KNOCKING TWICE INTENTIONALLY*

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1 Introduction

In a now classic squib, Andrews (1983) offered the minimal pair in (1) as evidence that the English VP has the left-branching structure in (2), in which the outermost adverb modifies a constituent containing the inner adverb. This is often described as a type of scope: the second modifier takes scope over the first.

(1)   a. John knocked on the door intentionally twice.
       b. John knocked on the door twice intentionally.

(2)
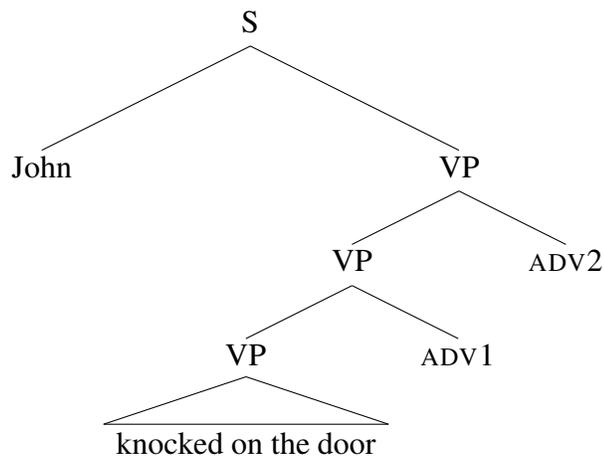
Andrews notes that the first sentence is readily understood to mean that there were two occurrences of John knocking on the door and that both were undertaken intentionally, while the second means that John had the intention of knocking twice on the door (and did so). Larson (2004) provides a context that makes the difference truth-conditional: John's intention is to knock on each

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of a group of doors exactly once. However, after knocking on many of them (with full intent) he becomes confused, and knocks (intentionally) on a particular door without realizing that he has already knocked on that door. In this scenario, (1a) is judged true, but the standard characterization holds (1b) to be false, since John did not have the intention of [knocking on the door twice].[1]

Andrews's conclusion is widely accepted and constitutes, for example, an ingredient in the phrase-structure paradoxes identified in Pesetsky (1995), where different diagnostics appear to point simultaneously to right- and left-branching structures for English VPs (see Phillips, 2003 and Lechner, 2003 for elaboration).[2] There are, however, two dissenting voices about the interpretation of this contrast: Phillips (2003) and Larson (2004). In this short contribution, I add a data point that amplifies the dissent, challenging not only the interpretation of the effect, but the empirical veracity of the original generalization.

2   Focus and Modifier Scope

Phillips (2003), and following him Larson (2004), contend that focus plays a previously under-acknowledged role in determining the interpretation of sentence-final modifiers. Specifically, they claim that when a third modifier is added to the sequence, the default sentence-final focus shifts to this third modifier and the scope-like relation between the first two becomes more flexible. Example (3b) is from Phillips and Larson, while (3a) uses their structure with a more minimal contrast to (1).

(3)   a.   John knocked on the door [twice] [intentionally] [last Saturday].
       b.   Sue kissed him [many times] [intentionally] [in front of the boss].

The sentence in (3a) can, but need not mean that John had the intention of knocking twice on the relevant door. In Larson's context where (1b) is judged false, the minimally different (3a) may be truthfully uttered. This observation is hard to accommodate if the VP structure is uniformly left-branching, and directly determines modifier scope.

Larson and Phillips propose that it is focus, and not syntactic constituency, that gives Andrews's famous effect in (1). Larson models this by, in effect, allowing the constituent in focus to be represented in logical form outside of the remainder of the VP. Larson's specific proposal invokes

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[1]A reviewer asks if there might be a sharper scenario to draw this out (perhaps in part since knocking non-intentionally on a door is an odd thing). Consider a floor area painted like a multicoloured checkerboard. Contestants are given the task of walking a path across it, stepping on each square exactly once (no more and no less). Moreover, their balance is off (the game takes place on a pitching ship, and the contestants have been drinking), thus someone could step on the green square *intentionally* (they were aiming for it) or *accidentally* (they intended to step on an adjacent square). In the Larson-like scenario, Jen is dexterous and makes no accidental missteps, but in tracing her path, she forgot that she had already stepped once on the green square, and near the end of her path stepped on the green square a second time. At that second step, she had the full intent to step on that green square (rather than an adjacent one), but also had the full intent to step on each square exactly once (which she thus failed to do). The standard characterization would be that it is true that *she stepped on the green square intentionally twice* (neither time was by accident), but false that *she stepped on the green square twice intentionally* (since she never had the intention of stepping on that square twice).

