

IS *TIME* A BASIC DOMAIN?
REDUCTION OF ABSTRACT DOMAINS THROUGH
METAPHOR AND METONYMY¹

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ABSTRACT

En this paper, we offer a systematic classification of both the metaphoric and the metonymic mappings underlying the notion of time in English. The main conclusion which can be drawn from this cognitive approach to the study of time in English is that time is not a basic notion. For contemporary English speakers, at least, reasoning and speaking about time always involves some kind of metaphoric or metonymic projection. In addition to this, we have also considered some interesting cases of conceptual interaction, in which independent metaphors and metonymies of time combine with each other in order to make possible the understanding and the expression of complex temporal thoughts in English.

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1. INTRODUCTION: ON THE NATURE OF THE CONCEPT *TIME*

- (1) *Time is what we measure in minutes, hours, days, and years.*
- (2) *Time is that part of existence which is measured in seconds, minutes, hours, days, weeks, months, years, etc., or this process considered as a whole.*
- (3) *Time is the flow of events past the stationary I.*
- (4) *Time is the dimension of causality.*
- (5) *Time is what happens when things change over time.*
- (6) *Time is what keeps everything from happening all at once.*

«Time» is a complex concept. As the examples above show, succinct propositional definitions of time are largely unhelpful for a number of reasons, among which we may point to their triviality, vagueness, and/or circularity. Some of them, like 1 and 2, are partial, focusing of just one aspect of time such as its measurable nature; others, like 3 and 4, are too technical; and yet others, like 5 and 6, are hardly revealing². None of them is capable of providing the hearer with a clear idea of the meaning of time. Even philosophers' reflections on the nature of this notion often appear to contradict each other. Plato held time to be «motion» or, more specifically, the «circular motion of the heavens». Aristotle thought of time as the «measure of motion». St. Augustine claimed that time did not exist in reality, but only in the mind's apprehension of that reality. In a similar vein, Kant considered time to be a «form» that the mind projects upon the external things: people have no direct perception of time, but only the ability to experience things and events in time.

Amidst this array of diverse conceptualisations of time, there is one issue which seems to have received constant attention from the first philosophical theories to our days, namely, the interdependence or interrelationship between *time* and *space*. Plato's and Aristotle's linking of time to motion pointed to a conceptual dependence of time on space, since motion necessarily takes place within some spatial dimension. In the 17th century, Newton argued that time and space are both «reference frames», neither dependent on the other, but both providing an infinitely large container for all events. In the 20th century, the theory of relativity united time and space in the concept of «spacetime», a certain 4-d space in which time constitutes the fourth dimension.

² Examples (1) and (2) have been taken from the Collins Cobuild English Dictionary and the Cambridge International Dictionary of English respectively. The rest of the definitions have been drawn from the Internet Encyclopedia of Philosophy.

The discussion about the relationship between time and space has also been considered from the point of view of human conceptualisation. Linguists, psychologists, and cognitive scientists have attempted to unveil the conceptual relationship between these notions. Is space a component of our understanding of time, or vice versa? Again, it is possible to find two opposing views which parallel the two philosophical and scientific stances presented above.

Langacker (1987:149) contends that time is a primitive, non-derived, basic notion:

I will refer to a primitive representational field of this sort as a *basic domain*. (...) The experience of time certainly suggests itself as a primitive dimension of cognitive representation. The fact that we often conceive and speak of time in spatial terms only shows the utility of such metaphor for higher-level conceptualization. It does not imply that the experience of time is reducible to a purely spatial one; if anything, the opposite would seem more plausible (...) time is in some sense more fundamental than space: the conception of spatial relationships involves scanning, which requires processing time...

The «time as a primitive notion» stance seems to be in accordance with scientific postulates (i.e. theory of relativity), as shown above. Linguistic evidence of transfer from time to space, however, is scarce. Haspelmath (1997: 142) records the case of the French preposition *depuis*, which originally meant «after», but then came to mean «since» and to acquire a spatial sense as in «*depuis la fenêtre*» (from the window). Lakoff and Johnson (1999: 152) record another type of expression where time duration stands metonymically for distance: *San Francisco is half an hour from Berkeley*. Here, the time it takes to travel this distance stands for the distance. Nevertheless, these types of time-space transfer are extremely rare.

On the other hand, there is the «time as a derived notion» position, which is briefly summarised in the following quotation from Mandler (1996: 374):

It is known, of course, that languages tend to represent time by borrowing spatial terms (Fillmore, 1982; Traugott, 1978). I think the reason is that it's easier to think about objects moving along paths than to think about time without any spatial aids (...) temporal information is evanescent, and it may be difficult to analyze without the help of previously acquired meanings (...) In this view, the concept of «time» is not a primitive notion but derived.

The time as a «derived notion» position has received the largest amount of support to date. Typological studies, like Haspelmath's (1997), reveal that spatial

expression of temporal notions is extremely widespread in the world's languages. He draws cross-linguistic evidence from the analysis of NP-based time adverbials in a sample of 53 languages. Alverson's (1994) work shows how space functions as a source domain for metaphors of time in four languages as diverse as English, Mandarin, Hindi, and Sesotho. In their study on the evolution of tense, aspect, and modality in the languages of the world, Bybee et al. (1994) point out the fact that tense markers go back to aspectual constructions which are often based on space (e.g. *She is going to buy a new house*). In addition to typological studies, etymological information suggests that the space sense of English prepositions, like *before*, *after* and the like, was chronologically primary³. Psycholinguists, like Clark (1971, 1973), and Miller and Johnson-Laird (1976), and ethnographers, such as Beidelman (1963), Givens (1977), Thornton (1980), and Keesing (1991) have provided concordant data. Finally, cognitive linguists have also attested the conceptual dependency of time on space in relation to mental phenomena like metaphor and metonymy (see Lakoff and Turner, 1989; Lakoff and Johnson, 1980, 1999).

