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As-*simultaneity Clauses as Complements of Perception Verbs: The Case of* Watch

1. *Introduction*

As is well known, perception verbs like *watch* can occur with both bare infinitive and *-ing* complements:

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

Quirk *et al.* (1985: 1206) explain that "[t]he bare infinitive, having nonprogressive meaning, implies that Bill did the whole job while Tim was watching; the *-ing* clause, with progressive meaning, has no such implication." Using Langacker's well-known distinction between perfective and imperfective processes (see e.g. Langacker 2008: 147-151), Quirk *et al.*'s observation translates into the contention that the *-ing* pattern is imperfective (to put it technically, it profiles an unbounded region within the temporal scope of predication) while the bare infinitive pattern is perfective (i.e., it profiles a bounded region within the temporal scope of predication). However, in the most recent and detailed corpus-based study of these two complementation types, Egan (2008) points out that the claim that the bare infinitive dependent on a perception verb is perfective only holds with a telic predicate, of which *mend* in (1) is an example.

With atelic predicates like *weep* and *trot away down the road*, as in (2) and (3) (see examples (334) and (338) in Egan 2008), the bare infinitive can also be used and its construal is an imperfective one:[1]

(2)   He did not like to **see** women <u>weep</u> in public.

(3)   He **watched** her <u>trot away</u> down the road, red stirrup light shining on Midnight's dark flank.

Egan's study therefore reveals that a corpus-based analysis of complementation patterns of perception verbs depicts a much more complex picture than is traditionally assumed. In the same spirit, in this paper I will argue that the analysis of complementation patterns of perception verbs should also take into account cases which have so far been ignored.[2]

The *-ing* and bare infinitive patterns – which I will refer to collectively as the non-finite pattern – do not exhaust the complementation types found with perception verbs. Consider the following examples from the British National Corpus (BNC),[3] which all involve an arrangement/preparation scenario:

(4)   She **watched** Victor <u>place</u> two tall, white, tapered candles under delicate, hand-cut, antique glass hurricane covers, and carefully <u>fold</u> starched Irish linen napkins monogrammed with the initials C.S. (FRS 2792)

(5)   The rector leant against the dresser and **watched** her$_i$ as she$_i$ <u>fetched</u> a vase and <u>arranged</u> the freesias. (ASE 1937)

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[1] Egan also reports that the use of the imperfective infinitive is rare with *see* but is common with *watch*. The ratio of perfective to imperfective bare infinitives is almost 1:1 with *watch*. Egan explains the difference between *see* and *watch* by appealing to the durative and agentive nature of *watch* (see Egan 2008: 149).

[2] Even in the most recent study on English perception verbs, Gisborne (2010), which appeared at the time of writing, the pattern discussed immediately below in the text is not considered.

[3] All examples followed by a sequence of letters and numbers in parentheses are taken from the BNC. The sequence identifies the location of each example in the corpus.

(6)   She pulled her jumper off and handed it to him, then **watched as** he <u>spread</u> it out and <u>laid</u> the dead animal on it. (FRF 181)

(4) illustrates the non-finite pattern, here in its bare infinitive version. Observe, incidentally, that it is difficult to say whether the infinitives are to be construed perfectively or imperfectively. The placing event may be construed perfectively because it refers to a relatively short action and only involves two candles. The folding event, by contrast, may receive an imperfective construal because it seems to depict an iterative action involving a relatively large group of objects (the napkins). I will refer to the non-finite pattern such as in (4), whether in the base infinitive or *-ing* form, as VOv, where V stands for the (matrix) perception verb, O for the direct object and v for the subordinate verb. (5) and (6) differ from (4) in that, instead of a non-finite complement, an *as*-clause, i.e., a finite clause, is used. In (5), the matrix verb and the *as*-clause are separated by *watch*'s direct object (*her*), which is coreferential with the *as*-clause subject. In (6) no direct object is employed and the *as*-clause immediately follows the matrix verb. I will refer to the pattern in (5) as VO*as* and to the pattern in (6) as V*as*.

