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The Relation between Hypotactic Integration and Complementation
in Cognitive Grammar

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10.1 Introduction

Complementation figures prominently in the discussion of perceptual verbs such as see and watch in relation to the well-known alternation illustrated in (1):

(1) Tim watched Bill mend/mending the lamp. (Quirk et al. 1985: 1206)

The object of perception or ‘percept’ (see Gisborne 2010 on the latter term) can either be coded by means of an infinitival clause or an -ing clause and scholars have duly explored what criteria may bear on the selection of either (see for example Egan 2008). Seldom is it noticed (see Broccia 2010 and 2014 for an exception) that the competition among complementation patterns for perception verbs not only involves the alternation between infinitive and -ing clauses but also as-clauses, as is shown in (2):

(2) a. She watched Victor place two tall, white, tapered candles under delicate, hand-cut, antique glass hurricane covers, and carefully fold monogrammed Irish linen napkins monogrammed with the initials C.S. (British National Corpus (BNC) FRF 181)

b. The rector leant against the dresser and watched her, as she, fetched a vase and arranged the freesias. (BNC: ASE 1937)

c. She pulled her jumper off and handed it to him, then watched as he spread it out and laid the dead animal on it. (BNC: FRF 2792)

All three sentences in (2) involve a ‘preparation’ or ‘arrangement’ scenario. In (2a), Victor is setting the table. The woman referred to by the pronoun her in (2b), the direct object of watch, which is coreferential with the subject she of the verbs fetched and arranged, is arranging freesias in the vase she fetched. In (2c), the man referred to by the pronoun he, the subject of the verbs spread (out) and laid, is similarly ‘arranging’ the animal on the jumper. Syntactically, (2a) instantiates the same pattern as (1), which I will refer to as the non-finite pattern or VOV pattern, where V stands for the matrix verb of perception (watch, here), O for the direct object (Victor in (2a)) and V for the embedded, non-finite verbs (place and fold in (2a)), which may either be an infinitive or an -ing form. (2b) and (2c) differ from (2a) in that they contain an as-clause, which seems to be recruited to either elaborate on or express the object of perception. In (2b), the verb watch takes a direct object, her, which could be regarded as the object of perception; the following as-clause specifies in some detail the process that the nominal referent was engaged in. (2c) dispenses with a direct object altogether and expresses the percept solely by means of the as-clause. I will refer to the pattern in (2b) as the VOVp pattern and to the objectless pattern in (2c) as the Vas pattern.

In order to distinguish the VOV pattern, on the one hand, from VOVs and Vas on the other, I will use the collective term as-pattern for the latter two.

It is worth stressing that the as-clause in the as-pattern in (2b) and (2c) is not (primarily) used to express the temporal frame with respect to which the event of watching takes place, but, whether in combination with a direct object or not, it is functionally equivalent to a non-finite clause, as in (2a).

In other words, if non-finite clauses such as those in (1) and (2a) are analysed as complements, then it would be plausible to treat the as-clauses in (2b) and (2c), whether in conjunction with a direct object or not, as akin to complements rather than (temporal) adjuncts. Two examples will hopefully suffice to convince the sceptical reader of the plausibility of this proposal. Let us first consider the (almost) ‘minimal pair’ in (3):

(3) a. Next came two ladies, and after talking to the charwoman they also moved forward, and as Sue stood reaching upward, watched her hand tracing the letters, ... (Hardy, Jude the Obscure)

b. Jude Fawley signed the form of notice, Sue looking over his shoulder and watching his hand as it traced the words. (Hardy, Jude the Obscure)

While (3a) instantiates the VOV pattern, (3b) makes use of the VOVs pattern. Crucially, it is very difficult to say whether the difference in syntactic structure correlates with any difference in how the event of somebody’s tracing letters or words (the percept) is construed. What seems to be unmistakably the case is that both the non-finite pattern and the string direct object plus as-clause are employed to express the object of perception.

Let us now consider the example in (4):

(4) As he made his final descent, I watched in terror as the plane hit the runway and sparks flew out. (The Daily Mail, 29 June 2012)

(4) contains two as-clauses. The first one, which is preposed to the main clause, obviously functions as a temporal adjunct. It depicts the event...
(a plane approaching the runway) that frames the event of watching. Importantly, the second as-clause codes the percept, namely the plane hitting the runway and the ensuing sparks. It seems that the different positions of the two as-clauses correlate with their different functions, the proposed as-clause functioning as a temporal adjunct and the post-verbal as-clause functioning in a complement-like capacity.\(^1\)

In sum, it seems more than plausible to suggest that as-clauses can be used with perception verbs to encode percepts. What I aim to do in this chapter is to investigate to what extent the characterization of the as-pattern as falling under the rubric of complementation is warranted not only empirically but also theoretically. Any syntactic theory needs to address the issue of how to capture the similarity between the VO\(v\) pattern and the as-pattern. In section 10.2, I will refer to two previous studies that discuss phenomena similar to the one under investigation. In particular, I will point out that the as-pattern is an instance of what Fischer (2007) calls hypotactic integration and that the notion of ‘complement’ depends on the analyst’s theoretical orientation.

