TOWARDS A MINIMALIST THEORY OF ADVERB POSITION AND INTERPRETATION

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1. Introduction

The goal of this article is to make an empirical contribution to the generative debate about the dimensions and scope of the systems interacting in the production and understanding of language. The debate has occupied an outstanding place in the generative agenda ever since Chomsky (1995) conceptually and empirically argued for a reduction of the grammatical components necessary to meet the interface conditions set up by the non grammatical systems involved in speech production and understanding. Unlike previous models within the Principles and Parameters paradigm (Chomsky 1977; 1981), the Minimalist Programme of Chomsky (1995) considerably reduces the weight and the modularisation of the grammatical component. The conceptual motivation for this shift is easy to grasp given the general goals of the generative enterprise. Grammar, or the language faculty more generally, is different from both the articulatory-perceptual systems involved in its phonetic realisation and from the intentional-conceptual systems involved in its understanding. All that is conceptually needed is that the grammatical component meet the interface conditions set up by the other two systems. Empirical support for the minimalist stance comes from cases where alleged grammatical principles can, and sometimes must, be recast in terms of principles governing the activity of non grammatical systems.

My contribution to this general debate is empirical rather than theoretical. I have chosen a linguistic category, the adverb, whose semantic and phonetic properties are, as I will show in the course of this study, slippery under current generative accounts. The thrust of the argument is that a proper understanding of the semantics of adverbs leads us to predict part of their variable semantic and distributional behaviour. The upshot is that at least these semantic and distributional properties are not related, or not directly related to the principles governing the base generation and derivation of sentences. Putting it in a nutshell, I will try to show that a number of linguistic phenomena that have tradi-

tionally been handled in terms of grammatical structure can be recast in seman-
tic terms. Success in this enterprise will, among other things, lend support to the
Minimalist claim that the grammatical component should be considerably re-
duced.

Given its dimensions, the study undertaken here is necessarily tentative
(hence the preposition *towards* in the title). A certain linguistic regularity con-
cerning a group of adverbs will be revealed and analysed along the lines sug-
gested above. However, the technical implementation of the proposed analysis
will be sketchy, and its possible generalisation to other adverb classes will ei-
ther be merely touched on or left for further work.

Finally, it should be noted that the empirical orientation of this work ensures
that its findings be of interest not only to generative grammarians, but also to
linguists concerned with the grammar of adverbs in general.

2. Adverbial puzzles

I will rely on syntactic criteria to set the extensional limits of our object of
study. In this work I intend to focus on adverbs like *well, completely, intention-
ally* or *frequently* in (1)-(4).[1]

(1)   Mark filled the bucket well.
(2)   Mark filled the bucket completely.
(3)   Mark filled the bucket frequently.
(4)   Mark filled the bucket intentionally.

The adverbs in (1)-(4) are typical cases of what are known as VP or predi-
cate adverbs (Lakoff 1970a; 1970b; Thomason and Stalnaker 1973). That these
adverbs belong in a verbal projection is uncontroversial given the results of
standard tests for VP-hood. Consider, for example, pseudocleft and nominalised
constructions.

(5) What Mark did was fill the bucket well/ completely/ frequently/ inten-
tionally.
(6) Mark's filling the bucket well/ completely/ frequently/ intentionally
pleased Marian.

All four adverbs are perfectly acceptable in (5), where the cleft constituent is
a VP, and in (6), where the nominalised constituent is a VP.[2]

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[1] Notional classifications (Ernst 1984; 2000) call *intentionally*-type adverbs mental attitude adverbs, *fre-
quently*-type frequency adverbs, and *completely*-type aspectual adverbs.
[2] For a full development of the use of pseudoclefts to test VP constituency cf. Jackendoff (1990). For the
nominalisation test cf. the seminal discussion in Abney (1987) and its refinement in Kratzer (1994).

In spite of their structural similarity, these adverbs show interesting differences in their semantic scope and syntactic distribution.

