More on (the lack of) reconstruction in *tough*-constructions

1.   *Tough*-constructions and reconstruction

Tough-constructions (TCs) have long been, and continue to be, a controversial topic, with even fundamental aspects of their syntax remaining under dispute. One question that has figured prominently in the literature is whether the *tough*-subject can reconstruct into the embedded clause. This question is of interest because different views about the relation between the *tough*-subject *Alex* in (1) and the gap give rise to different predictions. If the relation is one of movement (e.g., Brody 1993, Hicks 2009, Hartman 2012), reconstruction should be possible, at least all else equal. By contrast, if the *tough*-subject is base-generated in the matrix clause and the relationship is one of predication (e.g., Chomsky 1977, Rezac 2006, Keine and Poole 2017), reconstruction is predicted to be impossible.

(1)   **Alex$_1$** is tough to please ___ $_1$.

The empirical facts about reconstruction in TCs have been the subject of much debate, with some recent studies arguing for the possibility of reconstruction (e.g., Hicks 2009, Pesetsky 2013, Longenbaugh 2015) and others against it (e.g., Rezac 2006, Fleisher 2013). We will start by considering quantifier scope and pronominal binding.

It has long been recognized that scope reconstruction is impossible in TCs (2a) (Postal 1974, Epstein 1989, Rezac 2006, Fleisher 2013). In this respect, TCs differ markedly from raising (2b).

(2)   a.   [**Few girls**]$_1$ would be difficult for Jim to talk to ___ $_1$.   (Postal 1974:224)

  (*few $\gg$ difficult*; **difficult $\gg$ few*)

  b.   [**Few girls**]$_1$ are likely ___ $_1$ to be sick.   (*few $\gg$ is likely*; *is likely $\gg$ few*)

Fleisher (2013:324–325) shows that scope reconstruction in TCs is likewise blocked for *how many*-questions. Evidence from quantifier scope, then, suggests that no reconstruction is possible. Interestingly, binding connectivity appears to suggest the opposite conclusion.

Based on examples like (3), Pesetsky (1987, 2013) and Hicks (2009) argue that it is possible for the *tough*-subject to reconstruct for binding (though see Rezac 2004:189–190).

(3) [This aspect of **herself₁**]₂ is easy for **Mary₁** to criticize ___₂.   (Pesetsky 2013:146)

In response to this argument, Bruening (2012) points out that the relevant examples all involve *picture*-NPs, which are well-known to allow binding even in the absence of c–command, as shown in (4), where *herself* is not c–commanded by its antecedent even if reconstruction were to take place.

(4) [This aspect of **herself₁**]₂ was tough for [**Sarah Palin's₁** autobiography] to present ___₂ in a good light.   (Bruening 2012:ex. (11))

If no c–command is required for such (presumably logophoric) binding, (3) does not provide an argument for reconstruction in TCs. We can add to Bruening's (2012) argument the observation that if the binder is not a logophoric center, reconstruction for binding is indeed impossible in TCs (5). This indicates that genuine reconstruction (as opposed to logophoric binding) is impossible in TCs, converging with the evidence from scope.[1]

(5) a.   It was hard for John to tell **every farmer₁** [the bad news about **her₁** goat].

   b.   *[The bad news about **her₁** goat]₂ was hard for John to tell **every farmer₁** ___₂.

This squib contributes to the debate about reconstruction in TCs by presenting novel evidence that the *tough*-subject cannot reconstruct. We will first consider an observation by Longenbaugh (2015), who notes that reconstruction appears to be possible with comparative quantifiers, calling into question the generalizations above. We will argue that, despite appearances, comparative quantifiers do not provide evidence for reconstruction, and in fact offer new evidence against it. We will then provide another argument against reconstruction in TCs based on special syntactic positions that independently require reconstruction. The picture that emerges is thus remarkably cohesive in that a considerable range of disparate

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[1] Pesetsky (2013) furthermore shows that there is no reconstruction for Condition C in TCs. This fact does not, however, indicate whether reconstruction is possible or not, only that it is not obligatory.

evidence converges on the anti-reconstruction property of TCs. We will then consider some of the theoretical consequences of this conclusion and argue that the available evidence supports the base-generation analysis of TCs over movement accounts. Specifically, we will present arguments against Fleisher's (2013) suggestion that anti-reconstruction also follows from Hicks' (2009) smuggling version of the movement account.