In section 10.3, I will briefly summarize how complementation is handled in Langacker’s Cognitive Grammar, which strives to offer a conceptual characterization of traditional linguistic labels such as complement. Section 10.4 will discuss the patterns presented here in Cognitive Grammar terms and conclude that the use of the term ‘complement’, as understood in Cognitive Grammar, is warranted for the as-pattern. Section 10.5 offers some conclusions.

10.2 Previous analyses

To the best of my knowledge, cases such as (2b) and (2c) have so far received little attention in the literature, an exception being Broccia (2010) and (2014). Fischer (2007) mentions an example similar to (2b) in her discussion of a possible continuum in clause combining from mere juxtaposition to embedding, as is summarized in (5), which is based on Fischer (2007: 214–29):

\[(5)\]
\[\]
\[a.\ \text{Mere Juxtaposition (parataxis, no marking):}\]
\[\]
\[\text{I saw John at the garden centre - you know - John was buying flowers.}\]
\[\]
\[b.\ \text{Juxtaposition with adverbal or deictic particles or resumptive (anaphoric) elements:}\]
\[\]
\[\text{I saw John there. He was buying flowers.}\]
\[\]
\[c.\ \text{Hypotactic Integration:}\]
\[\]
\[\text{I saw John when he was buying flowers.}\]
\[\]
\[d.\ \text{Complete Integration (embedding):}\]
\[\]
\[\text{I saw John buying flowers.}\]

(2c), which is dubbed hypotactic integration by Fischer (2007), is akin to (2b), although the punctual perception verb see and the subordinator when, instead of watch and as, are used.\(^2\) It need not concern us here whether the continuum illustrated in (5) is valid phylogenetically and/or ontogenetically (but see Broccia 2014 on the former possibility and Silva 1991 for some more general discussion of the acquisition of temporal clauses). What matters at present is the assumption that all the four options illustrated above are functionally equivalent. If this is the case, then the alternatives in (5c) and (5d), as was argued in section 10.1, can be related to the notion of complementation. In fact, how contemporary linguists would argue against the classification of John buying flowers as a complement in (5d), while the classification of when he was buying flowers in (5c) appears to be more problematic. Given the functional equivalence of (5c) and (5d), the when-clause should not be treated (only?) as a temporal adverbial framing the matrix process of seeing. It is intuitively clear that the when-clause describes primarily the event in which John (the direct object) was engaged. Consequently, it would make sense to analyse the complement of saw as being made up of the string John when he was buying flowers, thus effectively equating the when-clause to a modifier of John, although this analysis should be explored in more depth.

The need to distinguish between two senses of ‘complementation’, one formal and one functional, also emerges in another important work, namely Deutscher (2000).\(^3\) He points out that ‘there is no clearly marked borderline between finite complements (which are clause arguments) and adverbial clauses (which are peripheral elements)’ (Deutscher 2000: 9). In his view, this explains why for example the Akkadian word kīma developed from an adverbial subordinating conjunction into a marker of complementation (a complementizer, see below). Interestingly, Deutscher (2009) distinguishes complementation as structural embedding from the Functional Domain of Complementation (FDC). Using the examples from Fischer (2007) above, we could argue that (5a) and (5d) both belong to the FDC. In both cases, the second clause – whether it be an independent clause as in (5a) or an embedded clause as in (5d) – depicts a percept, which is of course an essential part of the semantic characterization of a perception verb. However, structurally, only the second clause in (5d) exhibits syntactic subordination and hence counts as an instance of complementation (with a lower case 'c') in Deutscher’s sense. It would be more difficult to classify (5c) because, as Fischer (2007) points out, the degree of syntactic integration is lower than in (5d) and an intervening object is used. As was remarked above, the when-clause in (5c) and the as-clause (2b) may be analysed as modifiers of the object noun (at some level to be specified). By contrast, in (2c), where no intervening direct object is employed, the as-clause may more readily be identifiable as a complement in Deutscher’s sense because it is syntactically dependent on the main clause and clearly expresses the percept argument of watch. To be sure, the issue cannot be settled unless a more precise definition of what counts as a complement is offered.

