Metonymical object changes: a corpus-oriented study on Dutch and German
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VIII. AN IMPLEMENTATION INTO FRAME SEMANTICS

1. Waltereit’s analysis of Metonymical Object Changes

Metonymical Object Changes (MOCs) have been defined as instances of predicative metonymies (cf. chapter III): They are metonymy-driven shifts of the direct object slot of a predicate. In linguistic literature examples of MOCs have been analysed as logical metonymy or as shifts based on semantic role contiguity (cf. chapter III, §5). Some specific shifts are also referred to as locative alternations and material-product alternations (cf. chapter V, §6.2). Waltereit has made a detailed analysis of why shifts such as locative alternations should be regarded as metonymy-related figure/ground effects of the direct object, within a frame evoked by the verb (Waltereit 1998; Waltereit 1999; cf. also Koch 2001).

However, I explained in chapter III, Waltereit makes two problematic claims. He argues that metonymy is only involved in MOCs from a diachronic perspective. In his view alternations are caused by diachronically developed polysemy of the verb, which is based on classical nominal metonymy, also called ‘insertional-level metonymies’, in his own words: “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). From a synchronic perspective, Waltereit only considers the two possible direct objects to be metonymically related on a semantic role level rather than contiguous on the basis of their underlying concepts (Waltereit 1998: 56; Waltereit 1999: 235). Both claims, i.e. that verbal polysemy has to be assumed and that there is no metonymy between the objects from a synchronic perspective, are questionable.

As I explained in §5.3 of chapter III, the claim that a metonymic shift is no longer involved is untenable. First of all, it is problematic to assert that the semantic roles are in a contiguity relation, because it is not clear what these semantic roles are. In the case of examples such as to clear the table or to clear the tableware, some scholars speak of locatum and location or theme and goal, whereas others consider all these direct objects to be ‘themes’ (cf. the discussion in Rappaport & Levin 1988 or in Dewell 2004: 22ff) or ‘patients’ (cf. Jackendoff 1990: 172; Jackendoff 2002: 181; Laffut 1998: 129), irrespective of whether they refer to locations, things in a location, material or products. If the two possible objects have the same semantic role or if it is unclear what their roles are, it does not make sense to claim that these roles are contiguous.

Secondly, even if we do not use very general semantic roles such as theme or patient, it is reasonable to assume that contiguity relations between semantic roles are different from normal contiguity relations between the concepts denoted by the nouns that serve as direct objects. However, Waltereit himself uses normal...

274 The main idea of this chapter has also been published in Sweep 2011 and §4 has also appeared in a modified version as Sweep 2010a. I would like to thank all anonymous reviewers of both publications for their very useful comments.
contiguity relations, such as CONTAINER-CONTENT (Waltereit 1998: 26) or CUSTOMER-ORDER (Waltereit 1999: 235), for role contiguities. This shows that the contiguity relations associated with the nouns serving as direct objects are crucial, even from a synchronic point of view. If semantic role contiguity is involved in MOCs, this can only be the case in the sense that normal contiguity relations play a role in the verbal action. In this chapter, I will develop this view in detail.

Waltereit also explicitly claims that semantic role contiguity evolves from an occasional insertional metonymy (cf. Waltereit 1998: 56; 1999: 235). This means that a locative alternation such as to load the truck with hay must be based on an occasional use of truck for ‘hay’ or that to spin yarn was first used with yarn referring to ‘wool’ (or the other way around). As I also pointed out in chapter III (§5.3), evidence for this claim is lacking and its plausibility may be questioned.

The fact that some MOCs are occasional, is evidence against the analysis that semantic role shifts are conventionalised verb meanings based on insertional metonymies. Waltereit’s analysis of MOCs in terms of fixed verb meanings implies that a comparable, non-conventionalised object change must be fundamentally different from conventional MOC (cf. Waltereit 1999: 241). An example will make clear why this claim is problematic: According to Waltereit de tafel afruimen or den Tisch abräumen (lit.: “the table off-clear”, i.e. ‘to clear the table’), which is a well-established combination, can no longer be explained directly in terms of metonymy, whereas this should be different for the opposite phrase bestek dekken / Besteck decken (lit.: “cutlery cover”, i.e. ‘to set cutlery (on the table)’ instead of ‘to set the table’). This example cannot be found in any dictionary and only occurs occasionally, for instance in educational texts on how to set a table.275 Given that, according to Waltereit, de tafel afruimen or den Tisch abräumen was developed on the basis of an occasional use of tafel / Tisch (‘table’) for ‘tableware’, the occasionally used phrase bestek dekken / Besteck decken should still contain an insertional-level metonymy in the direct object (cf. Waltereit 1999: 241). In other words, the consequence of Waltereit’s proposal is that the direct object of bestek dekken / Besteck decken should be analysed as metonymically denoting ‘table’.276

The problem is that the shifts occurring with afruimen / abräumen and with dekken / decken appear to be similar, and that all nouns in the direct objects (i.e. the table and the tableware or cutlery) can be analysed as being interpreted literally. I would therefore argue that both are examples of MOC and that, irrespective of whether they are fully conventionalised or not, the same mechanism underlies these shifts.

In addition to these problems, I showed in chapter IV (cf. §4) that it is questionable whether verbal polysemy must be assumed if the direct object has been

275 Cf. e.g. in Dutch “Het bestek voor het nagerecht dek je boven het bord of het servet” (“The cutlery for desert is set above the plate or the napkin”) (Source: www.onwikkelcentrum.nl/objects/smaaklessen/OC-21913p1-1.pdf [September 2010]) or in German “Für jeden Gang wird ein komplettes Besteck gedeckt.” (“A complete cutlery is set for every dish”) (DeWac-corpus, original source: http://www.wienerzeitung.at/Desktopdefault.aspx?TabID=3946&Alias=wzo&lexikon=Fotografie&letter=F&cob=6124).

276 The same should apply to shifts with Dutch vullen as in examples (73)-(74) in chapter VI.
shifted. To a certain extent, Waltereit himself is inconsistent in his assumption of polysemy of the verb, in that he states that both “thematic roles are part of the verb’s lexical content” (1999: 235) and that the metonymical figure/ground effect occurs in “the frame embodied by the respective verb” (1999: 238-239). If a verb has specific lexical content with thematic roles, and if it evokes a certain frame, this could be regarded as its lexical meaning (cf. Sweep 2010b). As I also explained in chapter IV, Iwata’s distinction between L-meaning and P-meaning is relevant in this respect (Iwata 2005; Iwata 2008). L-meaning is the general lexical meaning of the verb, i.e. the general frame or scene evoked by the verb. P-meaning, i.e. phrase level meaning, is the meaning of the combination of verb and direct object (meaning on VP level). When Waltereit speaks of “the respective verb’s frame” (Waltereit 1999: 238), he implicitly refers to the single lexical meaning of the verb, i.e. Iwata’s L-meaning.

Except for Waltereit’s assumption of polysemy and his view that contiguity relations between the concepts expressed in the direct object no longer play a role, I agree with many other aspects of his analysis. MOCs do work differently compared to more prototypical instances of metonymy (which Waltereit calls ‘insertional metonymies’). In prototypical metonymical expressions, a word is reinterpreted on the basis of contiguity relations. With MOCs, the underlying contiguity makes the shifts possible, but the words themselves (i.e. NP or V) keep their literal meaning. Only the way in which they are interpreted in combination with each other is determined by the shift (VP) (cf. also Recanati 2004: 24). I therefore agree with Waltereit that MOCs should be analysed as a metonymical figure/ground effect (an onmasiological highlighting of elements) within the conceptual-semantic frame evoked by the verb (Waltereit 1998: 25-26, 56; Waltereit 1999: 238, cf. also Koch 2001).

In this chapter, this will be worked out in detail. Most studies which define metonymy as a highlighting effect in a frame, leave the frames implicit (cf. the criticism in Peirsman & Geeraerts 2006). In this study, the highlighting effect of predicative metonymies will be explained in detail on the basis of frames as they were developed by FrameNet (https://framenet.icsi.berkeley.edu/ [October 2011]). The implementation is based on corpus data discussed in previous chapters.

The chapter is structured as follows. Section 2 discusses the notion of a frame and the way frame semantics is worked out by FrameNet. Section 3 and its subsections investigate how non-eventive MOCs, such as the locative alternation and the material-product alternation, can be analysed with the aid of frames. Section 4 and its subsections explain how logical metonymy, which was not discussed by Waltereit, can be explained as a highlighting effect in a frame. These sections will make clear that a frame-semantic account of logical metonymy can handle some of

277 All frames discussed here have been retrieved or checked in September 2011. Because FrameNet is an ongoing project, frames are constantly being updated and new frames are added to the database, so frames could have been changed in the meanwhile. Between September and October 2011 the website interface has been changed and therefore also the URL (from http://framenet.icsi.berkeley.edu/ to https://framenet.icsi.berkeley.edu/).
the subtleties of language pretty well. Section 5 relates this analysis to the observations made on the Dutch and German data, which were discussed in chapter VI and VII. Section 6 provides an overview.

2. Frames, Frame Semantics & FrameNet

The term ‘frame’ is used in a number of different but related senses. In all these senses, frames can be understood as “structured knowledge clusters” (cf. Martin 1997: 65). Originally, the notion of a frame was developed in artificial intelligence by Marvin Minsky (Minsky 1975) on the basis of the psychological notion of a schema (Bartlett 1932; cf. also Schank & Abelson 1977). In artificial intelligence, a frame is a structured data knowledge base, consisting of slots and fillers. On a par with the notion schema and frames in psychology and artificial intelligence, the term has also been used by linguists (Barsalou 1992; Fillmore 1977a; Fillmore 2006[1982]).

In linguistics, the notion of a frame is best-known in connection with work by Fillmore. He uses frames as a representation of a concept, which includes purely semantic and conceptual-encyclopaedic information. Such rich representations are necessary in order to interpret words. For instance, the meanings of buy and sell can only be understood in the context of a ‘commercial transaction event’. The verbs buy and sell provide two different perspectives in relation to a single scene including a Seller, a Buyer, Money and Goods (Fillmore 1977b; Fillmore 2006[1982]: 378; cf. also Ruppenhofer et al. 2010: 10-11; 76).

The classic buy/sell example shows that words do not merely denote things in reality, but that they refer to them from a certain perspective or with a specific focus. Frames help to explain this. Frame semantics can, for example, also be used to understand and analyse the difference between the English words land and ground or coast and shore (Fillmore 2006[1982]). Although the words land and ground identify a single entity in reality, they are not fully interchangeable, because each word situates the entity differently in a single frame: “land designates the dry surface of the earth as it is distinct from the sea, whereas ground designates the dry surface of the earth as it is distinct from the air above it” (Fillmore 2006[1982]: 382). A comparable difference applies to shore and coast in that “the shore is the boundary between land and water from the water’s point of view, the coast is the boundary between land and water from the land’s point of view” (Fillmore 2006[1982]: 382).

Basing itself on Fillmore’s concept of a frame, FrameNet (http://framenet.icsi.berkeley.edu/) tries to design, as precisely as possible descriptions of frames on the basis of real linguistic data. A frame is regarded as “a script-like conceptual structure that describes a particular type of situation, object or event” (Ruppenhofer et al. 2006: 5 / 2010: 5). This is directly in line with one of Fillmore’s first definitions of a “frame as characterizing a small abstract ‘scene’ or ‘situation’, so that to understand the semantic structure of the verb it was necessary to understand the properties of such schematized scenes” (Fillmore 2006[1982]: 377). Besides
normal frames, FrameNet contains scenarios, more general scenes which structure our knowledge.

The frames in FrameNet describe prototypical situations and predications in terms of the participants and roles involved. Moerdijk therefore characterizes these frames as “syntagmatic frames”. They can be contrasted with “paradigmatic frames” (Moerdijk 2008b: 561-562). Rather than describing a situation or object with the participants that are associated with it in reality (against a cultural background) paradigmatic frames are lists of properties, used to capture the conceptual-lexical knowledge of a word. An example of a paradigmatic frame is the template for the semagrams in the ANW-dictionary. Semagrams are paradigmatic frames filled out in the ANW-dictionary, which are representations of word meanings (cf. http://anw.inl.nl/show?page=help_artikelstructuur).

A further important difference between frames in FrameNet and semagrams is that semagrams are more directly connected with a specific lexeme. FrameNet-frames represent concepts by describing situations; they can therefore be non-lexical. For filled in paradigmatic frames which are applied to a specific word (such as the ANW’s semagrams) this is by definition impossible.

With respect to the latter difference, Honselaar makes a comparable distinction. He speaks of LEX SITs (lexical situations) versus REF SITs (referential situations). A lexical situation is syntagmatic, given that it is defined as a meaning description connecting a verb to its possible REF SITs (Honselaar 1980: 3ff). The REF SITs are described as “situations-in-reality” (1980: 3). FrameNet-frames can be seen as descriptions of REF SITs, which can be used to explain the meaning of words, but which, in contrast to semagrams or LEX SITs, cannot always be referred to by lexical units.

