

'Continuity' within Three Scalar Models: The Polysemy of Adverbial *Still*

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Abstract

This study represents an elaboration and revision of König's (1977) account of the synchronic interrelations among three senses of the English adverbial *still*. These senses at issue are those in which *still* serves as a marker of a state's continuation to a temporal reference point, as a concessive particle, and as an indicator of marginal membership within a graded category. I argue here that the three semantically and grammatically distinct senses can be reconciled by the modern speaker: the lexeme *still* has an abstract meaning compatible with three types of scalar models. In each of these models, *still* denotes the existence of effectively identical elements at two contiguous scalar loci. *Still*-bearing sentences code the existence of an element at the more advanced of these loci, licensing the inference (via lexical presupposition or scalar entailment) that a like element can be found at (at least) one scalar point located closer to the origin of the scale. The three scalar models are ontologically distinct: the scalar loci in question may be time points, worlds, or simply rankings within a property scale. The elements ordered may be eventualities or entities. With respect to its role in discourse, *still* functions as a scalar operator in the sense of Kay (1990): it serves to relate two propositions within a scalar model. The sense network described here, if it can be regarded as a plausible speaker generalization, provides evidence for the existence of an abstract conception of persistence, i.e. one not restricted to the temporal domain. Persistence can be defined for scales and via scalar inference in general.

o INTRODUCTION¹

This inquiry will focus upon the semantic structure of the English adverb *still* — in particular upon the interrelations among its temporal and nontemporal senses. The nontemporal meanings to be investigated will be termed the *adversative* (or concessive) sense and the *marginality* sense. They are exemplified in (2–3), respectively. An example of the temporal usage is given in (1):

- (1) Uncle Harry is still pruning the shrubs.
- (2) We told Bill not to come, but he still showed up.
- (3) Death Valley is still in California.

The meanings at issue can be described in broad terms as follows. The temporal sense refers to the extension of a state of affairs through to a given reference time (in (1), the present). The concessive sense, paraphraseable by

nevertheless, indicates that a given event occurred despite the presence of conditions known to militate against it. Hence (2) portrays Bill's arrival as having transpired in the face of efforts to prevent it. The marginality sense, perhaps first noted by König (1977) for German *noch*, is used to locate an entity at the margin of a graded category. Thus, in (3), Death Valley is presented as a marginal instance of California territory, where better exemplars of this (geographically defined) category are presumed to lie at points further removed from the eastern border of the state.

This repertoire of meanings, and its etiology, has been of interest to semanticists concerned with the manner in which temporally based lexical schemata sanction nontemporal meaning extensions of various kinds. König & Traugott (1982), for example, have investigated the development of the concessive use from the historically antecedent temporal use. They maintain, as will be noted below, that this development exemplifies the pragmatic strengthening of a quantity-based implicature associated with uses of temporal *still* (Traugott 1988). What is the relation between such historical developments and the links, if any, which connect these senses within the modern speaker's 'dictionary entry'?

It has been presumed (e.g. by Traugott (1986)) that where a lexeme instantiates a synchronic polysemy network (in terms of Lakoff 1987), the structure of that network reflects the sequence of diachronic trajectories from which the modern array of senses arose. Thus, for example, the basic or central sense within a polysemy network is that sense from which extended meanings were derived historically. This situation occurs in, for example, Sweetser's (1990) analysis of polysemous sensory vocabulary, and in her analysis of modal verbs. Sweetser argues convincingly that the motivation for certain diachronic sense extensions is revealed through an examination of meaning connections forged by modern speakers. In particular, she proposes that extant metaphorical mappings, which link conceptual domains, also licensed meaning shifts in which certain lexical items acquired readings referring to the metaphorical 'target domain'. Thus, for example, an array of terms denoting vision come to refer to the domain of understanding (as Greek *oida* 'I know' < *horao* 'I see'). In such cases, the synchronic link between the senses of polysemous vision term (e.g. *see*) closely resembles the evolutionary path (metaphorical extension) by which the secondary sense arose. Further evidence for the relationship between meaning change and synchronically valid inference is provided by Horn (1984), who notes the role of quantity implicature in lexical change (e.g. in the formation of autohyponyms).

Such studies demonstrate that one can profitably examine synchronic linguistic conceptual structure for clues about the mechanisms of meaning change. The present case study does not deny the validity of this approach. It does, however, question the tacit assumption that the interconnections among

meanings of a polysemous lexical item recapitulate the evolutionary paths leading to those distinct senses. That is, one need not presume that an early meaning is a core sense, and that senses developing later in a lexeme's history are 'extended senses'. I will argue the following: the temporal sense of *still* cannot plausibly be regarded as a central sense, nor can, e.g., the synchronic inference link between temporal and concessive *still* be equated with the path of historical development which yielded the latter. Historically, the sense extensions crystalized quantity-based implicatures associated with temporal *still*. These implicatures are present today, but, as will be seen, do not in themselves create a cohesive category of senses.

This situation, in which the historical links relating a repertoire of senses to a single proto-etymon are not transparent to modern speakers, has been examined by Lichtenberk (1991). According to Lichtenberk, instances of grammaticalization involving certain motion verbs in Oceanic can be regarded as examples of *heterosemy*, defined as follows (p. 480).

[i]n heterosemy, the semantic (as well as the formal) properties of the elements are too different to form a single conceptual category. Rather, the category has only a historical basis; what unites its members is their common ultimate source.

The theory of lexical meaning presumed by Lichtenberk is that of Lakoff (1987), in which polysemous lexical items constitute categories of (related) senses. The sense relations within such categories—e.g. metonymic links and image-schema transformations—are of a general nature: they represent widely applicable patterns of semantic extension. For example, prepositions coding paths can also, when coupled with a stative verb, code endpoints: the reading of *around* in *Harry ran around the corner* contrasts with that in *Harry lives around the corner* (Lakoff & Brugman 1986). As noted by Jackendoff (1983: 13), the existence of

formal relations among apparently distinct readings of a polysemous word . . . would make it easier for the language learner to acquire one reading, given another.

Patterns of sense extension are not, however, necessarily reducible to lexical redundancy rules: as Lehrer (1990) argues, the construal rules which create extended readings are only partially productive within semantic classes. For example, perception verbs like *feel* license both experiencer and stimulus subjects, whereas such verbs as *see* (versus *look*) are not characterized by this polysemy. We might presume that word senses linked via locally productive redundancy rules are most effectively stored and retrieved when they are assimilated to a lexical category, i.e. a conventionalized network of senses (cf. Miller 1978). What can be the psychological status of a heterosemous lexical category, founded upon information of a sort available only to the historical linguist? Such a construct would not qualify as a linguistic generalization. If,

however, we can assume that sense networks constitute useful generalizations, there is some reason to suppose that speakers will seek a plausible means of reconciling the disparate descendant readings of a given etymon. The impetus to reconcile such readings may be provided by the presence of suggestively similar use conditions.

The synchronic meaning links forged for this purpose will bear no direct relation to any trajectory of semantic change. In the present case, I will argue, the modern speaker has reconciled the senses of *still* by extracting a set of accidental and yet salient semantic commonalities from these senses. The resultant generalization provides a schematic semantic structure under whose rubric all of the senses are grouped. The suggestion that there exist 'lexical categories' whose structure parallels that of 'referential categories' (Lakoff 1987) is consistent with the dictum that the organization of linguistic knowledge is on a par with that of other sorts of knowledge (Goldberg 1992). The inferencing process involved in the development of the sense network at issue is analogous to that involved in the adduction of conditions upon category membership from ostensive definition. The distinct senses of *still* have common discourse-pragmatic properties; each sense involves a particular form of expectation contravention. The shared use conditions provide the 'pointers' to an underlying semantic unity among the usages of *still*.

The category rubric is devised as a means of capturing this semantic unity; it manifests scalar-semantic properties. As König observes (1977), uses of *still* involve 'man's ability to order . . . entities of various kinds [and] to rank them along a scale' (p. 173). Each of the senses, it will be claimed, partakes of and elaborates a general schema involving the maintenance of a given configuration across a sequence of scalar loci. The general schema has a modal component: it evokes an 'expected outcome' in which the configuration in question is not so maintained, i.e. is not present at the scalar extreme serving as a reference point. The distinct senses will be said to owe their existence to the compatibility of the general schema with various scalar ontologies (temporal continuance among them). These ontologies accord with conceptual models of temporal extension, concession, and categorization.

It has often been claimed that scalar organization—and scale-based inference—must be invoked in describing the semantics of certain grammatical markers. Most recently, studies by Fillmore, Kay & O'Connor (1988) and Kay (1990) have suggested that the adverbial elements *let alone* and *even*, respectively, should be analyzed as scalar operators. That is, these operators serve to relate propositions within a scalar model (a set of background assumptions shared by speaker and addressee). The present study provides an additional set of observations about scalar operators. In particular, this study suggests that such an operator may have broad applicability across scalar domains, where such domains are defined by continuance through time, graded category membership, and the rel-

ative likelihood of certain situation–outcome pairings. The general semantic structure of the operator constitutes the aforementioned semantic superstructure of *still*; these distinct domains of application yield its distinct senses.

This study will be organized in the following fashion: the next section will provide a critical review of previous approaches to the semantics of temporal and concessive *still*—including that of König (1977), which we will take as our point of departure. This section will also establish some of the basic properties of the two senses. The third section will present an analysis of the three distinct senses. The fourth section will discuss issues related to the diachronic development of these senses. The final section will reconcile the senses, presenting the semantic superschema and relating it to Kay’s (1989) class of contextual operators. This section will suggest that ‘continuance’ or ‘persistence’ is best defined for our purposes as an abstract scalar conceptualization, i.e. one that does not necessarily involve temporal extension.

I PREVIOUS ANALYSES

I.1 *Temporal still*

According to Hirtle (1977: 39), temporal *still* ‘expresses continuance of [a] state’. While this definition certainly accords with our intuitions, most analysts have sought to provide a somewhat more precise definition of ‘continuance’. Many have followed Horn (1970), in assigning to temporal *still* the function of relating two time phases, both of which are characterized by the presence of the same state of affairs. These phases have commonly been identified with presupposed and assertive components: according to Doherty (1973), Morrissey (1973), König (1977), König & Traugott (1982), and Abraham (1980), *still* (a) asserts that some state of affairs exists or existed at a reference time and (b) presupposes that this same state of affairs obtained for some period prior to that reference time. In a tense-logic account of *still*’s German analog, *noch*, Hoepelman & Rohrer (1981) represent this presupposition of prior instantiation by means of overlapping phases: where j is a reference time, *noch* Φ at j is true iff j falls at the rightward boundary of an interval during which Φ obtained. As shown in (4), this presupposition is preserved, as required, in polarity contexts. The entailment of (4a), that Bill was here for some period prior to the present moment, remains in a question (4b) and in a conditional protasis (4c):

- (4) a. Bill is still here.
 b. Is Bill still here?
 c. If Bill is still here, we’ll leave.

(Note that the standard negation test is not used here: the peculiarity of examples in which negation has wide scope over *still* is perhaps due to the presence of a suppletive counterpart, *anymore* (cf. Morrissey 1973).)

As noted by Traugott and Waterhouse (1969), the asserted and presupposed component states belong to a higher-order event whose aspectual class is imperfective. The *still*-bearing predicate then represents an imperfective process, in the sense of Langacker (1987). A process, according to Langacker, is a 'relationship scanned sequentially during its evolution through conceived time' (p. 254). Imperfective processes—more commonly referred to as states—are those which do not involve a change over time—whose component relation-states are effectively identical to one another. By contrast, perfective processes (nonstative predicates) portray a dynamic situation—one construed as episodic in character. A grammatical ramification of the perfective-imperfective distinction is, as noted by Langacker, that, at least in English, predicates of the former type do not occur in the simple present without a special interpretation (e.g. a habitual reading). As shown in (5), perfective predicates clash with the specifications imposed by temporal *still* (the reader is asked to ignore the acceptable concessive reading of *still*):

- (5) a. Bill (*still) caught the cat.
 b. Bill (*still) recognized Harry.
 c. Bill (*still) jogged.

