The affect bias in the metaphorical representation of anticipated events: The case of approach

Soriano, Cristina; Piata, Anna

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"The affect bias in the metaphorical representation of anticipated events:

The case of *approach*"

ABSTRACT

When talking about anticipated events, speakers can conceptualize them either as destinations towards which they are moving or as entities moving towards them, which correspond to the Ego- and the Time-moving metaphors, respectively (cf. '*We are approaching Christmas*' and '*Christmas is approaching*'). Research in psycholinguistics has shown affective valence, i.e. whether the conceptualized event is perceived as positive or negative, to be one of the factors that modulate metaphor choice; positive anticipation is preferentially associated with Ego-moving expressions, whereas negative anticipation is predominantly associated with Time-moving metaphors. This paper sets out to test if the time-affect association surfaces in naturally-occurring language use when both metaphorical patterns are available. By focusing on the temporal usage of the verb *approach,* we provide linguistic evidence in favor of such an affective bias in time representations. In addition, the language data point to a semantic preference for a particular type of event (i.e., personal vs social) under each metaphorical pattern. We interpret this finding as preliminary evidence for a possible semantic bias in time representations to be further investigated.

Keywords: anticipated events, *approach*, metaphor, time, affect, event valence, semantic preference.

1. Introduction

Being abstract and inaccessible to our perceptual apparatus, time has long been viewed as a notoriously elusive domain of human experience. As Carlo Rovelli puts it in his book "*The Order of Time*" (2017), "we still don't know how time actually works. The nature of time is perhaps the greatest remaining mystery" (p. 2). The experience of time passing is "at once familiar and baffling" (Prosser, 2013, p. 315) since everyone knows what it means to say that time passes, but no one can really tell what time is. Within cognitive linguistics, it is widely assumed that our conceptualization of time relies on another domain of experience, which is perceptually more concrete and can be directly accessed through our senses: *movement in space* (e.g., Evans, 2003; Fauconnier & Turner, 2008; Moore, 2014; Núñez, 1999; Núñez & Sweetser, 2006; for an overview see Núñez & Cooperrider, 2013). Being deeply intertwined with temporal experience, movement in space qualifies, according to the embodiment hypothesis, as a source domain for the representation of the target domain of time (Lakoff & Johnson, 1999).

Such an entrenched cross-domain mapping between movement in space and time constitutes a so-called *conceptual metaphor,* linguistically manifested in metaphorical expressions such as '*We are approaching Christmas*' and '*Christmas is approaching*'. As indicated by these examples, the conceptual representation of time in terms of space/motion comes in two variants. One conceptualizes the experiencer of time (henceforth the 'Ego') as moving in time (which is thereby construed as a landscape of events-as-locations). This is known as the *Ego-moving metaphor* of time. The other represents time as moving past a stationary observer and is known as the *Time-moving metaphor* (on the role of space in time conceptualization see Clark, 1973; Lakoff & Johnson, 1980, 1999; Traugott 1978). Research on time conceptualization has brought to the limelight ample cross-linguistic evidence attesting to both patterns (see, e.g., Haspelmath, 1997; Radden 2006, 2011), while psycholinguistic studies have offered experimental evidence in favor of the spatial schemas

underlying time representations (see, e.g., Boroditsky, 2000; Weger & Pratt, 2008; Casasanto & Boroditsky, 2008; Casasanto, Fotakopoulou, & Boroditsky, 2010). Finally, more recent studies have indicated asymmetries in the use of the two time metaphors across typologically different languages, showing, for instance, greater use of motion verbs in temporal expressions in Spanish compared to English (Feist & Duffy, 2020) or a prevalence of the Time-moving metaphor over its Ego-moving counterpart in Croatian and Hungarian, among other languages (Brdar & Brdar-Szabó, 2017). What these studies emphasize is a need to shift the focus to the linguistic patterns with which conceptual metaphors of time are encoded across languages.

Given the aforementioned duality in time representation, a question then arises as to how speakers choose one or another metaphor when both patterns are possible. To put it simply, when talking about anticipating Christmas, what makes a speaker opt for '*Christmas is approaching*' over '*We are approaching Christmas*'? In an attempt to identify factors modulating this choice, it has been suggested that *affect* plays a central role (e.g., Richmond, Wilson, & Zinken, 2012).[1] Specifically, Margolies and Crawford (2008) have found an association between the metaphorical patterns of time conceptualization (i.e., Ego- and Time-moving metaphors) and the *affective valence* of an anticipated event, namely whether the event talked about is perceived as positive or negative. Along these lines, when the anticipated event is positively colored, speakers are more likely to conceptualize it as a destination towards which they are moving, while in the case of negative anticipation the conceptualized event is more likely to be represented as approaching the experiencer. We refer to this association as the *affect bias in time representations.*

The time-affect association has been extensively studied by psycholinguists (such as Margolies and Crawford), with a robust body of evidence suggesting that time representations largely hinge on the speakers' appraisal of the conceptualized events (see Section 2). Surprisingly,

[1] Other factors, such as individual differences (Duffy & Feist, 2014), personality traits (Duffy, Feist, & McCarthy, 2014), and cultural artifacts (Duffy, 2014), have also been found to modulate time representations.

however, our knowledge regarding how the time-affect association is expressed in language use is still little and limited (cf. McGlone & Pfiester, 2009). Although psycholinguistics can tell us which metaphors people should in principle prefer under certain circumstances, it does not tell us whether people actually speak that way. A corpus-based analysis of actual instances of naturally-occurring language use is better suited to address that goal. In this paper we contribute to fill in this gap and offer the first, to the best of our knowledge, study on the affect bias in time representations focusing exclusively on language use.

