

**Topics in Minimalism:
Old Problems, New Insights; Old Insights, New Problems**

Howard Lasnik
University of Connecticut
lasnik@sp.uconn.edu

I. What About S-Structure?

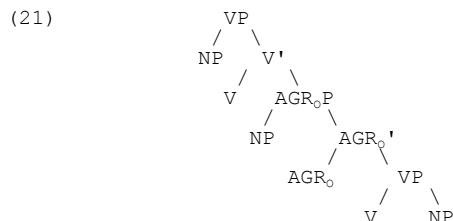
- (1) Which book that John_i read did he_i like
 (2) *He_i liked every book that John_i read
 (3) *I don't remember who thinks that he_i read which book that John_i likes
 (4) Every book that John read, he liked
- (5) Chomsky (1981): S-structure is crucial to at least one of the binding conditions, Condition C.
- (6) Barss (1986) draws the same conclusion for Condition A, based on examples like the following:
 (7) John_i wonders which picture of himself_i Mary showed to Susan
 (8) *John_i wonders who showed which picture of himself_i to Susan
- (9) "Such examples indicate that [overt] movement and movement in the LF-component have quite different effects with respect to the binding theory. This theory applies properly after syntactic movement, but each rule of the LF component converts S-structures to which the binding theory applies correctly to LF-representation to which it applies incorrectly." [Chomsky (1981,p.197)]
- (10) Under the minimalist assumption that there is no level of S-structure, the LF operations QR and wh-movement don't exist or they apply in such a way that binding possibilities don't change.
- (11)a There is/*are a man here
 b There are/*is men here
- (12) A man is t here [covert movement (Chomsky (1986))]
- (13) There arrived two knights on each other's horses
 (14) two knights arrived t on each other's horses
 Uriagereka (1988)
- (15)a *There seem to each other [t to have been some linguists given good job offers]
 b Some linguists seem to each other [t to have been given good job offers]
- (16)a There aren't many linguistics students here
 b Many linguistics students aren't here

(17) 'Expletive replacement' does not affect anaphoric possibility or even scope. Again, S-structure seems to be relevant. (Later, we will see how this insight is to be captured if there is no S-structure.)

(18) But what of Uriagereka's example?

(19) I saw two men on each other's birthdays

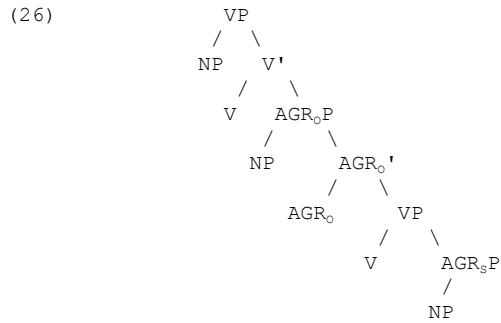
(20) Either object position is already high enough to bind into an adverbial (as in Larson (1988)), or object overtly raises to a higher position (as proposed by Koizumi (1993;1995), developing ideas of Johnson (1991)):



- (22)a The DA proved [two men to have been at the scene of the crime] during each other's trials
 b *The DA proved [there to have been two men at the scene of the crime] during each other's trials
- (23) Even on the Larsonian phrase structure, the subject of an embedded clause is not base-generated higher than an adverbial modifying the matrix clause. Could the ECM subject raise into object position (the standard view in the 1960's, and extensively argued for by Postal (1974))?
- (24) "If we succeed in eliminating recourse to c-selection as well as phrase structure rules, thus reducing syntactic representations at D-structure to projections of semantic properties of lexical items, it will follow that the complement of any lexical head in a syntactic representation must be s-selected by it, because there is no other way for the position to exist. For example, there cannot be such sentences as (68), where V is a verb that does not s-select an object and there is a pleonastic element...lacking any semantic role...
 John [_{VP} V there] (68)
- ...Similarly, we cannot have "raising to object" to yield (70ii) (with e the trace of Bill) from the D-structure (70i):
 i John [_{VP}believes e [_SBill to be intelligent]] (70)
 ii John [_{VP}believes Bill [_Se to be intelligent]]
 The verb believe s-selects only a proposition.
 Therefore, in (70i) the position occupied by e cannot

exist at D-structure, because it is not s-selected by believe." [Chomsky (1986, pp.90-91)]

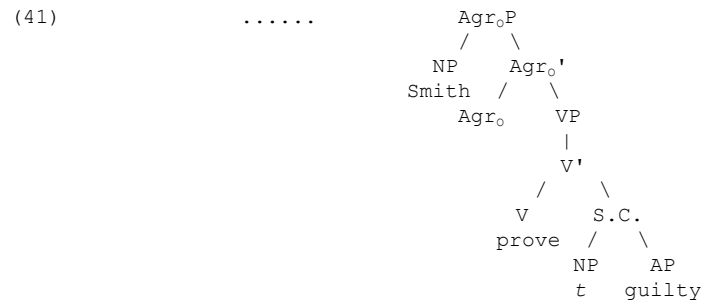
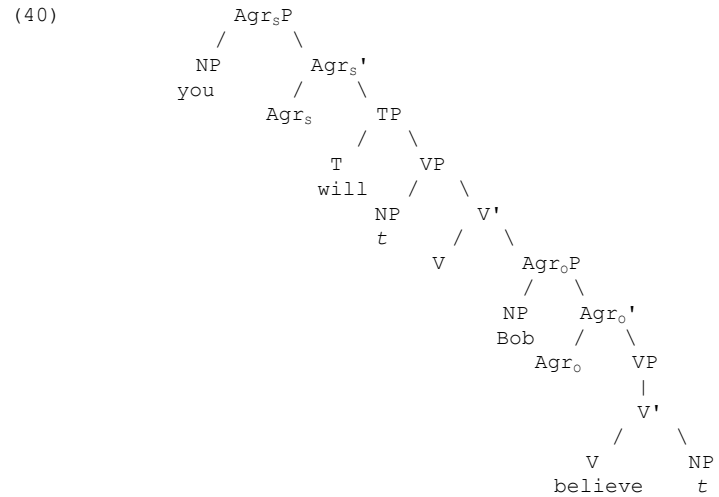
- (25) (24) is one version of Chomsky's consistent rejection of movement into θ -positions. If this is a genuine problem (see below), Koizumi's approach seems to avoid the problem.