The class of perfective predicates subsumes both telic predicates (accomplishments and achievements, as shown in (5a-b), respectively) and atelic predicates (activities, as shown in (5c)).

Presumably, the unacceptability of (5a-b) can be explained within any of the aforementioned analyses simply by invoking a salient property of those predicates which Bennett & Partee (1978) have called *nonsubinterval verbs*. Such predicates (more commonly known as *telic verbs*) code 'actions that involve a product, upshot, or outcome' (Mourelatos 1981: 193); no subpart of that action counts as a valid instance of the whole event. Thus, for example, the inception of Bill's cat catching cannot be identified with the entire process. The instantaneous act of recognition simply has no extractable subcomponents. By contrast, a subpart of the action coded by the subinterval verb *jog* is clearly an instance of jogging. The telic-atelic distinction has—as pointed out by Dahl (1981), Mourelatos (op. cit.), and Vlach (1981)—a number of grammatical ramifications, and is subject to the following diagnostic: while, for example, the past progressive version of (5c) entails the preterite (5c), (5a-b), are not entailed by their respective progressive counterparts.

If it is the case that, as claimed by Horn and others, temporal *still* requires that a given state of affairs persist from the presupposed phase to the assertoric phase, then the anomaly of (5a-b) can be said to arise from the nonsubinterval

property: telic-verb scenarios do not possess the requisite identity among contiguous component states. In the case of accomplishments, each successive stage of the action is distinct; in the case of achievements, the coded event obtains *within* an interval—‘at [an] isolated ... instant ... only’ (Vlach 1981: 277).

The property of continuing throughout an interval then appears to be unique to subinterval verbs. This property is required by temporal *still*—asserted and presupposed phases must represent identical situations. A problem is that, as noted, such subinterval verbs as *jog* also fail to co-occur with temporal *still*. This fact might cause us to sharpen up our definition of continuation. As far as temporal *still* is concerned, continuance of an activity of jogging (at least one coded by the nonprogressive) is not akin to continuance of the state of being here, etc. The distinction between the two types of subinterval verbs—states and activities—has been noted by Herweg (1991b) and Taylor (1977), among others. According to this analysis, the subinterval property of activity verbs can be said to arise from a ‘higher order’ homogeneity, such that while individual components of the running scenario are distinct, a given span of running is effectively identical to a contiguous span. (The homogeneity of activity predicates often seems to arise from their cyclicity: in the case of running, the stride involves successive leaping motions characterized by an alternating ‘trail leg’; the replication of this leaping motion gives the action an overall homogeneity.)

By contrast, the homogeneity of state predicates can be identified at a finer level of granularity. All individual subcomponents of a state are identical to one another. There is no level at which such subcomponents are distinct: if one samples the state of ‘being here’ at two distinct instants, those two samples will appear identical. The homogeneity of state predicates is thus appropriately defined with respect to moments other than intervals—the former being ‘the fundamental units of time series’, according to Bach (1981: 66). This claim leads to the conclusion that temporal *still* serves to relate moments within the tenure of a state. While this conclusion appears correct, certain examples will require us to define what is meant by ‘moment’ or ‘instant’. One such example is given in (6):

- (6) A. How was Harry this month?
 B. He was still depressed.

In the reply of (6), the assertoric phase represents a time span (a month), while the presupposed phase is probably another such interval. I will argue below that a ‘moment’ is best defined as the primitive or minimal unit of a temporally based scalar model (a time line), rather than as a pregiven measure of time (cf. discussion in Section 2.1 of a similar point made in Herweg (1991b)). If *still* can be presumed to select from a time scale a point rather than a stretch of points

within that scale, then one can account for the fact that temporal *still* appears incompatible with durational phrases over which it has scope (7a). This explanation is parallel to that used to explain the incompatibility of punctual adverbs (like *at 3 a.m.*) and durational adverbs, as in (7b):

- (7) a. Harry was still asleep (*for two hours).
 b. Harry was asleep (*for two hours) at 3 a.m.

According to Herweg (1991a: 368), durational adverbs like *for three hours* 'fix the minimum amount of time the situation occupies'; they hence entail downward with respect to the specified temporal boundary, but not upward. For example, if Harry was here for ten minutes, he was also here for nine minutes, etc. Thus, durational adverbs evoke a set of times at which a homogeneous predicate obtains. Given this feature of durational adverbs, we can explain the anomalous nature of (7b) in the following fashion: it is not coherent to assert simultaneously both that a state obtains at a single moment and that it obtains at a set of moments (irrespective of the reference time involved, which, as we will see, is the final moment of the interval in the case of a durationally bounded state).

It might, however, be difficult to base our account of (7a) on the aforementioned account of (7b). Such examples as (7b) are problematic, for the following reason: punctual and durational adverbs invoke distinct reference times. While the punctual adverb maps to a reference time (3 a.m.) which is properly included within the state, the durational adverb invokes a reference time that is equated with the last moment of the coded interval (i.e. the cessation of the bounded state). The incoherence of (7b) might therefore arise from the fact that it is simply difficult to determine the appropriate time of evaluation for the sentence. (Use of the past perfect rather than past in (7b) would remove this indeterminacy—by identifying 3 a.m. with the last moment of the two-hour interval—and render the sentence acceptable.) Thus, one can conclude that the anomaly of (7b) does not stem from an inherent incompatibility between punctual and durational adverbs, but merely from an indeterminacy as to the manner in which the 'viewpoints' invoked by the two adverb types are to be reconciled.

Fortunately, there is another type of explanation for the incompatibility exhibited in (7a). Herweg (op. cit.) observes that states, unlike events, are not situational individuals; therefore, states cannot be counted. The interpretation of *Harry hated cats three times* requires that the count adverbial *three times* refer to occasions upon which the state obtained, rather than to hating 'events' *per se* (cf. also Mourelatos 1981). Herweg notes, however, that certain grammatical constructs provide an 'external criterion of individuation' (p. 371). The assignment of a duration to a state, for example, creates an individuated situation via the imposition of temporal boundaries upon that state. The state so

bounded 'loses' the subinterval property: no proper subpart of Harry's being asleep for two hours is a situation akin to the whole. The quantification of states is often said to be analogous to portion extraction of the spatial domain: a mass individuated via portion extraction becomes countable: *two cups of margarine* versus **two margarines*. By the same token, according to Herweg, count adverbials in sentences like *Harry was asleep for two hours three times* count 'atomic eventualites' rather than associated occasions.

Given that quantized states are situational individuals, we can account for the clash in (7a) simply by likening this case to cases like (5a–b). In the latter cases, the failure of temporal *still* to co-occur with telic predicates was attributed to the nonsubinterval property of event predications. A proper part of being asleep for two hours is not an instance of being asleep for two hours; the internal heterogeneity of the quantized state does not allow for temporal extension (i.e. stasis over time). Such states therefore exclude temporal *still*.

One problem with an explanation of this sort is the following: the anomaly of (5a–b) was said to stem from the fact that these events (like that coded by (5c)) lack the internal homogeneity necessary to provide *still* with two phases of like kind: two component parts of an eventive episode are not identical. In the case of (7a), however, one can readily evoke a prior phase in which Harry was asleep. The asserted phase is simply a bounded instance of this same state; the durational adverb would in this case be augmentative: *for another two hours*. The identical presupposed phase is not a subpart of the quantized state itself, but a distinct earlier phase of that state. Under this interpretation too, however, (7a) is anomalous. This anomaly can again be attributed to the individuated construal supplied by the durational adverb. With Partee (1984), I assume that a state properly subsumes its reference time; i.e. reference time typically provides an internal perspective upon the state. Events, however, are subsumed by reference time; they afford only an external perspective. Quantized states, as events, lack a proper subpart at which the time of reference can be located. Such states then do not provide for the 'sampling' of a component moment by *still*. A distinct, although compatible, explanation is the following: in the case at hand, the presupposed phase is a state, while the asserted phase is an event (a quantized state); the two phases thus lack the identity required by *still*. They are not situations of the same type.

An additional co-occurrence restriction, noted by both Hirtle (1977) and Hoepelman & Rohrer (1981), is this: temporal *still* does not welcome the perfect aspect. This restriction will be motivated via reference to a presupposition connected to *still*—that of expected or possible cessation. The restriction is exemplified in (8):

- (8) a. *Harry has still be unwilling to go.
 b. *Harry has still fed the cat.

If we presume that *still* has wide scope with respect to the perfect operator, examples like (8) appear to undermine the validity of accounts in which the perfect is viewed as an operator that maps an event predication into a state predication denoting a result of that event (Herweg 1991a). The reference time at which this state obtains is established by the tense of the auxiliary head, the stative *have* (Klein 1992). Evidence for the stative nature of perfect predications is provided by facts of the following sort: perfects (a) accept the temporal adverb *now* (i.e. are evaluated for the present moment) and (b) accept sentential adverbs like *already*, which otherwise scope only state propositions. If perfect-form sentences are state predications, however, why should they fail to accept temporal *still*?

One line of explanation is suggested by Parsons (1990). According to Parsons, the result state entailed by sentences like (8b) is merely that of the event's having culminated at some point prior to now. A more specific result (e.g. the presence of a fed cat) is contextually inferred; the result entailed by the resultative perfect *per se* is indeterminate (cf. Fenn 1987). Parsons argues that this state of aftermath 'cannot cease holding at some later time' (p. 234). A view of this sort is assumed in the Hoepelman & Rohrer account of sentences like (8b). They assume, as I do, that temporal *still* evokes a 'world of speaker's expectations' in which the state coded by the *still*-marked predicate has ceased at the evoked reference time (R). This expected cessation contrasts with the state's actual continuance to R. A diagrammatic representation of this situation is given in Figure 1, adapted from Hoepelman & Rohrer.

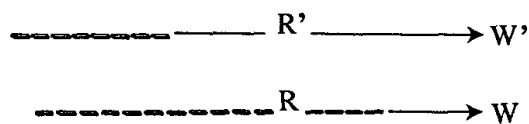


Figure 1

In Figure 1, the time line of speaker's expectations (W') contains a reference time analogous to that located on the time line of 'speaker reality' (W). A state of affairs (represented by the boldface segmented line) continues up to (and perhaps beyond) R in W . In W' , this state of affairs has ceased at some point prior to R' (the counterpart of R in W'). Thus, under the Hoepelman & Rohrer account, *still* has two presuppositions: (a) the presupposition of prior instantiation of the state in W and (b) the presupposition of cessation at R' in W' . The latter presupposition is reflected in the intuition that a sentence containing temporal *still* is uttered only when there is some possibility that the state of affairs in question might have ceased at R .² Such sentences as (9) are odd:

(9) *Uncle Harry is still dead.

This oddity is explained by the fact that the speaker cannot (ordinarily) countenance a world W' in which Harry is resurrected at some point following

his demise, as would be required by the schema in Figure 1. Hoepelman & Rohrer argue that this schema also conflicts with the semantics of the resultative perfect. The resultative perfect denotes the occurrence of an event whose resultant state is eternally valid thereafter. With respect to the semantic contributions of *still* and the perfect operator, sentences like (8b) are self-contradictory. Because it is a resultative perfect, sentence (8b) asserts that the aftermath of the past cat-feeding event obtains at present (R). Because it contains *still*, (8b) presupposes that this state of aftermath obtains at some point prior to R. In addition, according to Figure 1, the sentence presupposes that this state does not continue to R' in W'. However, the speaker who chooses to use the resultative perfect cannot be said to expect that the state of aftermath will have ceased at R. The presupposition of expected cessation at R conflicts with the assertion that the state of aftermath obtains at R.

This situation is complicated somewhat by the interaction of upper-bounding scalar operators with the perfect and wide-scope *still*. As noted by a reviewer, such sentences as (8b') are acceptable:

(8) b.' Harry has still only FED the cat.

