

DP IS NOT A SCOPE ISLAND
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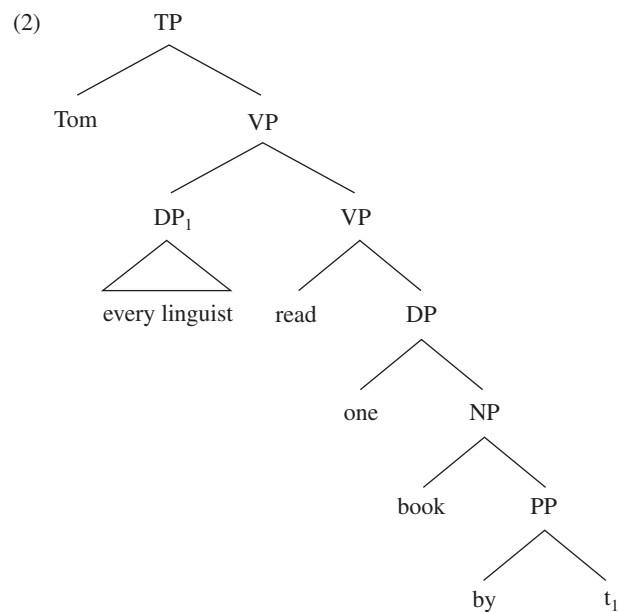
1 The Issue

This squib is concerned with inverse linking constructions. May (1977) introduced this term for cases where a quantificational DP occurs inside another DP and takes wider scope than the containing DP. The construction is illustrated in (1), where *every linguist* is an argument of *book*, but takes wider scope than *one book by t* on the most salient interpretation.

(1) Tom read [_{cQP} one book by [_{iQP} every linguist]].

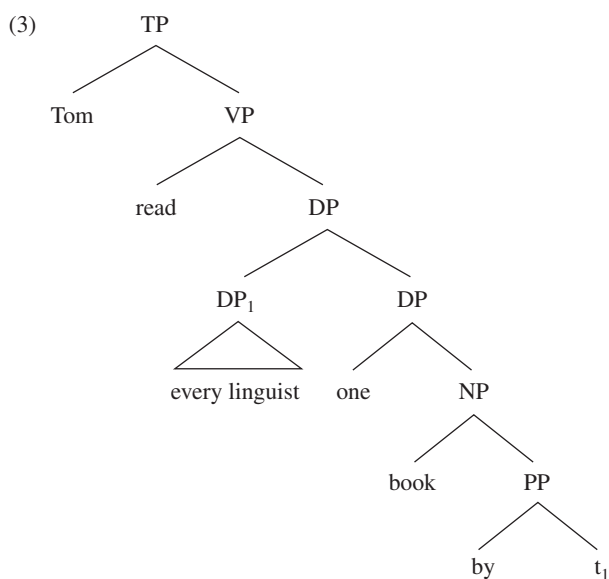
In the following, I use the terms *iQP* and *cQP* for the inversely linked, contained QP and the containing QP, respectively. My use of the two terms is indicated in (1). For concreteness, I furthermore assume that syntactic movement, specifically Quantifier Raising (QR), is the only scope-changing mechanism.

May (1977) proposed that in inverse linking, the *iQP* (*every linguist* in (1)) undergoes QR to take clausal scope at VP (in the framework May was assuming, the *iQP* actually took scope at S). This LF structure is shown in (2).



I am grateful for the useful comments I received on earlier versions of this material from Danny Fox; from audiences at ESCOL '99 at the University of Connecticut in Storrs, at McGill University in Montreal, and at the Institute for Research in Cognitive Science in Lyon; and from one of the reviewers. The German Research Council (DFG) is currently supporting me as an Emmy-Noether-Fellow (Grant SA 925/1-1), and at the time of writing I was enjoying the hospitality of the University of Tokyo and the University of Tsukuba. All remaining errors in this squib are solely my responsibility.

Today, however, a different analysis of inverse linking is almost universally accepted. May himself proposes, in his 1985 book, that DP is an island for QR. The inversely linked interpretation of (1) is, on this proposal, derived from the structure in (3).