We specifically focus on the temporal meaning of the motion verb *approach*, manifested in linguistic expressions such as '*We are approaching Christmas*' and '*Christmas is approaching*'. By means of metaphor, this verb affords a conceptualization of anticipated events. While other motion verbs are also used metaphorically to denote anticipated events (e.g., *come*, *get close,* or *arrive*), they have been found to be biased towards Time- or Ego-moving uses (Feist & Duffy, 2000)[2], whereas *approach* seems to exploit both time metaphors to a comparable degree. *Approach* is a prototypical verb to illustrate the time-metaphor duality, especially with regard to the Ego-perspective frame of reference (see, e.g., Moore, 2016), and it has been used as stimulus in Margolies and Crawford's (2008) psycholinguistic experiments of time metaphors: "*Which statement best expresses how you feel? a. I am approaching this event; b. The event is approaching me*" (p. 1404).

For these reasons, we consider *approach* as a good candidate for a case study on the affect bias in language use. The question we set out to address is: when people use *approach* metaphorically to denote anticipated events, is metaphor choice associated with the particular valence of the conceptualized event? In accordance with Margolies and Crawford's findings on the role of affective valence on the representation of anticipated events, we hypothesize that a positive stance towards an upcoming event will be encoded with the Ego-moving variant of *approach*, while

[2] Cf. Feist & Duffy (2000: 457), who observe that *come, follow, fall, pass, arrive, run, race* and *rush* are biased towards Time-moving, while *go, reach, return, enter* and *travel* are biased towards Ego-moving.

a negative stance will be accompanied by its Time-moving counterpart. As will be shown in the following sections, *approach* conforms to this pattern and thus confirms the affective hypothesis. Our study is therefore a first step in the more general endeavor of investigating the affect bias in language use.

2. The affective bias in time representations

The first study that set the ground for the psycholinguistic investigation of the time-affect association was conducted by Margolies and Crawford (2008), focusing on anticipated events. As already mentioned, their findings suggested that negative events are more likely to be construed as moving towards the Ego (e.g., '*Our deadline is fast approaching*') – a phenomenon we call *the looming effect*[3]. By contrast, positive events were found to be more often construed as destinations towards which the Ego was moving (e.g., '*We are approaching the summer holidays*') – we dub this phenomenon *the approach effect*. In other words, Ego- and Time-moving metaphors are associated with positive and negative affective valence, respectively. The explanation that Margolies and Crawford offered to account for this association is that positivity is generally approach-oriented (we are inclined to move towards whatever is perceived to have a positive value), while negativity is avoidance-oriented (in the sense that we try to distance ourselves from whatever is felt as negative).

Lee and Ji (2014) furthered this line of research to *remembered* events, with the aim to find out whether the type of event (anticipated or remembered) plays a role in the time-affect association. Their study showed that the Ego-moving metaphor is associated with anticipating a pleasant event in the future (as already indicated by Margolies and Crawford), but it also applies to remembering an unpleasant event from the past (we mentally 'move away from it'). A similar pattern holds for the

[3] On looming effects in psychology see Riskind, Williams and Joiner (2006).

Time-moving metaphor: it is preferentially used with anticipated unpleasant events (again as claimed by Margolies and Crawford), but also with remembered pleasant events from which experiencers are reluctant to move away. Therefore, their findings suggest, in accordance with embodied cognition, that positivity is approach-oriented and negativity is avoidance-oriented, independently of the type of event. The authors also discuss the clinical implications of their findings for patients suffering from mood disorders such as depression, and suggest that switching to a time conceptualization that enhances agency and a sense of control, as is the case with the Ego-moving metaphor, may help treating depression-induced passivity.

The study of event valence relates also to specific emotions. Richmond, Wilson and Zinken (2012) found that the Ego-moving metaphor of time correlates with positive emotions like happiness, while the Time-moving metaphor appears more often with negative emotions like anxiety and depression, again suggesting possible applications to clinical practice. On the contrary, Hauser, Carter and Meier (2009) showed that anger, which is generally considered a negative emotion, preferentially triggers Ego-moving expressions of time. However, according to the authors, this is not surprising given that anger is an approach-inducing emotion (in the sense of the experiencer getting closer to, and confronting, the cause of the emotion) and is, therefore, likely to favor the Ego-moving representation of events.

Last, but not least, more recent research on the affect bias in time representations has looked at the impact of *power*, which relates to the sense of control the experiencer has over the conceptualized event (Duffy & Feist, 2016). The findings of this study suggest, consistently with the authors' predictions, that participants who adopt high-power poses demonstrate a greater preference for the Ego-moving perspective, compared to those adopting low-power poses. Such a difference in terms of temporal perspective is, once again, grounded in embodied cognition, as high power is generally associated with approach motivations and low power with avoidance motivations.

Despite the quite prolific psycholinguistic literature on the time-affect association sketched above, little evidence exists from the point of view of language use. To the best of our knowledge, the only relevant work to date is that by McGlone and Pfiester (2009), who included one corpus study in American English as part of their investigation into time, motion, and emotion. In this study, they looked at verbs (e.g., *to begin, to pass*) and prepositions (e.g., *ahead, behind*), which are generally used to talk about events under both agency patterns (human-agent or event-agent) but not necessarily in metaphorical terms (cf. '*We began dinner at 6 pm*' and '*Dinner began at 6 pm*'). While coding valence, they looked for lexical cues that unambiguously convey affect in an explicit manner (e.g., *happily*, *frustrated*), also taking into account stereotypical valence-event associations (for example, death and celebrations are typically colored negative and positive, respectively). What they found is that, when positive, events are more likely to be encoded with human-agent expressions (including Ego-moving figurative ones), while event-agent expressions (including time-moving cases) are more frequent for events that are negatively colored (cf. "*We're coming up on our tenth anniversary*" vs. "*when the time comes [that] she can't do things*"). Finally, the linguistic findings were corroborated with evidence from two experiments.