- (27) a The DA proved [no suspect_i to have been at the scene of the crime] during his_i trial
 b *The DA proved [there to have been no suspect_i at the scene of the crime] during his_i trial
- (28) a The DA proved [noone to have been at the scene of the crime] during any of the trials
 b *The DA proved [there to have been noone at the scene of the crime] during any of the trials
- (29) ?*The DA proved [that two men were at the scene of the crime] during each other's trials
- (30) ?*The DA proved [that no suspect_i was at the scene of the crime] during his_i trial
- (31) ?*The DA proved [that there was noone at the scene of the crime] during any of the trials
- (32) The DA questioned no suspect_i during his_i trial
- (33) The DA questioned noone during any of the trials
- (34) They're trying to make out that John is a liar
- (35) They're trying to make John out to be a liar
 Kayne (1985), Johnson (1991)
- (36) a If you don't believe me, you will \emptyset the weatherman
 b I rolled up a newspaper, and Lynn did \emptyset a magazine
 c Kathy likes astronomy, but she doesn't \emptyset meteorology
 Levin (1978)
- (37) a The DA proved Jones guilty and the Assistant DA will prove Smith guilty
 b ?John gave Bill a lot of money, and Mary will give Susan a lot of money

- (38) You might not believe me but you will Bob

- (39) Pseudogapping as overt raising to Spec of Agr₀ followed by deletion of VP. [Lasnik (1995a)]



- (42) ?There arrived an instructor but there didn't arrive a professor
- (43) I will return to the question of why the raising of V, apparently normally obligatory, need not take place in the Pseudogapping construction.
- (44) *You will Bob believe
- (45) *The Assistant DA will Smith prove guilty
- (46) So what is going on in existential constructions? Why does the associate behave as if it is low (for scope and anaphora), even though the agreement properties indicate that movement has taken place?

- (47) Chomsky (1991) proposed that instead of (covertly) substituting for there, the associate adjoins to there. Then at least the LF's of (16)a,b repeated here are not identical.
- (48)a There aren't many linguistics students here
 b Many linguistics students aren't here
- (49) [There [many linguistics students]] aren't t here
- (50) Pictures of many students aren't here
- (51) BUT, in (50) there is no scope relation between many and negation, while in (48)a many is inside the scope of negation.
- (52) Further, on the May (1985) theory of adjunction, assumed by Chomsky ever since, when α adjoins to β , β becomes a segmented category, and α c-commands anything β did prior to the adjunction.
- (53) "The operation Move, we now assume, seeks to raise just F." Chomsky (1995, p. 262)
- (54) "...only PF convergence forces anything beyond features to raise." Chomsky (1995, p. 265)
- (55) When movement is covert, hence only of formal features, the referential and quantificational properties needed to create new binding and scope configurations are left behind, so no such new configurations are created. Lasnik (1995b,c) (extending the proposal of Chomsky (1995)).

II. Subject-Object (As)symmetry

- (56) With the establishment of overt object shift in English, we are on the verge of eliminating the subject-object asymmetry codified in the Extended Projection Principle (EPP).
- (57) It is now natural to assume that the EPP requirement driving raising to 'subject position' resides in Agr, hence is also responsible for raising to 'object position', under the assumption of Chomsky (1991) that 'Agr_s' and 'Agr_o' are merely mnemonic.
- (58) In fact, there is even an argument, due to Postal (1974), and reiterated by Lasnik and Saito (1991), that object shift, like subject shift, is obligatory:
- (59) *Joan believes him_i to be a genius even more fervently than Bob_i does
- (60) Joan believes he_i is a genius even more fervently than Bob_i does
 Postal (1974)
- (61) *Joan believes him_i to be a genius even more fervently than Bob's_i mother does
- (62) Joan believes he_i is a genius even more fervently than Bob's_i mother does
 Lasnik and Saito (1991)

- (63) BUT there are arguments that object shift does not always take place.
- (64) ?*Who was [a picture of t] selected
- (65) Who did you select [a picture of t]
- (66) If object and subject both raise overtly, to [Spec, Agr_o] and [Spec, Agr_s] respectively, the CED cannot distinguish (64) from (65). Branigan (1992)
- (67) On the other hand, as already noted in Lasnik (1995), when the object is a Pseudogapping remnant, extraction from it is seriously degraded:
- (68) Bill selected a painting of John, and Susan should ~~select~~ a photograph of Mary
- (69) ?*Who will Bill select a painting of, and who will Susan ~~select~~ a photograph of
- (70) The special prosecutor questioned two aides of a senator during each other's trials
- (71) ??Which senator did the special prosecutor question two aides of during each other's trials
- (72) Which senator did the special prosecutor question two aides of during the president's trial
- (73) The mathematician proved few theorems about Mersenne numbers during any of the lectures
- (74) ??Which numbers did the mathematician prove few theorems about during any of the lectures
- (75) Which numbers did the mathematician prove few theorems about during the conference lectures
- (76) These paradigms argue, contra Lasnik (1995), that when an object has overtly raised it is an island for extraction, and, therefore, since objects are not invariably islands, that such raising is optional.
- (77) Mary called up friends of John
- (78) ?Mary called friends of John up Johnson (1991)
- (79) Who did Mary call up friends of
- (80) ?*Who did Mary call friends of up
- (81) Mary made John out to be a fool
- (82) Mary made out that John is a fool
- (83) ?Mary made out John to be a fool
- (84) An observation about scope that Zubizarreta (1982) attributes to Chomsky, and that is discussed again by Chomsky (1995) provides further evidence for the optionality of object shift with ECM subjects:
- (85)a (it seems that) everyone isn't there yet
 b everyone seems [t not to be there yet]

- (86) Chomsky (p.327) argues as follows: "Negation can have wide scope over the Q in [(85)a]... but not in [(85)b]", concluding that "...reconstruction in the A-chain does not take place, so it appears."
- (87) When the word order makes it clear that a universal ECM subject has raised, that subject cannot be interpreted inside the scope of negation in the complement clause, as seen in (88). [More on this later.]
- (88) The mathematician made every even number out not to be the sum of two primes
- (89) The alternative word order for (88), with every even number unraised, does allow narrow scope for the universal:
- (90) The mathematician made out every even number not to be the sum of two primes
- (91) I expected [everyone not to be there yet] Chomsky (1995)
- (92) I believe everyone not to have arrived yet
- (93) I proved every Mersenne number not to be prime
- (94) Everyone is believed not to have arrived yet
- (95) Every Mersenne number was proved not to be prime
- (96) I will return to the classic argument that there is A-movement scope reconstruction ('Quantifier Lowering'):
- (97) Someone is likely to solve the problem
- (98) It is likely that someone will solve the problem
- (99) For now, notice that QL is not always possible:
- (100) No large Mersenne number was proven to be prime #
- (101) It was proven that no large Mersenne number is prime
- (102) Noone is certain to solve the problem #
- (103) It is certain that noone will solve the problem
- (104) The DA made no defense witnesses out to be credible
- (105) The DA made out that no defense witnesses were credible
- (106) The DA made out no defense witnesses to be credible
- (107) The DA proved no defense witnesses to be credible
- (108) No defense witnesses were proved to be credible by the DA
- (109) Note that if the ECM subject has to be 'high' in order to license some element in the higher clause, then the lower reading for that ECM subject becomes impossible:
- (110) The DA proved no defense witnesses to be credible during any of the trials
- (111) What of the argument for obligatoriness?
- (112) *Joan believes him_i to be a genius even more fervently than Bob_i does
- (113) It is not uncommon for 'object shift' to be obligatory with pronouns in a language even when it is optional with lexical NPs. Presumably, the pronoun movement is a different process, cliticization rather than object shift per se.
- (114) Mary made John out to be a fool
- (115) Mary made out John to be a fool
- (116) Mary made him out to be a fool
- (117) *Mary made out him to be a fool
- (118) The detective brought him in
- (119) *The detective brought in him Chomsky (1955)
- (120) One further potential argument for obligatoriness?
- (121) Tanaka (1999) claims that when a simple sentence contains both an interrogative direct object and an interrogative temporal expression, it is necessarily the former that undergoes wh-movement:
- (122) ?Whom did the DA accuse during which trial
- (123) ?*During which trial did the DA accuse whom
- (124) Tanaka observes that Superiority, as subsumed under the Minimal Link Condition, accounts for this, but only if the direct object is necessarily higher than the temporal adverb.
- (125) On the other hand:
- (126) What did John buy when
- (127) When did John buy what Bošković (1997)
- (128) ?Whom did the DA prove to be innocent during which trial
- (129) ?*During which trial did the DA prove whom to be innocent Tanaka (1999)
- (130) Whom did John prove to be guilty when
- (131) ?*When did John prove whom to be guilty Bošković (1997)
- (132) Whom did the DA make out to be guilty when
- (133) ?*When did the DA make whom out to be guilty
- (134) ??When did the DA make out whom to be guilty
- (135) ?*When did you call whom up
- (136) When did you call up whom
- (137) One way to make the raising optional might be to abandon the idea that Agr_o is the same item as Agr_s, assuming, instead, that only the latter obligatorily has an EPP feature.
- (138) Some of the discussion in Chomsky (1995, p.350) hints at an alternative possibility. Chomsky reasons that "If Agr has no strong feature, then PF considerations, at least, give no reason for it to be present at all, and LF considerations do not seem relevant." He thus suggests, in passing, that "Agr exists only when it has strong features."

