

Metonymy Determining the Type of the Direct Object

Josefien Sweep (J.Sweep@uva.nl / josefien.sweep@inl.nl)

ACLCL at the University of Amsterdam, Spuistraat 210

Amsterdam, 1012 VT, Netherlands

INL (Institute of Dutch Lexicology), Matthias de Vrieshof 2-3

Leiden, 23 11 BZ, Netherlands

Abstract

This paper discusses the parallel between transitive locative alternations and logical metonymy, as in *he began the book*. It will be explained that both kinds of argument shifts can be considered as predicative metonymies, which cause a figure/ground effect of the direct object within the frame evoked by the verb.

Keywords: locative alternation; coercion; FrameNet; frame semantics; logical metonymy

Metonymy and Logical Metonymy

Metonymy is based on contiguity, that is conceptual closeness in reality. A contiguity relation between two concepts can cause an enriched interpretation of a word used in a certain context. Examples are *to read Goethe* (i.e. ‘his work’), *to drink a bottle* (i.e. ‘the liquid in it’) or *to hire a longhair* (i.e. a ‘person with long hair’). Metonymy cannot only lead to occasional re-interpretations, but also to conventionalised interpretational shifts, such as metonymical polysemy and diachronic meaning changes (cf. e.g. Koch, 2001).

Over the last twenty years linguists have become interested in a specific type of metonymy, which they have dubbed ‘logical metonymy’ (LM). Sentences (1)-(3) illustrate this phenomenon.

- (1) Mary began the book.
[i.e.: to read / to write (the book)]
- (2) Mary finished the book.
[i.e.: reading / writing (the book)]
- (3) John enjoyed the sandwich.
[i.e.: eating (the sandwich)]

Given that one cannot begin or finish an object as such, we infer for sentences (1) and (2) an activity in which the book plays a central role. Similarly, enjoying an object presupposes some experience with the object. Therefore, we understand that John enjoyed eating the sandwich. In all three examples, we interpret some implicit event in which the explicitly expressed object is involved.

Pustejovsky describes the difference between these examples of LM and metonymy proper by stating that in the latter “a subpart of a related part of an object stands for the object itself” (Pustejovsky, 1991: 424) whereas in cases of LM “a logical argument of a semantic type (selected by a function) denotes the semantic type itself” (Pustejovsky, 1991: 425).

In line with this, the metonymical shift is visible within the syntactic structure in English: The shift from an activity to a concrete object seems to co-occur with a shift between a verb phrase (VP) and a nominal direct object (NP) (cf. Egg, 2003: 163; Lapata & Lascarides, 2003: 1; Verspoor, 1997: 166). In examples (1)-(3), possible VPs have been given within the square brackets.

It is verb-dependent whether verbs are combined with infinitive clauses or gerunds. In English for instance, *enjoy* and *finish* can only be combined with gerunds, whereas *begin* occurs with gerunds as well as an infinitival clause (cf. Egg, 2003: 163). Similarly, in Dutch and German infinitives can occur with Dutch *beginnen* and German *beginnen* or *anfangen* (‘to begin’), but not with Dutch *beëindigen* / German *beenden* (‘to finish’) and

Dutch *genieten van* / German *genießen* ('to enjoy'). An obvious difference with English is that Dutch and German lack gerunds. In consequence, Dutch and German have use a real noun derived from a verb, i.e. an NP, instead of a gerund. This makes it problematic to define LM as a shift between a function and an argument of this function, which is reflected in the syntactic structure by a VP-NP shift.¹

However, also other reasons are given why this type of metonymy is called logical. Sometimes, it is said that this metonymy is logical, since apart from the metonymical shift, an additional shift in the interpretation takes place, viz. a shift from a concrete object to an additionally interpreted abstract event. This additional shift is a type shift (also called a logical shift) triggered by requirements of the main verb (Verspoor, 1997: 166; cf. also Lapata & Lascarides, 2003: 306).

The logical shifts in sentences (1)-(3) are all based on the contiguity relation between an object and an action in which the object is involved (OBJECT-ACTION). If LM is defined as a shift between a concrete object and an event in general, one could raise the question whether there are also logical shifts on the basis of other contiguity patterns.