The use of a complement *as*-clause is, of course, easy to explain.[4] If the watching of e.g. a person takes place while she is engaged in some activity, as expressed by the simultaneity *as*-clause, the temporal (adjunct) *as*-clause can be reanalyzed as a complement depicting the object of perception, i.e., the event in which the person being watched is involved. Notice that the two construals of the *as*-clause as a temporal adjunct vs. complement can in principle be distin-

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[4] Reasons of space prevent me from offering a detailed discussion of the label "complement". Cases like (5) and (6) are usually treated, from a syntactic point of view, as illustrating hypotactic integration (see e.g. Fischer 2007: 214-215) rather than embedding, which is usually taken to refer to the formal side of "complementation". Hence, some readers may not be comfortable with my (loose) use of "complement" to refer to *as*-clauses in (5) and (6). Still, since the *as*-clauses in (5) and (6) are understood as depicting an object of perception rather than (primarily) a temporal frame (which would be coded by an adjunct), see the discussion in the text immediately below, I will continue to use the term "complement" for the sake of brevity and simplicity.

guished by e.g. presence vs. absence, respectively, of an intonation break (a pause) before the complementizer *as*. Further, temporal *as*-clauses, unlike complement *as*-clauses, can be moved to the front of the sentence. The *as*-clause in (5) can be construed as either a temporal adjunct or a complement,[5] but the same *as*-clause at the front, as in (7), can only be construed as a temporal adjunct.

(7)   **As** she <u>fetched</u> a vase and <u>arranged</u> the freesias, the rector **watched** her.

Alongside *as*, other complementizers can be resorted to in temporal clauses which function similarly to complements. An obvious option is the other simultaneity subordinator, *while*, as in (8):

(8)   Having **watched** in silence **while** she <u>drank</u> most of it, he observed, "Your colour's coming back now." (JY2 178)

One more possibility obtains if the subordinate verb is an accomplishment, such as *melt* in (9). It is then possible to paraphrase the complement clause with a temporal one introduced by *until*, i.e., *until he melted into the crowds* in the case at hand. Indeed, similar occurrences are found in the BNC, as (10) illustrates.

(9)   [...] she **watched** him <u>melt</u> into the crowds. (HGY 75)

(10)   They **watched** in silence **until** he <u>came</u> closer [...]. (JXU 3106)

This paper intends to study whether any differences can detected between the finite vs. non-finite patterns introduced above. In order to do so, data from the BNC were collected, as is explained in Sec-

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[5] This amounts to saying that the distinction between a complement reading and an adjunct reading in cases like (5) may be a matter of degree (see also e.g. Langacker 2008: 205 on the distinction between complements and adjuncts). By saying that the *as*-clause functions as a complement, I simply mean that the *as*-clause can be replaced by the non-finite pattern without much difference in meaning (see also note 4).

tion 2. However, given the dearth of examples such as (8) and (10) in the BNC, only *as*-clauses are considered here. Further, because of the paucity of examples of perceptions verbs other than *watch* taking *as*-complements, my investigation is of necessity restricted to the perception verb *watch*. Using the BNC data, I argue that the patterns VOv, VO*as* and V*as* differ not only in terms of syntactic integration, VOv being the most syntactically integrated and V*as* the least syntactically integrated, but also in terms of construal. Section 2 shows that the VOv pattern exhibits a greater preference for change (of state/place) verbs, which constitute the most common verb type found in the three patterns, than the other two patterns. Nevertheless, such verbs tend to be more schematic (i.e., less manner-specific) in the VOv pattern than in the VO*as* and V*as* patterns. Further, the VO*as* and V*as* patterns are found with multiple v's more frequently than the VOv pattern. Sections 3 and 4 argue that these findings can be used to test Givón's (2001) and Haspelmath's (2008a) approaches to the relation between form and meaning in the analysis of complementation patterns. Givón's approach claims that syntactic integration mirrors semantic integration but, under the complement reading, *as*-clauses differ "minimally" from non-finite complements (i.e., in terms of construal). Haspelmath's approach claims that the most frequent pattern is also the shortest. This is indeed the case with the patterns under investigation in that the most frequent pattern, VOv, is also the shortest syntactically and combines less frequently with multiple v's than do VO*as* and V*as*. However, Haspelmath's approach has nothing to say about differences in meaning between the three patterns. The paper therefore concludes arguing that both Givón's and Haspelmath's approaches are needed and that neither should replace the other.