- (139) Along these lines, suppose, then, that the optionality of raising is the optionality of Agr₀.
- (140)a If Agr₀ is present, overt raising will be forced by its strong EP feature.
 b If Agr₀ is absent, there will be no overt raising; the nominal's Case will be checked by covert raising of its formal features to the V.
- (141)a Under circumstance (140)b, the nominal will not participate in high binding, nor will it survive as a Pseudogapping remnant.
 b On the other hand, it will be able to take low scope, as in the instances of ambiguous interaction between universal and negation discussed earlier.
- (142) This leaves us with the question of why Agr_s is obligatory. This is exactly the question of why the standard EPP holds, a question that, alas, remains as mysterious as ever.

III. On A-Movement Reconstruction

- (143) Earlier, we saw that 'reconstruction' with A-movement is often barred. This fact constituted part of the argument that object shift exists, and is optional.
- (144) But WHY does A-movement have this property?
- (145) "That reconstruction should be barred in A-chains is ... plausible on conceptual grounds." Chomsky (1995, p.326)
- (146) Chomsky's concern at this point is trace deletion. He suggests that certain analyses of Chomsky (1991) and Chomsky and Lasnik (1993) based on intermediate trace deletion are incorrect, and that there is, in fact, no process of trace deletion.
- (147) The effects of trace deletion follow from reconstruction "understood in minimalist terms".
- (148) ??Who do you wonder [_{CP} whether [_{IP} John said [_{CP} t' @ [_{IP} t solved the problem]]]] (-Y)
- (149) Deletion is possible only to turn an illegitimate LF object into a legitimate one, where the legitimate LF objects are:
- (150)a Uniform chains (all of whose members are in A-positions; A'-positions; or X⁰-positions)
 b Operator-variable pairs.
- (151) Deletion in the chain (Who, t', t) is permissible since the chain is neither uniform (Who and t' are in A'-positions, t in an A-position) nor is it an operator-variable pair.
- (152) More generally, in the case of successive-cyclic A'-

movement of an argument, an intermediate trace (starred or otherwise) can (in fact must) be deleted in LF, voiding an ECP violation when the trace to be deleted is starred.

- (153) On the other hand, long movement as in (154) **will** be an ECP violation, since the movement chain in this instance is uniformly A', so economy prevents the deletion of t':
- (154) *How do you wonder [_{CP} whether [_{IP} John said [_{CP} t' @ [_{IP} Mary solved the problem t]]]] (-Y)
- (155) Similarly, ultra-long A-movement will also be properly excluded, even when the first step is 'short', as in (156):
- (156) *John seems [that [it is likely [t' to be arrested t]]]
- (157) *John seems [that [t₂ [it was told t₁ [that ...]]]] (-Y)
- (158) The chain of John in (157) is non-uniform so the deletion process should be applicable, incorrectly it appears.
- (159) Chomsky (1995, p.326) concludes, "We do not want to permit the intermediate (offending) trace t₂ to delete, unlike what happens in [long wh-movement of an argument]. The distinction suggests a different approach to intermediate trace deletion: perhaps it is a reflex of the process of reconstruction, understood in minimalist terms ... The basic assumption here is that there is no process of reconstruction; rather, the phenomenon is a consequence of the formation of operator-variable construction driven by F[ull]I[nterpretation], a process that may (or sometimes must) leave part of the trace - a copy of the moved element - intact at LF, deleting only its operator part."
- (160) In fact, it does seem that the only successful uses of economy-constrained deletion in chains involve long wh-movement of arguments, where a non-uniform chain is turned into an operator-variable pair.
- (161) The new approach correctly predicts that there are no instances where an ECP violation is voided by deletion of an offending intermediate trace turning a non-uniform chain into a uniform chain.
- (162) BUT it is not clear that t₂ in (157) is an offending trace in the relevant sense (i.e., in the sense of the earlier theory).
- (163) Is movement from that intermediate position to the surface position of John too far?
- (164) Even if it is, that could presumably be remedied by further adjunction steps.
- (165) A conceivable way to retain the essence of the new

- analysis:
- (166)a Accept the new assumption that there is no trace deletion.
 b But retain from the earlier approach the idea that only operator-variable pairs and uniform chains are legitimate LF objects.
- (167) Then (157), repeated as (168), would be correctly excluded, but not because of an offending trace per se. The whole chain would be an offending one.
- (168) *John seems [that [t₂ [it was told t₁ [that ...]]]]
- (169) The account of (156), repeated as (170), remains unchanged.
- (170) *John seems [that [it is likely [t' to be arrested t]]]
- (171) Though the **chain** is legitimate, it contains an offending **trace**, one that now can't be eliminated at all, since (170) doesn't involve an operator chain.
- (172) ⇒The major phenomenon originally motivating the uniform chain approach now loses its account. The offending intermediate trace in the case of argument movement (148) was deletable by virtue of being part of a non-uniform chain, while the corresponding offending trace in the case of adjunct movement (154), as part of a uniform chain, was not deletable.
- (173) But in the new approach, deletability has nothing to do with uniformity. Rather, the intermediate trace in (148) deletes as a direct consequence of operator-variable formation. Similarly, the intermediate trace in (154) should be able to delete.
- (174) Chomsky's (class lectures, 1995) alternative 'functional' explanation of adjunct-argument asymmetry: Extraction of adjuncts out of islands creates 'garden paths', because there are numerous structural positions from which an adjunct could have fronted.
- (175) *Ni xiangxin Lisi weisheme lai de shuofa?
 "You believe [the claim [that [Lisi came why]]]?"
- (176) *John-wa Mary-ga naze sore-o katta kadooka siritagatte iru no?
 "John wants to know [whether [Mary bought it why]]?"
- (177)a Why do you think John said Mary went home?
 b How do you think John said Mary solved the problem?
- (178)a All trace deletion is just a consequence of the process of operator-variable creation.
 b Traces in other types of constructions are then never eliminated.
- (179) That they are not eliminated in A-constructions provided part of Chomsky's account of the extreme ungrammaticality of 'improper' movement, as in (168).