Our study, while coherent, diverges from McGlone and Pfiester's in important ways. Firstly, while McGlone & Pfeister looked at events of any sort, our study is concerned with anticipated events when represented metaphorically via the verb *approach*. This choice will allow us to directly compare language data with the experimental findings of Margolies and Crawford (2008), who employ the verb *approach* in their experimental paradigm. Secondly, our methodology is different from that of McGlone and Pfiester (2009). We focus exclusively on language data and, more specifically, on the verb *approach*. As already mentioned, we chose *approach* for its prototypicality to illustrate the metaphorical representation of anticipated events, and – more importantly – because, unlike other motion verbs with similar semantics, it seems to exploit both metaphorical patterns to a comparable degree. Instead of searching all concordances of *approach* to manually extract instances

of Time and Ego-moving metaphors, we were interested in charting its event collocations. Collocations are words that co-occur above chance-level in use (cf. Section 4). The collocates of the verb *approach* designating events (e.g., *approach* + *birthday*) allow us to directly identify a dataset of expressions likely to include time metaphors. In addition, the analysis of the verb's collocational profile may also reveal meaningful patterns in the use of one or the other metaphor. A third important difference with McGlone and Pfiester (2009) is that, rather than taking for granted the valence of particular events, we assume that this is often *constructed discursively* in the flow of the text (cf. Section 5).

In sum, we aim to find linguistic evidence in favor of the affect bias in language use (outside experimental contexts). For this purpose, our corpus study of *approach* (a) will look at the verb's collocations with event-lexemes under each metaphorical pattern (Section 4); and (b) will analyze the affective valence of the events represented by each metaphor (Section 5). Before that, a brief introduction to the semantics of our target verb will be presented in Section 3.

3. The semantics of *approach*: A frame-semantic account

In this section, we aim to describe the semantic profile of *approach* according to the frame-semantic view of linguistic meaning. Frame semantics originates in the work of Charles J. Fillmore and colleagues (Fillmore, 1976, 1977, 1982, 1985; Fillmore & Baker, 2001, 2010) and suggests that the meaning of most words is best understood on the basis of *semantic frames*. A semantic frame can be defined as "a script-like conceptual structure that describes a particular type of situation, object, or event along with its participants" (Ruppenhofer et al., 2006, cited in Baker 2014, p. 2). Frames are formed through, and shaped by, our experience: they are "specific unified frameworks of knowledge, or coherence schematizations of experience" (Fillmore, 1985, p. 223). For example, the concept of

cooking belongs to the semantic frame APPLY_HEAT[4], which typically involves a person who performs the cooking, the food that is being cooked, something to hold the food while cooking, and a source of heat. In frame-semantic terms, the Cook, the Food, the Heating_instrument and the Container are 'frame elements'. Many different lexical units, such as *fry, bake, boil, grill,* etc. may evoke this frame.

FrameNet (Ruppenhofer et al., 2006) is a large database of lexical units and the semantic frames they instantiate. It contains syntactically and semantically annotated examples of how words are used in large electronic corpora. It also captures relationships between frames. FrameNet is both human- and machine-readable, and the data are freely available and amenable to a wide variety of purposes, including linguistic research, lexicography, machine translation, sentiment analysis, etc. It is this database that we used in order to identify the frame-semantic profile of *approach*.

According to FrameNet, *approach* is a lexical unit that belongs to the semantic frame of ARRIVING (like other lexical units such as *arrive*, *come*, *enter* or *return*). The ARRIVING frame involves an entity (the Theme) moving in the direction of a destination (the Goal), which may be linguistically expressed (e.g., '*We arrived in Paris'*) or can be understood from context (e.g., '*Our visitors arrived yesterday'*). Theme and Goal are this frame's *core* frame elements, in the sense that they are essential to the meaning of the frame.

Within the ARRIVING frame, the specific meaning of the verb *approach* in FrameNet is "to come near or nearer to in distance, time, or standard". In other words, *approach* profiles proximal motion (that can be literal or figurative) and a Goal, as illustrated in example (1) extracted from FrameNet.

[4] Following the convention in cognitive linguistics, small capitals are used to refer to semantic frames.

(1) *The worst time was driving through the night as we* ***approached Nice*** *at 3 am.*[5]

When *approach* is used to denote a Theme getting *temporally* closer to a Goal, it evokes an *anticipated event*. This temporal meaning of *approach* exploits the core frame elements of ARRIVING (namely, the Theme and the Goal), as shown in examples (2) and (3), respectively.

(2) *With* ***winter approaching*** *and the slump growing the situation looks like getting worse* (BNC, CH2 3090).[6]

(3) *Truancy is most prevalent amongst young people* ***approaching the end of their period*** *of compulsory schooling* (BNC, AN5 1301).

The examples above instantiate the two versions of the figurative conceptualization of anticipated events with *approach*: the Time-moving metaphor (in 2) and the Ego-moving metaphor (in 3). While both metaphors rely on the frame-semantic structure of *approach*, each one assigns agency to either the Theme (in the case of Time-moving) or the Goal (when the moving entity is the Ego). The result is a different construal of anticipated events (see Section 4).

