

Types of Movement

046-2016 (Master Linguistics)

IGRA 08 (Topics in Syntax) WiSe 2019, Universität Leipzig

Di, 17:15-18:45, H1, 5.16

Gereon Müller & Andrew Murphy

Introduction: A-Movement vs. A-bar Movement

1. The History of A- and A-bar Positions

Assumption (Chomsky (1981)):

There is reason to distinguish between two basic types of positions for XPs.

- (1) *A-position*:
A position is an A-position iff it can be assigned a θ -role.
- (2) *A-bar position*:
A position is an A-bar position iff it is an XP position which cannot be assigned a θ -role.
- (3) *θ -position*:
A position is a θ -position iff it is assigned a θ -role.

Note:

This presupposes a clause structure of the type in (4).

- (4) *Clause structure*:
[_{CP} α [_{C'} C [_{IP} β [_{I'} I [_{VP} V γ]]]]]

Observation:

- γ in (4) is an A-position and a θ -position.
- β in (4) is an A-position; it may or may not be a θ -position.
- α in (4) is an A-bar position; a θ -role can never be assigned to this position.

- (5) *Transitive verbs*:
[_{CP} α [_{C'} C [_{IP} [_{DP} Mary] [_{I'} I [_{VP} [V killed] [_{DP} John]]]]]]

Note:

The assumption here is that a sister of V must always be assigned a θ -role by V. So the internal argument DP *John* is in a position that is both an A-position and a θ -position. By assumption, the external argument DP *Mary* also gets a θ -role from V in (5). Therefore, SpecI also invariably qualifies as an A-position. (However, this position does not have to be a θ -position; see below.)

- (6) *Potential problem* (Postal & Pullum (1988)):
 - a. I dislike it that he is so cruel
 - b. The mayor prevented there from being a riot
 - c. I haven't prepared my lecture for tonight, so I am going to have to wing it

- (7) *Unergative intransitive verbs*:
[_{CP} α [_{C'} C [_{IP} [_{DP} Mary] [_{I'} I [_{VP} [VP [V works] [_{PP} in London]]]]]]]
- (8) *Passive verbs and unaccusative intransitive verbs*:
 - a. [_{CP} α [_{C'} C [_{IP} [_{DP₁} John] [_{I'} [_I was] [_{VP} [V killed] t₁]]]]]]
 - b. [_{CP} α [_{C'} C [_{IP} [_{DP₁} John] [_{I'} I [_{VP} [V died] t₁]]]]]]

Observation:

In (8-ab), the internal argument is first merged as a complement of V, and then moved to the subject position SpecI. Such *NP-movement* is possible because there is no external argument present in either case, and SpecI is thus available (the movement is also necessary because of independent considerations having to do with case assignment and the fact that English clauses need to have subjects; see the EPP feature of I). Importantly, the SpecI position in (8) is an A-position that is not also a θ -position.

- (9) *Wh-movement*:
 - a. [_{CP} [_{DP₁} Who] [_{C'} C did] [_{IP} [_{DP} Mary] [_{I'} I [_{VP} [V kill] t₁]]]]] ?
 - b. [_{CP} [_{DP₂} Who] [_{C'} C [_{IP} t₂ [_{I'} I [_{VP} [V killed] [_{DP} John]]]]] ?

Observation:

SpecC can never be assigned a θ -role. Therefore, it will uniformly qualify as an A-bar position.

Question:

Why would one want to introduce the concepts of A- and A-bar positions?

Answer:

The two concepts are motivated solely by the fact that constraints (or rules) crucially refer to them.

2. Evidence for A- and A-bar Positions

2.1. Reflexive Binding

- (10) *Principle A*:
An anaphor must be A-bound in its minimal CP.

Assumption:

Reflexive and reciprocal pronouns are anaphors.

