

Structurally ambiguous *again* without lexical decomposition: a Function Composition approach*

Andrew Weir

NTNU Norwegian University of Science and Technology

1. Background and aim of the paper

The word *again*, and its counterparts in other languages e.g. German *wieder*, give rise to a well-known ambiguity between *repetitive* and *restitutive* readings (Dowty 1979, von Stechow 1995, 1996, Fabricius-Hansen 2001, Beck & Johnson 2004, Beck 2005 a.m.o.)

- (1) John opened the door again.
- a. John had previously opened the door. (repetitive)
 - b. The door had previously been open. (restitutive)

The ambiguity is governed by the position of the adverb (von Stechow 1995, 1996, Beck & Johnson 2004, Beck 2005). If *again* is in a low position in the VP, as in (1), ambiguity is present, but if *again* is adjoined in a high position in the clausal structure – for example in (2), or above the landing site of objects in German (3b) – only the repetitive reading is available.

- (2) John again opened the door. [only repetitive]

- (3) (Beck 2005:17)

- a. weil Otilie die Tür wieder öffnete.
because O. the door again opened [repetitive/restitutive]
- b. weil Otilie wieder die Tür öffnete.
because O. again the door opened [only repetitive]

*Thanks to reviewers for and attendees at NELS for comments. Thanks in particular to Giorgos Spathas for detailed discussion, which I regret mostly not having yet been able to incorporate into this version of this work. Any errors are mine.

Two families of analysis exist in the literature to capture these facts: the *lexical ambiguity* analysis and the *structural ambiguity* analysis. Both families of analysis agree that *again* can have a denotation similar to that in (4) (see e.g. von Stechow 1996:95): an adverb which composes with a predicate of eventualities (states or events) and returns that same predicate of eventualities, with a presupposition that there was an earlier eventuality which satisfied the predicate.

- (4) $\llbracket \text{again} \rrbracket = \lambda P_{(i,t)}. \lambda i. P(i)$, iff $\exists i'. P(i')$ and $i' < i$ (where ' $<$ ' means 'temporally precedes'); otherwise undefined.

Such a denotation captures repetitive readings unproblematically (assuming that *again* can adjoin above the initial position of the external argument).

- (5) a. $\llbracket [\text{VP John dance}] \rrbracket = \lambda e. \text{agent}(e)(\text{John}) \ \& \ \text{dance}(e)$
 b. $\llbracket [\text{VP John dance}] \text{ again} \rrbracket = \lambda e. \text{agent}(e)(\text{John}) \ \& \ \text{dance}(e)$
 iff $\exists e'. \text{agent}(e')(\text{John}) \ \& \ \text{dance}(e')$ and $e' < e$; otherwise undefined.

However the analyses appeal to different mechanisms to capture restitutive readings. Lexical ambiguity analyses propose that *again* is polysemous. For example, Fabricius-Hansen (2001) proposes that *again*, in addition to a denotation like that in (4), can also have a 'counterdirectional' denotation like that in (6); such a denotation combines with a predicate of events P and introduces the presupposition that, in addition to the event e such that $P(e)$ is true, there was some previous event e' such that $P_c(e')$ is true, where P_c is a predicate of 'counterdirectional transition events' to P , and the result state of e' with respect to P_c is identical to the pre-state of e with respect to P :

- (6) *Counterdirectional denotation for again (after Fabricius-Hansen 2001:110)*
 $\llbracket \text{again} \rrbracket = \lambda P. \lambda e. P(e)$
 iff $\exists e'. P_c(e) \ \& \ e' < e \ \& \ \text{res}_{P_c}(e') = \text{pre}_P(e)$; otherwise undefined.

'Counterdirectionality' is intended to cover such pairs as 'open/close' (Fabricius-Hansen 2001:110); so, on this view, an example like *John opened the door again* would be true (given the above denotation for *again*) if there had been a previous *closing* of the door, such that the end state of this closing of the door was the initial state of John's opening of the door. The account extends to similar examples discussed by Fabricius-Hansen, such as the below.