The question of whether time is conceptually dependent on the notion of space is part of a broader issue, namely, whether time can be conceptualised independently of other notions at all. One of the aims of this paper is to contribute some more evidence supporting the hypotheses according to which (1) time is not a primitive concept and (2) human understanding of time is based upon or derived from the experience of space or motion along space. Moreover, it is contended that space is just one of several notions upon which the understanding of time hinges. In this connection, it is argued that time is conceptualised via metaphoric and metonymic operations on generic cognitive models («image-schemas» like those of «path», «container», «object», and «force», on the one hand; and «propositional generic cognitive models», like those of «situations» and «events», on the other hand)⁴. Most existing accounts

³ *Before* stems from Old English *be + fore* (in front of). *After* is related to the Old English adverb *eft* (meaning *back*). In this connection, Hill (1982) and Caron (1998: 36-44) note that the spatial orientation given by the body is reproduced in the representation of *time* in English and Hausa. Furthermore, time adverbs, like *ago*, are etymologically linked to motion verbs and, therefore, indirectly, also to space. According to the Merriam Webster's Collegiate Dictionary of English, *ago* comes from Old English *a-* (perfective prefix) and *gan* (to go).

⁴ Ruiz de Mendoza (1999a) has made a distinction between generic and non-generic cognitive models. Generic models are those which occupy the highest levels in a conceptual hierarchy. In other words, generic models are not hierarchically derived from other notions. Examples of generic models are image schemas like those in Johnson's (1987) taxonomy and some propositional models like those of *action*, *event*, *plans-goals*, *cause-consequence*, etc. Non-generic models are hierarchically derived from generic models. The cognitive models of *killing* and *kissing*, for instance, would be non-generic subcases of the *action* model.

of the conceptualisation of time in English have focused on its metaphorical basis (Alverson, 1994; Haspelmath, 1997). Nevertheless, as shall be shown in section 2.2, Lakoff and Johnson (1999) have also timidly pointed to the working of metonymic operations in the understanding of temporal expressions. This paper offers a systematic classification of both the metaphoric and the metonymic mappings underlying the notion of time in English. Furthermore, unlike previous studies, the present analysis is based on a sample of over 400 instances of time-related expressions extracted from the British National Corpus. The main conclusion which will be drawn is that time is not a basic notion. For contemporary English speakers, at least, reasoning and speaking about time always involves some kind of metaphoric or metonymic projection. What's more, our corpus reveals that metaphors and metonymies of time very often combine with each other giving way to complex patterns of conceptual interaction.

2. METAPHOR, METONYMY, AND CONCEPTUAL INTERACTION IN THE UNDERSTANDING OF TIME IN ENGLISH

2.1. English metaphors of time

Some of the conceptual metaphors involved in the conceptualisation of time have already been identified and may be found in the index of metaphors compiled at the Cognitive Science Institute of the University of Berkeley⁵. They are listed below together with some examples of linguistic expressions which exploit the underlying metaphors:

- Time is something moving towards you. E.g. *Three o'clock is approaching.*
- Time is a changer. E.g. *Time will make you forget.*
- Time is a pursuer. E.g. *Time will catch up with him.*
- Time is a landscape we move through. E.g. *Thanksgiving is looming on the horizon.*
- Time is money. E.g. *She spends her time unwisely.*
- Time is a resource. E.g. *We are almost out of time.*
- Time is a container. E.g. *He did it in three minutes.*

⁵ The index of metaphors can be accessed on-line at the Metaphor HomePage (<http://cogs-ci.berkeley.edu/metaphors>).

More recently, Lakoff and Johnson (1999: 137ff) have put forward a metaphor system for time in English, which consists of three basic metaphors:

1. THE TIME ORIENTATION METAPHOR

Location of the observer → The present

Space in front of the observer → The future

Space behind the observer → The past

E.g. *He has a great future in front of him. That's all behind us now, etc.*

2. THE MOVING TIME METAPHOR

Objects → Times

The motion of objects past the observer → The «passage» of time

E.g. *The time will come when there are no more typewriters. The deadline is approaching, etc.*

3. THE MOVING OBSERVER METAPHOR

Locations on observer's path of motion → Times

Motion of the observer → The «passage» of time

Distance moved by the observer → Amount of time «passed»

E.g. *We're halfway though September. We've reached June already, etc.*

In addition to these three basic metaphors, Lakoff and Johnson (1999: 158, 161ff) also refer to some other isolated metaphors of time such as **TIME IS A RESOURCE**, **TIME IS MONEY**, and **TIME IS A FLOWING RIVER**.

The analysis of our collection of examples reveals that the number of metaphors underlying the concept of time is actually bigger than that included in the index of metaphors and in Lakoff and Johnson's taxonomy. Furthermore, it is observed that it is possible to distinguish three general time metaphors and to establish a hierarchy of dependency of other more specific instances of each of them. This hierarchical description of the metaphor system of time in English easily accommodates those metaphors of time which appeared as isolated and unrelated mappings in Lakoff and Johnson's account (i.e. **TIME IS A RESOURCE**, **TIME IS MONEY**, **TIME IS A FLOWING RIVER**). Our findings regarding the metaphorical cognitive structure of time are summarised below. Each metaphor is accompanied by some corresponding linguistic instantiations:

1. TIME IS SPACE

1.1. Time is a point in space.

1.1.1. **Time is a location.** E.g. *At the time of the investigation. From time to time. It's around this time. By the time of the election, etc.*

1.1.2. **Time is a (moving) landmark on a path.** E.g. *I am behind time. We are approaching the time of the opening. Tacoma is ahead of its time, etc.*