2.1. Semantic problems

Semantically, the sentences in (7)-(11) differ in an obvious way: (9) and (10) are ambiguous while (7) and (8) are not.

(7) Mark filled all the buckets well.
(8) Mark filled all the buckets completely.
(9) Mark filled all the buckets frequently.
(10) Mark filled all the buckets intentionally.

Sentence (9) can be true either in a situation where for a certain group of buckets it was frequently the case that Mark filled them, or in a situation where it was frequently the case that Mark filled all of a group of buckets. Likewise, (10) can be true either of a situation where Mark had as many intentions to fill a bucket as buckets there were in that situation, or in a situation where Mark had one single intention to fill all the buckets. Conversely, (7) and (8) describe only one situation each. In the first of these two examples, Mark filled a bucket well as many times as there were buckets, and in the second the number of times Mark filled a bucket completely coincides exactly with the number of buckets.

The paraphrases above are sufficiently explicit with regards to what is standardly assumed to be the reason for the observed meaning variation: scope. Most formal semantic theories adopting a configurational view of semantic ambiguities (for an introduction cf. Chierchia and McConnell-Ginet 1990; Cann 1993; de Swart 1998) assume that natural language quantified expressions are made up of three elements: the quantification proper, the restriction, and the scope (for extensive coverage of this partition cf. Diesing 1992 and Larson and Segal 1995). (11) shows a rough technical characterisation of the quantification in (8), where the three elements and their semantic import can be easily appreciated.[3]

(11) [∃x: bucket (x)] [∃e: Agent (e, Mark) & Fill (e) & Theme (e, x)]

What (11) states is that for every individual (quantification proper) such that this individual is a bucket (restriction), there was an event in which Mark filled it completely (scope), i.e. the truth conditions informally paraphrased above. The formula in (11) minutely describes the truth conditions of (7). The same

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[3] The notation that follows (adapted from Herburger's (2000) event-theoretic analysis) simply tries to make different truth conditions manifest. Its technical layout is of no interest here.

applies to ambiguous sentences like (10).

The two interpretations of (10) correspond in a formal analysis to the formulae in (12)-(13).

> (12) [∃x: bucket (x)] [∃e: Agent (e, Mark) & Fill (e) & Theme (e, x) & Intentional (e)]

> (13) [∃e: Agent (e, Mark) & Fill (e) & [∃x: bucket (x)] Theme (e, x) & intentional (e)]

The truth conditions of (12) are spelled out as in (11) (with *intentionally* replacing *completely*). (13), on the other hand, affirms that there was an event, characterised, among other things, as an intentional event, where Mark filled every individual such that this individual was a bucket. The formal characterisation of the ambiguity in (12) is again based on scope, more specifically, on which elements are part of the scope of which others.

Not everything, however, is totally satisfied by the basic formal semantic account of natural language developed so far. There are at least two aspects that remain obscure:

> (a) Why do adverbs like *intentionally* and *frequently* take a different scope in relation to quantified expressions?

> (b) Why do adverbs like *well* and *completely* never take scope over quantified expressions?

Though related, questions (a) and (b) pose different problems and can be approached separately.

Question (a) has traditionally been approached in terms of syntactic constituency.[4] The idea is that an adverb that is part of a constituent higher than that hosting a quantified expression will be placed outside the scope of the quantifier in the semantic translation. This explanation is very useful in cases of double constituency, such as those found in (14) and (15).

> (14) She clearly saw every boy.

> (15) She saw every boy clearly.