- (7) a. The barometer rose and then it fell again.
 b. The car broke down, but then I fixed it again.
 c. His health deteriorated but then it improved again.

On the structural view, by contrast (see in particular von Stechow 1995, 1996, Beck & Johnson 2004, Beck 2005), *again* has only one denotation, that in (4). The ambiguity is captured by proposing that predicates like *open* are decomposed in the syntax into an

Structurally ambiguous again without decomposition

eventive (causative) component and a stative component, as in (8), where [the door $\sqrt{\text{open}}$] would denote a predicate of states of the door being open.

(8) John [CAUSE [the door $\sqrt{\text{open}}$]]

The resultative/restitutive ambiguity is then a simple scope ambiguity. If *again* takes scope only over the stative component as in (9a), the presupposition is simply that the door was previously open; if it takes wider scope as in (9b) (over CAUSE), the presupposition is that John previously opened the door. This has the positive consequence of providing a nice explanation for the facts in (2): a higher position for *again* (assumed to be above CAUSE) allows only for the repetitive reading, while a VP-final position is in principle compatible with both scopes.

(9) John opened the door again.

- a. John [CAUSE [[the door open] again]] (restitutive)
- b. John [[CAUSE [the door open]] again] (repetitive)

To account for facts like those in (7), this version of the decompositional account is forced to argue that not only verbs like *open* (transparently related to statives like *The door is open*), but also verbs like *fix* and *fall* have to be decomposed in the syntax, such that *again* can take scope over a stative component with the right meaning. Indeed, the *again* facts have often been taken as the key piece of evidence for such a decomposition.

- (10) a. *fix the car again* \approx [CAUSE [[the car UNBROKEN] again]]
- b. *the barometer fall again* \approx [BECOME [[LOWER the barometer] again]]

This paper argues, along with the structural/decompositional camp, that *again* has a univocal semantics and that the repetitive/restitutive ambiguity is fundamentally structural in nature rather than lexical, a scope ambiguity depending on where *again* attaches with respect to a CAUSE functor. However, it argues that such a structural analysis does not in fact require syntactic decomposition of verbs like *fix* and *fall*, such that they are ‘built up’ from an underlying stative component. I aim to show that this is not required, and that the desired result can in fact be obtained if such verbs are not constructed in the syntax but rather have a basic denotation which denotes a relation between events and target states. Moreover, I aim to show (in section 2) that at least for some cases, it is *necessary* to assume this; decomposing such verbs into an eventive component and a stative component does not give the correct analysis of verbs like *fall*. The key ingredient in the analysis is the proposal that *again*, when adjoined in a sufficiently low position, can compose via Function Composition with verbal roots, an alternative which I develop in section 3. Section 4 closes with some suggestions for how this proposal can extend to capture the facts discussed under the name of the Visibility Parameter (Rapp & von Stechow 1999, Beck 2005).

2. Issues with decompositional accounts

The structural theory of *again*-modification is very plausible for cases where the result state is clearly ‘visible’ in the syntax (cf. the above-mentioned ‘Visibility Parameter’).

- (11) a. John painted [[the door red] again]. (= it had previously been red)
 b. John walked in, then walked [out again]. (= he had previously been out; cf. Beck 2005)

It is also very plausible that verbs which are *transparently* related to a stative form, such as *open*, are indeed syntactically decomposed in the ‘classic’ way,¹ and I do not intend to argue against decomposition of such verbs here.