- (11) a. [_{CP} C [_{IP} [_{DP₁} John] I [_{VP} [V likes] [_{DP₁} himself]]]]
- b. *[_{CP} C [_{IP} [_{DP₁} Heself/Himself] I [_{VP} [V likes] [_{DP₁} John]]]]
- c. [_{CP} C [_{IP} [_{DP₁} The students] I [_{VP} [V hate] [_{DP₁} each other]]]]
- d. *[_{CP} C [_{IP} [_{DP₁} Each other] I [_{VP} [V hate] [_{DP₁} the students]]]]

Observation:

NP-movement (i.e., the movement of a DP to the subject position SpecI) in raising constructions feeds Principle A satisfaction.

(12) *NP-movement and Principle A:*

- a. [CP C [IP [DP₁ John] I [VP [V seems] [PP to [DP₁ himself]] [IP t₁ to be nice]]]]
- b. [CP C [IP [DP₁ The students] I [VP [V seem] [PP to [DP₁ each other]] to be smart]]]

Observation:

Wh-movement (i.e., movement to SpecC) does not feed Principle A satisfaction.

- (13) a. *[CP [DP₁ Whom] does [IP [DP₁ herself/himself] I [VP like t₁]]] ?
- b. *[CP [DP₁ Which students] do [IP [DP₁ each other] I [VP hate t₁]]] ?

Note:

This contrast between NP-movement and wh-movement follows from the fact that the former displacement operation is A-movement, and the latter is A-bar movement.

2.2. *Weak Crossover*

Terminology:

Strong vs. weak crossover: Wasow (1972). (This is also the place where *traces* are first proposed and discussed.)

(14) *Strong crossover:*

- a. [CP [DP₁ Who] C [IP t₁ I [VP likes [DP₁ himself]]]] ?
- b. *[CP [DP₁ Who(m)] [C does] [IP [DP₁ he] I [VP like t₁]]] ?

Assumption (Chomsky (1981)):

Traces of wh-movement ('variables') must not be A-bound.

(15) *Weak crossover:*

- a. [CP [DP₁ Who] C [IP t₁ I [VP likes [DP₂ [DP₁ his] mother]]]] ?
- b. *[CP [DP₁ Who(m)] [C does] [IP [DP₂ [DP₁ his] mother] I [VP like t₁]]] ?

Note:

The trace of wh-movement (t₁) in (15-b) is not A-bound by *his* (due to lack of c-command). So what is wrong with weak crossover configurations? There are various approaches to weak crossover, and most of these are very hard to make sense of (Bijection Principle, Leftness Condition, etc.). (16) works well (Reinhart (1983), Heim (1989), Mahajan (1990), Heim & Kratzer (1998)).

(16) *Condition on Bound Variable Pronouns:*

A bound variable pronoun must be A-bound.

Observation:

This correctly predicts that weak crossover effects only show up with pronouns that must be interpreted as bound variables (in the simplest case: those that are co-indexed with a quantified DP).

(17) *Topicalization of non-quantified DPs:*

John₁, his₁ mother doesn't really like t₁

Prediction:

Weak crossover effects can also show up when there is no (visible) crossover.

(18) *Weak crossover without movement:*

- a. [DP₁ His₁ mother] likes [DP₁ John]
- b. *[DP₁ His₁ mother] likes [DP₁ every boy]

(19) *NP-movement vs. wh-movement and weak crossover:*

- a. [DP₁ Every boy] seems to [DP₂ his₁ mother] t₁ to be intelligent
- b. *[CP [DP₁ Who(m)] [C does] [IP [DP₂ [DP₁ his] mother] I [VP like t₁]]] ?

2.3. *Parasitic Gaps*

Note:

A parasitic gap is an empty category in what normally qualifies as an island (e.g., an adjunct clause) that is saved by a legitimate movement dependency.

(20) *Parasitic gaps and wh-movement:*

- a. What₁ did you file t₁ [CP before reading e₁] ?
- b. What₁ did you file t₁ [CP before reading it₁] ?
- c. *What₁ did you file a book [CP before reading e₁] ?

Note:

It has standardly been assumed that parasitic gaps must not be A-bound. The constraint in (21) (see Chomsky (1982)) can eventually follow as a theorem, given a certain characterization of parasitic gaps (as variables, in a technical sense).