Such LMs can indeed be found. Some verbs, which require an event from a strictly semantic point of view, allow the agent of this event as their direct object (AGENT-ACTION). Consider in this respect example (4):

- (4) Mary interrupted John
[i.e. John's talk(ing)]

From a semantic point of view, it is only possible to interrupt events, such as, for instance, presentations, conversations or lectures. Therefore, we understand that there must be some obvious connection between the expressed direct object *John* and an interrupted event (i.e. 'John's talking').

¹ Additionally, in English some NPs also denote events, which can be started, finished or enjoyed.

As far as I know, such examples are mostly not taken into account in the existing literature.² This is probably the case, because they follow a different metonymical pattern than the examples (1)-(3), which make it difficult to explain them in terms of qualia structures and semantic roles (cf. Pustejovsky, 1991). However, an explanation in terms of highlighted frame elements perfectly applies to such type shifts as well (cf. Sweep, 2010a).

Interestingly, metonymy-based type clashes also occur without eventive interpretations of the direct object (cf. especially Waltereit, 1998). Relevant in this respect is, for instance, the locative alternation. Sentences (5)-(7) illustrate transitive locative alternations.

- (5) a. Mary planted roses (in a garden)
 b. Mary planted a garden (with roses)
 (6) a. John emptied water (from the bottle)
 b. John emptied the bottle (of water)
 (7) a. Alex plucked feathers (off/from a duck)
 b. Alex plucked a duck (*from feathers)

Besides the fact that these argument shifts have been analysed as metonymy-based (cf. Sweep, 2009; Waltereit, 1998; 1999), the parallel with LM has also explicitly been noted (cf. Asher, 2010).

The present paper will discuss all these metonymy-driven type shifts in the direct object. First, it will be explained in line with Waltereit's research that locative alternations are metonymical, because they can be analysed as a highlighting effect within a frame. The same analysis applies to logical metonymy. Secondly, the metonymical shifts will be

² However, they have been recognised as special instances of metonymy by Dutch lexicographers (cf. Van Dale's *Groot woordenboek van de Nederlandse taal* (2005) lemma "objectsverwisseling"). According to Van Dale, other Dutch verbs, such as *afvlaggen* (lit.: off-flag, 'to flag down'), *afkussen* (lit.: off-kiss, 'to make up') and *bestrafen* (lit.: be-punish, 'to punish'), also shift between an action and a metonymically related agent.

clarified by means of the frames developed by FrameNet (<http://framenet.icsi.berkeley.edu/>). It will be shown that a uniform frame-semantic analysis applies to locative alternations and to all above examples of LM. Although frames do not provide an exact and rigid formalism, they can be used to explain some subtleties in language pretty well.

Metonymical Object Change (MOC)

This section will clarify the parallel between logical metonymy and locative alternations. The metonymy in locative alternations, as in (5)-(7) has in detail been investigated by Waltireit (1998; 1999). Although the metonymical shift is clearly based on the contiguity relation between the two possible direct objects, the shift is not a prototypical kind of metonymy, given that the direct objects do not seem to be reinterpreted.³ Waltireit therefore considers such shifts to be caused by a diachronic development based on classical metonymy. As he puts it: “The occasional metonymic use is likely to be fixed later as a new meaning of the verb, when a metonymic shift is no longer involved.” (1999: 235). Apart from the complicated question to which extent we are dealing with polysemous verbs (cf. Iwata, 2005; Sweep, 2010b) there are some other fundamental problems with this claim.

First of all, the consequence of Waltireit’s analysis is that the above syntactic patterns must be born out of an occasional use of *roses* in the meaning of ‘garden’, *water* for ‘bottle’, or *feathers* referring to ‘duck’ (or the other way around?) (cf. Waltireit, 1999: 56). One might question whether this is really plausible.

Secondly, the contiguity relations between the two possible direct objects, such as location and what is in that location (i.e. the locatum), is no longer supposed to play a role. From a synchronic perspective, Waltireit only

considers the two possible direct objects standing in a metonymical relation on a semantic role level. He writes: “die beiden Rollen sind kontig zu einander” [‘both roles are contiguous to each other’] (Waltireit, 1998: 56, cf. also 1999: 235). However, his actual analysis of specific instances of alternations contradicts this claim, since he explains object changes by taking into account relations such as CONTAINER-CONTENT (Waltireit, 1998: 26), which cannot be considered as a contiguity of semantic roles.

