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The grammar of temporal motion: A Cognitive Grammar account of motion metaphors of time

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Abstract: Recent groundbreaking work in cognitive linguistics has revealed the semantic complexity of motion metaphors of time and of temporal frames of reference. In most approaches the focus has been on the clause-level metaphorical meaning of expressions, such as MOVING EGO (*We are approaching the end of the year*) and MOVING TIME (both EGO-CENTERED, as in *The end of the year is approaching* and FIELD-BASED, as in *Boxing Day follows Christmas Day*). The detailed grammatical structure of these metaphorical expressions, on the other hand, has received less attention. Such details include both elements that contribute to the metaphorical meaning and those that have a non-metaphorical temporal function, e. g., tense and (central features of) aspect. I propose a model for the analysis of metaphorical expressions, building on earlier work in Conceptual Metaphor Theory and the framework of Cognitive Grammar (CG). I approach the grammatical structure of metaphorical expressions by analyzing the interplay between veridical and metaphorical systems of expressing temporal relations. I argue that these systems relate to two relevant conceptualizations of time. *Veridical time* (VT) is the non-metaphorical conceptualization of time, where the processual profile of the clause-level metaphorical expression resides. A *metaphorical path* (MP) is the metaphorical conceptualization of time as a path occupied by the metaphorical motion. A motion metaphor of time tracks the MOVER's changing position on the MP against VT. I show how metaphorical expressions based on a motion verb differ from those based on a prepositional construction in grammatical and semantic terms, and how tense and aspect contribute to the conceptualization of the motion scenario. I argue that tense grounds the metaphorical motion event with respect to the speech event. All the participants in the motion event, as well as the metaphorical path

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itself, are present in each subsequent configuration tracked against VT by the conceptualizer. Thus tense has a wide scope over the motion scenario with Ego's 'now' as a reference point, while Ego's 'now' cannot serve for grounding of tense. This is why expressions such as **The meeting is difficult ahead of us* are not acceptable.

Keywords: time, metaphor, Cognitive Grammar, tense, aspect

1 Introduction: Motion metaphors of time

Motion metaphors of time have been studied in cognitive linguistics since its very beginning. The basics were laid out in early works including Clark (1973) and Lakoff and Johnson (1980), who identified the TIME AS A MOVING OBJECT metaphor, further subdivided into MOVING EGO (a canonical example being *We are approaching Christmas*) and MOVING TIME (*Christmas is coming*). This distinction reflects our ability to perceive time either as an object which is moving from the future towards us and then away from us to the past (MOVING TIME), or as something – a mass or a path – that we are moving along from the past towards the future (MOVING EGO). More recently, the study of motion metaphors of time has incorporated the notion of *temporal frames of reference*, usually abbreviated as t-FoR (see, e. g., Nuñez and Sweetser 2006; Núñez and Cooperrider 2013; Evans 2013a, 2013b; Tenbrink 2007, 2011; Moore 2006, 2011, 2014a, 2014b; for psycholinguistic studies, Boroditsky 2000; Boroditsky et al. 2011; Matlock et al. 2005, 2011; Duffy and Feist 2014; Feist and Duffy 2015; a comprehensive overview and comparison of existing t-FoR models is offered in Bender and Beller 2014). T-FoRs are the metaphorical counterparts of classic (“Levinsonian”) spatial frames of reference (see, e. g., Levinson 2003: 24–34), which comprise projective spatial relations such as ‘in front of’ vs. ‘behind’ (the sagittal axis); ‘above’ vs. ‘below’ (the vertical axis), and ‘to the left of’ vs. ‘to the right of’ (the lateral axis). Together the three axes constitute a three-dimensional system that can be imposed upon a spatial arrangement by applying a certain frame of reference (intrinsic, relative, or absolute) which determines how the directionalities are understood.

The source domain of a spatial metaphor of time is, by definition, space; space and time, however, are conceptually different in many ways, and these differences manifest themselves in the metaphors. Haspelmath (1997: 23) mentions two features that distinguish t-FoRs from their spatial counterparts: 1) time is conceptualized as one-dimensional, while space is three-dimensional (see also Tenbrink 2007: 25 for further implications), and 2) the passage of time

is typically coded as motion, while the spatial arrangements studied have in most cases been stationary. In Galton's (2011) terms, time is conceptualized not only as having an extension (like space), but also as being linear, directional and *transient* (see Galton 2011; Bender and Beller 2014: 345). While linearity is a feature shared with spatial paths and directionality with spatial motion (which itself presupposes time), transience is a purely temporal notion that sets time apart from space (for a detailed account, see Evans 2013a, 2013b). It is also, Galton (2011) argues, a notion that escapes attempts at precise definition: transience refers to the elusive notion of the passage of time and the uniqueness of the constantly changing 'present moment', which is our only way to experience the world. This is an important reason why Evans (2013a: 53–68, 2013b) emphasizes the non-spatial nature of time and argues that the linguistic representation of temporal relations differs from that of spatial ones. As Bender and Beller (2014) point out, the t-FoR models proposed by different scholars vary considerably, and disagree as to the nature of the systems involved.

The spatiotemporal notion of motion seems to be cross-linguistically a common source domain, if not the most typical one, for metaphorical representations of the passage of time. In many recent approaches (e. g., Moore 2014a, 2016), it is therefore emphasized that motion metaphors of time are not cross-domain mappings from space to time but mappings between frames that involve elements of both space and time. A source-domain for metaphors of temporal motion is not a stationary spatial arrangement but a motion scenario, which itself necessarily incorporates the notion of time, since the *MOVER* occupies different positions on a spatial path at different points of time. For instance, temporal relations such as precedence or imminence are often expressed by dynamic projective prepositions such as *ahead* and *after*, which in their spatial uses often designate motion on the sagittal axis by the Landmark (in other terminologies, the Ground, the Relatum, or the Reference point) of the relationship (see also Moore 2006, 2014a; Nuñez and Sweetser 2006: 408; Lindstromberg 2010: 107; Huomo 2015, forthcoming a), as in *We slowly approached the mountains ahead of us; The cat is running after the mouse*. Dynamic spatial arrangements with moving participants have recently been analyzed in detail by Tenbrink (2011), whose work provides a sound basis for comparisons because she distinguishes between situations that involve motion and those that are stationary.

Two distinctive features of a metaphorical representation of time as motion that make it fundamentally different from spatial motion are 1) the constraints it imposes on the direction of the metaphorical motion and 2) the conceptualization of the motion as proceeding inevitably (it cannot be stopped) at a constant

rate (it cannot be accelerated or slowed down¹). The first constraint mandates that EGO (the person experiencing time) can only move from earlier towards later on the timeline (MOVING EGO and related metaphors), while discrete TEMPORAL ENTITIES (*Christmas, Sunday, the deadline*) typically move in the opposite direction (MOVING TIME and its subtypes). However, extended, often unbounded, TEMPORAL ENTITIES can alternatively be conceptualized as moving from earlier to later, as in *Life goes on* or *Time flows on* (see Dewell 2007: 293; Lindstromberg 2010: 53–54 for the directional meaning of *on*). In more general terms, events scanned from an internal point of view, in expressions Moore (2014a) calls the SITUATION IS A MOVER metaphor, are typically conceptualized as proceeding from their earlier² phases towards their later ones, as in *The candle burned from dusk to dawn*. A scanning in the opposite direction would require a greater processing effort and often results in linguistically unacceptable expressions, as illustrated by Langacker’s (2008: 501–502) paired examples: a) *In the evening stores are open between 7 and 10* (earlier > later) vs. b) **In the evening stores are open between 10 and 7* (later > earlier). Langacker argues that the first example corresponds to a *natural path*, “a series of conceptions where each leads readily to the next”, while the second does not. In other kinds of expressions, however, time can be scanned in the later > earlier direction, as in *Bill and Lisa go back fifteen years* or *Let us now go back to the year 1661* (when uttered by a history teacher to her students).

Moore (2006, 2011, 2014a) has emphasized that not all MOVING TIME metaphors implement the point of view of an EGO experiencing time. If EGO’s position (a ‘now’, with a metaphorical ‘here’ as its counterpart) is present in the metaphor, it divides time into three components: past, ‘now’, and future. In the metaphor, past is on the sagittal axis behind EGO (in English and most other languages studied), ‘now’ is EGO’s position, and future is the section of the sagittal axis in front of EGO. Moore distinguishes two frames of reference for motion metaphors of time: 1) the EGO-CENTERED frame of reference, which implements either a moving or a stationary EGO and thus comprises all MOVING EGO metaphors, as well as those MOVING TIME metaphors that involve EGO’s point of view, and 2) the FIELD-BASED frame of reference, which lacks the point of view of EGO, as in *New Year’s Eve follows Christmas*. Moore (2014a)

1 In a veridical-time conceptualization; note that a subjective experience of time as “passing” faster or more slowly (see Evans 2003: 18–21) is a different kind of conceptualization.

2 Note that here the notions *earlier* and *later* are not identical with *earlier* and *later* in veridical time: they refer to phases of an activity that must be performed in a particular order. When the activity is actually carried out, the earlier phases are performed earlier (in veridical time) than the later ones.

labels such expressions as SEQUENCE IS RELATIVE POSITION ON A PATH (here abbreviated SRP). SRP metaphors show that MOVING TIME can be conceptualized without EGO'S point of view and thus without a division into past, 'now' and future, while MOVING EGO (e. g., *We are approaching Christmas*) and EGO-CENTERED MOVING TIME (e. g., *Christmas is approaching*) always implement the point of view of EGO and the aforementioned division. In shifting from an EGO-CENTERED to a FIELD-BASED conceptualization, the conceptualizer relinquishes the subjective strategy of identifying with EGO.

Dewell (2007) has emphasized that the division of metaphors into deictic (EGO-CENTERED) and non-deictic (SRP) ones is not as absolute as it may seem (see also Moore 2014a: 71–76), since metaphorical SRP expressions often contain deictic elements that imply a point of view resembling EGO'S 'now'. For instance, in *Tuesday comes after Monday* the SRP-type of order of two TEMPORAL ENTITIES is indicated by the prepositional construction where *Tuesday* is the Trajector and *Monday* the Landmark,³ while the verb *come* evokes a deictic point of view (see also Moore 2016). This in turn shows the need for a detailed grammatical analysis: in the example the prepositional construction represents an SRP configuration, while the verb indicates deictic motion towards a viewpoint location. Dewell (2007) emphasizes that motion metaphors always involve a conceptualizer's point of view, but that its degree of prominence and position can vary (i. e., it may be on the timeline or outside it). He argues that all temporal relations in English can in fact be understood in terms of a path metaphor, where the conceptual perspective moves from earlier towards later ($E > L$) and encounters "times" along the way. Motion in the opposite direction ($L > E$, as in EGO-CENTERED MOVING TIME and SRP metaphors) is understood as fictive (for fictive motion in general, see Talmy 2000: Ch. 2). In Dewell's account, the conceptual motion may be either imagined actual motion in time or a purely abstract scan from a detached vantage point (moving focal attention); all of the rich elaborations of this basic image follow from the conceptualizer's ability to construe the same path information in many different ways.

3 I use the Cognitive Grammar terms Trajector (TR) and Landmark (LM) for the primary and secondary focal participants of a profiled relationship, respectively (for comprehensive accounts and definitions, see Langacker 1987: Section 6.3; a slightly revised definition is given in Langacker 2008: 70–73). As for verbs, the Trajector is the subject argument and the Landmark the object argument. In prepositional constructions, the Trajector is the entity being located with respect to the Landmark, which is designated by the complement of the preposition. For instance, in the complex NP *the lamp above the table*, 'the lamp' is the Trajector and 'the table' the Landmark. Trajector is thus equivalent to Figure and Landmark to Ground in the terminology of conceptual metaphor approaches (such as Moore 2014a).

The “purest” SEQUENCE IS RELATIVE POSITION ON A PATH reading is evoked by verbs in the present tense, as in *New Year’s Eve follows Christmas*. In contrast, a future auxiliary (*will*) or a past-tense verb form can be understood as implying a point of view on the timeline and thus a temporal experience (*The show **will be followed** by fireworks; A rainy week **preceded** a glorious Sunday*; cf. Dewell 2007; Moore 2014a: 73). This is because future and past tense forms serve to *ground* the predication with an actual level of construal (See Langacker 1999a, 1999b, 2008: 526–528), whereas the present tense designates a state and is often compatible with events conceptualized as *virtual* (fictive, imaginary) abstractions of actual occurrences (for the relationship between the English present tense and virtual meanings, see Langacker 1999b: 91–97). In other words, the “purest” SRP metaphors are virtual-plane statements about the order of TEMPORAL ENTITIES, not representations of actual experiences of events. On the other hand, the actual-plane meaning activated by the past tense or future auxiliary evokes the point of view of an experiencer of time and the temporal sequence of the events, even when the experiencer is not overtly coded as EGO. But zero coding of EGO is quite typical in EGO-CENTERED metaphors as well, cf. *Christmas is approaching* [EGO’S position, EGO-CENTERED MOVING TIME], *Christmas is ahead* [of EGO, MOVING EGO]; see also Evans (2013a: 90).