In (8b'), the small caps indicate a point of prosodic prominence denoting a narrow or contrastive focus. This focus is imposed by the scalar operator *only*, which scopes the perfect-form proposition, *Harry has fed the cat*. Following McCawley (1987), we can view *only* as indicating that the proposition in which it appears denotes a less 'extreme' situation with respect to a scale along which situations of a given type are ranked. The situations in this case relate to kindnesses that Harry might bestow upon the cat. This model presupposes that feeding of the cat is a lesser kindness than, say, grooming or entertaining the cat. *Only* imposes an upper bound upon the proposition *Harry has fed the cat*, relative to the scalar model at issue; Harry has performed the kindness specified but no greater kindness. If *only* were absent, the proposition would be upward compatible *vis-à-vis* the scalar model; it would in fact be entailed by any proposition occupying a more advanced point in the model (Harry has walked the cat, etc.). By removing the upward compatibility of the proposition, *only* creates a predication which denotes a situation susceptible to change. That is, unlike (8b), (8b') does not denote a state that is eternally valid. The state which consists in aftermath of a cat-feeding event will never change. By contrast, the state consisting in the aftermath of a cat-feeding event *simpliciter* (i.e. one unaugmented by any further cat-benefaction event) will change at all and any points following the occurrence of a further act of kindness.

The foregoing account of the incompatibility exhibited in (8b) has the advantage of generalizing to that exemplified in (10):

(10) *Uncle Harry is having gone.

As shown in (10), the perfect does not progressivize. This fact does not appear difficult to explain: auxiliary *have* is stative; since the progressive functions to derive a stative predication, stativization of an inherently stative predication is merely redundant (Langacker 1987; McCawley 1971; Vlach 1981). A number of authors have noted, however, that there are conditions under which states do progressivize. One commonly encounters progressive sentences like *Harry is liking your sister more and more*. Such examples are in fact used by Akmajian, Steele & Wasow (1979) to refute the view that the prohibition against progressivization of the perfect has a semantic basis.

In order to maintain a semantically based account of the anomaly of (10), we must explain why progressives like (10) are unattested. As noted by Langacker (1991), this requires that one identify the conditions under which stative verbs can progressivize. According to Langacker, statives amenable to progressivization are those which denote an unstable state of affairs—one which is subject to imminent or incremental change. (Under the heading of imminent change, we include transition to a state of 'failure to obtain', i.e. cessation.) If, as in our example, the degree of affection exhibited by Harry is increasing each day, then the situation is evolving toward a point of culmination. The progressive operator in some sense arrests the development of that situation toward its endpoint, capturing its 'in progress' state. The impossibility of sentences like (10) is said to arise from the fact that the state of aftermath can never change—it can neither culminate nor cease. It is thus inherently nondynamic. Since the progressive operator, like temporal *still*, presupposes that the 'input' situation is one susceptible to change, it is incompatible with the resultative perfect.

Given this mode of explanation, we preserve the assumption that the perfect, like the progressive, is a stativizing operator. The aspectual class of the perfect is then identical to that of its auxiliary head. Another type of explanation sees the perfect not as a stativizing operator but as a completive marker upon event predications. This type of explanation is offered by Hirtle (1977). According to Hirtle, there exists an effective equivalent between *still* and the temporal adverb *during*. In essence, this claim reflects the intuition, mentioned above, that reference time provides an internal perspective upon a state. Hirtle provides the following account of sentences like (8b): 'one cannot reconcile the position of interiority expressed lexically by *still* with the position of posteriority expressed grammatically by the [perfect] aspect' (p. 38). With respect to its 'position of posteriority' *vis-à-vis* an event, the present perfect does not differ from the preterite; both present an event as having culminated at some time prior to speech time. In this respect, Hirtle's account of (8b) resembles that provided for the starred sentences in (5): temporal *still* does not accept perfective predicates, i.e. those which denote events that are fully instantiated upon reporting of their occurrence. The question now arises as to whether either account of (8b)

extends to that perfect involving an imperfective complement—the continuative (8a).

The validity of Hirtle's account hinges upon the assumption that the continuative equates R with the time of cessation of the coded state. As noted by Morrissey (1973), however, continuative perfects are in general ambiguous as to whether or not R provides a 'rightward boundary' upon that state. In such sentences as (11), continuation of the state past reference time is a virtual certainty:

(11) Our Dalmation has been deaf since birth.

Hence, the continuative perfect does not evoke a posterior reference point in the sense that the state at issue ceases at or before R. Instead, according to Chafe (1970: 172), sentences like (8a) and (11) evoke a construal in which 'everything is understood to obtain at the time of reference, as in a nonperfective [=non-perfect] sentence, except that the beginning of the state . . . is pushed back to an earlier time'. In other words, the continuative asserts the existence of a span of time stretching from the inception of the state to (at least) R. The left boundary of this span may be marked by a *since* adverbial (as in (11)), or the span itself may be denoted by a durational adverb (e.g. *for the last three years*). Like a durational, the continuative is downward entailing (with respect to the right boundary): if, in 1992, Harry has been in therapy since 1989, then he has also been in therapy since 1991, 1990, etc. Further, the continuative resembles a durational in that the state denoted by the complement verb is not upper bounded with respect to the right boundary: the state in question might continue beyond R. Finally, the continuative, like a durational adverb, represents a grammatical means of individuating a state. According to Herweg (1991a: 371), 'the occurrence of a phase of a state is an event'. Our explanation for the anomaly of (7a) is then applicable to (8a) as well. Bounded states, as events, lack the subinterval property, and thereby reject temporal *still*. As in the case of (7a), the anomaly of (8a) persists even when an apparently identical prior phase is invoked. Sentences like the following are peculiar: ??*Harry had been unwilling to go until yesterday; in fact, since then he has still been unwilling to go*. Here again, the two phases are only superficially similar: as bounded states, each is a distinct episode.

Historical evidence indicates that the incompatibility exhibited by (8a) was not always present: temporal *still* at one time served as a durational adverb akin to *constantly* or *continually* (Kemmer 1990). In this capacity, *still* co-occurred with the continuative perfect, the former being in the scope of the latter. Kemmer provides the following citation from 1704: '. . . his past reign, which *still* has been attended with one continu'd Series of Misfortunes'. The diachronic meaning shift in which, according to Kemmer, temporal *still* changes from a frequency adverb to a temporal reference point yields a concomitant prohibition upon its co-occurrence with the continuative perfect.

States quantized by the continuative have an episodic construal, and hence cannot properly subsume this reference point. For this reason, (8a) is anomalous.

A difficulty with this line of explanation arises when one recalls that the aspectual character of the perfect, continuative or otherwise, is determined by that of the auxiliary head, not by that of the complement (the latter being a bounded state in the case of the continuative). As the auxiliary head here is a straightforward state; why should there not be the possibility of a scoping in which the stative predication represented by the perfect auxiliary falls within the scope of *still*? One answer to this question is suggested by Mittwoch's (1988) analysis of the continuative. In providing truth conditions for the continuative, Mittwoch (p. 218) specifies that the reference time must be the final moment of an interval in which the state denoted by the participial complement obtains. In this respect, the continuative perfect does provide a posterior reference point: reference time is equated with the cessation of one phase of the state, in much the same way that reference time is equated with the culmination (or endpoint) of an event. Here again, use of *still* is incompatible with the retrospective or external viewpoint invoked by the continuative perfect (and by event predications in general). Of course, as noted, the continuative perfect, like the resultative perfect, differs from a preterite-form event predication in that only the former is stative. Nevertheless, the state at issue is one which cannot be regarded as persisting from an earlier point. The state is the last moment of a phase; no earlier point within that phase is identical to this moment. The interaction of *still* and continuative is further constrained by the presupposition of possible cessation: the situation denoted by a continuative perfect is one in which a phase of a state has occurred. This phase cannot 'cease' to exist once it has culminated. Therefore, a speaker cannot be said to evoke a possible world in which the phase has ended. Of course, this explanation is identical to that given for the anomaly produced by the interaction of *still* with a resultative perfect (8b).

The incompatibility of perfect and temporal *still* does not extend to negated perfects: such sentences as *You still haven't answered my question* are acceptable. Negated perfects are construable as continuative (i.e. universal): for all times within a present-inclusive range there is no event of question answering. These perfects are also construable as existential perfects bearing external negation (cf. Mittwoch 1988): it is not the case that there was an event of question answering with a present-inclusive range of times. The equivalence between existential and continuative understandings disappears when a downward entailing bounding durational is added: *He hasn't answered my question for twenty minutes* can only be continuative. As such, this sentence will reject temporal *still* for the reasons given above. Negated perfects accept *still* on the externally negated existential reading only. Why should this be the case? Under (external)

negation, the existential perfect simply denies the existence of some event within a specified range of times; the continuance asserted by *still* is not directly related to that event but is simply continuance of this deniability. The interaction of *still* and negated existential perfect is constrained by the presupposition of possible cessation. The state of there not having been an event of a given kind must be a state capable of ceasing. The state of there having been no answer to a given question would cease were that question to be answered. Nonnegated existential-perfect sentences like **Harry has still been there three times* are, however, anomalous. Our explanation for this fact will closely resemble the explanation given for the oddity of (8b'). Numerals are downward entailing and, crucially, upward compatible (barring upper-bounding implicata). Therefore, any further accumulation of visits by Harry will not negate the truth of the proposition *Harry has visited three times*. This proposition will be entailed by, for example, *Harry has visited fifteen times*. However, as noted with respect to the resultative and continuative perfect examples in (8), existential perfects containing an upper-bounding scalar adverb do accept *still*: *Harry has still only visited three times*. Here, the presence of *only* (like *at most*) removes the upward compatibility of the numeral expression. The numeral expression no longer denotes the ascending half line from three to infinity. Therefore, one can imagine the cessation of a state of there having been three visits; cessation of this state will occur when there is any additional visit. Hence, the possible-cessation presupposition of *still* is satisfied in such instances.

Given that the foregoing account has made reference to a 'presupposition' of expected (or possible) cessation, we must ask the following question: is the oddity of (9) in fact due to presupposition failure? König (1977) suggests that sentences like (9) simply flout a quantity implicature, owing to their lack of information value. It is useless to assert the continuance of a state where the situation could not be otherwise. In this respect, (9) does not differ from the corresponding sentence without *still*, when the latter sentence is not newsworthy. Quantity implicatures attach to assertions. For this reason, we would expect that nonassertive versions of (9) would be acceptable. This expectation is not confirmed. As shown in (12), (9) is not improved when it is cast as a yes-no question or conditional protasis:

- (12) a. **Is Uncle Harry still dead?*
 b. **If Uncle Harry is still dead, we'll be upset.*

Because it is present in nonassertoric contexts, we will regard the constraint of expected cessation as a presupposition of temporal *still*, rather than a quantity implicature. I will argue that the paired-scales schema which represents this presupposition (Figure 1) also underlies the nontemporal senses of *still*.³

1.2 *Concessive still*

Most analysts concerned with temporal *still* have also focused upon its nontemporal descendant, the concessive or adversative sense. In this usage, according to Quirk *et al.* (1972: 164), *still* expresses 'the unexpected, surprising nature of what is said in view of what was said before that'. For a number of these analysts (notably, Greenbaum 1969; Hirtle 1977, and König & Traugott 1982) the use of the word *still* to express both temporal and concessive meanings provides evidence for a 'strong relationship between "continuation" and "concessiveness"' (König & Traugott *op. cit.*: 178). There is general agreement upon the nature of this relationship: continuance of a given state of affairs is akin to persistence despite adversity whenever the context evokes a factor which would seem to militate against the continuance of this state of affairs. Thus, Hirtle (*op. cit.*: 42) remarks, '. . . [adversative] *still* characterizes the relationship as continuation in spite of an intervening element'. König & Traugott (*op. cit.*) maintain:

[t]he assertion that '*q* continues' given another fact *p* gives rise to the generalized conversational implicature that this persistence is remarkable or unexpected and that therefore *p* and *q* do not normally go together.

Conventionalization of this implicature of expectation controversion is said to underlie the diachronic shift in which markers of temporal extension develop concessive meanings. The adversative implicature, although calculable, might nevertheless be regarded as conventional. It resembles a 'short-circuited' conversational implicature, in the sense of Morgan (1978). Since it is inferrable, the relationship between continuance and concession is synchronically transparent; persistence of a state despite adversity entails the continuance of that state. In such examples as (13), the two understandings are present simultaneously:

(13) I studied all night, and I still don't understand it.