Non-lexical frames in FrameNet “have no lexical units” (Ruppenhofer et al. 2006: 113 / 2010: 80), which means that they are “never evoked by lexical units” (Ruppenhofer et al. 2010: 75), and which are “present purely to connect two (or more) frames semantically” (Ruppenhofer et al. 2006: 113 / 2010: 80).

It depends on a linguistic community which frames are relevant and how frames are lexically represented. This is also explicitly noted by FrameNet researchers: “In fact, a frame which in English is Non-lexical might well have associated LUs (= lexical units) in another language” (Ruppenhofer et al. 2006: 112 / 2010: 79). This can be illustrated by the coast-shore difference. The two differently framed words coast and shore correspond to single words in Dutch and German, i.e. kust / Küste. As a consequence, the general frame describing ‘the boundary between land and sea’ is represented lexically only in Dutch and German, and not in English. In English, this frame is non-lexical connecting, the ‘coast’-frame and the ‘shore’-frame.\(^\text{278}\)

\(^{278}\) Fillmore only speaks of the boundary between land and water (Fillmore 2006[1982]: 382), but besides this perspective another difference between coast and shore is that coast can only refer to the boundary between land and sea, whereas shore could also be used with lakes. The Dutch and German words kust and Küste are similar to coast, in that they can only refer to the boundary between land and sea.
In other cases, English lexically represents frames that are non-lexical in other languages. This can be illustrated by the contrast between English river on the one hand and French rivière and fleuve on the other: Whereas in English a frame with a description such as ‘a natural continuous wide flow of fresh water in a long line across the land flowing into another type of natural water’ could be expressed by the lexical unit river (similar to Dutch rivier or German Fluss), this frame would be non-lexical in French. French has two words for ‘river’, depending on whether the river flows into the sea (= rivière) or not (= fleuve). In French, the only lexical frames would therefore be the related frames of ‘a natural continuous wide flow of fresh water in a long line across the land flowing into the sea’ and ‘a natural continuous wide flow of fresh water in a long line across the land flowing into another type of fresh water’, corresponding to rivière versus fleuve respectively.

Most frames defined by Framenet are lexical, which means that they can be expressed or evoked by words (cf. also Fillmore 2006[1982]: 378) or more formally by lexical units (LUs). A lexical unit is a pairing of words with a sense. Even the more general frames, which are called scenarios, can sometimes be directly expressed by words (cf. e.g. the expression of the Cause_change_of_consistency frame (Ruppenhofer 2010: 12) or the LUs belonging to the Commerce_scenario [September 2011]).

All frames, whether they are lexical or non-lexical, and in particular frames describing verbs and events, are associated with participants that are necessary for the conceptualisation of the meaning. These participants, or roles, in frames are called frame elements (FEs) (Ruppenhofer et al. 2006: 5 / 2010: 5). Frame elements can be divided into core and non-core frame elements. Core frame elements are “conceptually necessary components of a frame” (Ruppenhofer et al. 2006: 26 / 2010: 19). Frame elements make frames very useful for valency analyses and therefore also for research into MOCs, since they concern the type of direct objects of verbs.

Two factors in particular make FrameNet-frames highly relevant for research on MOCs. Firstly they are very useful, because MOCs cause qualitative valency shifts of the direct object (cf. chapter V, §3). Secondly, if an object change can in fact be analysed as involving metonymy, it should be possible to analyse it as highlighting effects in a frame. In other words, frames of FrameNet can be used to overcome Peirsman and Geeraerts’ criticism, which also applies to Waltereit’s analysis, that many metonymy accounts hinge on the use of frames without specifying them (cf. Peirsman & Geeraerts 2006: 270-271). FrameNet-frames offer a solution to this problem, because they are conceptual structures based on linguistic data (cf. Ruppenhofer et al. 2010: 5-6), which were developed independently of metonymy research.

279 At the moment, the only frame described by FrameNet is the more general “Natural_Features” frame describing “a geographical location as defined by shape […] including land/ice forms and bodies of water” (http://framenet2.isi.berkeley.edu/fnReports/data/frameIndex.xml?frame=Natural_features [September 2011]).
3. MOCs based on spatial and causal gestalts

Verbs are crucial elements in sentences. FrameNet therefore analyses sentences as the evocation of a frame by the main verb, with the other words in the sentence analysed as syntactic realisations of its frame elements (Ruppenhofer et al. 2006: 5-6 / 2010: 5-6).

Well-known alternations, such as locative alternations, are treated in a specific way by FrameNet: The verb occurring in the alternation belongs to different frames depending on the type of object it is combined with. These two frames are related to each other in complex ways. This means that the verbs are treated as polysemous, with related but distinct senses. The same goes for verbs occurring within the material-product alternation.

The treatment of locative alternations can be illustrated with the verbs to load and to unload. Both verbs belong to two related frames: to load belongs to the “Placing” frame and to the “Filling” frame and to unload belongs to the “Removing” frame and to the “Emptying” frame. Sentences (1)-(4) illustrate the four frames.

(1) The driver loaded boxes (into the truck)
(2) The driver loaded the truck (with boxes)
(3) The driver unloaded boxes (from/out of the truck)
(4) The driver unloaded the truck (of boxes)

In all sentences the main verb evokes a frame. Because the verb to load is used in (1) in combination with boxes, FrameNet suggests that a “Placing” frame is evoked. Sentence (3) with to unload expresses the opposite. In this case, the “Removing” frame is evoked. Sentences (2) and (4) are different, because both verbs are used in combination with a container as their direct object. Therefore, FrameNet claims that no “Placing” or “Removing” frame is evoked but a “Filling” frame (with to load) or an “Emptying” frame (with its opposite to unload).

These four frames, “Placing”, “Filling”, “Removing” and “Emptying”, are clearly related to each other. In the “Placing” frame FrameNet explicitly states that “This frame differs from Filling in that it focuses on the Theme rather than the effect on the Goal entity. It differs from Removing in focusing on the Goal rather than the Source of motion for the Theme.” (http://framenet.icsi.berkeley.edu/, September 2011). In other words, the “Placing” frame is locatum-oriented, whereas the “Filling” frame is location/container-oriented. The “Removing” frame is also locatum-oriented, but expresses the movement of a locatum away from something rather than a movement towards something, as is the case with the “Placing” frame.

Relations between the frames are not only explained within the frame definitions, as in “Filling”, but they are also made clear in frame-to-frame relations (cf. Ruppenhofer et al. 2010: 73ff). All four frames are subtypes of a more general, non-lexical “Transitive_action” frame. Also, the two alternating frames that
correspond to the same verb are connected: The “Placing” frame and the “Filling” frame are considered to be two different perspectives on a more general “Placing_scenario” and similarly the “Removing” frame and the “Emptying” frame are considered to be different perspectives on a “Removing_scenario”. These scenarios are claimed to be non-lexical, which means that there should be no lexical units (pairings of a word with a sense) which can evoke this scenario. In this way, FrameNet describes the relations and differences between (1) and (2) and between (3) and (4). Figure 6 presents this schematically. For technical reasons, to achieve inheritance relations between the frames correctly, the “Filling” and “Emptying” frames are considered to be based on a non-lexical “Container_focused_placing” frame and a similarly non-lexical “Container focused_removing” frame.

Figure 6: Frame-to-frame relations of Filling_scenario and Removing_scenario

There are a number of problems with this analysis. First of all, it is doubtful whether the “Placing_scenario” and “Removing_scenario” are non-lexical in English. Actually, the words to load and to unload directly correspond to these general scenarios: The fact that both verbs also occur in both perspectives on these scenarios supports this view.280 This casts doubt on the claim that there are no lexical units associated with the frame.281

280 Note that this cannot be said of the verbs to place or to remove themselves, because they always focus upon the locatum, i.e. they only belong to the “Placing” or “Removing” frame and not, as to load or to unload to the Filling or Removing frame as well.
281 In contrast to Boas’ analysis that “The alternating behaviour of [...] verbs is accounted for by the different valence patterns of the two LUs associated with the verb. This means that certain non-alternating verbs that are closely related in meaning to alternating verbs are associated with only one LU evoking one of the two frames evoked by one of the two LUs associated with the verb.” (2011: 230), I thus argue that alternating verbs differ from non-alternating verbs in that the former are associated with a more general LU corresponding to the scenario. Therefore, my account is closer to Iwata’s than to FrameNet’s (cf. Boas 2010:31).
Intransitive use of the alternating verbs, as in the BNC-examples (5)-(7), also shows that the scenarios should not be considered non-lexical.

(5) Soon after I came on board we finished loading.
(6) my men [...] came to my tent [...]. Next morning while we were loading,
(7) eventually she just had to pack and go to Orkney.

It is problematic to decide whether sentence (5) refers to placing things in a ship or to filling a ship. This is true of (6) as well. Rather these sentences refer to the general “Placing_scenario”. The same goes for all other verbs which allow an alternation and can be used intransitively, such as (7).

A second problem is that not all locative alternations are treated in terms of perspectivised frames. Verbs such as to spray (and to spatter, to splash, to sprinkle, to squirt) belong to the “Filling” frame on the one hand (as in Henry sprayed the wall with paint), but to the “Cause_fluidic_motion” frame on the other. As a consequence, the alternation with to spray is not conceived as two different perspectives on a single scenario, in contrast to the alternation with to load. Also, the “Filling” and the “Cause_fluidic_motion” frames are not very clearly linked to each other. They are only linked in the sense that “Cause_fluidic_motion” is seen as a specific type of “Cause_Motion”, which is also considered relevant to the “Filling” frame. Moreover, this analysis is inconsistent with the analysis of other locative alternations, since they are treated in single frames. I will come back to this below.

Most MATERIAL-PRODUCT shifts are also analysed slightly differently: Verbs allowing the material-product shift, which have already been incorporated in the FrameNet database, are often treated in two frames, with one frame using the other. A clear example is the verb to bake. This verb belongs to the “Apply_heat” frame (as in bake apples with cinnamon) and to the “Cooking_creation” frame (as in to bake an apple pie). The relation between these two frames is explained as that the “Cooking_creation” frame makes use of the “Apply_heat” frame. Also, the “Cooking_creation” frame is related to the “Intentionally_create” frame, which describes an activity by a creator with respect to a created entity and its components.

Although this distinction between the two frames does make some sense (cf. Atkins et al. 1988), it is problematic all the same. First of all, it is questionable whether to bake apples with cinnamon really belongs to the “Apply_heat” frame; it is also an act of cooking and creating dishes.

Secondly, a single verb can simultaneously refer to both frames. Similar to the locative alternations, this is the case for the intransitive use of these verbs, as in the BNC-examples (8) and (9).

(8) I haven’t been doing much baking lately
(9) Bake in the centre of the oven
In Dutch, too, a verb can simultaneously express “Apply_heat” and “Cooking_creation” in cases in which the verb is coordinated with two types of direct objects.\textsuperscript{282} The Dutch internet example in (10)\textsuperscript{283} with bakken (“to bake/to fry”) and the ANW-example (11) with koken, which means ‘to boil’ or ‘to cook/to prepare food’, illustrate this.

(10) Men gebruikte ook koekepannen om eieren en pannekoeken in te bakken.  
one used also frying pans for eggs and pancakes in to bake  
‘People also used frying pans to fry eggs and pancakes in it.’

(11) Die man moest aardappelen koken en koolraap en sudderlappen.  
that man must potatoes boil and kohlrabi and braising steak-s.  
‘That man had to boil/cook potatoes, kohlrabi and braising steak.’

As is the case with to bake apples with cinnamon, sentences (10) and (11) show that the action of applying heat, such as frying or the literal boiling action, and the preparation of food cannot be totally separated. The fact that different frames can coincide is not accounted for by the different frames in FrameNet.

A third problem for distinguishing between “Apply_heat” and “Cooking_creation” is that the generalisation that this MOC also applies to baking in the context of clay is not accounted for. Although in this case only “Apply_heat” and not “Cooking_creation” is relevant, a comparable shift between material and product is allowed, as is illustrated by the internet example (12)\textsuperscript{284} and the BNC-example (13).

(12) Thousands of years ago, during the Neolithic stage of civilization, people learned how to mold and bake clay to form bricks and pottery  

(13) Many Third World people use firewood to bake bricks

This shows that heat is only applied with a purpose, viz. to create something, be it food or bricks. In other words, the “Apply_heat” frame is directly connected with an intentional creation frame (rather than the other way around).

Apart from the fact that distinct frames for material-object and product-object are problematic, FrameNet does not treat all shifts to a product or result in this way. Many verbs of creation only belong to one frame (at least at the moment). This

\textsuperscript{282} For comparable examples with placing or removing verbs, cf. in chapter IV the German sentence (1) and the Dutch sentences (2) and (3).

\textsuperscript{283} Source: \url{http://nl.wikibooks.7val.com/wiki/Sociale_geschiedenis_van_de_late_Middeleeuwen/Keuken} [September 2011]. This example uses Dutch orthography from before 1996: Nowadays the words koekepan and pannenkoek are used.