(21) *Parasitic Gap Constraint:*

A parasitic gap requires (i) a trace in an A-position which does not bind it, and (ii) a filler in an A-bar position that binds it.

(22) *Parasitic gaps blocked by traces in A-positions:*

*[CP Who₁ C [IP t₁ I [VP met you [CP before you recognized t₁]]]] ?

Prediction:

This predicts that NP-movement cannot license parasitic gaps (because the parasitic gap is then A-bound); the prediction is borne out.

(23) *Parasitic gaps and NP-movement:*

*[DP₁ This book] was filed t₁ [CP before reading e₁]

2.4. *Reconstruction*

Note:

There is (a) *scope reconstruction* and (b) *reconstruction for binding*.

(24) *Scope reconstruction:*

- a. *NP-movement:*
[DP₁ An Austrian] is likely₂ to t₁ win the gold medal

(an Austrian > likely, likely > an Austrian)

b. *Wh-movement*:

What₁ did everyone₂ buy t₁ for Max ?

(what > everyone, everyone > what)

(i) Everyone bought Max a Bosendorfer piano. (single question)

(ii) Mary bought Max a tie, Sally a sweater, and Harry a piano. (distributed question)

(25) *Reconstruction for binding, Principle A*:

a. *NP-movement*:

[DP₂ Pictures of [DP₁ each other]] seem to [DP₁ the students] to be t₂ on sale

b. *Topicalization*:

Himself₁, John₁ does not really like t₁

c. *Topicalization*:

Books about himself₁, John does not really like t₁

d. *Wh-movement*:

Which picture of herself₁ did Mary₁ see t₁ ?

Note:

Neither scope reconstruction, nor reconstruction for Principle A seems to provide decisive evidence for distinguishing between A- and A-bar movement. However, reconstruction for Principle C does.

(26) *Principle C*:

A non-pronominal DP must not be A-bound.

(27) *Reconstruction for binding, Principle C*:

a. *NP-movement*:

[DP₂ A picture of [DP₁ John]] seems to him₁ to be t₂ on sale

b. *Wh-movement*:

*[DP₂ Which claim [CP that [DP₁ John] was asleep]] was he₁ willing to discuss t₂ ?

c. *Wh-movement*:

*[DP₂ Which friend of [DP₁ John's]] did he₁ visit ?

Observation:

A-movement does not seem to obligatorily reconstruct, so a Principle C effect can be avoided; A-bar movement seems to obligatorily reconstruct.

Side remark:

There are also so-called anti-reconstruction effects with A-bar movement, though (Lebeaux (1988), Freidin (1994), Chomsky (1995), Epstein et al. (1998)).

(28) *Wh-movement and anti-reconstruction for binding, Principle C*:

[DP₂ Which claim [CP that [DP₁ John] made]] was he₁ willing to discuss ?

2.5. *Quantifier Stranding*

Assumption (Déprez (1989)):

A-movement can strand quantifiers; A-bar movement cannot do so.

(29) *Stranded quantifiers*:

a. The drug dealers₁ have all been arrested t₁

b. *Which drug dealers₁ did the mayor say [CP that the police will all arrest t₁] ?

2.6. *Improper Movement*

Observation:

A-movement can be followed by A-bar movement; A-bar movement cannot be followed by A-movement.

(30) *NP-movement precedes wh-movement*:

a. [CP Who₁ C [C' C [IP t'₁ was [VP killed t₁]]]] ?

b. [CP Who₁ C [IP t'₁ seems t₁ to be smart]] ?

(31) *Wh-movement cannot precede NP-movement: super-raising*:

a. *[CP C [IP Mary₁ seems [CP t'₁ (that) t₁ likes John]]]

b. *[CP Who₁ C [IP t'₁ seems [CP t'₁ (that) t₁ likes John]]]

Analysis (Chomsky (1981), based on May (1979)):

Locally A-bar bound traces qualify as a certain kind of trace that special constraints may hold for, viz., as *variables*; a trace is locally A-bar bound if its immediate chain antecedent is in an A-bar position, such as SpecC. Next, variables (in this technical sense) obey Principle C of the Binding Theory: They must not be bound from an A-position. On this view, a derivation of a super-raising construction is excluded by Principle C: The initial trace t₁ qualifies as a variable (it is locally A-bar bound by the intermediate trace t'₁); however, t₁ is illegitimately also A-bound from the matrix SpecT position (an A-position).