Also, the idea that the semantic roles are contiguous to each other is problematic, since it is not exactly clear what these semantic roles are. With respect to examples such as (5)-(7), some scholars speak about ‘locatum’ and ‘location’ or ‘theme’ and ‘goal’, but others consider all above direct objects as ‘themes’ (cf. the discussion in Rappaport & Levin, 1988) or as ‘patients’ (cf. e.g. Laffut, 1998: 129), irrespective of whether they refer to locations or things in a location. It does not make sense to claim that a contiguity relation between ‘patient and patient’ causes a shift in the type of direct object.

Of course, Waltireit is right in that the metonymy involved in the above sentences must be of a specific kind, given that the direct object does not, as in classical metonymies, seem to be metonymically re-interpreted. I therefore follow Waltireit’s analysis that shifts as illustrated in (5)-(7) show a metonymical figure/ground effect (a highlighting of elements) within the conceptual-semantic frame evoked by the verb (Waltireit, 1998: 25-26, 56; Waltireit, 1999: 238; cf. also Koch, 2001).

Within the context of the verb, both direct objects form one conceptual unity or gestalt. The gestalt character or contiguity relation between both possible direct objects plays an essential role in the combining process of verb and direct object. Hence, the interpretation of the direct object slot (i.e. the argument place) is metonymically changed, rather than the direct object or the verb as such. Such shifts

³ This can be illustrated by co-predication or anaphoric reference. The same issue has been discussed for LM, as illustrated in (1)-(3) (cf. Godard & Jayez, 1993).

could therefore be called Metonymical Object Changes (MOCs).

Following the work of Stallard (1993), one could consider MOCs as ‘predicative metonymies’ (cf. also Sweep, 2009: 107ff). A predicative metonymy is described as “a coercion of a predicate argument place, rather than of the argument NP itself” (Stallard, 1993: 89). This description applies exactly to examples (5)-(7): Based on contiguity relations between both possible direct objects, the argument slot can be occupied by the location or by what is in the location (i.e. the locatum). In other words, neither the verb’s lexical meaning nor the expressed direct object is metonymically shifted, but only the combination of the two, i.e. the class (cf. Waltereit, 1999: 235) or type of argument connected as a direct object to the verb.⁴ Obviously, this description also applies to examples of LM, as (1)-(4).

Highlighting within Frames

Although metonymy is often considered as a highlighting effect or figure/ground effect within a conceptual structure (CS) (cf. e.g. Koch, 2001), most research on metonymy does not define the CSs involved (cf. the criticism in Peirsman & Geeraerts, 2006: 270-271).

Independently of theoretical research on metonymy there is a tradition of researching semantic-conceptual structures: Based on Fillmore’s concept of a frame, FrameNet (<http://framenet.icsi.berkeley.edu/>) is a project which tries to design as precisely as possible such structures on the basis of real linguistic data. Such a structure, a semantic frame, is seen as “a script-like conceptual structure that describes a particular type of situation, object or event” (Ruppenhofer et al., 2010: 5). If metonymy is considered as a highlighting

⁴ This could be compared with the passive voice, in which a different type of subject is realised, without changing semantic roles and without a change in the interpretation of the verb meaning or nominal referent (Sweep, 2010b).

effect within a CS, it must be possible to analyse a shifted direct object as a highlighted part of a frame.

Frames are evoked by words or, more precisely, by lexical units (LUs). Each frame, and in particular frames describing verbs and events, is connected with participants that are necessary for the conceptualisation of the meaning. These participants, or roles, are called frame elements (Ruppenhofer et al., 2010: 5). Frame elements can be divided into core elements and non-core elements. Core elements are “conceptually necessary components of a frame” (Ruppenhofer et al., 2010: 19).

The realisation of frame elements can be explained by an example, such as (8).

(8) Mary began to read.