What is of great importance for our purposes is Deutscher’s observation that the early history of kīma is reminiscent of that of English as (see
Deutscher (2000: 61). He observes that both kinna and as started out as comparative particles and subsequently became temporal and causal adverbials. Further, both kinna and as (at least in some dialects of English) ultimately ended up as complementizers. As an illustration for an, Deutscher gives ‘I don’t know as [= if, CB] you’ll like the appearance of our place’ (Oxford English Dictionary (OED), s.v. as, adv. and conj.). B.26). Another example, not mentioned by Deutscher but also offered in the OED is ‘That the Top ... should say, as [a that, CB] he would rather have such-a-one without a Great, than me with the Indies’ (s.v. as, adv. and conj.; B.26).4

What is remarkable is that the ‘complementizer’ use of as, that is, the use of as in the Vpsych pattern, seems to emerge in a specific context (the perception verb watch) which is relatively low in transitivity: cf. I saw *theron vs I watched (her). Deutscher (2000) points out that this is precisely what happened with Akkadian kinna, which developed into a complementizer in low-transitive contexts, involving, for example, perceptions verbs (see Deutscher 2000: 103, Table 3 for a summary).

In sum, although little has been written about the as-pattern specifically, references to similar phenomena in Fischer (2007) and Deutscher (2000), for example, show that the as-pattern should be treated at least functionally as belonging to (functional) complementation. In formal terms, the V0As-pattern, an instance of hypotactic integration in Fischer’s analysis, is at the boundary of ‘proper’ syntactic complementation, that is, embedding. The Vpsych pattern, in turn, is even closer to prototypical syntactic complementation by virtue of the lack of a nominal direct object. One could go as far as to say that, at least in the local context of perception verbs in the Vpsych pattern, as has developed into a complementizer.5

10.3 Complements and all that in Cognitive Grammar

As Deutscher’s (2000) work shows, it is of the utmost importance to have as clear a definition as possible of what one understands by the label ‘complement’. Indeed, Croft (2001) has revealed the classificatory problems and conceptual circularity of much of modern linguistics, where Aristotelian definitions and classifications are (probably) impossible. Still, the nature of the as-pattern should be investigated and systematized in any linguistic theory one adheres to. One important approach that avoids the definitional conundrum typical of modern linguistics is Langacker’s Cognitive Grammar (see Langacker 2008 for a recent and comprehensive review). Langacker not only proposes that syntax should not be regarded as an autonomous component of an autonomous language faculty, but also strives to provide conceptual characterizations of ‘traditional’ syntactic labels. He takes the following view:

[Traditional grammatical notions like head, adjunct, complement, and modifier are not themselves the basic units of (Cognitive Grammar)]

description. They are more accurately thought of as convenient labels for certain kinds of configurations commonly observable at the semantic pole of schematic complexes. Thus it is not expected that every construction will have a head, or that every component structure combining with a head will be clearly and uniquely identifiable as a complement or a modifier. Like the factors defining them, these latter notions are matters of degree and are not mutually exclusive. (Langacker 2008: 205)

In more detail, Langacker suggests that what is traditionally called a head can be equated with a construction’s profile determinant; this is the element that determines the entity that the construction describes or, in Cognitive Grammar terminology, profiles. For example, the nominal expression the key on the desk profiles a key, not a desk or a relation of contact between the key and the desk; hence, the profile determinant or head is key. A representation of a plausible compositional path illustrating how the various (sub)structures mesh together in the nominal the key on the desk is offered in Figure 10.1 where the substructures that determine the profile of an expression (so-called profile determinants) at various levels of conceptual organization are placed within boxes with a thicker perimeter. (For reasons of space, the semantic contribution of the definite article is ignored and hence the article is placed between brackets. The following description also omits various other features of the compositional path in Figure 10.1. The interested reader is referred to Langacker 2008 for details.) Within the nominal the key on the desk, the prepositional phrase on the desk is analyzed as a modifier, that is, a structure that contains a salient substructure elaborated by the head. The preposition on profiles a relation of contact between two elements since one element, the trajector (tr in Figure 10.1), is located with reference to the other, the landmark (lm in Figure 10.1), by virtue of being on top of the latter. In our example, the trajector of on is obviously a salient substructure of the relational predicate is and, crucially, the trajector of on is elaborated by key, which is the head of the nominal. Hence, on the desk is regarded as a modifier. In Figure 10.1, the substructures that are elaborated (so-called e-sites) are hatched, and dashed curves connect entities that have identical reference. Within the prepositional phrase on the desk, the desk counts as a complement (of on) because a complement is defined as a structure that elaborates or specifies in more detail a salient substructure of the head. The desk elaborates the landmark of on, and on is the head of the phrase on the desk, as this expression profiles a relation of contact, rather than a location. It is thus apparent that Langacker’s notion of complementation is a semantic/functional definition, which is by and large equivalent to Deutscher’s notion of the ‘Functional Domain of Complementation’.