4. Data collection and methods: The event collocates of *approach*

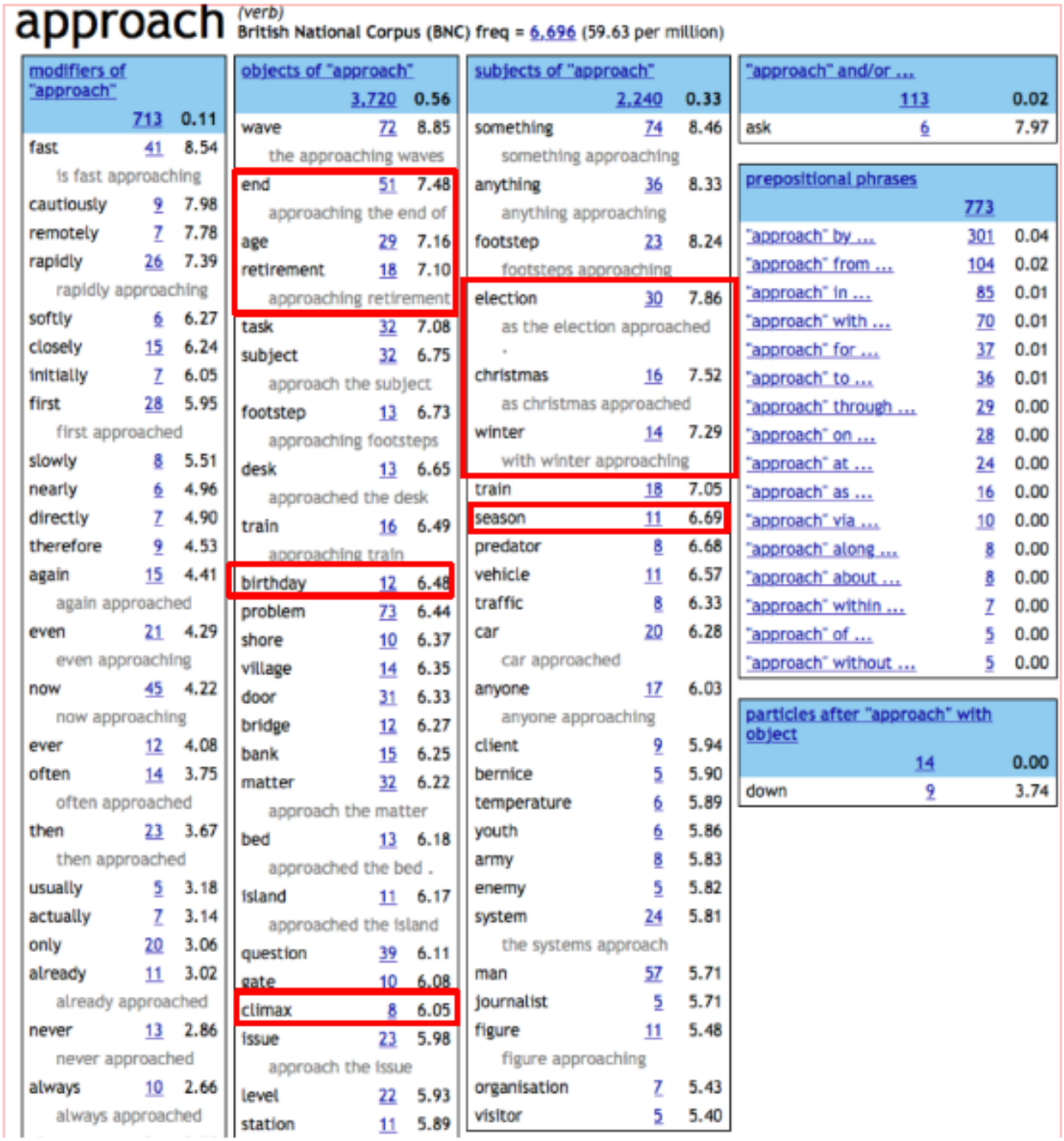
[5] Throughout the examples, the key analyzed passages appear in bold. When words are used metaphorically, they are also underlined.

[6] For every corpus-derived example, we refer the reader to the document's ID and number as it appears in the BNC.

In order to investigate the temporal uses of *approach* that evoke anticipated events, we conducted a corpus study in the BNC. The BNC is a large, general corpus of contemporary British English that contains mainly written texts and some spoken data (10%), all of them comprising approximately 100 million words. In order to access and manipulate the corpus data we used the analysis software Sketch Engine (Kilgarriff et al., 2014). Sketch Engine enables complex and sophisticated searches in corpora through a concordancer, as well as through the *Word Sketch* function, which generates a corpus-derived summary of a word's collocations. Following Halliday and Hasan (1976), we understand collocation as "the co-occurrence of lexical items that are in some way or other typically associated with one another, because they tend to occur in similar environments" (p. 287). The notion refers to lexical co-occurrences above chance-level. Word Sketch spells out the collocates of the verb *approach* in order of frequency and grouped into different categories: modifiers (e.g., *fast*), grammatical subjects (e.g., *election* + *approach*), and grammatical objects (e.g., *approach* + *end*), among others (see Figure 1). The sentences instantiating those collocations can be automatically retrieved in KWIC format[7]. Thus, rather than searching temporal uses in the whole verb's concordance (KWIC, N = 6696), which was too large for manual inspection[8], we selected a relevant set of them using Word Sketch. This was done identifying the lexical collocates of *approach* related to events (e.g., *birthday*, *Christmas*, *election*), since the sentences in which they co-occur with *approach* are likely to constitute temporal uses of the verb.

[7] KWIC (Key Word in Context) is a format for concordance lines where the target term is displayed along with the N words (e.g., 40) immediately preceding and/or following the term in the original text.