In addition to MOVING EGO, Moore’s (2014a) typology includes three other metaphors in which the motion proceeds from earlier to later. Together such metaphors constitute the *earlier > later* (E > L) *group*. They include the metaphors NOW IS A MOVER (e. g., *The hour is approaching midnight; It’s past your bedtime*) A SITUATION IS A MOVER (*The candle burned from dusk to dawn; The music went past dinner*) and PURPOSEFUL ACTIVITY (*We’re halfway through the job*). The two first-mentioned metaphors, according to Moore (2014a: 43–46), represent time as a path of procession of an evolving ‘now’ or the evolving temporal profile of a situation. PURPOSEFUL ACTIVITY is different, in that it represents event structure (the internal, ordered phases of an event) as a path along which the AGENT proceeds towards a destination, which metaphorically represents the completion of the action (see also Fauconnier 1997: 25–29). As the internal structure of the event does not constitute a sequence of veridical time (that elapses at a constant rate), progression on the ACTIVITY PATH depends on the AGENT’S efforts and success: the progression may cease, and its rate may be faster or slower (see Fauconnier 1997; Moore 2014b for detailed analyses of such expressions). Progression on the ACTIVITY PATH can then be mapped onto absolute time for purposes of localizing or measuring it (*At noon ~ After two hours, we were already halfway through the job*). In particular, *schedules* are representations of a mapping of the (foreseen) progression of an activity onto absolute time (*We are ahead of schedule*).

In the vast literature dedicated to motion metaphors of time, the grammatical structure of such metaphorical expressions is usually analyzed at the level of the clause (“expression X instantiates metaphor Y”), not so much at that of the individual grammatical elements contributing to the metaphorical meaning. For a detailed grammatical analysis of these metaphors, at least the following questions are relevant: 1) What exactly are the clausal elements that evoke the sense of metaphorical motion in each case – motion verbs, projective prepositions (*in front of, before, ahead, behind, after*), path prepositions (*past, by, over, towards*), source/goal prepositions (*from, to, until*) or something else? 2) What constitute the Trajector and Landmark in the relationships designated by the verbs and the prepositions? 3) Is it relevant to the metaphors whether the prepositional phrases are verb-modifiers or clause-level (“setting”) adverbials (cf. *Christmas is ahead* vs. *We did some shopping ahead of Christmas*)? 4) How do tense and other elements of grounding contribute to the metaphors?

In the following sections, I approach these questions from a Cognitive Grammar perspective, analyzing the interplay between the grammatical systems that contribute to expressions of veridical and metaphorical temporal relations and the interaction among these systems. First, however, the concepts of time involved in these metaphors are elaborated in Section 2. Section 3 focuses on metaphorical expressions based on verbs of translational motion (e. g., *approach, come, pass*) to designate the motion scenario, and Section 4 on those where the motion scenario is evoked by a prepositional construction alone. Section 5 offers a summary of the results and certain conclusions.

2 Conceptualizations of time

2.1 Absolute vs. relative time

Before moving on to the details of the analysis, a distinction needs to be made that has already proved to be relevant in ACTIVITY PATH metaphors. This is the distinction between *absolute time* and *relative time*. The term *absolute time*, as used here, refers to a conceptualization of time that consists of the actual past (both personally experienced and learned), the ceaselessly changing present, and an expectation of such future entities that have an immutable position on the timeline (such as next Christmas, next summer, the year 2054, June 2027; i. e., calendric events). The passage of absolute time is conceptualized as taking place at a constant rate. A calendric system is a collectively shared representation of absolute time; as it is collective, it cannot be altered by an individual

(for example, I cannot successfully make a decision to change the calendric position of Good Friday 2027).

The term *relative time* refers to time-like conceptualizations such as the internal structure of an event or activity (as in ACTIVITY PATH expressions) where the phases do have a specific order but where progression from one phase to the next depends on the efforts of the participants (see, e.g., Fauconnier 1997: 25–29; Moore 2014b). Mapping the phases of an event onto absolute time is of course what *aspectuality* in language is all about. When an event is actualized, its progress and different phases are mapped onto absolute time. In this process, the relative TEMPORAL ENTITY acquires an immutable position as part of the past (which itself forms part of absolute time).

As opposed to past events, future relative-time entities are non-factual (fictive in terms of Talmy 2000), and their position in future absolute time can only be anticipated and – to an extent – manipulated; we can for instance decide when to carry out an activity. We can *postpone* a future appointment (an entity of relative time) *over the weekend* (a Landmark of absolute time), because the position of the appointment in future time is conceptualized as non-factual and can be manipulated by decisions made earlier. In contrast, we cannot *postpone* a future *Wednesday* because it is an inherent part of the calendric system, which in turn is a collective representation of absolute time established as a norm by the community.

2.2 Processing time, veridical time, and metaphorical path

In a concrete metaphorical expression where the passage of time is expressed as motion, there are both elements that contribute to the expression of the metaphorical mapping and elements that represent non-metaphorical temporal relations, which can be called *veridical*. Among the last-mentioned, *tense* is the most important one: it is a deictic system with the function of positioning the designated relationship in a veridical (non-metaphorical) conceptualization of time, relating it to the speaker's present. Albeit *tense* serves to ground EGO's 'now' with the speaker's present, it does not directly contribute to the metaphorical scenario, which is evoked by other elements; these include motion verbs and prepositions. *Aspect* is another grammatical system for the non-metaphorical expression of temporal relations. It has to do with the internal temporal structure of a process (whether it is homogeneous or heterogeneous, i. e., consists of phases that are conceptually different). Duration and the opposition between temporal boundedness (perfectivity) and unboundedness (imperfectivity) are aspectual terms related to the (non-metaphorical) temporal profile of the process. On the other

hand, aspectual phenomena are also relevant to the time-as-space conceptualization in a number of ways, some of which will be explored below.

At this point, the notion of time itself, and the different roles it plays in the metaphorical expressions, need to be elaborated. I start from the distinction made in Cognitive Grammar (see Langacker 1987, 1991a, 1991b, 1999a, 1999b, 2008) between *conceived time* (CT), defined as “time as an object of conceptualization”, and *processing time* (PT), i. e., “time as a medium of conceptualization”. Langacker (2008: 79) argues that since conceptualization resides in mental processing (or neurological activity), it occurs through time, which, when viewed in this capacity, is referred to as processing time. Processing time is thus time actually experienced by a language user when engaged in the activity of processing a linguistic expression. Langacker distinguishes processing time from conceived time, which is time as an object of conceptualization. He characterizes the relationship between the two as follows: “When we track a relationship through time, the tracking occurs in processing time and the event itself in conceived time” (Langacker 2008: 110). This notion of tracking is directly related with aspectual phenomena: a process has a duration (in conceived time) that is sequentially scanned in processing time, even though the two do not necessarily coincide.

The above use of the term *conceived time* is only one subtype of its general character, which is very broad; it covers many kinds of linguistic elements representing conceptualizations of time, from temporal nouns (*winter*, *next week*; cf. Langacker 2008: 79, 2012: 208–209) to grammatical systems such as tense and aspect. For the sake of clarity, I will adopt the more specific term *veridical time* (VT) for the conceptualization of conceived time which hosts the processual profile of a clause-level predication. VT is the conceptualization of time against which the processual profile of a clause-level expression is sequentially scanned.⁴ It can be characterized as the temporal dimension through which events unfold (Langacker 2012: 207). This notion of VT excludes temporal nouns (*winter*, *Sunday*), as well as other non-processual (i. e., not sequentially scanned) representations of time, such as relations designated by temporal⁵

⁴ *Sequential scanning* refers to the act of scanning through the component relationships in the order of their temporal manifestation (Langacker 2012: 205). In CG, (finite) verbs as well as clause-level predications are viewed as designating *processes* which are relationships sequentially scanned through [veridical] time (for details, see e. g., Langacker 1987: 248–253).

⁵ Somewhat paradoxically, temporal relations expressed by prepositions are classified as *atemporal* relations in a CG treatment. This characterization does not deny their relationship with time; it means that they designate relationships that (as such) are not sequentially scanned (unlike relations designated by verbs).

prepositions (note that I am not suggesting that these are “less veridical” conceptualizations of time, only different ones).

According to Langacker (2012: 207), the role of time as the dimension through which events unfold is in fact a peripheral one, compared to its function in temporal prepositions such as *before* and *after*, where time is “the domain in which the profiled relationship is manifested, just as space is with spatial prepositions”. Among such conceptualizations where time constitutes the domain for the profiled relationship, an important one is the metaphorical conceptualization of time as a path on which the metaphorical motion takes place. This conceptualization will be referred to as a *metaphorical path* (MP). In a clause-level expression where the passage of time is expressed as motion (e. g., *Christmas is coming*), the MP is thus an element of the metaphorical scenario, something along which Christmas “is moving”. In addition, a clause-level metaphorical expression includes elements relating the motion event to veridical time. Among these elements, tense is a system that positions the designated relationship within the conceptualizer’s conception of reality, aspect a system that accounts for the duration and (un-)boundedness of the relationship.

In the following, I propose a model where motion metaphors of time track an evolving motion scenario (MP) against VT, where the scenario is scanned sequentially. I focus on the analysis of metaphorical representations of absolute time, but comment on expressions of relative time where relevant. In Section 3, the focus is on clause-level metaphorical expressions where the sense of motion is evoked by a motion verb. In Section 4 I analyze expressions where the concept of motion relies on prepositional constructions alone.

3 Ego-centered metaphors of time with motion verbs

3.1 The participants of the motion scenario

In an EGO-CENTERED MOVING TIME metaphor, such as *Christmas is approaching*, both the Trajector (‘Christmas’) and the implicit Landmark (EGO) are participants in the metaphorical scenario. Since the metaphor is about EGO’s *experience* of time, more specifically of the imminence of a time, Ego’s position in the motion scenario (EGO’s ‘here’) maps onto EGO’s ‘now’ in VT. EGO’s ‘now’ is the sequence of VT currently being scanned by the conceptualizer. It is important to note that EGO’s ‘now’ may or may not coincide with the speaker’s present, which is grounded in processing time and has a counterpart in VT. This counterpart

in VT coincides with the conceptualizer's actual experience of processing time, and is profiled by present-tense predications (for details, see Langacker 2008: 157–160).

In principle, EGO can be identified with the speaker explicitly by combining a present-tense verb form and a first person singular expression for EGO, but this does not seem to be a common strategy in the metaphorical expressions (consider ? *The end of the year is approaching me*; ? *I am approaching Christmas*). More typically, either a first person plural pronoun (*we, us*) is used for EGO, or EGO is not overtly coded at all (*Christmas is approaching ~ ahead*). Such expressions include no overt Landmark expression for the relationships profiled by *approach* and *ahead*, thus leaving the construal of EGO subjective (cf. Langacker 2008: 77–78).

In general, EGO can be distinguished from the speaker (and from the speaker's present) in two ways: by tense and person. If the present tense is not used, then EGO's 'now' does not coincide with the speaker's present, even though EGO may still be identified with the speaker at an earlier or later point of VT (if the speaker speaks about a past experience of time or anticipates a future one; cf. example 1). If the first person is not used (2), then Ego is not identified with the speaker but with another person.

- 1) We were happy as Christmas was approaching.
- 2) Ann is nervous because her graduation is approaching.

In a metaphorical motion scenario, there are also TEMPORAL ENTITIES that may be moving or stationary, depending on the metaphor. What the metaphor does is to designate the motion event taking place as EGO experiences her 'now', which is constantly changing, and the speaker sequentially follows this by scanning VT. This means that a TEMPORAL ENTITY which does not coincide with EGO's 'now' in VT (since it is in EGO's future, for example), has a metaphorical counterpart which shares in EGO's 'now' (though it does not share in EGO's 'here' in the motion scenario). It is this counterpart that is moving with respect to EGO's 'here', and this motion is tracked by the conceptualizer through VT. The veridical VT counterpart of the metaphorically moving TEMPORAL ENTITY is typically not included in the profiled section of VT; consider Figure 1.⁶

⁶ The contribution of the progressive construction is not taken into account in Figure 1 and will be discussed later.