Finally, Langacker uses the traditional label ‘adjunct’ for those cases where an element neither elaborates nor is elaborated by another structure. An example is angry in He went away angry, where angry is neither a complement
nor a modifier of go away (see Langacker 2008: 204-5). The emotional state leaves a place in it surely not a central feature of the event of leaving, so angry cannot be said to elaborate a salient substructure of that event and, hence, angry does not qualify as a complement. Further, angry does not contain any salient substructure that is elaborated by go away; a process is not a central feature for the conceptual characterization of angry; hence, angry does not qualify as a modifier either. On the basis of this analysis, an as-clause such as the preposed as-clause in (4), which has a temporal interpretation, cannot be described as an adjunct in Cognitive Grammar but rather as a temporal modifier. A temporal as-clause has a salient substructure, its trajectory, which is elaborated by the main clause (see section 10.4 for more details). Hence, from now on, I will refer to the purely temporal interpretation of an as-clause as the temporal modifier interpretation rather than the temporal adjunct interpretation, in keeping with Langacker’s terminology.

In the case of hypotactic integration investigated here, the as-clause clearly depicts a salient feature of the event of watching, namely the percept, and hence it would make sense to view it as a complement within a Cognitive Grammar framework. Still, it remains to be investigated how the various substructures in cases of hypotactic integration relate to one another. Although as-clauses may be prima facie described as complements, one should remember that in the VOs pattern a direct object is also present and, hence, the relation between the direct object and the as-clause must be investigated more thoroughly. However, from now on, for the sake of convenience, I will refer to an as-clause depicting an object of perception as an as-complement clause. Also, the relation between a ‘complement’ as-clause and the temporal ‘modifier’ interpretation, on the one hand, and the relation between the non-finite pattern and the as-pattern, on the other, should be studied in more detail. What conceptual operations underlie the use of a ‘complement’ as-clause in comparison with a temporal ‘modifier’ as-clause? What are the differences, if any, between the non-finite pattern and the as-pattern in conceptual terms? These issues are addressed in the next section.

10.4 A Cognitive Grammar analysis of the non-finite and as-patterns

10.4.1 The infinitival pattern

Having pointed out that the as-pattern is semantically comparable with the non-finite pattern, we must now offer conceptual characterizations for both, which account for their similarity. Let us start with the infinitival pattern. First of all, it is helpful to consider how the verb watch is defined in dictionaries. The Longman Dictionary of Contemporary English, for example, paraphrases the sense of watch that we are dealing with as ‘to look at someone or something for a period of time, paying attention to what is happening’. Similarly, the OED defines watch as ‘to keep (a person or thing) in view in order to observe any actions, movements, or changes that may occur’ (s.v. watch, v.11). It is thus apparent that the object of perception or percept is not simply a person/thing but, rather, a participant (potentially) engaged in an event. The definitions given in the two dictionaries can thus be conveniently translated into Cognitive Grammar terms by saying that the percept of watch, at least as a first approximation, profiles a person/thing against a processual base, that is, a person/thing is profiled against the background (base) of an event (a process). The conceptual import of watched in a sentence such as Harry watched Sally can therefore be depicted diagrammatically as in Figure 10.2.
both a person/thing and the process in which the person/thing is engaged. I would contend, however, that the 'head' or profile determinant of the complement is indeterminate in the sense that it may be identified with either the person/thing or the process. Although it was claimed above, on the basis of the dictionary entries, that the person/thing is what is profiled against the processual base, there is no reason why the alternative option where the overall process is the profile determinant should be excluded. The difference between the two cases amounts to where the spotlight of focal prominence is directed. In the sentence under discussion, it can be directed either onto Sally, the participant that corresponds to the trajector of the fetching process, or onto the whole fetching process. I will take the representation in Figure 10.3 as depicting the former option and that in Figure 10.4 the latter. Since the process is regarded as the profile determinant, the box containing it has been highlighted in bold in Figure 10.4.