\textsuperscript{284} Source: \url{http://www.britannica.com/EBchecked/topic/120654/clay} [September 2011].
applies to to spin, which belongs to the “Processing_materials” frame and to to braid, which belongs to the “Rope_manipulation” frame (cf. http://framenet.icsi.berkeley.edu/, September 2011).

However, the “Rope_manipulation” frame is a perspective on a scenario (the “Knot_creation_scenario”). For some verbs, the combination with a source as a direct object or with a result as a direct object is incorporated in two different frames which belong to this scenario, in a comparable way as locative alternation with to load / to unload. An example for this is the verb to tie, which evokes either the “Knot_creation” frame, illustrated in (14), (16) and (18), or the “Rope_manipulation” frame, illustrate in (15), (17) and (19) (all taken from the BNC). These frames manifest two perspectives on the “Knot_creation_scenario”. Although the verb to tie corresponds to both frames, the scenario is claimed to be non-lexical.

(14) ‘Are you any good at tying knots?’ ‘[...] Just give me the rope.’
(15) Nearby was the giant oak where Buddie had tied a heavy rope,
(16) Hastily she ties a negligent knot with her hair,
(17) one of Queen Mab’s favourite amusements was to tie people’s hair in knots
(18) Your author forgot all about the steam service and has tied a knot in his tie
(19) As he finished tying the cravat into an acceptable knot he saw that ...

If the “Knot_creation_scenario” is non-lexical and the verb to tie evokes different frames depending on its kind of direct object, then the verb must have different meanings in (14) and (15), in (16) and (17) and in (18) and (19). These BNC-examples cast doubt on the assumption that it is really the verb, which belongs to different frames. The plausibility of the “Knot_creation_scenario” being non-lexical might also be questioned, given that it can apparently be evoked by a single verb.

Similar problems apply to the “Shooting_scenario”. This scenario connects two different perspectives, viz. the frames “Shoot_projectiles” and “Use_firearm”. The former is evoked by BNC-sentence (20), the latter by (21). The difference between the two frames is explained in the “Shoot_projectiles” frame as that “usages with the Firearm as object are out of frame, belonging to Use_firearm” (http://framenet.icsi.berkeley.edu, September 2011).285 Although both frames are evoked by a single verb, the scenario underlying these two frames is regarded as non-lexical.

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285 The verb to fire off only belongs to the “Shoot_projectiles” frame, although it also occurs in combination with firearms as its direct object (cf. BNC-examples, such as “Usually the Law ignores what we get up to down in Deptford, but firing off shotguns is something they have a duty to respond to.” or “The officers made much of us children: the Marine band played on deck and the captain fired off one of the guns, after we had been given cotton wool to stuff in our ears.”)
(20) if he shoots enough bullets at a target, one of them will hit it
(21) Alex Household must have said it just before he shot the gun;

The question is whether we can reasonably claim that these different frames are evoked by the verbs. The examples and the arguments above show rather that the verb only evokes the general scenario, which can therefore not be non-lexical, and this scenario can be profiled differently by the realisation of frame elements. In other words, the verb initially evokes a single frame, leading to two different perspectives upon this frame by the semantic input of the other elements.

A comparable view was presented by Iwata (2005; 2008). Using the verb to spray as an example, he showed that an alternating verb by itself evokes a single scene (Iwata 2005: 361). The way in which the frame elements are realised syntactically may cause a certain focus or perspective in this scene. As I explained at the beginning of this chapter, the general scene evoked by the verb is referred to as L-meaning (Lexical head level meaning), and L-meaning therefore corresponds to the lexical meaning of the verb. The meaning of the combination of verb and direct object (i.e. the meaning of the VP) is referred to as P-meaning (Phrase level meaning). Iwata’s analysis is thus very similar to FrameNet-like scenarios with perspectivised frames (cf. Iwata 2005: 370), with the only important difference that the scenario meaning is considered to be lexically evoked by the verb. The difference between L-meaning and P-meaning is in line with the view that meaning is compositional: The meaning of a VP consists of the combination of verb and direct object. Therefore, if the direct object is a created product the VP expresses a creation, and if the direct object is a container the VP expresses an action with respect to this container. Each of the individual parts keeps its meaning and in combination they determine the meaning of the phrase. Verbs and the participants in the verbal action could be considered coherent pieces of a puzzle, which in some cases simply fit together in different ways (cf. Figure 3 in chapter III, page 74): The puzzle pieces (V/N) remain the same, but they are combined in a different way (VP). As I also discussed in chapter IV (§4.1), one should be careful not to project the semantic contribution of direct objects onto the verb (cf. also Willems 2006: 591), if this is not necessary.286

Interestingly, the view that alternations or MOCs are differently profiled sentences which belong to a single frame (which is evoked by the verb) is even in line with the treatment of other MOCs in Framenet. The “Setting_fire” frame, which can be evoked by to light, is defined as “This frame describes either the creation of a Flame by a Kindler or the igniting of Flammables by a Kindler”

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286 Iwata explains P-meaning as L-meaning realised in a meaningful construction (cf. also Goldberg 1995). It is questionable whether the idea of a meaningful construction is really an explanation or merely a description: The metonymy account in this dissertation explains where these constructional differences come from.
This either/or definition directly corresponds to the MOC as incorporated in dictionaries (cf. e.g. Van Dale aansteken 'to light') and as illustrated by BNC-examples (22)-(25) (to light a flame / fire) versus (26)-(29) (to light a boiler / candle / sticks / wood stove).

(22) if it won't work but you can light the flame by hand, the ignition device is faulty, and again needs replacing.
(23) we used to light the fire of the boiler
(24) if you were in the scouts, maybe you can light a fire with two matches.
(25) Suzie has lit the fire
(26) Have you tried lighting that boiler then?
(27) If I light the big candle on the mantelpiece
(28) Cold. Anna in the cradle. Her grandma trying to light some sticks.
(29) Nenna made the tea and lit the wood stove.287

The “Setting_fire” frame describes the highlighting effect of MOCs exactly. Instead of the verb to light evoking two related frames, I would argue that the verb evokes a single frame. If MOC is possible, this frame describes an action with respect to two core frame elements, which are very closely related to each other. This relationship can be of different contiguity types, such as SOURCE-RESULT (as with fire and fuel or a knot and the knotted object), MATERIAL-PRODUCT (as with clay and bricks), LOCATIONS and their LOCATUMs (as with cargo and ships), OBJECTs which are in a certain STATE, etc. (cf. Figure 5 in chapter V, page 171).

Not only the “Setting_fire” is represented in this way by FrameNet, fitting my line of reasoning; some other frames in FrameNet incorporate MOCs in a similar way. For OBJECT-STATE MOCs, consider for example the treatment of to cure in FrameNet (http://framenet.icsi.berkeley.edu, September 2011). This verb belongs to the “Cure” frame and the “Recovery” frame, with the “Recovery” frame referring to the intransitive use of to cure where no “reference to the influence of any Treatment or Healer (see the Cure frame)” is made. The “Cure” frame, on the other hand, “deals with a Healer treating and curing an Affliction (the injuries, disease, or pain) of the Patient”. The MOC, which makes it possible to use both to cure a patient and to cure a disease, is thus accounted for in this single frame. Choosing either a patient or his/her disease as the direct object is a metonymical highlighting effect within the “Cure” frame (cf. Honselaar & Sweep forthcoming 2012, cf. also Honselaar & Keizer 2009).

287 Actually, this is a combination of MOC and nominal metonymy, because it is not the literal wood stove but the wood in it which is lit (cf. chapter V, §7.2).
Some locative alternations, i.e. MOCs based on LOCATUM-LOCATION, too, only occur in a single frame, for example the MOC to pluck feathers (off/from a duck) / to pluck a duck (*of feathers). In this context, the verb to pluck belongs to the “Removing” frame, but it shows some similarity with the “Grooming” frame, to which to pluck eyebrows belongs (http://framenet.icsi.berkeley.edu [September 2011]). The “Grooming” frame has as its core frame elements an ‘Agent’, a ‘Body part’ and a ‘Patient’, which in this case correspond to the ‘Theme’ and ‘Source’ in the “Removing” frame. The agent is always realised as the subject of to pluck, but the direct object can be the theme/body part (feathers) or the source/patient (a duck).

The verb to plant is also accounted for by a single frame. This verb evokes the “Planting” frame. This frame has an ‘Agent’, a ‘Theme’ and a ‘Ground’ as its core frame elements. Like the theme and the source in the case of a bird and its feathers, the theme and the ground are contiguously related. They can be seen as a single gestalt which is as such relevant in the frame. 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.

This means that, in line with some FrameNet frames, predicative metonymies based on spatial or causal gestalts can be analysed as frame-internal highlighting operations. In a single frame, one of the core elements is realised as a direct object, thereby shifting the focus in the frame. In all instances of MOC, the frame evoked by the verb includes two (or more) core frame elements (x and y), which are contiguous (cf. Figure 7 below). These two frame elements can be ‘Theme’ and ‘Goal’ (cf. e.g. to load), ‘Fluid’ and ‘Source’ (cf. e.g. to spray), ‘Body part’ and ‘Patient’ (cf. e.g. to pluck), ‘Theme’ and ‘Source’ (cf. e.g. to unload), ‘Theme’ and ‘Ground’ (cf. e.g. to plant), (with locative alternations), ‘Knot’ and ‘Rope’ (cf. e.g. to tie), ‘Flame’ and ‘Flammables’ (cf. e.g. to light), ‘Affliction’ and ‘Patient’ (cf. e.g. to cure), a ‘Created entity’ and its ‘Components’ (cf. Intentionally_create frame for verbs such as to paint, to mold and probably to bake), etc.

Figure 7 is a schematic illustration of an MOC-licensing frame, with the gestalt character of the two core elements indicated by the dashed oval. If the contiguity relation is strong enough and relevant in the frame, different core elements can be highlighted, resulting in an MOC.

![Figure 7: Schematic Frame of non-eventive MOC-verbs](image)

This frame-based analysis shows how verb and object can keep their literal meaning. While the combination of verb and object is metonymically changed, it makes clear how the metonymical highlighting effect operates and it shows the parallel between various kinds of MOCs. Although only causal and spatial MOCs have been
accounted for thus far, the next section will show that logical metonymies can be analysed on the basis of a comparable frame-internal highlighting operation.

4. Logical metonymy: MOCs based on EVENT-PARTICIPANT

In the following section I will discuss a specific type of MOC, which shifts between a concrete entity and an event in which this entity is involved. These metonymical shifts are also referred to as instances of logical metonymy (cf. also chapter III, §5.2; chapter V, §7.4; and chapter VII). I will demonstrate that logical metonymy can be analysed in a way comparable to non-eventive shifts, i.e. as a highlighting effect in a conceptual structure or frame evoked by the verb. As we will see, logical metonymy is based on an eventive gestalt and is therefore different from other MOCs in that the event which is involved as a frame element makes the conceptual structure more complex.

Sentences (30)-(32) illustrate MOCs that are based on eventive gestalts.

(30) The novelist began writing (the book) / the book
(31) The student of literature finished reading (the book) / the book
(32) The gastronome enjoyed eating (the steak) / the steak

As illustrated by examples (30) and (32), a concrete object such as book is connected with (at least) two different types of default activities, i.e. reading and writing. According to Pustejovsky, these activities correspond to the telic and agentive roles of the qualia structure of book. Pustejovsky claims that, on the basis of the qualia structure, the word book is changed (i.e. coerced) into an activity (cf. chapter VII, § 1).

Examples (30)-(32) show that the nouns used as subjects may determine different default interpretations: For the novelist in (30) writing will be the default interpretation of an activity involving a book, whereas students of literature usually read rather than write books (cf. Egg 2003: 168). Pustejovsky, who tries to incorporate all necessary world knowledge into the semantics of a word, does not fully take account of the role that knowledge about words besides verb and object may play.

Known properties about participants involved may even evoke totally different interpretations. The next two sentences, taken from Lascarides and Copestake (1998), can be used to illustrate how contexts can block a default interpretation.

(33) John began the book.
(34) Mary enjoyed the book that John gave her.
Suppose that (33) is uttered in a situation in which we know that John is a hungry goat who has escaped and run into the library. The activity will not be interpreted as reading or writing: Rather we will understand that the goat has probably started eating the book. Similarly, if in (34) the book that John gave Mary is made of marzipan, the interpretation of (34) will be that Mary enjoyed eating this particular kind of candy (Lascarides & Copestake 1998: 392). Interpretations on the basis of qualia structures can thus be overruled by knowledge of context and situation. As a consequence, interpretations cannot be explained solely in terms of qualia structure. For a better account of the metonymy involved, a more flexible procedure will therefore be needed. I will come back to this in section 4.4. Examples such as (30)-(34) show that context plays an important role in interpreting logically metonymical sentences. This is considered to be a problem for many analyses of logical metonymy.