According to FrameNet, the verb *begin* evokes the Activity_Start frame, which includes two core elements: An ‘agent’ and an ‘activity’ (cf. <http://framenet.icsi.berkeley.edu/>). In (8) both elements are realised: *Mary* is the agent (*x*) of the started activity *reading / to read* (*y*). This activity of course evokes its own frame. The verb *read* evokes a Reading frame with a ‘reader’ (*v*) and a ‘text’ (*z*) as core elements. Therefore, one can say that in (8) the frame of the reading activity is combined with or embedded within the Activity_Start frame.

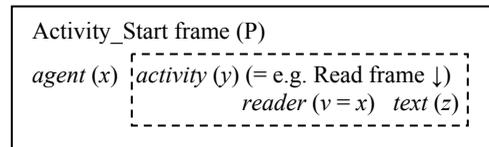


Figure 1: Activity_Start with embedded frame

This idea of multi-layered CSs (cf. Figure 1) can explain what is going on in (1), the metonymical counterpart of (8). Again the verb *begin* evokes the CS of starting an activity which normally needs an agent and an activity. An expression for the activity is

missing in (1), but instead some element of an activity can be found: The object that plays a key role in the activity. We understand that the activity frame has not been expressed, but a core element of the embedded frame (i.e. *z*). The semantics of *to begin the book* is metonymically enriched with a default activity interpretation, because *book* is the LU that corresponds to the core element ‘text’ (*z*) of the embedded Reading (or Writing) frame (*y*).

In the case of *to enjoy*, as in (3), the same mechanism occurs, although another main frame is evoked: The frame corresponding to *to enjoy* contains an experiencer (*x*) and an experience (*y*) (cf. Sweep, 2010a: 19ff). Core elements of the embedded experience-frame can also be highlighted. This is, for instance, the case in example (3), in which only the core element (*z*) of the intended *eating*-experience has been expressed as the direct object. The fact that *to enjoy* must be interpreted as involving a kind of exposure or experience rather than an activity in general explains why other interpretations with *to enjoy* are inferred as compared to the interpreted events with *to begin* and *to finish* (cf. Verspoor, 1997: 186-195).

Logical shifts that are based on an AGENT-ACTION contiguity work in the same way. In these cases, the agent of the interpreted event is not co-referential with the subject ($v \neq x$) and this agent can therefore be expressed as a direct object. In sentence (4), for instance, the ‘process’-core element (*y*) of the evoked *Interrupting_process* frame (cf. <http://framenet.icsi.berkeley.edu/>) is left implicit. Instead of the event itself, the agent (*v*) of this event is highlighted within the sentence.

FrameNet also reflects that locative alternations show a figure/ground effect of the direct object within a frame evoked by the verb. Locative alternations show a similar shift in the expression of the core elements of a frame as LM. The only crucial difference is that no embedded activity frame is involved.

The verbs in (6) and (7), for instance, both evoke the Removing frame (cf. [http://framenet.](http://framenet.icsi.berkeley.edu/)

[icsi.berkeley.edu/](http://framenet.icsi.berkeley.edu/)). This frame has an ‘agent’/ ‘cause’ (*r*), a ‘theme’ (*t*) and a ‘source’ (*s*) as its core elements. The latter two core elements are closely connected. They can be seen as a single gestalt within the frame (illustrated by the dashed oval in Figure 2). Therefore, the direct object can metonymically shift between the theme-element and the source-element, depending on which part of the gestalt involved is highlighted.

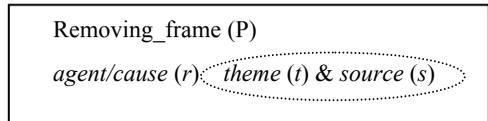


Figure 2: Schematic Removing Frame

A comparable analysis applies to (5). This main verb evokes the Planting frame. This frame has an ‘agent’ (*r*), a ‘theme’ (*t*) and a ‘ground’ (*s*) as its core elements. Again, the realisation of the direct object can differ between the two latter core elements, depending on which part of the gestalt is highlighted within the Planting frame.⁵

This frame-based analysis reveals the parallel between all kinds of MOCs and shows how verb and object can keep their literal meaning, while the combination of them is metonymically changed.