- (180) Almost paradoxically, Chomsky concludes that the impossibility of eliminating an A-trace makes it plausible that reconstruction should be barred in A-chains.
- (181) *John expected [him to seem to me [_α t to be intelligent]]
- (182) "Under the relevant interpretation, [(181)] can only be understood as a Condition B violation, though under reconstruction the violation should be obviated, with him interpreted in the position of t ..." [p. 326]
- (183) John expected [to seem to me [_α him to be intelligent]]
- (184) The requirement on him, that it be A-free in a local domain, could, in principle, be satisfied in α in (183). Condition B is satisfied (incorrectly so), as Chomsky implies.
- (185) *John_i believes him_i to be intelligent
- (186) If him, the 'ECM' subject, is in the lower clause, then (185) is incorrectly not a Condition B violation. This can be taken as (additional) evidence that him raises into the higher clause.
- (187) *Himself seems to him [t to be clever]
- (188) Prior to movement, Condition A is presumably satisfied, since, as (189), from Chomsky (1995), shows, the (NP in the) to phrase c-commands into the complement infinitival (though for reasons that are not immediately clear).
- (189) *They seem to him_i [t to like John_i]
- (190) For Belletti and Rizzi (1988), (187) is in accord with Condition A, but it violates Condition B, which, according to Belletti and Rizzi, must be satisfied specifically at S-structure (unlike Condition A, which can be satisfied anywhere in the course of the derivation).
- (191)a Chomsky's (181) could also be ruled out in the same way, if its S-structure configuration is in violation of Condition B.
 b But not in a theory with no S-structure.
- (192) Chomsky's next argument that there is no A-movement reconstruction is based on a scope phenomenon briefly introduced above:
- (193)a (it seems that) everyone isn't there yet
 b I expected [everyone not to be there yet]
 c everyone seems [t not to be there yet]
- (194) "Negation can have wide scope over the Q in [(193)a], and it seems in [(193)b] but not in [(193)c],.... reconstruct-

- tion in the A-chain does not take place, so it appears." Chomsky (1995, p.327)
- (195)a John would prefer for everyone not to leave (*Neg>V)
 b John wanted very much for everyone not to leave (*Neg>V) Hornstein (1995, p.239)
- (196) School policy requires that everyone not get an A
 (197) It is important for everyone not to get an A
- (198) The mathematician made every even number out not to be the sum of two primes
 (199) The only reading is the implausible one where the mathematician was engaged in the futile activity of trying to convince someone that no even number is the sum of two primes (and not the far more plausible one where she is merely trying to convince someone that Goldbach's conjecture is false).
- (200) everyone seems [t not to be there yet]
- (201) With undeniable overt raising, the scope reconstruction at issue is unavailable.
- (202) I believe everyone not to have arrived yet (?Neg>V)
 (203) I proved every Mersenne number not to be prime (?Neg>V)
- (204) Everyone is believed not to have arrived yet (*Neg>V)
 (205) Every Mersenne number was proved not to be prime (*Neg>V)
- (206) In (205), there is strong bias towards narrow scope, but it is still not available. Only the wildly false wide scope reading exists.
- (207) How can we reconcile the substantial evidence that ECM subjects undergo overt raising with the scope fact in (202) - (203)?
- (208)a When it is completely clear from the word order that raising has taken place, narrow scope for a universal ECM subject is impossible.
 b But when the word order is equivocal, narrow scope is possible.
- (209) Could it be that in the latter circumstance, overt raising has not taken place?
- (210) Mary proved every Mersenne number not to be prime, and John will every Fibonacci number
- (211) The fact that every Fibonacci number is a Pseudogapping remnant indicates that it has overtly raised. If, simultaneously, it could take scope under the (elided) negation as it can in (212), we would have a contradiction.
- (212) John proved every Fibonacci number not to be prime
- (213) However, it seems that unlike the situation in (212), narrow scope is **not** possible for every Fibonacci number in (210).
- (214) (The ECM subject in the first conjunct in (210), every Mersenne number, also cannot take narrow scope under the negation in its clause. I assume this is a parallelism effect of the sort investigated by Lasnik (1972) and, more recently and more interestingly, by Fox (1995).)
- (215) We are seemingly led to the conclusion that raising must be optional (a familiar, and agreeable, kind of conclusion in GB analyses, but not in Minimalist ones).
- (216) The mathematician made every even number out not to be the sum of two primes (*Neg>V)
 (217) The mathematician made out every even number not to be the sum of two primes (?Neg>V)
- (218)a The lawyer made no witnesses out to be idiots during any of the trials
 b?*The lawyer made out no witnesses to be idiots during any of the trials
- (219)a The DA made the defendants out to be guilty during each other's trials
 b?*The DA made out the defendants to be guilty during each other's trials
- (220)a The DA made no suspect_i out to have been at the scene of the crime during his_i trial
 b?*The DA made out no suspect_i to have been at the scene of the crime during his_i trial
- (221) 'Raising to object' parallels 'raising to subject' and provides further evidence for Chomsky's claim that "...reconstruction in [an] A-chain does not take place..."
- (222) So what's going on with Quantifier Lowering?
- (223) Some politician is likely to address John's constituency
- (224) "[223] may be taken as asserting either (i) that there is a politician, e.g., Rockefeller, who is likely to address John's constituency, or (ii) that it is likely that there is some politician (or other) who will address John's constituency." May (1977)