Secondly, the problem of whether the verb or the noun should be considered metonymical was discussed in chapter III (§5.2). Both positions have disadvantages, but most scholars claim that one of the two must be correct. I have challenged this view: Logical metonymy could be analysed as a shift primarily occurring at VP-level and not at the level of the verb (V) or the noun (NP) (cf. Iwata 2005).

Without using the puzzle-metaphor from chapter III (cf. Figure 3 above), I will show in this chapter with the help of a frame-semantic approach how this works. I will offer a general explanation for various examples of logical metonymy, without denying the semantic differences between them. For this purpose, conceptual structures on the basis of the frames developed by FrameNet (http://framenet.icsi.berkeley.edu/) will be used. Although FrameNet is entirely based on English data, the same mechanism operates in Dutch and German. The account set out in the following subsections will give a more precise and insightful analysis of the metonymy involved and will provide a solution to the two issues raised above.

There is a third problem when we look at occurrences of logical metonymies in actual language use. The previous chapter showed that the actual use of logical metonymies is limited and, more importantly, that it depends on the specific verb which concrete objects are frequently used. In previous studies, these differences between verbs have mostly been disregarded; verbs which can be combined with an event and a concrete object (the patient of the event) are all classified as logical metonymy, without any distinctions among them being analysed. These and further problems that have arisen in connection with logical metonymy will be discussed in the next section on the basis of real linguistic data.

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288 Or one should, for the interpretation of (33), assume that qualia structures themselves are context-sensitive and that, in the context of a goat, for example, *book* has a different qualia structure (a different telic role) than in the context of a human agent (as suggested to me by Wim Honselaar). A problem with this solution is that qualia structures are considered to be lexical representations of nouns, and lexical representations must be context-independent.
4.1 Logical metonymy: A gradual notion?

Verbs that allow logical metonymy can be divided into three different groups (cf. chapter V, §7.4). First of all, many of these verbs have an aspectual meaning. They can also be referred to as eventive verbs (Verspoor 1997a) or phase verbs (Honselaar 1980). English examples are *begin, complete, continue, finish, postpone* and *start*. Secondly, logical metonymy occurs with evaluative or emotive verbs. These verbs give information about an agent’s feelings or emotions about an event. This groups can be exemplified by *choose, desire, endure, enjoy, expect, fear, prefer, regret, savour* and *want*. A third group of verbs expresses a combination of aspectual and evaluative information, as can be illustrated by *attempt, master, miss, resist, survive* and *try*. This class of verbs can be called eventive-evaluative.

Verspoor’s study on the semantics of verbs allowing logical metonymy only discusses two verbs from the eventive group, i.e. *begin* and *finish*, and one emotive-evaluative verb, i.e. *enjoy*. Her corpus study only covered the verbs *begin* and *finish*, but she did notice differences between *begin* and *finish* and also between these verbs and *enjoy* (1997a: 187, 191-192). As I noted in the previous chapter, a corpus analysis of the Dutch and German equivalents of *begin, finish* and *enjoy* also revealed differences about the types of concrete objects allowed by the aspectual verbs and the evaluative-emotive verb. *Enjoy* appears with a much broader range of objects and interpretations.

Since combinations of concrete objects with verbs from the three different groups are regarded as metonymical, it is assumed that, from a semantic point of view, all verbs require an eventive direct object. Differences between the verbs indicate that, in all likelihood, not all metonymical combinations of verbs and nouns denoting concrete objects are the same. There has, however, never been any analysis of what kind of events these verbs require, and consequently whether they all have logically metonymical complements in the same way. I will demonstrate that in fact they do not, although the underlying metonymical mechanism will turn out to be the same.

The BNC provides examples of *enjoy* with concrete direct objects, which cannot occur with *begin* or *finish*. Examples are *to enjoy the sun* (fifteen examples in the BNC) or *to enjoy (grand)children* (five out of seventeen relevant examples in the BNC are used metonymically). As I also noted in the previous chapter, these sentences do not appear to be interpreted on the basis of an agentive or telic role of the NP. In general, it is rather difficult to make the enjoyed event explicit in these examples. What is enjoyed is simply some experience with the children, such as just having them, the time spent with them, or seeing what they do. Similarly, *to enjoy the sun* means to be exposed to the sun in some particular way, such as seeing it, feeling it, sunbathing or walking in the sun. It poses no problem in the interpretation of the sentence that the way in which someone enjoys the sun is left unspecified.

An unspecific or very general interpretation can also be illustrated by the BNC-example in (35).

(35) When we finish our house in Sussex, ...
If we finish a house, we may finish building it, arranging the furniture, painting it or doing (and finishing) all these activities. In (35) there does not even seem to be any need to interpret a particular activity. Examples like (35) pose a problem for any coercion of the direct object on the basis of its qualia structure: Apparently, it is not necessary to change the noun into an event. It is even possible to understand the sentence without thinking of some specific event: The event can be left vague (‘finish creating the house’) or the object noun may refer to several events at the same time (‘finish building and painting the house and arranging the furniture in it’). It is, however, unclear how this unspecific, vague event should be derived from the qualia structure of the noun alone.

Corpus examples also reveal other problems with the relation between verb, concrete object and implicit event. Consider the BNC-examples (36) and (37).

(36) I want a car

(37) I want a car, a nice home, a working wife, a child, and to go on holiday.

If you want a car, this does not necessarily mean that you want to drive it, but rather it means that you want to obtain a car (i.e. buy or get it) and become its owner (the possessor). However, the same goes for a nice home, a working wife and a child, as in (37). Thus, it again remains unclear how the intended interpretation can be inferred. If all kinds of NPs in combination with want are similarly interpreted as ‘to become the possessor of/get the NP’, then the shifted interpretation cannot come from the qualia structure of the noun alone. It is even open to discussion to what extent these examples are metonymical. Given that in all these cases the same shift appears independently of the kind of noun, it is questionable whether it is the noun itself that is metonymically associated with the interpreted event.

The same goes for other verbs, such as choose. In previous analyses it is stated that sentences with choose/want and a concrete object are interpreted on the basis of the agentive or telic role (cf. among others Pustejovsky 1995: 45-46; Ruiz de Mendoza & Pérez 2001: 342). This may be true in some cases, but definitely not in all of them. Sentences such as I want a beer or I choose a beer do indeed seem to imply that someone is going to drink the beer, but sentences such as I want a book or I choose this book do not have to mean that I will read (or alternatively write) the book. According to my intuition, this simply means that the speaker wants to obtain the book, thereby becoming the possessor of the book. It is quite possible to want a book without wanting to read it. I will come back to this at the end of subsection 4.3.

The same shift may even occur when the verb is already combined with direct object noun indicating an event, as in (38).

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289 This description is meant to refer to a single concept which cannot be very well expressed by a single lexeme.

290 This does not have to be the person who ordered the beer, since I can also order a beer for someone else.
He just wanted a quiet, restful life. Wanting a quiet, restful life means wanting to have a quiet, restful life. This sentence therefore shows that it cannot, at least in this case, be the missing event that induces a metonymical interpretation.

EVENT-EVENT shifts also occur with verbs that do not have one general shift for all concrete objects. An example is enjoy the lecture (however, cf. footnote 292). Although lecture can be an event, this direct object is sometimes treated as logically metonymical, since it can mean enjoy attending the lecture or enjoy giving the lecture (cf. Lapata & Lascarides 2003: 274). In such cases it is not possible for the shift to be induced by a missing event. We may therefore question whether a logical shift, the fact that a concrete object is shifted into an event, is of any importance.

We might conclude that logical metonymy is not merely a type shift, but a type shift which is visible in the syntax as a VP-NP shift. This applies to enjoy (reading) a book as well as to enjoy (giving) a lecture. However, such a definition does not work for Dutch and German, because gerunds do not exist in Dutch and German. Whereas in English as well as in Dutch and German a VP-clause can be expressed by an infinitive phrase, Dutch and German have to use a noun derived from a verb, i.e. a nominalisation of the verb, instead of a gerund.291

The only crucial requirement for logical metonymy that seems to apply in English as well as in Dutch and German, is the fact that some event is metonymically inferred. This metonymical inference can be made on the basis of a concrete or an eventive noun. Since metonymy is generally seen as a conceptual device that establishes links between linguistic units on the basis of a real world relationship (a contiguity relation) between the underlying concepts (cf. Barcelona 2000; Panther & Radden 1999), the question of whether this metonymically inferred event can be made explicit by an NP derived from a verb or by a VP is not of any real importance.

On the basis of examples discussed in this section, three important observations can be made. Although the issues presented in this subsection are exemplified by English data (taken from the British National Corpus), exactly the same issues apply to their Dutch and German equivalents.

In the first place, the examples discussed above and the different classes of verbs show that the verbs do not form a homogeneous group. In all corpus studies on logical metonymy "lexical differences" between verbs “were noticed” (Rüd & Zarcone 2011: 22; cf. also Briscoe et al. 1990; Verspoor 1997; see also Horacek 1996). This was also observed in the previous chapter and is in line with the discussion above. Verbs seem to vary in the type of event that needs to be interpreted. Sometimes the associated event can easily be made explicit, as is the

291 It is verb-dependent whether verbs are combined with infinitive clauses or verbal nominalisations. In English for instance, enjoy and finish can only be combined with gerunds, whereas begin can have gerunds as well as an infinitival clause as its head (cf. Egg 2003: 163). In Dutch and German beëindigen and beenden and genieten van and genießen require verbal nominalisations, whereas beginnen and anfangen are combined with infinitives.
case for most examples of aspectual verbs or verbs of the eventive-evaluative class (the third group of verbs). For other verbs it may be difficult to make explicitly clear which event is actually intended. Examples of this type are some emotive-evaluative verbs, such as enjoy or fear. We know that the subject experiences the object in one way or another. Sometimes it is easy to make this experience or exposure explicit (an experience with a book by default means reading it), but in other cases, as in the examples with the sun or children, it is difficult to choose exactly which of the various possible experiences is intended (as with to enjoy the sun) or to describe exactly what experience is meant (as with to enjoy the children).

Some verbs even evoke one and the same specific activity, independently of the kind of direct object. The verb to want illustrates this, since for both non-eventive and eventive direct objects the missing activity is generally interpreted as to get/obtain something. But even if a verb allows many different interpretations of the implicit event, EVENT-EVENT shifts sometimes also occur, as with to enjoy the lecture. Consequently, as a second conclusion, a correct analysis of logical metonymy should also be able to account for EVENT-EVENT shifts.292

A third important observation is that all examples discussed above show that interpreting logically metonymical sentences is not a rigid operation. Although verbs of the aspectual group, for example, clearly need to be combined with an event, even for this group it is not always necessary for our understanding of the sentence to interpret this event in a very specific way, as is demonstrated by example (35).

If all verbs and various types of examples are subject to logical metonymy, it should be explained why this is so. In other words, it should be explained to what extent these verbs really require an event as a complement, and in what way metonymy is actually involved.

4.2 Explaining the metonymy in examples of ‘logical metonymy’

Apart from the lack of an analysis of the differences between the verbs that are claimed to appear in logically metonymical combinations, it is remarkable that authors do not explain why they refer to these cases as examples of metonymy. Sometimes scholars say that in examples of logical metonymy “one phrase is used in place of another” (Verspoor 1997a: 166). This is, however, a rather poor definition of metonymy. Also, although Pustejovsky tries to explain where the conceptual link between noun and verb comes from (from qualia structure), he offers hardly any explanation as to why this should be called metonymy, nor does he define what metonymy actually is. This is in sharp contrast to the debate in cognitive linguistics about how to define metonymy (cf. e.g. Barcelona 2000; Panther et al. 2009; Panther & Radden 1999, Peirsman & Geeraerts 2006; Benczes et al. 2011).

292 Given that one does agree with this claim of Lapata and Lascarides (2003: 274). It is probably more plausible to assume that a lecture could refer to some abstract content, which makes the metonymical interpretation CONTENT-EVENT INVOLVING THE CONTENT (Moerdiijk p.c.).
In this section, I will show how insights into metonymy from cognitive linguistics (cf. chapters II and III) can help to make clear why logical metonymy can be seen as a type of metonymy. Using frames as they are developed by FrameNet (http://framenet.icsi.berkeley.edu/), I will show that logical metonymy can, from an onomasiological point of view, be analysed as a highlighting effect in a conceptual structure. As we will see, the conceptual frames are linguistically represented in different ways by expressing different core elements. Each shift in the linguistic expression causes the semasiological highlighting, i.e. an interpretation of the verb-object combination which is enriched with a connected activity. This analysis is comparable to the analysis offered for non-eventive MOCs.

In order to account for logical metonymy, it should first be analysed which frames are involved in non-metonymical sentences, such as (39).

(39) Mary began to read / reading.

As we saw in section 3, FrameNet analyses sentences as the evocation of a frame by the main verb with the frame elements realised as verbal arguments and adjuncts (Ruppenhofer et al. 2006: 5-6 / 2010: 5-6). In (39) the main verb began is a lexical unit (LU) that evokes the so-called “Activity_start” frame. Two core frame elements are included in this frame: An ‘Agent’ and an ‘Activity’ (cf. http://framenet.icsi.berkeley.edu, September 2011). In (39) both frame elements are realised: Mary is the agent of the activity reading/to read, which is started.

