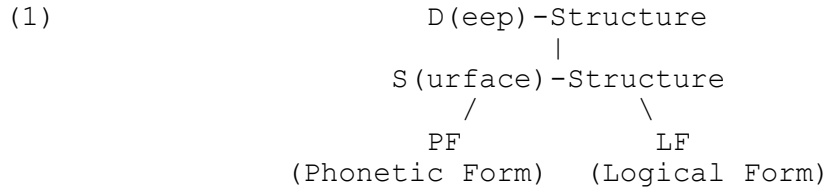


On Ellipsis: Generative Approaches to the Interpretation of Missing Constituents

Howard Lasnik
 University of Maryland
 lasnik@umd.edu

I. Background Chomsky and Lasnik (1977), Chomsky (1981)

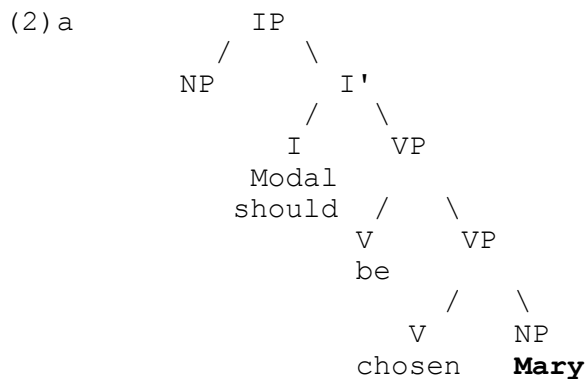


Items from the lexicon are inserted into the D-Structure in accord with their syntactic properties and semantic roles, including thematic (θ) relations (agent of..., patient of..., etc., roughly corresponding in simple cases to subject of..., object of...).

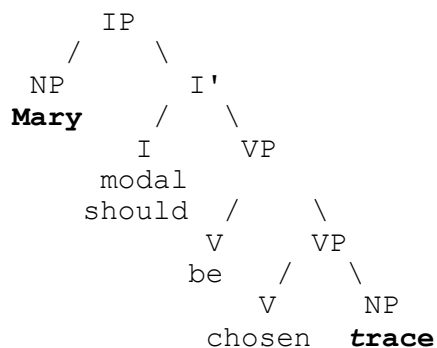
A. Movement

Transformations successively alter the D-Structure (the movement transformations leaving traces, markers indicated the position something moved from) eventually producing an S-Structure. For instance, in a passive sentence such as (2), the thematic object is transformationally displaced to subject position, as in the D-structure and S-structure given in simplified form in (2)a and b respectively. [Sentence = IP, the projection of the verbal inflectional element I which encodes tense and agreement information.]

(2) Mary should be chosen *t*(race)



(2)b

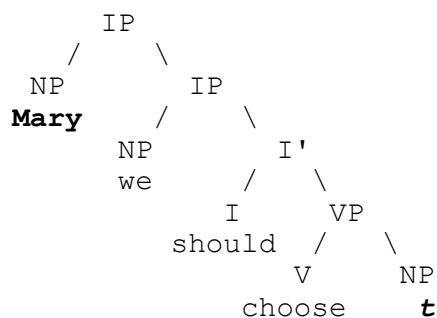


Transformations continue the derivation from S-structure to LF (in this instance producing no major changes). Phonological rules continue the derivation from S-Structure to PF (with the traces deleted).

The movement transformation just seen moves an NP to subject position. Some other transformations move NPs to a pre-subject position. Topicalization, as in (3), is one such.

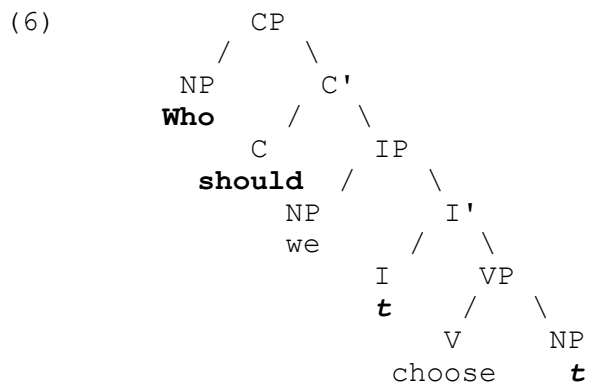
(3) *Mary, we should choose t*

(4)



One of the best studied constructions involves fronted interrogative expressions, as in (5). CP is Complementizer Phrase, where Complementizer is a mood and/or force marker. Who moves to 'specifier' of CP (WH-movement) and the modal auxiliary moves to C.