3. **L-Relatedness**

Observation:

The original definition of A- and A-bar positions does not work anymore once it is assumed that external arguments are not merged (base-generated) in the position in which they show up, but are rather merged in Specv and then moved to SpecT.

(32) *Original clause structure*:

[CP α [C' C [IP β [I' I [VP V γ]]]]]

(33) *New standard clause structure*:

[CP α [C' C [TP β [T' T [vP δ v [VP V γ]]]]]]

Note:

Since SpecT can never be assigned a θ-role anymore, it cannot possibly qualify as an A-position, given the definition in (1).

Proposal (Chomsky (1993); also cf. Déprez (1989), Mahajan (1990)):

A-positions are replaced with *L-related positions*.

(34) *L-relatedness* (Chomsky (1993, 28-29)):

The functional elements Tense and Agr therefore incorporate features of the verb. Let us call these features *V-features*: the function of the V-features of an inflectional element I is to check the morphological properties of the verb selected from the lexicon. More generally, let us call such features of a lexical item L *L-features*. Keeping to the X-bar-theoretic notions, we say that a position is *L-related* if it is in a local relation to an L-feature, that is, in the internal domain or checking domain of a head with an L-feature. Furthermore, the checking domain can be subdivided into two categories: nonadjoined (Spec) and adjoined. Let us call these positions *narrowly* and *broadly* L-related, respectively. A structural position that is narrowly L-related has the basic properties of A-positions; one that is not L-related has the basic properties of A-bar positions, in particular, SpecC, not L-related if C does not contain a V-feature. The status of broadly L-related (adjoined) positions has been debated, particularly in the theory of scrambling. For our limited purposes, we may leave the matter open.

Question:

Assuming the Phase Impenetrability Condition (PIC; see Chomsky (2001)), the first step of wh-movement of an object should always end up in an L-related position (or A-position, for that matter). This does not seem to make the right predictions, at least not for languages where external arguments can stay in their base positions (Specv), and do not have to undergo EPP-driven movement to SpecT.

4. Scrambling

Two problems:

- Scrambling does not seem to straightforwardly fit into the classical A- vs. A-bar position dichotomy.
- Scrambling in languages like German, Hindi, and Japanese does not seem to show a perfectly uniform behaviour with respect to A- vs. A-bar properties.

Webelhuth's Paradox (Webelhuth (1992; 1995)):

Scrambling in German shows properties of both A-movement and A-bar movement, and can in fact do so at the same time, in a single clause.

Assumption:

A dative (indirect) object is merged in a higher position than an accusative (direct) object; so if the latter precedes the former, it must have undergone scrambling. (Side remark: This base order of indirect and direct objects is in conflict with the arguments put forward in Larson (1988) for English, which can to a large extent be replicated in German; see Müller (1995).)

(35) *Scrambling and anaphors:*

- a. dass sie [DP₁ die Gäste] [DP₁ einander] t₁ vorgestellt hat
that she_{nom} the guests_{acc} each other_{dat} introduced has
- b. dass der Arzt₂ [DP₁ den Patienten] [DP_{1/2} sich] t₁ im Spiegel gezeigt hat
that the doctor_{nom} the patient_{acc} himself_{dat} in the mirror shown has

Conclusion:

Scrambling can feed Principle A satisfaction; it must end in an A-position.

(36) *Scrambling and weak crossover:*

- a. dass die Gastgeber [DP₁ jede Frau] [DP₂ ihrem₁ Tanzpartner] t₁ vorgestellt hat
that the hosts_{nom} every woman_{acc} her dancing partner_{dat} introduced have

Conclusion:

Scrambling can satisfy the Condition on Bound Variable Pronouns; it must be A-movement.