2. *Data Extraction, Annotation and Analysis*

The obvious question in the analysis of the patterns introduced in Section 1 is whether any differences can be detected between them. It is immediately apparent that the three patterns, VOv,

VO*as* and V*as*, are not alike in terms of syntactic integration or clause union (see Givón 2001: Ch. 12) with respect to the matrix clause. If we take non-finiteness, absence of a complementizer and presence of an object as indicative of greater syntactic integration, then the VOv pattern turns out to be the most integrated of all and the V*as* the least integrated.[6] Another dissimilarity is the fact that, if an intervening manner adverbial is used, then the only possible pattern is V(O)*as*,[7] as is shown in (11a) for V*as*, see also (8) and (10) above for similar examples with *while* and *until*-clauses. No occurrences with the structure of (11b) are found in the BNC.

(11) a. Kate **watched** in amazement **as** Lizzy <u>stirred</u> her coffee. (FAB 3360)
      b. *Kate **watched** in amazement Lizzy <u>stir</u> her coffee.

Although the possible use of intervening adverbials in the V(O)*as* pattern sets V(O)*as* and VOv apart (and, hence, may motivate the use of the former over the latter), I will not consider such cases in this paper. My concern here is with trying to understand what differences, if any, may exist between the three patterns when all of them are possible. As I pointed out above, research has to date only focused on the VOv pattern, with the aim of establishing what interpretations ensue from the use of the bare infinitive vs. the *-ing* form. To the best of my knowledge, no attention has been paid to the V(O)*as* pattern, probably because simultaneity clauses have been a rather neglected topic of investigation, both synchronically and, especially, diachronically (but see Broccias 2006a, 2006b, 2008 on Present-day English; Broccias & Smith 2010 on Late Modern English).

In order to investigate whether further contrasts (i.e., alongside the ones mentioned above) obtain between the three patterns, I ex-

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[6] VO*as* is not only more integrated syntactically than V*as* but is also more complex syntactically. VO*as* is more integrated syntactically because the matrix clause and the subordinate clause are linked explicitly by the coreferential matrix object (O) and *as*-subject. Further, it is more complex syntactically because, trivially, the former has one more element, i.e., the O between V and *as*, than V*as*.

[7] I use V(O)*as* (pattern) to refer to VO*as* and V*as* simultaneously.

amined data collected from the CQP Edition of the BNCweb (http://escorp.unizh.ch/). I extracted automatically all occurrences of the perception verb *watch* in the past (i.e., *watched*) from the imaginative domain[8] where the direct object, if present, was a pronoun or a one-word noun and, when an *as*-clause is used, where the subject of the *as*-clause was also a pronoun or a one-word noun. The queries used for extracting VOv, VO*as* and V*as* examples are reproduced, in that order, in (12):

(12) a. watched (_PNP|_NN0|_NN1|_NN2|_NP0)
      b. watched (_PNP|_NN0|_NN1|_NN2|_NP0) as (_PNP|_NN0|_NN1|_NN2|_NP0)
      c. watched as (_PNP|_NN0|_NN1|_NN2|_NP0)

Only the verb *watch* was used because a preliminary exploration revealed that occurrences with other perception verbs were virtually absent in combination with *as*-clauses.[9] For example, the verb *observe*, a synonym of *watch*, occurs only once with an *as*-clause in the whole BNC. Further, the past form *watched* – this can also be the past participle form as in *had watched* – and the imaginative written domain were selected because previous investigations (see Broccias 2006b, 2008) have shown that simultaneity *as*-clauses are particularly common in past contexts and in written, fictional language. Finally, the restriction on subjects and objects which are pronouns or one-word nouns was dictated by the need to simplify the retrieval process. This is of course a limitation of the present study and, therefore, there is no a priori guarantee that results like those reported below will be obtained if subjects and objects are not of the types considered here (even though, at least intuitively, it is difficult to see why this dimension of variation should affect the statistics).

The automatic extraction procedure resulted in 665 hits for VOv, 129 hits for V*as* and 59 hits for VO*as*. The hits were then inspected manually so as to discard irrelevant cases (e.g., where the

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[8] The imaginative domain in the BNC includes samples of written, fictional language.