2. Two new arguments against reconstruction in *tough*-constructions

2.1. Comparative quantifiers

Longenbaugh (2015) makes the intriguing observation that TCs that have comparative quantifiers as their subject appear to allow for a reconstructed reading.

(6) a. It is easy to talk to **fewer than four professors** (at once).

b. **Fewer than four professors**$_1$ are easy to talk to ___$_1$ (at once).

(6b) has an interpretation according to which for any group of less than four professors, it is easy to talk to that group. This reading is nonspecific in that it is not about specific professors. In this regard, it resembles the interpretation of (6a). Longenbaugh (2015) claims that this reading of (6b) is the result of reconstructing *fewer than four professors* into the lower clause. If correct, this argument would provide a compelling challenge to the view that there is no reconstruction in TCs. We will argue that upon closer scrutiny, (6b) does not require reconstruction and that reconstruction would in fact produce incorrect truth conditions.

As noted above, the relevant reading of (6b) involves a nonspecific interpretation of *fewer than four professors*. However, a truly reconstructed reading of a comparative quantifier involves the interpretation of the modified numeral, not specificity (Heim 2000, Hackl 2001). This is illustrated by (7), whose ambiguity is the result of the comparative quantifier *fewer than six* scoping above or below *required*.

(7)   John is required to read **fewer than six books**.

   a.   *Upper-bound:*   (*require* ≫ <6)
        John isn't allowed to read more than 5 books.

   b.   *Minimality:*   (<6 ≫ *require*)
        The minimal number of books that John is required to read is less than 6 (but he is
        free to read more).

True reconstruction of a comparative quantifier is diagnosed by the existence of an upper-bound reading, as in (7a). As (8) demonstrates, such an upper-bound reading is available in expletive constructions, but crucially unavailable in TCs. The context of (8) is set up in a way that requires the upper-bound reading. In this context, the expletive construction (8a) is felicitous, but the TC (8b) is not.

(8)   *Context:* Jane is worried about a test that she must take. If she makes fewer than 10 mistakes on the test, she will pass. Otherwise, she will fail. Mary wants to console Jane by saying that it is fairly easy to make fewer than 10 mistakes on this test, so she shouldn't worry. Mary says:

   a.   It is easy to make **fewer than 10 mistakes** on this test.   (*easy* ≫ <10)

   b.   #**Fewer than 10 mistakes**$_1$ are easy to make ___ $_1$ on this test.   (#*easy* ≫ <10)

If reconstruction of the comparative quantifier were possible in TCs, (8b) would be felicitous, like (8a). This indicates that such reconstruction is impossible.

   If reconstruction of comparative quantifiers must be blocked, then what produces the nonspecific reading in (6b)? It is well-known that TCs with indefinite subjects are interpreted generically, as in *A cheap apartment is hard to find in NYC* (Postal 1971:29, Lasnik and Fiengo 1974:544–546). It has furthermore been noted by Fox and Sauerland (1995) and Lohndal (2010) that genericity may give rise to scope illusions. We propose that the nonspecific reading of (6b) is one such illusion. Being a generic sentence, (6b) comprises an additional layer of modality that quantifies over situations (e.g. Heim 1982, Wilkinson 1991, Chierchia 1995, Krifka et al. 1995): every relevant situation is a situation that contains fewer than four

professors such that it is easy to talk to these professors. The generic operator allows *fewer than four professors* to pick out different individuals in every situation quantified over. The nonspecific interpretation thus follows from the semantics of genericity, not reconstruction into the embedded gap position.

Evidence for this proposal comes from anaphora, pointed out to us by Angelika Kratzer (p.c.). On a generic interpretation, *fewer than four professors* cannot antecede a pronoun (9a), as expected. If genericity is taken out of the picture, e.g., by forcing an episodic interpretation, anaphoric reference becomes possible and the nonspecific reading disappears (9b).

(9)   a.   *Generic:*
        #**Fewer than four professors** are easy to talk to. **They're** sitting over there.

      b.   *Episodic:*
        Fewer than four professors were easy to talk to at the luncheon this morning. **They're** sitting over there.

In sum, not only do comparative quantifiers not provide evidence for reconstruction in TCs, they in fact constitute new evidence against it.

2.2.   Obligatory reconstruction

Poole (2017) observes that certain syntactic positions, like the color term of change-of-color verbs, require reconstruction into them. He calls these positions 'Π-positions', a term that we will adopt here for convenience. Their reconstruction requirement is illustrated for *how many*-questions in (10b), where only narrow scope with respect to the modal is available. Poole also observes that QR out of Π-positions is impossible as well (10c).