However, the lexical unit which expresses the specific ‘Activity’, e.g. reading, in its turn evokes its own frame. In example (39), the verb read evokes a “Reading” frame with a ‘Reader’ and a ‘Text’ as its core frame elements. In (39) therefore the “Reading” frame is embedded within the “Activity_start” frame.

These multi-layered conceptual structures can explain the interpretative process involved in (40) (the metonymical counterpart of (39)).

(40) Mary began the book

Again the verb begin evokes the knowledge structure of starting an activity. The core frame elements of this structure are an ‘Agent’ and an ‘Activity’. The ‘Agent’ is obvious: It is realised as Mary. The ‘Activity’ is missing; instead some element of the frame corresponding to the intended ‘Activity’ can be found: The object that plays a key role in it. Since we understand that not the ‘Activity’ itself is expressed, but that only a core frame element of the embedded frame is highlighted in the sentence, we know how to interpret this sentence. The semantics of begin a book is metonymically enriched (cf. Jackendoff 1997: 47ff), because book is the lexical unit that corresponds to the core frame element ‘Text’ of the “Reading” (and “Writing”) frames, which are possible activities to infer with the begin-frame.
The meanings conveyed by (39) and (40) are represented in Figure 8.

Figure 8 is a graphic representation of what is described in the previous sections. The lexical unit begin in (39) and (40) belongs to, and therefore evokes, an “Activity_start” frame. This conceptual structure has two core frame elements, an ‘Agent’ and an ‘Activity’. In both sentences the ‘Agent’ is expressed by the lexical unit Mary. Sentences (39) and (40) differ with respect to the explicitness of the core frame element ‘Activity’. The square brackets are used in Figure 8 to indicate this difference. In (39) the second core frame element of the “Activity_start” frame is made explicit as reading. This lexical unit evokes its own conceptual structure. Given the combined frames, the same meaning can be expressed in a different way, as in (40). In this case the required ‘Activity’ is expressed metonymically: Only a core frame element of the conceptual structure corresponding to the intended ‘Activity’ (i.e. reading) is highlighted, while the ‘Activity’ itself is left implicit. Since we know that we need to interpret an event, and that book is a ‘Text’, we understand that book can be the expression of the second core frame element of the “Reading” frame. In this way we understand by default that Mary began to read.

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293 Of course, the meaning represented in Figure 8 only applies to (40) under the assumption that a reading and not a writing-activity or other event is intended by the sentence.

294 Or ‘to write’, since ‘Text’ is also a core frame element of the “Text_creation” frame, to which write belongs (http://framenet.icsi.berkeley.edu/index.php?option=com_wrapper &Itemid=118&frame=Text_creation& [September 2011]). Pragmatics and context make it possible to choose the correct option, which I will explain below.
It is important to note that FrameNet itself gives a different analysis of how to account for “Pustejovskian coercions” within frames (Ruppenhofer et al. 2006: 12-13, cf. 2010: 10). The examples used to illustrate the analysis are want to win and want an orange. Because a frame element should be in a constant relationship with the verb, each frame element must be of a specific type. The phrases want to win and want an orange both belong to the “Desiring” frame, but to win has a different relation to want than an orange because they belong to different types. They are therefore different frame elements, which must, according to FrameNet, all be incorporated in the “Desiring” frame. As a consequence, the “Desiring” frame has three core frame elements: An ‘Experiencer’, an ‘Event’ and a ‘Focal_participant’. The direct object of to want an orange is explained as the realisation of the ‘Focal_participant’ of the “Desiring” frame.

There are a number of drawbacks to this explanation. In the first place FrameNet does not use the notion ‘Focal_participant’ consistently in its databank on the internet. Among the frames developed for the twenty-two English verbs that may combine with logically metonymical direct objects (cf. http://framenet.icsi.berkeley.edu/, September 2011), there are only two frames with a ‘Focal_participant’ as a frame element. Even in the case of the prototypical aspectual verbs to begin or to finish, nothing is said about the realisation of a ‘Focal_participant’.

Secondly, other cases of metonymy, such as I am reading Goethe, are never explained with the help of a ‘Focal_participant’ (cf. e.g. the “Reading” frame). These classical metonymies, however, behave in a comparable way: A verb such as to read, for instance, can be combined with different types of direct object nouns, such as books or authors used metonymically. The phrase to read Goethe is not the realisation of the ‘Text’ frame element of the “Reading” frame, but instead the ‘Author’ frame element of the “Text” frame is explicitly highlighted (i.e. used in the sentence) and as a result the interpretation of Goethe is metonymically shifted.

295 Also, in other frames it is not considered to be a problem that the direct object can differ in its grammatical form. In the “Expectation” frame it is claimed that the core frame element “Phenomenon ‘can be expressed as [...] an NP Object, or a VP Complement with or without an NP Object’” (http://framenet.icsi.berkeley.edu [September 2011]). This observation also applies to want to (eat) an orange.


298 The latter is different in the case of MOC. With nominal metonymies, the word referring to the author is used instead of the text-element. It is, in Waltereit’s terms, inserted for the text-
The approach taken in this study does not have these drawbacks. Since it allows combinations of conceptual structures, the ‘Focal_participant’ is already present in the main conceptual structure, because it is a direct frame element of the embedded ‘Activity structure’.

To summarise, the frame-semantic analysis developed in this section provides an explanation for the metonymy in logically metonymical sentences such as (40). Because part of a conceptual structure is explicitly highlighted, the direct object metonymically gives mental access to an event that is needed for the interpretation of the sentence, but that is not made explicit. It also makes clear which ‘focal participants’ can be metonymically selected: Only core frame elements of the frame (evoked by the particular activity that was started) can appear metonymically, signifying the embedded frame as a whole. This embedded frame represents the eventive gestalt that is involved, parts of which can be highlighted metonymically. In addition, the explanation presented in this section solves some of the problems discussed earlier. I will return to them in section 4.4. In the next section I will first show how the above analysis presented in this chapter can be applied to different verbs that appear with logically metonymical direct objects.

4.3 Accounting for the continuum of logical metonymies

In the previous section, conceptual structures were used to explain what metonymy does in logical metonymy. I used FrameNet as a basis for these conceptual structures, although the argumentation itself differed from FrameNet (Ruppenhofer et al. 2006: 12-13 / 2010: 10), because I assume that conceptual structures (CSs) can be combined. The combination of CSs is reflected in sentences such as (39), in which the Reading CS is incorporated in the main Activity_start CS. The combination of CSs allows us to explain the use of a concrete direct object noun in (40) without stipulating further frame element (such as a ‘focal participant’) in the main CS (the frame evoked by the main verb). Instead, the concrete object is considered to be a highlighted core element of the activity CS. This fits seamlessly with the definition of metonymy. Because metonymy is involved, semantic traits that do not constitute the literal meaning of a verb-object combination are shifted or enriched (i.e. highlighted in a semasiological sense), when the object is combined with a verb that needs to be interpreted with some event. The shift in interpretation follows, however, from the fact that, from an onomasiological point of view, some element (the concept denoted by the concrete direct object) of the interpreted event is explicitly given more importance (i.e. element. With predicative metonymies words are not inserted for each other, instead it is merely the case that different core elements which are present in the frame are expressed.

299 Because FrameNet does not use embedding in this sense I will avoid using the term frame and will simply call them conceptual structures or CSs (with their names in normal font starting with a capital and elements between single quotes). I will only use the term frame when I am referring directly to the conceptual structures that FrameNet have defined on their website (http://framenet.icsi.berkeley.edu/).
explicitly highlighted) in the sentence. This theoretical explanation of metonymy as a complex highlighting operation is an exact description of what we intuitively feel is happening: Instead of expressing the whole event, only a crucial element of the event is highlighted, and this causes the expression which is used to be interpreted slightly differently.

All verbs of the aspectual group behave in a straightforward way. They all take an ‘Agent’ and an ‘Activity’ as their core frame elements, independently of whether the “Activity_start” frame (begin, start), the “Activity_ongoing” frame (continue), the “Activity_finish” frame (finish, complete) or the “Change_event_time” frame (postpone) is evoked. In all examples, the expression of the ‘Activity’ evokes a more specific CS. As well as expressing this CS right away (as in (39)), it is possible to highlight one of its core elements (as in (40)). On the basis of the core element of a combined CS we can understand which CS is referred to. This observation applies to all combinations of all relevant aspectual verbs with a concrete noun, as in the BNC-examples (41)-(48).

(41) I’ve begun a novel!!!
(42) Charlotte began a new book -- Emma, she called it.
(43) And, after he completed his report in about three months’ time, it would be published, she said.
(44) In fact, now you’ve rumbled me, may I, would you mind if I postponed the coffee just a few moments more?
(45) We finished our coffee
(46) Mariana had finished the soup. She lowered the mug under her own volition and he took it from her.
(47) Ben the actor appeared beside them and started his piece,
(48) Mr. and Mrs. Harvey, the master and matron, were both away on sick leave in the early months of 1900, and the Board received a letter from their general practitioner, Mr. C. G. Johnson, to say that they were making good progress and that he recommended continuing the champagne which had contributed to their recovery. The clerk was instructed to inform Mr. Johnson however that the guardians ‘did not see their way to continuing supplying champagne’.

A core element of the CS is highlighted in each of these sentences (the text, the drink, the food, the play, the drink/medicine), instead of fully expressing the intended event structures (writing, drinking, eating, playing, drinking/taking). All

300 In this structure FrameNet speaks about an ‘Agent/Cause’ and an ‘Event’. The type shift between a concrete object and an event does of course remain the same and the event also embeds another frame.
these sentences can thus be represented schematically as in Figure 8, each verb with slightly different main structures and with the appropriate details of the embedded activity structures added. Figure 9 illustrates this.

\[
\text{MAIN STRUCTURE}
\begin{align*}
\text{lexical unit (verb } x) \\
\text{core element 1} \\
\text{core element 2}
\end{align*}
\]

\[
\text{EMBEDDED STRUCTURE}
\begin{align*}
\text{LU (concept } x) \\
\text{core element} \\
\text{core element}
\end{align*}
\]

\text{Figure 9: The representation of a conceptual structure with an embedded event}

In fact, all verbs that can be combined with logically metonymical direct objects can be accounted for by Figure 9 appropriately modified. Although each verb belongs to a different main CS, each of them needs to combine with an event. All of them must therefore have an eventive second core element, irrespective of the exact details of their main CS. In the rest of this section, I will show how the other verbs from the emotive-evaluative and the intermediate group can be explained in a comparable way.

The two frames with a ‘Focal_participant’, the “Desiring” and “Preference” frames, are evoked by the verbs desire and prefer, both belonging to the emotive-evaluative group. These two frames are very similar to the frames for the aspectual verbs, since their second core frame element is an ‘Event’. The only difference is that instead of an ‘Agent’ they take an ‘Experiencer’ as their first core frame element. As I explained in 4.2, the third frame element ‘Focal_participant’ is redundant, because it is automatically incorporated in the embedded frame evoked by the ‘Event’.

Not all frames evoked by the verbs belonging to the emotive-evaluative group have such a ‘Focal_participant’. The “Desiring”, “Preference” and “Tolerating”\textsuperscript{301} frames, which are closely related to the “Experiencer_focus” frame, do not contain a

\textsuperscript{301} This frame has not been described in Sweep 2010a, because at that time the frame did not exist yet.
The “Experiencer_focus” frame is by far the most dominant frame among the evaluative-emotive set of verbs: *enjoy*, *fear*, *regret* and *savour* belong to this frame. Since the “Desiring” and “Preference” frames, which have an ‘Event’ as a core frame element, are so closely related to the “Experiencer_focus” frame, one would expect that the “Experiencer_focus” frame also has an ‘Event’ as one of its core frame elements.

The “Experiencer_focus” frame is defined as describing “Experiencer’s emotions with respect to some Content” and this Content may “refer to an actual, current state of affairs” and “quite often it refers to a general situation” (http://framenet.icsi.berkeley.edu, September 2011). We may therefore conclude that the ‘Content’ must be some kind of event. This reflects our intuition that some sort of activity is needed for the correct interpretation of these evaluative or emotive verbs. However, apart from the eventive ‘Content’ another separate core frame element of this frame is an ‘Event’. The fact that the “Experiencer_focus” frame contains this additional eventive core frame element is problematic, because it seems possible that the ‘Event’ (“the occasion or happening that Experiencers in a certain emotional state participate in”) coincides with the ‘Content’ (“what the Experiencer’s feelings or experiences are directed towards or based upon”), exactly as stated in the above definition of ‘Content’. It is thus doubtful whether these frames really include these two different frame elements.