[9] The verbs considered were those reproduced in Egan's (2008) Table 1 on p.406 with the addition of the verb *listen*.

object of *watch* was not coreferential with the subject of the *as*-clause). The matches thus obtained were 639 for VOv, 125 for V*as* and 55 for VO*as*.

The data were then analyzed according to various parameters, namely the form of the verb used (i.e., whether a bare infinitive or an *-ing* participle is used in the VOv pattern), the contrast between perfective and imperfective construal, the number of v's used, the semantic types and the tokens used for the v's. I will now detail the various parameters in turn.

In the case of VOv, the v's were divided into bare infinitives and *-ing* participles. The percentage of bare infinitives was about 86% and that of participles 14%, which confirms Egan's (2008) finding, although the preference for bare infinitives with *watch* is even stronger in my data set since, out of Egan's 190 examples, only 69% are bare infinitives (the difference between the two data sets is statistically significant at the 0.01 level).[10, 11]

Since the notion of (im)perfectivity figures prominently in Egan's (2008) study, I also tried to code the data for this dimension. Unfortunately, it often proved difficult (for me at least) to make a decision about this parameter because of context dependency. For example, it is difficult to say whether the *as*-event is to be construed perfectively in (13) in the absence of further clues. A similar example such as (14), by contrast, is probably easier to categorize – as perfective – because of the following telic *until*-clause.[12] Further, when more than one v is used, as in (15) (which reproduces (5)), not all predicates may be construed in the same way, see the discussion of (5) in Section 1.

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[10] The chi-square test was used for all statistical calculations.

[11] Interestingly, one example contains both a bare infinitive and an *-ing* participle:

(i) Patrick watched Chris <u>setting off</u> down the 10th and then <u>cut</u> across to the 11th green, which was quite close. (HTJ 2247)

This example was disregarded in the statistical calculation of the difference between my percentage of non-finite forms and Egan's.

[12] But observe that the *until*-clause may actually refer not to visual perception on the part of "the other two men", i.e., the subject, but may reproduce the writer's perceptual point of view, which then makes the classification of the *as*-event as perfective potentially questionable.

(13)   Her cheeks flushed, her heart fluttering, Joan **watched as** he <u>moved away</u>. (B3J 2908)

(14)   ... the two other men **watched as** he <u>scampered</u> across the open ground, until some twenty seconds later he reached the safety of the trees. (K8T 1199)

(15)   The rector leant against the dresser and **watched** her$_i$ **as** she$_i$ <u>fetched</u> a vase and <u>arranged</u> the freesias. (ASE 1937)

Although (im)perfectivity judgements are fraught with problems (and, for this reason, I will refrain from offering statistics about them), the point made by Egan (2008) remains that bare infinitives can be construed imperfectively with *watch* and that this is not uncommon.[13]

The number of v's used was also considered. In the data from the BNC, up to five v's can be found in VOv, four in VO*as* and three in V*as*. Some examples, ranging from one v to five v's, are offered in (16) to (20).

(16)   But Ben soon tired of such games and merely **watched as** Meg <u>went</u> from shop to shop, unchallenged by the android shopkeepers. (FRF 501)

(17)   He **watched as** Siban <u>went</u> out through the door, and then <u>glanced</u> at Alexei. (G17 900)

(18)   She **watched as** he <u>walked</u> to his desk, <u>reached</u> across it, and <u>pressed</u> a button. (JY7 2896)

(19)   Cati's eyes opened, gummily, and she **watched** Rosa **as** she <u>smoothed</u> the bed, <u>patted</u> her hand, <u>wetted</u> the cloth again and <u>adjusted</u> it gently on her brow. (GUX 919)

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[13] Since deciding whether an event is perfective or imperfective is no trivial task, it follows that Egan's figures, notwithstanding his point, should also be approached carefully.

(20)　She **watched** Aggie <u>ease</u> it off her flesh, then <u>take</u> a nightdress from a drawer and <u>pull</u> it over her head, and lastly, <u>sit</u> on the side of the bed and <u>draw</u> off her stockings. (CK9 594)

The occurrences of multiple v's is summarized in Table 1. Statistically, the difference in percentages between the three patterns (in terms of cases where multiple subordinate verbs are used vs. cases where only one subordinate verb is used) is only statistically significant (at the 0.05 level) when comparing VOv with V*as*. The number of VO*as* instances with multiple v's is too low to warrant any firm statistical conclusions. Still, if the observed trends are confirmed by larger data sets, it seems that the V(O)*as* pattern favours the use of multiple v's.