(5) *Who should we choose t*



B. Ellipsis

Another major target of syntactic investigation has been sentences with missing constituents. (7) illustrates VP ellipsis and (8) illustrates IP ellipsis (labeled Sluicing by Ross (1969)).

- (7) You should choose Mary and we should ~~choose Mary~~ too
 (8) We should choose someone, but I don't know who ~~we should choose t~~

As indicated with the strike-out notation, there is an 'identity' requirement relating the missing constituent and a linguistic antecedent. Thus, (8) cannot mean:

- (9) You should choose someone, but I don't know who we will fire

Given the organization of the grammar schematized in (1), there are two natural approaches to ellipsis. In one, 'PF deletion', the understood material in the ellipsis site is present throughout the syntactic derivation from D-Structure through S-Structure to LF. It is only eliminated by a deletion operation in the PF component. Thus, for all purposes except phonetic ones the elided material is in the structure.

In the alternative theory, 'LF copying', the elided constituent is absent throughout the derivation, being inserted only in the LF component. The two approaches can be summarized as:

- (10) PF deletion approach: Elided and corresponding non-elided sentences are identical except at the level of PF.
 (11) LF copying approach: Elided and corresponding non-elided sentences are identical only at LF.

Obviously, the two approaches are very close in their effects, seemingly making identical predictions about the 'observable' levels of PF and LF. However, there have been a number of arguments that seem to favor one or the other of the approaches. A critical survey of those arguments will be the major theme of this presentation.

II. A standard argument for LF copying: Missing ambiguities

A. Specific/non-specific ambiguities

- (12) Mary wants to catch a fish
- (13)a There is a certain fish that Mary want to catch
b Mary hopes her fishing is successful
- (14) (12) is two-ways ambiguous. But (15) is not four-ways ambiguous, only two. The interpretation of the ellipsis target must parallel that of the antecedent.
- (15) Mary wants to catch a fish and John does too
- (16) Suppose, as extensively argued by May (1977) among many others, that quantificational ambiguities are resolved by LF configuration. In particular, LF movement operations (movement between S-Structure and LF) create 2 different LF structures for (12), each corresponding to one of the 2 indicated readings. A fish is ultimately realized as a restricted existential quantifier and its trace as a variable bound by the operator. (PRO is the silent subject 'controlled' by the higher subject Mary.)
- (17)a [A fish] [Mary wants [PRO to catch t]]
b Mary wants [a fish [PRO to catch t]]
- (18) Then, the reasoning goes, the LF movement operation (Quantifier Raising - QR) takes place in the first clause of (15), and the resulting VP structure is copied into the missing VP position in the second clause.

B. Scope ambiguities with two quantifiers

- (19) Some linguist admires every philosopher
- (20)a For each philosopher, there is some linguist who admires him or her
b There is a linguist who has universal admiration for philosophers
- (21) Unsurprisingly, (22) has the same ambiguity:
- (22) Some psychologist admires every philosopher
- (23) Here again, combining (19) with an elliptical version of (22) gives a sentence that is not four-ways ambiguous:
- (24) Some linguist admires every philosopher and some psychologist does too
- (25) Some linguist₁ [every philosopher₂ [t₁ loves t₂]]
- (26) Every philosopher₂ [some linguist₁ [t₁ loves t₂]]
- (27) The same line of reasoning as in (18) could apply here as well.

C. Questions about the argument

- (28) The result crucially depends on a particular ordering of operations: First, movement in the antecedent, then copying the resulting structure. Does this follow from any deeper principle?
- (29) The copying process provides a trace (=variable) in the right position. But the moved item (=operator) is generally outside of the ellipsis site. So how does the elliptical clause get an operator?
- (30) Perhaps most importantly, the argument relies on the assumption that the parallelism phenomenon is a special property of ellipsis. But as already observed in Lasnik (1972), it arises with or without ellipsis. (See Tancredi (1992) for extensive discussion.)
- (31) Mary wants to catch a fish and John wants to catch a fish too
- (32)a There is a certain fish that Mary want to catch, and there is a certain fish that John wants to catch
b Mary hopes her fishing is successful, and John hopes his fishing is successful
- (33) Similarly for:
- (34) Some linguist admires every philosopher and some psychologist admires every philosopher too
- (35) Thus, the parallelism phenomenon doesn't tell us anything about ellipsis per se. In fact, as suggested by Chomsky and Lasnik (1993), it becomes a mild argument against an LF copying approach:
- (36) We need some principle, call it PARR, that gives parallel interpretation in the non-elliptical sentences. The null hypothesis would be that the same principle is at work in the elliptical sentences. But then an additional mechanism ensuring parallelism would be redundant.