(10)   a.   Megan painted the house **magenta**.

      b.   [**How many colors**]$_1$ should Nina paint the house t_1?
                                           (*how many > should*; *should > how many*)

      c.   A (#different) contractor painted the house **every color**.   (*a > every*; **every > a*)
                                                           (Poole 2017:20, 22, 53)

The source of this restriction need not concern us here; see Poole (2017) for a proposal. What is crucial for our present purposes is that the obligatory-reconstruction requirement makes available another domain in which reconstruction in TCs can be assessed. If reconstruction is possible, then it should be possible to have TC gaps in Π-positions. As (11b) demonstrates, this is not the case; a TC cannot be formed on Π-positions.

(11) a.   It is easy to paint the house {**this color** / **green**}.

b. *{**This color**$_1$ / **green**$_1$} is easy to paint the house ___ $_1$.

In sum, we have presented two novel arguments in support of the claim that TCs disallow reconstruction of the *tough*-subject and that instances of apparent reconstruction do not instantiate reconstruction after all. These findings contribute to our empirical understanding of TCs as they reconcile observations in the literature that otherwise appear incompatible. In addition, the lack of reconstruction also has various consequences for our understanding of the syntax of TCs, to which we now turn.

3.   Consequences for the syntax of TCs

As mentioned in section 1, different views about the syntactic relation between the *tough*-subject and the embedded gap give rise to different expectations about whether or not reconstruction should be possible. On one line of analysis, which we will refer to as the *long-movement account*, the *tough*-subject originates in the gap position, where it receives its θ-role, and subsequently moves to the matrix subject position (for variants of this account see Rosenbaum 1967, Postal 1971, Postal and Ross 1971, Brody 1993, Hornstein 2001, Hicks 2009, Hartman 2012, and Longenbaugh 2015). A second line of analysis is that the *tough*-subject is base generated in the matrix clause and a null operator $\overline{\text{A}}$-moves in the embedded clause, associating indirectly with the *tough*-subject (see Chomsky 1977 and also Ross 1967, Akmajian 1972, Lasnik and Fiengo 1974, Williams 1983, Rezac 2006, Fleisher 2013, 2015, and Keine and Poole 2017 for variants of this approach). We will refer to this

second approach as the *base-generation account*. The empirical conclusions reached above bear on this theoretical division. Specifically, we will argue that the anti-reconstruction property of TCs provides evidence in favor of the base-generation account. In this respect, our conclusion is stronger than Fleisher's (2013) conclusion that a long-movement account using smuggling derivations (Hicks 2009) is equally compatible with anti-reconstruction.

First, as emphasized by Fleisher (2013), anti-reconstruction in TCs provides a strong argument against the standard long-movement account, according to which the *tough*-subject originates in the embedded clause, $\overline{\text{A}}$-moves to the clause edge, and finally A-moves to the matrix subject position (12). There is good evidence that both A-movement and $\overline{\text{A}}$-movement may reconstruct in English (see, e.g., Sportiche 2006 for an overview), and there is no principled reason why the combination of the two should fail to do so.

(12) Alex_A is tough $[\ t_{\overline{\text{A}}}$ to please $t_\text{A}\ ]$.

Note in particular that raising constructions do indeed exhibit reconstruction effects with respect to the diagnostics in the previous section. (13) illustrates that comparative quantifiers can reconstruct under the raising verb. Thus, there is no reason why they should not be able to do so in a structure akin to (12).

(13) $[\ $More than 1000 books$\ ]_1$ are likely $[\ t_1$ to have been destroyed in the fire $]$.
$$(>1000 \gg likely; likely \gg >1000)$$

For Π-positions, it is not possible to directly contrast TCs with raising because raising independently cannot target Π-positions, since they are never the highest argument position. However, as was illustrated by (10b), $\overline{\text{A}}$-movement out of Π-positions is possible only if it reconstructs; there is again no principled reason why the $\overline{\text{A}}$-movement in TCs should differ.