1.2. Time is one-dimensional space.

1.2.1. **Time is a path.** E.g. *For a short time, he looked puzzled. It's been a long day. I can't do it any longer, etc.*

1.2.2. **Time is a covered path (like a tunnel).** E.g. *I wished I could stay through an entire English winter. All through 1970, he had travelled around the country. He travelled through a time hole, etc.*

1.2.3. **Time is distance over a path**⁶. E.g. *The near future. The distant past. Don't worry about the exams, they are still too far away, etc.*

1.3. Time is two-dimensional space.

1.3.1. **Time is an area.** E.g. *It will become more intense over time. For once he was on time, etc.*

1.3.2. **Time is a landscape.** E.g. *Thanksgiving is looming on the horizon. We are coming up on Christmas, etc.*

1.3.3. **Time is a vertical space/physical barrier between entities (like a wall).** E.g. *Twenty years of forced exiled separated them. He had been detached from his future by an uncertain present, etc.*

1.4. Time is three-dimensional bounded or semi-bounded space.

1.4.1. **Time is a container.** E.g. *In 1977. In (the) mediaeval times. I'll be there in time. A family in times of difficulty. A government in times of crisis. He is out of time, etc.*

1.4.2. **Time is a hole.** E.g. *Be careful, don't let yourself fall into a futureless present, etc.*

⁶ This metaphoric mapping has as its source domain the «near-far» image-schema, which was included by Johnson (1987: 125) within the group of basic schemata.

1.5. Time is an empty space.

- 1.5.1. **Time is a gap.** E.g. *Those years were a canyon between us. I'm fifteen years older than my sister, which is too broad a gap for us to have a similar view of life, etc.*

2. TIME IS AN OBJECT/SUBSTANCE⁷

2.1. Time is a possession.

- 2.1.1. **Time is a positive/beneficial possession.** E.g. *I had a great time.*
- 2.1.1.1. **Time is a resource.** E.g. *They are giving time to an area of the curriculum which is not important, the lack of time, he had not much time left, he's running out of time, a time-consuming activity, etc.*
- 2.1.1.2. **Time is money.** E.g. *Don't waste your time, he spends his spare time fishing, etc.*
- 2.1.1.3. **Time is a commodity.** E.g. *Buy me some time, my time will cost you \$300, etc.*
- 2.1.2. **Time is a negative possession.** E.g. *He gave me a hard time, I had a rough time, etc.*

2.2. Time is a moving object.

- 2.2.1. **Time is a moving object coming towards someone.** E.g. *When the time comes, you'll know what to do. Sunday will be here soon, etc.*
- 2.2.2. **Times is a moving object going away from you.** E.g. *Time flies away. Our last hour together went away all too quickly. Your time is ticking away, etc.*
- 2.2.3. **Time is a moving object following someone (a pursuer).** E.g. *Time will catch up with him. Hurry up or time will get you, etc.*
- 2.2.4. **Time is a moving object which is being followed by someone.** E.g. *I lost track of time. I can't keep up with the times, etc.*
- 2.2.5. **Time is a moving object along which someone moves.** E.g. *You have to move with the times. He goes along with the times, etc.*

⁷ The «multiplicity-to mass» image-schema transformation (see Lakoff, 1987: 428-429;440-444) explains that time, which is conceptualised on the basis of the «object» image-schema, can alternatively be seen as a mass or substance as is the case in several of the examples under 2.1 above.

3. TIME IS A FORCE

3.1. **Time is a changer**⁸. E.g. *Time had made her look old. Time will make you forget. All that time spent on her own had turned her into a wicked old woman*, etc.

3.1.1. **Time is a healer**. E.g. *Time heals all wounds. Time will take away the pain*, etc.

3.1.2. **Time is a killer**. E.g. *Time killed his passion. Time wore away her anger. Time is a scythe, Time, the great deadener*, etc.

3.2. **Time is a causing force**. E.g. *Due to time pressure, I had to work all night on the project. Hours and hours of boredom pushed me into the hobby of wood carving. Time is pushing, make a decision!*, etc.

It is obvious that Lakoff and Johnson's basic metaphors are simply subcases of the TIME IS A MOVING OBJECT or TIME IS SPACE mappings. A more comprehensive and detailed classification of the metaphors of time in English, like the one presented here, makes it possible to deal with some problematic instances in Lakoff and Johnson's proposal. By way of illustration, consider the following expressions:

(7) *She arrived on time.*

(8) *What will be the length of his visit?*

(9) *Let's spread the visit over two weeks.*

Lakoff and Johnson (1999: 146) argue that, since time is metaphorically seen as a path over which the observer moves, it has extension and can be measured. On this basis, they regard examples (7)-(9) as instances of the TIME IS A MOVING OBSERVER metaphor. However, it is clear that the notion of «path» is not dependent on the existence of an observer moving along it. We may make use of the notions of «path», «length of a path» and/or «location on a path» in order to reason about certain aspects of time, such as its duration, without activating the image of a moving observer. In our account (7) and (9) would be instances of the TIME IS AN AREA metaphor; and (8) would instantiate the TIME IS A PATH metaphor.

⁸ I only include in this description two well-known subtypes of the TIMES IS A CHANGER metaphor. I am not listing all the special cases, which occur mainly in poetry, and which are discussed in Lakoff and Turner (1989).