Speakers would be hard pressed to resolve the ambiguity of (13) in favor of one or the other sense: the state of ignorance continues despite the intervention of an effort to end it. Temporal continuance is also involved in such adversative examples as (14):

(14) Yes, Harry beats his dog. Still, he's a nice guy.

In (14), a 'true concessive' (see Section 2.2 below), the validity of a claim is upheld despite the presence of an apparently reasonable counterargument. We might say here that the validity of the original assertion 'persists' despite an effort to impugn it. The lexeme *still* might then be said to subsume both an implicature-free understanding and an understanding linked with König & Traugott's adversative implicature. This appears to be the analysis that König &

Traugott have in mind when they say, 'the original meaning ... of ... *still* account[s] for ... the concessive use ... of [this] particle ...' (op. cit.: 170).

A seemingly insurmountable difficulty for a polysemy analysis of this sort is, however, posed by sentences of the class exemplified in (15–16), for which we lack early citations:

- (15) Even though he studied all night, Larry still failed the test.
 (16) Even if you gave him a raise, Harry would still quit.

In (15–16), *still* is coupled with verbs denoting events, *fail* and *quit*. There is no possibility of regarding the event in question as having persisted despite hostile factors. We understand in such sentences that the event in question (Larry's failing the test, Harry's quitting his job) happened or would have happened despite the presence of circumstances which one would expect to preclude that event. In such sentences, *still* does not evoke the continuance of a state over time.

Although it is not clear what diachronic meaning-shift yielded that variety of concessive *still* compatible with event predications, this usage is clearly not related to the temporal usage in the manner suggested by König & Traugott. These examples provide evidence against the claim that the temporal and adversative sense are synchronically related in a manner which mirrors the development of the latter via conventionalization of the adversative implicature.

Given such evidence, we might either (a) presume that the adversative sense is synchronically unrelated to the temporal sense, or (b) propose that the senses are linked by another synchronically valid inference pattern, distinct from the adversative implicature. Alternative (b) will be investigated here. Admittedly, this choice reflects a theoretical bias: a presumption in favor of lexical polysemy over homonymy, i.e. that speakers will forge sense relations where such generalizations are plausible. Aside from this, however, it would seem that the presence of examples like (13), in which the senses coexist, would induce speakers to view adversative and temporal understandings as related. Speakers may relate the two senses on the basis of shared scalar-semantic properties. The scalar nature of adversative *still*, and of concessive semantics in general, is noted by König (1977), with respect to examples like (17):

- (17) Even if Bill pays me \$200, I'm still not going to do it.

According to König, *still* makes the following semantic contribution to (17):

still induces an ordering in which various favors (including sums of money) are bestowed upon the speaker by Bill. The situation described in the first clause is the 'advanced case'. (p. 195).

König argues that sentences containing adversative *still* can be translated into a logical formula in which *still* is in construction with a clause and an

abstract. The abstract contains a conditional operator, as well as the conditional apodosis. The formula is given in (18):

(18) $\langle \text{still}, p \langle \lambda x, \langle \text{NOT} \langle x \rightarrow q \rangle \rangle \rangle \rangle$

A rough paraphrase of (18) is as follows: 'it is still the case that a given situation (here, p) does not entail another situation (q)'. In other words, the state of affairs p is one of several situations which fail to bring about situation q . A translation of (17) via (18) is the following: 'payment to me of \$200 by Bill still will not have the result of causing me to do the task in question'. The protasis is a scalar extreme; König notes (*ibid.*):

still induces an ordering between the situation described and other comparable situations. None of these situations can bring about the situation described in the consequent, even though the situation denoted by p is an advanced case which could be expected to have this effect.

Although this analysis captures certain important insights about adversative *still*, the formula of (18) appears to diverge too widely from the syntax to which it is mapped. The formula introduces a negative operator which does not necessarily have a surface realization. In (19), the apodosis is positive:

(19) They didn't offer him first aid, but he still survived.

The formula in (18) would require us to translate the assertion that the patient survived under adverse circumstances into a proposition of the following sort: the extreme case (lack of help) still failed to cause the eventuality of *dying*. A similar type of decomposition is necessary in (20):

(20) They tried to help him, but he still died.

König's logical representation would rework (20) into a proposition of the following sort: the extreme case (rendering of aid) still failed to cause the eventuality of *survival*. That is, living is failure to die, while dying is failure to survive. The presence of such circularity in our logical translations of concessive assertions is an undesirable result. An additional problem with König's analysis is the following: it does not give us any insight into the meaning that *still* contributes to concessive constructions. König notes that *still* is omissible in sentences like (17); from this fact, he concludes that *still* might not provide the interpretative framework (18) in concessive sentences. He does not consider the option that *still* reflects, rather than imposes, the concessive understanding. Further, König's analysis fails to account for the speaker's strong intuition that such sentences as (17) and (19–20) code an event that violates expectation. He notes with respect to (17) that the situation expressed by the protasis would otherwise be expected to have an opposite effect (the speaker's doing the requested task). He does not, however, explicate the manner in which

expectation contravention arises from concessive semantics—particularly, the scalar properties of this semantic structure.

While his treatment of the concessive sense is problematic, König's analysis does succeed in delineating unifying semantic features of the senses. He states (p. 187):

our analysis . . . shows that there is a close relationship between [the] interpretations of *noch* ['still'] . . . and thus accounts for the fact that they are associated with the same phonetic form. *Noch* [is] implicative under [all] interpretations. [All] interpretations involve the selection of certain entities, points in time, or entities of a different sort, as well as the introduction of an order relation for them.

Of course, the temporal sense does not merely involve the ordering of 'points in time', but also the disposition of some state of affairs across these time points. Further, the nature of the ordered 'entities' remains to be explained; what are the scalar ontologies in question? It is the task of the present analysis to provide a clearer picture of the semantic commonalities observed by König.

2 THE SENSES

2.1 *Temporal extension*

Temporal *still* can be regarded as a scopal operator (Kay 1990). Operators of this type express a relationship between two propositions; one of these propositions is represented by the assertion containing the operator. This assertion is termed the 'scope' of the operator. Hence, in (21) the scope is *Grandma lives on the Lower East Side*:

(21) Grandma still lives on the Lower East Side.

Temporal *still*, as noted by König (1977), is thus implicative, in the sense of Karttunen (1971). The scope carries a tense specification; the tense has narrow scope with respect to *still* (pace König 1977). The tense can be represented as a two-place relation: 'obtains at' (cf. Taylor 1977, in which the tense specifier is an additional argument of the main predicator of the proposition). The first argument of this relation is the scope. The second argument is an interval, which is identified with the reference time invoked by the tense operator. The reference time is the present in (21). As mentioned, I will follow Partee (1984) in proposing that a state subsumes its reference time. As noted above, reference time provides an internal perspective upon the state. Events are characterized as having an opposite 'direction of inclusion': events are contained within the reference time. This reference time is necessarily interpreted as an interval, capable of accommodating the dynamic profile of the perfective episode. The rightward boundary of the reference interval is equated with the event's point

of culmination. Parsons (1990) uses a two-place operator *Cul* (e, t) to indicate that an event culminates at a point, this point being properly included within the reference interval.

By distinguishing between events and states in this fashion, we account for the following intuition: an episode (event) is wholly instantiated within the reference interval; whereas a state obtains for an indefinite period. We can say that a state 'overflows' the bounds of the reference time, in so far as an interpreter is free to imagine a larger interval, which encompasses the time for which the state is asserted, and for which that same state also obtains.

In arguing against this view, Herweg (1991a: 384) provides examples like the following, in which reference time apparently exhausts the tenure of the state: *Yesterday, Harry was in London*. Here, the reference time, *yesterday*, is readily construed as subsuming the state. (A reading in which *yesterday* is subsumed by the state is perhaps dispreferred via quantity: if the speaker knows that Harry *lives* in London, why should she assert his presence there with respect to one day?) An answer to Herweg's objection is the following. Reichenbach-style theories of tense assume that the reference time is the time of adverbial reference. Klein (1992) has shown that this is not necessarily the case; he notes, for example, that a temporal adverbial accompanying the past perfect can refer to either event or reference time. Whereas we must retain the claim that all tenses have a reference time (whether or not distinct from event time), we need not assume that all temporal adverbs denote the reference time.

With respect to Herweg's counterexample, it is useful to follow Parsons (1990) in distinguishing between reference time and time-limiting adverbials. According to Parsons, '[t]he same period of time that is constrained by the tense of the sentence may also be constrained by temporal modifiers' (p. 209). Parsons notes sentences like *Yesterday, Brutus stabbed Caesar*, in which the temporal adverb *yesterday* properly includes the temporal interval (i.e. the reference time) in which the stabbing event culminated. In Parsons' example, tense and temporal modifier interact in the same way that they do in the more felicitous reading of Herweg's example. The temporal modifier subsumes the reference time. There is nothing to prevent us from maintaining that the reference time itself is subsumed by the state.

However, given the requirement that reference time represents a proper subpart of the interval denoted by the time-limiting adverbial, one cannot account for the alternate reading of Herweg's example. In this reading, *yesterday* refers to the reference time; the reference time is again subsumed by the state of Harry's presence in London. The presence of this reading suggests that the reference time should be *improperly* included within the interval referred to by a temporal adverb. The possibility of coalescence between the two forms of time reference (tense and time adverb) does not detract from the claim that they are otherwise distinct; identity of the two is simply the limiting case of

inclusion. The distinction between reference time and time-constraining adverbials allows us to preserve the assumption that the reference time of a state is properly included within that state. Thus, the state referred to by the proposition within the scope of *still* subsumes its reference time in all cases.

Still serves to relate the tensed state proposition within its scope to a presupposed proposition. The presupposed proposition is identical to the scoped proposition, except that the former represents the state of affairs as obtaining at some point prior to the reference time. As noted by König & Traugott (1982), sentences like (21) bear a presupposition of 'prior instantiation': (21) presupposes that Grandma lived on the Lower East Side at some point prior to now. Note that the presupposed proposition need not bear a tense specification distinct from that of the asserted proposition. In (22), both asserted and presupposed propositions bear past tense; the presupposed interval is simply prior to the (implicitly specified) past reference time:

(22) Harry was still upset.

Following König & Traugott, among others, we can represent the propositions mediated by *still* in (22) as in (23):

(23) asserted: [[Harry be upset] obtains at' t]
 presupposed: [[Harry be upset] obtains at' t - 1]

The question arises as to whether times associated with the presupposed and asserted phases mediated by *still* are best described as moments or as intervals. With respect to the asserted phase, the question can be framed in the following manner: is the reference time situated within the state a point or a span of time? Earlier, we concluded that temporal *still* has a punctual character: it functions to 'highlight' a component moment of an imperfective process (Langacker 1987). An apparent difficulty with this view arises when one considers sentences like (24):

(24) This week, Clinton is still the frontrunner.

The 'moment' at which the scoped proposition obtains is a week-long interval. One need not, however, regard (24) as a counterexample to the claim that temporal *still* selects a 'moment' within the tenure of a state. As noted in Section 1.1, we need not view a moment as a temporal unit of any particular length. Intuitively, a moment is a minute or so, and it seems odd to refer to a week as a 'moment'. Equally intuitive, however, is the notion that every time line has a minimal unit of measure, and this unit may be small or large with respect to 'absolute' measures of time. Herweg (1991b: 982) makes a similar point, noting that it is futile to attempt to distinguish intervals from moments without considering the temporal units relevant to the cognizer:

Since on the conceptual level we deal with mental representations of time, we should rather say that viewing a period of time as pointlike means that its internal structure is cognitively neglected as a matter of the granularity of perspective taken by the subject. Thus, we allow that one and the same temporal entity be represented as a pointlike or complex time depending on the situation.

In the context of this analysis, 'situation' is to be construed as the particular time line invoked in the interpretation of the *still*-bearing sentence. A time line is a two-dimensional scalar model (Fillmore, Kay & O'Connor 1988; Kay 1990), in which some situation (a component state of a process) is coupled with a point at which it obtains. Sentence (24) presupposes a time-line model for a presidential campaign. Its 'primitive' is a week. The minimal unit of the time line evoked in (21) may be a year. Given this framework, we use the term 'moment' to code any minimal unit of a time scale. A moment is, as usual, opposed to an interval—a grouping of moments. Under this view, *still* 'selects' that portion of a state which obtains at a moment, rather than that which obtains at an interval.

