

Binding, Possessor Raising, and the Typology of Clause Size

Vera Lee-Schoenfeld
University of California, Santa Cruz
CGSW-19, Graduate Center, CUNY
June 3-5, 2004

0

1. Introduction

- Two related issues:
 - (i) the typology of clause size
 - (ii) what makes a given clause/phrase-type transparent or opaque to grammatical interactions with elements beyond its borders
- Goals:
 - to show that not all *coherent* infinitive constructions (Bech 1955/57) involve infinitival complements of the same clause/phrase-size
 - to investigate whether phrase-types of the same structural size induce the same transparency/opacity effects
 - ultimately, to show that there is a unified notion of coherence and transparency: the phase
- Three syntactic phenomena:
 - (i) *Accusativus cum Infinitivo* (AcI): infinitival complement occurring in a type of reduced (coherent) infinitive construction
 - (ii) *pronominal binding*
 - (iii) *possessor datives*
 - pronominal binding and possessor datives will serve as probes for the clause-size, internal complexity, and therefore transparency/opacity of AcIs
 - data comes from German

2. Background: AcIs and coherence

- Accusativus cum Infinitivo (AcI):
 - infinitival complement, selected by causative or permissive *lassen* and perception verbs like *sehen*, *hören*, etc.
 - consists minimally of accusative-marked nominal (“AcI-subject”) and bare infinitive (*zu*-less, i.e. 1st status)
- (1) Die Studenten hören [_{AcI}den Professor reden].
the students hear the professor (ACC) talk (INF)
‘The students hear the professor talk.’
 - if transitive, can have two adjacent accusative-marked nominals
- (2) Der Professor lässt [_{AcI}den Studenten den Artikel zusammenfassen].
the professor lets/has the student (ACC) the article (ACC) summarize (INF)
‘The professor lets/has the student summarize the article.’

- AcIs cannot be extraposed; considered obligatorily coherent
- (3)
- a. ...dass der Professor [_{AcI}den Studenten den Artikel zusammenfassen] lässt.
 - b. *...dass der Professor lässt [_{AcI}den Studenten den Artikel zusammenfassen].
 - c. ...dass der Professor bedauert [_{INF}den Artikel selbst nicht gelesen zu haben].
that the professor regrets the article self not read to have
‘...that the professor regrets to not have read the article himself.’
- Coherence vs. incoherence:
 - terminology goes back to Bech (1955/57)
 - coherent construction: argument structure of infinitive “blends” with that of matrix verb
 - incoherent construction: infinitival complement is “satzwertig”, i.e. behaves like independent clause
 - coherence is associated with transparency, incoherence with opacity to local grammatical operations which cross infinitival boundary
 - possibility of coherent construction is a property of matrix verbs: some force it (obligatory coherence), others allow it (optional coherence), and again others disallow it (incoherence)
 - phrase-structure of coherent constructions is analyzed as either derived or base-generated
 - derivational analyses: infinitival complement starts out as CP before becoming transparent by “blending” with matrix verb via raising operation¹
 - non-derivational analyses: infinitival complement originates as a constituent smaller than CP
 - Wurmbrand (2001): infinitival complements can, in principle, originate as CP, IP, vP, or “bare” VP (i.e. VP that does not project layer(s) of functional structure)
 - extraposition of infinitival complement indicates that it is “satzwertig” (has CP or IP-status), and “Satzwertigkeit” indicates incoherence
 - AcIs cannot be extraposed (see (3b)), i.e. must be smaller than CP/IP; AcI-introducing verbs should then obligatorily induce coherence
 - Wurmbrand (2001):
 - class of coherence-inducing matrix predicates is subdivided into “functional restructuring”, “lexical restructuring” (taking a VP-complement), and “reduced non-restructuring” (taking a vP/IP-complement)
 - AcI-introducing verbs are analyzed as a type of functional restructuring

¹ Examples of these movement operations are so-called “Verb Raising” (see e.g. Evers 1975, Rosengren 1992), “Evacuation” (see e.g. Fanselow 1989), and “Reanalysis” (see e.g. Haegeman & van Riemsdijk 1986, von Stechow & Sternefeld 1988).