A similar problem is posed by examples like (10) below:

(10) *He ran a mile in five minutes.*

In a passing reference to the metaphorical understanding of time as a container, Lakoff and Johnson (1999: 153) suggest that this is also part of the MOVING OBSERVER metaphor. Thus, they argue that in an utterance like (10), which indicates a fixed duration, time is conceptualised as a bounded region on a path along which an observer moves. Again, it is far from evident that the understanding of temporal expressions which make use of the preposition *in* should involve the idea for a «moving observer» or in Lakoff's own words, of an observer moving along a path where each location is mapped onto a point in time. In example (10), the preposition *in* simply motivates an understanding of time in terms of a bounded space. More specifically, it activates the image schema of a container. According to the internal logic of this image schema (Johnson, 1987), the boundaries of the container impose some restrictions on the entities inside it and on their actions. Thus, the expression *in fifteen minutes* restricts the amount of time, which is metaphorically being conceptualised as space, and in doing so, it also constrains the action of the participant in a certain way.

Consider the following related examples from our corpus:

- (11) *In medieval times...*
- (12) *In 1789...*
- (13) *A family in times of crisis...*
- (14) It is freezing cold here *in winter.*
- (15) She finished her speech *in ten minutes.*

In none of these examples is it necessary to activate a path schema or movement along it, in order to understand the meaning of the time expressions in italics. The mapping of the source image-schema of a container onto the target domain of time serves one main purpose which is to make it possible for us to think and speak of time as being limited. Just as a container is held within its boundary, time is bound: it has a beginning and an end. Whether the observer is moving is not relevant for the interpretation of these examples. Because of this and in contrast to what Lakoff and Johnson (1999) postulate, I have preferred to include an independent mapping (i.e. TIME IS A CONTAINER) in my description of the metaphor-based cluster model of time. As will be shown below, this metaphor can occasionally, but not necessarily, be combined with others in order to give rise to more complex time expressions.

It is also interesting to note that the metaphors underlying the concept of time are not arbitrary. The source domains of our time metaphors are either concrete and/or easily apprehensible everyday life concepts, like «money», «resource», «possession», etc.; or experiential idealised pre-conceptual image schemas, such as those of «space» («path», «container»), «object/matter», and «force». In spite of being abstractions, the latter can function as source domains of metaphoric mappings, because they have a strong bodily basis which enables its direct comprehension. In this, they differ from other abstract notions like «love», «happiness», or «time» itself, whose understanding is always mediated by some metaphoric mapping. As pointed out by Lakoff (1993) and Lakoff and Johnson (1999: 139-153), the experiential basis of the source domains of time metaphors is linked to some biological characteristics of the human race. Our visual systems are provided with detectors for motion and detectors for objects and locations, but we lack detectors for time itself. Therefore, it is only natural that time should be understood in terms of those other concepts.

The question may be raised as to whether one of these metaphors is more central or essential for the understanding of time. Careful consideration of the expressions in the corpus points towards a negative answer. Each of the metaphoric mappings in the system focuses on one specific aspect of the meaning of time: duration, limits, effects, value, etc. Depending on the situation and the communicative needs of the speaker, one or more of the proposed metaphorical models will have to be instantiated linguistically in order to convey the intended thought about time. In this connection, it can be stated that there exists a metaphor-based cluster model of time as schematised in the following figure⁹:

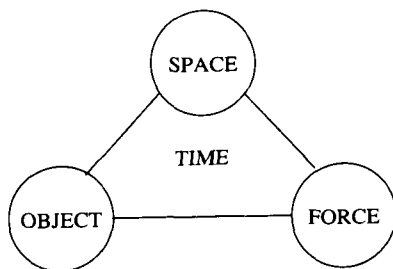


Figure 1. Metaphor-based cluster model of time.

⁹ Lakoff (187: 74) defines a cluster model as one «in which a number of individual cognitive models combine». By way of illustration, he refers to the concept of «mother», which is based

The canonical theory of cluster models only considers the possibility of the convergence of propositional idealised cognitive models (see Lakoff, 1987: 74ff). As shown above, abstract concepts, like time, are also conceptualised through the convergence of a number of cognitive models, only that these are metaphorical in nature. Metaphor-based cluster models display a number of idiosyncratic characteristics which originate in the different abstract nature of the type of concept to which they apply. First, metaphor-based clusters not only contain organised knowledge about a concept, but most importantly, each of the models of which they consist constitutes a conceptual tool that enables us to reason and speak about a concept which, due to its abstract nature, cannot be propositionally described. On the contrary, proposition-based clusters are just a means of organising our knowledge about a concept in a systematic way. Second, metaphor-based clusters do not give rise to different degrees of membership. English speakers need all three models described above in order to be able to think and talk about time on different occasions, but they do not need to activate the three models simultaneously in order to instantiate the prototypical sense of time. In contrast to this, proposition-based clusters are a source of prototype effects: the most prototypical member of the category is that in which all the models converge and the absence of one or more submodels results in less central cases of the category¹⁰.

2.2. English metonymies of time

There are many events in the womb of time/which will be delivered
(Othello, Act 1, Scene 3, Line 370).

The relationship between time and events is a very narrow one. Events take place within the confines of time. In turn, time is largely measured by comparing events. Lakoff and Johnson (1999: 139) emphasise the dependency of time measurement on event comparison:

on the following individual models: the birth model (i.e. the person who gives birth is the «mother»), the genetic model (i.e. the female who contributes the genetic material is the «mother»), the nurturance model (i.e. the female adult who nurtures and raises a child is the «mother» of that child), the marital model (i.e. the wife of the father is the «mother»), the genealogical model (i.e. the closest female ancestor is the «mother»).

¹⁰ For a more detailed discussion of the differences between metaphor-based and proposition-based cluster models, see Pérez (forthcoming).

We choose certain canonical events as temporal «yardsticks»: the movement of the hands of an analog clock or the sequential flashing of numbers on a digital clock. These in turn are defined relative to other events —the movement of the sun, a pendulum, or wheels, or the release of subatomic particles. Literal time is a matter of event comparison...