[2]Pesetsky noted that the correlation represents preferred readings leaving room to accommodate some variability. The apparent contrast is also addressed in Cinque (1999), as it is a challenge for theories that reject right-adjoined modifiers. The lack of a parallel contrast in Serbo-Croatian is taken by Bošković (1997) to argue for differences between Serbo-Croatian and English in the structural position of objects and other (originally) VP-internal elements.

a neo-Davidsonian quantificational representation of events, and incorporates additional structure (following Herburger, 2000) that separates the background and the focus, with the focus as the scope of the event quantifier. The representations Larson's proposal assigns to (1b) and (3a) are given in (4):

(4) a. $\exists E$ [$\forall e$ [Ee $\rightarrow$ knocking(j,d,e) & intentional(e)]]   (two(E))
     b. $\underbrace{\exists E}_{Q}$ $\underbrace{[\forall e [Ee \rightarrow knocking(j,d,e) \text{ & } intentional(e)] \text{ & } two(E)]}_{\text{Restriction}}$ $\underbrace{(saturday(E))}_{\text{Scope}}$

These are intended to be read roughly as: there is an event E, whose sub-events consist of intentional door-knockings by John, and event E was two in number (and for (4b) E occurred on Saturday). What is relevant here is that the logical forms in (4) are derived from the syntax by mapping the focus to the scope of the quantifier, and the background to the restriction. For Larson, it is of central importance that the background need not correspond to a syntactic constituent. The representations in (4) may be derived either from a left-branching structure or a uniformly right-branching VP-structure in the syntax, as argued for extensively in Larson (1988). Whether the structure is right or left-branching, by default, the final element is in focus, and thus has the semantic effect of taking (what appears to be) widest modifier scope. Thus under Larson's proposal, even the right-branching structure in (5) may yield the *twice > intensionally* reading, if *twice* is in focus.

(5) John [$_{V^n}$ knocked [on the door [intentionally [twice]]]].

While Larson accepted that a sequence of two modifiers was unambiguous in the way Andrews originally suggested, it can also be shown that focus, rather than syntactic constituency, is the determinant of modifier scope even in examples with only two modifiers, like (1). Adding focus-sensitive elements such as *only, exactly* draws out the ambiguity. In all of the following examples, the only coherent interpretation is the one which runs counter to Andrews's generalization—it is the inner modifier that takes scope over the sentence-final one.[3]

(6) a. (In the concert where he played many false notes,)
         the violinist played a false note only once intentionally.
     b. (Of all weapon discharges this month,)
         officers fired Tasers exactly twice intentionally and once due to a malfunction.
     c. (In reviewing their four transgressions, we conclude that)
         they have broken the rule only twice intentionally and twice by accident.
     d. (In the last 19 games, Howard has walked batters 16 times,)
         but he has done so [walked a batter] only twice intentionally.

Under the classic, left-branching approach, where structure determines modifier scope, all of these examples should be contradictory. The example in (a) does not mean ''The violinist played the wrong note only once'', and moreover did so intentionally. In fact it explicitly denies that. Likewise (b) should assert that the officers fired Tasers exactly twice, and moreover, that had been their intention. Yet the sentence itself asserts that they fired Tasers more than twice. Rather,

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[3]The last three examples are modelled on naturally occurring examples observed on the web.

the only non-contradictory interpretation is the one in which [exactly twice] modifies the non-constituent [fired Tasers … intentionally]. Likewise, (d) is only compatible with [only twice] modifying the non-constituent [done so / walked batters … intentionally] since the sentence itself asserts that [walked the batters only twice] is false.

In other words, while the syntactic structure may be either right or left branching, it is the lifting of the modifier under focus, to generate a representation like (7), that yields an adequate characterization of the readings associated with examples of this sort.[4]

(7) $\exists E$ [$\forall e$ [Ee → play(v,fn,e) & intentional(e)]]   (only one(E))

As a final check, we might want to reassure ourselves that we are indeed dealing with the ADV1 > ADV2 reading, as opposed to a version of the ADV2 > ADV1 reading, consistent with Andrews's proposal, but supplemented by a pragmatic restriction that restricts attention to some salient sub-event. For example, if our violinist had the intention of playing a false note only once at a particular point in the concert, and did exactly that, and we may somehow ignore the rest of the concert in evaluating the sentence, it may still be possible to characterize the readings as left-branching. By interspersing the accidental and intentional misplayings, the context in (8) excludes the possibility that sentences of this sort achieve the apparent inverse reading by picking out some salient sub-event. There is no salient sub-event of playing two false notes that was intentional.

(8)   The violinist, hoping to niggle the conductor, intended to play false notes at exactly two points in the concert: once in the second movement and once in the fourth. In fact, he was so nervous about this ruse, that he accidentally played multiple false notes in each movement, in addition to the two he had intended to.

(9)   The violinist played the wrong notes only twice intentionally, all other times were by accident.

3   Conclusion

Whatever the precise mechanism by which representations like (4) and (7) are derived, examples such as those in (6) provide seemingly conclusive evidence in support of the Phillips-Larson proposal that focus is relevant to the computation of modifier scope, in a way that undermines the force of Andrews's argument for left-branching VP structure. The examples presented here go beyond those provided by Phillips and Larson in two ways. First, they show that (contrary to almost all claims in the literature), the modifier scope ambiguity arises in English even with only two post-VP modifiers, and second, they confirm the role of focus by reducing intuitions of possible ambiguities (as previous works relied on) to possibly sharper judgments of non-contradictoriness. The examples here are not inconsistent with the view that the English VP is left-branching as in (2), but before reaching the conclusion that they support that structure, one needs to think twice about the role of focus.

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[4]An account invoking covert focus movement (Chomsky, 1976) may allow for the focus effect to be captured structurally, at LF. A reviewer suggests that approaches to the syntax of focus particles such as Kayne (1998) might allow for the relevant constituency to be represented overtly, with sufficient allowance for remnant and other movements.

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