	VOv		VO*as*		V*as*	
	raw	%	raw	%	raw	%
more than one v	113	17.7	14	25.5	46	36.8

Table 1 – Multiple v's

Since change (of position/state) verbs occur very frequently in simultaneity *as*-constructions – Broccias (2006b) finds that change verbs account for about 72% of simultaneity *as*-clauses in the fiction section of the BNC – I also coded each v for this dimension, see Table 2.[14] Table 2 also reports on whether v, as a change verb, is schematic or manner-specific, as the contrast between (13) above, where v (*moved*) is schematic, and (14), where v (*scampered*) is manner-specific, illustrates. All three patterns favour change verbs, which is, in fact, not surprising since one usually watches in order to detect change. Yet, change verbs are slightly less common in the V(O)*as* pattern. Statistically, however, the difference between the three patterns (in terms of change verbs vs. non-change verbs) is only significant (at the 0.01 level) when comparing the VOv pattern with the V*as* pattern. Table 2 also shows that manner change verbs are more

common in the V(O)*as* pattern. Statistically, the difference between the three patterns (in terms of manner change verbs vs. non-manner change verbs) is only significant (at the 0.05 level) when comparing the VOv pattern with the V*as* pattern. Still, if these trends are confirmed by larger data sets, the VOv pattern seems more likely to be schematic than the other two patterns, which, in addition, use change verbs less than VOv.

	VOv		VO*as*		V*as*	
	raw	% (out of all verbs)	raw	% (out of all verbs)	raw	% (out of all verbs)
change verbs	646	83.7	57	78.1	133	74.7
change & manner verbs	208	26.9	23	31.5	56	31.5

Table 2 – Change (and manner) verbs

Finally, I also investigated what specific verbs (i.e., tokens) are used in the three patterns. The ones occurring at least five times in VOv are listed, for all three patterns, in Table 3.[15, 16] It is important to observe that not all such verbs (e.g., *work*) occur in scenarios depicting change (of place or state). Notice also that, for each verb, Table 3 specifies to what extent, in percentage terms (see the "%" column), the verb instantiates the change type. Obviously, the percentages refer only to those tokens which are of the change type. Consequently, the percentage for *work*, for example, is zero since *work* is never used as a change verb. Similarly, for other verbs such as *make*, the number of change uses given as a percentage does not necessarily correspond to their raw frequencies since e.g. *make* is not always used as a change verb.

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[14] The raw counts refer to the number of verbs in each construction type. For instance, there are 646 change verbs in the 639 VOv examples.

[15] Although the verbs appearing in Table 3 were selected on the basis of VOv, it turned out that there are no verbs which occur more frequently in the V(O)*as* pattern than those listed in Table 3.

[16] The label "*un*-verbs" refers to those verbs prefixed by the negative morpheme *un*- (e.g. *undress, unfasten, unpack, unroll*).

	VOv		VO*as*		V*as*	
	raw	%	raw	%	raw	%
come	13	2.0	0	0.0	1	0.8
climb	7	1.1	2	3.5	1	0.8
cross	7	1.1	2	3.5	3	2.3
disappear	23	3.6	0	0.0	2	1.5
do	5	0.6	0	0.0	0	0.0
fight	6	0.3	0	0.0	1	0.0
get	12	1.7	0	0.0	2	1.5
go	122	18.9	5	8.8	4	3.0
grow	13	2.0	0	0.0	1	0.8
leave	23	3.6	1	1.8	2	1.5
make	11	0.9	0	0.0	4	2.3
move	18	2.8	3	5.3	5	3.8
pick	7	1.1	0	0.0	1	0.8
pull	9	1.4	0	0.0	1	0.8
put	7	1.1	0	0.0	2	1.5
run	5	0.8	1	1.8	2	1.5
stride	5	0.8	0	0.0	2	1.5
take	12	1.9	2	3.5	2	0.8
turn	13	2.0	0	0.0	3	2.3
un-verbs	7	1.1	0	0.0	3	2.3
walk	40	6.2	8	14.0	4	3.0
work	6	0.0	0	0.0	0	0.0