While time lines often code a course of development, the time line at issue here codes persistence of a given state of affairs. The sequence of component states arrayed across the time line are identical to one another. An overall perception of stasis is expressed by the evocation of two component moments of an imperfective process.

It should be noted that this analysis explicates the semantics of temporal *still* at two levels. At one level, *still* is viewed as a scopal operator, which mediates between presupposed and asserted propositions. The two propositions code the same state of affairs. At another level, *still* is said to express persistence of a state of affairs across time; it highlights an 'advanced' instance of that state, which obtains at reference time. It is at this second level that the scalar nature of temporal *still* emerges most clearly; *still* operates upon a scalar model of persistence. The origin of this scale is equated with the inception of the state in question. A diagrammatic representation of the second type of explanation is provided by the scalar model given in Figure 2.

At first glance, this representation does not seem to qualify as a scalar model in terms of Fillmore, Kay & O'Connor (1988) and Kay (1990). In models presented by these authors, an 'argument space' is represented as a set of coordinates, such that the resulting structure is a lattice: an argument space is a set of diads, each member of which is culled from a distinct ordered set or scale. The two distinct scales are the two dimensions of the model: values along one

$$\dots > \left[\begin{array}{c} R/t_i \\ C \end{array} \right] T_i > \left[\begin{array}{c} R/t_{i+1} \\ C \end{array} \right] T_{i+1} > \left[\begin{array}{c} R/t_{i+2} \\ C \end{array} \right] T_{i+2} > \dots$$

Figure 2

dimension are arrayed along the ordinate; values along another dimension are arrayed along the abscissa. In this analysis, scalar models, temporal and otherwise, will be ‘collapsed’, with one dimension (e.g. states of affairs) superimposed upon the other (e.g. times). One reason for doing this is simply that readers are more accustomed to horizontal representation of time lines, in which some succession of developmental stages is arrayed along a time scale composed of ascending values arrayed from left to right. The use of this linear format for nontemporal scalar models as well will afford a clearer view of what is meant by ‘scalar continuity’.

In Figure 2, the semantic contribution of temporal *still* is schematized by a boxed component state within the imperfectivity scenario described by Langacker (1987). This component corresponds to the reference time—the point at which, in Langacker’s terms, the conceptualizer situates herself. This representation does not show us the presuppositional properties of temporal *still*: the presuppositions of prior instantiation and of expected cessation at R. These are more clearly portrayed in a representation of (22) given in Figure 3, analogous to Figure 1:

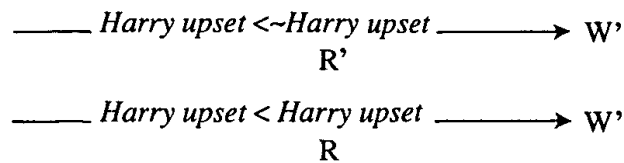


Figure 3

In Figure 3, as in Figure 1, the paired time lines represent models of the speaker’s expectation (W’) and of reality as conceived of by the speaker (W). As shown, both ‘worlds’ are defined by presence of Harry’s upset state prior to reference time (R). We can view the tenseless propositions in Figure 3 as component states of the imperfective process schematized in Figure 2. As shown, a component state of the process obtains at R in W. There is no component of that state at reference time in W’. Thus, Figure 3 represents the digitization of Figure 1: persistence is represented as the presence of two identical component states at contiguous scalar loci; cessation is represented by the lack of such a component state at the more advanced of these loci.

The two levels of representation—propositional and scalar—are compatible, in so far as temporal *still* represents a scalar operator. Scalar operators, like *even* and *only* (Kay 1990; McCawley 1987), relate two propositions within a scalar model. In the case of *even*, according to Kay, the *even*-bearing assertion or text proposition (TP) unilaterally entails a contextually given proposition (CP). An example is given in (25):

- (25) A: Did Harry come by? (CP)
 B: Yes. Even Fred showed up. (TP).

The reply in (25) evokes a scalar model in which invitees are ordered with respect to the likelihood of their arrival. Fred is regarded as less likely to come than Harry. His presence at the event then unilaterally entails Harry's presence. The semantic material shared by CP and TP can be represented as a propositional function: [x showed up]. The TP contains a focus: that constituent that contrasts with some constituent within the CP, and which is represented by a variable in the propositional function. The focus in this case is *Fred*, which accordingly receives prosodic prominence (cf. Lambrecht (forthcoming) on the prosodic realization of narrow focus).

One difficulty with assimilating temporal *still* to the class of scalar operators is the following: while *still* mediates between propositions within a scalar model, it does not appear to select a focus within its 'text proposition'. No linguistic element within this proposition receives focus accent. Nevertheless, there is a contrastive element in the semantic representation: the time specification of the text proposition, which contrasts with that of the presupposed proposition. The time specification of the assertion has a higher value than the time specification of the presupposed proposition; the former is further removed from the origin of the time line. Thus, the semantic material shared by the asserted and presupposed proposition in (23) can be represented as a propositional function of the following sort:

(26) [[Harry is upset] obtains at' x]

In (26), the variable ranges over time specifications. To summarize, then, temporal *still* evokes a two-dimensional scalar model, termed a time line. This time line matches some subpart of a state with the time point at which it obtains. In particular, temporal *still* requires a time line characterized by effective homogeneity of these subparts. This type of time line is identical to Langacker's imperfective process, in which a moment of conceived time is linked to a single relation-state (trajector-landmark pairing). Temporal *still* 'samples' from the imperfective process at reference time, licensing the inference that one or more components of this same process lie at points closer to the origin of the processual sequence in question. On the propositional level, temporal *still* relates two tensed propositions within a time-line model. The text proposition presupposes the context proposition (i.e. entails the CP in both assertive and nonassertive contexts).

2.2 *Transspatial persistence*

Concessive *still*, as its name implies, is found in various concessive constructions. The term 'concessive construction' is used here in a rather imprecise sense; it is not the case that each concessive type represents a unique form-meaning pairing. As König observes (1986), diverse syntactic templates

are drafted into service as concessives: conditionals, coordinate structures, and temporal clauses. The class of concessive constructs (although having such reliable formal concomitants as the factive subordinator *although*) is more readily definable in semantic and pragmatic terms. Such a definition will be provided in what follows. First, it is necessary to draw a functional distinction between 'true concessives' and those concessives which might more accurately be referred to as 'adversative constructions'. As mentioned in Section 1.2, concessives of the former type refer to the domain of argumentation. An example is given in the reply of (27):

(27) A: There are a lot of strange people around here.

B: Even so, I'd still rather live in Berkeley than anywhere else.

In (27), speaker A provides a potential counterargument to the claim that Berkeley is a desirable habitat. While conceding the validity of this argument, speaker B asserts that the claim so impugned can none the less be upheld. Hence, the reply in (27) includes both a concession to the conversational opponent and a reassertion of the impeached claim. The concession is coded by the expression *even so*, which is anaphoric to A's counterargument. The reassertion is coded by the main clause. The reply need not contain the concessive clause, in which case the concession is implicit in the reassertion.

This type of concessive can be juxtaposed to those exemplified in (28–29):

(28) Even though Harry apologized, Marge still left in a huff.

(29) Even if he loses twenty pounds, Harry will still fail the physical.

In (28), a factive concessive, Marge's leaving is asserted to have occurred despite an effort to obviate the event. In (29), a concessive conditional, it is asserted that Harry's weight loss would not prevent his failing the physical. These concessives do not refer to the domain of argumentation. Since they do not function to concede the validity of the counterargument, they are not concessives in the strict sense. The antecedent and consequent code real-world situations, which are understood to be antithetical to one another. The sentences presuppose that the situation described by the protasis⁴ ordinarily entails the lack of that situation-coded by the apodosis. In terminology to be used here, the protasis establishes a world (whether actual or hypothetical) which is *adverse* to that situation or outcome coded by the apodosis.

As mentioned in Section 1.2, there are certain concessives in which *still* appears to have both temporal and adversative understandings. These are sentences in which the main predicator of the apodosis bears imperfective aspect. An example is given in (30):

(30) Mom has starved herself for a month, and she's still thirty pounds overweight.

In (30), a state of affairs—Mom's obesity—is said to obtain despite an effort to prevent its continuance. As mentioned, earlier approaches to concessive *still* have focused exclusively on sentences like (30), in which the concessive understanding of *still* is reducible to the temporal understanding plus a contextual implication that the state in question continues despite adversity. Such sentences are thus ambiguous in the manner described by Norvig (1988): temporal and adversative understanding of *still* are mutually compatible. The interpreter need not resolve this ambiguity in favor of one or the other reading.⁵ Such ambiguity also characterizes true concessives like (27): the assertability of an earlier claim endures despite an intervening counterargument.

There is evidence, however, that the imperfective concessive *still* is not equivalent to the temporal usage coupled with the adversative implicature: it does not accept bounding durational adverbs, nor does it welcome the continuative perfect. As shown in (31–32), however, concessive *still* accepts both individuating operators:

- (31) She hated the noise, but she still lived there for several months.
 (32) The political climate has improved, but times have still been difficult in Dubrovnik.

In addition, as noted in Section 1.2, concessive *still* accepts inherently perfective predicates, while temporal *still* does not. An example of the former situation is given in, for example, (28): *still* is here coupled with *leave*, an achievement verb. These grammatical differences can be attributed to the distinct scalar ontologies evoked by concessive and temporal *still*. While temporal *still* codes the continuation of an imperfective process from one moment to the next, concessive *still* codes the persistence of an outcome (or state of affairs) from one set of circumstances to another. Sentence (29), for example, asserts that the outcome of Harry's failing the physical will obtain whether Harry is twenty pounds overweight (as he is now) or whether he sheds this weight (at some future point). Temporal *still* takes an internal perspective on a state: it 'samples' a component of this state at an advanced time point. By contrast, concessive *still* views the event or state in its entirety—as an episode or situation that obtains under specific (unfavorable) conditions. A state so viewed may represent a grammatically individuated situation, and hence that state may be described via the continuative perfect (32) or bounded by a durational adverb (31).

Adversative *still*, like temporal *still*, represents a scopal operator: it serves to relate the assertion within its scope to a presupposed proposition. Following Kay (1990), we may refer to the former as the text proposition (TP), the latter as the context proposition (CP). The scope of *still* (the TP) is the entire concessive sentence, excluding the scopal operators *even* and *still*. In sentence (29), for example, the scope is (33):

(33) If Harry loses twenty pounds (i.e. is slightly overweight), he'll fail the physical.

In (33), Harry's failure is asserted with respect to a hypothetical space (Fauconnier 1985) in which weight loss has occurred. The TP presupposes a CP of conditional form, in which Harry's failure is established with respect to another mental space. Let us assume that the CP of (33) is (34):

(34) If Harry is obese, he'll fail the physical.

In (34), the world of the CP happens to correspond to the speaker's reality space: Harry is in fact overweight. (This situation differs from that of factive concessives, to be discussed below.) The semantic material shared by CP and TP can be represented by the propositional function (35):

(35) Under x circumstances, Harry will fail the physical.

In (35), the variable ranges over worlds in which the outcome coded by the apodosis obtains. Thus, the focus of the TP is its protasis. The TP establishes a world that is less favorable (or, equivalently, 'more hostile') to Harry's failing the physical than is the world of the CP. As we will note below, the CP expresses a cause-and-effect scenario that is more consonant with general background assumptions than is that scenario evoked by the TP.

The CP and TP are related within a two-dimensional scalar model that matches events with the circumstances under which they transpire. Within this model, worlds are arrayed with respect to the degree to which they favor the outcome in question; the least adverse (or most favorable) world is nearest the origin. This is the world of the CP. In the case of (29), this is the world in which Harry is grossly overweight. Failure of the physical is accordingly assured. The world of the TP is located at a more extreme point on this 'adversity scale'. This is the world in which Harry is only somewhat corpulent. The outcome at issue, Harry's failure of the physical, obtains in both of these worlds. A diagrammatic representation of this model (in which the two dimensions are 'collapsed') is given in Figure 4.