It is important to point out that, even in the latter case, the arrow depicting visual contact is directed from $H$ to $S$ rather than stopping at the boundary of the box for the fetching event, as in the hypothetical conceptual representation in Figure 10.5.

A representation such as Figure 10.4 is to be preferred over that in Figure 10.5 because only Figure 10.4 conveys the intuition that the fetching event is accessed using Sally as a reference point (see Langacker 2008: 83-5 on the reference point ability). Indeed, the special status conferred upon Sally is reflected 'syntactically' by its nature as a direct object. Sally is thus given some degree of prominence even when the whole process of fetching is regarded as the head of the eventive percept.

Finally, there is another point which is worth remarking upon. The conceptual characterization offered in Figure 10.3 is in a sense similar to what traditional syntacticians would deem to be impossible in English, namely

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Figure 10.2  Diagrammatic representation of Harry watched Sally

Figure 10.3  Diagrammatic representation of Harry watched Sally fetch the vase

Figure 10.4  A processual profile determinant for the perceptual complement
Figure 10.5 An alternative analysis of the perceptual complement

what they would call an infinitive relative clause. As was pointed out above, Figure 10.3 is intended to show that Sally is the head of the perceptual complement. In other words, the profile determinant in Figure 10.3 is nominal in nature rather than processual as in Figure 10.4. One may thus be tempted to consider the non-finite component fetch the vase a modifier since one of its salient substructures (the trajector) is elaborated by the head of the complement, Sally. It should be noticed, however, that the conceptual relations holding Sally fetch the vase together involve the verb watch and are thus more complicated than an ‘infinitive relative clause’ would suggest. As was remarked above, Sally is understood against a processual base because of the nature of the perception verb used. Consequently, although the trajector of fetch the vase is elaborated by Sally (that is, the former would count as a modifier in traditional analyses and in Cognitive Grammar), fetch the vase also elaborates a structure associated with Sally, namely its processual base. The processual base is not intrinsic to the characterization of Sally as a participant since participants are conceptually relatively autonomous in contrast to processes (see for example Langacker 2008: 200). Therefore, fetch the vase is probably not to be regarded as a complement with respect to Sally, but the point remains that fetch the vase is not simply an ‘infinitive relative clause’ either.

In sum, the non-finite pattern can be analysed as involving a ‘complement’ whose head is either fetch or Sally; the latter option implies that to some extent, at least, the non-finite structure fetch the vase is a ‘non-finite relative clause’.

10.4.2 The V(0)as pattern

In order to make sense of the first of the two as-patterns that need to be discussed, namely the V(0)as pattern, it is important to start off by considering the case where the as-clause merely depicts a temporal frame, that is, when the as-clause is used as a temporal adjunct (in traditional terminology) or temporal modifier (in Cognitive Grammar terminology). As was observed in section 10.1, in such cases the as-clause can be preposed, as in As she fetched the vase, Harry watched Sally. A diagrammatic representation of a possible compositional path for this example is given in Figure 10.6.

As profiles a relationship between two events, one ‘containing’ the other. This has been shown as the two nesting squares at the lowest level of the compositional path in Figure 10.6. (For the sake of simplicity, the processual nature of the two events has been ignored and only two squares have been used.) The ‘containing’ event (the landmark) is the process elaborated by the verb in the as-clause, here the process of fetching, while the ‘contained’ event (the trajector) is the process elaborated by the main clause here the process of watching. The overall profile determinant is the main clause, hence in Figure 10.6 the square for the landmark at the lowest level in the compositional path and the rectangle for the watching event at the highest level in the compositional path have been emboldened.

The conceptual representation in Figure 10.6 thus differs from that of Figure 10.3 in terms of containment. The complement interpretation of the fetching event implies that the fetching event is contained within the watching event. Although the fetching event may in fact have a temporal extension which is greater than that of the watching event, at least a subpart of the former must be contained within the latter. By contrast, the as-temporal modifier interpretation requires the opposite arrangement in that the watching event should be contained within the fetching event. It is obvious that the as-complement interpretation stems from the fact that the as-event may be construed as both a temporal frame and an object of perception, which here is due to the correspondence between Sally and she (Harry watches Sally, who is involved in a temporal framing process, that of fetching the vase). This may trigger the reinterpretation of the as-clause as a complement, in particular if the as-clause follows the main clause. My contention is that such a reinterpretation is not ‘pragmatic’ in nature, that is, it is not a contextual interpretation but is part of our knowledge of English.