- (12) a. *the door is open* = [$\sqrt{\text{open}}$ door]
 b. *the door opened* = [BECOME [$\sqrt{\text{open}}$ door]]
 c. *John opened the door* = [John [CAUSE [BECOME [$\sqrt{\text{open}}$ door]]]]

However, cases like *fix* are less clear. As mentioned above, the grammaticality of cases like *The car broke down, but then I fixed it again* (i.e. a restitutive reading) implies, on the decompositional analysis, that the syntax of a structure containing the verb *fix* must contain a constituent which denotes the state of the car’s being unbroken. That is, either the root $\sqrt{\text{fix}}$ must underlyingly have a purely stative meaning (meaning ‘unbroken’), as in (13a), or there must be an (abstract) formative UNBROKEN which $\sqrt{\text{fix}}$ combines with in a sort of resultative structure, as in (13b).

- (13) a. *fix the car* = [CAUSE [the car $\sqrt{\text{fix}}$]]
 (where $[[\sqrt{\text{fix}}]] = \lambda x.\lambda s.\text{unbroken}(x)(s)$, i.e. a relation between entities and states)
 b. *fix the car* = [$\sqrt{\text{fix}}$ [the car UNBROKEN]]
 (where $[[\sqrt{\text{fix}}]] = \lambda e.\text{fix}(e)$, and the structure is interpreted in the same way as resultatives such as *drink the teapot dry*, Kratzer 2005 a.m.o.)

It seems implausible that the root $\sqrt{\text{fix}}$ underlyingly denotes (only) a relation between entities and states of being unbroken, as in (13a). As Kratzer (2000) notes, stative passives such as *The car is (still) fixed* always have event implications; that is, such a sentence entails that someone fixed the car. It cannot simply mean that the car is in an unbroken state, e.g. as when new off the lot. But it seems that a stipulation would be required to rule that out if the root $\sqrt{\text{fix}}$ meant simply ‘unbroken.’ An analysis as in (13b) is more tenable, but requires the acceptance that there exists a silent formative UNBROKEN which only

¹Notwithstanding discussions concerning whether both the CAUSE and BECOME functors are independently needed, or whether some of this work can be handled instead by the semantics of Voice (see e.g. von Stechow 1996, Alexiadou, Anagnostopoulou, & Schäfer 2006), an issue which I largely put aside here, though see footnote 4.

Structurally ambiguous again without decomposition

appears in construction with the root $\sqrt{\text{fix}}$. But apart from the *again* facts, there is not very much evidence that such a formative exists.

The above arguments against the decompositional position are only suggestive rather than decisive. However, there is also some positive evidence against the ‘standard’ decompositional account when we consider certain verbs such as *fall*. It is not clear that these verbs can in fact be decomposed in the syntax such that they include a component which is purely stative. Consider again example (7a):

(14) The barometer rose and then it fell again.

Von Stechow does not provide a detailed decomposition of the verb *fall*, but provides a logical translation for the whole verb phrase *the barometer fall again* (von Stechow 1996:125):

(15) $\llbracket\text{the barometer}\rrbracket(\lambda x.\text{BECOME}$
 $\llbracket\text{again}\rrbracket(\lambda s.[\text{MORE}[\lambda d.d\text{-low}_s(x), \lambda d.d\text{-low}_{\text{beg}(e)}(x)]])](e))$

where

(16) $\text{MORE}(P, Q)$ is True iff $\exists d.P(d) \ \& \ \neg Q(d)$
 where P and Q are properties of degrees (Seuren 1973)

The idea is that (15) will be true (ignoring tense and aspect) if the barometer becomes lower (has a higher degree of lowness) than at the beginning of the event of falling; and the presupposition is that the barometer has previously also been lower than at the beginning of the event of falling. These are the right intuitive truth conditions. But note that the decompositional account assumes that *fall* must be syntactically decomposable into an inchoative and a stative part, such that *again* can take (syntactic) scope over only the stative part. In order to compositionally achieve the denotation in (15), the putative stative constituent must have the denotation in (17b):

(17) a. *the barometer fall again* = [BECOME $\llbracket\text{the barometer LOWER}\rrbracket$ again]]
 b. $\llbracket\text{the barometer LOWER}\rrbracket$
 $= \lambda s.[\text{MORE}[\lambda d.d\text{-low}_s(\text{barometer}), \lambda d.d\text{-low}_{\text{beg}(e)}(\text{barometer})]]$