- (225) Chomsky distinguishes this phenomenon from the one found in (absence of) low scope under negation for a universal quantifier subject.
- (226) everyone seems [t not to be there yet]
- (227) "[The effect of QL] could result from adjunction of the matrix quantifier to the lower IP (c-commanding the trace of raising and yielding a well-formed structure if the trace of quantifier lowering is deleted, along the lines of May's original proposal). But reconstruction in the A-chain does not take place, so it appears." Chomsky (1995, p.327)
- (228) Under the null hypothesis that QL is precisely an A-movement reconstruction effect, some other way of resolving the apparent contradiction must be found.
- (229) In this connection, it must first be noted that it is not entirely clear precisely what the phenomenon of QL is. It is often taken as paraphrasability by a sentence with expletive subject, as perhaps intended in the May (1977) quotation in (224) above. Thus, the QL version of (230) is taken to be synonymous with (231).
- (230) Some politician is likely to address John's constituency
- (231) It is likely that some politician will address John's constituency
- (232) How general is the phenomenon?
- (233) No large Mersenne number was proven to be prime
- (234) Noone is certain to solve the problem
- (235) It was proven that no large Mersenne number is prime
- (236) It is certain that noone will solve the problem
- (237) Suppose there are five fair coins, flipped in a fair way:
- (238) Every coin is 3% likely to land heads
- (239) It is 3% likely that every coin will land heads
- (240) At least on the paraphrase characterization, then, there is reason to believe that Zubizarreta and Hornstein are correct in taking absence of low reading in an example like (241) to potentially argue for failure of Quantifier Lowering, and that Chomsky is correct that that absence is indicative of impossibility of reconstruction with A-movement.
- (241) everyone seems [t not to be there yet]
- (242) Could it be that there is no QL (and because there is no A-movement reconstruction)?
- (243) Interestingly, Postal (1974) claims exactly that a quantifier that has undergone subject raising to subject position invariably takes high scope, that is, that there is no QL.
- (244) Postal also suggests that the same is true for subject raising to object position, i.e., ECM constructions, but that seems much less clear.
- (245) First, there are the universal-negative interactions discussed above.
- (246) Second, quantificational subjects do seem to allow scope beneath ECM verbs, as in (247), which, in contrast to (248), has a pragmatically sensible reading.
- (247) The defense attorney proved none of the defendants to be guilty
- (248) None of the defendants were proved to be guilty by the defense attorney
- (249) What of May's (1985) widely cited argument that actual syntactic lowering must be involved in the second reading of examples like (223), repeated here.
- (250) Some politician is likely to address John's constituency
- (251) Such a 'lowered' reading for the quantifier is incompatible with the binding of a pronoun in the upper clause.
- (252) No agent_i was believed by his_i superior to be a spy for the other side
- (253) No large Mersenne number was proven to be prime
- (254) Noone is certain to solve the problem
- (255) Some professor_i is believed by his_i students to be a tyrant
- (256) *It is believed by his_i students that some professor is a tyrant
- (257) But what 'reading'? What can we really conclude from the fact that a particular sentence can't be paraphrased by another sentence that is ungrammatical?
- (258) Further:
- (259) Some professor is believed by his students to be a tyrant
- (260)a Howard Lasnik is believed by his students to be a tyrant
b Some professor (or other), I have no idea exactly who, is believed by his students to be a tyrant.
- (261) The context for (260)b might be the discovery of graffiti scrawled on the lavatory wall saying "Our professor is a tyrant". Or, it might just be the background knowledge that that's just the way things are in universities.
- (262) If, indeed, there is no A-movement reconstruction, why should that be?
- (263) Recall that for Chomsky, there is simply the stipulation that reconstruction is a property solely of operator-variable constructions. Further, the mechanism for instantiating the property - no deletion of traces in A-chains - does not seem to capture it at all.

- (264) Possible alternative: A-movement, unlike \bar{A} -movement, does not leave a trace, where a trace is, following Chomsky, a copy of the item that moves, and LF reconstruction effects result from failure to delete (a portion of) a lower copy.
- (265) \bar{A} -movement typically creates an operator-variable relation, so at least an 'initial' trace is necessary.
- (266) For A-movement, on the other hand, the trace is seemingly a theoretical excrescence. There are not two separate interpretive roles for a moved NP and its trace to fulfill.
- (267) Mary was elected and John was ~~elected~~ too
- (268) Mary was elected ~~Mary~~ and John was ~~elected John~~ too
- (269) "In the phonological component, traces delete. We have found no reason to extend that convention to the $N \rightarrow \lambda$ computation, and indeed cannot; were we to do so, θ -positions would be invisible at LF..." Chomsky (1995, p. 301)
- (270) Suppose that instead of being determined specifically at the LF level, θ -roles are 'checked' in the course of a derivation.
- (271) The absence of scope reconstruction would then follow from the fact that, plausibly, determination of scope is not satisfaction of a formal feature, but rather, is a matter of interpretation at the interface. [Note that this indicates that there is a specific level of LF, that information is not fed to the semantic component 'cyclically' in the course of the syntactic derivation. We will return to this.]
- (272) "...there should be no interaction between θ -theory and the theory of movement." Chomsky (1995, p.312)
- (273) In particular, according to Chomsky, movement can never create a θ -configuration.
- (274) In a theory with D-structure, this is virtually automatic. But within a minimalist approach where LF is assumed to be the sole interface with semantics, the consequence that " θ -relatedness is a 'base property'..." would be considerably more surprising and interesting.
- (275) "A θ -role is assigned in a certain structural configuration..."
- (276) If α raises to a θ -position Th, forming the chain $CH = (\alpha, t)$, the argument that must bear a θ -role is CH, not α . But CH is not in any configuration, and α is not an argument that can receive a θ -role. [p.313]
- (277) Apparent unintended consequence: A-movement of an argument should never be permitted (assuming that θ -role assignment is at LF).

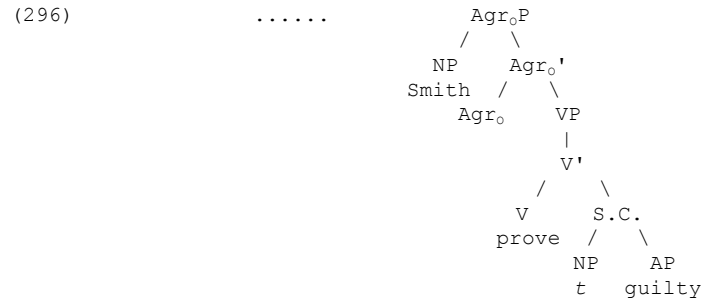
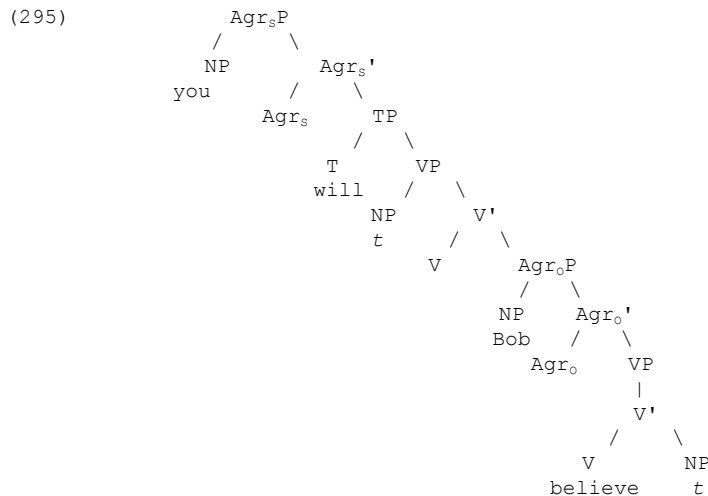
- (278) Alternatively, θ -roles are assigned prior to movement.
- (279) But then whether A-movement leaves a trace or not is irrelevant to θ -assignment.
- (280) In passing, I note that ironically, this conclusion undermines the argument against movement into a θ -position. If an A-trace is not only not helpful in the assignment of a θ -role, but would actually make such assignment impossible, then, obviously, the argument that such a trace must exist for θ -theoretic reasons fails. But if A-traces don't exist, then an argument will invariably be a single-membered chain no matter how many times it moves. Thus, even if it were to move into a θ -position, it would still be in a 'configuration' in the relevant sense, so the θ -role should be assignable.