Rooth (1985:117–118) and Larson (1985b) propose the same analysis of inverse linking, though with a different scope-taking mechanism. The DP-adjunction analysis is also adopted by Heim and Kratzer (1998:232–233) and, with a different scope-taking mechanism, by Barker (2002). May and Bale (2002) provide an accessible discussion of the analyses by May (1985) and Larson (1985b). Representation (3) requires some version of type-shifting to be interpretable since the sister of the iQP is of type $\langle e, \langle \langle e, t \rangle, t \rangle \rangle$ while iQP itself is of type $\langle \langle e, t \rangle, t \rangle$. (Rooth and Heim and Kratzer provide concrete implementations of the type shift.)

In this squib, I argue that May's (1977) TP-adjunction analysis of inverse linking is required, which entails that DP cannot be an island for QR. Specifically, I show that the iQP can take scope separate from the cQP when scope relative to a scope-taking verb or scope relative to negation is considered. I look at these two phenomena in sections 2 and 3. In section 4, I discuss Larson's (1985b) finding concerning the scope of iQP and cQP relative to a third QP that is the main argument for the adjunction-to-DP analysis.

2 Intensional Verbs

The study of examples containing three quantificational elements requires great care. I first introduce the tests for wide and narrow scope

of a QP relative to the verb *want* and then apply them to inverse linking. It is well known that indefinites provide a good test for narrow scope relative to an intensional verb. Consider (4).

(4) John wants to marry someone from Spain.

(4) has two distinct scopal construals. On one reading (sometimes called the *de dicto* reading), marrying any person from Spain would satisfy John's desires. This construal allows (4) to be true in a situation where John does not know anybody from Spain. For this reading, the indefinite *someone from Spain* must take scope below *want*, since there is no single person such that John holds the desire to meet this person specifically. The second reading holds in a situation where there's a Spanish person such that John holds the desire to marry him or her. This reading (sometimes called the *de re* reading) arises if the indefinite *someone from Spain* takes scope above *want*.

Work on indefinites has proposed that indefinites do not need to undergo QR to acquire wide scope (e.g., Fodor and Sag 1982, Ruys 1993, Reinhart 1997). Therefore, the second reading of (4) could also arise from an LF structure where *someone from Spain* remains in the c-domain of *want*. Examples like (4), however, successfully argue for narrow syntactic scope of the indefinite: for the first reading to be available, the indefinite *someone* must be syntactically represented in the c-domain of *want*. In what follows, I use indefinites to test for narrow scope.

Plurals, on the other hand, provide a good way to test for wide scope with respect to an intensional verb. Consider (5).

(5) John wants to marry these two women from Spain.

(5) could be true when John holds the desire to marry either of these two people from Spain, but does not desire to marry both of them. This shows that (5) allows an interpretation where *these two women from Spain* takes scope above *want*, and it is generally assumed that this interpretation requires QR of *these two women from Spain* to a position above *want*.

One reviewer points out that under my proposal, example (6) should allow only a reading where Sue desires that John marry twice, since the finite clause boundary should block QR of *these two women from Spain* to a position above *desire*. According to the native speakers I have consulted, this prediction is borne out.

(6) Sue desires that John marry these two women from Spain.

The assumption that this interpretation involves QR is corroborated by the contrast between (6) and (7). In a situation where John would be satisfied if only one Spaniard attended the meeting, (7) cannot be true. This follows from the assumption that QR of the postcopular DP is blocked in the *there*-construction (Heim 1987).

(7) John wants there to be two people from Spain at the meeting.

Now consider examples (8a–d).

- (8) a. Mary wanted to marry someone from these two countries.
 b. #‘For these two countries, there’s someone that Mary wanted to marry.’ (two > someone > want)
 c. #‘Mary has the following desire: For these two countries, marry someone from that country.’ (want > two > someone)
 d. ‘For these two countries, Mary had the desire to marry someone from that country.’ (two > want > someone)

(8a), which combines the two scope tests just discussed in an inverse linking construction, shows that it’s possible for the cQP of inverse linking (*someone* in (8)) to take scope below *want* while at the same time the iQP (*these two countries* in (8)) takes scope above *want*. This scopal construal corresponds to the paraphrase (8d). Imagine a context where Mary’s personal ad says that she’s looking for a Japanese or Canadian man to marry. In this context, (8d) is the only salient reading.

The availability of the (8d) reading shows that adjunction to cQP cannot be the only analysis of inverse linking. For this interpretation, the LF representation sketched in (9) must be available, where the iQP is moved out of the cQP.