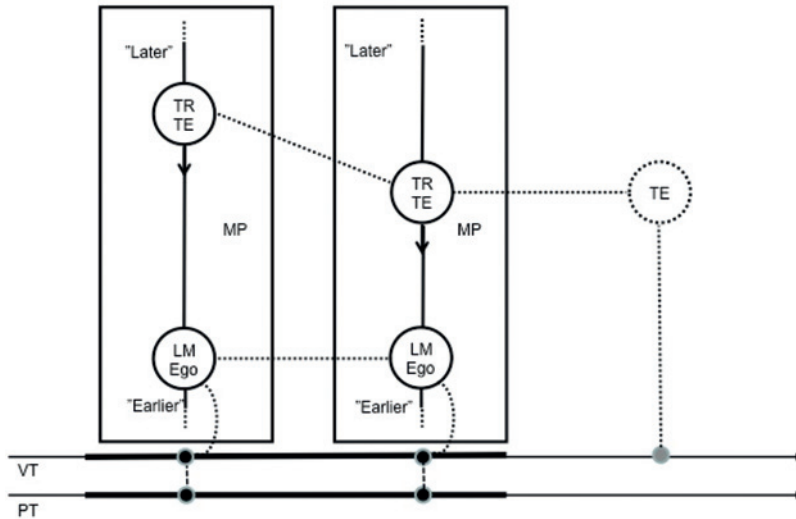


Figure 1: Ego-centered Moving Time: *Christmas is coming* (the progressive construction disregarded). Trajector, TR is a temporal entity (TE) and moves towards Ego-Landmark (LM) along the metaphorical path (MP). Ego's 'here' is mapped onto 'now' in Veridical time (VT). The speaker uses the present tense to indicate that the designated event coincides with her experience of processing time (PT). The VT-counterpart of Christmas (the dotted circle) is not profiled.

In Figure 1, the participants of the motion scenario are interacting on the MP along which Christmas (the metaphorical MOVER) is moving towards EGO. The motion along MP is relative to VT in such a way that at subsequent points of VT (which is scanned sequentially), the MOVER occupies different positions on the MP. It is thus similar to a MOVER traversing a spatial path (e. g., *A truck is coming*). VT is where the sequential scan of the process takes place, and thus provides a basis for measuring the duration of the event. Another way of characterizing the relationship between MP and VT is to say that the motion proceeds a *distance* along the MP and has a *duration* in VT.

If, as is customary in Cognitive Grammar illustrations, conceived time (here: VT) is represented as a horizontal axis extending from left to right (and processing time, when represented, as a parallel horizontal axis running below the VT one), then it is convenient to represent MP vertically. This solution may seem unorthodox, because we are used to illustrations of time as a horizontal arrow pointing from left to right, but it is the common way of representing a spatial path in CG illustrations of spatial motion events sequentially scanned in VT. Figure 1 may be interpreted as a bird's-eye-view of the motion scenario where

EGO is seen from above, facing the (future) Christmas that is approaching her. The “earlier” and “later” in quotation marks on MP are directions that are not to be taken literally, since on the MP all participants are present in each subsequent configuration sequentially scanned.

As the EGO-CENTERED MOVING TIME metaphor *Christmas is approaching* is based on the EGO-CENTERED frame of reference (in terms of Moore 2014a), it is deictic in a broad sense. By “broad sense” I mean that the deictic nature of the frame of reference is not associated with the speaker’s position (the speaker is not an element on the MP) but with EGO’s position. Similarly, Tenbrink (2007: 21–22) uses the term *deictic* for speaker-oriented phenomena only, and reserves the term *perspective* for EGO-oriented phenomena. In Figure 1, EGO’s position (‘here’) on the MP has a VT counterpart, which will be referred to as EGO’s ‘now’. This ‘now’ is the sequence of VT being scanned by the conceptualizer. Tense is a grammatical system that relates EGO’s ‘now’ to the point of VT coinciding with the speaker’s present in PT. Since the point of view in the metaphor relates with EGO’s position on MP, the position has a privileged status and serves as a reference point for accessing the motion scenario.

In sum, the metaphorical notions (motion, EGO’s ‘here’, front, back) are represented on the MP, while the non-metaphorical temporal systems (tense and aspect) relate to EGO’s ‘now’ in VT. A distance traversed on MP typically (but not necessarily) correlates with duration in VT. Entities in front of EGO on MP are metaphorical counterparts to entities in EGO’s future in VT, while entities behind EGO are counterparts to entities in EGO’s past. Again, the notions of EGO’s future and past are different from the speaker’s future and past, which are grounded by tense in the PT–VT relationship.

Since EGO and her (VT) ‘now’ serve as a temporal point of access to the whole metaphorical scenario, EGO’s ‘now’ is likewise the sequence of VT to which non-metaphorical temporal adverbials have to relate. Consider example (3).

- 3) With tomorrow being the 1st of December, Christmas is approaching fast, so remember we can help with your food goodies tor the festive season.
[http://www.billboardme.co.nz/billboard/detail/foodfactoryshop?
 p=news#.Vp9RcFLOE2I](http://www.billboardme.co.nz/billboard/detail/foodfactoryshop?p=news#.Vp9RcFLOE2I)

Here the writer identifies with EGO and uses the nominalized construction *With tomorrow being the 1st of December* as a temporal adverbial to position the metaphorical motion scenario in VT. This position is EGO’s ‘now’, which in (3) coincides with the speaker’s present. Note that it is not possible to specify the position of the VT counterpart of the metaphorically moving TEMPORAL ENTITY in the same way; consider (4).

- 4) ?On December 25th, Christmas is approaching fast.

Example (4) cannot refer to a (temporally earlier, e. g., December 1st) experience of the imminence of Christmas (which is December 25th) to mean ‘Christmas, which is December 25th, is approaching fast’. This is because temporal adverbials relate to the VT position of the motion scenario, and in EGO-CENTERED metaphors this position coincides with EGO’s ‘now’. Note that the awkwardness of (4) is *not* a consequence of the lexical semantics, i. e., that it would be redundant to specify the position of Christmas as being December 25th. The constraint holds likewise for TEMPORAL ENTITIES that are not transparent with respect to their temporal position in VT. Consider *On Wednesday, the meeting is approaching fast*, where the time adverbial *on Wednesday* cannot refer to the position of the meeting in EGO’s future (i. e., that a meeting that will take place on Wednesday is fast approaching EGO, who is living, say, Monday).

3.2 The difference between distance and duration

The usefulness of the VT vs. MP distinction can be further illustrated by examples of temporal motion where the distance traversed on MP is altogether different from duration in VT. This is illustrated in examples (6) and (7), which are special instances of EGO-CENTERED metaphors of time (see Feist and Duffy 2015 for a recent analysis of example 6). They have relative TEMPORAL ENTITIES as their clause-level Trajectors (subject arguments; cf. Langacker 2008: 210–214, 363–373). These designate future events that are not conceptualized as parts of future absolute time, and are therefore non-factual at the moment of speech. This is why they do not occupy an immutable position in (the speaker’s conceptualization of) future VT:

- 5) Next Wednesday’s meeting has been moved forward **two days**.
- 6) This financial problem has been approaching us **for years**, and Washington has done the same thing year after year – kick the can down the road.
http://lacrossetribune.com/news/opinion/robert-l-cupp-we-need-to-elect-new-group-of/article_9f5897a2-3f00-11e2-88df-0019bb2963f4.html

In (5), which is an ambiguous test sentence often used in psycholinguistic experiments concerning the conceptualization of metaphorical motion in time (for a summary, see Bender and Beller 2014), the verb *move* is used to designate

temporal manipulation. In the manipulation, the temporal position of a relative TEMPORAL ENTITY in future time is changed. The verb *move* and the adverb *forward*⁷ evoke an ambiguous directionality (whether the meeting will take place two days earlier or two days later than originally planned). Such a scenario involves motion, but it differs in some crucial ways from those EGO-CENTERED metaphors which are about the experience of time. In (5), the “motion” is not gradual but instantaneous: figuratively speaking, the event “vanishes” from its original position on a future Wednesday and “pops up” at another position, which is a future Monday or Friday depending on the conceptualization. The ‘moving’ meeting does not gradually traverse the intervening days (Tuesday or Thursday). What (5) means is that at a point of VT prior to the speaker’s present, a decision has been made to manipulate a mental space (for these, see Fauconnier 1997) that represents a future schedule. As a result of this manipulation, a new schedule has been established. The difference between the old schedule and the new one is then expressed by a metaphor of caused (spatial) motion. For a spatial analogy, consider (7).

- 7) District demographers predicted faster expansion further west, but when a DR Horton development moved along quicker, they **moved the planned school** to its current location on Millbend Drive in McKinney.
<http://www.dallasnews.com/news/community-news/frisco/headlines/20141010-in-rapidly-growing-frisco-isd-school-names-offer-chance-to-honor-community-leaders.ece>

Example (7) designates a change made in a plan that concerns the spatial location of a prospective school building. This change is represented as caused fictive motion. Since at the moment of speech the school building does not exist, there is no actual motion involved, but once again a manipulation of a mental space.

From the present point of view, a key element in (5) is the expression *two days*. It does not specify the duration of the event (of making the decision) in VT but the distance the MOVER “leaps” on the metaphorical path conceptualization of future time. In such examples, there is no correlation between the distance traversed on an MP and the duration (of the ‘moving’) in VT (see Figure 2).

The opposite is true in (6), where the expression *for years* specifically indicates the VT duration of the arrangement where the financial problem “is there” (i. e., constitutes a future scenario), metaphorically *approaching* EGO. *For years* does not designate the distance traversed by the financial problem on the MP. Like the ‘meeting’ in (5), the ‘financial problem’ is a fictive, relative

⁷ For the contribution of the verb and the adverb in the ambiguity, see Feist and Duffy (2015).

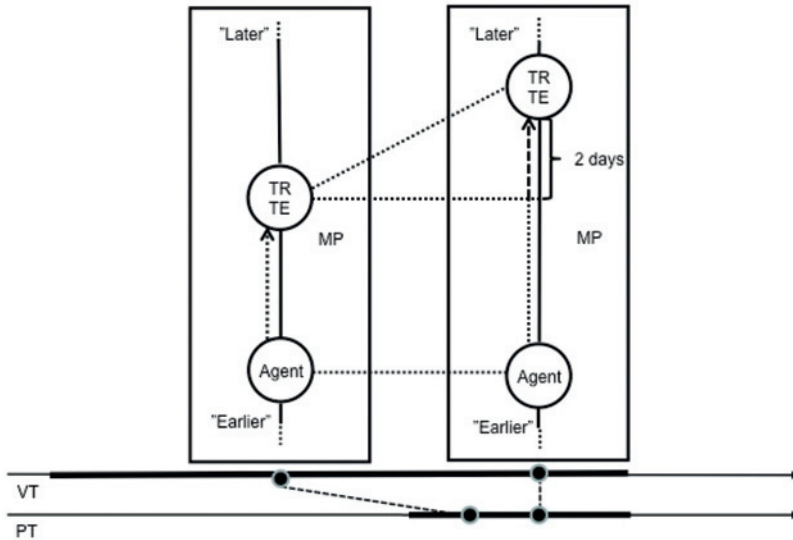


Figure 2: Temporal manipulation: *The meeting has been moved forward two days.* An Agent moving a future relative temporal entity *forward* in time (in this interpretation, toward “later”), with a temporal adverbial specifying distance on MP (not duration in VT).

TEMPORAL ENTITY with no specified position in future absolute time. This is why the distance it metaphorically traverses on the MP does not correlate with the elapse of absolute time. It does not correlate with duration in VT, since the financial problem may not be proceeding at a constant rate. See Figure 3.

In sum, the examples (5) and (6) relate motion on MP to VT, but in the examples distance on MP and duration in VT do not correlate. This is because the MOVER does not proceed at a constant rate in the way TEMPORAL ENTITIES of absolute time do. In (5) the TEMPORAL ENTITY changes its position abruptly, while in (6) it is profiled as moving at an unspecified rate.

The interrelation between MP and VT is more straightforward in canonical motion metaphors of time such as *Christmas is approaching* (EGO-CENTERED MOVING TIME, still ignoring the progressive construction for a while) where the MOVER is an absolute TEMPORAL ENTITY with an immutable position in our conceptualization of future VT. By ‘immutable’ I mean that the TEMPORAL ENTITY cannot change its position with respect to other absolute-time TEMPORAL ENTITIES constituting the time sequence: for instance, the temporal order and distance between a Christmas and a New Year’s Eve remain unaltered while the whole sequence is moving with respect to EGO’s position in EGO-CENTERED MOVING TIME metaphors (see Moore 2014a). Since the moving

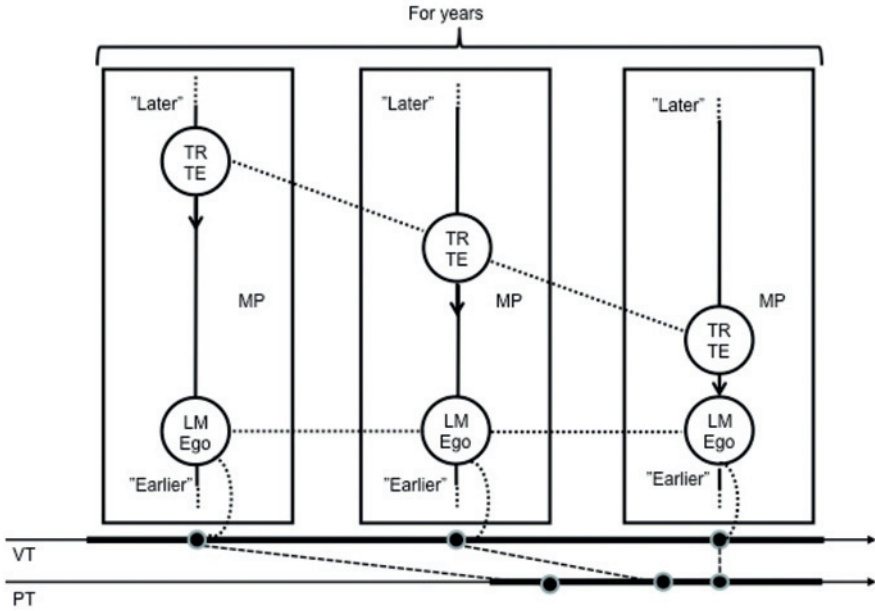


Figure 3: A temporal adverbial measuring the duration of a metaphorical motion event in VT: *This financial problem has been approaching us for years.*

TEMPORAL ENTITY constitutes an element of absolute time, the metaphorical motion proceeds at a constant rate and the general constraints of temporal motion are in effect: the moving TEMPORAL ENTITY can only move from later to earlier, gradually changing its position with respect to EGO's 'now'.