[8] Note that in Feist & Duffy's (2020) corpus study of motion verbs only 5% of the inspected uses of motion verbs rendered instances of figurative temporal motion.



approach *(verb)*
British National Corpus (BNC) freq = 6,696 (59.63 per million)

modifiers of "approach"		
	713	0.11
fast	41	8.54
is fast approaching		
cautiously	9	7.98
remotely	7	7.78
rapidly	26	7.39
rapidly approaching		
softly	6	6.27
closely	15	6.24
initially	7	6.05
first	28	5.95
first approached		
slowly	8	5.51
nearly	6	4.96
directly	7	4.90
therefore	9	4.53
again	15	4.41
again approached		
even	21	4.29
even approaching		
now	45	4.22
now approaching		
ever	12	4.08
often	14	3.75
often approached		
then	23	3.67
then approached		
usually	5	3.18
actually	7	3.14
only	20	3.06
already	11	3.02
already approached		
never	13	2.86
never approached		
always	10	2.66
always approached		

objects of "approach"		
	3,720	0.56
wave	72	8.85
the approaching waves		
end	51	7.48
approaching the end of		
age	29	7.16
retirement	18	7.10
approaching retirement		
task	32	7.08
subject	32	6.75
approach the subject		
footstep	13	6.73
approaching footsteps		
desk	13	6.65
approached the desk		
train	16	6.49
approaching train		
birthday	12	6.48
problem	73	6.44
shore	10	6.37
village	14	6.35
door	31	6.33
bridge	12	6.27
bank	15	6.25
matter	32	6.22
approach the matter		
bed	13	6.18
approached the bed .		
island	11	6.17
approached the island		
question	39	6.11
gate	10	6.08
climax	8	6.05
issue	23	5.98
approach the issue		
level	22	5.93
station	11	5.89

subjects of "approach"		
	2,240	0.33
something	74	8.46
something approaching		
anything	36	8.33
anything approaching		
footstep	23	8.24
footsteps approaching		
election	30	7.86
as the election approached		
.		
christmas	16	7.52
as christmas approached		
winter	14	7.29
with winter approaching		
train	18	7.05
season	11	6.69
predator	8	6.68
vehicle	11	6.57
traffic	8	6.33
car	20	6.28
car approached		
anyone	17	6.03
anyone approaching		
client	9	5.94
bernice	5	5.90
temperature	6	5.89
youth	6	5.86
army	8	5.83
enemy	5	5.82
system	24	5.81
the systems approach		
man	57	5.71
journalist	5	5.71
figure	11	5.48
figure approaching		
organisation	7	5.43
visitor	5	5.40

"approach" and/or ...		
	113	0.02
ask	6	7.97

prepositional phrases		
	773	
"approach" by ...	301	0.04
"approach" from ...	104	0.02
"approach" in ...	85	0.01
"approach" with ...	70	0.01
"approach" for ...	37	0.01
"approach" to ...	36	0.01
"approach" through ...	29	0.00
"approach" on ...	28	0.00
"approach" at ...	24	0.00
"approach" as ...	16	0.00
"approach" via ...	10	0.00
"approach" along ...	8	0.00
"approach" about ...	8	0.00
"approach" within ...	7	0.00
"approach" of ...	5	0.00
"approach" without ...	5	0.00

particles after "approach" with object		
	14	0.00
down	9	3.74

Figure 1: The Word Sketch of *approach*. Event-related collocates highlighted in red.

The organization of the Sketch Engine output into 'object' and 'subject' collocates is particularly relevant to us because each syntactic pattern is likely to reflect one of the two distinct conceptual metaphors of time: when an event-lexeme appears in object position (V+O) and is, therefore, the Goal of the motion event, the collocation is likely to instantiate the Ego-moving metaphor of time

(e.g., "*as they **approach** the end of their lives*"). In contrast, an event-lexeme in subject position (S+V) is semantically the Theme in the motion scene and is likely to instantiate the Time-moving metaphor (e.g., "*as Christmas **approached***"). Table 1 presents the event-lexemes that collocate with *approach* in the object and subject position, respectively:[9]

Object collocates of *approach* (the Ego-moving metaphor)	Subject collocates of *approach* (the Time-moving metaphor)
end	
age	*election*
retirement	*Christmas*
birthday	*winter*
climax	*season*
Personal events	**Social events**

Table 1: Event-lexemes that collocate with *approach*.

Together, these collocations produced 198 concordance lines that were manually analyzed in order to discard any irrelevant results such as "*his feet dragged as they approached the end of the bridge*" (BNC, G17 2202). This rendered a total of 82 sentences for Ego-moving and 71 for Time-moving.

[9] *End* was selected because, upon inspection, most expressions were related to time events (e.g., "*end of the century/ of the course/ of their lives*", etc.), Conversely, *youth,* which could have been considered a time-related subject collocate of *approach*, was not included in our list because in most cases the word was used in a metonymic way to refer to young people only, and not in a temporal sense (e.g., "*The teenager tried to run away when the youths approached him*").

Table 1 gives rise to one more empirical observation: it reveals a systematic pattern in the events that collocate with *approach* under each metaphor. This collocational preference can be sketched as follows: the event-lexemes that appear in object position instantiating the Ego-moving metaphor are biased towards personal events that occur in one's lifetime, such as one's birthday or retirement, whereas those that appear as subject collocates of *approach* in the Time-moving expressions tend to be related to social or natural events (like Christmas or winter) that affect many people at the same time. We will generically refer to the former as *personal* events and to the latter as *social* ones.[10]

A manual revision of all metaphorical uses of *approach* in our dataset supports this distinction. The majority of Ego-moving excerpts frame the anticipated events as events of significance to an individual (or a specific group of people) only. It is for this reason that they can be described as events of *personal* significance. These are scenes about people approaching the end of their lives or the end of a period in their lives (e.g., schooling years, a hospital stay, a dieting program), about people approaching a particular age (e.g., college age, working age, middle age, old age, etc.), approaching retirement, approaching their N^{th} birthday, or approaching the climax of an activity they had been engaged in (e.g., a book, a training, sex): e.g., "*The intention was for students to complete a short initial destinations questionnaire as they approached the end of their course",* "*Up until then the cinema had been taboo but Mrs Burrows, in her fifties and approaching retirement, was taking a broader outlook",* or "*Lacy is fast approaching his 50th birthday and scooped the bronze medal in the veteran class".*

[10] Our classification only reflects a tendency, whereby counterexamples are found as well. For example, in some Ego-moving cases, the anticipated event is not relevant for an individual (or specific group) only, but rather constitutes an event affecting everyone (e.g., "*as children approach the age of majority*", "*as we approach the end of 1991*", "*as we approach the end of the century*").