- (9) $Mary_x$ [$these\ two\ countries$] $_y$ t_x wanted to marry [$DP\ someone\ from\ t_y$]

Interpretation (8d) cannot be generated on May’s (1985) analysis where QR of the iQP must target the cQP. This analysis allows only the generation of the two structures in (10). But the interpretation of (10a) is (8b) and that of (10b) is (8c). Neither of these is predicted to be true in the scenario sketched above.

- (10) a. $Mary_x$ [[$these\ two\ countries$] $_y$ [$someone\ from\ t_y$]] $_z$ t_x wanted to marry t_z
 b. $Mary_x$ t_x wanted to marry [[$these\ two\ countries$] $_y$ [$someone\ from\ t_y$]]

Further confirmation for the availability of QR out of cQP in inverse linking comes from antecedent-contained deletion (ACD). It is well known that ACD is another test for wide scope of a QP (e.g., Sag 1976, Larson and May 1990). Consider example (11a), where there are two possible antecedents for the elided VP.

- wide antecedent
 ───────────
 narrow antecedent
 ───────────
- (11) a. John wanted to meet everyone Mary did.
 b. ‘John wanted to meet everyone Mary met.’ (narrow antecedent)
 c. ‘John wanted to meet everyone Mary wanted to meet.’ (wide antecedent)

Each ellipsis resolution requires QR of the QP with the relative clause that contains the elided VP to a position outside the antecedent. Specifically, the resolution of the ellipsis paraphrased in (11c) requires QR

of *everyone Mary did* to a position above *want* as Sag (1976) and Larson and May (1990) show.

Relevant for present purposes is example (12a), where the head of the ACD relative is an iQP. (12a) also allows two possible resolutions of the elided VP. The wide ellipsis resolution paraphrased in (12c) again requires QR of a constituent containing the relative clause to a position above *want*.

- (12) a. John wanted to meet someone from every city Mary did.
 b. 'John wanted to meet someone from every city Mary met someone from.' (narrow antecedent)
 c. 'John wanted to meet someone from every city Mary wanted to meet someone from.' (wide antecedent)

Now consider the relative scope of the indefinite *someone* and the verb *want* on the wide ellipsis resolution (12c). There are actually two interpretations of (12a) with wide ellipsis resolution—namely, those in (13). Both interpretations are actually available for (12a). The availability of the interpretation (13b) confirms that *want* can take scope between the two QPs of the inverse linking construction.

- (13) a. 'For every city such that there's someone from it John wanted to meet, there's also someone from it that Mary wanted to meet.' (every > someone > want)
 b. 'For every city such that John has the desire to meet someone from it, Mary also has the desire to meet someone from it.' (every > want > someone)

The point is corroborated by example (14a). Because the elided VP in (14a) is introduced by the auxiliary *is*, only the wide ellipsis resolution is available in this example. Furthermore, the narrow scope reading (14c) of the QP hosting inverse linking is the only pragmatically salient reading in (14a).

- (14) a. Mary is planning to discover a planet in every galaxy John is.
 b. #'For every galaxy such that there's a planet in it that John is planning to discover, there's a planet in it that Mary is planning to discover.' (every > a > plan)
 c. 'For every galaxy that John is planning to discover a planet in, Mary is planning to discover a planet in.' (every > plan > a)

This result shows that the iQP can take wider scope than the cQP in inverse linking.

3 Negation

Huang (1998[1982]:126) reports that (15) must allow an LF representation where the iQP *many children* takes scope above negation, while the cQP *pictures of t* takes scope below negation.

- (15) I didn't see pictures of many children.

Huang's discussion of (15) is very brief, which may be the reason it is not widely known, though his observation is correct as far as I can see. One complicating factor that Huang does not discuss is that the LF position of cardinal indefinites like *many children* is difficult to establish. Ruys (1993) shows that cardinal indefinites involve two scope-taking mechanisms: the scope of the existential and the distributive scope of the plural. Ruys discusses the phrase *three relatives* in example (16).

(16) If three relatives of mine die, I will inherit a fortune.