As Lakoff and Johnson (1999: 138) reveal, we define time by metonymy: regular occurrences of certain types of events stand for intervals of time. This is a direct consequence of the fact that we cannot observe time itself, but we can observe and compare the events that occur in time. What are commonly known as canonical time periods (days, nights, years, seasons, etc.) are actually events. A «year» is the event of the earth completing its rotary movement around the sun; «days» and «nights» are the events of the alternation of light and dark respectively, etc. These natural events have come to stand for the time they take to unfold. As Haspelmath (1997: 25) remarks, we are so used to these cyclic events that we do not think of them as such any more, but we mostly focus on their function as time measuring units.

In spite of this close relationship between the notions of event and time, very little attention has been devoted to its exploration. Together with the reference to time measurement in terms of event comparison, Lakoff and Johnson (1999: 154) have pointed to the existence of the EVENT FOR TIME metonymy. They offer the following two examples:

- (16) *The Kronos Quartet Concert is approaching.*
- (17) *Harry had a heart attack during the rock concert.*

In (16), the event of the concert stands for the time of the concert and in (17), the rock concert stands metonymically for the «length» of time during which the rock concert took place.

Following this interesting line of inquiry, our corpus has been searched in order to identify further time metonymies. Before presenting the results of our search, however, I deem it necessary to define briefly the concept of metonymy as it is used in this paper. I understand «metonymy», as defined by Ruiz de Mendoza (1997a: 171), simply as a «one-correspondence conceptual mapping within a single domain where, if the target is part of the source, the target is not a primary or central sub-domain of the source». Consider the following expressions taken from Croft (1993: 350):

- (18) *I broke the window.*
- (19) *She came in through the bathroom window.*

In his discussion of Croft's analysis of these two examples, Ruiz de Mendoza (1997a: 167) shows that (18) is a clearer case of metonymy than (19). The reason for this is that the target of the mapping in (18) is not a central subdomain of the source, as is the case in (19). The following figures illustrate the two possible mappings underlying the metonymic interpretation of (18) and (19) respectively:

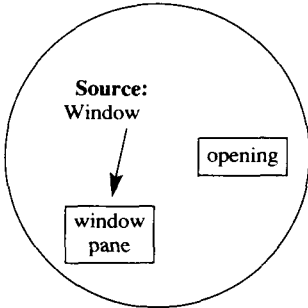


Figure 2. Target-in-source metonymy underlying example (18).

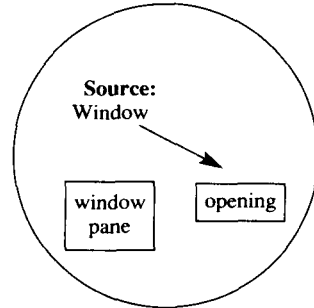


Figure 3. Target-in-source metonymy underlying example (19).

The subdomain «window pane» is an optional component of the concept «window». We may have a window without a window pane. On the contrary, «opening» is a central or primary subdomain of «window», since all windows involve a certain opening in a wall, a roof, etc. Ruiz de Mendoza (1997a: 167) observes that (18), in which the target is not a central subdomain of the source, is a metonymic expression. In contrast (19), in which the target is a central subdomain, is not.

Other purported distinguishing criteria between metonymies and metaphors put forward by Lakoff and his collaborators have been shown not to qualify as definitional criteria by Ruiz de Mendoza (1997a: 164-166). Lakoff and Turner (1989: 108) contend that (1) metonymy has a predominantly referential character while metaphors are used mainly predicatively, and (2) metonymy correspondences are of the «stand for» type, while metaphors are mappings of the «is a» type. Regarding (1), Ruiz de Mendoza (1997a: 164) notes that not only metonymies are commonly used predicatively, as in *John is a real brain*, but metaphors are also often used referentially, as in *The pig is waiting for his check*. In relation to (2), Ruiz de Mendoza (1997a: 164) draws attention to the fact that in referential uses of metaphor, the source domain also

«stands for» the target domain. Thus, in *The pig is waiting for his check*, «the pig» also stands for the customer. This observation points to a close connection between the so-called «stand for» relationship and the referential use of both metaphorical and metonymic expressions, and, therefore, disqualifies the «stand for» relationship as a definitional criterion for metonymies.

Going back to our analysis of time metonymies, it is observed firstly that all the instances in our sample are referential in nature: they are used to achieve successful reference to either a specific point in time or to a time lapse in a cognitively economical way. Take the following examples:

(20) *After John ran the marathon, we went to dine together.*

(21) *When Elvis was number 1 in the charts, I was finishing my degree at Harvard.*

In (20), *after John ran the marathon* stands for «after the time when John was running the marathon». In (21), *when Elvis was number 1 in the charts* stands for the exact year or years when Elvis was number 1 in the charts. Remembering the exact time when the speakers went to dine or the exact years when the speaker was finishing his degree would involve a considerable cognitive cost in terms of memory effort. Nevertheless, almost every member of the western community knows that Elvis was number 1 in the sixties, and in the context of (20), the approximate time when the marathon took place is most probably a known fact for that community of speakers. Therefore, by referring to those events, the speaker activates the adequate time reference with minimum cognitive effort, and the addressee is capable of retrieving that information with little cognitive cost.

It should be further noted that most of the time metonymies that will be described below have a high degree of conventionalization, so much so that in most cases speakers are not aware of the fact that there is, in fact, a metonymic mapping underlying their expressions. Time metonymies are similar, in this respect, to the well-known Lakoffian example of conventional metonymy *He played cards*¹¹, in which an element of the general domain of «playing the game of cards», namely, the element «cards» stands for the whole domain. This type of metonymy is so highly conventionalised that it usually goes unnoticed.

Our corpus also reveals that just like events, states, which also take place along time or at specific points in time, can similarly be found to function as the source domains of time metonymies. Consider the following example:

¹¹ Example taken from the *Master Metonymy List*, a compilation of over 100 metonymies, carried out by Naomi Liete from references found in the cognitive linguistics literature or obtained from homework assignments in Lakoff's classes.