By contrast, the excerpts with Time-moving expressions mainly depict anticipated events of collective importance, that is, external events (either natural like winter, or societal like elections) that affect many people at the same time. The anticipated event is framed as an 'environmental change', and the text often depicts the consequences of the event (e.g., "*as winter approached the air became bitingly cold", "hay fever season is approaching and one in 10 of us will be affected", "As the election approached, perceptions about party chances became more homogeneous"*). Because the anticipated events in this case have an impact on a community at large, they can be described as events of *social* significance (for more detail see the Discussion in Section 6).

Put simply, our data tentatively suggest that *we approach personal events, whereas social events approach us*. We consider this association as an indication of *semantic preference.* Semantic preference is a term used in phraseology and corpus linguistics in order to describe the *tendency* of a certain word to co-occur with a set of lexical items that share similar semantic features among them (e.g., Bednarek, 2008). For example, Partington (2004) points out that the word *sheer* collocates with lexemes from four semantic sets: magnitude, force/energy, persistence, and strong emotion.

Semantic preference interacts with syntactic patterns too, so certain semantic sets collocate with the node word only under certain syntactic configurations. For example, *sheer* collocates with 'magnitude' words in the syntactic pattern *the sheer* NP *of* NP (e.g., *the sheer amount of*), whereas *sheer* has a semantic preference for collocates related to 'persistence' in the syntactic pattern of (manner/means) preposition + *sheer* NP (e.g. *through sheer* NP) (Partington, 2004, p. 145, in Bednarek, 2008, p. 123).

Our data seems to reflect a case of semantic preference modulated by syntax too. *Approach* tends to collocate with two sets of semantically related temporal items: (a) personal events (under the Ego-moving grammatical construal), and (b) social events (under the Time-moving construal). If on the right track, this finding points to a hitherto unidentified tendency that is likely to also influence time representations.

5. Data annotation and results: The affective valence of approaching events

The event collocates of *approach* were annotated for the affective valence (positive or negative) of the referred events. For this purpose, we had to resort to context; this means that while annotating valence, we looked for linguistic cues that allowed to infer how the experiencer felt about the conceptualized event. Consider the examples below[11]:

(4) *Well **as we approach the end of 1991**, I'm sure I don't need to remind you that it has been a very difficult year. The recession has hit us full on, and many of our customers have been feeling the pinch, and passing it on to us. We didn't expect it to last as long as it has, and were hoping for some relief by the end of the year. All that said, I am pleased to be able to report that our Division will be announcing some excellent results in the New [Year].* (BNC, HBJ 500)

(5) *In December of 1973 I had the dubious pleasure of spending Christmas on duty as an Army chaplain in Belfast. The regiment I served with at the time was normally based at Osnabruck in Germany. **As Christmas approached** our thoughts turned frequently and longingly to our wives and children.* (BNC, HAT 982)

[11] In all corpus examples that we analyze for valence vis-à-vis anticipated events we underline the parts that illustrate what we consider as evidence for valence.

In line with our hypothesis for the time collocations of *approach*, example (4) instantiates positive valence, because the upcoming end of a "*very difficult*" year is expected to bring about a positive change ("*some excellent results in the New [Year]*"), providing "*some relief*" that was much hoped for. This positive valence is construed in Ego-moving terms. In contrast, in (5), the narrator is anticipating Christmas while serving as an Army chaplain far away from home. Being on duty on such an occasion brings about a "*dubious pleasure*", since he cannot but think "*frequently and longingly*" of his family. Here, anticipating Christmas is negatively colored and lends itself to a Time-moving construal.

This does not mean, however, that the Time-moving construal cannot be used to refer to a positive event and, conversely, the Ego-moving construal to a negative one, as illustrated in the examples below:

(6) *Also, as you all know,* ***the festive season is fast approaching*** *and in Glasgow the Committee will be helping to sell raffle tickets to raise funds for a good cause, every year we hold a raffle on the day of the Christmas lunch and we are hoping that this year we will raise a substantial amount. So the Glasgow Committee would just like to sign off by saying we hope you all have a very Merry Christmas and a not too sober New Year.* (BNC, HP6 1057)

(7) ***Home buyers approach the end of the decade*** *seeing the value of their homes fall by an average of three to four per*

cent over this year and the prospect of an average fall of 10 per cent next year. (BNC, AAS 1262)

In (6), the fast approaching festive season is seen positively, with the Committee planning to raise funds "*for a good cause*", "*hoping*" that this will lead to a considerable amount of money. In contrast, in (7), home buyers said to be approaching the end of the decade are confronted with a fall in the value of their properties expected to worsen the following year.

The examples above illustrate another important point in our methodology. Unlike previous studies, we believe that event valence should not be taken at face value. For example, Christmas is a festive season of the year that is usually connoted in a positive way. Yet, the default affective valence of Christmas may be overridden in context, as shown in (5) above. Similarly, "ends" are not by definition biased towards positivity or negativity; depending on what is ending they may be positively or negatively colored (compare, e.g., the end of an enjoyable journey with that of a hospital stay). Similarly, in example (4) above, the end of the year is associated with an improvement in the current state of recession, whereas in example (7) the end of the decade is seen as a negative time. We, therefore, consider event valence to be contingent on the experiencer's appraisal of the event rather than on the event itself.