Ruys proposes representations of (16) where the phrase *three relatives of mine* gives rise to both existential quantification over choice functions and distributive quantification over the elements of the chosen set. In (17), $\exists f \in CF$ represents the choice function existential, while distributive quantification is represented by the *-operator on the predicate (Link 1983). The *-operator can be defined as $\llbracket *P \rrbracket(X) = 1$ if and only if $\forall y$: if y is an atomic part of X , then $P(y)$.

- (17) a. $\exists f \in CF$ if $f(\text{three relatives of mine}) * \text{die}$, I will inherit a fortune
 b. (unavailable interpretation) $\exists f \in CF$ $f(\text{three relatives of mine}) * [\lambda_x$ if x die, I will inherit a fortune]

The interpretation (17a) can be paraphrased as 'There is a group x of three relatives of mine such that, if each of the members of x dies, I inherit a fortune'. For (17b), the corresponding paraphrase is 'There is a group x of three relatives of mine such that, for each member of x , if he or she dies, I inherit a fortune'. As Ruys points out, only the interpretation (17a) is actually available for (16). Since this example involves scope out of a conditional clause island, it shows that only the scope of distributive quantification is sensitive to islands. Ruys concludes that the scope of the choice function existential is not derived by QR of the cardinal indefinite, while that of distributive quantification is.

Now, consider again Huang's example (15). Of the inversely linked interpretations, the two in (18) may be said to involve wide scope of the cardinal indefinite iQP over negation, and narrow scope of the cQP below negation.

- (18) a. (unavailable interpretation) $\exists f \in CF \neg f(\text{many children}) * [\lambda_x$ I see pictures of $x]$
 b. $\exists f \in CF$ $f(\text{many children}) * [\lambda_x \neg$ I see pictures of $x]$

Representation (18a) is true if there is a group of many children such that for at least one of them I did not see a picture of that child. (18b), on the other hand, is only true if, for each child in a group of many children, I didn't see pictures of that child. Interestingly, representation (18a) cannot be available for (15); if it were, (15) should be true even if I did not see a picture of only one of the children, as long as there are many children. (18b), however, gives rise to a possible interpretation of (15). Since distributive quantification takes scope over negation in

(18b), the iQP *many children* must take scope separated by negation from the cQP *pictures of x*.

The absence of representation (18a) is due to independent factors (Fodor 1970, von Stechow 1997). Note that this kind of construal is also unavailable in (19). Consider (19b). An interpretation analogous to (17a) would be paraphrased as ‘There is a set x of relatives of mine which has many elements such that, if each element of x dies, I will inherit a fortune’.

- (19) a. I didn’t see many children.
 b. If many relatives of mine die, I will inherit a fortune.

Even with the numeral *three*, an interpretation analogous to (18a) is not available for (20). This interpretation can be paraphrased as ‘There is a set x of three children, such that it is not the case that I saw each of x ’.

- (20) I didn’t see three children.

For the purposes of this squib, it is not necessary to investigate this constraint further. It is clearly independent of inverse linking. We can safely conclude that Huang’s example (15) establishes that negation can take scope between the iQP and cQP of inverse linking.

4 Larson’s Observation

The main argument in the literature for the claim that the iQP must target the cQP in inverse linking comes from a restriction on the scope of iQP and cQP relative to a third QP in the sentence. This restriction was first observed by Larson (1985b) and has been discussed by Heim and Kratzer (1998:233–234), May and Bale (2002), and Barker (2001, 2002). Consider Larson’s example in (21).

- (21) Two politicians spy on someone from every city.
 (Larson 1985b:(7a))

Larson observes that of the three logically possible inversely linked construals of (21), only two are available: the subject must take scope either below both iQP and cQP as in the paraphrase (22a) or above both of them as in the paraphrase (22b). The construal paraphrased in (22c), where the subject takes scope between iQP and cQP, is not available according to the consensus in the literature.

- (22) a. ‘For every city, there’s someone such that two politicians spy on that person.’ (every > someone > two)
 b. ‘There are two politicians such that for every city, the politicians spy on someone from that city.’ (two > every > someone)
 c. *‘For every city, there are two politicians such that the politicians spy on someone from that city.’ (every > two > someone)

Consider the two structurally similar examples in (23).

- (23) a. Two engineers repaired some exits from every freeway
in a large California city.
(Larson 1985b:(7b))
- b. Two boys are dancing with a girl from every city.