Table 3 – Specific verbs

Table 3 shows that the most common change verb in VOv is the schematic verb *go* and the second most common verb is the manner verb *walk*. (The latter can, of course, in principle be further specified with manner adjuncts such as *with a limp*.) These two verbs are also the most frequent in VO*as*, whereas in V*as* the most frequent is *move*, followed by *go* and *walk*. As for *go* and *walk*, the difference in percentages between the three patterns (measured by contrasting *go* and *walk* with other change verbs) is only statistically significant (at the 0.05 level) when comparing VOv with V*as*. Still, the data seems to suggest that, both in the VO*as* and V*as* patterns, the highly schematic verb *go* is less likely. This trend goes hand in hand, of course,

with the observation made above about manner verbs being more likely with the V(O)*as* pattern.

To sum up, although the conclusions from the parametric analysis were not always statistically significant due to the relatively low number of tokens of the VO*as* pattern, some interesting differences in construal between the three complementation patterns emerge. Firstly, VOv appears to be the most schematic in that lack of manner specification (with change verbs) is more common than in the V(O)*as* pattern. Secondly, V*as* appears to be the least schematic in the sense that multiple v's are more common in this pattern than in the other two. Finally, a greater variety of verbs is observable in the V(O)*as* pattern, i.e., the preference for change verbs is more pronounced in VOv. In other words, the contrast between the three patterns is one of *elaboratedness*, the finite V*as* pattern, in particular, being the most elaborated and the nonfinite one the least elaborated.

3. *Complementation and the Relation between Form and Meaning*

The data presented in the previous section is important descriptively because it provides a more systematic account of *as*-clauses than is usually found in e.g. traditional grammars (see Broccias *submitted* on the dearth of information on *as*-clauses in major grammars) as well as of their relation to nonfinite complementation patterns of perception verbs. But the data is also important theoretically because it bears upon the recent debate on Givón's (see e.g. Givón 2001) iconic principle of clausal integration in the analysis of grammatical alternations, see for example the 2008 issue of *Cognitive Linguistics* (no. 19-1), where this topic was addressed in some depth.

As is well known, Givón has proposed the following principle of "event integration and clause union" (which is interpreted as a bidirectional implication):

> The stronger is the semantic bond between the two events, the more extensive will be the syntactic integration of the two clauses into a single though complex clause. (Givón 2001: 40)

For example, given the pair of sentences in (21), from Givón (2001: 47), we observe that the stronger semantic bond in (a) correlates with the use of a nonfinite complement (and nonfinite complements are more syntactically integrated than nonfinite ones).

(21)   a. She wanted him to hurry.
        b. She wished that he would hurry.

As for complements of perception verbs like *watch*, the *as*-patterns should be considered less syntactically integrated than VOv because of the use of nonfinite forms in the latter, see Section 2. Consequently, if syntactic integration mirrors semantic bonding, we should expect the *as*-patterns to be somewhat different semantically from the VOv pattern. This is trivially correct since the *as*-clause may frame the watching event (under the temporal adjunct interpretation) rather than depicting what is perceived (under the complement interpretation). More interestingly, when the *as*-clause is interpreted as a complement, I pointed out in the previous Section that there are differences between the nonfinite and the finite patterns. The differences, however, seem to only amount to construal (*elaboratedness*), rather than differences in semantic interpretation: the *as*-patterns and the VOv pattern appear to be synonymous.

A further complication is that the notion of iconicity has been subject to some scrutiny by Haspelmath (2008a, b). He contends that certain types of iconicity are not needed and that, in fact, they sometimes make incorrect predictions. (For reasons of space, I refer the reader to Haspelmath's papers for illustrations of the latter point.) In more detail, Haspelmath (2008a) contends that iconicity of quantity ("greater quantities in meaning are expressed by greater quantities of form", e.g., *high, higher, highest*), iconicity of complexity ("more complex meanings are expressed by more complex forms", e.g. *tree* vs. *trees, play* vs. *played*) and iconicity of cohesion ("meanings that belong together more closely are expressed by more cohesive forms", see (21) above) are not needed because the phenomena they are meant to capture can be accounted for in terms of an economy principle, namely: "The more predictable a sign is, the

shorter it is" and, since frequency implies predictability, this translates into "The more frequent a sign is, the shorter it is," see Haspelmath (2008a: 5).