Let us consider next the base-generation account. A number of variants of this account have been proposed, but the choice does not matter for present purposes.[2] For the sake

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[2]   Fleisher (2013) focuses on Rezac's (2006) Agree-based version of the base-generation account, but the reconstruction facts do not favor Rezac's (2006) proposal over other base-generation accounts.

of concreteness, we will illustrate with Chomsky's (1977) null-operator account in (14), adopted recently by Keine and Poole (2017): first, a null operator is generated in the gap position and $\overline{\text{A}}$-moves to the edge of the embedded clause; second, at LF, this translates into a property of individuals, serving as the first argument of the *tough*-predicate; finally, the *tough*-subject is base-generated in the matrix clause and is predicated of the property denoted by the embedded clause.

(14)   Alex is tough [Op_1 to please t_1] $\leadsto_{\text{LF}}$ Alex is tough [λx . to please x]

The base-generation analysis derives anti-reconstruction in TCs without further ado. First, the lack of scope and binding connectivity between the *tough*-subject and the embedded gap follows from there being no movement relationship between the two. Second, reconstruction of the null operator to satisfy the reconstruction requirement of Π-positions—however one elects to model such reconstruction—would not produce the property of individuals required by the *tough*-predicate. As such, the embedded clause would not be able to semantically compose with the *tough*-predicate. (11b) is hence derived as semantically ill-formed.

   The considerations thus far would appear to favor base-generation accounts over long-movement accounts. Interestingly, Fleisher (2013) argues that it is possible to reconcile a long-movement account with anti-reconstruction if one adopts Hicks' (2009) proposal that TCs are derived via 'smuggling' derivations (Collins 2005a,b). What Hicks proposes is that the *tough*-subject is contained inside a complex null operator. This complex null operator starts out in the embedded gap position and $\overline{\text{A}}$-moves to the edge of the embedded clause, from where the *tough*-subject is then A-subextracted into the matrix subject position (15). Hicks (2009) shows that this proposal has some attractive consequences, e.g. explaining why the *tough*-subject does not receive accusative Case and how the $\overline{\text{A}}$–A movement chain would not violate the Ban on Improper Movement (Chomsky 1973), a classical problem for standard long-movement accounts like (12) (though see fn. 4).

(15) $[_{TP}$ Alex$_1$ is tough $[_{CP} [_{DP}$ *Op* t_1 $]_2$ to please t_2 $]]$

Fleisher (2013) argues that the smuggling derivation (15) captures anti-reconstruction on the assumption that the complex null operator constitutes a weak island. Given that reconstruction into a weak island is impossible (e.g. Kroch 1989, Cresti 1995, Rullmann 1995), it would then follow that the *tough*-subject cannot reconstruct from its surface position. Thus, Fleisher (2013) concludes that the lack of reconstruction does not broadly favor a base-generation account over a long-movement account. In the remainder of this section, we will argue that a stronger conclusion is warranted and that the anti-reconstruction property of TCs is problematic even for Hicks' (2009) smuggling version of the long-movement account.

Crucial to Fleisher's claim is that the complex null operator in (15) constitutes a weak island. To motivate the weak-island status, Fleisher (2013:327) draws a connection between the complex null-operator structure in the smuggling derivation and Boeckx's (2003) stranding analysis of resumptive pronouns, according to which the antecedent NP forms a 'big DP' with the resumptive pronoun, which it then strands, much like in the complex null-operator account of TCs. Particularly relevant is Boeckx's (2003:30–31) observation that in many languages, the antecedents of resumptive pronouns must be D-linked, citing the Hebrew example in (16).

(16) {**Eyze student**/***mi**} nifgašta ito?
    which student /*who you.met with.him
    'Which student/*who did you meet with?'   (Boeckx 2003:31, Fleisher 2013:328)

Fleisher (2013) proposes that because weak islands generally block extraction of non-D-linked elements out of them, Boeckx's (2003) big DP structure for resumptive pronouns and—by extension—Hicks' (2009) complex null-operator structure erect a weak island. Anti-reconstruction in TCs can then be attributed to whatever blocks reconstruction into weak islands.

Fleisher's suggestion is an intriguing one, but as it stands, the account encounters a number of serious obstacles, which are not shared by the base-generation account. First, reconstruction with resumptive pronouns is widely attested, as Boeckx (2003:156) himself notes. Such reconstruction is found in, e.g., Arabic, Hebrew, Scots Gaelic, and Spanish (see Sichel 2014:661). This fact strongly suggests that attributing to TCs the syntax of the stranding analysis of resumptive pronouns does not automatically provide an explanation for the anti-reconstruction property of TCs. Second, if the requirement to be D-linked diagnoses a weak island in the case of resumptive pronouns (see (16)), then analyzing TCs as involving a weak island in the form of the complex null operator in turn predicts that only D-linked DPs should be viable *tough*-subjects. This expectation is not borne out, as shown in (17).