- (22) A: For how long did Mary work for Starbucks?
 B: Only during her pregnancy.

The state of being pregnant stands for a specific and highly salient lapse of time in the life of Mary and thus, enables the speaker to refer in an economical way to the length of time that Mary worked for Starbucks. Consequently, it is possible to posit the existence of a STATE FOR TIME metonymy, in which states (source domain) stand metonymically for the «length» of time that they last (target domain), as shown in the following figure:

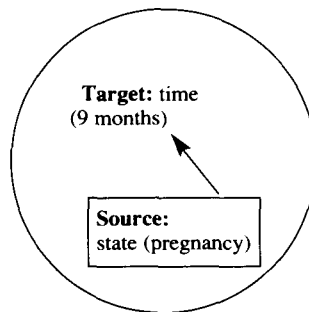


Figure 4. STATE FOR TIME metonymic mapping underlying example (22).

More interesting still are examples such as (23)–(25) below, where the time expression hinges on a double metonymic mapping (1) from one element of an event or state frame onto the whole frame, and (2) from the event or state frame to the domain of time:

- (23) *Before Napoleon*, France was a peaceful country.
 (24) *A cup of tea later*, he picked up the phone and called Margaret.
 (25) *After London*, he moved to Japan.

Napoleon is just one element of a certain event frame such as *Napoleon became the ruler of France*. In (23), *Napoleon* metonymically stands for the whole event frame, which in turn stands for a specific time in history (i.e. 1799, the year when *Napoleon became the ruler of France*): *before Napoleon* is interpreted as *before the time when Napoleon became the ruler of France*, that is to say, *before 1799*.

Note also that *Napoleon* could potentially stand for a large number of diverse event or state frames (e.g. *Napoleon invaded Russia*, *Napoleon was sentenced to a lifelong exile on the Isle of Elba*, etc.). Nevertheless, other

linguistic elements in the utterance under consideration contribute to the instantiation of the correct frame. The element *France*, for instance, leads to an instantiation of a frame linked to the history of this specific country. In a similar utterance, like *Before Napoleon, Russia was a prosperous country*, in which Napoleon is considered in relation with the history of Russia, the most liable frame for activation would be *Napoleon invaded Russia in 1812*. Thus, in this case, the expression *Before Napoleon* would stand for the full proposition *Before the time when Napoleon invaded Russia*, that is to say, *before 1812*. Contextual information or linguistic elements, like *France* and *Russia*, constrain the number and nature of the temporal propositions which may be instantiated by a metonymic expression like *before Napoleon*.

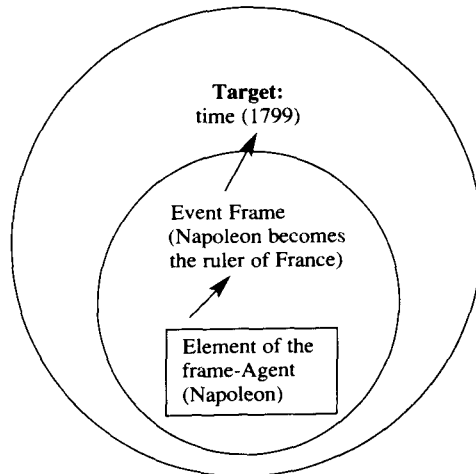


Figure 5. Double metonymic mapping underlying example (23)

In example (24), *a cup of tea* metonymically stands for the event frame of «drinking a cup of tea», which in turn stands for the «length of time which is generally taken to drink a cup of tea». In this case, it is not the agent, but the patient of the action which stands for the whole frame.

Finally, in (25) it is the location where the event takes place (i.e. *London*), which stands for the whole event (i.e. *He lived in London*), which, in turn, stands for the time at which that event took place¹².

¹² The PLACE FOR EVENT metonymy is dealt with in Radden and Kövecses (1998: 42).

Since different elements of the event and state frames can be found to function as source domains in metonymic mappings underlying time expressions, it should be possible to build a taxonomy of specific metonymies of time based on the different types of events and states and their constituent elements. The following is a first and tentative attempt to do so. In order to carry out this task, I shall make use of Dik's (1989: 89) comprehensive typology of states of affairs (henceforth SoAs)¹³. Five parameters are used in the construction of this classification of SoAs:

- +/- dynamic: depending on whether the SoA involves any change.
- +/- telic: depending on whether the SoA reaches a natural terminal point.
- +/- momentaneous: depending on whether an event is conceived as having duration.
- +/- control: depending on whether the first argument of an SoA has the power to determine whether or not the SoA will obtain.
- +/- experience: depending on whether an SoA cannot obtain but through the sensory or mental faculties of some animate being.

The application of these parameters yields the following typology of SoAs:

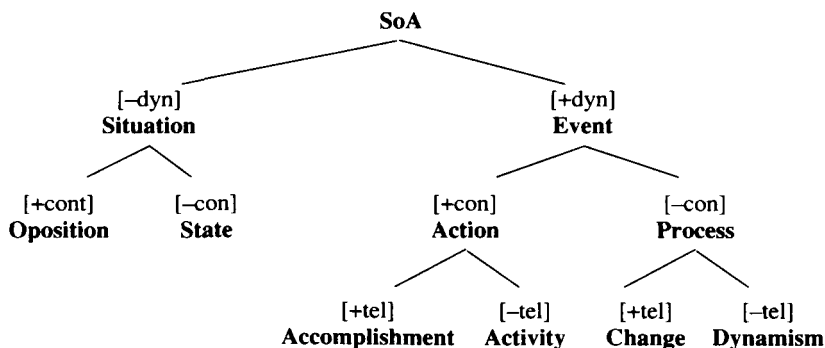


Figure 6. Typology of states of affairs (Dik, 1989: 98)¹⁴.