predicate, but, unlike other verb-types in this category (modal, raising, aspectual, and motion verbs), AcI-introducing verbs do not form a completely coherent unit with their complement; AcIs *can* induce opacity, e.g. w.r.t. reflexive binding (see Lee-Schoenfeld (to appear))

- AcI-introducing verbs as “*semi-functional*” restructuring predicates: behave like functional predicates w.r.t. syntax (aspectual *v*-heads) and like lexical predicates w.r.t. semantics (have \square -role to assign)
- AcI-constructions are “hybrids”:
 - functional restructuring predicates (FRPs):
 - *like* FRPs, AcI-introducing verbs form a syntactically inseparable unit with their complements (no extraposition)
 - *unlike* FRPs, AcI-introducing verbs have lexical, i.e. main verb properties (assign a \square -role)
 - lexical restructuring predicates (LRPs):
 - *like* LRPs, AcI-introducing verbs assign external argument role to nominal in specifier
 - *unlike* LRPs, AcI-introducing verbs have potentially “satzwertige” complements, i.e. complements with external argument
 - transparency (no separate tense or negation) stems from syntactic restrictions
 - potential opacity stems from semantic “completeness”
- AcI-phrase-type?
 - traditional “coherence”-answer leaves opacity effects unaccounted for
 - question left unanswered by Wurmbrand; generally, restructuring is associated with bare-VP-complementation
 - unlike complements of LRPs, unergative and transitive AcIs (as in (1) and (2)) cannot be bare VPs; need external argument position²
 - phrase-type of unergative and transitive AcIs must be small enough to reflect syntactic dependence of AcI-complement on matrix verb but big enough to provide for external argument position
 - proposed solution: *v*P; *v*-head introduces external argument and, in transitive AcIs, checks accusative case with direct object
- Section 3: pronominal binding and possessor datives as probes for presence of *v*P

² Following Hale & Keyser (1993), Chomsky (1995), and Kratzer (1996), I assume that transitive and unergative verbs project a *v*P with *v* assigning an external argument role (agent, experiencer, etc.) to the argument in its specifier, whereas unaccusative verbs project just a bare VP, i.e. no external-argument-introducing head.

- Hypothesis:
 - transitive and unergative AcIs are *v*Ps
 - unaccusative AcIs are bare VPs
 - class of coherent constructions, including AcIs, needs to be subdivided into matrix verbs with VP-complements and matrix verbs with *v*P-complements (in line with Wurmbrand’s distinction between lexical restructuring and reduced non-restructuring predicates)

3. Probing for *v*P

3.1 *Pronominal binding*

- Lee-Schoenfeld (to appear): phase-based binding
 - binding domain for reflexives and pronominals is the minimal phase containing the anaphoric element
 - evidence for CP and other potentially phase-defining categories (DP, PP) as binding domains
 - syntactically-bound pronominals that are free in AcIs indicate that AcIs can be phases
 - if not CPs, AcIs must be *v*P-phases
 - independent evidence for *v*P-phasehood (Chomsky 2000, Fox 2000, Nissenbaum 2000)
- “Agentive subjects” (external arguments) must define binding domains because pronominals in their domain are free (satisfy Condition B) even when coreferential with a higher argument in the same sentence
 - transitive AcIs:

(4) Die Professorin_i lässt [_{AcI}den Studenten sie_i anhimmeln].
 the professor (FEM) lets the student (ACC) she admire
 ‘The professor lets the student admire her.’
 - intransitive AcIs:

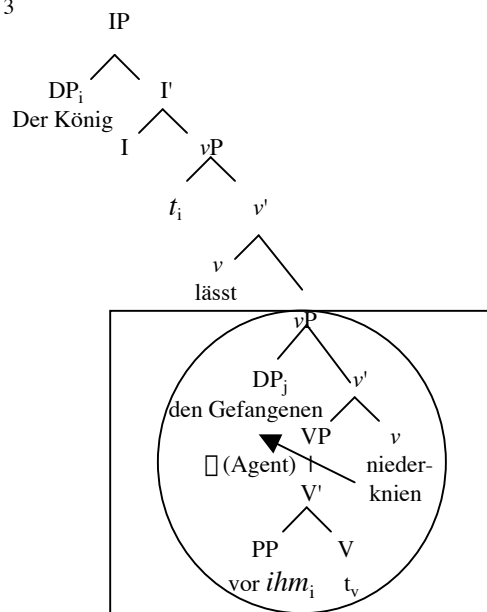
(5) a. Der König_i lässt [_{AcI}den Gefangenen vor ihm_i niederknien].
 the king lets/has the prisoner before him down-kneel
 ‘The king lets/has the prisoner kneel down before him.’

b. Die Großmutter_i lässt [_{AcI}den Wellensittich ihr_i auf den Kopf fliegen].
 the grandmother lets the parakeet her on the head fly
 ‘The grandmother lets the parakeet fly onto her head.’

c. Der kleine Junge_i lässt [_{AcI}den Stein ihm_i auf den Kopf fallen].
 the little boy lets the rock him on the head fall
 ‘The little boy lets the rock fall on his head.’
 - evidence for *v*P in transitive (4) and unergative AcIs (5a-b)

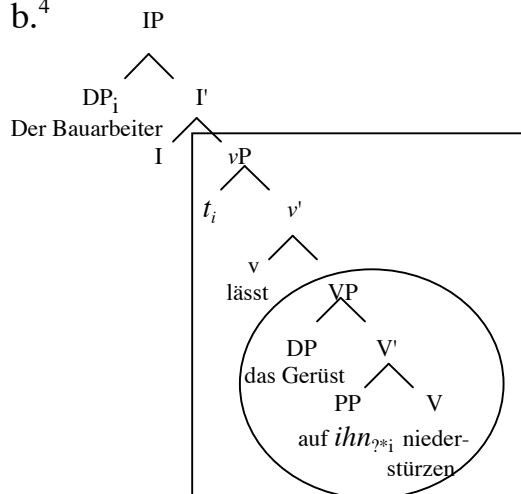
- note: intransitive motion verbs, regardless of auxiliary selection (*sein* as opposed to *haben*) are construed as unergative as long as AcI-subject is interpreted as agentive (see Lee-Schoenfeld 2003b)
- evidence for absence of *vP* in unaccusative AcIs (5c)
- “Proto-Agent”-AcI-subjects (in Spec *vP*) induce opacity (see (6a))
- “Proto-Patient”-AcI-subjects (in Spec *VP*) induce transparency (see (6b))

(6) a.³



‘The king lets/has the prisoner kneel down before him.’

b.⁴



‘The construction worker lets the scaffolding crash down on him.’

³ I am abstracting away from the position of the matrix verb, the position of I, and verb movement. According to Vikner (1995), verbal heads and I are phrase-final, and the verb moves via I to C. The subject then moves via Spec IP to Spec CP (see Haider 1993 for a different view).

⁴ The pronominal is not completely unacceptable here because it is not clear that the *auf*-PP has to be interpreted as a \square -dependent complement of the verb *niederstürzen*. If it is interpreted as \square -independent, the PP is probably a phase and therefore enables the pronominal contained in it to fulfill Condition B (see Lee-Schoenfeld (to appear)).

- (6a): AcI (circled) and binding domain (boxed) coincide; agentive AcI-subject intervenes between pronominal and its antecedent (*der König*)
- (6b): no AcI-internal vP; matrix vP is minimal phase which contains both trace of antecedent (*der Bauarbeiter*) and pronominal; no agentive AcI-subject intervening
- Section 3.2:
 - like pronominal binding, possessor datives provide evidence for distinguishing between AcIs of different structural complexity: vP vs. VP
 - possessor datives in context of AcIs furthermore suggest distinguishing between agentive (external-argument-introducing) and other types of vPs