IV. Feature Movement or Agreement at a Distance?

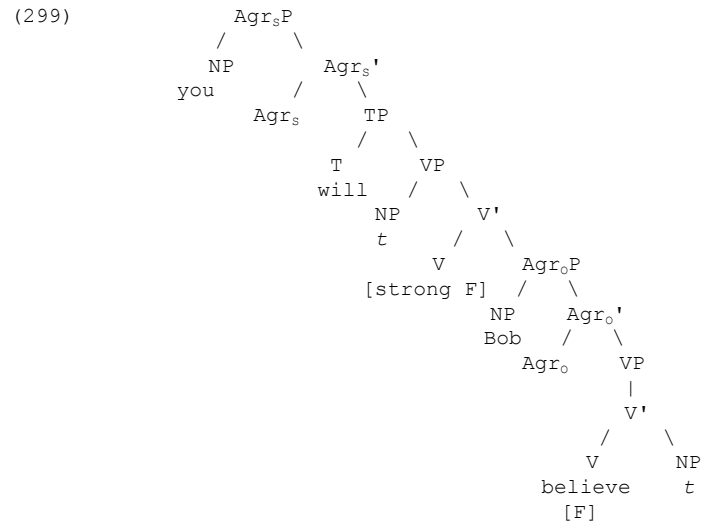
- (281) "The operation Move, we now assume, seeks to raise just F." Chomsky (1995, p. 262)
- (282) "...only PF convergence forces anything beyond features to raise." Chomsky (1995, p. 265)
- (283) "...simply define a strong feature as one that a derivation 'cannot tolerate': a derivation $D-\Sigma$ is canceled if Σ contains a strong feature..."
- (284) "A strong feature...triggers a rule that eliminates it: [strength] is associated with a pair of operations, one that introduces it into the derivation...a second that (quickly) eliminates it."
- (285) "For the most part - perhaps completely - it is properties of the phonological component that require pied-piping. Isolated features and other scattered parts of words may not be subject to its rules, in which case the derivation is canceled; or the derivation might proceed to PF with elements that are 'unpronounceable,' violating FI." Chomsky (1995)
- (286) "Just how broadly considerations of PF convergence might extend is unclear, pending better understanding of morphology and the internal structure of phrases. Note that such considerations could permit raising without pied-piping even overtly, depending on morphological structure..."
- (287) "In MP, Agree is analyzed in terms of feature-movement (Attract)...Here we...dispense with Attract...Checking reduces to deletion under matching..." Chomsky (in press, p.39)
- (288) "There is a single cycle; all operations are cyclic. Within narrow syntax, operations that have or lack phonetic effects are interspersed. There is no distinct LF component within narrow syntax...Agree alone, not com-

combined with Merge in the operation Move, can precede overt operations, contrary to the assumptions of MP and related work." Chomsky (in press, pp.48-49)

- (289) There are certain constructions where deletion of (a category containing) an item is an alternative to the normally obligatory raising of that item. Feature movement can provide the basis for an account of this.
- (290)a If you don't believe me, you will \emptyset the weatherman
 b I rolled up a newspaper, and Lynn did \emptyset a magazine
 c Kathy likes astronomy, but she doesn't \emptyset meteorology
 Levin (1978)
- (291)a The DA proved Jones guilty and the Assistant DA will ~~prove~~ Smith ~~guilty~~
 b ?John gave Bill a lot of money, and Mary will ~~give~~ Susan ~~a lot of money~~
- (292) You might not believe me but you will Bob
- (293) NP-raising to Spec of Agr_o ('Object Shift') is overt in English. [Koizumi (1993;1995), developing ideas of Johnson (1991)]
- (294) Pseudogapping as overt raising to Spec of Agr_o followed by deletion of VP. [Lasnik (1995a)]

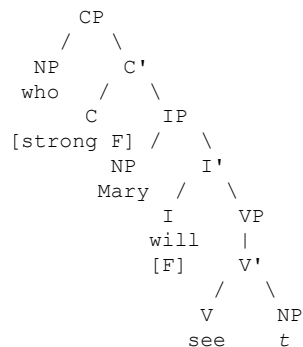


- (297) *You will Bob believe
 (298) *The Assistant DA will Smith prove guilty



- (300) Once the matching feature of the lower lexical V is 'attracted', the lower V becomes defective. A PF crash will be avoided if either pied-piping or deletion of a category containing the lower V (VP Deletion = Pseudogapping in the relevant instances) takes place.
- (301) Sluicing - WH-Movement followed by deletion of IP (abstracting away from 'split Infl' details). [Saito and Murasugi (1990), Lobeck (1990)]
- (302) Speaker A: Mary will see someone.
 Speaker B: I wonder who ~~Mary will see~~.
- (303) Speaker A: Mary will see someone.
 Speaker B: Who ~~Mary will see~~?

(304)



(305) *Who Mary will see?

(306) Who will Mary see?

(307) Assume that matrix interrogative C contains the strong feature, with the matching feature of Infl raising overtly to check it. This leaves behind a phonologically defective Infl, which will cause a PF crash unless either pied-piping or deletion of a category containing that Infl (Sluicing) takes place.

(308) How likely to win is John

(309) *How likely to be a riot is there Lasnik and Saito (1992), following Kroch and Joshi (1985)

(310) [How likely [PRO to win]] is John

(311) *[How likely [t to be a riot]] is there [out by Proper Binding Condition]

(312) *[How likely [t to be a man outside]] [\bar{c} is [_{IP} there ...]

(313) "a man" must replace "there" in LF (as in Chomsky (1986)), but this movement is illicit here, being sideways. Barss (1986)

(314) Expletive replacement cannot be correct, as shown by the paradigms considered earlier. But the essence of Barss's account can be maintained under the feature movement analysis: The agreement features of Infl must be checked, and "there" has no agreement features of its own.

(315) *[How likely [t to be a man outside]] [\bar{c} is [_{IP} there ...]



(316) No such account is available on the long distance agreement theory:

(317) There is [how likely [to be [a man outside]]]



(318) Note that this account, for better or for worse, thus demands a separate LF cycle for feature movement, as in the GB 'T-model'.

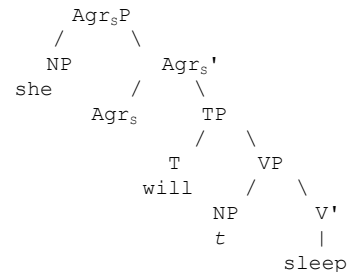
(319) [There is [very likely [t to be [a man outside]]]]



(320) Certain heads have a strong feature, demanding overt movement for checking. Chomsky (1995, Ch. 4)

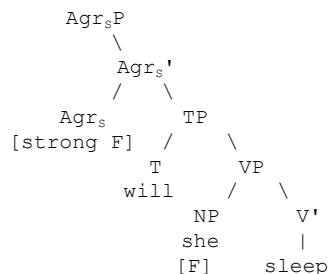
(321) Certain heads require Spec's. Chomsky (in press; 1981)

(322)



(323) Mary said she won't sleep, although she will ~~sleep~~

(324)

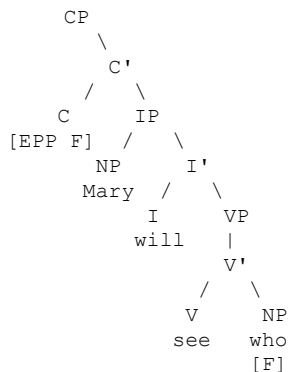


(325) *Mary said she won't sleep, although will ~~she sleep~~

(326) Agr (or T) requires a Spec. Even in a theory where feature movement exists, it does not suffice for Agr/T to check its 'EPP feature'.