(17) {**Who/which student**} is easy to please?

Given that the weak-island status of Boeckx's (2003) structure for resumptive pronouns was motivated on the contrast in (16), it is hard to see how a weak-island status can be maintained for Hicks' (2009) structure of TCs given that this crucial contrast is absent in TCs.

Third, while resumptive pronouns thus do not provide support for Fleisher's weak-island extension of the smuggling analysis of TCs, we may still ask whether reconstruction is possible in other instances of smuggling derivations. One domain of interest here is relative clauses. Bianchi (1999) and Bhatt (2002) observe that the head NP can reconstruct into the relative clause and argue that this follows from a head-raising analysis of relative clauses. To illustrate, consider (18a)—based on Bianchi (1999:46)—, which has a reconstructed reading of the head NP.[3] On the head-raising analysis, (18a) has the smuggling structure in (18b), which is similar in relevant respects to the complex null-operator account of TCs. The

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[3]   The reconstructed reading in (18a) is available only on a restrictive construal of the relative clause, which is synonymous with *I called the two patients that every doctor will examine tomorrow.* This is the structure we are focusing on here.

observation that reconstruction must be allowed in (18b) indicates that smuggling structures do not generally block reconstruction.

(18) a. I called the **two patients** which every doctor will examine ___ tomorrow.

(*every* ≫ *two*; *two* ≫ *every*)

  b. I called the $[_{NP}$ two patients $]_1$ $[_{RC}$ $[_{DP}$ which t_1 $]_2$ every doctor will examine t_2 tomorrow $]$.

Fourth, it is a priori conceivable that the anti-reconstruction property arises more narrowly only in cases in which a smuggler undergoes $\overline{\text{A}}$-movement and the smuggled element is A-subextracted out of it, as in (15). To assess this possibility, consider cases in which the smuggling constituent is overt, but the movement dependencies are otherwise identical (19). The complex null-operator account of TCs predicts that such structures are grammatical, but do not allow reconstruction. However, as it turns out, such derivations are simply ungrammatical, as has been noted by Sakai (1994), Collins (2005a), Abels (2007, 2009), and Neeleman and van de Koot (2010). In the example in (19), the constituent *how likely Oscar to win* is $\overline{\text{A}}$-moved to the edge of the lower clause, followed by A-subextraction of *Oscar* to the matrix subject position. The resulting sentence is clearly ungrammatical.

(19) *Oscar$_1$ is known [how likely t_1 to win $]_2$ it was t_2 (Abels 2009:331)

The ungrammaticality of (19) could be attributed either to a general freezing effect (Wexler and Culicover 1980) or to a generalized version of the Ban on Improper Movement (Williams 2003, Abels 2007, 2009)—the choice does not matter here. What is important for our purposes is that (i) there is no independent motivation for anti-reconstruction in smuggling derivations like (15) and (ii) an account that correctly rules out impossible smuggling structures like (19) will also exclude smuggling in TCs, unless designated stipulations are invoked. Put differently, a smuggling analysis of TCs would need to be supplemented by a

theory about why $\overline{\text{A}}$–A smuggling derivations of this type are possible in TCs when they are ungrammatical elsewhere. We are not aware of such a theory.[4]

In sum, an account of anti-reconstruction in TCs that is based on a smuggling derivation encounters a numbers of unresolved problems. First, there is no independent motivation for the complex null operator forming a weak island and in fact the available evidence suggests the opposite. Second, we have seen evidence indicating that the central $\overline{\text{A}}$–A smuggling derivation is impossible to begin with. As we have shown above, a base-generation analysis of TCs affords an account of anti-reconstruction that avoids these problems. On this account, anti-reconstruction is simply attributed to the lack of crossclausal movement and it hence follows directly from the basic syntactic structure postulated for TCs.

4. Conclusion

We have argued that the pervasive lack of reconstruction effects in TCs documented by the old and new evidence here receives a nonstipulatory account only on the base-generation account, not on the various versions of the long-movement account. The only instances of apparent scope reconstruction in TCs are the result of genericity. In addition to the simplicity of a base-generation analysis, the account also connects the ban on reconstruction in TCs to similar bans in other null-operator constructions, in particular parasitic gaps (Nissenbaum 1998) and gapped-degree phrases (Nissenbaum and Schwarz 2011). As such, anti-reconstruction in TCs falls out as one analytically unremarkable instance of a larger class of anti-reconstruction effects. This result contributes towards deducing the properties of TCs from general syntactic and semantic principles.