III. Arguments for PF deletion

A. Sluicing and preposition stranding Ross (1969), as developed by Merchant (1999), Merchant (2001)

- (37) Some languages (mostly Germanic ones) allow WH-movement of the object of a preposition 'stranding' the preposition.
- (38) Who has Peter talked with *t*
- (39) Vem har Peter talat med *t* **Swedish**
- (40) Hvem har Peter snakket med *t* **Danish**

- (41) Other languages (the large majority) do not allow preposition stranding. (* indicates unacceptability.)
- (42) *Pjon milise me **Greek**
 who she.spoke with
- (43) *Kim je govorila Ana sa **Serbo-Croatian**
 who Aux spoken Ana with
- (44) Sluicing mirrors these properties, arguing, as noted by Ross and by Merchant, for an analysis involving movement followed by deletion. (*(xxx) indicates unacceptability if 'xxx' is absent.)
- (45) Peter was talking with someone, but I don't know who
- (46) Peter har talat med någon; jag vet inte (med) vem **Swedish**
 Peter has talked with someone I know not (with) who
- (47) Peter har snakket med en eller anden, men jeg ved **Danish**
 Peter has talked with one or another but I know
 ikke (med) hvem
 not (with) whom
- (48) I Anna milise me kapjon, alla dhe ksero *(me) pjon **Greek**
 the Anna spoke with someone but not I.know with who
- (49) Ana je govorila sa nekim, ali ne znam *(sa) kim **S-C**
 Ana Aux spoken with someone but not I.know with who

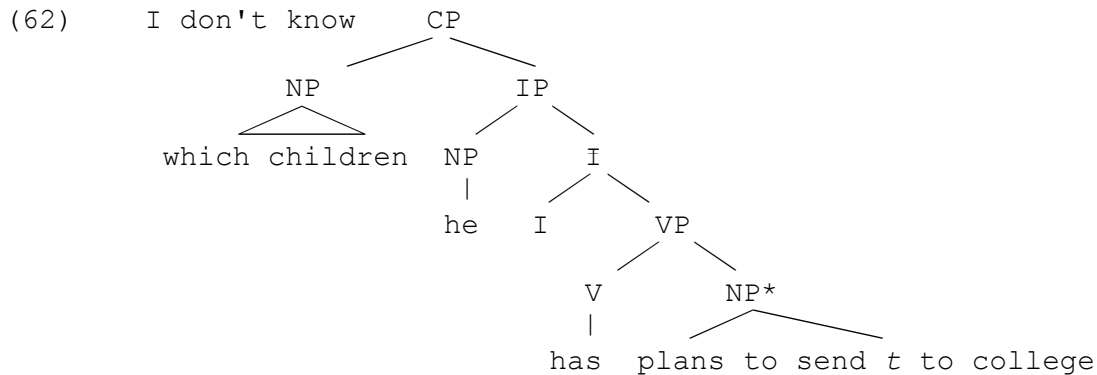
B. Case matching Ross (1969), as developed by Merchant (1999), Merchant (2001)

- (50) 'Case matching': In overtly Case inflected languages (such as German), the Case of the remnant is just what the Case of the fronted WH expression would have been in the non-elliptical form.
- (51) Er will jemandem schmeicheln, aber sie wissen nicht,
 he wants someone.DAT flatter but they know not
 *wer / *wen / wem
 who.NOM who.ACC who.DAT
 'He wants to flatter someone, but they don't know who.'
- (52) Sie wissen nicht *wer / *wen / wem er
 They know not who.NOM who.ACC who.DAT he
 schmeicheln will
 flatter wants
 'They don't know who he wants to flatter'
- (53) Er will jemandem loben, aber sie wissen nicht,
 he wants someone.DAT praise but they know not
 *wer / wen / *wem
 who.NOM who.ACC who.DAT
 'He wants to praise someone, but they don't know who.'