Moreover, valence can be mixed (when event evaluation conflates both positive and negative judgments) or unknown (when event valence cannot be inferred from the context). *Mixed* valence is illustrated in (8), in which the protagonist appears "*torn between dread and […] exhilaration*" in the face of performing in a professional production:

(8) ***As the first night of the Hochhauser Season approached,*** *Suzi Hoflin found herself increasingly torn between dread and a curious sense of wild exhilaration that was only partly to*

do with the excitement of appearing in a professional production. (BNC, J19 361)

Example (9), in turn, illustrates a case of *unknown* valence. In this oral narrative, the speaker discusses a training course for people before or at the point of retirement. However, no linguistic cues in the text point to a particular tone as to how people anticipating retirement feel about it:

(9) *Er I suppose erm er the, most of the people I've seen in the last ten years have been people either* ***approaching retirement,*** *planning for retirement or actually at the point of retirement and er we've obviously looked at this course over a number of years and we try to sort of distil it down to the basics of things that we think are important er and that we think will be useful to you.* (BNC, G4H 1996)

For the sake of simplicity, we subsume these last two types of valence under the same category, labelled 'mixed/ unclear' in our analyses.

Annotated in this way, the corpus data of *approach* suggest, in accordance with our hypothesis, that Ego-moving is preferentially associated with anticipated events that are perceived as positive (57%) while Time-moving is more closely associated with negative anticipation (55%) (Figs. 2 & 3).

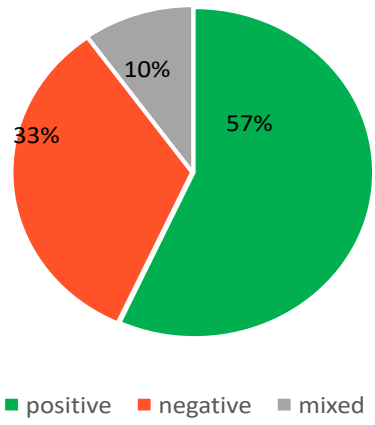


Figure 2: Ego-moving and valence.

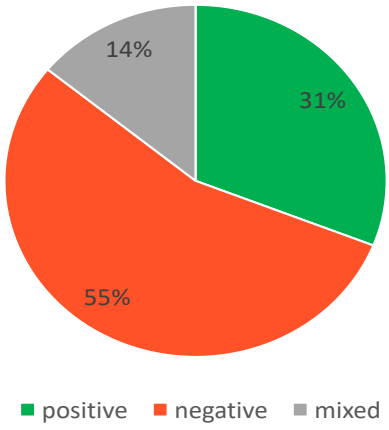


Figure 3: Time-moving and valence.

No overall valence bias is observed in the data, as roughly the same number of positive and negative sentences was found (69 vs 66). The results are summarized in Table 2.

	Positive	Negative	Mixed/Unclear	*TOTAL*
Ego-moving	47	27	8	*82*
Time-moving	22	39	10	*71*
TOTAL	*69*	*66*	*18*	*153*

Table 2: Number of event collocations of *approach* for Ego-moving and Time-moving in the BNC, and their affective valence.

In order to test whether the distribution of the two metaphors was different for the valence categories, we conducted a chi-square analysis on the 2 x 3 table of frequencies. The overall chi-square test turned out significant, $X^2(2)=10.727$, $p = 0.005$. Follow-up binomial tests were conducted for testing how metaphor distribution changed by valence category. Results indicated that for

positively colored events the proportion of Ego-moving metaphors (47 out of 69) was significantly larger than chance level, $X^2(1)=8.3478$, $p=0.003861$. For negative events, the proportion of Time-moving metaphors (39 out of 66) was not significantly different from chance level, $X^2(1)=1.8333$, $p=0.1757$. For mixed/ unclear events, the distribution of metaphors was again not different from chance level, $X^2(1)=0.05556$, $p=0.8137$. In other words, in our data positive events are more likely to be expressed with Ego-, rather than Time-moving, expressions, but for negative events the type of metaphor used does not differ from chance level. However, since descriptively we do observe a difference in the expected direction also for negative events (27 ego-moving vs 39 time-moving), the latter statistical result may be a problem of data size; if we had more data, perhaps we would find a significant effect in the negative sentences too.

6. Discussion

Given that it appears in both Ego-moving and Time-moving constructions, *approach* allowed us to test language data against Margolies and Crawford's findings on the role of affective valence on the representation of anticipated events. On the grounds of data from the British National Corpus (BNC), we aimed to offer a language-based account of the positivity bias for Ego-moving and the negativity bias for Time-moving metaphors. By shifting the focus from experiments to language use, we wished to take the investigation of the time-affect association a step further.

Indeed, the corpus data of *approach* speak in favor of a correlation between Ego-moving and positivity (and maybe also Time-moving and negativity) vis-à-vis anticipated events. This finding confirms our hypothesis that event valence influences time representations. Thus, it lends linguistic support to the psycholinguistic evidence put forward by Margolies and Crawford (2008) and Lee and Ji (2014). It also complements the corpus study by McGlone and Pfiester (2009) by narrowing down the focus of interest on (a) anticipated events; (b) their metaphorical representation; and (c) the

collocational patterns in which they appear. This methodological choice (focusing specifically on the event collocations of *approach*) has enabled us to identify another kind of preference that had not been addressed in the literature thus far, which relates to the type of event with which *approach* collocates under each metaphorical pattern.

Our corpus searches showed that the Ego-moving metaphor of time collocates preferentially with specific events in one's lifetime (e.g., birthday, retirement), whereas the Time-moving metaphor tends to collocate with collectively shared events (e.g., Christmas, winter); we generically refer to such events as 'personal' and 'social', respectively. To put it simply, we seem to prefer to say that we approach personal events but that we are approached by social events. We consider this finding to provide preliminary evidence for a possible influence of the type of event on how anticipated events are represented metaphorically.