(327) Mary will see someone. Tell me who ~~Mary will see~~.

(328)



(329) Mary will see someone. *Tell me ~~Mary will see who~~.

(330) Interrogative C requires a Spec. Even in a theory where feature movement exists, it does not suffice for C to check its 'EPP feature'.

Bibliography

Barss, Andrew. 1986. *Chains and anaphoric dependence: On reconstruction and its implications*. Doctoral dissertation, MIT, Cambridge, Mass.

Belletti, Adriana, and Luigi Rizzi. 1988. Psych-verbs and theta theory. *Natural Language and Linguistic Theory* 6: 291-352.

Bošković, Željko. 1994. D-structure, theta-criterion, and movement into theta-positions. *Linguistic Analysis* 24: 247-286.

Bošković, Željko. 1997. Coordination, object shift, and V-movement. *Linguistic Inquiry* 28: 357-365.

Bošković, Željko. 1997. Superiority and economy of derivation: Multiple Wh-fronting. WCCFL, U. of Washington.

Bošković, Željko. 1997. *The syntax of nonfinite complementation: An economy approach*. Cambridge, Mass.: MIT Press.

Bošković, Željko, and Daiko Takahashi. In press. Scrambling and last resort. *Linguistic Inquiry*.

Branigan, Philip. 1992. *Subjects and complementizers*. Doctoral dissertation, MIT, Cambridge, Mass.

Bresnan, Joan W. 1972. *Theory of complementation in English syntax*. Doctoral dissertation, MIT, Cambridge, Mass.

Chomsky, Noam, and Howard Lasnik. 1993. The theory of principles and parameters. In *Syntax: An international handbook of contemporary research*, Vol. 1, ed. Joachim Jacobs, Arnim von Stechow, Wolfgang Sternefeld, and Theo Vennemann, 506-569. Berlin: Walter de Gruyter

Chomsky, Noam. 1955. The logical structure of linguistic theory. Ms. Harvard University, Cambridge, Mass. and MIT, Cambridge, Mass. [Revised 1956 version published in part by Plenum, New York, 1975; University of Chicago Press, Chicago, 1985].

Chomsky, Noam. 1965. *Aspects of the theory of syntax*. Cambridge, Mass.: MIT press.

Chomsky, Noam. 1981. *Lectures on government and binding*. Dordrecht: Foris.

Chomsky, Noam. 1986. *Knowledge of language*. New York: Praeger.

Chomsky, Noam. 1991. Some notes on economy of derivation and representation. In *Principles and parameters in comparative grammar*, ed. Robert Freidin, 417-454. Cambridge, Mass.: MIT Press

Chomsky, Noam. 1991. Some notes on economy of derivation and representation. In *Principles and parameters in comparative grammar*, ed. Robert Freidin, 417-454. Cambridge, Mass.: MIT Press.

Chomsky, Noam. 1993. A minimalist program for linguistic theory. In *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*, ed. Kenneth Hale and Samuel J. Keyser, 1-52. Cambridge, Mass.: MIT Press

Chomsky, Noam. 1994. Bare phrase structure. MIT occasional papers in linguistics. Department of Linguistics and Philosophy, MIT, Cambridge, Mass.

Chomsky, Noam. 1995. Categories and transformations. In *The minimalist program*, 219-394. Cambridge, Mass.: MIT Press.

Chomsky, Noam. In press. Minimalist inquiries: the framework. In *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*, ed. Roger Martin, David Michaels, and Juan Uriagereka. Cambridge, Mass.: MIT Press.

den Dikken, Marcel. 1995. Binding, expletives, and levels. *Linguistic Inquiry* 26: 347-354.

Diesing, Molly. 1996. Semantic variables and object shift. In *Studies in comparative Germanic syntax*, Vol. II, ed. Höskuldur Thráinsson, Samuel David Epstein, and Steve Peter, 66-84. Dordrecht: Kluwer

Diesing, Molly. 1996. Semantic variables and object shift. In *Studies in comparative Germanic syntax*, Vol. II, ed. Höskuldur Thráinsson, Samuel David Epstein, and Steve Peter, 66-84. Dordrecht: Kluwer.

Epstein, Samuel D. In press. Un-principled syntax and the derivation of syntactic relations. In *Working Minimalism*, ed. Samuel D. Epstein and Norbert Hornstein. Cambridge, Mass.: MIT Press.

Fox, Danny. 1995. Economy and Scope. *Natural Language Semantics* 3: 283-341.

Groat, Erich. 1995. English expletives: a minimalist approach. *Linguistic Inquiry* 26:354-365.

Hornstein, Norbert. 1995. *Logical Form: From GB to minimalism*. *Generative Syntax*. Cambridge, Mass. and Oxford: Blackwell Publishers Inc.

Hornstein, Norbert. In press. Movement and control. *Linguistic Inquiry*.

Jayaseelan, Karattuparambil A. 1990. Incomplete VP deletion and gapping. *Linguistic Analysis* 20: 64-81.

Jayaseelan, Karattuparambil A. 1990. Incomplete VP deletion and gapping. *Linguistic Analysis* 20: 64-81.

Johnson, Kyle. 1991. Object positions. *Natural Language and Linguistic Theory* 9: 577-636.