But there is a problem with (17b): the underlined part, ‘ $\text{beg}(e)$ ’, contains an event variable which is unbound. The intent is that it should be identified with the event introduced by BECOME, but it is not clear how this can happen compositionally. The crucial problem here is that a correct description of the ‘target states’ of verbs like *fall* must make reference to (the initial state of) the event they describe (that is, ‘to fall’ is to become lower than at the start of the event of falling). This presents a challenge to any account which tries to (syntactically) decompose a verb like *fall* such that it has a ‘purely’ stative component which *again* can take scope over.

3. An alternative proposal: introducing events from the start

Suppose, rather, that roots like $\sqrt{\text{fix}}$ and $\sqrt{\text{fall}}$ do introduce eventive components from the start, as the above discussion of *fall* suggests. In particular, following (but adapting) Kratzer (2000), I propose that such roots introduce relations between entities, events, and the target states of these events; there is no ‘purely stative’ part.

- (18) a. $\llbracket \sqrt{\text{fix}} \rrbracket = \lambda x. \lambda e. \lambda s. \text{event}(e) \ \& \ R(x)(s)$
 where if x is a vase, $R = \text{‘intact’}$; if x is a car, $R = \text{‘working’}$, ...²
 b. $\llbracket \sqrt{\text{fix}} \text{ [the car]} \rrbracket = \lambda e. \lambda s. \text{event}(e) \ \& \ \text{working}(\text{car})(s)$
- (19) a. $\llbracket \sqrt{\text{fall}} \rrbracket = \lambda x. \lambda e. \lambda s. \text{event}(e)$
 $\ \& \ \text{MORE}[\lambda d. d\text{-low}_s(x), \lambda d. d\text{-low}_{\text{beg}(e)}(x)]$
 b. $\llbracket \sqrt{\text{fall}} \text{ the barometer} \rrbracket = \lambda e. \lambda s. \text{event}(e)$
 $\ \& \ \text{MORE}[\lambda d. d\text{-low}_s(\text{barometer}), \lambda d. d\text{-low}_{\text{beg}(e)}(\text{barometer})]$

I depart from Kratzer in proposing that a causal relation between the event and target state is not a part of the root. Rather, this relation is introduced by verbalizers (20a) or stativizers (20b), which (as in Kratzer 2000) also existentially close either the state or event argument.

- (20) a. $\llbracket v \rrbracket = \lambda P_{\langle v, \text{st} \rangle}. \lambda e. \exists s. P(e)(s) \ \& \ \text{cause}(e)(s)$ (v, s sorts of type i)
 b. $\llbracket \text{-en} \rrbracket = \lambda P_{\langle v, \text{st} \rangle}. \lambda s. \exists e. P(e)(s) \ \& \ \text{cause}(e)(s)$
- (21) a. $\llbracket v \text{ [}\sqrt{\text{fix}} \text{ the car]} \rrbracket = \lambda e. \exists s. \text{event}(e) \ \& \ \text{working}(\text{car})(s) \ \& \ \text{cause}(e)(s)$
 b. $\llbracket \text{-en [}\sqrt{\text{fix}} \text{ the car]} \rrbracket = \lambda s. \exists e. \text{event}(e) \ \& \ \text{working}(\text{car})(s) \ \& \ \text{cause}(e)(s)$
 (i.e. *the car is fixed* = there was an event that (directly) caused the current working state of the car)

In the verbal case, the external argument is introduced via a Voice head (Kratzer 1996):

- (22) $\llbracket \text{[John Voice [} v \text{ [}\sqrt{\text{fix}} \text{ the car]} \rrbracket] \rrbracket = \lambda e. \exists s. \text{event}(e) \ \& \ \text{working}(\text{car})(s)$
 $\ \& \ \text{cause}(e)(s) \ \& \ \text{agent}(e)(\text{John})$