(37) *Scrambling and parasitic gaps:*

- a. dass er [DP₁ die Bücher] [CP ohne e₁ zu lesen] t₁ ins Regal gestellt hat
that he_{nom} the books_{acc} without to read into the shelf put has
- b. dass sie [DP₁ die Gäste] [CP ohne e₁ anzuschauen] dem Pfarrer t₁
that she_{nom} the guests_{acc} without to look at the priest_{dat}
vorgestellt hat
introduced has

Conclusion:

Scrambling can respect the Parasitic Gap Constraint; it must be A-bar movement.

(38) *Webelhuth's paradox, no. 1: Scrambling, anaphors, and parasitic gaps:*

- a. dass sie [DP₁ die Gäste] [CP ohne e₁ anzuschauen] [DP₁ einander] t₁
that she_{nom} the guests_{acc} without to look at each other_{dat}
vorgestellt hat
introduced has

(39) *Webelhuth's paradox, no. 2: Scrambling, weak crossover, and parasitic gaps:*

- a. dass die Gastgeber [DP₁ jede Frau] [CP ohne e₁ anzuschauen] [DP₂ ihrem₁
Tanzpartner] t₁ vorgestellt haben
that the hosts_{nom} every woman_{acc} without to look at her
dancing partner_{dat} introduced have

Solutions:

- Scrambling in German is movement to a *mixed position* that combines properties of both A- and A-bar positions: Webelhuth (1992; 1995).
- Scrambling in German is not a homogeneous operation. *Short scrambling* is A-movement,

intermediate scrambling is A-bar movement, and in Webelhuth's paradox, the two movement operations are combined: Mahajan (1990; 1994), Déprez (1989; 1994).

- Scrambling in German is uniformly A-movement; the evidence for A-bar movement can be explained away: Fanselow (1990; 1992; 2001).
- Scrambling in German is uniformly A-bar movement; the evidence for A-movement can be explained away: Müller & Sternefeld (1994); Müller (1995).

(40) *Webelhuth's (1995) mixed approach:*

- | | | |
|----|---|----------------------|
| a. | A(rgument)-position: SpecT, SpecN, ComplX | A-binding |
| b. | O(perator)-position: SpecC | A-bar binding |
| c. | U(nrestricted)-position: adjoined positions | A- and A-bar binding |

Note:

Strictly speaking, the postulation of U-positions does not actually suffice to ensure that scrambling in German can give rise to parasitic gaps (at least not given the formulation of the Parasitic Gap Constraint in (21)).

(41) *Fanselow's (2001) argument against the parasitic gap evidence: forward deletion and inherent reflexive pronouns:*

dass er sich [CP anstatt um Maria zu kümmern] mit Bildern beschäftigt
 that he_{nom} himself_{acc} instead about Maria to care with books occupied

Note:

Sich kümmern in (41) is an inherently reflexive verb, as is *sich beschäftigen*; so there cannot be two co-indexed traces.

(42) *Müller & Sternefeld's (1994) argument against the anaphor evidence:*

- | | |
|----|--|
| a. | *dass sie [DP ₁ den Gästen] [DP ₁ einander] vorgestellt hat |
| | that she _{nom} the guests _{dat} each other _{acc} introduced has |
| b. | *dass der Arzt ₂ [DP ₁ dem Patienten] [DP _{*1/2} sich] im Spiegel gezeigt hat |
| | that the doctor _{nom} the patient _{dat} himself _{acc} in the mirror shown has |

Note:

If the data in (35) show that scrambling feeds Principle A satisfaction, then why can the alleged base order not satisfy Principle A, too? (That said, there are apparently speakers who accept (42-b); see Featherston & Sternefeld (2003); Sternefeld & Featherston (2003).)