3.3 The contribution of the progressive construction

As far as canonical EGO-CENTERED metaphors of time are concerned, it might now be tempting to equate the *distance* traversed on MP to the *duration* of the 'approaching' event in VT. This seems reasonable in the case of examples such as *Christmas is approaching*, since both the distance on the MP and the duration of the 'approaching' in VT appear to be of an unbounded kind. On the MP, the unboundedness is due to the meaning of the verb *approach*, which profiles a motion event with a gradually decreasing distance between a moving Trajector and an implicit Landmark (which in this case is stationary), but it does not include the reaching of the Landmark within its scope of predication (as opposed to a verb like *arrive*). In terms of VT, on the other hand, the unboundedness has

an aspectual nature and is due to the imperfective meaning of the process profiled. An unbounded distance in MP thus seems to correlate with imperfective aspect in VT. Due to the use of the progressive construction, however, the correlation is not as straightforward as this.

In terms of Cognitive Grammar, the function of the progressive construction is to make a perfective event imperfective by profiling an arbitrary, de-temporalized sequence of it (the contribution of the ending *-ing*) as an imperfective state (the contribution of the verb *be*; for a detailed CG account of progressives, see Langacker 1991b: 91–93). What the expression *Christmas is approaching* does is to designate an arbitrary sequence of the ‘approaching’ event, re-conceptualized as a state prevailing at the moment of speech (because of the present tense). In other words, in selecting an arbitrary sequence of the motion event for conceptualization, the progressive construction backgrounds the distance. It is relevant that in the t-FoRs literature most EGO-CENTERED metaphors in the present tense are instances of the progressive construction, not the simple present tense, which in fact is not as compatible with EGO-CENTERED metaphors (?*Christmas approaches*⁸; ?*We approach Christmas*). On the other hand, in SEQUENCE IS RELATIVE POSITION ON A PATH metaphors it is quite typical (*New Year’s Day follows Christmas*).

The progressive can also be used in past-tense EGO-CENTERED MOVING TIME metaphors to designate an imperfective, ongoing motion event that has been ongoing at a point of VT earlier than the speaker’s present, as in *Christmas was approaching*. If the motion event is perfective, then a simple past-tense verb form can be used, as in *Christmas arrived*. In the last example, both the distance traversed on the MP and the duration of the process in VT are of a bounded (perfective) type. Here it can be argued that sequential scanning of VT indeed covers the whole conceptualized motion event, in other words, that the whole span of profiled motion along MP is sequentially scanned in VT (cf. Langacker 2008: 110–111).

3.4 Stationary arrangements with backgrounded motion

Now consider examples (8) and (9), which indicate a distance and an (imperfective) duration in VT but no motion along the MP, where the arrangement is represented as stationary (by the verb *be*).

⁸ This also depends on the syntactic construction used: *As Christmas approaches, the malls get busier and busier* is noticeably better than the example with a simple main clause. – I thank an anonymous reviewer for this observation.

- 8) Christmas is ahead.
- 9) Christmas is two weeks away.

In (8), EGO's position is the implicit Landmark for the directional relation profiled by *ahead*: a distance separates EGO's position on the MP from the future Christmas. While the adverb *ahead* evokes the sense of a MOVING EGO (because it selects a moving Ground⁹ [Landmark] according to Moore 2014a: 39; 2016), the verb *be* does not profile motion, which is backgrounded at the clause level.¹⁰ In (9), a distance is specified in terms of time but the sense of motion is not evoked by any element. However, the adverb *away* designates a directional relationship connecting EGO's position and Christmas, and can be considered to evoke a *prospect path* type of fictive motion (cf. Talmy 2000: 107–108). In both (8) and (9), the contribution of the verb *be* is that a sequential scanning takes place in VT. In a sense, then examples like (8) and (9) are a mirror image to examples such as (5) (*Next Wednesday's meeting*), which indicates an instantaneous shift in the position of a relative TEMPORAL ENTITY on MP but a minimal duration in VT. In the current examples we have the absence of motion on the MP combined with an imperfective duration in VT.

3.5 How do distance and duration correlate?

To sum up the results of the foregoing subsections, we have seen three combinations of distance on MP and duration in VT:

- A) Distance on MP is traversed gradually and correlates with duration in VT:
 a) unbounded distance correlates with unbounded duration: *As Christmas*

⁹ Note that *ahead* cannot take an overt Landmark; this is the function of the complex preposition *ahead of*. The adverb *ahead* can only profile a relationship with a schematic Landmark, which can then be construed subjectively.

¹⁰ Clark (1973: 50–51; see also Huumo forthcoming a) argues for the dynamic meaning of *ahead of* in the following way: “*Ahead of*, furthermore, is an expression which, when used spatially, generally implies that the object of the preposition can move or is moving in a forward direction; one can say, *John was standing ahead of my car*, but not *John was standing ahead of my house*.” However, as pointed out to me by an anonymous reviewer, it is also possible that the sense of motion in expressions with *ahead of* is due to the motion scenario, rather than to content introduced by the preposition itself. To assess whether *ahead [of]* systematically evokes a moving Landmark or not would require a corpus study of its own. Moore (2011: 760, fn.) specifies that while the Ground [Landmark] of *ahead* is a Mover in a motion scenario, it need not be moving “at topic time” (during the profiled relationship).

approached, Bill felt more and more anxious; b) bounded distance correlates with bounded duration: *Christmas finally arrived*.

- B) Motion of a distance on MP with a minimal (non-correlative) duration in VT: *Next Wednesday's meeting has been moved forward two days*.
- C) Duration in VT with no motion (but a distance) on MP: *Christmas is two weeks away*.

Combination A) is typical in canonical EGO-CENTERED motion metaphors of time, while B) and C) are special cases that serve to clarify the opposition between VT and MP. It is of course a matter of definition whether we wish to call type B) a motion metaphor of time (it is not about the elapse or experience of time), and C) has no element designating motion, though it evokes the notion of an axis (MP) where the distance separates the participants (EGO and Christmas). In addition, the adverb *away* designates a prospect path type of fictive motion (cf. Talmy 2000: 107–108) where the distance is conceptualized as starting from the position of the implicit EGO and proceeding towards the future TEMPORAL ENTITY. Since the stationary arrangement in C) is expressed by a finite verb, the process (which is a state) is sequentially scanned in VT; it is thus represented as having duration in VT without motion on MP.

Note that since both VT and MP are conceptualizations of actual time (a veridical one and a metaphorical one, respectively), the static and imperfective nature of *Christmas is two weeks away* does not mean that the arrangement will last indefinitely long in VT. A week after uttering it, the speaker could no longer use it (at least truthfully). Instead, she would have to say something like *Christmas is one week away*. As Langacker (2008: 147) emphasizes, even imperfective processes do not have an indefinitely long duration; the extent of time (VT) sequentially scanned depends on the choices made by the conceptualizer. In uttering the sentence *Christmas is two weeks away*, the speaker is using a local perspective on VT; he is not claiming that the arrangement will last forever (or even for a relatively long period of time, such as a week), only that it constitutes a state-like arrangement on MP at the point of utterance. This is a feature not uncommon in state expressions in general: a state may in fact have a very limited duration but is nevertheless talked about as though prevailing indefinitely (as in *I see you* or *John has the flu*). In Langacker's (2008: 147) words, an imperfective predication does not mean that "the profiled relationship has no beginning or end, only that the verb itself excludes them from what is put onstage for focused viewing"; or, in other words, "What matters is whether a situation is construed as stable for the purpose at hand, [...] and whether this stability endures through the stretch of time considered relevant" (2008: 149). Thus the example *Christmas is two weeks away* is a local predication about the

arrangement on the MP at a point of VT. Because of the present tense, the point of VT coincides with the time of speech in PT (processing time).

Lastly, it needs to be pointed out that in canonical SEQUENCE IS RELATIVE POSITION ON A PATH metaphors (*Stores are busy ahead of Christmas*) the arrangement is unchanging and there is no EGO's position (Moore 2011, 2014a). Since there is no change taking place on the MP and the arrangement has an indefinite duration in VT, a canonical SRP metaphor indicates a state and is therefore compatible with the present tense in English (see Langacker 2009: Ch. 7). A canonical SRP is illustrated in Figure 4.

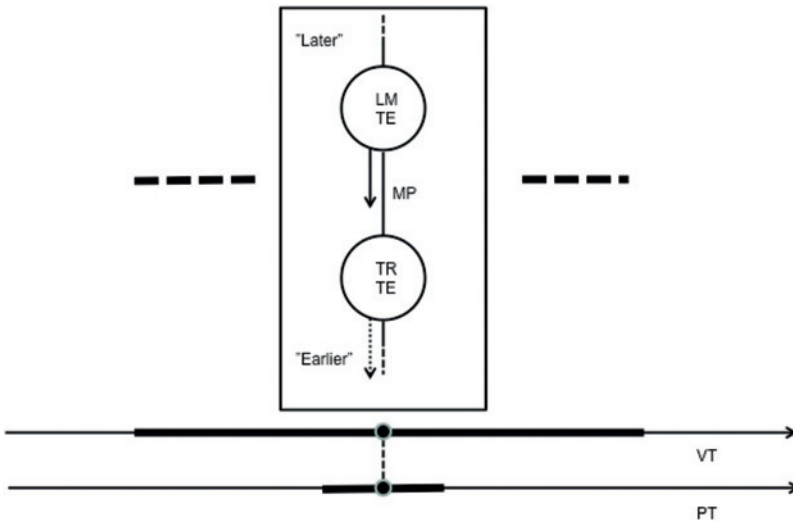


Figure 4: Basic structure of a SEQUENCE IS RELATIVE POSITION ON A PATH metaphor, e. g. *New Year's Eve follows Christmas*. The arrangement where Landmark follows Trajector on the MP is conceptualized as a state that prevails indefinitely in VT. The verb profiles the motion of TR (the solid arrow) while the motion of LM is implicit (the dotted arrow).

3.6 Direction of the motion and the paradoxes of temporal motion

An important difference between MP and VT is that motion on MP can proceed either from “earlier” towards “later” (MOVING EGO and other earlier > later metaphors, e. g., *We are approaching Christmas*) or from “later” towards “earlier” (EGO-CENTERED MOVING TIME, e. g., *Christmas is approaching*, and SEQUENCE IS RELATIVE POSITION ON A PATH, e. g., *New Year's Day follows*

Christmas), while the scanning of VT proceeds from earlier phases of the motion event towards later ones, not vice versa. Scanning an event from later to earlier, as in Langacker's (2008: 502) example **In the evening the stores are open between 10 and 7*, is highly unnatural. Note that this constraint concerns the internal temporal structure of events rather than veridical time as such, and is motivated by the fact that an event structure consists of components that need to be performed in a certain order for the activity to count as an instance of the event type. This order then constitutes a natural path for the internal scrutiny of the event.

The distinction between VT and MP also helps to resolve some apparent paradoxes that are related with the concept of metaphorical temporal motion. Perhaps the first paradox that comes to mind is the one that might be called the *paradox of temporal motion*. It can be formulated as follows:

Given that we conceive of spatial motion as a change of location over time, and that we conceive of a spatial path as a continuous series of locations through time, what does temporal motion actually mean? Since spatial motion is a change of location relative to time, what is temporal motion relative to? Is our inability to properly comprehend time a result of the way in which we comprehend motion, insofar as the latter directs us to the circular conception of temporal motion as change of time over time?¹¹

This is directly related to the more specific paradox (see, e.g., Lakoff and Johnson 1999: 159) that in (EGO-CENTERED) motion metaphors of time a future event appears to “be” already there when EGO is experiencing her temporally earlier ‘now’. In EGO-CENTERED MOVING TIME metaphors (e.g., *Christmas is coming*) this results in the paradox of moving from later to earlier. This means that the MOVER (*Christmas*) apparently arrives at EGO’s position (“dawns”) *before* it leaves its temporally later position in EGO’s future (see Moore 2014a: 35–37).