These proposed denotations for roots are very ‘light’ and do not encode much about the nature of the relation between the event and the target state. (In the case of $\sqrt{\text{fix}}$, (18a), nothing about this relation is in fact encoded in the root itself.) However, they are crucially not purely stative; they introduce an event variable into the representation. That allows roots like $\sqrt{\text{fall}}$ to make reference to the properties of the event, as is necessary; and, combined with the denotation for stative passive formation in (20b), this captures the fact that stative passives like *the car is fixed* obligatorily have event implications and cannot simply mean that the car is working.

²I include this component to encode the fact that the target state of ‘fixing’ something depends on what that something is.

Structurally ambiguous again without decomposition

Now let's return to *again*. Given the denotations above, *again* will work as before if it is adjoined above the categorizing heads. Adjoining *again* outside the verbalizing/causativizing v gives the repetitive reading:

$$(23) \quad \llbracket [v [\sqrt{\text{fix}} \text{ the car}]] \text{ again} \rrbracket = \lambda e. \exists s. \text{event}(e) \ \& \ \text{working}(\text{car})(s) \ \& \ \text{cause}(e)(s) \\ \text{iff } \exists e'. \exists s'. \text{event}(e') \ \& \ \text{working}(\text{car})(s') \ \& \ \text{cause}(e')(s') \ \& \ e' < e; \text{ otherwise undefined}$$

The restitutive reading is captured by adjoining *again* below the categorizing heads – e.g. with (18b) or (19b). As *again* is of type $\langle \text{it}, \text{it} \rangle$, and expressions like (18b) and (19b) (i.e. roots like $\sqrt{\text{fix}}$ and $\sqrt{\text{fall}}$ combined with their internal arguments) are of type $\langle \text{i}, \text{it} \rangle$, they cannot combine via Function Application. They are, however, able to combine via the operation of Function Composition (FC) (24):

$$(24) \quad \textit{Function Composition 'o'}$$

If F is of type $\langle \sigma, \tau \rangle$ and G is of type $\langle \tau, \rho \rangle$, then $F \circ G = \lambda x_{\sigma}. G(F(x))$.

Function Composition is a powerful compositional principle. Surface-oriented frameworks such as Direct Compositionality (see e.g. Barker & Jacobson 2007) use it extensively, but its use in frameworks which assume interpreted movement and LF (e.g. Heim & Kratzer 1998) is generally much more restricted. However, even in these frameworks, it has been argued that FC is available at the sub-lexical level, i.e. precisely in cases such as (18b), (19b), in which roots have not yet been provided with a category; see e.g. Kratzer 2000, Keine & Bhatt 2016. The result of combining *again* with (18b) via FC is shown in (25).³

$$(25) \quad \llbracket \sqrt{\text{fix}} \text{ the car} \rrbracket_{\langle v, \text{st} \rangle} \circ \llbracket \text{again} \rrbracket_{\langle \text{it}, \text{it} \rangle} \\ = \lambda e. \llbracket \text{again} \rrbracket (\llbracket \sqrt{\text{fix}} \text{ the car} \rrbracket (e)) \\ = \lambda e. \llbracket \text{again} \rrbracket (\lambda s. \text{event}(e) \ \& \ \text{working}(\text{car})(s)) \\ = \lambda e. \lambda s. \text{event}(e) \ \& \ \text{working}(\text{car})(s) \\ \text{iff } \exists s'. \text{event}(e) \ \& \ \text{working}(\text{car})(s') \ \& \ s' < s; \text{ otherwise undefined.}$$

The causativizer v in (20a) can then be composed with (25) to yield (26):

$$(26) \quad \llbracket v \llbracket \sqrt{\text{fix}} \text{ the car} \rrbracket \text{ again} \rrbracket = \lambda e. \exists s. \text{event}(e) \ \& \ \text{working}(\text{car})(s) \ \& \ \text{cause}(e)(s), \\ \text{iff } \exists s'. \text{event}(e) \ \& \ \text{working}(\text{car})(s') \ \& \ s' < s; \text{ otherwise undefined.}$$

³If we assume *generalized function composition* (i), then *again* could in fact compose with roots like $\sqrt{\text{fix}}$ before they combine with their internal arguments, and deliver the same result. I leave further exploration of this possibility to future work here (thanks to Stefan Keine for discussion).