3.2 Possessor datives

- Possessive dative construction (PDC):
 - overview of literature in Landau (1999)
 - examples from German:
- (7) a. Tim hat **der Nachbarin** gestern **das Auto** gewaschen.
 Tim has the neighbor (DAT, FEM) yesterday the car washed
 ‘Tim washed the neighbor’s car yesterday.’
- b. Mein Bruder hat **der Mami** leider **das Auto** zu Schrott gefahren.
 my brother has the mom (DAT) unfortunately the car to scrap driven
 ‘My brother unfortunately totaled mom’s car (totaled the car on mom).’
- dative-marked nominal acts simultaneously as *possessor* (subpart of a larger nominal phrase) and as *affectee* (benefactive/malefactive) argument of verb
- Possessor raising analysis (Allen 1990, Landau 1999, Lee-Schoenfeld 2003a):
 - two functions of possessor dative (PD) correspond to pre-and post-movement position
- Lee-Schoenfeld (2003a):
 - PD raises from possessor position within possessee to specifier of male/benefactive light-verb head
 - movement is case-driven, i.e. A-movement: defective D-head of possessee cannot assign dative case
 - PDC must be subject to locality restrictions typical of A-movement
- Locality restriction:
 - intervening CP-boundary (overt complementizer):

- (8) a. Tim hat bedauert [_{CP} dass er **der Nachbarin das Auto** waschen musste].
 Jan has regretted that he the neighbor (DAT) the car wash must (PAST)
 ‘Tim regretted that he had to wash the neighbor’s car.’
 b. *Tim hat **der Nachbarin** bedauert [_{CP} dass er **das Auto** waschen musste].
 – intervening control-boundary (extraposed infinitival complement)⁵
- (9) a. Tim hat behauptet [_{INF} **der Nachbarin** schon **den Hof** gefegt zu haben].
 Tim has claimed the neighbor (DAT) already the yard swept to have
 ‘Tim claimed to have already swept the neighbor’s yard.’
 b. *Tim hat **der Nachbarin** behauptet [_{INF} schon **den Hof** gefegt zu haben].
- (10) a. Die Nachbarin hatte geplant [_{INF} **Tim** dafür **das Fahrrad** reparieren zu lassen].
 the neighbor had planned Tim (DAT) there-for the bike repair to let/have
 ‘The neighbor had planned to get Tim’s bike repaired in return.’
 b. *Die Nachbarin hatte **Tim** geplant [_{INF} dafür **das Fahrrad** reparieren zu lassen].
 – coherent construction/restructuring context:
- (11) a. Tim hätte lieber versucht [_{INF} **seiner Schwester das Radio** heile zu machen].
 Tim would have rather tried his sister (DAT) the radio intact to make
 ‘Tim would have rather tried to fix his sister’s radio.’
 b. ✓Tim hätte lieber **seiner Schwester** versucht [_{INF} **das Radio** heile zu machen].
 – apparently non-local movement of PD is only possible in restructuring context
 – PDC as new coherence diagnostic (Lee-Schoenfeld 2004)
- Wurmbrand (2001):
 - difference in transparency stems from difference in internal complexity of infinitival complements
 - *behaupten* and *planen* take a CP and vP/IP-complement, respectively
 - *versuchen* takes just a bare VP-complement
 - evidence comes from pronoun fronting, scrambling, and “long” passive
 - In sum:
 - PD cannot raise beyond complement-boundaries bigger than VP
 - PDC (analyzed as possessor raising) serves as probe for presence of external-argument-introducing vP

⁵ The (b)-examples of (9)-(11) are ungrammatical and grammatical instances of the so-called “Third Construction” (den Besten & Rutten 1989), which combines characteristics associated with both extra and intraposition. Extraposition indicates incoherence, but the possibility of an argument of the infinitive to occur to the left of the matrix verb indicates coherence. There is general agreement that grammatical instances of the Third Construction (see (11)) involve some kind of coherence, but it is not clear what their phrase-structure, in particular the category of the infinitival complement, should be. See Wöllstein-Leisten (2001) for a thorough discussion and proposal.

- Connection with AcIs: if PD cannot raise beyond left edge of AcI-complement, AcI must be bigger than VP, i.e. must include an agentive vP-projection

– transitive AcI-infinitive:

- (12) a. Maja lässt Willi **ihr** **die Füße** massieren.

Maja lets/has Willi her (DAT) the feet massage

‘Maja lets/has Willi massage her feet.’