Before evaluating Haspelmath's (2008a) economy principle in relation to the complementation patterns discussed here, it is worth analyzing Haspelmath's proposal in some detail. For example, with reference to iconicity of complexity, Haspelmath (2008a: 7-10) claims that differences between *tree* ("unmarked") vs. *trees* ("marked") and *widow* (female but "unmarked") vs. *widower* (male but "marked") can be explained by invoking frequency alone. He illustrates this point by providing statistics (from the spoken component of the BNC) not for *tree(s)* and *widow(er)* but for *house* vs. *houses* and *criterion* vs. *criteria*, see Table 4 (where "f" stands for "frequency"), which is based on Table 1 in Haspelmath (2008b).

	absolute f	relative f		absolute f	relative f
house	4811	83%	*criterio-n*	137	27%
house-s	1022	17%	*criteria*	365	73%
total	5831	100%		502	100%

Table 4 – Frequencies for *house(s)* and *criterion/criteria* from the BNC (spoken)

Haspelmath points out that what is crucial is relative, rather than absolute, frequency. *Houses* is marked because it is less frequent than *house* (relative frequency) although it is more frequent (absolute frequency) than the unmarked *criteria*. *Criteria* is unmarked because it is less frequent than *criterion*. However, it can be shown that Haspelmath's explanation is not always supported by corpus data (from the BNC itself), not to mention the fact that he does not explain why one should (only?) rely on figures from the spoken rather than the written language (or a combination or both). For example, Haspelmath is correct in assuming that *widow* is more common than *widower*. The per million words (pmw) frequencies are 6.96 and 0.97, respectively, in the spoken section of the BNC and 15.73 vs. 1.63 in the whole BNC. However, the spoken BNC frequencies for *tree* and *trees* are almost identical, namely 49.41 and 48.25 re-

spectively, and, if the whole BNC is considered, then *trees* is actually more frequent than *tree* (82.27 vs. 62.97 pmw, respectively). This is also the case with another example mentioned by Haspelmath (2008a: 7), namely *play* vs. *played*. Their pmw frequencies in the spoken BNC are similar, 31.1 and 32.01, respectively, but *played* is more frequent than *play* (50.37 vs. 25.14 pmw) if the whole BNC is taken into consideration.[17] Another problematic case is the verb *walk*, which is not mentioned by Haspelmath but may be used to strengthen the point. It turns out that *walked* (tagged as a past form) is almost twice as frequent as *walk* even in the spoken section of the BNC (47.96 vs. 24.17 pmw, respectively). The difference is even greater if the whole BNC is used, namely 79.56 vs. 12.28 pmw. Such data obviously calls into the question the validity of Haspelmath's approach, at least as an overarching principle.[18] That is, Haspelmath's principle cannot (always) replace Givón's principle because the former also makes incorrect predictions. Yet, in the case at hand, Haspelmath's principle predicts correctly that the most frequent pattern, VOv, is also the *shortest* in terms of number of constituents used – the V(O)*as* pattern includes at least one more element, i.e., the complementizer *as* – and number of v's (see Table 1 above), for example.

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[17] I have considered all instances of *play* tagged as present (i.e., VVB) and all instances of *played* tagged as past (i.e., VVD).

[18] A similar statistical problem obtains with Haspelmath's discussion of iconicity of cohesion. He claims, for example, that (i) and (ii)

(i) She saw him coming out of the theatre
(ii) She saw that he came out of the theatre

"do not exhibit a striking frequency asymmetry" (p. 25). Data from the BNC however does not support his contention. The pattern "saw + pronominal object + bare infinitive/-ing participle", for example, has a 14.69 pmw frequency while the pattern "saw (that) + pronominal subject + past tense verb" has a 4.74 pmw frequency when *that* is used and a 3.53 pmw frequency without the complementizer *that*. Even merging the latter two cases, the nonfinite option appears to be over 40% more likely than the finite options combined.