The principle that the sequential scanning of events proceeds from earlier toward later means that a metaphorical motion event (that takes place on the MP) is likewise scanned sequentially from its initial stages, where the distance separating the MOVER from the stationary participant is in most cases longer, towards its later ones, where the distance is shorter or zero. This does not depend on the choice of the mover (EGO vs. a TEMPORAL ENTITY) or the direction of the motion on the MP, i. e., whether it proceeds from “earlier” towards “later” or vice versa. The same principle works for less canonical EGO-CENTERED metaphors that relate with EGO’s past. In such metaphors, either the distance grows as EGO moves further away from a past TEMPORAL ENTITY (MOVING EGO;

¹¹ I thank Jaakko Leino for this formulation of the paradox.

example 10) or the past time behind EGO gradually recedes further away from her (EGO-CENTERED MOVING TIME; example 11).

10) *We are rushing away from the past, and accelerating, just as if we were falling into a black hole ... and passed the event horizon 13.7 billion years ago.*

<https://answers.yahoo.com/question/index?qid=20111103113714AAGPJ7S>

11) *By the time I began high school at 12, the family was stable, affluent even, and I was pottering along nicely, the horrors of the past receding behind me.*

(Barbra Leslie: *Dear Marilyn*, Wakefield Press 2003, p. 181)

In the current model, the apparent paradox of temporal motion (change “in time” conceptualized “against time”) can be understood as being about two different conceptualizations of time, interacting in such a way that a distance traversed by the MOVER on the MP is scanned sequentially and has a duration in VT. Likewise the paradox of moving from “later” to “earlier” is confined to MP but does not occur in VT, where there is no motion but a scanning that proceeds from earlier toward later phases of the motion event. The paradox of a future entity “already being there” when EGO is experiencing her temporally earlier ‘now’ (Lakoff and Johnson 1999: 159) can likewise be accounted for: the future TEMPORAL ENTITY “is there” on the MP at each stage of the sequential scanning. Another way to put it is that the two participants (EGO and the TEMPORAL ENTITY) share the same ‘now’ in VT but not on the MP, where ‘now’ coincides with EGO’s position (more precisely, EGO’s ‘here’ on MP is a counterpart to EGO’s ‘now’ in VT, which is the point of VT currently conceptualized; cf. Moore 2016). Thus the VT counterpart of a TEMPORAL ENTITY on MP that is not at EGO’s position is situated in EGO’s future¹² in VT.

In spite of being a space-like conceptualization of time, an MP is not equivalent to space in all ways. First, EGO’s position has a privileged status as a focal viewpoint location for the conceptualization of the arrangement on MP. (This argument will be elaborated in Section 4.) On MP, entities not located at EGO’s position do not share her ‘here’. On the other hand, all profiled (as well as implicit) entities on the MP are under the scope of the VT ‘now’. In this sense, the MP ‘here’ is “weaker” than the VT ‘now’, which is all-embracing for

¹² It is temporally later than the portion of VT currently being scanned, but not necessarily later than the speaker’s present, if the speaker and her present are not identified with EGO.

participants in the motion scenario. A second aspect that sets MP apart from a spatial path concerns the well-known constraints on the directionality of the motion. Earlier > later motion is attested in metaphors with an evolving ‘now’, including MOVING EGO, while later > earlier motion is only possible for TEMPORAL ENTITIES (TEs).

In sum, there are constraints concerning the motion on MPs: the motion proceeds at a constant rate that often correlates with the scanning of VT, unless the construction (such as the progressive) changes this. There are also well-known constraints that concern the direction of the motion. Whether some or all expressions where a TEMPORAL ENTITY moves towards an earlier point are ultimately instances of fictive motion (cf. Moore 2014a: 52; Dewell 2007) remains an open question. Moore (2014a: 52) mentions EGO-CENTERED MOVING TIME metaphors as frame-relative fictive motion (cf. Talmy 2000: 130–134) counterparts of MOVING EGO metaphors, while Dewell (2007) presents arguments for a generalized account that regards all instances of later > earlier motion (including SEQUENCE IS RELATIVE POSITION ON A PATH metaphors) as fictive.

4 Metaphors based on prepositional expressions

4.1 In which time do processes “move”?

Impressionistically speaking, the prominence of the metaphorical meaning and the cognitive status of MP as a dimension distinct from VT is clearest in metaphors where the motion is designated by a verb of translational motion. The t-FoRs literature, however, includes many expressions classified as motion metaphors of time where the sense of motion is not evoked by a motion verb but by a prepositional construction alone. In the literature, such expressions are typically treated as equivalent to those based on a verb of translational motion. Without denying their metaphorical meaning, I will argue below that the degree of prominence attained by the metaphorical motion in such expressions is weaker and backgrounded compared to that in metaphorical expressions based on motion verbs. I will further argue that the type of metaphorical meaning in a preposition-based expression also depends on the grammatical function of the prepositional phrase, as a verb modifier or clause-level setting adverbial.

In Moore’s (2014a) classification, expression types relying on prepositional phrases to evoke the sense of metaphorical motion comprise metaphors of different classes. First, many SITUATION IS A MOVER metaphors designate the

metaphorically moving situation by a verb which itself does not profile motion, as in (12) below (from Moore 2014a):

- 12) The candle burned from dusk to dawn.

With respect to directionality, examples such as (12) resemble MOVING EGO by tracking the motion from the initial stages of the event towards its final stages (i. e., earlier > later). Since the verb itself does not designate motion, the sense of motion is based solely on the prepositions (*from-to*).

A second group in which the metaphor is evoked by prepositional constructions without a motion verb consists of certain MOVING EGO metaphors (13), and a third of certain SEQUENCE IS RELATIVE POSITION ON A PATH ones (14).

- 13) My first London Christmas is ahead of me.

- 14) She got sick just ahead of Christmas.

In such examples, the sense of motion is based on the use of *ahead of*, which indicates a moving Ground [Landmark], as argued by Moore (2014a: 39, 2014b). In contrast, EGO-CENTERED MOVING TIME metaphors typically require a motion verb and cannot rely on prepositional constructions alone. For instance, the attempted Figure-Ground reversal of the above MOVING EGO example (15) is atypical:

- 15) ? I am ahead of my first London Christmas.

The metaphor types listed above (MOVING EGO, EGO-CENTERED MOVING TIME, SEQUENCE IS RELATIVE POSITION ON A PATH) are grammatically and semantically different from each other. In (12) the prepositional expressions *from – to*, used here in a temporal sense, position the event between two points in time: the *from* phrase indicating a temporally earlier point of inception of the event, and the *to* phrase a temporally later point of cessation. The metaphor thus indicates a distance between two temporal Landmarks, which is traversed by the moving situation. Since the verb does not designate motion, it does not contribute to the establishing of an MP; the process has only a duration, which constitutes the temporal profile of the event in VT (note that we would not call *The candle burned* as such a “motion metaphor”).

One important question is whether such prepositional expressions are able to evoke the motion scenario alone or whether they just literally (non-metaphorically) indicate two points of time that limit the duration of the event in VT

where the processual profile of the clause resides. In other words, the question is whether such *from* and *to* phrases first establish an MP and then refer to points on it, or whether they straightforwardly refer to points of VT. If the latter is the case, then the function of the prepositional phrases together is roughly similar to that of the phrase *for years* in example (2) above (*The financial problem*), as they specify the duration of the process. On the other hand, if categorized as a metaphor, then these prepositional phrases evoke the notion of a distance traversed along the MP, and only secondarily (as a consequence of designating the end-points of that distance) duration in VT. In the metaphorical interpretation, the event starts in VT when the metaphorically moving situation departs from ‘dusk’ on MP, and ends in VT when the mover reaches ‘dawn’ on MP. The two alternative interpretations are represented in Figure 5 (the non-metaphorical, VT-only interpretation) and 6 (the metaphorical VT/MP one) (Figure 6).

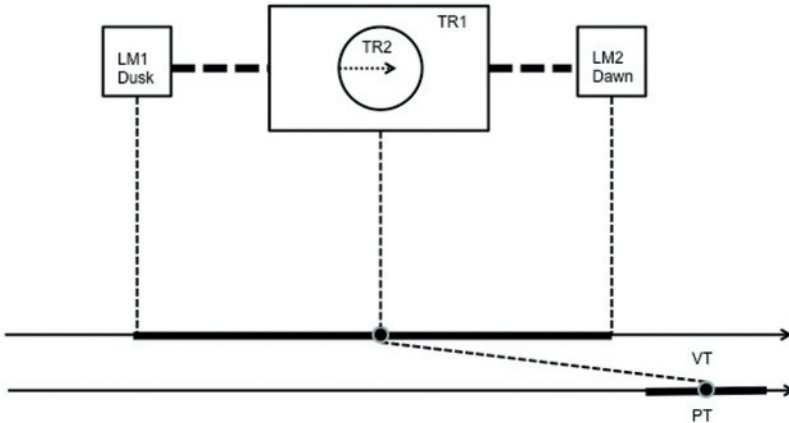


Figure 5: *The candle burned from dusk to dawn*, a literal (non-metaphorical) analysis with the prepositional Landmarks profiling points of VT. TR1 is the Trajector of the prepositional relationships, the process ‘the candle burned’. TR2 is the Trajector of the verbal process, ‘the candle’. The dotted arrow designates the change-of-state undergone by TR2.

It is of course difficult to say which one of the alternative interpretations is “the correct one”. Example (12) can also be compared to Langacker’s (2008) example *In the evening the stores are open between 7 and 10*, discussed above (Section 4.1.). Like (12), Langacker’s example designates a process that occurs between two temporal Landmarks, which however are not marked by directional SOURCE (*from*) and GOAL (*to*) prepositions. In any case, the metaphorical meaning of the candle example is less prominent than in metaphors based on motion verbs, which both designate motion (on MP) and have a temporal profile (in VT).

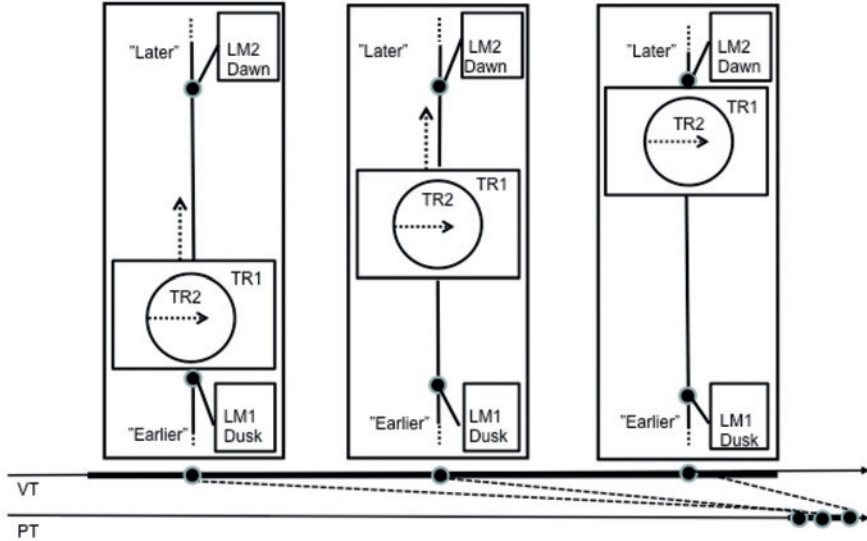


Figure 6: *The candle burned from dusk to dawn, the metaphorical analysis (A SITUATION IS A MOVER).* The prepositional Landmarks profile a source and a goal on MP. LMs and TRs are as in Figure 5.

Another important question regarding prepositional motion metaphors is the grammatical function of the prepositional phrase in each expression. Since the verb *burn* in (12) profiles no motion and consequently no metaphorical path, the prepositional phrases in the example cannot be argued to elaborate a schematic path that is part of the meaning of the verb. As a matter of fact, prepositional SOURCE and GOAL phrases (*from time A to time B*) do not seem to be typical in motion metaphors of time based on verbs of translational motion. For instance, (?)*We went from dusk to dawn* is at best a relatively unconventional MOVING EGO metaphor, if the verb *go* is understood to profile EGO's gradual, metaphorical motion between the two Landmarks on MP. What temporally “moves” *from time A to time B* is more typically a situation, as in (12). For instance, in *We celebrated from dusk to dawn* the MOVER is an activity performed by the clause-level Trajector ‘we’, not ‘we’ as such (i. e., EGO). This suggests that the MP in such examples is conceptually different from a path of motion by EGO, and the grammatical function of the prepositional phrases is more independent of the verb than in uses where the prepositional phrases elaborate the notion of a schematic path evoked by a verb of motion. Such autonomous prepositional phrases can be argued to designate a frame-setting path (cf. Huumo 2013) which is a path construed subjectively (by the conceptualizer) that sets a frame; in

other words, a directional setting being subjectively scanned to encounter what occurs or exists along it. Grammatically, such prepositional expressions are clause-level adverbials, not verb modifiers. In fact, this kind of function is typical of temporal paths specified by path prepositions (e. g., *through the winter*), which will be analyzed in Section 4.3 below.