- b. *Maja lässt **ihr** Willi **die Füße** massieren.

– unaccusative AcI-infinitive:

- (13) a. Der kleine Junge lässt den Stein **sich** auf **den Kopf** fallen.

the little boy lets the rock self (DAT) on the head fall

‘The little boy lets the rock fall on his head.’

- b. ✓Der kleine Junge lässt **sich** den Stein auf **den Kopf** fallen.

– subject of transitive AcI induces opacity (12)

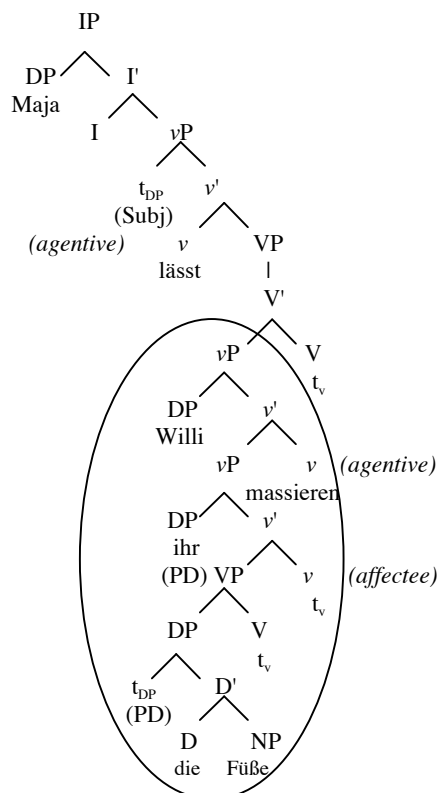
– subject of unaccusative AcI induces transparency (13)

3.3. Different types of vP

- Position of male/benefactive (henceforth “affectee”)-vP:

– transitive AcI-infinitive:

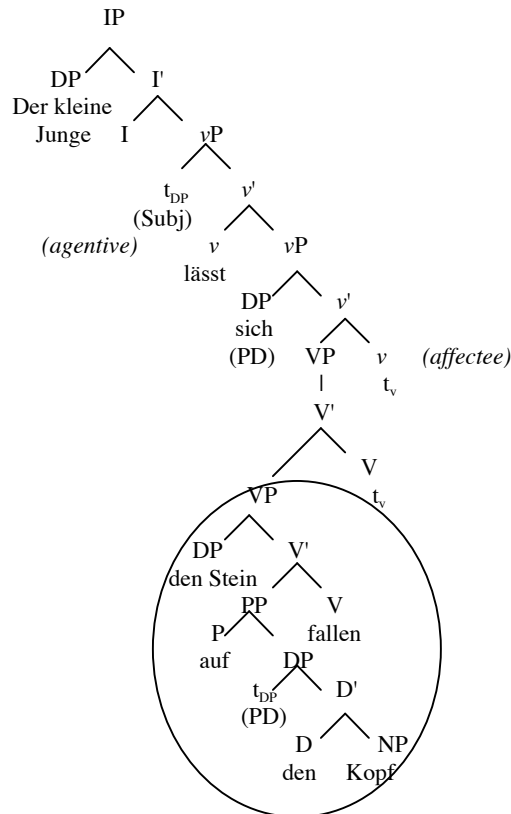
(14)



‘Maja lets Willi massage her feet.’

- affectee-*vP* is part of functional structure in AcI (circled)
- PD raises from Spec DP of possessee to specifier of affectee-*vP* *within* AcI
- note: *lassen* is represented as lexical V which moves to light verb head(s) it projects via head-movement (in both (14) and (15), cf. (6))
- unaccusative AcI-infinitive:

(15)



'The little boy lets the rock fall on his head.'