- (54) Sie wissen nicht *wer / wen / *wem er
 They know not who.NOM who.ACC who.DAT he
 schmeicheln will
 flatter wants
 'They don't know who he wants to flatter'

IV. Ellipsis and 'island violation' repair

- (55) Ross (1967) investigated many configurations ('islands') prohibiting movement from a position inside the island to a position outside of the island. As discussed by Ross (1969), and in much more detail by Merchant (1999), Merchant (2001), Sluicing greatly increases the acceptability of the examples.
- (56) I believe that he bit someone, but they don't know who (I believe that he bit)
- (57)a *I believe the claim that he bit someone, but they don't know who I believe the claim that he bit [Complex NP Constraint, noun complement]
 b(??)I believe the claim that he bit someone, but they don't know who
- (58)a *Irv and someone were dancing together, but I don't know who Irv and were dancing together [Coordinate Structure Constraint]
 b(??)Irv and someone were dancing together, but I don't know who
- (59)a *She kissed a man who bit one of my friends, but Tom doesn't realize which one of my friends she kissed a man who bit [Complex NP Constraint, relative clause]
 b(??)She kissed a man who bit one of my friends, but Tom doesn't realize which one of my friends
- (60)a *That he'll hire someone is possible, but I won't divulge who that he'll hire is possible [Sentential Subject Constraint]
 b(??)That he'll hire someone is possible, but I won't divulge who
 All above from Ross (1969)
- (61)a (*)I don't know which children he has plans to send to college
 b He has plans to send some of his children to college, but I don't know which ones Chomsky (1972)



(63) Chomsky suggests that * (# in Chomsky's presentation) is assigned to an island when it is crossed by a movement operation (the complex NP in (62)). An output condition forbidding * in surface structures accounts for the deviance of standard island violations.

(64) If a later operation (Sluicing in this case) deletes a category containing the *-marked item, the derivation is salvaged.

(65) For Chomsky (1972), the condition banning * applies at Surface Structure. The results are the same if, instead, it is a PF condition, as suggested by Lasnik (1995), Lasnik (2001).

(66) Chung et al. (1995) actually use island amelioration to argue for an LF copying approach: No movement so no island effects. But the P-stranding and Case-matching correlations seen above in Sluicing constructions argues strongly against that approach, particularly since, as discussed by Merchant, those effects show up even in island configurations:

(67) I mitera tou Giannis tha thimosi an milisi me kapjon
 the mom of Giannis FUT get.angry if he.talks with someone
 apo tin taksi tou, alla dhe thimame *(me) pjon **Greek**
 from the class his but not I.remember with who
 'Giannis's mom will get angry if he talks with someone from
 his class, but I don't remember who.'

(68) Sie will jemanden finden, der einem der Gefangenen
 she wants someone find who one.DAT of the prisoners
 geholfen hat, aber ich weiss nicht
 helped has but I know not
 *welcher / *welchen / welchem **German**
 which.NOM which.ACC which.DAT
 'She wants to find someone who helped one of the prisoners, but
 I don't know which.'

V. Antecedent contained deletion

(69) There is a major argument by May (1985), developing ideas of Sag (1976), that the identity needed for ellipsis is, in a particular kind of ellipsis construction, necessarily created by an LF operation raising a quantifier to its scope position. Ellipsis, then, couldn't be a PF phenomenon, given the model in (1).

- and Logical Form. *Natural Language Semantics* 3: 1-44.
- Hornstein, Norbert. 1994. An argument for minimalism. *Linguistic Inquiry*: 455-480.
- Lasnik, Howard. 1972. *Analyses of negation in English*. Doctoral dissertation, MIT, Cambridge, Mass.
- Lasnik, Howard. 1993. *Lectures on minimalist syntax* 1. University of Connecticut, Storrs.
- Lasnik, Howard. 1995. Notes on ellipsis. Forschungsschwerpunkt Allgemeine Sprachwissenschaft. Berlin.
- Lasnik, Howard. 2001. Derivation and representation in modern transformational syntax. In *Handbook of syntactic theory*, ed. Mark Baltin and Chris Collins, 62-88. Oxford: Blackwell.
- 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.
- Merchant, Jason. 1999. *The syntax of silence: Sluicing, islands, and identity in ellipsis*. Doctoral dissertation, University of California Santa Cruz, Santa Cruz.
- Merchant, Jason. 2001. *The syntax of silence: Sluicing, islands, and the theory of ellipsis*. Oxford: Oxford University Press.
- Ross, John Robert. 1967. *Constraints on variables in syntax*. Doctoral dissertation, MIT, Cambridge, Mass. Published as *Infinite syntax!* Norwood, N.J.: Ablex (1986).
- 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.
- Sag, Ivan. 1976. *Deletion and logical form*. Doctoral dissertation, MIT, Cambridge, Mass.
- Tancredi, Chris. 1992. *Deletion, deaccenting, and presupposition*. Doctoral dissertation, MIT, Cambridge, Mass.