4. *Discussion*

To recap, Givón's approach seems to capture the facts about complementation patterns with *watch* only partially. Syntactically, *as*-clauses exhibit less syntactic integration with the matrix clause than nonfinite clauses. Hence, within Givón's approach, we should expect a lesser degree of semantic bonding between the *as*-clause and the matrix clause. This is trivially correct in that *as*-clauses can also be used as temporal (simultaneity) adjuncts rather than complements. In fact, I noticed in passing that the latter interpretation probably arose out of the former via pragmatic inference. But if we compare the complement use of *as*-clauses with that of nonfinite clauses, then the only detectable differences appear to be minor ones involving construal. The *as*-patterns tend to be more *elaborated* (e.g. manner-specific) than the nonfinite pattern.

As for Haspelmath's economy principle, it captures the fact that the syntactically most complex pattern (VO*as*) is the least frequent. In fact, as Haspelmath himself does, one could appeal to Cristofaro's (2003) notion of "syntagmatic economy" to motivate the higher frequency of VOv over V(O)*as*, the idea being that syntactically simpler patterns are preferred if available. A fully fledged finite complement clause is "costly" because e.g. the temporal reference of the complement event could be recovered, as in the nonfinite pattern, from that of the matrix verb. Yet I have also pointed out, when discussing inflectional cases such as plurals and past tense forms, that the most frequent pattern is not necessarily always the simplest pattern. Further, even within Haspelmath's approach, we are faced with the problem of how to link the observed difference in elaboratedness between the three patterns with dissimilarities in frequency. Haspelmath's model predicts that multiple v's are less likely in the *simpler* VOv pattern but has nothing to say about construal, e.g. the preferred occurrence of manner-specific verbs in V(O)*as*, for example.

In other words, there seems to be a relation between syntagmatic economy and semantic schematicity in the sense that more frequent (and syntactically simpler) patterns appear to be more likely to make

use of schematic verbs and, vice versa, semantically richer items (e.g. manner verbs) appear to be used more frequently in syntactically more complex patterns. As such, this possibility should be tested empirically but it is easy to see that it is nothing more than an instance of iconicity of complexity. One could argue that manner verbs occur more frequently in *as*-clauses because *as*-clauses, by being less economical than the nonfinite option, allow such verbs to *stand out*. That is, syntagmatic complexity would be iconic for *semantic complexity*.

This is an important point because it means that, on closer inspection, Givón's approach may be compatible with the data discussed here, i.e., it may capture construal differences, after all. Since the VOv pattern is less complex syntactically, we expect differences with the syntactically more complex V(O)*as* pattern. What we find is that the syntactically more complex V(O)*as* pattern is also more complex semantically, in the sense that it is more prone to manner-specification and the use of more v's, which are not always of the change type.

In sum, it can be argued that both Givón's and Haspelmath's approaches are not without problems. Haspelmath has argued that Givón's approach may not always lead to correct predictions and, in the present study, I have observed that Haspelmath's approach itself does not always make correct predictions although it satisfactorily captures the observation that the *as*-patterns, which are less economical syntagmatically (i.e., *longer*), are less frequent than the nonfinite pattern. Yet, it is not obvious whether and/or how the observed difference in elaboratedness (apart from the lesser degree of likelihood for multiple v's to occur in the VOv pattern) can be captured by Haspelmath's approach since Haspelmath's approach leaves semantic considerations out of the picture. One possible solution could be to relate syntagmatic economy with "semantic economy" (i.e., semantic schematicity), which is exactly what Haspelmath intends to avoid. The point is that if the two dimensions are not somehow related, then frequency counts are not (always) sufficient to describe observable facts. The overall conclusion is therefore that it may be dangerous to replace iconicity accounts with frequency-

based ones and that, more generally, we should be suspicious of encompassing explanatory principles. We should always be aware of the dangers of what Langacker (1987) aptly dubs the "exclusionary fallacy", the idea that competing explanations cannot coexist with one another. This fallacy is probably rooted in the misapprehension that the application of Occam's Razor to linguistic analysis must necessarily exclude multiple and competing motivations. But if multiple and competing motivations are psychologically real, then there is no reason for excluding some at the expense of others. Rather, multiple motivations may serve to highlight different aspects of a given phenomenon. In the case at hand, Givón's approach alerts us to potential semantic differences between the three patterns while Haspelmath's highlights the tendency for frequent patterns to be more economical than more complex ones. The difference in elaboratedness between the *as*-patterns and the nonfinite pattern seems to have as much to do with iconicity as with frequency.

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