- affectee-*vP* is part of matrix verb shell
- AcI includes no functional structure
- PD raises from Spec DP of possessee to specifier of affectee-*v* *outside* AcI
- consistent with Wurmbrand's (2001) analysis of complements to lexical restructuring predicates: bare VP, no case-positions or case-checking heads
- note: given the structure in (15), it may not be meaningful to ask whether PD is an argument of AcI-infinitive *fallen* or of matrix verb *lassen* (questions raised about compositionality and argument structure are very subtle); see Haider's (1993) idea of verb-complex formation and argument-structure fusion

- Are all *v*P_s opacity-inducing, i.e. phases?
 - agentive *v*P_s *are* phases; see binding and possessor raising facts in 3.1-3.2 and independent evidence (Chomsky, Fox, Nissenbaum (all 2000))
 - assume that there is a “verbalizer”-*v*P projected by all lexical V_s (see Chomsky 2000, 2001), even by unaccusative V_s, as in (15)
 - evidence from pronominal binding in context of AcI_s suggests that such unaccusative *v*P_s are not phases because syntactically-bound pronominal is not free within unaccusative AcI (see (6b))
 - evidence from possessor raising in context of AcI_s also suggests that such unaccusative *v*P_s cannot be phases because PD would not be able to move out to check case with affectee-*v* (see (15))
 - evidence converges with case-marking and agreement facts in impersonal passive constructions; “long-distance” checking relation between I° and internal argument; no intervening phase-boundary
 - affectee-*v*P_s?
 - evidence from binding facts is inconclusive because anaphoric element is always at edge of affectee-*v*P, i.e. accessible to contents of higher (agentive) *v*P-phase, regardless of whether affectee-*v*P is a phase (see (14)-(15))
 - evidence from accusative case-checking in AcI_s: AcI-subject must be accessible to matrix agentive *v*
 - in transitive AcI (14), AcI-subject is at edge of lower agentive *v*P-phase, i.e. accessible to higher phase
 - in unaccusative AcI (15), affectee-*v*P intervenes between AcI-subject and agentive *v*
 - affectee-*v*P_s pattern with other non-agentive *v*P_s (on Chomsky’s view, unaccusatives and passives) in that case-marking can cross their boundaries
 - speaks against phasehood of affectee-*v*P_s
 - note: affectee-*v*P intervenes between agentive *v* and unaccusative AcI-subject regardless of word order:
- (16) (a) ... lässt sich den Stein ...
 (b) ... lässt den Stein sich ...
- (b) is probably derived via scrambling of *den Stein* to lower Spec *v*P
 - whether derived from (15) or a structure with affectee-*v*P right above VP in AcI, case-checking has to occur across affectee-*v*P, presumably before scrambling

- In sum:
 - unaccusative and passive ν Ps (if they exist) are not phases⁶; evidence from binding and possessor raising converges with case-marking and agreement facts in impersonal passive constructions
 - affectee (applicative-type male/benefactive)- ν Ps do not exhibit typical phase-like behavior; evidence from accusative case-checking between matrix verb and AcI-subject

4. Conclusion

- Coherence:
 - AcI-complements come in two varieties: ν P (agentive) and bare VP
 - AcI-introducing verbs need to be classified as belonging to two different kinds of coherence-inducing predicates; binary distinction between incoherence (CP/IP) and coherence (VP) is not enough (see also Wurmbrand 2001)
 - all AcIs are constructed coherently (no extraposition, no separate tense or negation), but transitive and unergative AcIs are opaque to local grammatical operations due to presence of external argument
- Transparency/opacity of ν Ps:
 - not all ν Ps can be considered phases
 - binding, possessor raising, case-marking, and agreement facts all suggest that subjectless ν P-types do not show the phase-like, opacity-inducing behavior of agentive ν Ps
- An old question: What is special about phrase-types closed off by a ‘subject’?

⁶ See Legate (2003) for a different view.