Examples (13) and (14), with the complex prepositional expression *ahead of* evoking a sense of motion, are different in this respect. In these examples the projective prepositional expression evokes the sense of motion by an individual, which is grammatically coded as the Landmark of the preposition (i. e., in 13, *me* = EGO, and in 14, *Christmas*, a TEMPORAL ENTITY). In the clause-level meaning, however, the motion is backgrounded, since the verb does not profile it.

It is important to note that the grammatical function of the *ahead* phrase is different in (13) and (14). In the MOVING EGO example (13), the *ahead* phrase forms a complex predicate with the verb *be* ('X be ahead of Y', where X and Y are individuals, not processes). The *ahead of* phrase elaborates the schematic verb *be* (cf. Langacker 2009: 229–230), and together they constitute a locational predicate that profiles a stationary arrangement between two individuals. The sense of motion evoked by *ahead of* is backgrounded, as the motion is not profiled. The prepositional *ahead of* phrase evokes a sagittal-axis direction projected from the moving Landmark (EGO) towards the Trajector (the *London Christmas*). This arrangement, conceptualized as a state, is then scanned sequentially in VT.

In the SEQUENCE IS RELATIVE POSITION ON A PATH example (14), the *ahead of* phrase has a different grammatical function, since the Trajector of the prepositional construction is now not an individual but an event ('She got sick'). The Trajector is thus the process profiled by the clause and sequentially scanned in VT. In (14), the *ahead of* phrase has the function of a temporal setting adverbial, specifying the position of the process in time: the clause can felicitously serve as an answer to the question 'when?' (i. e., 'When did she get sick?'). On the other hand, since the use of *ahead* evokes the sense of motion and (impressionistically speaking) has a relatively strong metaphorical "flavor" to it, we need to interpret the phrase as also evoking the notion of a MOVER on an MP as well. The prepositional Landmark *Christmas* thus likewise has the role of the MOVER on a (backgrounded) MP (Figure 7).

The argument that both the veridical-time Christmas and its metaphorical counterpart are profiled in examples such as (14) needs some clarification. The argument is based on the double function of the *ahead of* phrase in the example: on the one hand it indicates a MOVER in the motion scenario, on the other a temporal Landmark that serves to locate the profiled portion of VT in a calendric system for measuring time. Such a double function is not uncommon in

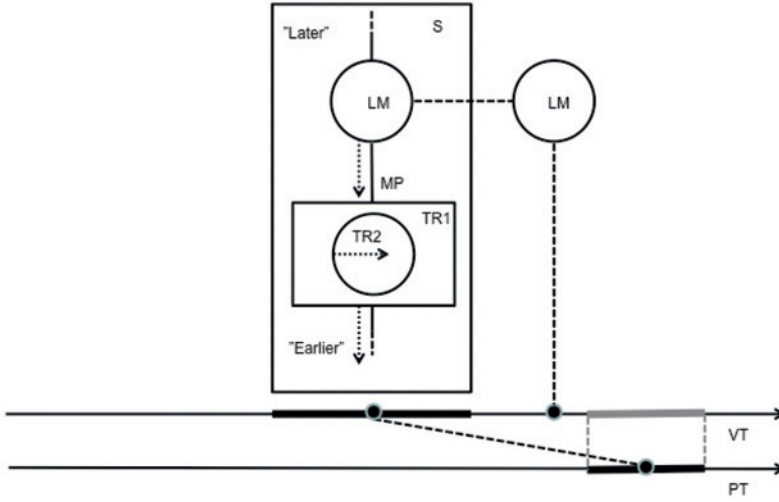


Figure 7: A SEQUENCE IS RELATIVE POSITION ON A PATH metaphor with a processual Trajector (TR1) and the prepositional phrase as a temporal setting (S) adverbial, e. g. *She got sick ahead of Christmas*. The LM (Christmas) has a double role: it is the mover in the metaphor on MP but specifies a point in VT. TR2 is the Trajector of the process (*she*), and the dotted arrow designates the change of state ‘getting sick’. The past tense indicates that the process occurs prior to the usage event in VT.

metaphorical expressions: an illustrative example is the use of *self* to designate metaphorical counterparts in expressions analyzed in Lakoff (1996). In this respect, it is important that example (14) is a SEQUENCE IS RELATIVE POSITION ON A PATH metaphor and thus does not involve EGO’s perspective. Recall that above I have argued that in EGO-CENTERED metaphors the VT counterparts of TEMPORAL ENTITIES that are not situated at EGO’s ‘now’ on MP are not profiled (i. e., only metaphorical counterparts are profiled). For instance, *Christmas is approaching* (EGO-CENTERED MOVING TIME) or *We are approaching Christmas* (ME) profile a motion scenario where Christmas is a participant, in the first example the Trajector and in the second one the Landmark, on the MP. This is the metaphorical counterpart of a veridical (VT) Christmas that is not profiled: only the metaphorical counterpart can be present in an event that temporally precedes the veridical Christmas in VT.

Things are different in SEQUENCE IS RELATIVE POSITION ON A PATH expressions such as example (14), where Christmas has a dual role: as the MOVER in the MP scenario and as a temporal Landmark in VT. The latter function is shown by the fact that the clause is a felicitous answer to a ‘when?’ question concerning the temporal order of events in VT, not the motion scenario on MP. Since the

participation of the entities in the metaphorical motion scenario is going on simultaneously, the participants cannot be used as temporal Landmarks to localize the motion event in VT. Moreover, note that the SRP arrangement between ‘getting sick’ and Christmas in (14) has a permanent (unbounded) nature; however, since the Trajector of the SRP arrangement is a process profiled by a finite verb, the permanence of the arrangement is backgrounded in the clause-level meaning. In other words, the clause profiles a punctual event and thus the sequence of VT sequentially scanned is likewise point-like. The SRP arrangement could be foregrounded by nominalizing its Trajector and by using a verb that assigns a temporal profile to the SRP arrangement itself, as in *Susan’s getting sick preceded Christmas*. This suggests the generalization that SRP metaphors based on an *ahead of* phrase with the function of a temporal setting adverbial require a reading that differs in some respects from what was said above about simple SRP expressions in which the SRP arrangement is profiled by the verbal complex (*New Year’s Eve follows Christmas*). In the latter type, the MP arrangement is profiled as a state that prevails indefinitely, at a virtual level. When the *ahead of* phrase is a setting adverbial, however, the predication is about an actual event that occupies a specific position in VT.

4.2 Coding asymmetries and the relationship with tense

At this point, it is time to draw attention to another grammatical asymmetry between MOVING EGO and SEQUENCE IS RELATIVE POSITION ON A PATH metaphors. This asymmetry concerns the projective prepositions that are typical in these kinds of metaphors (e. g., *in front of*, *after*, *ahead of*, *behind*). In metaphors where EGO is the prepositional Landmark, the relationships indicated by projective prepositions prevail between individuals, not between an individual and a process. (Among the prepositions listed above, *after* is not conventionally used with EGO-Landmark.¹³) A prepositional phrase with EGO-Landmark is not capable of serving as a setting adverbial in the same way as those with a TEMPORAL ENTITY Landmark in SRP expressions such as example (14). For instance, attempts to form expressions such as (16)–(18) result in ungrammaticality.

16) *Christmas is ~ will be white ahead of us.

¹³ Apparently because in its spatial use it indicates a two-mover arrangement, as in *The cat was running after the mouse*, but in EGO-CENTERED metaphors there is only one mover (for the two-mover constraint see Moore 2014b).

- 17) *Christmas brings ~ will bring everybody joy ahead of us.
- 18) *Christmas is ~ was ruined behind us ('in our past').

Examples (16)–(18) are attempts to form EGO-Landmark counterparts for the SRP type with a process as the Trajector (such as *She got sick just ahead of Christmas*). The fact that example (19) below is an acceptable spatial expression of identical structure shows that the ungrammaticality of (16) to (18) is due to the temporal meaning of these expressions.

- 19) When we were driving to work, a car and a truck collided ahead of us.

Since (19) is acceptable, the reasons for the unacceptability of (16)–(18) must lie in the nature of the MP as a conceptualization of time. The fact that they are unacceptable also sheds new light to the argument of the privileged status of EGO's 'here' on MP.

In CG terms, a finite verb serves to *ground* the profiled occurrence of a process with respect to a reality conception (Langacker 2008: 298). Tense imposes an immediate temporal scope, positioned with respect to the speech event (in VT in current terms), within which the profiled process must be manifested (Langacker 2008: 157). Since EGO-CENTERED motion metaphors of time are about the *experience* of time, we can now specify the privileged status of Ego's 'now/here' by identifying a correlation between MP and VT such that at any given point of VT being sequentially scanned, EGO's position on MP is the counterpart to that point of VT, which is Ego's 'now'. In the same vein, Moore (2016) argues that EGO's 'here' (in the source frame of the metaphor) and EGO's 'now' (in the target frame) are not merely counterparts in a cross-frame mapping, but that "there is a certain sense of identity between EGO in the source frame and EGO in the target frame".

A consequence of this is that when a process is profiled by a finite verb in such a way that it has a position on the MP (as Trajector or Landmark in a prepositional relationship), it must incorporate EGO's position into its scope of predication. Note that this does *not* mean that entities located elsewhere on the MP are excluded from being coded as participants in the processes; quite the opposite. It is the very point of the motion metaphors to designate relationships that incorporate entities situated at different positions on the MP. The point is that EGO's 'here' has to be a participant in the profiled relationship, and that this is a consequence of the mapping between EGO's 'now' in VT and 'here' on the MP.

To illustrate the point, consider the following pair of (attempted) prepositional MOVING EGO examples:

- 20) The meeting ahead of us will be difficult
- 21) *The meeting will be difficult ahead of us.¹⁴

Why is (20) acceptable but (21) not? In both, there is a (future) meeting metaphorically located in front of EGO, and EGO is approaching that event, as he is coded as the moving Landmark of *ahead of*. The difference in acceptability follows from the grammatical coding of the participants. In (20) the event in EGO's future is profiled by a complex noun phrase with the prepositional *ahead of* phrase as an NP-internal modifier. The prepositional phrase evokes the metaphorical motion scenario by means of the *ahead of* phrase, but since an NP as a whole profiles only one individual THING (in terms of Cognitive Grammar; cf. Langacker 2008: 23), the motion scenario is backgrounded. The ungrammatical example (21), in contrast, profiles a process that takes place in EGO's future, which is in front of EGO on the MP, using a copulative construction. This puts the *ahead of* phrase with EGO as the Landmark in the function of a setting adverbial for localizing the process, and results in ungrammaticality. The ungrammaticality follows because EGO plays no role in the profiled relationship, which thus does not coincide with EGO's 'now' in VT. The example in fact evokes an alternative 'now', because the finite verb has a temporal profile in VT, and this profile is distinct from EGO's 'now'. As Moore (2014b) has pointed out, there is a large body of data suggesting that people are not cognitively apt to track two distinct 'nows' at the same time; that is also why examples such as (16) to (18) and (21) are ungrammatical. It is likewise why no alternative tense form (present, future, or past) seems appropriate in the ungrammatical examples (16) to (18). As I have argued above, tense grounds EGO's 'now' in VT with respect to the speaker's present, but it cannot ground a process with respect to EGO's 'now'.

On the other hand, EGO can be the Landmark for *ahead of* if the *ahead of* phrase is not a setting adverbial but a verb-modifier elaborating a schematic path that is part of the meaning of the verb. In such a case, the verb need not indicate motion as long as there is the possibility of construing a path that incorporates the MP participants and can be elaborated by the prepositional phrase, in this case *ahead of*. For instance, a perceptive relationship is often conceptualized as involving a path of fictive motion (Talmy 2000: 115–116),

¹⁴ I thank Kevin Moore for this pair of examples.

where a fictive signal moves between the stimulus (the entity perceived) and the experiencer. This is why examples such as (22) and (23) are acceptable.

22) A new catastrophe is looming ~ lurking ahead of us,

23) The future is bright ahead of us.

