited by formalist approaches. In many cases, moreover, even this viewpoint does not necessarily stand in a temporal relation with the actual base space (the ground). We may conclude, from this and numerous other details of real tense usage, that the schematic relation between the different spaces involved in the interpretation of all tense (and mood) marking should not properly call upon the domain of time in the first place, or at least not out of analytic necessity.

4. *Lived time*

In contrast with the logicist view, tense can be seen as the grammatical expression of TEMPORALITY, not of time. Temporality is a concept from phenomenology referring to “lived time” and thus shifts the focus of analysis to subjective properties of temporal objects, away from the physical properties of objective time (i.e., duration and succession). Temporal objects display different “modalities of givenness” (Husserl 1952) and it is these that tenses tend to express or indicate, in line with the general, nonlinguistic observation

that the experience of time is constituted by how it affects objects, and not so much by how time itself is felt to pass. The specifically tripartite structure of time, which is universal but has the potential of being grammatically rearranged in different languages, is given by the corresponding structure of temporal awareness, which divides into “primal-impressions” of co-present objects, “retentions” of past ones, and “protentions” of future ones. The baseline for this structure is the immediate, actual perception of the now, such that both memories of past and anticipations of future objects are accurately described as “modifications” of the primitive mode of corporeal perception: “[...] our retentions, primal-impressions and protentions intend their respective object-phases not only with respect to their temporal locations but also with regard to their extratemporal qualities” (Miller 1982: 138). That the resulting modalities, in linguistic and other types of experience, take on a fundamentally *epistemic* aspect can be gathered from the suggestion that “every object has its possible varying modes of being valid, the modalizations of ontic certainty” (Husserl 1970: 143). The idea is simply that being past, present, or future is not a matter of coinciding, or not, with a punctual moment defined as now, or of being co-present vs. absent relative to an actual consciousness. Instead, the now of the conceiving mind is highly structured and, with respect to temporal objects, it accommodates differences of form rather than content, which should be revealed by a true description of our temporal experience. Thus, both the past and the future, insofar as specific past and future objects are intended, are actually “present” to us, though in a different form⁶ than the now: the extratemporal characteristics of retentions have at least some kind of determinacy, derived from the sensorily filled primal-impressions they modify, whereas those of protentions may suffer from a uniform indeterminacy, resulting in an intuitively graspable epistemic asymmetry between past and future. This kind of information cannot be contained by a one-dimensional representation of the flow of time and calls for an additional axis, fully situated in the

⁶ As an example, the feeling of duration requires an actual perception in the here-and-now, augmented with the retention of the “same” object of perception as it appeared previously. Retention is thus defined as the apprehension of a mentally present object that has physically disappeared. The feeling of removal typical of (remembering) past experiences results from the retention, not only of previous primal-impressions, but also of their respective retentions. It is the retention of retention that is responsible for what we perceive as the typical epistemic features of the past, in line with the claim in CG that awareness (i.e., conscious memory) of an experience does not reside in the experience itself or in the neurological activity that constitutes it, but in a higher-order relationship which is in turn constituted by the experience of a higher-order process (of retention; cf. Langacker 1997: 50ff).

present and moving along as time goes by, upon which to project past and future states of affairs, as in Fig. 4 (see also Brisard 1998: 53ff):

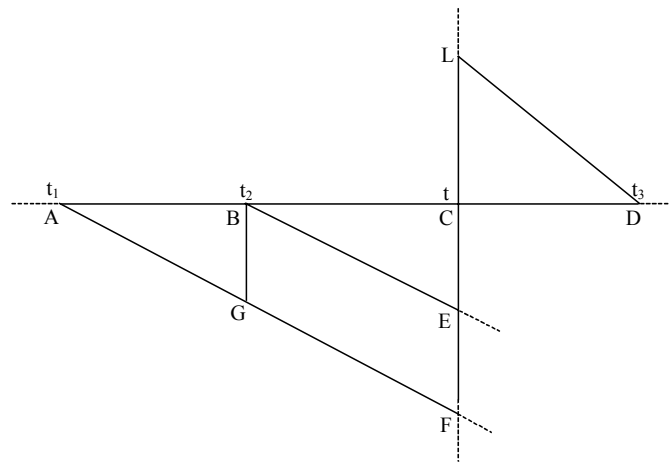


Figure 4. “Perceiving the continuity of a tone”: Husserl’s two-dimensional model of temporal awareness (from Miller 1984: 122)

In the figure, we notice that past events, such as point A, are projected onto a vertical line, the lower part of which represents a continuous series of past events (e.g., hearing a tone) up till the present moment, such that point F is the modified representation of point A in the conceptualizer’s consciousness at time t . Thus, the fact that point F is “twice as past” as point E is rendered by estimating the vertical distance between both points. This way, both referential aspects of temporal objects can be taken into account (i.e., their relative locations on the timeline are provided for, as the projecting function preserves temporal ordering), and a qualitative distinction can be made between past, present, and future states of affairs in terms of their modified formats of representation. In this respect, then, the vertical line linking points L and F can be interpreted as an indicator of the epistemic status of these objects, the form in which they are present at the time of speaking. It would correspond to the ever-evolving face of the growing cylinder of (known and unknown) reality in Fig. 2, which inevitably displays a certain internal complexity as well. It is reasonable, primarily on the basis of empirical observations such as presented above, to submit that it is this *form* that is the focus of the tense-aspect-mood category in its entirety.