References

- Allen, Barbara, Donald Frantz, Donna Gardiner & David Perlmutter. 1990. Verb Agreement, Possessor Ascension, and Multistratal Representation in Southern Tiwa. In P. Postal & B. Joseph (eds.) *Studies in Relational Grammar 3*. The University of Chicago Press, 321-383.
- Bech, Gunnar. 1955/57. *Studien über das deutsche Verbum infinitivum*. Kopenhagen. 2nd edition. 1983. Tübingen: Niemeyer.
- Besten, Hans den & Jean Rutten. 1989. On verb raising, extraposition and free word order in Dutch. In D. Jaspers et al. (eds.) *Sentential Complementation and the Lexicon. Studies in Honor of Wim de Geest*. Dordrecht: Foris, 41-56.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2000. Minimalist inquiries: The framework.. In R. Martin, D. Michaels, & J. Uriagereka (eds.) *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*. Cambridge, MA: MIT Press, 89-156.
- Chomsky, Noam. 2001. Derivation by phase. In m. Kenstovicz (ed.) *Ken Hale, A Life in Language*. Cambridge, MA: MIT Press, 1-51.
- Evers, Arnold. 1975. The transformational cycle in Dutch and German. PhD thesis, University of Utrecht, The Netherlands.
- Fanselow, Gisbert. 1989. Coherent infinitives in German. In C. Bhatt, E. Löbel, & C. Schmidt (eds.) *Syntactic phrase structure phenomena in noun phrases and sentences*, 1-16. Amsterdam: Benjamins.
- Fox, Danny. 2000. *Economy and semantic interpretation*. Cambridge, MA: MIT Press.
- Haegeman, Liliane & Henk van Riemsdijk. 1986. Verb projection raising, scope, and the typology of rules affecting verbs. *LI 17*, 417-466.
- Hale, Kenneth & Samuel Keyser. 1994. On argument structure and the lexical expression of syntactic relations. In K. Hale & S. Keyser (eds.) *View from Building 20*, 53-109.
- Haider, Hubert. 1993. *Deutsche Syntax Generativ*. Tübingen: Narr
- Kratzer, Angelika. 1996. Severing the external argument from its verb. In J. Rooyck & L. Zaring (eds.) *Phrase Structure and the Lexicon*. Dordrecht: Kluwer, 109-137.
- Landau, Idan. 1999. Possessor raising and the structure of VP. *Lingua 107*, 1-37.
- Lee-Schoenfeld, Vera. (To appear.) Binding by phase: (Non-)complementarity in German. *Journal of Germanic Linguistics*.
- Lee-Schoenfeld, Vera. 2004. Possessor raising: A diagnostic for restructuring. Talk given at the Berkeley Germanic Linguistics Roundtable, University of California, Berkeley, April 2-3, 2004.

- Lee-Schoenfeld, Vera. 2003a. German possessor datives: raised *and* affected. Ms. University of California, Santa Cruz. (Presented at the 18th Comparative Germanic Syntax Workshop, University of Durham, September 18-20, 2003.)
- Lee-Schoenfeld, Vera. 2003b. Agentivity vs. auxiliary choice: Evidence from pronominal binding in German AcI-constructions. Talk given at the Workshop on Cross-linguistic Variation in Auxiliary Selection, UC Davis, May 31, 2003. (To appear in conference volume. Amsterdam: Benjamins.)
- Legate, Julie. 2003. Some interface properties of the phase. *LI* 34 (3).
- Nissenbaum, Jon. 2000. Investigations of covert phrase movement. PhD thesis, MIT, Cambridge, MA.
- Rosengren, Inger. 1992. Zum Problem der kohärenten Verben im Deutschen. In P. Suchsland (ed.) *Biologische und soziale Grundlagen der Sprachen*. Tübingen: Niemeyer, 265-295.
- Stechow, Arnim von & Wolfgang Sternefeld. 1988. *Bausteine syntaktischen Wissens: Ein Lehrbuch der modernen generativen Grammatik*. Opladen: Westdeutscher Verlag.
- Vikner, Sten. 1995. *Verb Movement and Expletive Subjects in the Germanic Languages*. New York & Oxford: Oxford University Press.
- Wöllstein-Leisten, Angelika. 2001. *Die Syntax der dritten Konstruktion*. Tübingen: Stauffenburg
- Wurmbrand, Susi. 2001. *Infinitives: Restructuring and Clause Structure*. Berlin & New York: Mouton de Gruyter.

Vera Lee-Schoenfeld
University of California, Santa Cruz
Department of Linguistics
1156 High Street
Santa Cruz, CA 95064
vls@ucsc.edu
<http://people.ucsc.edu/~vls>