¹³ No comprehensive typology of SoAs has been specified within the Cognitive Linguistics framework. To the best of our knowledge, the only attempt to date was made by Langacker (1987), who made a distinction between atemporal relations, on the one hand, and perfective and imperfective processes, on the other. The motivation for the decision of making use of Dik's typology of SoAs is twofold. First, Functional Grammar (FG) offer a highly comprehensive and well-reasoned typology of SoAs. Second, FG displays a significant degree of compatibility with the postulates of Cognitive Linguistics (see Kalisz and Kubinski, 1997 for a detailed comparison of these two approaches to language).

¹⁴ The distinction +/- momentaneous only affects the category of [+telic] Events and the resulting types of events receive no special nomenclature within Dik's classification. The +/-

Let us now present a tentative taxonomy of time metonymies in English by considering each of the subcategories of SoAs in turn ¹⁵:

1. SITUATION METONYMIES OF TIME

- 1.1. **Position for time.** E.g. *She was born when Nixon was living in the White House* [-dyn, +con]. *Before I lived in London, I had never been away from home.*
- 1.1.1. **Positioner for time.** E.g. *Before Napoleon, the Isle of Elba was not on the map.* **Before I, I had never been away from home.*
- 1.1.2. **Location for time.** E.g. *Before the Isle of Elba, Napoleon had travelled the whole of Europe.* *Before London, I had never been away from home.*
- 1.2. **State for time.** E.g. *Mr. Disney died when Mickey Mouse was in vogue* [-dyn, -con].
- 1.2.1. **Zero experiencer for time.** E.g. *Before Mickey Mouse, Disney had had a serious economic deficit.*

2. EVENT METONYMIES OF TIME

- 2.1. **Action for time.**
- 2.1.1. **Accomplishment for time.** *After John ran the marathon* [+dyn, +con, +tel], *we went to dine together.* *After we ate the pizza* [+dyn, +con, +tel], *we went for a walk.* *Before Napoleon invaded the country, Russia was prosperous.*
- 2.1.1.1. **Agent for time.** **After John, we went to dine together.* **After we, we went for a walk.* *Before Napoleon, Russia was prosperous.*

experience parameter affects all the bottom branch categories of the above typology (position, state, accomplishment, activity, change and dynamism). Since the opposition +/- experience does not necessarily have a deep impact on the grammatical organisation of natural languages, no special labels have been given to the SoAs resulting from the application of this parameter.

¹⁵ *Agent, positioner, force, and zero experiencer* are the semantic functions of the first arguments of *actions, positions, processes, and states* respectively. The term *processed* refers to the entity which undergoes a *process*. The *goal* is the entity affected or effected by the operation of some *controller (agent/positioner) or force*. *Location* is the place where a SoAs is located.

- 2.1.1.2. **Goal for time.** *After the marathon, we went to dine together. After the pizza, we went for a walk.*
- 2.1.2. **Activity for time.** *I was studying at Harvard when the government was carrying out the first political reforms [+dyn, +con, -tel],*
- 2.1.2.1. **Agent for time.** **During the government, I was studying at Harvard.*
- 2.1.2.2. **Goal for time.** *I was studying at Harvard during the political reforms.*
- 2.2. **Process for time.**
- 2.2.1. **Change for time.** E.g. *I was travelling around Europe approximately when the Vesuvius erupted [+dyn, -con, +tel]. I started my new business more or less after the big earthquake destroyed San Francisco.*
- 2.2.1.1. **Force for time.** E.g. *It was approximately after the eruption of the Vesuvius that I got married to John. It was more or less after the bit earthquake that I started my new business.*
- 2.2.1.2. **Processed for time.** E.g. **After the city, many people decided to move to other places.*
- 2.2.2. **Dynamism for time.** E.g. *While the clock was ticking [+dyn, -con, -tel], I let my imagination fly.*

As the examples above illustrate, positions, states, actions, and processes can all stand metonymically for time (either for specific points in time or for lengths of time). Even though in some cases, the metonymy has been conventionalised to such an extent that it is not noticeable anymore. Thus, in 1.1. *when Nixon was living in the White House* stands metonymically for «the time/year when Nixon was living in the White House».

Regarding the components of each state of affairs, it has been observed that as far as first arguments are concerned, positioners and agents are rarely the source domains of time metonymies, except when their referent is a well-known key historical figure (e.g. Napoleon). Forces, on the contrary, are often the source of time metonymies. As regards second arguments, goals can play the role of source domains, while the processed cannot. Finally, locations are good source domains of time metonymies in the case of positions, but not so when states, actions, and/or processes are involved. Unfortunately, at this point I can only state these differences in metonymic potential among the elements of the event and state frames as interesting

linguistic facts about time metonymies without venturing into speculations about the reasons why this is so.

On a final note, it is interesting to draw attention to the fact that the conceptual transfer between the notions of *time* and *event* also works in the opposite direction. That is to say, there are occasions on which temporal notions are used as the source domains of metonymic mappings whose target is a certain event. By way of illustration, consider examples like *Yesterday was a rough day* or *We had the time of our lives*. The first utterance should be understood as meaning that the events that took place during the previous day, and not the day itself, were rough. In the case of the second utterance, the noun «time» refers to an extremely enjoyable experience or event. This transfer from the domain of time to that of events is predictable due to the fact that events occur over time. As illustrated by the quotation from Othello at the beginning of this section, in our western society time is often conceptualised as a container within whose confines events take place. The metonymy TIME-FOR-EVENTS is thus made possible by the fact that events are just one constituent element of the domain of time.