The concept of temporality (or, lived time) specifically invites a genuinely unified tense semantics, in which the meaning of a tense form is treated as a constant, if not a temporal one. A theory like CG is perfectly capable of substantiating, for purposes of grammatical analysis, the subjective aspects that are necessarily involved in the act of grounding an utterance (i.e., of assessing how accessible its clausal content is from a given base space), thereby removing itself from a tradition of tense analysis based on postulates of physicalism and objectivism. Indeed, both the phenomenological analysis of time consciousness and a phenomenologically inspired analysis of tense meaning require “the complete exclusion of every assumption, stipulation, and conviction with respect to objective time [...]. Just as the actual thing, the actual world, is not a phenomenological datum, neither is world time, the real time, the time of nature in the sense of natural science and even in the sense of psychology as the natural science of the psychic.” (Husserl 1990: 4–5) Such a demand for a radical suspension of objective time directly goes against one of the basic assumptions of a logical treatment of tense, viz., the belief that philosophically sound contributions to the study of temporal reasoning should shy away from anything not immediately related to the positivist problem of empirical knowledge. In a truly anti-cognitive spirit, Reichenbach, for one, explicitly attacks the supposition that “unaffected by physical time, the psychological experience of time retains its *a priori* [i.e., subjective, FB] character and obeys its own laws” (Reichenbach 1958: 113). At the same time, a properly phenomenological outlook allows us to qualify the status of a so-called cognitive approach to tense. Even though certain claims made in CG could be taken in the strongest neuro-psychological sense of dealing with issues of processing (and thus of processing time), essentially the concept of grounding, central to understanding tense, refers to notions of epistemic control and of practical certainties and predictabilities, more crucially than it does to verifiable positions in conceived time⁷. All of the instrumental no-

⁷ CONCEIVED TIME represents time as an object of conception, where the component states of a relational predication are distributed along a one-dimensional axis. PROCESSING TIME talks about time as a medium of conceptualization, i.e., the time it takes to conceive of something (relational or not). Now, the very apprehension of conceived time, within CG, cannot occur without the *prior* operationalization of processing time, which is also the time needed to establish the feeling of duration and objective relations between events. This makes processing time basic, in all dealings with clausal (relational) predications, and conceived time parasitic on acts of mental organization. It would correspond to the claim in Husserlian phenomenology that objective time is constituted by phenomenological time, or through the constitution of concrete temporal objects. Such constitutive acts are always temporal, too (e.g., the perception of duration presupposes the duration of an act of perception; cf. Kokoszka 1996: 317). The linear nature of objective time can then be seen as arising from the projection of

tions associated with grounding (reality, definiteness, immediacy, etc.) are more directly related to adaptive ways of coping with the environment (of surviving⁸) than they are to low-level, automated mechanisms of information processing.

A theory of tense, in other words, that might emanate from the CG approach or related paradigms is primordially situated in the sphere of people's intentional actions, and "cognitive" in this context does not reduce, in any naturalized sense, to spelling out mere (transitions between) information states of a physical system like the brain, or to the computational machinery and the logic of its strategies that can be suspected behind them. Rather, the term includes in its scope constructive, creative acts of rational interpretation that immediately incorporate the perspectival nature of embodied meaning. Since any object of an intentional act of mine is constituted by me as from a flux of changing temporal perspectives, corresponding to the object's successive phases of appearance, the added dimensionality that perspective offers is not just an option available to the description and analysis of selected tense forms, but represents a fundamental condition of generating and interpreting meaningful behavior. This is what is captured in the conceptualist notion of construal, and it is also what is needed in any account of grammatical categories that is both empirically comprehensive and that truly appreciates the subjective side of meaning in grammar.

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qualitatively distinct phases of representation from a present that is neither singular nor strictly extended (in conceived time). The present, rather, exhibits an original "depth" whose orientation is perpendicular to the plane of objective time (cf. Fig. 4; see also Guillaume 1965 for an actual application of similar ideas to the semantic analysis of tense).

⁸ This idea is also present in many other contemporary cognitive approaches to language and meaning. The very notion of "predication", in fact, can be viewed as providing a resolution of apparent tensions and conflicts in the environment. With the passage of time, the search for, and maintenance of, a mental equilibrium is constantly at issue, and predications (momentarily) "attenuate (make less dangerous or severe) the conflicts in the (dangerous) dynamics of our ecological system" (Wildgen 2002: 418). I surmise that this same basic function is even more clearly crystallized in *grammatical* predication types, such as tenses.

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