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[4]   A smuggling analysis of TCs also faces the issue of explaining why smuggling derivations are impossible with raising verbs because, all else equal, they would inadvertently allow superraising out of finite clauses:

(i)   *Mary$_1$ seems $[_{CP}$ $[_{DP}$ *Op* t_1 $]_2$ (that) t_2 loves natto $]$.

Hicks (2009) does not advance a solution to this problem. In this respect, then, a smuggling account of TCs faces the same challenge as more traditional long-movement accounts like (12) do, namely explaining why improper movement is possible only in TCs, but not in raising or other constructions.

References

Abels, Klaus. 2007. Towards a restrictive theory of (remnant) movement. In *Linguistic variation yearbook 7*, ed. Jeroen van Craenenbroeck and Johan Rooryck, 53–120. Amsterdam: John Benjamins.

Abels, Klaus. 2009. Some implications of improper movement for cartography. In *Alternatives to cartography*, ed. Jeroen van Craenenbroeck, 325–359. Berlin: de Gruyter.

Akmajian, Adrian. 1972. Getting tough. *Linguistic Inquiry* 3:373–377.

Bhatt, Rajesh. 2002. The raising analysis of relative clauses. *Natural Language Semantics* 10:43–90.

Bianchi, Valentina. 1999. *Consequences of antisymmetry: Headed relative clauses*. Berlin: de Gruyter.

Boeckx, Cedric. 2003. *Islands and chains: Resumption as stranding*. Amsterdam: Benjamins.

Brody, Michael. 1993. θ-theory and arguments. *Linguistic Inquiry* 24:1–23.

Bruening, Benjamin. 2012. Two-step tough movement? Blog post (accessible at http://lingcomm.blogspot.com/2012/05/).

Chierchia, Gennaro. 1995. Individual level predicates as inherent generics. In *The generic book*, ed. Greg Carlson and Francis Pelletier, 176–224. Chicago, IL: Chicago University Press.

Chomsky, Noam. 1973. Conditions on transformations. In *A festschrift for morris halle*, ed. Stephen Anderson and Paul Kiparsky, 232–286. New York: Academic Press.

Chomsky, Noam. 1977. On wh-movement. In *Formal syntax*, ed. Peter Culicover, Tom Wasow, and Adrian Akmajian, 71–132. New York: Academic Press.

Collins, Chris. 2005a. A smuggling approach to raising in English. *Linguistic Inquiry* 36:289–298.

Collins, Chris. 2005b. A smuggling approach to the passive in English. *Syntax* 8:81–120.

Cresti, Diana. 1995. Extraction and reconstruction. *Natural Language Semantics* 3:79–122.

Epstein, Samuel. 1989. Quantification in null operator constructions. *Linguistic Inquiry* 20:647–658.

Fleisher, Nicholas. 2013. On the absence of scope reconstruction in *tough*-subject A-chains. *Linguistic Inquiry* 44:321–332.

Fleisher, Nicholas. 2015. *Rare*-class adjectives in the *tough*-construction. *Language* 91:73–108.

Fox, Danny, and Uli Sauerland. 1995. Illusive scope of universal quantifiers. In *Proceedings of the 26th Meeting of the North East Linguistic Society (NELS 26)*, ed. Kiyomi Kusumoto, 71–85. Amherst, MA: GLSA.

Hackl, Martin. 2001. Comparative quantifiers. Ph.D. Thesis, MIT, Cambridge, MA.

Hartman, Jeremy. 2012. (Non-)Intervention in A-movement: Some cross-constructional and cross-linguistic consequences. *Linguistic Variation* 11:121–148.

Heim, Irene. 1982. The semantics of definite and indefinite noun phrases. Ph.D. Thesis, University of Massachusetts, Amherst, MA.

Heim, Irene. 2000. Degree operators and scope. In *Proceedings of SALT 10*, ed. Brendan Jackson and Tanya Matthews, 40–64. Ithaca, NY: Cornell University.

Hicks, Glyn. 2009. *Tough*-constructions and their derivation. *Linguistic Inquiry* 40:535–566.

Hornstein, Norbert. 2001. *Move! a minimalist theory of construal*. Oxford: Blackwell.