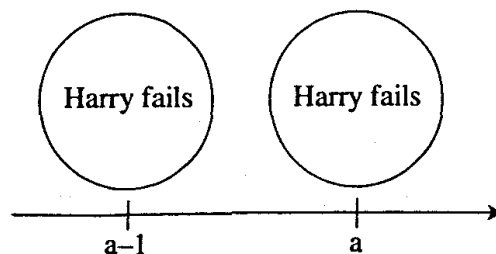


Figure 4

In Figure 4, the world of the CP is given the value $a - 1$; it is less adverse to failure than the world of the TP (a). This model licenses an inference: if Harry's failure transpires under circumstances unfavorable to failure (lack of obesity), then it will also transpire under circumstances that are favorable to failure (obesity). That is, the TP unilaterally entails the CP. In May's terms, the TP is more *informative* than the CP. Kay's definition of informativeness allows us to account for the close association of *even* with *still*, and with concessive semantics in general: *even* typically introduces the protases of both factive and conditional concessives (hence the subordinators *even if* and *even though*). According to Kay, *even*

indicates that the sentence . . . in which it occurs expresses, in context, a proposition which is more informative (equivalently 'stronger') than some particular distinct proposition taken to be already present in the context (p. 66)

Thus for example, the sentence *Even some thin people have high cholesterol* can be taken as unilaterally entailing a less informative CP, *Overweight people have high cholesterol*. The semantic material shared by CP and TP here can be represented as an open proposition: 'x type of people have high cholesterol'. The focus of the TP, thin people, ranks higher on the relevant dimension of the model (say, persons ranked with respect to their immunity to disease) than does the equivalent argument of the CP, overweight people. Therefore, the proposition resulting from integration of focal argument and propositional function ranks higher than (i.e. unidirectionally entails) the CP within the relevant scalar model.

In the concessive sentence (29), the relationship between CP and TP that is mediated by *still* is identical to that which is mediated by *even* in this sentence. The semantic material shared by CP and TP in both cases can be represented by the propositional function (35). The focus of both operators is the protasis of the TP. As noted by Kay, the syntactic position of *even* commonly reflects its focus (cf. (25)). Thus, in concessives like (29), *even* is placed before the protasis. Note, however, that *even* and adversative *still* cannot be said to be synonymous. While *even* can be used wherever the requisite scalar entailment is present, adversative *still* must relate propositions relativizable to a scalar model of the sort represented in Figure 4. Within this model, *still* codes the continuity of an outcome across worlds; *even* simply flags the entailment relation that is licensed by this model.

This model is not uniquely associated with *still*, but is linked to concessive semantics in general. *Still* is simply sympathetic to concessive semantics. For this reason, we find that, as König notes, *still* is redundant in hypotactic concessives of the sort exemplified in (28–29). In addition, it need not appear in paratactic concessives containing the connective *but*:

(36) The interview went well, but he (still) didn't get hired.

Syntactic templates like that exemplified in (36) are clearly devoted to the expression of concessive semantics. As König (1986) observes, however, biclausal templates of a less specialized function can also serve as concessives (coordinate structures, temporal-clause constructions, etc.). In such instances, the concessive understanding can arise from the presence of adverbial *still* alone. The concessive interpretation of coordinate structures like (37) can be attributed to the presence of *still*:

(37) Harry came and Marge still left.

A concessive reading of (37) would also be licensed by the presence of *nevertheless* or *yet* in the second conjunct. These particles may be said to function in a manner similar to *still*, with the latter sharing some temporal uses (König & Traugott 1982).⁶ Because adversative *still*—among other adverbial elements—mirrors the semantics of concession, concessive assertions commonly appear within the scope of *still*. As noted, however, either can evoke the requisite semantic structure without the other.

Our account of this semantic structure requires some refinement. We have established that concessives require the presence of identical outcomes in two worlds or mental spaces. In the case of concessive conditionals, the ‘adverse world’ is equated with Fauconnier’s hypothetical space H. This mental space is established by conditionals whether or not they are characterizable as concessives. The world of the CP is akin to the world of speaker’s reality (R). The requisite pairing of mental spaces is also evoked by sentences containing an instance of *still* that is interpretable as both temporal and concessive. In such sentences as (30), the world favoring obesity (in which Mom is not dieting) is established by the presupposition of prior instantiation. This world is the (past) time space described by Fauconnier (1985).

In the case of factive concessives like (28), the adverse world of the TP is identified with R. We might say that the factive concessive induces the conceptualizer to compare this world with an alternative reality, which is defined by the lack of those hostile conditions which define R. In this case, then, the world of the CP is equated with a hypothetical mental space. In interpreting (28), we bring to bear our conception of a (more prototypical) alternate reality in which the *failure* to proffer an apology leads to the outcome in question.

This analysis leads us to speculate about the ontological status of the concessive CP. In general, the CP, as described by Kay, is construed as being ‘in the context’ at the time at which the TP is uttered. As Kay points out, however, the CP need not represent a conversational contribution *per se*. In such cases, the CP often represents general background knowledge, which can be presumed to be accessible to the hearer and whose accessibility is exploited by the utterer of the concessive assertion. In the present case, the CP is represented

as an implicational statement. Sentence (28) might be uttered in a situation in which the addressee has explicitly committed herself to the following conditional proposition:

(38) If Harry failed to apologize, Marge left in a huff.

The concessive (28) need not, however, rely upon the presence of a CP having precisely this form. The CP need not involve the particular participants, Marge and Harry. It need not have been asserted at all. Under such circumstances, the CP is a theoretical construct; it simply codifies the conversants' shared understanding of the conditions which favor the outcome at issue. This maximally general CP can be stated in the following fashion:

(39) If someone fails to apologize, the offended party will storm away.

This general conception of the CP provides some difficulty for accounts which use a Gricean mechanism to account for the association of concessives (and concessive *still*) with the violation of an expectation. One such account is Fauconnier (1985). Fauconnier notes that conditional sentences are upper-bounded via quantity implicature, such that sentences like (39) yield the following implicatum:

(40) Only if someone fails to apologize will the offended party storm away.

This implicatum can be restated in scalar-semantic terms: the world coded by the protasis is the most hostile (or least favorable) in which the eventuality coded by the apodosis will obtain. The conditional (40) will generate the inference (41):

(41) If someone apologizes, then the offended party will be mollified.

It is precisely this type of inference that, as Fauconnier points out, is contravened by concessives like (28). Thus, the concessive TP must by definition contravene an upper-bounding implicature associated with its CP. Given this fact, we have a ready explanation for the association of concessives with expectation contravention. This account, however, relies upon the assumption that the conditional CP is a conversational contribution. Upper-bounding implicature arises from the assumption that in making a given assertion the speaker is being maximally informative. We cannot presume that an upper-bounding implicature attaches to a conditional sentence which has not been uttered in the relevant discourse. For this reason, we must assume that an inference like (41), which relates to an expected outcome, does not necessarily arise from upper-bounding implicature. We might assume instead that this sort of inference represents a presupposition of adversative *still* (and concessives in general).

This presupposition is the concessive analog of the presupposition of

expected cessation (discussed with respect to the temporal sense). It can be described as follows: the outcome denoted by the apodosis of the TP will not typically obtain in the world of the TP. With respect to (29), represented in Figure 4, this presupposition is the following: if Harry is not grossly overweight (i.e. if he loses the twenty pounds), he will not fail the physical. This presupposition is represented in Figure 5, a modified version of Figure 4.

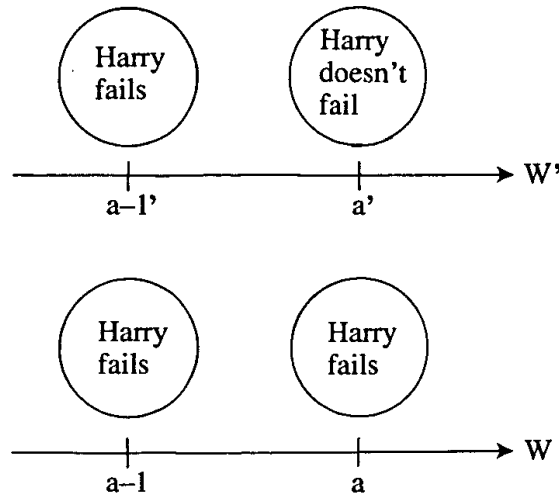


Figure 5

In Figure 5, the upper adversity scale (W') represents the general expectation that the world of the CP (in which Harry is obese) represents an adversity threshold: no world more adverse to the failure outcome will support that outcome. As shown, a lighter Harry does not fail the physical in the world of the TP (a') within W' . In W , by contrast, failure does occur in a world which disfavors it (a). While there is a persistence of outcomes across worlds $a - 1$ and a in W , there is no such persistence in W' . The contrast in threshold values on the two adversity scales W' and W is responsible for the flavor of expectation contravention associated with both concessive assertions and adversative *still*.

2.3 Marginality within scalar regions

König (1977: 184) observes that, sentences like (3) and (42-43) 'do not establish a relation between various points in time ... but between various entities comparable' to one another:

- (42) Compact cars are still fairly safe; subcompacts start to get dangerous.
- (43) Disturbing the peace is still an infraction; malicious mischief is a misdemeanor.

According to König's analysis, such sentences presuppose that the subject-denotation of the *still*-bearing sentence represents a 'borderline case' of the

category defined by the descriptor. Thus, for example (42) presupposes that compact cars are located at the periphery of the graded category of safe vehicles. At the same time, (42) asserts that compacts none the less fall within the 'safe region' of a scale upon which cars are ranked with respect to the accident protection afforded their occupants.

Sentences like (42–43) again evoke a two-dimensional scalar model, analogous to the time line and adversity scale discussed with respect to the temporal and concessive senses of *still*. This scale ranks entities in accordance with the degree to which they manifest a given property; an entity manifesting the property to a high degree will be placed at an advanced point, i.e. at some distance from the origin. The scale also contains a threshold, such that those entities above this threshold and those at or below the threshold are partitioned into distinct 'regions'. In König's terms, the scale is 'divided up by two (or more) predications' (p. 184). In the case of (42), cars are ranked with respect to their increasing lack of structural integrity. This scale is partitioned into 'safe' and 'dangerous' regions. Entities arrayed between the origin and transition point lie within the 'safe region' of that scale. The entity described in (42–43) is 'located' at or very near the transition point for the scale. A diagrammatic representation of the scale evoked by (42) is given in Figure 6.

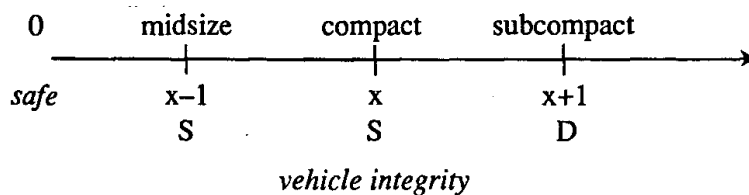


Figure 6

In Figure 6, the scalar loci at which entities are placed are represented by numerical values ($x - 1$, etc.). The subscript beneath these values indicates the region within which the ranked entities fall. Thus, both midsize cars and compacts are in the safe region (S), while subcompacts fall within the dangerous region (D). Marginality *still* selects an entity at the periphery of the safety region: the class of compact cars. It presupposes that there are entities ranked closer to the origin of the scale; these entities are better exemplars of vehicle integrity.

Like the other senses, marginality *still* can be regarded as a scalar operator. The asserted and presupposed propositions related by *still* in (42) are given in (43):

- (43) asserted: Compacts are safe.
 presupposed: Midsize cars are safe, etc.