This finding gives rise to a follow-up question: what motivates this pattern in the first place? First of all, the two metaphors differ in terms of the profile/background construal they afford. The Ego-moving metaphor profiles the Ego, which therefore lends the construal more natural to the discussion of personal life events. By contrast, the Time-moving metaphor backgrounds the Ego (since the experiencer of time is usually omitted in Time-moving expressions), which is maybe more natural when discussing social events.

The association between each metaphor and a different type of event may also be grounded in event conceptualization at large, which is reflected in the frame-semantic structure of *approach* when applied to events. Personal events are more likely to be perceived as purposeful and goal-relevant and thus lend themselves to the Ego-moving metaphor. Purposeful events are typically expressed as destinations (i.e., as a Goal) towards which the experiencer is moving along the path of life, as illustrated in a great many linguistic expressions: e.g., '*Let's go ahead with our plans*', '*I doubt if he's getting anywhere in his career*'. This metaphorical understanding is enabled by the conceptual metaphors PURPOSES ARE DESTINATIONS and LIFE IS A JOURNEY (see Lakoff & Turner, 1989).

The Ego-moving metaphor of time affords such a goal-directed construal vis-à-vis events and, therefore, lends itself to the conceptualization of personal events.

Social events (e.g. Christmas, season, winter), on the other hand, are better viewed as external events; that is to say, events that happen in the world regularly and affect people at an individual level but also collectively, as a whole. Such events are commonly conceptualized as moving entities (i.e., as a Theme), as suggested by one of the mappings in the Event Structure Metaphor: EXTERNAL EVENTS ARE LARGE MOVING OBJECTS (Lakoff, 1993); e.g. '*Civil war is long gone*', '*Things are going my way*'. The same holds also for the social events that are anticipated; they come from the outside, move towards the Ego and reach the Ego's location (or at least they are expected to do so).

Finally, we cannot exclude the possibility that the observed association between type of event and metaphor may be motivated by affect itself. The relevant affective variable in this case would be power, another basic dimension of affective experience across languages and cultures (Osgood, May, & Miron, 1975; Galati, Sini, Tinti, & Testa, 2008; Fontaine, Scherer, & Soriano, 2013). Affective power has to do with perceived control over the emotion-eliciting events or their consequences. Since personal events are more likely to be perceived as controllable (i.e. high-power) than social events, they would more naturally be rendered from the Ego-moving perspective, which highlights person-agency. Indeed, high power has been experimentally shown to predict Ego-moving in the conceptualization of time (Duffy & Feist, 2016).

If these ideas are on the right track, the semantic preference we identify for *approach* should apply to event representation at large. That is to say, one should be able to observe an association between time metaphor and specific types of events also for other verbs and in all types of linguistic expressions (not only those containing collocates). This possibility requires further investigation.

7. Conclusions

Given the surprising lack of authentic linguistic data for the affect bias in time representations, in this paper we embarked on a study of the time-related collocations of *approach* denoting anticipated events. We hypothesized, in line with the psycholinguistic literature, that when speakers talk about anticipated events they perceive as positive, they would more frequently use *approach* under the Ego-moving metaphor construal, whereas for anticipated events that are evaluated as negative, they would opt for a Time-moving construal of *approach* instead. Our results indicate that positive representations of time are more likely to be construed as destinations towards which the Ego is moving. Conversely, Time-moving expressions were more frequent in the representation of negative anticipated events, although the distribution did not reach statistical significance.

When a speaker decides how to phrase things metaphorically (in our case which metaphor to use to refer to anticipated events) there are probably more variables at stake than how he or she feels. It is reasonable to expect other factors to play a role too, like coherence with the preceding linguistic context and linguistic convention, which may encourage or discourage certain expressions. In this paper, we have looked at one type of linguistic convention, namely word collocation. The collocational analysis of the verb *approach* revealed a preference for events of personal significance (e.g., birthday, retirement) to appear in the Ego-moving construal, and for collectively shared events (e.g., Christmas, election) to appear in the Time-moving one. Whether this semantic preference for personal or social events extends to other verbs as well and, thus, translates into a more general phenomenon remains to be determined.

The current study entails some limitations as well. The first one is methodological. A different data-pooling technique including words that do not collocate may potentially reveal different results. In order to begin to address this limitation, we looked at the co-occurrence of *approach* and *moment*, which do not form a collocation. This alternative pooling method is less efficient and only rendered 10 figurative expressions involving Time- or Ego-moving metaphors.

However, there was a balanced number of them (5 of each). After coding for valence, the distribution revealed the same affect bias reported in our main study: Ego-moving sentences were biased towards positive events and Time-moving sentences towards negative ones (4 to 1 in both cases).

A second limitation of our study is the focus on one verb. While *approach* is undoubtedly relevant as an exemplar of the duality of time metaphors, future studies should explore the influence of affective valence and type of event on the figurative representation of anticipated events using other motion verbs in other datasets and in other languages too.

Our study opens up new research perspectives in the study of time metaphors. For example, it should be investigated which of the two identified 'biases', affective or semantic, overrules the other. In other words, it remains to be determined whether people have a tendency to represent personal as Ego-moving, irrespective of their affective valence, or whether events perceived as positive will preferentially be encoded as Ego-moving, irrespective of their personal vs. social nature. Corpus data, analyzed with multifactorial methods, and psycholinguistic experiments can be combined in future research in order to disentangle how the affect bias interacts with a preference for personal events under Ego-moving, and for social events under Time-moving.

Our data is not experimental but observational and, therefore, enables us to make correlational, rather than causal, statements. The linguistic observation in our study concerning the correlation between the type of time metaphor used and event valence is offered as converging evidence for the affect bias described in psycholinguistic research. In addition, the observation of a correlation between Time-moving metaphors and social events, as well as Ego-moving metaphors and personal events, is offered as an invitation for further empirical research on the factors influencing metaphorical time representations. Thus, it is hoped that the present paper will open up new directions in the study of time representations and their association with affect.

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