(i) If F is of type $\langle \alpha, \langle \beta, \dots \langle \sigma, \tau \rangle \rangle \rangle$ and G is of type $\langle \tau, \rho \rangle$, then $F \circ G = \lambda x_{\alpha}. \lambda x_{\beta}. \dots \lambda x_{\sigma}. G(F(x_{\alpha})(x_{\beta}) \dots (x_{\sigma}))$

This translation captures the restitutive reading. The presupposition is that there existed an state of the car's being working prior to the target state of the fixing – but *not* that there was a previous event of causing the car to be working. The only presupposition about *events* in (26) is the harmless one that *e* – that is, the fixing event being described in the main assertion – is an event.

The same analysis can be extended to the case of *fall*:⁴

$$\begin{aligned}
 (27) \quad & \llbracket \sqrt{\text{fall}} \text{ the barometer} \rrbracket \circ \llbracket \text{again} \rrbracket \\
 & = \lambda e. \llbracket \text{again} \rrbracket (\llbracket \sqrt{\text{fall}} \text{ the barometer} \rrbracket (e)) \\
 & = \lambda e. \llbracket \text{again} \rrbracket (\lambda s. \text{event}(e) \ \& \\
 & \quad \text{MORE}[\lambda d. d\text{-low}_s(\text{barometer}), \lambda d. d\text{-low}_{\text{beg}(e)}(\text{barometer})]) \\
 & = \lambda e. \lambda s. \text{event}(e) \ \& \text{MORE}[\lambda d. d\text{-low}_s(\text{barometer}), \lambda d. d\text{-low}_{\text{beg}(e)}(\text{barometer})], \\
 & \quad \text{iff } \exists s'. \text{event}(e) \ \& \text{MORE}[\lambda d. d\text{-low}_{s'}(\text{barometer}), \lambda d. d\text{-low}_{\text{beg}(e)}(\text{barometer})] \\
 & \quad \ \& \ s' < s, \text{ otherwise undefined.}
 \end{aligned}$$

Again, this correctly captures the restitutive reading. The presupposition here is that there was a state of the barometer, prior to the target state of the falling event, in which it was lower than the state of the barometer at the start of the falling event; there is no presupposition that there was an earlier falling event.

A Function Composition analysis of *again* thereby dispenses with the need for lexical decomposition in syntax, but retains a univocal semantics for *again*, and captures the fact that the restitutive/repetitive ambiguity is structurally governed; a lower position of *again* allows the restitutive reading, because only this low position is compatible with Function Composition with the root.

4. D-adverbs and the Visibility Parameter?

To conclude, I would like to make a tentative proposal concerning parametric variation between adverbs. Rapp & von Stechow (1999) note that only certain adverbs ('Decomposition adverbs', 'D-adverbs') can 'look into' verbs and modify their result states. For example, while English *again* and German *wieder* allow for restitutive readings, the adverbs *once more* and German *erneut*, otherwise very similar to *again*, only allow repetitive readings.

$$(28) \quad \# \text{The barometer rose, and then it fell once more.}$$

Within the decompositional framework, Rapp & von Stechow propose the Visibility Parameter for adverbs, elaborated by Beck (2005).

⁴Note that composing *v* with unaccusative $\sqrt{\text{fall}}$, not shown here, requires the assumption that the cause relation does not require an external causer. This seems correct; cf. discussion in Kratzer (2000) and Pykkänen (2008).