As can be easily checked, according to the VP-hood tests put forward above, *clearly* is part of the VP in (15) but not in (14), where it belongs in a higher constituent. Accordingly, the adverb is within the scope of *every* in (15), but not

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[4] More generally, this is what Wyner (1994) calls *the association theory of the syntax-semantics interface*, i.e. the idea that different semantic scope corresponds to different constituency, and viceversa. Early advocates of this view are Jackendoff (1972) or Bellert (1977). The matter is a bone of contention at present. For general arguments against the association theory cf. Wyner (1998); for arguments in favour cf. Shaer (2000). The data and arguments in this work contradict the association theory only as far as the adverbs listed above and the constituent reviewed (VP) are concerned. Regarding other adverbs or constituent distinctions, the work remains strictly neutral.

in (14), i.e. semantics interprets syntax. However, this explanation is useless in the case of *intentionally* and *frequently* because these adverbs are VP adverbs in the examples above.[5] We must hence conclude that question (a) is not properly addressed on this approach.

One possible solution is to posit that VP adverbs can take scope within or outside VP quantifiers. But then we are faced with question (b): why *well* and *completely* cannot do so? Given the approaches reviewed so far, it is hard to conceive of an answer to this question that is not based on stipulation.

The upshot of the above reasoning is that there is a structurally-based semantic phenomenon (adverb scope) that can not be accountable for in purely structural terms. Both syntactic and LF analyses fail to provide a differentiated structural configuration for adverbs with varying scope properties. This presents a genuine challenge to a linguistic theory which tries to organise the grammar of the language in such a way that scope ambiguities are derived in a systematic way (i.e. an interpretive semantics). As usual, the alternatives are reduced to two: either to turn to lexical semantics for a definition of the relevant meaning differences between adverbs, or to further refine the structural analysis. The semantic proposal that will be presented below combines both solutions in a way that is perfectly interpretive in relation the syntactic component.

2.2. Distributional problems

We have so far reviewed adverbs in relation to the semantic property of scope. As was pointed out above, the object of study of this work is not restricted to the semantics of adverbs, but also extends to their distribution. It is in this respect interesting to observe that the adverbs in (1)-(4) (repeated as (19)-(22) now) do not exhibit a unified distributional behaviour.

(16) Mark filled the bucket well.
(17) Mark filled the bucket completely.
(18) Mark filled the bucket frequently.
(19) Mark filled the bucket intentionally.

Only the adverbs in (20)-(22) can appear preposed to the main verb in the sentence.

(20) * Mark well filled the bucket.
(21) Mark completely filled the bucket.

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[5] In early generative accounts (Jackedoff 1972; Bellert 1977), the scopal occurrence of these adverbs was assigned to constituents above VP. I think that this position is untenable in view of the VP-hood tests put forward above.

(22) Mark frequently filled the bucket.
(23) Mark intentionally filled the bucket.

The problem can be stated as follows: only some VP adverbs can occur in sentence-final and preverbal position. Others are restricted to sentence-final position. The problem is well known in the literature on adverbs.

Notice first that the extensional boundaries of this problem do not coincide with those of the semantic problem reviewed above. As first noticed by Heny (1973), adverbs with a varied distributional behaviour need not take different scopes. This is, for example, the case with *completely* in (27)-(28).

(24) Mark filled all the buckets completely.
(25) Mark completely filled all the buckets.

The different position of the adverb does not bring about scope differences. In point of fact, this can be argued to be the case with the other adverbs in (21)-(22) and (25)-(26): the adverbs are scope ambiguous both in preverbal and in sentence-final position. However, this cannot be generalised to all preverbal positions. Placement of the adverb in front of auxiliary *have* turns it scopally unambiguous.

(26) Mark intentionally had filled all the buckets.

There is no time here to do justice to the varied theoretical solutions that have been launched to solve these problems. However, a few words on what seems to be common to all these works will suffice to see the extent to which they have failed to provide a theoretically consistent solution to the problem.