In other words, I assume that the as-complement interpretation is stored as a construction (in the Construction Grammar sense, see Goldberg 2013) in our mind. Still, it is clear that a conceptual representation such as Figure 10.6 cannot depict the nature of the complement interpretation satisfactorily because it is too dissimilar from the representation for the non-finite pattern, of which the as-clause can be an equivalent.

I contend that the tension between the as-temporal interpretation and the as-complement interpretation can be solved if the relation of containment of the watching event within the fetching event becomes derivatvie; that is, in the as-complement interpretation, the percept, rather than the watching event itself, is what is contained within the fetching event (see Figure 10.7). This amounts to saying that the percept (symbolized by Sally) rather than
Figure 10.6  The as-clause as a temporal modifier

Figure 10.7  Diagrammatic representation of the VOx pattern
the watching event is the trajectory of its. Further, redirecting the trajectory of as from the watching event as a whole to one of its constitutive subparts can be regarded as an instance of Langacker’s profile/active zone asymmetry (see Langacker 2008: 331–4). The person/thing being observed is of course a salient subpart of the watching event and is targeted as the trajectory of as when the as-clause is used to depict an object of perception rather than a temporal frame. If one would like to stick to traditional labels, one could say that the complement of the verb is Sally as she fetched the vase since this string elaborates the percept of watch. The head of this complement may be identified with the nominal Sally, of which as she fetched the vase would then be a modifier. Still, as in the non-standard analysis of the infinitive as a ‘relative’ clause, it should be stressed that the situation is more complex than these traditional labels suggest. One very important aspect underlying the interpretation of the as-clause as a percept is that the as-clause must depict a process that is put in correspondence with the processual base of the person/thing being watched. Diagrammatically (see Figure 10.7), this is represented by means of the dashed straight line connecting the box that describes the percept of watch with the box for the force-dynamic process of fetching: the fetching event is categorized as an instance of the processual base of the percept of watch.

The configuration in Figure 10.7 is thus now similar to that in Figure 10.3, which is how it should be given that both configurations pertain to a complement interpretation. A difference seems to involve the fact that the box for the fetching event ‘overspills’ the boundaries of the box for watch in Figure 10.7 but not in Figure 10.3, where the whole of the box for the fetching event is depicted inside the box for the watching event. But, as was remarked above, the non-finite pattern is of course compatible with a scenario where the eventive percept of the watching event only corresponds to a subpart of the process profiled by the non-finite verb: one can watch somebody fetch a vase even if only a part of the fetching event is observed. As is pointed out by Egan (2008: 147–9), the use of an infinitive form over an -ing form with watch does not imply that the whole event profiled by the infinitive was witnessed. I have preferred not to represent this aspect explicitly in Figure 10.3, focusing instead on the dependency relation between watching and fetching. The fetching event is conceptually subordinate to the watching event, even if only a part of it may be observed, in the sense that it falls within the scope of the watcher’s attention. In contrast, Figure 10.7 shows the potential ‘overspilling’ of the fetching event explicitly, so as to underline the origin of the as-complement interpretation from the atemporal modifier interpretation. Intuitively, the ‘overspilling’ seems to be more salient in the case of the as-pattern than in the case of the non-finite pattern, although this point should be the subject of future research.

In sum, in this section I have argued that as does not always take a compositional trajectory (a clause) but can also take a nominal trajectory (Sally in our example). In the VOas pattern, the string Oas (Sally as she fetched the vase) is analysable as a ‘complement’ within which the as-clause functions similarly to what is traditionally regarded as a modifier. Independent evidence for this characterization of as is offered by examples such as (6), where the as-clause is akin to a relative clause (cf. ‘... drawing a picture of Sally who was trying to teach Hayley to roll over’):

(6) Later in the evening I sat outside, drawing a picture of Sally as she tried to teach Hayley to roll over. (Tracey Baptiste, Angel’s Grace, p. 22)

Needless to say, it is important not to confuse the traditional labels with the conceptualist position adopted in Cognitive Grammar. For the sake of convenience, however, I will say that in the VOas pattern the as-clause functions as a modifier, whose conceptual nature is explored in some detail by means of Figure 10.7.

10.4.3 The Vas pattern

We now need to examine the Vas-pattern, which, unlike the VOas pattern, lacks a nominal direct object. One possible analysis would be consonant with that adopted for the VOas pattern. This possibility is explored in abbreviated fashion in Figure 10.8, which only shows the final result of the compositional path.