Keine, Stefan, and Ethan Poole. 2017. Intervention in *tough*-constructions. Ms., University of Southern California and University of Massachusetts Amherst. To appear in *The Linguistic Review*.

Krifka, Manfred, Francis Pelletier, Greg Carlson, Alice ter Meulen, Goedehard Link, and Gennaro Chierchia. 1995. Genericity: An introduction. In *The generic book*, ed. Greg Carlson and Francis Pelletier, 1–124. Chicago, IL: Chicago University Press.

Kroch, Anthony. 1989. Amount quantification, referentiality, and long *wh*-movement. Ms., University of Pennsylvania.

Lasnik, Howard, and Robert Fiengo. 1974. Complement object deletion. *Linguistic Inquiry* 5:535–571.

Lohndal, Terje. 2010. More on scope illusions. *Journal of Semantics* 27:399–407.

Longenbaugh, Nicholas. 2015. Difficult movement. Handout from talk presented at the 46th Meeting of the North East Linguistic Society (NELS 46).

Neeleman, Ad, and Hans van de Koot. 2010. A local encoding of syntactic dependencies and its consequences for the theory of movement. *Syntax* 13:331–372.

Nissenbaum, Jon. 1998. Derived predicates and the interpretation of parasitic gaps. In *Proceedings of the 17th West Coast Conference on Formal Linguistics (WCCFL 17)*, ed. Kimary Shahin, Susan Blake, and Eun-Sook Kim, 507–521. Stanford, CA: CLSI.

Nissenbaum, Jon, and Bernhard Schwarz. 2011. Parasitic degree phrases. *Natural Language Semantics* 19:1–38.

Pesetsky, David. 1987. Binding problems with experiencer verbs. *Linguistic Inquiry* 18:126–140.

Pesetsky, David. 2013. Phrasal movement and its discontents: Diseases and diagnoses. In *Diagnosing syntax*, ed. Lisa Cheng and Norbert Corver, 123–157. Oxford: Oxford University Press.

Poole, Ethan. 2017. Movement and the semantic type of traces. Ph.D. Thesis, University of Massachusetts, Amherst, MA.

Postal, Paul. 1971. *Cross-over phenomena*. New York: Holt, Rinehart and Winston.

Postal, Paul. 1974. *On raising: One rule of English grammar and its theoretical implications*. Cambridge, Massachusetts: MIT Press.

Postal, Paul, and John R. Ross. 1971. ¡Tough movement si, tough deletion no! *Linguistic Inquiry* 2:544–546.

Rezac, Milan. 2004. Elements of cyclic syntax: Agree and Merge. Ph.D. Thesis, University of Toronto.

Rezac, Milan. 2006. On tough-movement. In *Minimalist essays*, ed. Cedric Boeckx, 288–325. Amsterdam: John Benjamins.

Rosenbaum, Peter S. 1967. *The grammar of English predicate complement constructions*. Cambridge, MA: MIT Press.

Ross, John Robert. 1967. Constraints on variables in syntax. Ph.D. Thesis, MIT, Cambridge, MA. Published in 1986 as *Infinite Syntax!*, Ablex, Norwood.

Rullmann, Hotze. 1995. Maximality in the semantics of wh-constructions. Ph.D. Thesis, University of Massachusetts, Amherst, MA.

Sakai, Hiromu. 1994. Derivational economy in long distance scrambling. In *Formal approaches to japanese linguistics*, ed. Hiroyuki Ura and Masatoshi Koizumi, volume 24 of *MITWPL*, 295–314. Cambridge, MA: MITWPL.

Sichel, Ivy. 2014. Resumptive pronouns and competition. *Linguistic Inquiry* 45:655–693.

Sportiche, Dominique. 2006. Reconstruction, binding, and scope. In *The blackwell companion to syntax, vol. iv*, ed. Martin Everaert and Henk van Riemsdijk, 35–93. Oxford: Blackwell.

Wexler, Ken, and Peter Culicover. 1980. *Formal principles of language acquisition*. Cambridge, MA: MIT Press.

Wilkinson, Karina. 1991. Studies in the semantics of generic noun phrases. Ph.D. Thesis, University of Massachusetts, Amherst, MA.

Williams, Edwin. 1983. Semantic vs. syntactic categories. *Linguistics and Philosophy* 6:423–446.

Williams, Edwin. 2003. *Representation theory*. Cambridge, MA: MIT Press.