In (23a), the construal that for every freeway there are two engineers who repaired some exits from it is not available. (23b) is constructed such that the pragmatically most salient interpretation is the one where for every city there are two boys who are dancing with a girl from that city: only with this interpretation could the sentence be true when couples of one boy and one girl each are dancing. In fact, though, (23b) does not allow this interpretation; instead, it requires an unusual situation where two boys together are dancing with a single girl.

Because of the inherent difficulty of processing three quantifiers, scope judgments on individual sentences with three quantifiers are perhaps unreliable. Larson's observation, however, seems to hold across a range of examples and has been corroborated in the work of May and Bale (2002) and Barker (2001). For these reasons, I feel persuaded to accept Larson's observation as a constraint on the scope of inverse linking: a third quantificational DP must not take scope between the iQP and the cQP.

Larson's observation would indeed follow from the assumption that QR out of DP is generally impossible. Namely, if the iQP necessarily formed a constituent with the cQP in inverse linking, the two quantifiers could only take scope above a third quantifier together. However, as we saw in the previous two sections, QR out of DP is necessary to derive scope of an intensional verb and scope of negation between iQP and cQP. For these cases, the accounts proposed by Larson (1985b), Heim and Kratzer (1998), and Barker (2001, 2002) make the wrong prediction.

Therefore, I suggest a new account of Larson's generalization. The new account is based on the following three assumptions, all of which have been proposed for independent reasons:

- (24) a. All nonsubject QPs must undergo QR to the closest XP node dominating them that has the semantic type $\langle t \rangle$ of propositions (Heim and Kratzer 1998, Fox 2000, Yatsushiro 2002).
- b. QR, when it is not obligatory to satisfy (24a), is subject to Superiority (Bruening 2001).
- c. The mechanism of total reconstruction of A-movement of a QP puts the QP into the trace position of movement, as if no movement had taken place (Hornstein 1995, Sauerland and Elbourne 2002).

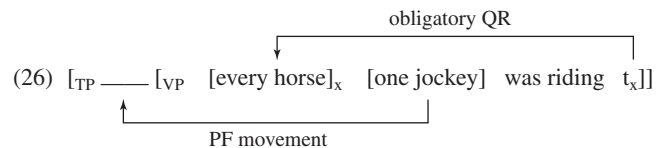
Assumption (24a) possibly follows from the assumption that type-shifting of nominal QPs is generally impossible. Bruening's condition in (24b) blocks QR of a QP across another QP, but allows QR of a QP across negation or an intensional verb. Assumption (24c) follows if total reconstruction of A-movement is accounted for by the copy

theory of movement (Hornstein 1995) or by PF movement (Sauerland and Elbourne 2002), but not if total reconstruction of A-movement is analyzed as quantifier lowering (May 1977, 1985). I assume PF movement in the following.

One consequence of the assumptions in (24) relevant for the following is that scope of the object over the subject in simple transitives like (25) must be derived by total reconstruction of the subject.

(25) One jockey was riding every horse.

QR of the object across the surface subject position is blocked by Superiority. However, the object must undergo QR to vP across the lowest subject position to satisfy (24a). The only derivation of narrow scope consistent with (24) is sketched in (26). In (26), the subject is interpreted in the VP-internal position and moves to the overt subject position, Spec,TP, only phonologically. (Movement in the stem of the derivation affecting both LF and PF leads to wide scope of the subject over the object.)

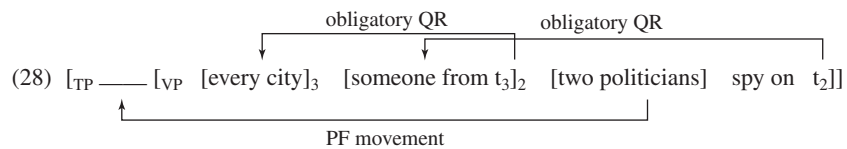


This prediction of (24) is actually correct: Hornstein (1995), Johnson and Tomioka (1998), and Sauerland and Elbourne (2002) have each given different arguments that a derivation with subject reconstruction is the only way to derive inverse scope in a simple transitive clause like (25).

Now consider the predictions of (24) for Larson's (1985b) example (21), which is repeated in (27).

(27) Two politicians spy on someone from every city.