Figure 10.8 The Vas pattern involving a ‘null’ direct object
On this analysis, it is assumed that *watch* makes reference to a covert entity, represented as the hatched region in Figure 10.8, which is equated with the trajectory of *fetched* in the *as*-clause. As before, the integration of the process of watching with the *as*-clause would require the fetching event to be construed as an instantiation of the processual base of the percept of *watch*. Still, this analysis is not completely satisfactory in Cognitive Grammar because it would be similar to recognizing the existence of a null element (a null direct object) which is referential with the trajectory of *fetched*, symbolically *Harry watched* θ, as *Sally fetched the vase*. Given Cognitive Grammar's Content Requirement (see Langacker 2008: 24-45), which bans empty elements such as null objects in the sense of generative grammar, it is worth asking whether alternatives exist. My answer is affirmative and is summarized in Figure 10.9.

In Figure 10.9, the trajectory of *as* is analysed not as the person/thing that is part of the percept of *watch* but as the whole percept. Further, unlike the analysis in Figure 10.8, there is no 'null' direct object, in that Sally is equated with the trajectory of the processual percept of the verb *watch*. In other words, the event of fetching is projected onto the percept of *watch*. However, it should be observed that only a portion of the event of fetching is in fact equated with the percept of *watch*, which is what the middle tier in Figure 10.9 is intended to show. Watching implies the tracking through time of a person/thing; as here restricts the temporal scope of the fetching event to a subpart and it is this subpart that corresponds to the percept of *watch* or, to put it differently, it is this subpart that is tracked through time by the watchee (*Harry*). Hence, *t*, the amount of time that the event of watching occupies, is a subpart of *t*, the temporal profile of the whole event of fetching. Crucially, the relation of temporal containment is derivative because containment stems from the fact that the percept of *watch* is a subpart of the fetching event. If this were not so, we would end up with the temporal modifier interpretation illustrated in Figure 10.3. Instead, in the case depicted in Figure 10.9, *as* is in effect functioning as an imperfectivizer (see also Broccias 2011), that is, in a similar capacity to an *-ing* form. As, like *-ing*, restricts the scope of attention to a subpart of the process profiled by the verb appearing in the *as*-clause in the sense that the beginning and end points of this process are not in focus.

Indirect support for an analysis along the lines of Figure 10.9 may come from considering the contrast in (7):

(7) a. Harry saw Sally as she fetched the vase.
   b. *Harry saw as Sally fetched the vase.*

See differs from *watch* in that a processual base for the person/thing which is coded as a direct object is much less salient than with *watch*. While one watches someone/something because one is interested in the course of
action in which that person/thing is involved or may be involved, see highlights the perception of a person/thing rather than the tracking through time of an entity. If the analysis offered in Figure 10.8 were on the right track, we should expect (7b) to be possible. SALLY would correspond to the ‘null’ object of saw. Instead, if we opt for the analysis in Figure 10.9, we could argue that the percept of saw cannot instantiate the process profiled in the as-clause because the processual character of the former is not sufficiently strong. In other words, there appears to be a clash between the extended nature of the as-event and the nature of the percept of the verb see, which does not necessarily involve temporal extension. This may ultimately be related to the punctual nature of the verb see itself. It seems that the temporal extension implied by the as-clause must be mirrored by the matrix event, but this mirroring of temporality (or lack thereof) is only compatible with a conceptual representation along the lines of Figure 10.9.

10.5 Conclusion

In this chapter I have studied hypotactic integration within a Cognitive Grammar framework. One of the advantages of Cognitive Grammar is that it goes beyond traditional labels such as ‘head’, ‘complement’ and ‘modifer’ by investigating the conceptual operations that account for their emergence in linguistic analysis. Also, Cognitive Grammar makes extensive use of diagrams, which are employed as a heuristic tool for exploring meaning. These two aspects have played a crucial role in the present investigation. I have first pointed out that the interpretation of as-clauses as depicting eventive percepts should not be dismissed as a ‘pragmatic’ reading, but rather should be treated as an instance of a construction in its own right which competes with the non-finite pattern. The analysis of the non-finite pattern has led me to the conclusion that the head of the non-finite complement is indeterminate: it can be equated with either the verbal process or the person/thing engaged in it. The latter analysis, in particular, implies that an infinitive verb could, in some sense, be regarded as a relative, using traditional terminology. In the case of the as-pattern, I have underlined that a paradox seems to exist between the relation of containment demanded by the as-clause as a temporal modifier and its use as a means of depicting an eventive percept, which requires the watching event to have scope over the perceived event. I have argued that this paradox can be resolved by restricting the relation of containment to a subpart of the perceiving process, namely that including the percept. This conceptual representation amounts to viewing (in part) the as-clause in the VOas pattern as a noun modifier. Turning to the Vaz pattern, I have proposed that the as-clause functions as a complement. In particular, the temporal subordinator can be viewed as an imperfectiveizer, allowing the percept to be equated with at least a subpart of the event expressed by the temporal clause.