Most studies dealing with the different distributional behaviour of VP adverbs have appealed to a fine-grained analysis of VP. The idea is that VP adverbs do not all belong in the same partitions of VP or that they are not attached to the same parts of a standard VP. Pollock (1989), Barbiers (1995), Costa (1997) or Cinque (1999) are representatives of the former position. These theories defend the existence of a number of functional (non lexically headed) projections between the T(ense) P(hrase) and VP. AdvPs are base-generated in the specifier of these functional projections and do not move. It is verbs or verb phrases that move to higher functional projections leaving adverbs stranded to the right. Adverbs appear to the right and to the left when the movement operation is optional. But why then is it obligatory for some adverbs (e.g. *well*) to be stranded by head or constituent movement while for some others (e.g. *completely* or *intentionally*) this is merely a possibility? To the best of my knowledge, the question has not been addressed in the cited works, which means that, if anything, they are descriptively rather than explanatorily adequate in relation to the distributional puzzles pursued here. McConnell-Ginet (1982), Roberts

(1987), Travis (1988), Stroik (1990), Rochette (1991) or Laenzlinger (1996) take the latter position. They defend that sentence-final adverbs are verb modifiers while free-occurring ones are adjoined to the maximal projection VP.[6] This approach is not without its problems either. As Chomsky (1995) convincingly argues, the claim that adverbs adjoin at different levels of a phrase is empirically as well as theoretically dubious.

As in the case of scope, we are again faced with an empirical problem, the theoretical coverage of which is not satisfactory. In the next section I will highlight a language regularity that has triggered an important line of research on adverbs but which has not been tested in the context of the puzzles above. The thrust of this work is that a proper treatment of this regularity can shed light on the as yet mysterious semantic and distributional behaviour of VP adverbs.

3. Adjectives and adverbs

In the current literature on adverbs there is a great deal of consensus about the strong relation between adjectives and adverbs. Bowers (1975), Emonds (1985), Déchaine (1993), Déchaine and Tremblay (1996) or Alexiadou (1997) provide enough evidence for a common morphosyntactic analysis of the categories adjective and adverb.[7] On the semantic side, there have been numerous attempts at reducing the meaning contribution of adverbs to that of adjectives. On the one hand, there is Davidson's (1980) and Parsons's (1990; 1995) account of manner adverbs as predicating of a hidden event variable, or Ojea's (1998) and García Núñez's (2001) analysis of the similar distribution of adjectives and adverbs on the basis of their common event-argument structure. On the other, there is Rapoport's (1993), Déchaine's (1993) or Déchaine and Tremblay's (1996) analysis of manner adverbs as secondary predicates taking the subject as the antecedent. These two approaches share the common intention of reducing the number of semantic primitives (both adjectives and adverbs are predicates), and to capture entailment patterns between adjectives and adverbs. To illustrate the latter point, consider the fact that (27) entails both (28) and (29).

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[6] Travis's and Rochette's proposals are slightly more complex. They pose an intermediate level of adjunction beside X^0 and XP: X'.

[7] The data regards the consistent morphological relation between the two categories, their complementary distribution (adjectives modifies nouns, adverbs all other categories), their similar degree modifiers (cf. (i)-(ii)), serialisation (cf. (iii)-(iv)) and licensing.

    (i)   He is too fast for us.

    (ii)   He runs too fast for us.

    (iii) The probable easy invasion of Afghanistan.

    (iv) They probably invaded Afghanistan easily.

(27) Mark answered the question aggressively.

(28) Mark's answer to the question was aggressive.

(29) Mark was aggressive when he answered the question.

The fact that (27) entails (28) is usually used to justify the hypothesis that manner adverbs predicate of the event denoted by the sentence: when the sentence in (27) is nominalised as in (28), the adverb turns into a predicative adjective, with no appreciable change of meaning. Similarly, the entailment from (27) to (29) is advocated by adherents of the secondary predicate theory in favour of the hypothesis that manner adverbs predicate a stage-level or temporary property of the subject of the sentence (or the agent of the action).

I will henceforth adopt the (27)-(28) entailment as the basic one holding between VP adverbs and adjectives. The reason for this choice is twofold. On the one hand, I agree with event-theorists that the semantics of (28) is virtually identical to that of (27). This provides a suitable ground to pursue the common semantic behaviour of adjectives and adverbs. On the other hand, the nominalised structure is applicable to a greater number of cases than the secondary predicate structure.[8] For example, (30) can be turned into (31) but not into (32).