Again I assume that the subject could move to its surface position either in the stem or in the PF branch of the derivation. If the subject moves in the stem, Superiority blocks QR of the iQP and also QR of the cQP across the subject. Therefore, stem movement derives only one scopal order: subject > iQP > cQP. The derivation arising from PF movement of the subject is shown in (28).



Because QR across the VP-internal subject position is obligatory, both the iQP and the cQP must move across the subject. This yields the scopal order iQP > cQP > subject as shown in (28).

The scopal order iQP > subject > cQP is blocked by the assump-

tions (24). All three assumptions play a role in this: without assumption (24a), the cQP could remain in a VP-internal position in (28) to take scope below the subject. Without assumption (24b), the subject in (28) could undergo QR from the VP-internal position across the cQP, again leading to the missing reading. Finally, without assumption (24c), total reconstruction of the subject could directly target the position between the iQP and the cQP, which also would result in the missing interpretation.

Because QR across intensional verbs and negation is not constrained by Superiority, the facts in section 2 and 3 are consistent with (24).

5 Conclusions and Further Directions

In sections 2 and 3, I have shown that QR out of DP is possible: I demonstrated that a third quantifier in the sentence can take scope between the two QPs of an inverse linking construction. In section 4, I then considered Larson's (1985b) generalization that a third quantificational DP cannot take scope between the two QPs of an inverse linking construction. Since I have shown that QR out of DP is possible, a new account of Larson's generalization is needed, if the generalization is indeed correct. To this end, I entertained a speculative new account based on the three assumptions in (24). This account makes a number of further predictions that need to be considered carefully. However, at present I can offer only some brief comments on these consequences. In particular, one consequence of the assumptions in (24) is that they not only allow QR out of DP, but also force QR out of DP in inverse linking constructions. This is stronger than the claim that QR out of DP is possible, which I established in sections 2 and 3. When considering this stronger proposal, arguments that it is necessary to allow QP to adjoin to DP are relevant. Both Rooth (1985) and Heim and Kratzer (1998) have given such arguments. Rooth points to example (29).

- (29) For her term project, Mary needs every book by some Norwegian.
(Rooth 1985:116)

In (29), the inverse linking construction occurs as the object of the verb *need*. Rooth observes that *some Norwegian* can take scope above *every* while taking scope below *need*; according to this reading, Mary's needs would be satisfied if she gets every book of Knut Hamsun or every book of some other specific Norwegian author.

For this interpretation of (29), *some Norwegian* must take scope above *every book* but below *need*. If the QP *every book* is the complement of *need*, Rooth correctly argues that the only position with the right scope for *some Norwegian* would be adjoined to the QP *every book*. However, Rooth's conclusion depends on specific assumptions on the syntax of the complement of *need*. For instance, Den Dikken, Larson, and Ludlow (1997) argue that the complement of *need* in (29) is a clause consisting of an empty subject position bound by *Mary*

and an empty verb *have*. If this proposal is correct, *some Norwegian* can be interpreted as the sister of this hidden clause and DP-adjunction would not be required for the interpretation of (29) that Rooth discusses.

Heim and Kratzer (1998) give a different argument that DP-adjunction of QPs is possible. Namely, they observe that (30) allows an interpretation where *every class* takes scope below *neither . . . nor*, but above *a student*. This reading can be paraphrased as ‘John is neither such that he met a student from every class nor such that he met a professor’. For this interpretation, *every class* must take scope above *a student*, but below *neither . . . nor*. Again, adjunction of the iQP to the cQP is the only way to derive this scope of the iQP if the sister of *neither* is the cQP.

- (30) John met neither a student from every class nor a professor.
(Heim and Kratzer 1998:232)

However, this argument too depends on very specific assumptions about the syntax, in this case that of *neither*. Again, alternatives are easily imaginable. For instance, Larson (1985a) concludes that *either* itself can undergo QR. If *neither* also could undergo QR, in (30) it could move by QR to a position with clausal scope and then *every class* could also move by QR to this position without necessarily taking scope higher than *neither*. Therefore, neither (29) nor (30) unequivocally establishes a need for DP-adjunction of QPs.