That is, (42) presupposes that there is at least one other class of vehicles that can be described as safe. As in the case of adversative *still*, the asserted

proposition unilaterally entails the presupposed proposition within the scalar model. Within the model represented in Figure 6, the proposition that compacts are safe unilaterally entails that midsize cars are safe. The semantic material shared by the asserted and presupposed propositions (43) can be represented as a propositional function (44):

(44) x is safe

This propositional function differs from those which have been adduced in the analyses of temporal and adversative *still*. In (44), the variable occupies an argument place, rather than an adjunct position (cf. (26) and (35)). This difference can be attributed to the distinct properties of the scalar models evoked by temporal and adversative *still*, on the one hand, and marginality *still*, on the other. In the former case, homogeneous situations are matched with corresponding scalar loci-points in time or worlds. The succession of moments or of worlds represents an autonomous ordered sequence. (Thus, for example, the passage of time exists independently of the situation which obtains at any given moment.) In the latter case, entities (rather than situations) are ranked with respect to one another. These entities derive their homogeneity from a shared property. The property scale involved (auto safety, etc.) does not exist independently of the entities ranked within it (although we may assign a numerical value to a given position in this ranking).

In all cases, however, the focus of the asserted proposition creates a proposition which ranks higher than a presupposed proposition within the scalar model at issue. In the case of the temporal and adversative senses, 'advancement' within the scalar model occurs via replacement of a less advanced scalar locus (time point or world) by a more advanced locus within the appropriate propositional function. That is, in these cases the divergence between presupposed and asserted propositions arises from the fact that these propositions (a) bear distinct time specifications or (b) establish distinct mental spaces. In the case of the marginality sense, the divergence between asserted and presupposed propositions arises simply via substitution of one entity for a higher-ranked entity within the same scalar region. Such substitution allows the requisite 'advancement' along the relevant scale, while preserving the overall homogeneity provided by the entities' shared membership in a given scalar region.

Thus, the nature of the propositional function is determined by the scalar ontology evoked by an assertion involving *still*. The homogeneous contiguous elements can be situations or entities. Accordingly, the invariant portion of the open proposition may be either a full clause (an adjunct is supplied by the focus) or a predicate (an argument is supplied by the focus). That is, addition of the focus may either (a) derive a proposition from a proposition or (b) a proposition from a predicate. König captures this distinction by assigning the marginality

sense the categorial index $\langle o, 1, \langle o, 1 \rangle \rangle$: the proposition is derived via addition of a name to a propositional function. Note that König does not regard *still* as a scopal operator: his account does not invoke a relation between asserted and presupposed propositions. Hence, the categorial index amalgamates the focus of the asserted proposition and the propositional function which that focal element completes. Categorial indices for the other two senses derive a proposition from a complex or simple proposition. (Thus, the concessive sense has the category index $\langle o, \langle o, o \rangle \rangle$, while the temporal sense has the index $\langle o, o \rangle$.)

This distinction has a grammatical ramification. As noted by König, marginality *still* does not function as a sentence adverb. It cannot be placed in pre- or post-clausal position. In this respect, its syntax differs from that of temporal and concessive *still*. These differences are shown in (45–47):

- (45) Good. Harry is still here. (temporal)
- (46) I apologized, and still she left in a huff. (concessive)
- (47) *Still, Death Valley is in California. (marginality)

Although *still* always mediates between full propositions *semantically*, it has syntactic sentential scope only when the requisite identity between scalar elements is an identity between states of affairs, rather than an identity between entities. Only in the former case are the compared scalar elements directly mapped to propositions. In the latter case, the compared elements are mapped to arguments, and the continuation asserted by *still* is not akin to the continued instantiation of a proposition.

It should be noted that the argument variable in open propositions like (44) need not fill the subject position. Strictly speaking, therefore, the invariant portion is not a predicate. König discusses such examples as (48):

- (48) I can still beat PAUL. Peter is too good for me.

Sentence (48) presupposes a proposition with which it which shares some semantic material. This shared material can be represented as the propositional function (49):

- (49) I can beat x

Sentence (49) evokes a property scale upon which players are ranked according to their skills. This scale is divided into two regions: those players whom the speaker can beat, and those whom she cannot. Sentence (48) asserts that Paul is a borderline case with respect to the former region; it presupposes that there are players whom the speaker can more readily defeat.

As it stands, this analysis has not accounted for a prominent use-condition upon assertions involving marginality *still*: assertions like (3) and (42–43) are most felicitously uttered when there is reason to doubt that the descriptor in question is applicable to the entity under discussion. Sentence (43), for example,

is most appropriately directed toward an addressee who has expressed the belief that disturbing the peace is a misdemeanor, i.e. is more serious than an infraction. This sentence would not typically be used to enumerate various offenses and legal sanctions to an apparently uncommitted listener. Marginality *still*, like the other senses, expresses expectation contravention. This property can be represented as a presupposition, again using parallel scales. A representation of this presupposition is given in Figure 7, for sentence (4.2).

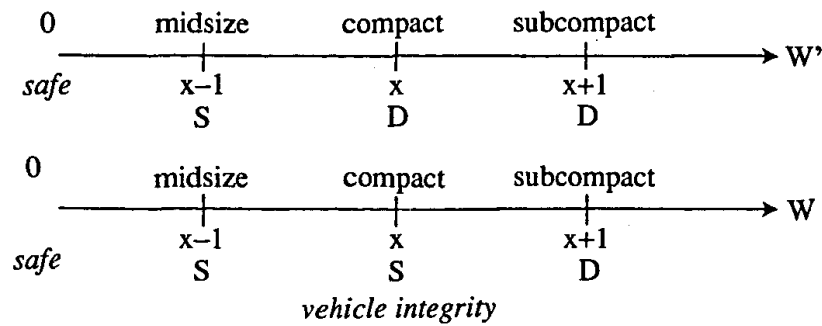


Figure 7

In Figure 7, the model W' within the speaker's expectations places the class of compact cars beyond the threshold for safety, and within the 'danger region'. The model W contrasts with W' : the class of compact cars lies within the safety region. Here, as in the earlier case, persistence of a property (as against a situation) across two contiguous scalar loci contrasts with an expected transition at the more advanced of these loci.

Particular scalar regions, like the scales themselves, do not exist independently of the entities ordered within them. The point of transition to a contiguous scalar region will be identified with the point at which one situates the highest-ranking entity (*vis-à-vis* the scale as a whole) that can be characterized as possessing the property defining that region. Locating this entity within the scalar region entails that all lower-ranking entities will also be located within that scalar region. The 'dangerous' regions within W and W' have distinct sets of members; this difference arises from the fact that compacts qualify as dangerous vehicles in W' , but not in W .

4 DIACHRONIC ISSUES

One of the major claims of this study is that the network of senses associated with the lexeme *still* can be examined without reference to the diachronic sense extensions through which those senses arose. It is none the less useful to examine the limitations of a diachronic account based solely upon pragmatic strengthening (Traugott 1988). We noted earlier that, according to König &

Traugott (1982), a quantity implicature—or rather its conventionalization—was responsible for the development of the adversative sense. The speaker asserts both continuance of a state of affairs and the existence of factors which might militate against this continuance. Quantity-based considerations dictate that the conjunction of these two assertions have some informational value. In such contexts, continuance comes to implicate continuance despite adversity. It was argued earlier, however, that this 'adversative implicatum' cannot be said to attach concessive assertions involving perfective predicates. Thus, the development of a concessive sense compatible with perfective predicates cannot be attributed to this implicature. Instead, semantic broadening may be responsible: the concept of existence despite adversity comes to subsume the existence (under unfavorable circumstances) of two types of eventualities—states and events. In the latter case, *still* evokes occurrence rather than persistence despite hostile circumstances. This broadening cannot, however, account for the emergence of the marginality sense, which does not evoke the domain of eventualities.

This sense can be said to conventionalize a quantity implicature as the presupposition of expected transition: the speaker's assertion that an entity bears some scalar property is informative only in so far as the entity's location within the relevant scalar region, as against a contiguous region, is subject to debate. The equivocal nature of the entity's membership within a subregion of a property scale arises from its being situated at or near a transition point within that scale. That is, the presupposition of expected cessation is readily translated into the presupposition of an expected transition from one scalar 'region' to another.

The transition at issue is not situated within the temporal domain. The scale is here a graded category within which entities are ranked (and relegated to subclasses) according to the degree to which they manifest a given property. A certain degree of that property, rather than a time point, represents the threshold at which the transition occurs. There is evidence, that a semantic extension of the type represented by the marginality sense can arise from a temporal understanding. An example of such a meaning shift is provided by nontemporal scalar uses of inchoatives. Sentence (42), repeated here for convenience, contains an example of such an extension:

(42) Compacts are still pretty safe; subcompacts start to get dangerous.

In the second clause of (42), the inchoative *start to get* is not used to assert that subcompacts as a class are becoming increasingly dangerous these days. Instead, the inchoative is used to assert that subcompacts as a class can be located at the point of origin of a scalar region containing dangerous vehicles. This scalar region is properly included within the vehicle-integrity scale shown in Figure 7. Sentences like (42) presuppose that more dangerous vehicles (less structurally

sound subcompacts) are located at points beyond the transition point, i.e. further removed from the origin of the vehicle-integrity scale. Note that this use of the inchoative is not an instance of abstract motion, as defined by Langacker (1987). Langacker has noted examples like (50), in which a motion verb is predicated of a static entity:

(50) Frontage Road runs along Interstate 80.

Here, according to Langacker, a motion predicate is called for, owing to the fact that the conceptualizer is in essence 'tracing' a static configuration. In so doing, she notes the manner in which the configuration present at one spatial point differs from that located at a previous point. In the case of (42), however, motion does not define the conceptual domain which gave rise to the atemporal meaning extension. In this case, the semantic extension consists in (a) 'replacing' time points with rankings (degrees) along a property scale and (b) defining a transition over like entities located at contiguous scalar loci rather than over sub-episodes of a state at contiguous 'moments'.

It should be noted, however, that abstract-motion predicates and nontemporal inchoatives share a particular aspectual property: in these usages, a perfective predicate can occur in the simple present without a special interpretation (e.g. habitual). Ordinarily, these predicates cannot be used in the simple present to report events ongoing at speech time.

(42') *Harry starts to get forgetful.

(50') *Look! Harry runs past the house.

Aspectually, both abstract-motion predicates and nontemporal inchoatives qualify as states.

Another nontemporal inchoative is the marginality usage of *already*, noted by König with respect to German *schon*. As I argued, in Michaelis (1992), temporal *already* represents a pragmatically ambiguous marker of temporal priority. It asserts the existence of a state prior to a reference interval containing a state of a like type. One usage of *already* codes anteriority of a state with respect to an expected point of eventuation, as in (51):

(51) Only 5 o'clock and it's already dark out.

In this usage, *already* resembles temporal *still*: the time line in *W* is paralleled in *W'* by a time line of speaker's expectations. Each adverb requires that the proposition within its scope obtain at the reference time specified by the tense; each presupposes the lack of the state in question at reference time in *W'*. In the case of *already*, however, lack of the state in question is also presupposed for all times prior to reference time in *W* and *W'*. Further, in *W'*, the state obtains at some more distant point in the course of development at issue. A representation of (51) is given in Figure 8 (again following Hoepelman & Rohrer 1981).

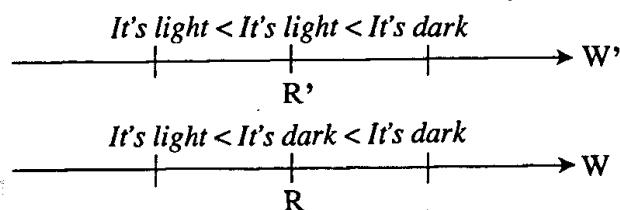


Figure 8

In this usage of *already*, what is at issue is not merely a sequence of phases of a given state, but a transition from one state to another. The transition that has occurred at reference time in *W* is premature with respect to a canonical course of development, represented as the time line within *W'*. In its nontemporal usage, *already* is the counterpart of marginality *still*. An example of the temporal usage is given in (52):

(52) Compacts are already safe.

Here, as in (42), a scale of vehicle integrity is invoked. In this case, however, the orientation or direction⁷ of the scale is different: the most dangerous cars are nearest the origin. As in (42), what is asserted is that compact cars are safe. Here, however, the 'safe region' does not include the origin of the scale. What is presupposed is that cars safer than compacts (e.g. midsize cars) are located at points further removed from the origin within the region at issue. *Already* here also presupposes a world of speaker/hearer expectations in which compacts do not qualify as safe, but larger cars do. The model, given in Figure 9, is analogous to the temporal model shown in Figure 8.