(30) Mark answered the question intentionally.

(31) Mark's answer to the question was intentional.

(32) * Mark was intentional when he answered the question.

In what follows, I assume the event-theoretic account of adverbs and adjectives. My main concern is not so much with the technical apparatus deployed by event-theoretic semantics as with the pre-theoretical fact that the semantics of a sentence like (30) is in all respects like that of (31). As will soon become evident, this is all that seems necessary in order to shed light on the problems raised at the beginning of this work.

3.1. Semantic scope: VP adverbs and predicative adjectives.

The semantic relation between VP adverbs and adjectives predicating of nominalised events is stronger and wider than hitherto attested. As proof of this, consider the semantic puzzles posed at the beginning of this work. Recall that

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[8] As is well-known, sentences can be nominalised in a number of different ways (for discussion and details cf. Grimshaw 1990, Abney 1987, and Kratzer 1994). (ii), (iii) and (iv) are all possible nominalisations of (i).

(i)   Mark answered the question aggressively.
(ii)   Mark's answer to the question was aggressive.
(iii)   Mark's answering the question was aggressive.
(iv)   Mark's answering of the question was aggressive.

In what follows I will keep to the derived nominal option **wherever possible** to **avoid** the difficult issue of the grammatical status of the nominalised portions in (iii) and (iv).

the quantifier in (33) is ambiguous whereas the one in (34) is not.

(33) Hitler invaded the two countries deliberately.

(34) Hitler invaded the two countries completely.

It is interesting to notice that the corresponding adjectival paraphrases give rise to exactly the same scopal constellations.

(35) Hitler's invasion of the two countries was deliberate.

(36) Hitler's invasion of the two countries was complete.

In (33) and (35) it is possible to understand both that Hitler had once the deliberate intention to invade both countries, or that he had twice (one time per country) the deliberate intention to invade a country. Conversely, (34) and (36) both unambiguously describe two complete invasions. In other words, both in (33) and (35) the adverb/ adjective takes scope over or within the quantifier, and both in (34) and (36) the adverb/ adjective takes scope within the quantifier. The pattern applies to the rest of the adverbs reviewed in section 1 above.

The benefit of the assimilation of VP adverbs to predicative adjectives is not restricted to the cases reviewed at the beginning. Another interesting piece of evidence regarding the strikingly similar semantic properties of VP adverbs and predicative adjectives is provided by *quickly* and *slowly*. Unlike the adverbs reviewed so far, this pair belongs in a single class. Being antonyms, they can hardly be separated by any semantic classification, as was the case with e.g. *deliberately, completely, continuously* or *well*. As noted by Bowers (1993), *quickly* can be interpreted with varying scope in relation to the quantifier in (37). The additions in (38) and (39) help disambiguate the reading with narrow and wide scope adverb, respectively.

(37) Hitler invaded the two countries quickly.

(38) Hitler invaded Poland in 1939 and Yugoslavia in 1941. He invaded the two countries quickly.

(39) Hitler invaded The Netherlands and Belgium on May 10 of 1940. He invaded the two countries quickly.

The quantifier scope ambiguity does not arise in (40), where *slowly* can only be interpreted within the scope of the quantifier.

(40) Hitler invaded the two countries slowly.
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Interestingly, (41) and (42), with the adjectives *quick* and *slow* predicating of nominalised events, reflect exactly the same scopal relations as (37) and (40), respectively.

(41) Hitler's invasion of the two countries was quick.

(42) Hitler's invasion of the two countries was slow.

Consider finally the case of (26) above (repeated as (43)).

(43) Mark intentionally had filled all the buckets.