Structurally ambiguous again without decomposition

(29) *Visibility Parameter*

It is a lexical property of any particular adverb whether it can attach to a phrase without a phonologically expressed head.

That is, on the ‘standard’ decompositional view, *again* and *wieder* have the lexically specified property that they can attach to phrases headed by abstract formatives such as LOWER or UNBROKEN, while adverbs like *once more* and *erneut* do not have this property.

However, the current proposal suggests a different possible parameterization:

(30) *Root-selecting Parameter*

- a. ‘D-adverbs’ are those which can combine (via Function Composition) with *bare roots* (plus perhaps their arguments), as in (18b).
- b. Non-D-adverbs are those which must combine with a syntactically categorized phrase, as in (21a).

This is clearly reminiscent of Pylkkänen (2008)’s proposal that some heads which introduce arguments select for roots, while others select categorized verbs (or phrases). Space precludes further comparison of these approaches; I leave this as a project for future work.

References

- Alexiadou, Artemis, Elena Anagnostopoulou, & Florian Schäfer. 2006. The properties of anticausatives crosslinguistically. In *Phases of interpretation*, ed. Mara Frascarelli, 187–212. Berlin/New York: Mouton de Gruyter.
- Barker, Chris, & Pauline Jacobson, ed. 2007. *Direct compositionality*. Oxford: Oxford University Press.
- Beck, Sigrid. 2005. There and back again: A semantic analysis. *Journal of Semantics* 22:3–51.
- Beck, Sigrid, & Kyle Johnson. 2004. Double objects again. *Linguistic Inquiry* 35:97–124.
- Dowty, David. 1979. *Word meaning and Montague Grammar*. Dordrecht: Reidel.
- Fabricius-Hansen, Cathrine. 2001. Wi(e)der and Again(st). In *Audiatur Vox Sapientiae: A Festschrift for Arnim von Stechow*, ed. Caroline Féry & Wolfgang Sternefeld, 101–30. Berlin: Akademie Verlag.
- Heim, Irene, & Angelika Kratzer. 1998. *Semantics in generative grammar*. Malden: Blackwell.
- Keine, Stefan, & Rajesh Bhatt. 2016. Interpreting verb clusters. *Natural Language and Linguistic Theory* 34:1445–92.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In *Phrase structure and the lexicon*, ed. Johan Rooryck & Laurie Zaring, 109–37. Dordrecht: Kluwer.
- Kratzer, Angelika. 2000. Building statives. In *Proceedings of BLS 26*, ed. Lisa J. Conathan, Jeff Good, Darya Kavitskaya, Alyssa B. Wulf, & Alan C. L. Yu, 385–99. Berkeley, CA: Berkeley Linguistics Society.

Andrew Weir

- Kratzer, Angelika. 2005. Building resultatives. In *Event arguments: foundations and applications*, ed. Claudia Maienborn & Angelika Wöllstein, 177–212. Tübingen: Max Niemeyer Verlag.
- Pylkkänen, Liina. 2008. *Introducing arguments*. Cambridge, MA: MIT Press.
- Rapp, Irene, & Arnim von Stechow. 1999. Fast ‘almost’ and the Visibility Parameter for functional adverbs. *Journal of Semantics* 16:149–204.
- Seuren, Pieter A. M. 1973. The comparative. In *Generative grammar in Europe*, ed. Ferenc Kiefer & Nicolas Ruwet, 528–64. Dordrecht: Springer.
- von Stechow, Arnim. 1995. Lexical decomposition in syntax. In *The lexicon in the organization of language*, ed. Urs Egli, Peter E. Pause, Christoph Schwarze, Arnim von Stechow, & Götz Wienold, 81–118. Amsterdam: John Benjamins.
- von Stechow, Arnim. 1996. The different readings of *wieder* ‘again’: A structural account. *Journal of Semantics* 13:87–138.

Andrew Weir
andrew.weir@ntnu.no