It seems to me that we are only dealing with one core frame element of an eventive type, which causes the ‘Experiencer’s emotional state. In order to avoid confusion as to whether the ‘Content’ is an event or whether some ‘Event’ includes some ‘Content’, I will use the term ‘experience’ for this second eventive core element. Intuitively, this core element seems to be interpreted as an experience. It also fits the descriptions of both ‘Content’ and ‘Event’. The “actual, current state of affairs” or “general situation” that “Experiencers in a certain emotional state participate in” and “which causes the emotion” (http://framenet.icsi.berkeley.edu, September 2011) is the experiencer’s experience. The CS Experiencer_focus can therefore be redefined as: ‘an ‘experiencer’ is brought into a certain state by some ‘experience’. The CS can be schematically represented as Figure 10.

302 The “Tolerating” frame ‘uses’ the “Experiencer_focus” frame and the “Preference” frame ‘inherits from’ the “Desiring” frame which ‘uses’ and ‘inherits from’ the “Experiencer_focus” frame (September 2011). This means that the “Tolerating” frame presupposes the “Experiencer_focus” frame and that the “Preference” frame is a subtype of the “Desiring” frame and the latter presupposes and is a subtype of the “Experiencer_focus” frame (Ruppenhofer et al. 2006: 8, 104ff, 110 / 2010: 7, 73ff, 78).

303 As said before, FrameNet is an ongoing project and in the time between the first and final version of this chapter the frame for *enjoy* has been updated by FrameNet: The verb *enjoy* is said to belong not only to the “Experiencer_focus” (previously labelled “Experiencer_subj”) frame, but also to the “Emotions_of_mental_activity” frame. The core frame elements of the latter frame are an ‘Experience’ and a ‘Stimulus’. I do not really understand why this verb belongs to two different frames. Furthermore, I would suggest that something like a ‘Stimulus’ is already incorporated in my conceptual structure for *enjoy*, since it could be considered a core element of the embedded ‘experience’ CS (cf. below).
The ‘experience’ can be made explicit by inserting a lexical unit. In that case, the ‘experience’ evokes a new CS, as happened in all the cases discussed above (cf. Figure 9). In the same way as Mary began reading combines the Reading CS within the Activity_start CS (cf. Figure 8), a sentence such as Mary enjoys eating embeds the Eating CS within the Experiencer_focus CS (Figure 10). In the case of logical metonymy of Mary enjoys the sandwich, the ‘experience’ itself is not expressed, but one of its core elements is highlighted instead. It is easy for us to understand the metonymical object, since we interpret enjoying the sandwich as enjoying some experience with a sandwich, such as enjoying its taste or, more generally, eating it. The metonymical link between sandwich and eating is therefore established by the fact that a sandwich is a kind of food and ‘food’ is a core element of the Eating CS. We can interpret the metonymy correctly thanks to our understanding of the metonymical link and due to the fact that we know that eating is a particular ‘experience’ of the type we were looking for.
Although this example can be analysed in the same way as examples with aspec
tual verbs, such as begin, the second core element of enjoy is not just any possible
activity. The event required by enjoy has already been specified as an ‘experience’.
In the case of a concrete direct object one therefore has to search for a more specific
event than simply an activity. This explains why begin a sandwich requires an actual
event to be started (namely eating or preparing the sandwich), whereas to enjoy the
sandwich seems to mean something like to enjoy experiencing the sandwich (eating
or tasting it rather than preparing it). This intuition is reflected in language data,
because it is often difficult to make the exact experience explicit, as is shown by
examples like to enjoy the sun or to enjoy your children (cf. section 3), and also
because the telic role is much more important than is the case in examples with
begin or finish (cf. chapter VII).

An analysis based on conceptual structures is therefore more specific and more
flexible at the same time. Since we know that some ‘experience’ is conveyed by
enjoy, we do not need the sentence to be more explicit or specific. It is only possible
to make the experience explicit, if what is experienced is the core element of a
specific experience CS, such as different types of food that are core elements of the
Eating CS (Ingestion frame).

The relevant CS of the emotive-evaluative verb expect also requires some kind
of event. The verb belongs to the “Expectation” frame with the core frame elements
‘Cognizer’ and ‘Phenomenon’. The ‘Phenomenon’ is defined as “what the Cognizer
believes will happen in the future” (http://framenet.icsi.berkeley.edu, September
2011). It is therefore not as specific as the event in the case of the
“Experiencer_focus” verbs, but more specific than just any event, since it is
something that will probably happen in the future. This future event evokes its own
CS, which is incorporated in the main CS, and in the case of (logical) metonymy it is
not the ‘Phenomenon’ itself which has been made explicit, but only some core
element in the CS. An example is expect a reply (cf. Lapata & Lascarides 2003)
which means ‘expect to get a reply or answer’.

The eventive core element of the verbs in the intermediate class is similarly a
type of event that is less specific than the ‘Event’ frame element of the
“Experiencer_focus” frame, but more specific than the eventive core element of the
aspectual class. The verb survive, for instance, belongs to the “Surviving” frame,
which consists of the frame elements ‘Survivor’ and ‘Dangerous_situation’. Again,
instance of logical metonymy can be analysed in the same way. It is possible to
leave the ‘Dangerous_situation’ implicit and highlight only one of its elements. This
option gives us metonymical sentences in which only a core element in a CS is

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304 According to FrameNet, a third core frame element of the “Expectation” frame is ‘Topic’,
defined as “An entity that serves as the focus of a predicted Phenomenon”
(http://framenet.icsi.berkeley.edu/index.php?option=com_wrapper&Itemid=118&frame=Exp
ectation& [September 2011]). Since I am assuming that an event like ‘Phenomenon’ evokes
its own frame, the ‘Topic’ is automatically incorporated into the main CS via the embedded
CS, and we do not need to add it as a core element of the main structure (just as was the case
with the ‘Focal_participant’).
highlighted. Since we know that to survive involves some ‘Dangerous situation’, we have no trouble interpreting these concrete direct objects. BNC-examples (49) and (50) illustrate logical metonymy with survive.

(49) Another child, who survived the bug, was found to be carrying it on July 15.

(50) In order to survive the jungle and live to tell the tale it is important not only to have good companions, but also to have the best available equipment.

The dangerous events that must be survived are infection by some bug in a hospital and travelling through or living in the jungle, but only some part of these situations are highlighted, viz. in (49) the ‘Cause’ of the “Medical_conditions” frame and in (50) the ‘Area’ of the “Travel” frame or the ‘Location’ of the “Residence” frame.305 We are able to understand these sentences, because we know that bacteria may cause diseases and that the jungle is an area or location. In other words, we know that they can be the lexical units corresponding to the core elements of these CSs.

The verbs attempt and try in the intermediate group both belong to the “Attempt” frame, with the core frame elements ‘Agent’ and ‘Goal’.306 This ‘goal’ is also some kind of event; it is defined as “what the Agent attempts to achieve” (http://framenet.icsi.berkeley.edu, September 2011). If in a sentence the ‘Goal’ is left implicit, we can still understand it correctly, since we know that we have to interpret an event that is intended as a final ‘Goal’. We therefore understand that if someone tries the door, s/he tries to open it, if someone tries the sandwich, s/he tastes it and if someone attempts a summit or a difficult question, s/he actually attempts to reach this summit or answer the difficult question.307

Various verbs that are said to appear with logically metonymical direct objects therefore form a single class in the sense that in each case some kind of event needs to be interpreted, and this event evokes its own CS. In the case of metonymy, core elements of the embedded structure are highlighted, and this causes the highlighted elements to be interpreted on the basis of something more than their literal meaning. This explanation does not deny the existence of a continuum of cases. On the contrary, since verbs vary in the specificity of the event that they require (their

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305 Sentence (50) again shows that the noun does not have to be coerced into a specific event. In order to understand the sentence, it is not necessary to decide which of the two events (i.e. ‘travelling trough’ or ‘live in’) should be interpreted. It is even possible that they are both intended.

306 As for resist and miss, no frames have yet been developed in FrameNet for the relevant meanings: The verb resist only belongs to the “Repel” frame, miss to the “Succession_or_failure” and the “Hit_or_miss” frames, and master to the “Teaching_education” frame.

307 There are numerous examples of this, on the internet as well as in the BNC (e.g. “She tried the door”; ‘Rickie would not even try a sandwich”; “Carlos told her he would wait at Camp IV while she attempted the summit”; or “... that teachers will be advising ‘average’ pupils not to attempt the difficult questions”).
second core element), the continuum is accounted for. The requirement for an event is stronger in to begin a book than in to enjoy a book, since the former requires some activity in general, whereas the latter needs to be combined with an experience. Because the telic activity refers to the activity the object has been made for, this is often the way in which we experience the object.

We reach the boundaries of the continuum of logical metonymy at the point where an event is no longer required; the point, in other words, at which the frame no longer contains an eventive core element. An example is the emotive-evaluative verb choose in the “Choosing” frame. The second core frame element ‘Chosen’ may, but does not necessarily have to be, an event. It can be “either an item or a course of action”, that is, it “identifies the entity or the course of action which is selected” (http://framenet.icsi.berkeley.edu, September 2011). Choose therefore belongs to the periphery of verbs that can appear in logically metonymical verb-direct object combinations. This again reflects our intuition perfectly. Choosing something can simply mean selecting an object without having to infer any additional event in order to make the interpretation of the assertion complete.

4.4 Conclusions on MOCs of the type EVENT-OBJECT INVOLVED

There are two assumptions that underlie most research on logical metonymy of verb-concrete object combinations. The first is the implicit assumption that all combinations work in the same way, because all main verbs actually need to be combined with an event in direct object position. The second assumption, which is made explicit but is hardly ever explained, is that all combinations of these verbs with concrete direct objects are cases of metonymy. These two assumptions have never been questioned, probably because in most studies only prototypical verbs, or a limited number of data confirming the theory in advance, have been considered. In this chapter, however, I have challenged both assumptions by analysing the semantics of individual verbs and the metonymy involved.

Since an account of metonymical interpretations based on qualia structure is beset by too many problems and since it is not satisfactory to say that metonymy is involved just because “one phrase is used instead of another” (Verspoor 1997a: 166), an alternative, cognitive linguistic analysis has been presented in this chapter. Metonymy can be defined as a conceptual mechanism that makes some semantic traits of a word or phrase more important than they would normally be (cf. Croft 1993; Croft 2006; Moerdijk 1989). I have argued that this shift in importance results from the fact that a core element in a particular conceptual structure (CS) is explicitly highlighted in a sentence (cf. chapter II).

The metonymy involved in examples of logical metonymy is therefore explained as a conceptual mechanism that highlights a core element in a conceptual structure (CS) or frame. Each verb that can occur in a logically metonymical combination has some eventive core element in the knowledge structure that it evokes (e.g. ‘event’, ‘experience’, ‘phenomenon’, ‘dangerous situation’ and so on). Since these eventive elements evoke their own CSs, which in their turn include their own core elements,
there are several possible ways to refer to the same situation in reality. A speaker may choose to make the eventive core element of the main CS explicit, a speaker may choose to express the eventive core element of the main CS together with a core element related to this event (a core element of the embedded CS), or a speaker may choose to leave the eventive element of the main CS implicit, expressing only a core element of the embedded eventive CS. These three options correspond to (51)-(53).

(51) Mary began reading / to read.

(52) Mary began to read the book / reading the book.

(53) Mary began the book.

In (53) a core element of the required activity CS is highlighted; therefore this example can be considered an instance of metonymy. Since we know that we have to interpret some event (or eventive element) in (53), we can infer event-CSs with book as their core element. In this way, the onomasiological highlighting of the concrete object semasiologically causes an enriched interpretation of the verb-direct object combination.

This analysis does not need to make use of the notion of “coercion” in the sense that the object is changed into an event. The direct object seems to keep its literal meaning and only in addition gives mental access to the event (cf. Kövecses & Radden 1998: 39). The intended event can be interpreted in this way, without having to assume that the direct object noun really changes its meaning (its type).

Also, the logical metonymy of all these verb-direct object combinations can be given a uniform explanation, while at the same time the fact that they form a continuum of cases is supported. The underlying mechanism is the same, but not all verbs require an event in the same way. All verbs that allow logical metonymy have an eventive core element in their conceptual structure, but there are differences in the type of eventive core element specified in their CSs. All aspectual verbs have an ‘agent’ and an ‘activity’ as their core elements; they therefore leave completely open which activity needs to be interpreted. Other verbs have more specific eventive elements, such as a future event (‘phenomenon’), a ‘dangerous situation’ or, as for most evaluative verbs, an ‘experience’. A better description of the event required (based on FrameNet) results in a much more precise analysis of logical metonymy than the simple statement that all verbs require an event. Because the type of the eventive core element is taken into account, the continuum of cases is incorporated and demarcated in this analysis.