Example (23) is formally similar to the ungrammatical (16); thus the difference in acceptability must follow from their different meanings, not their structure. Examples (22) and (23) designate relationships of perception where a fictive path can be conceived that connects EGO with the event designated by the verb. This means that EGO, at her position in time, senses the ‘lurking’ or ‘looming’ catastrophe, or perceives the brightness of the future. The designated processes thus take place at EGO’s ‘now’ in VT, which is also reflected by the fact that in (22) and (23) there is no difficulty in choosing the appropriate tense: the present tense can be used, since EGO’s ‘now’ coincides with the speaker’s present, and EGO is capable of cognitively interacting with the future entities. The expression *The future is bright* in (23) is itself a metaphor, representing the future as radiating a metaphorical light to EGO along a fictive-motion MP (in Talmy’s 2000: 115–116 terminology, a *sensory path*). The structurally similar example (16) is unacceptable because ‘being white’ is a future state of affairs that EGO at her ‘now’ is not capable of perceiving.¹⁵

This brings us to the fundamental question of how tense relates to the metaphorical scenarios in general. Tense if anything is a purely temporal system, not a spatial metaphor. The contribution of tense is directly related to the positioning of events in VT with respect to the speaker’s present. Since all the participants in the motion scenario participate in the motion event at each stage of VT sequentially scanned, tense is expected to take a “wide scope” over the projective relations that prevail on the MP. The data considered above suggest that this is the case: the projective relations designated by the prepositions are subsumed within the scope of the tense, in the sense that these relations prevail at the point of VT currently in the conceptualizer’s focus. Furthermore, they have to incorporate EGO’s ‘here’ on MP as a participant in the designated relationship. As the ungrammatical examples (16)–(18) show, EGO’s ‘now’ in VT is likewise

¹⁵ The same constraint concerns deixis proper: *I just graduated with honors, and now the future is bright* means that the metaphorical brightness is experienced at the speaker’s present, while *Now next Christmas is white* is awkward since it designates a future state of affairs as prevailing at the speaker’s present. Also note that *It is raining ahead* has a spatial reading only (‘it is currently raining where we are headed to’), not a temporal one (‘it will be raining’).

incapable of serving as a grounding point for tense, which is always grounded in the speaker's present.¹⁶

On the other hand, we have no difficulty in using the present tense, or any tense that successfully positions EGO's 'now' with respect to the speaker's present, in expressions such as (22) and (23), because these expressions incorporate EGO's 'here' as a participant in the designated process. A past tense verb, for instance, positions the whole MP arrangement in a sequence of VT that lies in the speaker's past. The 'catastrophe' and 'bright future' are potential scenarios for EGO's future, but in the metaphor EGO senses their presence on the MP. In general, projective prepositions with a TEMPORAL ENTITY as their Landmark are only possible in SEQUENCE IS RELATIVE POSITION ON A PATH metaphors where the Trajector is either another TEMPORAL ENTITY (*The days ahead of Christmas are busy*) or a process (*She got sick ahead of Christmas*). They do not normally allow EGO to be the Trajector, which is reflected in the unconventional nature of EGO-CENTERED MOVING TIME metaphors with a TEMPORAL ENTITY Landmark; for instance *?We are ahead of Christmas* is not conventional,¹⁷ while *We dance a lot ahead of Christmas* (SRP with a process as the Trajector) is fine.

4.3 Path prepositions used temporally

It is somewhat surprising that in the vast literature dedicated to motion metaphors of time, path prepositions have received little if any attention compared to

16 An alternative explanation, suggested to me by an anonymous reviewer, is that in the examples there are two predications, one involving a description of the TEMPORAL ENTITY and a second using Ego's 'now' to further specify the TEMPORAL ENTITY, and that the problem may thus lie in interrupting the descriptive phrase with the specification. I understand this as suggesting an interpretation where the *ahead of* phrase is not a setting adverbial (as in **[[Christmas is white] ahead of us]*) but another complement of *be* asyndetically coordinated with the predicate adjective (*[[Christmas is [* white ahead of us]]]*).

17 Since MOVING EGO and EGO-CENTERED MOVING TIME may be interpreted as Figure/Ground (Trajector/Landmark) reversals of each other, with MOVING EGO corresponding to actual motion (*We were approaching the end of the road ~ the end of the week*) and EGO-CENTERED MOVING TIME to fictive motion (*The end of the road is approaching ~ The end of the week is approaching*; see McGlone and Harding 1998: 211; Moore 2014a: 55–56), it may be relevant that in spatial descriptions of frame-relative fictive motion (see Talmy 2000: 130–134) the Landmark of *ahead of* cannot be the entity moving fictively; consider *The car was rushing towards the brick wall ahead of it* vs. *The brick wall was rushing towards the car *ahead of it*. Likewise: *The brick wall is ahead of the speeding car ~ *The speeding car is ahead of the brick wall*. If EGO-CENTERED MOVING TIME is indeed a Figure/Ground reversal of MOVING EGO, this may be the factor motivating the exclusion of metaphors such as *?We are ahead of Christmas*.

the projective prepositions that have been “in the spotlight”. However, path prepositions such as *through*, *over*, *along*, *past* and *by*, as well as the directional *toward(s)* (see Lindstromberg 2010 for a concise analysis of their semantics) have temporal uses that are likewise based on a conceptualization of motion. The direction of the motion, and consequently the types of motion scenarios each preposition is capable of expressing, depend on the semantics of an individual preposition (see also Huumo, forthcoming b).

For instance, path prepositions such as *through* and *along* (and *throughout*, which is a dedicated frame-setting preposition; cf. Lindstromberg 2010: 129–132) are only able to indicate a path traversed in the earlier > later direction by MOVING EGO (or a MOVING SITUATION), but not a later > earlier path for MOVING TIME. This is because such prepositions entail topological¹⁸ requirements for their Landmark, which EGO cannot fulfill: e. g., TEMPORAL ENTITIES do not move *through* EGO (**The cold winter struggled through us*), although EGO can move *through* a TEMPORAL ENTITY in MOVING EGO metaphors (*We struggled through the cold winter*). This is because the Landmark for *through* has to be either three-dimensional (*She struggled through the thick undergrowth*) or a two-dimensional surface (*A rock flew in through the glass*), but EGO is conceptualized (in topological terms) as point-like. Indeed, path prepositions that select a point-like Landmark, such as *past* and *by* (cf. Lindstromberg 2010: 134, 143) alternate between EGO-CENTERED MOVING TIME uses where EGO is the Landmark and a TEMPORAL ENTITY the (moving) Trajector, and MOVING EGO metaphors where the opposite is true. The former case is illustrated by later > earlier metaphors such as *Days and weeks rushed past*; *Time goes by at an incredible speed*, which indicate motion by the TEMPORAL ENTITIES past EGO. Even though the direction of this motion is not overtly expressed, these metaphors are understood as designating later > earlier motion. The latter case can be illustrated by the uses of the prepositions *past* and *by* in the earlier > later metaphors MOVING EGO (*We are past Christmas*), NOW IS A MOVER (*It is past midnight*), or a SITUATION IS A MOVER (*The music went past dinner*; Moore 2014a: Ch. 4).

As argued above, path prepositions such as *through* and *along* are only used in earlier > later metaphors, because of the topological requirements they impose on the Landmark. They can be used in some MOVING EGO metaphors (*We are struggling through bad times*), but perhaps more typically in metaphors where the MOVER is a situation; consider (25) and (26).

25) I stayed at my aunt’s over the weekend.

¹⁸ For topological relations in general, see Levinson (2003); Levinson and Meira (2003).

- 26) The bear slept through the winter.
- 27) Along the years, several satellites have monitored the extent of Arctic ice.
(From <http://www.zmescience.com/space/earth-space-iss-11042015/>)

When the processes designated by the verbs in (25)–(27) continue in time, they metaphorically pass the temporal Landmark. The verbs in the examples do not designate motion but another kind of a process that has duration; thus the MP is again established by the prepositional expression alone (cf. Figures 5 and 6 in Section 4.1). The path in these examples is again a frame-setting path; in Moore's (2014a) typology the examples would be classified under the A SITUATION IS A MOVER group.

In grammatical terms, the path expression in such examples is a setting adverbial, not a verb modifier. For instance, the verb *sleep* (in *The bear slept through the winter*) does not select a path expression, because it does not profile (concrete or metaphorical) motion. In search of a spatial-motion counterpart to this example, one might consider something like *Lisa slept through Central Germany*, meaning that Lisa's sleeping coincided with her motion through Central Germany (e.g., on a night train; according to Croft 2012: 304, such expressions designate a concomitant activity not related to the act of movement [along the path]), but the motion is not designated by the verb, as in *Lisa hiked through Central Germany*. In example (24), the process of sleeping likewise coincides with the experience of metaphorically moving *through* a period of time, but sleeping is not metaphorical motion. Such independence of a path (of the verbal process) is typical of temporal path expressions in general (Huumo 2013, forthcoming b): motion along the path is not under the control of the Trajector of the process in the same way that motion along a spatial path typically is, since (absolute) time elapses at a constant rate irrespective of the actions of the participants. See Figure 8.

In aspectual terms, a situation metaphorically moving along an MP designated by a path preposition may itself be durative and constitute a gradual change with no particular endpoint reached, as in *Prices rise towards Christmas*.¹⁹ In such a case, the metaphorical motion by the situation on the MP is accompanied by duration in VT, where the process is sequentially scanned. On

¹⁹ Lindstromberg (2010: 29) points out that the Landmark of *toward* need not be the endpoint of the path of motion, which may never reach it. In other words, *toward* profiles a path pointing in the direction of the Landmark (following the direction of a Mover approaching the Landmark) but not reaching it.

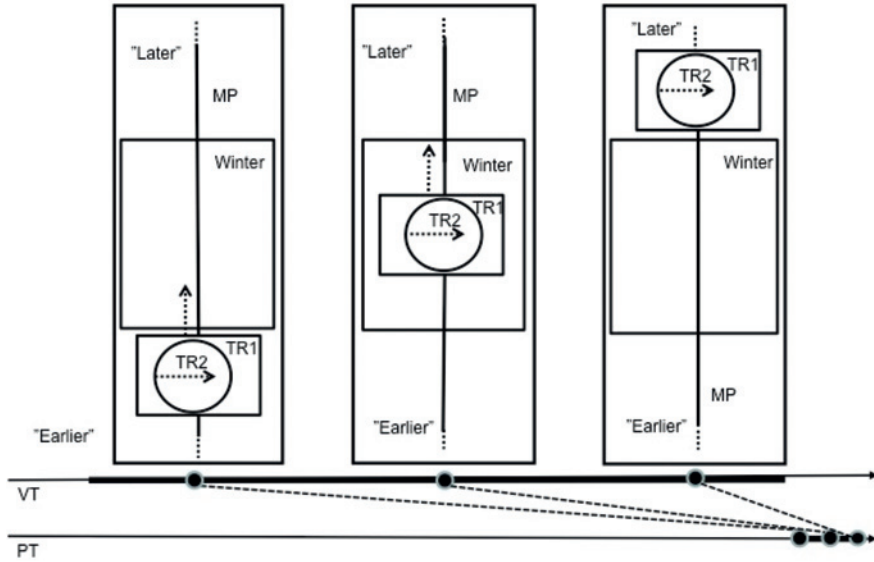


Figure 8: A situation moving along a frame-setting path, e. g., *The bear slept through the winter*. TR1 = the TR of the preposition *through* is the process ‘the bear slept’, TR2 = the TR of the verb is ‘the bear’.

the other hand, the situation can be punctual, as in *I got sick towards the end of the week*, in which case the minimal duration limits the sequentially scanned portion of VT and correspondingly the profiled portion of (the distance traversed along) the MP. Thus the overall MP that is directed towards the end of the week is backgrounded – in Cognitive Grammar terms, it is part of the base but is not profiled. It may, however, reflect the direction of a scanning in a context where the speaker is reporting events that happened to her during the week. The punctual event of ‘getting sick’ is accessed when the scanning has reached the final days of the week.

Among English path prepositions, there is one that specializes in the indication of a frame-setting path: *throughout* (see Lindstromberg 2010: 129–132). It is compatible with meanings where the Landmark is scanned thoroughly for entities or processes that fill it completely: for example, *There were mushrooms growing throughout the forest*; *It is raining throughout Northern Europe*. On the other hand, *throughout* resists the function of expressing a path of actual motion. For instance, the acceptability of *?She ran throughout the forest* is questionable; if used, the example means ‘here and there/everywhere in the forest’, rather than ‘through the forest’. As a frame-setting path preposition,

throughout is compatible with temporal meanings in A SITUATION IS A MOVER metaphors: *It rained throughout the day; The store is open throughout the week.*

This concise discussion of path prepositions sheds new light on the grammatical division of labor between different kinds of earlier > later metaphors, depending on whether the MOVER is EGO or a situation. In temporal metaphors where the sense of motion is evoked by path prepositions, EGO can only be the MOVER with a verb of translational motion. In such cases, the prepositional phrase elaborates the schematic notion of a path that is part of the meaning of the verb. In contrast, situations designated by a non-motion verb profile an event that proceeds along a frame-setting path (MP) and has duration in VT. When expressed by a noun or nominalization, the situation is re-conceptualized as an individual (for nominalization, see Langacker 1991a: 22–50) and is then able to be the Trajector of a motion verb, as in Moore’s example *The music went past dinner*, or *Their singing went on throughout the night*. In such expressions the verb likewise contributes to the establishing of an MP.

5 Conclusions

The purpose of this paper was to demonstrate how the analysis of metaphorical expressions of time benefits from an approach that takes into account the interplay between non-metaphorical and metaphorical systems that designate temporal relations. A rough division of labor is such that the metaphorical meaning of motion is evoked by verbs of translational motion and prepositions (typically projective, directional and path prepositions), while non-metaphorical temporal meanings are indicated by the systems of tense and aspect. Tense, as is known, marks the temporal position of the designated event with respect to the speaker’s present, while aspectual oppositions between perfective and imperfective processes relate to the internal temporal structure of the event, such as boundedness (in VT) and duration.