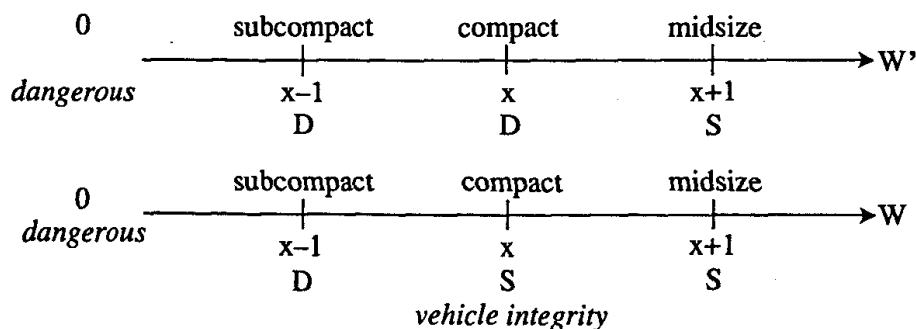


Figure 9

Marginality *still* (Figure 7) asserts that the property of being a safe vehicle obtains at a more extreme point in the integrity ranking for vehicles than expected; the origin of the scale is equated with the safest vehicle. By contrast, marginality *already* asserts that the safety property obtains at a less extreme point than expected; the onset of the scale is the point of least structural soundness. In both cases, the temporal and nontemporal scalar models are structurally isomorphic. In the case of *already*, as in the case of inchoatives in general, the nontemporal reading represents an analogical mapping of a temporal model onto a model of graded categorization.

It was claimed above, however, that the development of marginality *still* was not so direct: this sense was said to 'inherit' its semantic structure from an atemporal schema which subsumed both temporal and concessive uses. Perhaps this claim cannot be maintained in light of examples involving nontemporal uses of inchoatives. If we do allow that marginality *still* developed directly from temporal *still*, this does not impeach the argument that pragmatic strengthening alone does not account for the development of a concessive use of compatible with perfective predicates or of the marginality sense. Further, whatever path of diachronic development yielded marginality *still*, it would seem that only a superstructure involving abstract continuation can create a coherent conceptual grouping of senses synchronically.

5 CONCLUSION

A representation of the semantic commonalities which unite the three senses of *still* is given in Figure 10. The common traits schematized in Figure 10 can be enumerated as follows. A scale in W contains two identical elements, S . These elements are located at two contiguous scalar loci. The more advanced of these loci is 'highlighted' by the predication. This highlighting is indicated by the boldface brackets. The assertion that S obtains at the more advanced scalar locus licenses the inference (whether by lexical presupposition or scalar entailment) that S also obtains at (at least) one scalar point located closer to the origin of the scale. The scale in W is paralleled by an analogous scale in W' , the world of speaker/hearer expectations. On this scale, the scalar element (S'), obtains at the less advanced point; the more advanced point x_i' is characterized by the lack of S (or by the presence of another element—entity or outcome).

The scalar loci in question may be time points, worlds, or simply rankings within a property scale. The elements ordered may be states of affairs (outcomes or situations) or entities. Thus, the schema given in Figure 10 is an abstraction over scalar ontologies. The distinct scalar ontologies yield the distinct senses. Thus, *still* is a polysemous lexical item. Grammatical evidence for the existence of distinct senses is provided by co-occurrence restrictions and syntactic restrictions: for example, temporal *still* does not accept durational adverbs, and marginality *still* cannot be placed in pre- or post-clausal position. The distinct semantic structures are none the less isomorphic. As shown in Figure 10, the shared semantic properties can be represented in a straightforward fashion. It does not stretch credulity to suggest that Figure 10 represents a semantic generalization grasped by the speaker. As mentioned, a speaker will arrive at this generalization only once she has access to the full array of senses. A full grasp of the senses includes a knowledge of the conditions under which they are appropriately used in discourse. All assertions involving *still* represent

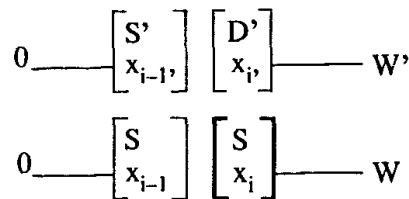


Figure 10

assertions of sameness despite expectation of change. This shared pragmatic content might induce one to reconcile senses with respect to their semantic content. The formation of this semantic generalization then resembles the process by which type information is extracted from tokens (Jackendoff 1983). Use-conditions shared by the senses are analogous to the set of ostensive definitions from which the speaker extrapolates conditions upon category membership.

The general semantic structure diagrammed in Figure 10 is then a rubric under which the distinct senses are grouped. This grouping is a 'natural category of senses' (Lakoff 1987: *passim*). As mentioned, a polysemy network of this sort does not represent a radial category of the kind described by Lakoff. It does not contain a 'core sense'. Instead, the distinct senses cohere by virtue of their common link to an abstract semantic superstructure. This type of analysis avoids the need to posit a polysemy structure which recapitulates the series of diachronic meaning extensions that give rise to the distinct senses. Although such polysemy structures exist, it was argued that, in the present case, the diachronic trajectory connecting temporal to concessive *still* cannot represent a synchronic 'sense link'. The historically primary temporal sense is not the central sense. The senses are related not by their resemblance to a core sense, but by their resemblance to the semantic superstructure. The semantic superstructure is computed only once the full array of sense is available. A polysemy network of this type is then by definition discontinuous with the historical developments which yielded the individual senses.

In addition to augmenting the repertoire of sense networks available within a theory of lexical polysemy, this study has also provided further evidence that use conditions and 'meaning proper' must be examined in tandem. *Still* is a scalar operator possessed of 'direct pragmatic interpretation' (Kay 1990: 63). It thus belongs to the family of linguistic constructs which Kay has elsewhere termed *contextual operators*: 'lexical items or grammatical constructions whose semantic value consists, at least in part, of instructions to find in . . . the context a certain kind of information structure' (1989: 181). The information structure evoked by *still* is a scalar model, 'a set of propositions which are part of the shared background of speaker and hearer at the time of the utterance' (Kay 1990: loc. cit.). As argued here, *still* evokes various types of scalar models: a time line, an 'adversity scale', and graded categorization. These models are

represented by distinct schemata. As noted, the discourse function of *still* is more amenable to a propositional representation. In discourse, *still* functions to relate propositions within a scalar model. A proposition pertaining to a less advanced scalar locus in the model is regarded as part of the discourse context, whether or not this proposition has been asserted as such. The 'text proposition' containing *still* entails this context proposition. In all of its senses, *still* presupposes a world of speaker/hearer expectations, in which that situation coded by the TP does not obtain at the scalar point in question. In positing this semantic presupposition, we codify the intuition that assertions involving *still* violate expectation. Thus, contextual meaning—and discourse function—are portrayed as part of 'literal meaning'.

An additional consequence of this study is the following: the existence of the lexical network, and its organizing rubric, provides evidence for the ability of speakers to evoke an abstract conceptualization of 'continuance' or 'persistence', a notion which is prototypically defined with respect to the temporal domain. Continuance can be viewed at a level of abstraction at which its scalar-semantic properties emerge. This abstraction consists in the 'digitization' of a continuum, such that persistence is equivalent to the presence of effectively identical elements at two contiguous scalar loci. An assertion of persistence is equivalent to the assertion that one such element is present at the more advanced of these loci. This abstract scalar conceptualization provides the basis for an analogy within event structure: the notion of continuation is applicable both to the endurance of a situation through time and to the 'persistence' of an outcome across worlds.

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NOTES

- 1 For their help in developing the present analysis, I would like to thank John Dinsmore, Gilles Fauconnier, Charles Fillmore, George Lakoff, Knud Lambrecht, and Eve Sweetser. Especially valuable assistance was provided by Paul Kay and Jean-Pierre Koenig. I would also like to thank three anonymous reviewers for their insightful criticisms and suggestions. Still, I am responsible for all errors.
- 2 Doherty (1973) has attempted to represent the semantics of *still* in terms of three

phases. In phase 1, prior to reference time, a state obtains; in phase 2, located at reference time, that same state obtains. In phase three, following reference time, the state does not obtain. As noted by König (1977), however, examples like (a) impugn the validity of this analysis:

(a) Our house is still standing!

The speaker of (a) certainly does not presuppose that the house in question will not be standing at some point following

her utterance. We can say, however, that this speaker presupposes that the house *might not* have been standing at R. This is the 'modal component' in the meaning of temporal *still* that is captured by the twin time lines in Hoepelman & Rohrer's analysis. By including reference to a parallel possible world in which the state in question ceases at R, this model represents the presupposition of expected cessation.

The term *expected cessation* is used with considerable hesitation. The speaker need not *expect* cessation of the state of affairs in question, but merely view such cessation as a fair possibility. A reviewer notes that such sentences as (b) are possible:

(b) As everybody expected, Uncle Harry was still pruning the shrubs.

Thus the term *expected cessation*, while a convenient shorthand for the modal component of the Hoepelman & Rohrer time-line model, is misleading. The reader is asked to interpret this term as referring to a presumption of *possible* cessation at R. Given this understanding of the term, one retains the ability to explain the anomaly of such sentences as *Harry is still dead*: under ordinary circumstances, one is loath to invoke a possible world wherein the state of death obtains for some period and then ceases to obtain at a later period.

3 A synthesis of the implicature and presupposition analyses is possible. Traugott (1988) has noted cases of 'pragmatic strengthening', in which conversational implicatures associated with certain lexical items become conventionalized. It is possible that, in the present case, the (quantity-based) implicature of expected cessation associated with temporal *still* became a conventional concomitant of both the temporal and nontemporal uses. As noted in Section 4, however, our definition of the temporally based notion *cessation* must be broadened to cover cases in which the scale in question does not

represent a time line. This broad definition will be entailed by the atemporal scalar definition of continuity suggested here.

4 The term 'protasis' is used here in an extended sense: it refers not only to the antecedent of a conditional, but also to the subordinate clause of a factive concessive. This terminology extension is justified by the fact that the two subordinate clauses function in a similar fashion with respect to concessives: both code the 'adverse world' within which some eventuality obtains.

5 C. Fillmore (p.c.) has noted that such sentences as (b) (as against (a)) are peculiar:

(a) Although he's sixty, he is still vigorous.

(b) ?Although he's only twenty, he is still feeble.

Sentence (a) accesses both temporal and adversative understandings of *still*. In sentence (b), the temporal understanding is not available. Its peculiarity stems from the fact that the coupling of *still* and an imperfective misleadingly evokes the temporal interpretation. E. Sweetser (p.c.) has pointed out that (b) is acceptable under an epistemic interpretation (Sweetser 1990): 'I conclude that he is feeble, despite the existence of otherwise valid counterevidence (indicating his youth).' An additional example of the epistemic reading of concessive *still* is given in (c):

(c) Timber wolves eat a lot of meat, but they're still omnivorous.

Sentence (c) can be paraphrased in the following fashion: 'Despite evidence to the contrary, the conclusion that Timber wolves are omnivorous continues to have validity.' The enduring validity of a conclusion in epistemic concessives is directly analogous to the enduring assertability of a claim in argumentative (or 'true') concessives like (27).

6 Although it has not been discussed, I assume that the concessive use of *yet*, as in

(a), is another example of transspatial persistence:

(a) I raced down there, yet I missed the train.

As König and Traugott argue (1982), *yet* and *still* are distinct in the following respect: *yet* presupposes that the state of affairs in question will end at a point following reference time. Thus, *He's not here yet* presupposes that this (negative) state will terminate later; the analogous sentence with *still* bears no such presupposition. Both adverbs are, however, markers

of temporal persistence, and as such exhibit analogous temporal-concessive polysemy.

7 This scalar directionality can be literal. Sentence (3) is an appropriate response to the eastward bound motorist who assumes that Death Valley is in Nevada. However, only sentence (a) is appropriate if that same individual is traveling westward:

(a) Death Valley is already in California.

I thank C. Fillmore for making this observation.

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