An account along these lines is much more useful in the handling of linguistic data. Because the enrichment is based on the required eventive core element in the main frame and also on the connection between concrete objects and CSs that have these objects as their core elements, the interpretation can remain vague. This analysis provides a straightforward explanation for the fact that, for example, to
finish our house can involve several actions (cf. sentence (35)), since it is not assumed that house coerces into one specific activity nor that this activity can be made explicit on the basis of the NP only. The activity involving a house in the context of to finish our house can simply be filled in with something like creating. The use of CSs allows this flexibility: In interpreting finish our house a hearer simply searches for an activity in which the lexical unit house can be a core element. Embedding an (implicit) Creating CS fulfils this requirement, since house can be a linguistic realisation of its core element ‘created entity’ (http://framenet.icsi.berkeley.edu, September 2011).

The fact that the enriched interpretation is not only based on the concrete object but also on the eventive core element of the verb, also explains why a specific kind of shift occurs with different concrete direct objects. An illustrative example is to want something, which is often interpreted as to want to become the possessor of something (cf. sentences (36)-(38)). The desired state does not need to be very specific; it can simply be specified as the desire to obtain/get something. The possible concrete objects fit into the interpreted Getting CS, since they can be interpreted as the realisations of the elements that comes into one’s possession (the core element ‘theme’) (http://framenet.icsi.berkeley.edu, September 2011).

The ‘theme’ core element of the Getting frame can even be an event in itself, which explains why want a nice life can be spelled out as ‘want to get a nice life’ (cf. also (38)). In a comparable way, the direct object of to begin a lecture can be interpreted as a highlighted element of an implicit activity, such as ‘giving’ or ‘attending’. In other words, this more subtle picture explains why EVENT-EVENT shifts are possible, because an event can also be a highlighted core element of an embedded frame.

Furthermore, this account can handle the pragmatic dimension of metonymy. Because the interpretation arises from the combination of semantic restrictions on the main verb (the main CS) with semantic restrictions on the interpreted event (the embedded CS), an interpretation is only possible if all core elements fit together (cf. Figure 9). This requirement explains how one default interpretation can be preferred over another and how default interpretations can be blocked by contextual knowledge.

If we know that John is an author, an implicit writing structure for book will be more plausible than a reading structure, because the writing structure combines a book with an author-agent. In a more radical example, in which Mary is a goat, a Reading or Writing structure cannot be inferred due to a mismatch with the first core element of these CSs (cf. Figure 8). The Reading and Writing CSs have two core elements, a ‘text’ and a ‘reader’ or ‘writer’ respectively, and since the agent (Mary the goat) can neither read nor write, both CSs are blocked. The sentence is reinterpreted by searching for an activity that can be performed by a goat with a book. 308

308 In fairytales goats can sometimes read or write, and in such contexts both interpretations are not necessarily blocked. This is correct, since in a fairytale Mary the goat began the book can mean that she began a reading or writing activity.
Properties of the object itself can block interpretations in a similar way. If we know that a particular book is made of marzipan, it is not possible to get a Reading or Writing interpretation for *John began the book*, since not all elements fit into these evoked structures. The *book* is conceptually no longer a ‘text’ and cannot be the second core element of a Reading or Writing CS. Thanks to the knowledge language users have about the direct object *book*, they will infer that an Activity CS involving some type of ‘food’ as a core element is required. We thus end up with the Eating CS, and correctly understand that *Mary began to eat the marzipan book*.

Since two CSs are combined, all core elements play a role in inferring the correct interpretation. It is essential that all elements should fit. Therefore properties of the direct object (e.g. the marzipan book) as well as properties of the subject (such as a goat, an author or a literary student) may block the interpretations of particular CSs (like Reading and Writing in the goat-example) or make the hearer prefer an agentive or a telic interpretation. The type of embedded activity structure varies among verbs, which explains why lexical differences can be found across verbs. In this way, the present analysis is able to account for language data in a better way than previous accounts.

In addition, the present account provides an answer to the question of which concrete objects can be used metonymically: In the case of MOCs, core frame elements of an embedded CS can be highlighted. The metonymical association between the concrete object and the inferred event is still based on lexical information, though on being a core element of a conceptual structure rather than on a rich representation like qualia structure. This analysis puts logical metonymy in line with other forms of metonymy, such as using the name of an author for his work (*I am reading Goethe*) or metonymical polysemy (the metonymically related meanings of *newspaper* as the paper itself, the company, the people working there, etc. cf. Croft 1993). In each of these examples the metonymical link, a ‘real world’ relation, is established due to the fact that the source concept and the target concept are connected in frames.

To summarise, the approach taken in this chapter is compatible with Godard and Jayez’ linguistic tests (cf. chapter III); it analyses the metonymy involved and it explains the variety among verbs, it also accounts for vague examples and EVENT-EVENT shifts, allows for more flexibility than previous accounts and explains why certain contextual information (such as properties of the subject or object) can generate non-default interpretations, since all elements have to fit together. Furthermore, it explains why logical metonymy is an instance of metonymy (a process driven by frame-internal highlighting), and also explains how the metonymical link is established. In the next section I will discuss one further advantage of this approach over other ones.

4.5 Another kind of logical metonymy: EVENT-AGENT contiguity

The analysis of this chapter does not exclude the possibility of core elements other than the second core element of the embedded CS being highlighted. In other words,
the question can be raised whether it is possible to highlight the first core element of an embedded CS if this core element is not co-referential with the subject of the main verb. This will result in a logical metonymy which does not follow the contiguity OBJECT-ACTION IN WHICH THE OBJECT IS INVOLVED but rather the contiguity PARTICIPANT (AGENT)-ACTION.

As far as I know, examples of this type are not discussed in the literature on logical metonymy. These cases are probably analysed because they follow a different metonymical pattern than the examples discussed above, and cannot be explained in terms of qualia structure. In the present account, which explains logical metonymy as highlighting elements of incorporated frames, they can be analysed in the same way as the other instances of logical metonymy.

Although modern studies have not paid any attention to predicative metonymies based on an AGENT-ACTION contiguity, their existence is not in any doubt. Some main verbs which require an event from a strictly semantic point of view, allow the agent or another crucial participant of the event as their direct object. We saw above (cf. chapter V, §7.4) that Dutch lexicographers recognise them as instances of metonymy, labelling them “metonymisch” (‘metonymical’) or “objectsverwisseling” (‘object change’).

A clear example of a verb that can be combined with a first core element instead of an event is Dutch onderbreken (‘to interrupt’) or also English to interrupt. Strictly speaking, it is only possible to interrupt events (activities or processes), such as conversations or presentations. It is, however, also possible to use the combination to interrupt someone/the speaker. Since there exists an obvious real world relation between the speaker and the presentation (or conversation), we understand that the presentation by the speaker was interrupted.

This example has to be regarded as an instance of metonymy in the sense that the interpretation involves more than the literal meaning, since the expression used (the vehicle or source) gives mental access to the event (the target). This mental access, or conceptual mapping, is possible on the basis of a contiguity relation. The example is an instance of logical metonymy because the metonymical shift is based on an eventive gestalt; the noun referring to a concrete person who is involved in the event is used as the direct object of the verb rather than the interrupted event.

To see how a similar analysis as for OBJECT-ACTION applies to these examples, consider (54).

(54) Mary interrupted John’s talk.

The main verb in (54) evokes the “Interrupt_process” frame. The core frame elements of this frame are a ‘Cause’ (with a related ‘Actor’) and a ‘Process’ “that goes into the paused state due to the Cause or Actor” (http://framenet.icsi.berkeley.edu, September 2011). Both of the core frame elements are realised in the sentence above: Mary is the ‘Actor’ who interrupts a ‘Process’ or event, in this case the talk.
Since a talk is an event in itself, it evokes its own frame. FrameNet assigns the word *talk* to the “Discussion” frame, which has a ‘Topic’ and possibly several ‘interlocutors’ as frame elements [http://framenet.icsi.berkeley.edu, September 2011](http://framenet.icsi.berkeley.edu). This combination of CSs is schematically represented in Figure 12.

**Figure 12: The conceptual structures of to interrupt a talk**

Metonymical sentences, such as (55), are interpreted on the basis of conceptual knowledge as represented in Figure 12.

(55) Mary interrupted John.

Since Mary cannot literally interrupt a person (this does not make sense), we understand that she interrupted what John was doing, in this case talking. The combination with *John* is metonymical, since it is a highlighted core element of the implied event. If (55) is used to express the state of affairs as represented in the CSs of Figure 12, John is one of the highlighted interlocutors of the talk that was interrupted. Other interpretations are similarly possible. If John is interrupted by Mary while giving a lecture, we understand that John, whom we know to be the speaker, is the highlighted agent of the lecture.309

309 Figure 12 also suggest that it should be possible to highlight the topic core element. In Dutch, this does occasionally seem to be the case, cf. internet examples such as “De winkeleigenaar onderbrak het onderwerp waarmee hij bezig was en gaf een puntig commentaar in het dialect” (‘The shop owner interrupted the topic in which he was engaged and gave a sharp comment in the dialect’) (http://www.epenaren.nl/marktplein/index.php?itemid=216); “George rolde zijn ogen en onderbrak het onderwerp,” (‘George rolled his eyes and interrupted the topic,’) (http://www.fanfic.nl/chapters/21608/chapitre-01/) “Na zijn onderwerp onderbroken te hebben gaat hij verder met de woorden:” (‘After having interrupted his topic, he continues...”
Another verb that may combine with direct objects in a logically metonymical way is the Dutch verb *afvlaggen* (lit.: “off-flag”, ‘to flag down’). Strictly speaking, events like races are flagged down, but since races are executed by race-drivers, it is possible to highlight the driver and mention him in the direct object slot. Apart from *de race afvlaggen* (‘flag down the racing’) one can use *de coureurs afvlaggen* (‘to flag down the racing drivers’). Van Dale classifies the latter combination as metonymical.

Another example is not provided by dictionaries, but discussed by Van Brederode (1995). Van Brederode examines how certain verbs with a metaphorical meaning are combined with subjects and direct objects. As in this analysis, frames provide a coherent structure based on experiences, i.e. a gestalt, (cf. Van Brederode 1995: 35, 66), which causes variety in the possible direct objects. However, the term frame is used by Van Brederode in a slightly different sense than by FrameNet, referring to an information structure with many listed categories which can be filled in for specific words (1995: 42-43).

Among other verbs, Van Brederode analyses the frame-based combinatorial possibilities of *to suppress* (1995: 68-72). Like *to interrupt*, this verb allows different types of direct objects such as actions which are suppressed (*to suppress the rebellion*) and suppressed actors involved in these actions (*to suppress the rebels*). Whereas Van Brederode lists all these participants in the *suppress*-frame (1995: 70), I would argue that these possible direct objects are based on frame-like information structures comparable to Figure 9 or Figure 12. This analysis is in line with Van Brederode’s observation that the two types of objects are possible because there is a relationship “between [...] the activity and [...] those agentively involved in the mutiny, the revolution, the riot, etc.” (1995: 69). In my view, the reason agents can be highlighted in the DO-position is not that they directly belong to the *suppress*-frame but rather that “The words referring to the agents [...] directly indicate what threat is involved” (Van Brederode 1995: 69). Combined frames like those in Figure 12 (with different frames for this example), make this clear.

Last but not least, Dutch dictionaries tag the verb *bestraffen* as allowing MOC. This verb displays a similar shift between an act or action and the performers of this action. This shift is most common with *bestraffen* (lit.: “be-punish”, i.e. ‘to punish’),
but also occurs with the simplex verb *straffen* (‘to punish’). The ANW-examples (56)-(59) illustrate the shifts with both verbs.313

(56) Als ...., dan zal de scheidsrechter de speler bestraffen.  
If..., then will the referee the player be-punish  
‘If..., (then) the referee punishes the player.’

(57) De scheidsrechter bestraft de overtredingen.  
the referee be-punishes the fouls.  
‘The referee is punishing the fouls.’

(58) En zodat echte misdadigers wél kunnen worden gestraft.  
and so-that real criminals (really) can be punished  
‘And in order to be able to punish real criminals.’

(59) Misdaad moet gestraft worden.  
crime must be-punished be  
‘Crime must be punished.’

German and English display similar behaviour, as shown in the deWac-examples (60)-(63) and the BNC-examples (64)-(67).

(60) Nur Verbrecher kann man bestrafen,  
only criminals can one be-punish,  
‘Only criminals can/may be punished,’

(61) Aus ihr heraus [...] bestraft man Verbrechen,  
out this there-out be-punishes one crimes,  
‘Based on this [JS: referring to ‘experience’], crimes are punished,’

(62) Gott straft den Sünder  
god punishes the sinner  
‘God punishes the sinner’

(63) Die kleinen Sünden straft Gott sofort  
the little sins punishes god directly  
‘God punishes little sins directly’

(64) Criminals must be punished

(65) he should punish crime

(66) I fear we've come too late [...] to punish his murderer

(67) Murder has to be punished.

313 The subjects of sentences in the passive voice are used to illustrate that the verb allows two different types of direct objects.
Although these shifts with (be)straffen, (be)strafen and to punish fit into the pattern of to interrupt shifting between an action and the agent of this action, the shift is tagged in the opposite direction in Dutch dictionaries, i.e. from agent to action. Etymologically, this explanation is very plausible. Therefore, this shift must be treated slightly differently from the one with to interrupt.