The present study thus shows that a detailed investigation of hypotactic integration demands reference to the complexities of conceptual integration and highlights the need to go beyond traditional syntactic labels by exploring their conceptual underpinnings. It also makes us aware of the changing nature of the subordinator as, which at least in conjunction with perceptions verbs, seems to have developed, in a sense, into a complementizer.

Notes

1. Correlation, of course, is not the same as causation in the sense that a post-verbal position does not necessarily force a percept interpretation upon an as-clause, as the following example shows:

   (i) White House ‘watching’ as state of emergency called (http://www.theguardian.com world/egypt, 15 August 2013)

   (ii), which refers to the social unrest that occurred in Egypt in the summer of 2013 resulting in President Morsi’s deposition, contains an as-clause which functions as a temporal adjunct. The United States is ‘on the watch’, that is, it is keeping an eye on events unfolding in Egypt after the ousting of President Morsi. It may be worth pointing out, however, that so far I have not come across any examples of a proposed as-clause which functions as a percept rather than as a temporal adjunct.

2. Corpus data shows that the most common pattern of hypotactic integration for visual perception verbs involves the verb watch and the subordinator as (see Broccia 2010).

3. Traditionally, one of the tests used to distinguish between ‘complement’ and ‘adjunct’ is the as to test (see, for example, Huddleston and Pullum 2002: 222–3) but, as my focus is on functional equivalence and I do not regard ‘complement’ and ‘adjunct’ as primitive syntactic concepts (see section 10.3), I will omit any discussion of this test here.

4. It is unlikely, however, that the Vaz pattern under discussion is related to such dialectal uses. Broccia (2014) shows that Vaz has a relatively recent pattern. Until the end of the nineteenth century the preferred pattern for hypotactic integration was V0as rather than Vaz (see also example (3) above from the late nineteenth-century writer Hardy).

5. The as-pattern is of course not limited to the verb watch. The prepositional verb listen, which like watch has a durative nature (as the punctual nature of hear and see, respectively), can also be used in the V0as and Vaz patterns, as is shown in (ii) below. Here the label ‘O’ must be understood as also covering prepositional objects such as to Sally in (ii.a).

6. (a) a. Harry listened to Sally as she spoke about climate change. (V0as pattern)
   b. Harry listened as Sally spoke about climate change. (Vaz pattern)


7. I have also omitted the temporal arrow in the box depicting the event Sally may be engaged in because this would lead to a discussion of the difference between the notions of summary and sequential scanning, which I do not subscribe to (see Broccia and Hollmann 2007), at least in cases such as those analysed here.
11 Control in Free Adjuncts in English and French: a Corpus-Based Semantico-Pragmatic Account

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11.1 Introduction

Three main sorts of approaches to control can be found in the linguistic literature: syntactic, semantic and pragmatic. The syntactic approach can be exemplified by Boeckx et al. (2010), who treat obligatory control as syntactic movement rather than binding, making PRO ‘simply a residue of movement – the product of the copy-and-deletion operations that relate two theta-positions’ (Hornstein 1999: 78). Thus in the derivation of John hopes to leave; John starts out in the subordinate VP [John leave] and raises to the sentential level, checking two theta-roles on its way and ending up with two cases, one corresponding to the ‘hope’ and the other to the ‘leave’ role. This purportedly explains the subject control reading (henceforth SC). In a purely conceptual approach such as that of Culicover and Jackendoff (2005), it is the semantic content of the matrix verb rather than syntactic movement which is the key factor. They argue that since control remains constant with a given lexical notion over a wide variety of constructions it cannot be a syntactic phenomenon — thus in (1a–d) below with the notion ‘order’, the NP Fred is understood to control John in all cases even though its syntactic position varies considerably:

(1a) Bill ordered Fred to leave immediately.
(1b) Fred’s order from Bill to leave immediately.
(1c) The order from Bill to Fred to leave immediately.
(1d) Fred received Bill’s order to leave immediately.

Culicover and Jackendoff propose that with non-finite action complements only one controller is possible – ‘the character to which the head assigns the role of actor for that action — whatever its syntactic position’ (Culicover and Jackendoff 2003: 524): with promise the complement’s subject is controlled by ‘the giver/maker of the promise, wherever that character may be located in syntax’ (Culicover and Jackendoff 2003: 529); with persuade the controller is always the person persuaded. An example of a pragmatic approach