(43) *Mahajan's approach:*

- | | |
|----|---|
| a. | Short scrambling: Argument shift, substitution in SpecAgr |
| b. | Intermediate (and long-distance) scrambling: Adjunction to XP, adjunction |
| c. | The second operation can follow the first one; and often there is an initial ambiguity as to which of the two operations has applied. |

(44) *Argument shift and weak crossover in Hindi:*

- | | |
|----|---|
| a. | *Uske ₁ maalik-ne [DP ₁ sab kitaabeN] pheNk dii |
| | its author _{erg} all books threw away |
| b. | [DP ₁ Sab kitaabeN] uske ₁ maalik-ne t ₁ pheNk dii |
| | all books its author _{erg} threw away |

(45) *Argument shift and anaphoric binding in Hindi:*

- | | |
|----|---|
| a. | *Apne ₁ maalik-ne [DP ₁ ek naukari] naukari se nikaal diyaa |
| | self's boss _{erg} a servant service from dismissed |
| | '*Self's boss dismissed a servant.' |
| b. | ?[DP ₁ Ek naukari] apne ₁ maalik-ne naukari se nikaal diyaa |
| | a servant self's boss _{erg} service from dismissed |
| | '*Self's boss dismissed a servant.' |

(46) *Adjunction to XP and weak crossover/anaphoric binding in Hindi:*

- | | |
|----|---|
| a. | *KOn saa aadmii ₁ / sab-aadmii ₁ usii ₁ bahin-ne socaa [CP ki raam-ne t ₁ dekhaa |
| | which man every man his sister _{erg} thought that Ram _{erg} seen |
| | thaa] |
| | be-PAST] |
| b. | *KOn saa aadmii ₁ / sab-aadmii ₁ apnii ₁ bahin-ne socaa [CP ki raam-ne t ₁ dekhaa |
| | which man every man his sister _{erg} thought that Ram _{erg} seen |
| | thaa] |
| | be-PAST |

Assumption:

Reconstruction for Principle A is possible only with A-bar movement in Hindi; circumvention of weak crossover effects presupposes A-movement.

(47) *Reconstruction vs. weak crossover in Hindi:*

Apnii₁ kOn sii kitaab_{2/*3} / koi kitaab_{2/*3} [DP₁ us aadmii-ne jisne use₃ paRh liyaa]
 self's which book some book that man_{erg} who_{erg} it read
 t₁ pheNk dii
 threw away

(48) *Mahajan on Webelhuth's paradox:*

- | | |
|----|---|
| a. | dass sie [DP ₁ die Gäste] [CP ohne e ₁ anzuschauen] t' ₁ [DP ₁ einander] t ₁ |
| | that she _{nom} the guests _{acc} without to look at each other _{dat} |
| | vorgestellt hat |
| | introduced has |
| b. | dass die Gastgeber [DP ₁ jede Frau] [CP ohne e ₁ anzuschauen] t' ₁ [DP ₂ ihrem ₁ |
| | that the hosts _{nom} every woman _{acc} without to look at her |
| | Tanzpartner] t ₁ vorgestellt haben |
| | dancing partner _{dat} introduced have |

(49) *Predictions:*

- a. *dass sie [DP₁ die Gäste] [DP₁ einander] [CP ohne e₁ anzuschauen] t₁
 that she_{nom} the guests_{acc} each other_{dat} without to look at
 vorgestellt hat
 introduced has
- b. *dass die Gastgeber [DP₁ jede Frau] [DP₂ ihrem₁ Tanzpartner] [CP ohne
 that the hosts_{nom} every woman_{acc} her dancing partner_{dat} without
 e₁ anzuschauen] t₁ vorgestellt haben
 to look at introduced have

Question:

Does (49-b) improve if there is no binding of the pronoun?

References

- Chomsky, Noam (1981): *Lectures on Government and Binding*. Foris, Dordrecht.
- Chomsky, Noam (1982): *Some Concepts and Consequences of the Theory of Government and Binding*. MIT Press, Cambridge, Mass.
- Chomsky, Noam (1993): A Minimalist Program for Syntactic Theory. In: K. Hale & S. J. Keyser, eds., *The View from Building 20*. MIT Press, Cambridge, Mass., pp. 1–52.
- Chomsky, Noam (1995): *The Minimalist Program*. MIT Press, Cambridge, Mass.
- Chomsky, Noam (2001): Derivation by Phase. In: M. Kenstowicz, ed., *Ken Hale. A Life in Language*. MIT Press, Cambridge, Mass., pp. 1–52.