Conclusions

Predicative metonymies or metonymical object changes are contiguity-based shifts of a verb’s argument slot. Logical metonymy should not be considered as a metonymical shift from a VP to an NP, but rather as a specific type of predicative metonymy, shifting from an event to a concrete object. These shifts can follow the contiguity pattern OBJECT INVOLVED-

⁵ The gestalt character can be supported by the fact that both participants (i.e. *s* and *t*) can often be expressed by a single NP in combination with the verb, i.e. *to plant a rose garden* or *to pluck duck feathers*.

ACTION or AGENT-ACTION. Locative alternations illustrate predicative metonymies that shift between two concrete objects, which are in a LOCATUM-LOCATION relation.

All predicative metonymies can be analysed as a highlighting of related core elements within a frame. Rather than the separate elements as such, the combination of them is metonymically shifted. The frame-semantic analysis advocated in this paper provides a uniform analysis of different types of predicative metonymies, without denying the semantic differences between them.

Acknowledgments

I am deeply indebted to Fons Moerdijk, Wim Honselaar and three anonymous reviewers for their comments and remarks, which helped to improve this paper. All errors are of course mine.

References

- Asher, N. (2010). *Lexical Meaning in Context: A Web of Words*. Cambridge: Cambridge University Press.
- Egg, M. (2003). Beginning Novels and Finishing Hamburgers. Remarks on the Semantics of *to Begin*. *Journal of Semantics*, 20, 163-191.
- Godard, J. & Jayez, D. (1993). Towards a Proper Treatment of Coercion Phenomena. *Proceedings of the Sixth Conference of the European Chapter of the ACL* (pp. 168-177), Utrecht.
- Iwata, S. (2005). Locative Alternations and two Levels of Verb Meaning. *Cognitive Linguistics*, 16, 355-407.
- Koch, P. (2001). Metonymy: Unity in Diversity. *Journal of historical pragmatics*, 2, 201-244.
- Laffut, A. (1998). The Locative Alternation: A Contrastive Study of Dutch vs. English. *Languages in Contrast*, 1, 127-160.
- Lapata, M. & Lascarides, A. (2003). A Probabilistic Account of Logical Metonymy. *Computational Linguistics*, 29, 261-315.
- Peirsman, Y. & Geeraerts, D. (2006). Metonymy as a Prototypical Category. *Cognitive Linguistics*, 17, 269-316.
- Pustejovsky, J. (1991). The Generative Lexicon. *Computational Linguistics*, 17, 409-441.
- Rappaport, M. & Levin, B. (1988). What to Do with Theta-Roles. In W. Wilkins (Ed.) *Syntax and Semantics 21: Thematic Relations*. New York: Academic Press.
- Ruppenhofer, J., Elsworth M., Petruck, M.R.L., Johnson, C.R. & Scheffczyk, J. (2010). *FrameNet II: Extended Theory and Practice*.
<http://framenet2.icsi.berkeley.edu/index.php?option=com_wrapper&Itemid=126>
- Stallard, D. (1993). Two Kinds of Metonymy. *Proceedings of the 31st annual meeting on ACL* (pp. 87-94). Stroudsburg, PA: ACL.
- Sweep, J. (2009). Metonymy without a Referential Shift. Adding Evidence to the Discussion. In B. Botma & J. van Kampen (Eds.) *Linguistics in the Netherlands*. Amsterdam / Philadelphia: John Benjamins Publishing.
- Sweep, J. (2010a). A Frame-semantic Approach to Logical Metonymy. *Constructions and Frames*, 2, 1-32.
- Sweep, J. (2010b). Metonymical Object Changes in Dutch: Lexicographical choices and verb meaning. *Proceedings of the XIV Euralex international congress* (pp. 1428-1435). Ljouwert: Fryske Akademy/Afuk.
- Verspoor, C. M. (1997). *Contextually-Dependent Lexical Semantics*. Doctoral dissertation, University of Edinburgh.
- Waltereit, R. (1998). *Metonymie und Grammatik: Kontiguitätsphänomene in der französischen Satzsemantik*. Tübingen: Niemeyer.
- Waltereit, R. (1999). Grammatical Constraints on Metonymy: the Role of the Direct Object. In K.-U. Panther & G. Radden (Eds.) *Metonymy in Language and Thought*. Amsterdam / Philadelphia: John Benjamins Publishing.