In fact, the difference between a logical metonymy following the ACTION-AGENT contiguity and the MOC with bestraffen / to punish is reflected by FrameNet. The verb to punish belongs to the “Rewards_and_punishments” frame, which includes as its core elements an ‘Agent’, an ‘Evaluee’ (i.e. the punished person), and a ‘Reason’ (i.e. the action or property which is the reason for the punishment) (cf. http://framenet.icsi.berkeley.edu, September 2011). So, in examples with to punish the ‘Evaluee’ is not a focal participant embedded in the action of punishing, but instead a core element of the punish-frame. The fact that, from a synchronic point of view, the punish-examples can also be explained in the same way as the examples with to interrupt illustrates the continuum between logical metonymies (shifting from events to concrete entities) and other predicative metonymies (such as locative alternations) which shift between two contiguous entities involved in the frame corresponding to the verbal action.

5. Constraints on MOCs

Although this chapter has shown that an analysis of MOCs in terms of highlighting in FrameNet-like frames provides a good explanation of some subtleties in languages, the explanation overgeneralises. Not all core elements in every frame can be used as a direct object. Some constraints, restrictions and preferences that were revealed in chapters VI and VII operate simultaneously in choosing a direct object.

First of all, as I discussed above (cf. chapter VI, §3), highlighting is only possible if the two frame elements clearly form a single gestalt. For concrete examples this may differ in a single frame, depending on the specific participants involved. This explains why to weed a garden is perfect, to weed the terrace is odd and to weed tiles infelicitous. Similar differences have been illustrated with Dutch smeren and German schmieren, with German abziehen and with Dutch laden.

Furthermore, the requirement that the gestalt is highly relevant in the frame restricts object changes to core frame elements. Non-core elements do not occur as alternate direct objects.

Chapter VIII argued that for eventive shifts some gestalts are clearer than others and that some gestalts are more important for a verb than others. Chapter VII showed that texts are most prominently connected to writing and pieces of music to playing (the agential roles), whereas food is strongly connected to eating and games to playing (the telic roles). In the frame semantic approach advocated in this chapter, this could be explained as meaning that a text is most clearly a core element of writing, a piece of music is most prominently a core element of making music, games of playing and food of eating (Ingestion frame). Also, some concrete objects, such as texts, music, companies and food, are considered more easily interpretable,
and therefore more directly involved in an aspectual action evoked by the main verb, than others. Preferences of this kind caused by the direct object work together with the eventive element required: A verb such as to enjoy is more often interpreted in a telic way than to begin or to finish, because the activity which has to be interpreted must be some kind of experience.

With spatial and causal gestalts, both parts, i.e. both core frame elements, should be of equal importance in the verbal action. In other words, the two frame elements should form a gestalt which is relevant by itself in the frame. Whereas Dutch insmeren (‘to rub in’), for instance, can be combined both with cream and the location to which this cream is applied (such as a face), the verb smeren (‘to rub’), which involves the same elements, does not alternate (cf. chapter VI, §3). The difference between insmeren and smeren is that in the case of smeren the location is only relevant, if it is noticeably affected by the substance that is applied. This may be true for een boterham smeren (‘to spread a slice of bread’) or een ketting smeren (‘to grease a chain’), but not for *je gezicht smeren (‘to rub your face’, meaning ‘to put some cream on your face’). These requirements are different for insmeren, because this verb describes an action with $x$ and $y$ as a single gestalt, with both parts directly involved; the verb therefore endorses the contiguity relation between $x$ and $y$.

In chapter VI we saw that with to fill and Dutch vullen one frame element is also far more important than another. In these cases, the frame evoked by the verb is an action with respect to a container. This is different for verbs such as to load, to pack or to inject, which FrameNet all classifies as belonging to the Filling frame as well as to the Placing frame. I argued that these verbs are instantiations of the Placing scenario, which allow combinations with different types of direct objects. Together with a direct object, they can refer to the Placing or Filling frame. The container-oriented verbs such as to fill and vullen do not evoke this general scenario and therefore do not allow the alternation.

Chapter VI also showed that this can differ cross-linguistically. Supported by the combination voll füllen, I showed that German füllen does not refer to a container-oriented action. In terms of frames, this means that füllen does not, as does to fill, belong to a Filling frame, but rather to the Placing scenario. This idea accounts for the fact that voll füllen can be used, and that füllen occurs with shifted objects.

The fact that to pour, gieten or schenken and gießen or schenken only alternate in specific contexts can also be inferred from the frame involved. In contrast to to fill, both content and container are important in the frame, but in these cases not one but two containers are involved. As explained in chapter VI, the double gestalt involved restricts the MOC, because in a general pouring-context a container noun in direct object position would be confusing.

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314 At the moment, to pour (in fact to pour in) only belongs to the Mass_motion frame, which represents a different meaning, referring to a subject of individuals moving, as in Fans poured in by boat and train (http://framenet.icsi.berkeley.edu/ [September 2011]).
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Figure 13: Schematic Frame of *to pour*, showing the two container-gestalts

The comparable restriction of the ‘avoidance-of-ambiguity-of-DO-type’ (cf. chapter VI, §4.3) can also be clarified by means of frames. Words corresponding to frame elements can only be used in the direct object slot, if they are interpreted as the right frame element. In the Removing scenario, for instance, a source can only occur in direct object position if it cannot accidentally be interpreted as the theme. This explains why *to remove a table* cannot be used for *to clear a table*, even though both express some kind of removal.

These semantic-pragmatic preferences work in and on frames. For instance, the fact that *beginnen aan* is more often combined with concrete objects is not directly visible in the frame itself, but can be explained on the basis of this frame: Because the syntax directly indicates that the eventive core element cannot additionally be realised, a hearer immediately understands that only a core element of the embedded event is realised. In this way, the event is ‘projected’ more strongly than is the case for the direct object of *beginnen*. Also, the semantics of certain *met/-mit*-objects, as in Dutch *beginnen met*, German *beginnen mit* or *anfängen mit* and Dutch *eindigen met* can be modelled in frames. These combinations of a verb and a prepositional object evoke a frame with not one but two eventive core elements. The pragmatic fact that, if one of these events is contextually known, the other can be more easily inferred (as I explained in detail in chapter VII) is not evident in the frame itself, but can be explained on the basis of it. At the moment, the frames in the FrameNet database do not allow subtleties of this kind. Therefore, further research and more work in FrameNet is needed in order to further model such complex constraints.

6. Conclusions

Predicative metonymies changing the direct object, i.e. metonymical object changes (MOCs), are contiguity-based shifts of a verb’s argument slot (the direct object). All predicative metonymies can be analysed as an onomasiological highlighting of related core elements in frames. From a semasiological perspective, this does not have the consequence that either the verb or the direct object noun on their own is metonymically shifted or enriched; the effect is rather on the combination of the two. The frame-semantic analysis advocated in this chapter shows how this works and provides a uniform analysis of different types of predicative metonymies, without ignoring the semantic differences between them.

The frames involved have been analysed with the help of FrameNet (https://framenet.icsi.berkeley.edu/ [October 2011]). This analysis has several advantages.
The first theoretical gain is that this chapter has illustrated that logical metonymy and alternations between two concrete objects can be analysed similarly. Logical metonymy is based on an eventive gestalt, which can be analysed as a highlighting effect in an embedded frame. The shifts can follow the contiguity pattern OBJECT INVOLVED-ACTION or AGENT-ACTION. Other predicative metonymies are based on spatial or causal gestalts, shifting between two entities connected within a verb frame, for instance by LOCATION-LOCATUM, CONTAINER-CONTENT, WHOLE-PART, OBJECT-DAMAGE or AFFECTED-EFFECTED relations. As a consequence, logical metonymies only differ from other predicative metonymies in that an eventive gestalt, i.e. an event-frame, is embedded in the frame evoked by the main verb. With other predicative metonymies a spatial or material gestalt of two core frame elements is present in the frame invoked by the main verb. The underlying mechanism is the same for all predicative metonymies, be it in an incorporated eventive gestalt or in a spatial-material gestalt.

The second theoretical advantage is that, as this chapter has shown, an approach of this kind reveals many insights into logical metonymy. Logical metonymy should not be analysed as a metonymical shift from VPs to NPs, but as a specific type of predicative metonymy with a shift between an event and a concrete object. Also, it is not sufficiently insightful to say that metonymy is involved in an example because “one phrase is used instead of another” (Verspoor 1997a: 166), while an account of metonymical interpretations on the basis of qualia structure is beset with too many problems. The frame semantic analysis proposed in this chapter is an alternative analysis in a cognitive linguistic framework. Metonymy is explained as a conceptual mechanism that highlights a core element in a frame or conceptual structure (CS). Each verb that can occur in a logically metonymical combination contains in the conceptual structure it evokes (its frame) some eventive core element (‘event’, ‘experience’, ‘phenomenon’, ‘dangerous situation’ and so on), which is embedded in the main structure as another conceptual structure. Rather than the eventive structure itself, core elements of this embedded structure can be metonymically used in the sentence.

This more subtle analysis explains why EVENT-EVENT shifts are possible (an event can also be a highlighted element of an embedded frame). It also explains which objects can be used metonymically (core elements) and how it is possible that contextual information blocks default interpretations (all elements have to fit together).

This analysis provides a uniform treatment of different instances of logical metonymy, without ignoring the semantic differences between them. In the approach presented in this chapter, the continuum of cases is incorporated (as well as demarcated) by taking into account the type of the eventive core element.

This analysis also accounts for another kind of logical metonymy. This type of eventive predicative metonymy cannot be characterised by the contiguity pattern OBJECT-ACTION in which the object is involved but rather by the pattern AGENT-ACTION. Although these combinations of verbs and direct objects are labelled by dictionaries as instances of metonymy and although they involve a shift in type, they cannot be explained in terms of qualia structure and therefore they probably have
never been discussed in previous studies. The present analysis, however, accounts for these shifts in exactly the same way as for other instances of logical metonymy. In all examples of logical metonymy a core element of an incorporated eventive conceptual structure is highlighted.

Thirdly, restrictions on MOC, which were discussed in chapters VI and VII, can be modelled in this approach. MOC is only possible if two objects form a single gestalt. This is possible in two different ways: Either a concrete object is a core element of an incorporated frame, thereby forming an eventive gestalt, or both direct objects are conceptualised as a spatial-material unit within the frame evoked by the verb. Therefore, only core elements of conceptual structures, which are conceptualised as a gestalt, can be highlighted.

Also, all parts of a spatial-material gestalt have to be equally important in the verbal action. Some cross-linguistic differences can be modelled in this way. The German verb *füllen*, for example, has a slightly different conceptual structure from the English and Dutch verbs *to fill* and *vullen*. Cross-linguistic differences can be explained as that only in the frame evoked by *füllen* the content is included as a core element with a comparable contribution to the frame as the container.

The embedded frames involved in eventive shifts explain why one interpretation can be preferred over another, as was shown in chapter VII. Verbs such as *to begin* and *to finish* prefer an agentive interpretation, because they express the end or start of an activity performed by an agent. A verb such as *to enjoy*, on the other hand, needs to be interpreted relative to an experience and telic interpretations are prototypical experiences of objects.

A last advantage of this frame semantic approach is that this account brings predicative metonymies in line with other examples of metonymy. Metonymy can be defined as a conceptual mechanism that makes some semantic traits of a word more important than they would normally be (cf. Croft 1993, Croft 2006, Moerdijk 1989). In this chapter, I have argued that this shift in importance results from a core element within a certain CS being explicitly highlighted. In a sentence such as *I am reading Goethe* the Author core frame element of the book concept is explicitly highlighted, whereby specific semantic elements of ‘the author Goethe’ have become more important than they would ordinarily be. In the same way, in a sentence such as *Mary begins the book* an element of an activity is highlighted thereby enriching (cf. Jackendoff 1997: 49) the interpretation of the VP. The metonymical link, a real world relation, is not accounted for by a rich lexical interpretation of the noun (its qualia structure), but by the fact that the word employed is a core element of the conceptual structure which is interpreted.

At the same time, the account elucidates the difference between predicative metonymies and nominal metonymies. Whereas in the case of nominal metonymies a related frame element is inserted in the place of another (cf. Waltereit 1998; 1999), thereby shifting the interpretation of the noun, in the case of predicative metonymies only different frame elements are realised. They are not inserted in the place of something else. Rather than shifting the interpretation of the noun, the combination of elements is shifted.
In the frame semantic approach it is unnecessary to assume either coercion of the direct object or verbal. All elements keep their literal meaning and only the combination of them is shifted. In other words, the onomasiological highlighting does not follow from a semasiological effect in the verb or direct object, but it is accommodated by a single underlying frame causing a semasiological effect on VP level.

In sum, the present account offers a detailed account of the reasons why logical metonymy and object alternations can be seen as MOCs; it shows how the metonymy involved actually works and how the possibilities of MOC and the restrictions on MOC can be modelled in an analysis of highlighting within FrameNet-like frames.