2.3. Conceptual interaction in the conceptualisation of time¹⁶

In sections 2.1 and 2.2, it has been shown how our communication of time-related ideas and our reasoning about time is dependent on metaphoric and metonymic operations on generic models (either of the image-schematic or of the propositional types). In practice, though, the complexity of such an abstract and evanescent concept as time often demands the interaction of both metaphoric and metonymic mappings, or of more than one metaphor or metonymy when thinking and speaking about it. Two examples of such complex conceptual interactions are analysed below. Example (26) illustrates how several metaphors interact in the expression of a time-related idea

(26) *Kerosene, fierce guitar quintet recently snapped up by the Dead Good label, took time out from recording their debut EP with Neds/MC4 producer Jessica Corcoran to play Colchester Hippodrome on September 14.*

¹⁶ Interaction between idealised cognitive models is a current issue of discussion. The interaction between metonymic and metaphoric models has been dealt with in a fairly unsystematic way by Goossens (1990). The metonymic basis of metaphor has been considered in Taylor (1995: 139) and Barcelona (1997). The most comprehensive and systematic treatment of this subject up to date, however, may be found in Ruiz de Mendoza (1997b), where this author puts forward a classification of interaction types.

It is part of our knowledge about actions and activities that they take place over time. In the example above, the action of recording is thus conceptualised as a container in whose interior there is time (the time required to carry out the action). Time within the action-container is seen as a substance. As was explained in section 2.1, the metaphor TIME IS SUBSTANCE is the result of the image-schema transformation known as «multiplicity-to-mass». Finally, the speaker is seen as «grabbing some time» and «taking it out» of the action-container in order to «put it in» the pursuit of a different action, namely, to play at Colchester Hippodrome.

Example (27) shows the interaction between the two types of operational cognitive model, metaphors and metonymies, in the conceptualisation of a complex thought about time¹⁷.

(27) *Ever since I turned 45, I have been unable to catch up with the times.*

To begin with, there is a metonymy of the type TIME FOR STATES, so that the expression «times» stands for the collection of cultural tendencies and fashions which exist in the society in which the speaker lives¹⁸. Second, «the times» are metaphorically conceptualised as an object moving along a path. Since the English conceptual system includes the metaphor CHANGE IS MOTION¹⁹, the movement of «the times» along the path corresponds to the cultural changes that take place in the speaker's society. Finally, there exists a third metaphor in which time is conceptualised as a competitor (which is, moreover, a subtype of the generic TIME IS A MOVING OBJECT metaphor). Thus, the speaker presents himself as following «the times» along a path and being unable to reach them. As a result of the interaction of a metonymic mapping and three conceptual metaphors, the speaker is able to convey, in an economic and effective way, the idea that he is incapable of following the new fashions and/or cultural tendencies that are in vogue at the time.

¹⁷ I have adopted here the useful distinction between operational and non-operational idealised cognitive models (or ICMs) which was put forward by Ruiz de Mendoza (1996, 1999a). Non-operational ICMs (i.e. propositional ICMs and image-schemas) are static in nature and consist of stored information. Operational ICMs (i.e. metaphorical and metonymic ICMs) are dynamic and work on the basis of the information provided by non-operational ICMs.

¹⁸ The metonymy TIME AT WHICH A CULTURAL TENDENCY TAKES PLACE FOR THE CULTURAL TENDENCY is quite common in everyday expressions such as *I could never understand the 60s*.

¹⁹ Other linguistic expressions, included in the Index of Metaphors, which exploit the CHANGE IS MOTION metaphor are, for instance, *His hair went grey*, *He went from laughing to crying*, *He came out of a coma*, etc.

3. FINAL REMARKS

It is generally accepted that, with the exception of basic domains, most concepts can only be defined and understood by reference to other concepts of a more generic nature²⁰. Thus, non-generic concrete concepts are understood by means of their profiling against other more generic propositional models. In this connection, Langacker (1987: 148) argues that «finger» is the domain for «knuckle», «hand» for «finger», «arm» for «hand», and finally, «body» is the domain of reference for «arm». In contrast, generic concrete concepts, like «body», and abstract concepts, like «time», cannot be reduced to other generic propositional models. The mechanisms of reduction which enable their comprehension are, instead, those of metonymic and metaphoric projection. As has been shown in relation to the concept of time, the source domains of these mappings are either generic abstract concepts like those of «event», «action», «situation», etc., or image-schemata such as «container», «path», «near-far», «force» and the like.

Moreover, this paper has shown the impossibility of breaking free from the use of conceptual metaphors and metonymies in reasoning and speaking about time in English. On the basis of a collection of over 400 instances of time-related expressions, a systematic description of the systems of metaphors and metonymies of time in English has been put forward. In doing so, this paper contributes significant evidence supporting the line of thought which regards time as a non-basic notion. In addition, other related topics, like the existence of metaphorical cluster models, or the relevance of conceptual interaction for complex abstract domain expression have also been dealt with and shown to support the time-as-a-derived notion position.

SOURCES

Collins Cobuild English Dictionary.
Cambridge International Dictionary of English.

²⁰ I have preferred to make use of the term «generic concept» or «domain» to refer to Langacker's «abstract domains», that is to say, to refer to those domains which are at the top of a conceptual hierarchy and can be used as reference domains in order to define other lower level concepts. I would rather avoid the use of the term abstract in Langacker's sense, since both generic and non-generic concepts can have different degrees of abstraction. By way of illustration, both «animal» and «action» are generic domains, but the latter is more clearly abstract than the former. The term abstract will be used here with its original meaning to describe those concepts which do not have a clear referent in the outside world.

Merriam Webster's Collegiate Dictionary of English. Internet Edition at:
<http://www.m-w.com/cgi-bin/dictionary>
 The Internet Encyclopedia of Philosophy at:
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