Unlike all the cases reviewed so far, the sentence in (43) contains a scopally unambiguous occurrence of *intentionally*. (43) deals with a person who had the intention to fill all the buckets (wider scope of the adverb). (44) shows that turning the VP headed by *have* into a nominal predicated of by the adjectival counterpart of the adverb in (43) brings about the same scope configuration.

(44) Mark's having filled all the buckets was intentional

Assuming that (43) is in all respects like (44) can explain why the adverb is scopally unambiguous in the former. It is simply a matter of how much of the event description gets modified by the adverb.[9]

The systematic correspondences between VP adverbs and predicative adjectives seem to confirm the hypothesis that the semantics of adverbs and adjectives is virtually indistinguishable. Specifically, it seems possible to defend with event-theoretic semantics that the semantic contribution of some VP adverbs comes down to predicating the property denoted by their adjectival roots of the event description conveyed by the sentences hosting them. The varying quantifier-scope behaviour exhibited by these adverbs is closely related to the idiosyncratic predicative properties of their adjectival roots.

3.2. Distribution: VP adverbs and predicative adjectives.

Turning now to the distributional facts reviewed in the first section, it can be shown that again the event nominal construction correlates with them in a systematic way.

Recall that adverbs like *completely*, *frequently* and *intentionally* were transportable while adverbs like *well* were not.

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[9] A similar case not involving quantifier scope is raised by (i)-(ii).
    (i)   She was intentionally examined by one of the country's top throat specialists.
    (ii)   She intentionally was examined by one of the country's top throat specialists.
It has traditionally been noticed in the literature on adverbs that (i) is ambiguous about who exactly had the intention to do something: she may have had the intention to be examined by the specialist or the specialist may have had the intention to examine her. It has also been observed that the ambiguity vanishes in favour of the former interpretation in (ii). Turning the whole portion of VP modified by *intentionally* in (i) into a nominal, and having the corresponding adjective predicate of it bears the same semantic effect (i.e. (iii) is an unambiguous as (ii)).
    (iii) Her being examined by one of the country's top throat specialists was intentional.

(45) Mark filled the bucket well / * Mark well filled the bucket.

(46) Mark filled the bucket completely/ Mark completely filled the bucket.

(47) Mark filled the bucket frequently / Mark frequently filled the bucket.

(48) Mark filled the bucket intentionally/ Mark intentionally filled the bucket.

Interestingly, the adverbs in (46)-(48) are all paraphrasable by the event nominal construction, a possibility not open to the adverb in (45).

(49) Mark's filling of the bucket was good.

(50) Mark's filling of the bucket was complete.

(51) Mark's fillings of the bucket were frequent.

(52) Mark's filling of the bucket was intentional.

(49) is not a proper paraphrase of (45). To account for these facts we can hypothesise that only VP adverbs whose semantics amounts to predication over the relevant event are transportable.

As in the case of the semantic properties of adverbs, the distributional regularity noted does not only correlate with coarse-grained semantic classifications of adverbs, but is also informative about finer distinctions within those broad divisions. For example, it would be spurious to generalise that all *well*-type adverbs are not transportable. *Perfectly* belongs in this class, and, as Bowers (1993) notices, is not transportable in (53) (cf. (54)). This is as expected given the unavailability of a paraphrase like (55)

(53) She learned the two languages perfectly.

(54) * She perfectly learned the two languages.

(55) * Her learning of the two languages was perfect.

However, the adverb is transportable in (56). This coincides with the availability of an adjectival paraphrase of the relevant type.

(56) She understood the question perfectly.

(57) She perfectly understood the question.

(58) Her understanding of the question was perfect.

Another interesting case is provided by frequency adverbs. The cases reviewed so far are VP adverbs whose conversion to the adjectival construction (and hence their transportability) is unproblematic.

(59) Mark frequently/ continuously/ periodically travels to Rome.

(60) Mark frequently/ continuously/ periodically travels to Rome.

(61) Mark's travels to Rome are frequent/ continuous/ periodical

However, other frequency adverbs are distributionally restricted to the left

periphery of the sentence.