Kayne, Richard. 1984. Principles of particle constructions. In

- Grammatical representation*, ed. Jacquelinen Guéron et al. Dordrecht: Foris
- Kayne, Richard. 1985. Principles of particle constructions. In *Grammatical representation*, ed. Jacqueline Guéron et al., 101-140. Dordrecht: Foris.
- Kim, Jeong-Seok. 1997. *Syntactic focus movement and ellipsis: A minimalist approach*. Doctoral dissertation, University of Connecticut, Storrs.
- Kitahara, Hisatsugu. 1992. Checking theory and scope interpretation without quantifier raising. In *Harvard working papers in linguistics* 1, 51-71.
- Koizumi, Masatoshi. 1993. Object agreement phrases and the split VP hypothesis. In *Papers on Case and Agreement I: MIT working papers in linguistics* 18, 99-148.
- Koizumi, Masatoshi. 1993. Object agreement phrases and the split VP hypothesis. In *Papers on Case and Agreement I: MIT working papers in linguistics* 18, 99-148.
- Koizumi, Masatoshi. 1995. *Phrase structure in minimalist syntax*. Doctoral dissertation, MIT, Cambridge, Mass.
- Kroch, Anthony, and Aravind Krishna Joshi. 1985. The linguistic relevance of Tree Adjoining Grammar. Report MS-CIS-85-16. Department of Computer and Information Science, Moore School, University of Pennsylvania, Philadelphia, Penn.
- Langacker, Ronald W. 1969. On pronominalization and the chain of command. In *Modern Studies in English*, ed. David A. Reibel and Sanford A. Schane, 160-186. Englewood Cliffs, N. J.: Prentice-Hall.
- Larson, Richard K. 1988. On the double object construction. *Linguistic Inquiry* 19: 335-391.
- Lasnik, Howard. 1972. *Analyses of negation in English*. Doctoral dissertation, MIT, Cambridge, Mass.
- Lasnik, Howard. 1976. Remarks on coreference. *Linguistic Analysis* 2: 1-22. [Reprinted in *Essays on anaphora*, Howard Lasnik, 90-109. Dordrecht, Kluwer, 1989]
- Lasnik, Howard. 1993. Lectures on minimalist syntax. UConn working papers occasional papers in linguistics. [Reprinted, with minor revisions, in *Minimalist Analysis*. Blackwell, 1999.]
- Lasnik, Howard. 1995a. A note on pseudogapping. In *Papers on minimalist syntax, MIT working papers in linguistics* 27, 143-163. [Reprinted, with minor revisions, in Lasnik (1999) *Minimalist Analysis*, Blackwell.]
- Lasnik, Howard. 1995b. Last resort. In *Minimalism and linguistic theory*, ed. Shosuke Haraguchi and Michio Funaki, 1-32. Tokyo: Hituzi Syobo. [Reprinted, with minor revisions, in Lasnik (1999) *Minimalist Analysis*, Blackwell.]
- Lasnik, Howard. 1995c. Last resort and attract F. In *Proceedings of the Sixth Annual Meeting of the Formal Linguistics Society of Mid-America*, ed. Leslie Gabriele, Debra Hardison, and Robert Westmoreland, 62-81. Indiana University, Bloomington, In.
- Lasnik, Howard. 1997. Levels of representation and the elements of anaphora. In *Atomism and binding*, ed. Hans Bennis, Johan Rooryck, and Pierre Pica, 251-268. Dordrecht: Foris
- Lasnik, Howard. 1998a. On a scope reconstruction paradox. Ms. University of Connecticut. Posted on 'Chomsky Celebration' web page.
- Lasnik, Howard. 1998b. Some reconstruction riddles. In *University of Pennsylvania Working Papers in Linguistics* 5(1), 83-98.
- Lasnik, Howard. 1999. Pseudogapping puzzles. In *Fragments: Studies in ellipsis*, ed. Elabbas Benmamoun, Hiroto Hoshi, and Shalom Lappin, 141-174. Oxford: Oxford University Press
- Lasnik, Howard. In press. Chains of arguments. In *Working minimalism*, ed. Samuel D. Epstein and Norbert Hornstein. Cambridge, Mass.: MIT Press.
- Lasnik, Howard, and Mamoru Saito. 1991. On the subject of infinitives. In *Papers from the 27th Regional Meeting of the Chicago Linguistic Society, Part I: The general session*, ed. Lise M. Dobrin, Lynn Nichols, and Rosa M. Rodriguez, 324-343. Chicago Linguistic Society, University of Chicago, Chicago, Ill. [Reprinted, with minor revisions, in Lasnik (1999) *Minimalist Analysis*, Blackwell.]
- Lebeaux, David. 1988. *Language acquisition and the form of the grammar*. Doctoral dissertation, University of Massachusetts, Amherst.
- Lebeaux, David. 1991. Relative clauses, licensing, and the nature of the derivation. In *Perspectives on phrase structure: Heads and licensing*, ed. Susan Rothstein, 209-239. San Diego, Calif.: Academic Press
- Lee, Rhanghyeyun K. 1993. Constraints on A-movement, negative polarity items licensing, and the checking theory. Paper presented at the 1993 Seoul International Conference on Generative Grammar, August 1993.
- Lee, Rhanghyeyun K. 1994. *Economy of representation*. Doctoral dissertation, University of Connecticut, Storrs.
- Levin, Nancy. 1978. Some identity-of-sense deletions puzzle me. Do they you. In *Proceedings of the Fourteenth Annual Meeting of the Chicago Linguistic Society*, 229-240. Chicago Linguistic Society, Chicago University, Chicago, Ill.
- Levin, Nancy. 1979/1986. *Main verb ellipsis in spoken English*. Doctoral dissertation, Ohio State University, Columbus. [Published 1986 by Garland, New York]
- Lobeck, Anne. 1990. Functional heads as proper governors. In *Proceedings of North Eastern Linguistic Society* 20, 348-362. GLSA, University of Massachusetts, Amherst.
- Martin, Roger. 1992. Case theory, A-chains, and expletive replacement. Ms., University of Connecticut, Storrs.
- 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.
- McCawley, James D. 1988. Review article on *Knowledge of language: Its structure, origin, and use*. *Language* 64: 355-365.
- Ochi, Masao. 1997. Move or Attract?: Attract F and the pied-piping chain. Open Linguistics Forum, Ottawa.
- Ochi, Masao. 1999. Some consequences of Attract F. *Lingua* 109: 81-107.

- Postal, Paul M. 1974. *On raising: One rule of English grammar and its theoretical implications*. Cambridge, Mass.: MIT Press.
- Ross, John Robert. 1969. Guess who? In *Papers from the Fifth Regional Meeting of the Chicago Linguistic Society*, ed. Robert I. Binnick, Alice Davison, Georgia M. Green, and Jerry L. Morgan, 252-286. Chicago Linguistic Society, University of Chicago, Chicago, Ill.
- Rudin, Catherine. 1988. On multiple questions and multiple wh-fronting. *Natural Language and Linguistic Theory* 6: 445-501.
- Saito, Mamoru, and Keiko Murasugi. 1990. N'-deletion in Japanese. In *University of Connecticut Working Papers in Linguistics* 3, ed. Javier Ormazabal and Carol Tenny, 87-107. University of Connecticut, Storrs.
- Takahashi, Daiko. 1994. *Minimality of movement*. Doctoral dissertation, University of Connecticut, Storrs.
- Tanaka, Hidekazu. 1999. Raised objects and superiority. *Linguistic Inquiry* 30: 317-325.
- Tancredi, Chris. 1992. *Deletion, deaccenting, and presupposition*. Doctoral dissertation, MIT, Cambridge, Mass.
- Uriagereka, Juan. 1988. *On government*. Doctoral dissertation, University of Connecticut, Storrs.
- Uriagereka, Juan. In press. Multiple spell-out. In *Working Minimalism*, ed. Samuel D. Epstein and Norbert Hornstein. Cambridge, Mass.: MIT Press.
- Watanabe, Akira. Wh-in-situ, Subjacency, and chain formation. In *MIT Occasional Papers in Linguistics* 2.
- Wynngaerd, Guido Vanden. 1989. Object Shift as an A-movement rule. In *MIT Working Papers in Linguistics Volume 11*.
- Zubizarreta, Maria Luisa. 1982. *On the relationship of the lexicon to syntax*. Doctoral dissertation, MIT, Cambridge, Mass.