References

- Barker, Chris. 2001. Integrity: A syntactic constraint on quantificational scoping. In *WCCFL 20*, ed. by Karine Megerdooimian and Leora Anne Bar-El, 101–114. Somerville, Mass.: Cascadia Press.
- Barker, Chris. 2002. Continuations and the nature of quantification. *Natural Language Semantics* 10:211–242.
- Bruening, Benjamin. 2001. QR obeys Superiority: Frozen scope and ACD. *Linguistic Inquiry* 32:233–273.
- Dikken, Marcel den, Richard Larson, and Peter Ludlow. 1997. Intensional ‘‘transitive’’ verbs and concealed complement clauses. In *Readings in the philosophy of language*, ed. by Peter Ludlow, 1041–1053. Cambridge, Mass.: MIT Press.
- von Stechow, Kai. 1997. Bare plurals, bare conditionals, and *only*. *Journal of Semantics* 14:1–56.
- Fodor, Janet Dean. 1970. The linguistic description of opaque contexts. Doctoral dissertation, MIT, Cambridge, Mass. Published New York: Garland (1979).
- Fodor, Janet Dean, and Ivan Sag. 1982. Referential and quantificational indefinites. *Linguistics and Philosophy* 5:355–398.
- Fox, Danny. 2000. *Economy and semantic interpretation*. Cambridge, Mass.: MIT Press.
- Heim, Irene. 1987. Where does the definiteness restriction apply? Evidence from the definiteness of variables. In *The representation*

- of (in)definiteness*, ed. by Eric J. Reuland and Alice G. B. ter Meulen, 21–42. Cambridge, Mass.: MIT Press.
- Heim, Irene, and Angelika Kratzer. 1998. *Semantics in generative grammar*. Oxford: Blackwell.
- Hornstein, Norbert. 1995. *The grammar of Logical Form: From GB to minimalism*. Cambridge, Mass.: Blackwell.
- Huang, C.-T. James. 1998. *Logical relations in Chinese and the theory of grammar*. New York: Garland. (Doctoral dissertation, MIT, Cambridge, Mass., 1982.)
- Johnson, Kyle, and Satoshi Tomioka. 1997. Lowering and mid-size clauses. In *Proceedings of the Tübingen Workshop on Reconstruction*, ed. by Graham Katz, Shin-Sook Kim, and Winhart Haike, 177–198. Universität Tübingen.
- Larson, Richard K. 1985a. On the syntax of disjunction scope. *Natural Language & Linguistic Theory* 3:217–264.
- Larson, Richard K. 1985b. Quantifying into NP. Ms., MIT, Cambridge, Mass.
- Larson, Richard K., and Robert May. 1990. Antecedent containment or vacuous movement: Reply to Baltin. *Linguistic Inquiry* 21: 103–122.
- Link, Godehard. 1983. The logical analysis of plurals and mass terms: A lattice theoretical approach. In *Meaning, use, and the interpretation of language*, ed. by Rainer Bäuerle, Christoph Schwarze, and Arnim von Stechow, 302–323. Berlin: de Gruyter.
- May, Robert. 1977. The grammar of quantification. Doctoral dissertation, MIT, Cambridge, Mass.
- May, Robert. 1985. *Logical Form: Its structure and derivation*. Cambridge, Mass.: MIT Press.
- May, Robert, and Alan Bale. 2002. Inverse linking. Syncom Case Study, University of California, Irvine, and McGill University, Montreal, Que.
- Reinhart, Tanya. 1997. Quantifier scope: How the labor is divided between QR and choice functions. *Linguistics and Philosophy* 20:335–397.
- Rooth, Mats. 1985. Association with focus. Doctoral dissertation, University of Massachusetts, Amherst.
- Ruys, E. G. 1993. The scope of indefinites. Doctoral dissertation, Utrecht University.
- Sag, Ivan. 1976. Deletion and Logical Form. Doctoral dissertation, MIT, Cambridge, Mass.
- Sauerland, Uli, and Paul Elbourne. 2002. Total reconstruction, PF movement, and derivational order. *Linguistic Inquiry* 33: 283–319.
- Yatsushiro, Kazuko. 2002. The distribution of *mo* and *ka* and its implications. In *Proceedings of FAJL 3*, ed. by María Cristina Cuervo, Daniel Harbour, Ken Hiraiwa, and Shinichiro Ishihara, 181–198. MIT Working Papers in Linguistics 41. Cambridge, Mass.: MIT, Department of Linguistics and Philosophy, MITWPL.