(62) Mark generally/ usually travels to Rome.
(63) * Mark travels to Rome generally/ usually.

In this case the adverbs are no longer part of VP. They come out members of a higher constituent by the constituency tests used above.

(64) * What Mark did was generally/ usually travel to Rome.
(65) * Mark's generally/ usually travelling to Rome was known.

What is interesting to observe in the present connection is that the frequency adverbs in (59)-(60) fail to be paraphrasable through the predicative adjective construction.[10]

(66) * Mark's travels to Rome are general/ usual.

Besides further confirming the adjectival analysis advocated here, the examples in (56)-(63) demonstrate that constituency is a major constraint on distribution: if an adverb belongs in a higher constituent than VP, it is distributionally restricted to the left periphery. However, our analysis correctly predicts that adverbs outside VP will not lend themselves to the adjectival paraphrase. This is as expected given the interpretive character of semantics in relation to syntax.

The obvious conclusion to be drawn from the distributional data handled in this section is that the semantic import of adverbs, specifically their event predicational character, constrains their transportability along VP. The constraint seems to operate in the following way: if the adverb is an event modifier, it can be placed in any position along VP; if the adverb is not an event modifier, it must occupy a complement position, i.e. a position to the right of the VP head.

4. Theoretical consequences

Our simple theory of the semantics and distribution of VP adverbs has immediate theoretical consequences. Some of these consequences derive from a direct comparison of the proposal sketched out with other theories aiming at solving the problems posed. Some other consequences are much more general and concern the overall architecture of the systems involved in the production and understanding of language. Let us go over the former first.

As was mentioned in sections 2.1. and 2.2. above, the standard generative procedure to account for the semantic and distributional behaviour of adverbs is

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[10] I owe this point to Richard Larson (personal communication).

constituency. Being part of different constituents involves having different scopal and positional properties. The problem is that different constituency is not always obvious. In fact, it is possible to demonstrate that the relevant semantic and distributional variations often arise without any recognisable sign of constituency alternation. The theory loosely outlined in this paper has the virtue of deriving the semantic and distributional behaviour of VP adverbs without resort to constituency. All that seems necessary is that the semantics of the adverb is clearly identified (which involves reference to its adjectival root) and applied to the right semantic type (e.g. the event description in the examples handled above).

This change from syntactic constituency to semantics has important consequences at a more general theoretical level. The proposed theory both keeps to broad constituency distinctions and, as it were, discharges syntactic structure from the heavy load of explaining semantic and distributional facts that can be better accounted for in purely semantic terms. It is in this sense that the proposal can be framed in Chomsky's (1995) minimalist programme for linguistic theory.[11] Chomsky claims that grammar should specify all and only those properties of linguistic expressions that are strictly necessary for interface levels to operate. The kind of analysis advocated here, with semantics taking good care of problems that resist a syntactic analysis, is clearly in line with this research programme.

5. Conclusions

This study has reviewed the variable semantics and distribution of VP adverbs as well as its theoretical coverage in standard generative accounts. The overall conclusion is that this semantic and distributional variability resists analyses in terms of constituency alternations. Conversely, the study presented here has unearthed an interesting correlation between these adverbial alternations and a certain sentence pattern involving a nominalised event and the adjectival counterparts of the reviewed adverbs. Trying to avoid commitment to a particular semantic framework, a very general characterisation of the semantics of the adjectival construction has been suggested. Relying on such general characterisation the following conclusions have been derived:

    (a) that the semantics of adverbs is not essentially different to that of adjectives, which is in line with the current urge to assimilate the grammar of adverbs to that of adjectives;

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[11] Also cf. Hornstein (1995) and Fox (2000) for more semantically-oriented arguments in favour of this hypothesis.

(b) that the reviewed semantic and distributional properties of VP adverbs are best accounted for in semantic terms, which, very much in line with current Minimalist concerns, frees the syntactic component of responsibility over facts it does not seem prepared to handle.

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