In short, tense grounds the metaphorical motion event with respect to the speech event, while its aspectual nature determines the extent of veridical time it occupies. The metaphorical motion takes place on a path-like conceptualization of time (MP), where the moving participant traverses a distance. All the participants in the motion event, as well as the metaphorical path itself, are present in each subsequent configuration sequentially scanned in VT by the conceptualizer. Thus, for instance, a metaphorically approaching event in EGO’s future “is there” in the motion scenario temporally before its veridical (VT) counterpart is experienced by EGO, and this experience is typically not included within the scope of predication.

It is important to distinguish the speaker's present in the metaphors from EGO's 'now', even though the two often coincide. The speaker's present is grounded in an actual experience of processing time and has a counterpart in VT. EGO's 'now' can be situated in the speaker's present, past or future. EGO's 'now' has a twofold function: in VT it is the point being sequentially scanned by the conceptualizer, while in the metaphorical motion scenario it is (maps onto) EGO's location ('here'). Since tense (which is not metaphorical) designates EGO's position in VT, it has the whole motion scenario under its scope.

Since EGO's 'here' provides the access point to the metaphorical scenario, EGO has to be a participant in the process being profiled. Expressions such as **The meeting is ~ will be difficult ahead of us* fail because the profiled process does not encompass EGO's position as a participant. Such expressions would subsume tense under the scope of the metaphorical scenario, but this is not possible because all the participants in the scenario share the same 'now' (in VT). In the ungrammatical example, the process 'be difficult' takes place in EGO's future, and thus the temporal profile of the process does not coincide with EGO's 'now'. The structurally analogous example *The future is bright ahead of us* is acceptable because EGO's 'now' is where the profiled process is taking place, as EGO anticipates or perceives the metaphorical brightness of the future. The present tense of the example places this scenario in the speaker's present, and a future or past tense (*The future was ~ will be bright ahead of us*) shifts the whole MP scenario (including EGO) into the speaker's past or future.

I have also argued that the metaphorical meaning of motion is strongest in metaphors based on motion verbs, as opposed to those that rely on prepositions alone. This is because the verb, in Cognitive Grammar terms, is the profile determinant (cf. Langacker 1991b: 171–172) of the clause. It provides the processual meaning of the clause-level expression, which is then elaborated by other elements of the clause. Since all verbs indicate processes (with duration in VT), duration as such is not metaphorical motion. Only translational motion verbs profile motion events that designate a change in the (literally spatial) position of the Trajector with respect to the Landmark, scanned against time. The MOVER traverses a distance, and this event has a duration. In a metaphorical expression this distance is not a spatial one, but traversing it nevertheless has a duration. In motion metaphors of time the distance and duration correlate, but grammatical systems such as the progressive, which is typical in EGO-CENTERED metaphors, set the two apart. Different kinds of time adverbials may relate to duration in veridical time (VT) or to distance in the motion scenario (MP): e. g., *The financial problem has been approaching us for years* (duration, not distance) vs. *Next Wednesday's meeting has been moved forward two days* (distance, not duration).

In expressions where the motion is not designated by a motion verb but by a prepositional phrase alone, the sense of metaphorical motion is weaker and backgrounded. In such expressions, the path traversed is often a frame-setting path: the path is construed subjectively, the mover is a whole situation (not an individual), and the verb does not contribute to the motion scenario. Such metaphors are often borderline cases between a literal and a metaphorical interpretation, as illustrated in Figures 5 and 6; these also show how the current model distinguishes between a literal and a metaphorical meaning.

The analysis presented in this paper has also uncovered grammatical asymmetries between different metaphors. For instance, the preposition *ahead (of)*, which is typical in MOVING EGO (*Christmas is ahead*) and SEQUENCE IS RELATIVE POSITION ON A PATH (*The days ahead of Christmas are busy*) but not in EGO-CENTERED MOVING TIME (? *I am ahead of my first London Christmas*), has different grammatical functions in the metaphors. In MOVING EGO metaphors the *ahead of* phrase is part of the clause nucleus, and together with the verb designates a relationship that prevails between the MOVING EGO and a TEMPORAL ENTITY situated in EGO's future (*Christmas is {0/lurking/waiting} ahead*). In such uses, the prepositional phrase does not locate the process in VT, as shown by its inability to serve as an answer to a 'when?' question requesting a VT Landmark to define the temporal position of the designated process; cf. the failure of a mini-conversation such as the following: (Speaker A:) – **When is Christmas lurking?* (Speaker B:) – **Ahead of us*.

In contrast, an *ahead of* phrase with a TEMPORAL ENTITY Landmark designates a MOVER in the motion scenario, but it also has the function of designating a temporal Landmark for localizing the Trajector in VT. For example, *The children found their presents ahead of Christmas* is an appropriate answer to a 'when?' question (*When did the children find their presents?*). In this case, Christmas plays a double role: as the metaphorical MOVER in the motion scenario and as a Landmark for localizing the process in veridical time in the same way as a non-metaphorical temporal preposition (e. g., *Before Christmas*).

In sum, the analysis presented here demonstrates how metaphorical expressions that represent the passage of time as motion are based on a complex interplay between on the one hand elements relating to the motion scenario, on the other those relating to a veridical conceptualization of time. There are elements that serve functions in both conceptualizations, while others play a role in only one of them. Moreover, scope relations prevail between those systems that ground the event with respect to the speaker's present and those that relate to the motion scenario. My hope is that this analysis has contributed to a deeper understanding of the systems involved and of their interplay, as well as a more comprehensive understanding of their conceptual nature.

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References

- Bender, Andrea & Sieghard Beller. 2014. Mapping spatial frames of reference onto time: A review of theoretical accounts and empirical findings. *Cognition* 132(3). 342–382.
- Boroditsky, Lera. 2000. Metaphoric structuring: Understanding time through spatial metaphors. *Cognition* 75(1). 1–28.
- Boroditsky, Lera, Orly Fuhrman & Kelly McCormick. 2011. Do English and Mandarin speakers think about time differently? *Cognition* 118(1). 123–129.
- Clark, Herbert H. 1973. Space, time, semantics, and the child. In T. Moore (ed.), *Cognitive development and the acquisition of language*, 27–63. New York: Academic Press.
- Croft, William. 2012. *Verbs: Aspect and causal structure*. Oxford: Oxford University Press.
- Dewell, Robert B. 2007. Why Monday comes before Tuesday: The role of a non-deictic conceptualizer. *Southern African Linguistics and Applied Language Studies* 25(3). 291–301.
- Duffy, Sarah & Michele Feist 2014. Individual differences in the interpretation of ambiguous statements about time. *Cognitive Linguistics* 25(1). 29–54.
- Evans, Vyvyan 2003. *The structure of time: Language, meaning and temporal cognition*. Amsterdam: John Benjamins
- Evans, Vyvyan 2013a. Temporal frames of reference. *Cognitive Linguistics* 4(3). 393–435.
- Evans, Vyvyan 2013b. *Language and time: A cognitive linguistic approach*. Cambridge: Cambridge University Press.
- Fauconnier, Gilles. 1997. *Mappings in thought and language*. Cambridge: Cambridge University Press.
- Feist, Michele I. & Sarah Duffy. 2015. Moving beyond ‘Next Wednesday’: The interplay of lexical semantics and constructional meaning in an ambiguous metaphoric statement. *Cognitive Linguistics* 26(4). 633–656.
- Galton, Antony 2011. Time flies but space does not: Limits to the spatialisation of time. *Journal of Pragmatics* 43(3). 695–703.
- Haspelmath, Martin 1997. *From space to time: Temporal adverbials in the world’s languages*. LINCOP studies in theoretical linguistics 03. Munich: LINCOP EUROPA.
- Huumo, Tuomas 2013. Many ways of moving along a path: What distinguishes prepositional and postpositional uses of Finnish path adpositions. *Lingua* 133. 319–335.
- Huumo, Tuomas 2015. Temporal frames of reference and the locative case marking of the Finnish adposition ete- ‘in front of /ahead’. *Lingua* 164. 45–67.

- Huumo, Tuomas. Forthcoming a. Why Monday is not *in front of* Tuesday? – A study of English and Finnish projective adpositions in motion metaphors of time.
- Huumo, Tuomas. Forthcoming b. Moving along paths in space and time.
- Lakoff, George. 1996. Sorry I'm not myself today: The metaphor system for conceptualizing the Self. In Gilles Fauconnier & Eve Sweetser (eds.), *Spaces, worlds, and grammar*, 91–123. Chicago: The University of Chicago Press.
- Lakoff, George & Mark Johnson. 1980. *Metaphors we live by*. Chicago: University of Chicago Press.
- Lakoff, George & Mark Johnson. 1999. *Philosophy in the flesh. The embodied mind and its challenge to Western thought*. New York: Basic Books.
- Langacker, Ronald W. 1987. *Foundations of Cognitive Grammar. Vol. 1. Theoretical prerequisites*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1991a. *Foundations of Cognitive Grammar. Vol. 2. Descriptive application*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1991b. *Concept, image, and symbol: The cognitive basis of grammar* (Cognitive Linguistics Research 1). Berlin: Mouton De Gruyter.
- Langacker, Ronald W. 1999a. *Grammar and conceptualization* (Cognitive Linguistics Research 14). Berlin: Mouton De Gruyter.
- Langacker, Ronald W. 1999b. Virtual reality. *Studies in the Linguistic Sciences* 29(2). 77–103.
- Langacker, Ronald W. 2008. *Cognitive Grammar: A basic introduction*. New York: Oxford University Press.
- Langacker, Ronald W. 2009. *Investigations in Cognitive Grammar* (Cognitive Linguistics Research 42). Berlin: De Gruyter Mouton.
- Langacker, Ronald W. 2012. Linguistic manifestations of the space–time (dis)analogy. In Luna Filipovic & Katarzyna M. Jaszczolt (eds.), *Space and time in languages and cultures: Language, culture, and cognition* (Human cognitive processing 37), 191–216. Berlin: De Gruyter Mouton.
- Levinson, Stephen C. 2003. *Space in language and cognition: Explorations in cognitive diversity*. Cambridge: Cambridge University Press.
- Levinson, Stephen C. & Sérgio Meira. 2003. 'Natural concepts' in the spatial topological domain – adpositional meanings in cross-linguistic perspective: An exercise in semantic typology. *Language* 79(3). 485–516.
- Lindstromberg, Seth 2010. *English prepositions explained*. Revised edition. Amsterdam: John Benjamins.
- Matlock, Teenie, Kevin J. Holmes, Mahesh Srinivasan & Michael Ramscar. 2011. Even abstract motion influences the understanding of time. *Metaphor and Symbol* 26(4). 260–271.
- Matlock, Teenie, Michael Ramscar & Lera Boroditsky. 2005. The experiential link between spatial and temporal language. *Cognitive Science* 29. 655–664.
- McGlone, Matthew & Jennifer Harding. 1998. Back (or forward?) to the future: The role of perspective in temporal language comprehension. *Journal of Experimental Psychology* 24. 1211–1223.
- Moore, Kevin Ezra. 2006. Space-to-time mappings and temporal concepts. *Cognitive Linguistics* 17(2). 199–244.
- Moore, Kevin Ezra. 2011. Ego-perspective and field-based frames of reference: Temporal meanings of front in Japanese, Wolof, and Aymara. *Journal of Pragmatics* 43(3). 759–776.
- Moore, Kevin Ezra. 2014a. *The spatial language of time* (Human Cognitive Processing 42). Amsterdam: John Benjamins.

- Moore, Kevin Ezra. 2014b. The two-Mover hypothesis and the significance of “direction of motion” in temporal metaphors. *Review of Cognitive Linguistics* 12(2). 375–409.
- Moore, Kevin Ezra. 2016. Elaborating time in space: The structure and function of space-motion metaphors of time. *Language and Cognition* 1–63. doi:10.1017/langcog.2016.6.
- Núñez, Rafael & Kensy Cooperrider. 2013. The tangle of space and time in human cognition. *Trends in Cognitive Sciences* 17(5). 220–229.
- Núñez, Rafael E. & Eve Sweetser. 2006. With the future behind them: Convergent evidence from Aymara language and gesture in the crosslinguistic comparison of spatial construals of time. *Cognitive Science* 30(3). 401–450.
- Talmy, Leonard. 2000. *Toward a cognitive semantics. Vol. 1: Concept structuring systems*. Cambridge: MIT Press.
- Tenbrink, Thora 2007. *Space, time, and the use of language: An investigation of relationships*. Berlin: Mouton de Gruyter.
- Tenbrink, Thora 2011. Reference frames of space and time in language. *Journal of Pragmatics* 43 (3). 704–722.
- Zinken, Jörg 2010. Temporal frames of reference. In Paul Chilton & Vyvyan Evans (eds.), *Language, cognition, and space: The state of the art and new directions* (Advances in Cognitive Linguistics), 479–498. London: Equinox.