- Déprez, Viviane (1989): On the Typology of Syntactic Positions and the Nature of Chains. PhD thesis, MIT, Cambridge, Mass.
- Déprez, Viviane (1994): Parameters of Object Movement. In: N. Corver & H. van Riemsdijk, eds., *Studies on Scrambling*. Mouton de Gruyter, Berlin, pp. 101–152.
- Epstein, Sam, Erich Groat, Ruriko Kawashima & Hisatsugu Kitahara (1998): *A Derivational Approach to Syntactic Relations*. Oxford University Press, Oxford and New York.
- Fanselow, Gisbert (1990): Scrambling as NP-Movement. In: G. Grewendorf & W. Sternefeld, eds., *Scrambling and Barriers*. Benjamins, Amsterdam, pp. 113–140.
- Fanselow, Gisbert (1992): Deplazierte Argumente. Ms., Universität Passau.
- Fanselow, Gisbert (2001): Features, Theta-Roles, and Free Constituent Order, *Linguistic Inquiry* 32, 405–436.
- Featherston, Sam & Wolfgang Sternefeld (2003): The Interaction of Factors in Judgements of Reflexive Structures: Data from Object Coreference in German. In: L. Gunkel, G. Müller & G. Zifonun, eds., *Arbeiten zur Reflexivierung*. Niemeyer, Tübingen, pp. 25–50.
- Freidin, Robert (1994): Generative Grammar: Principles and Parameters Framework. In: R. Asher & J. Simpson, eds., *The Encyclopedia of Language and Linguistics, vol. III*. Pergamon Press, Oxford, pp. 1370–1385.
- Heim, Irene (1989): Survey of Formal Semantics. Ms., MIT, Cambridge, Mass.
- Heim, Irene & Angelika Kratzer (1998): *Semantics in Generative Grammar*. Blackwell, Oxford.
- Larson, Richard (1988): On the Double Object Construction, *Linguistic Inquiry* 19, 335–391.
- Lebeaux, David (1988): Language Acquisition and the Form of the Grammar. PhD thesis, University of Massachusetts, Amherst.
- Mahajan, Anoop (1990): The A/A-bar Distinction and Movement Theory. PhD thesis, MIT, Cambridge, Mass.
- Mahajan, Anoop (1994): Toward a Unified Theory of Scrambling. In: N. Corver & H. van Riemsdijk, eds., *Studies on Scrambling*. Mouton de Gruyter, pp. 301–330.
- May, Robert (1979): Must Comp-To-Comp Movement Be Stipulated?, *Linguistic Inquiry* 10, 719–725.
- Müller, Gereon (1995): *A-bar Syntax*. Mouton/de Gruyter, Berlin.
- Müller, Gereon & Wolfgang Sternefeld (1994): Scrambling as A-bar Movement. In: N. Corver & H. van Riemsdijk, eds., *Studies on Scrambling*. Mouton de Gruyter, pp. 331–385.
- Postal, Paul & Geoffrey Pullum (1988): Expletive Noun Phrases in Subcategorized Positions, *Linguistic Inquiry* 19, 635–570.
- Reinhart, Tanya (1983): *Anaphora and Semantic Interpretation*. Croom Helm, London.
- Sternefeld, Wolfgang & Sam Featherston (2003): The German Reciprocal Einander in Double Object Constructions. In: L. Gunkel, G. Müller & G. Zifonun, eds., *Arbeiten zur Reflexivierung*. Niemeyer, Tübingen, pp. 239–265.
- Wasow, Tom (1972): Anaphoric Relations in English. PhD thesis, MIT, Cambridge, Mass.
- Webelhuth, Gert (1992): *Principles and Parameters of Syntactic Saturation*. Oxford University Press, Oxford.
- Webelhuth, Gert (1995): X-bar Theory and Case Theory. In: G. Webelhuth, ed., *Government and Binding Theory and the Minimalist Program*. Blackwell, Cambridge, Mass., pp. 15–96.