

This a collection of handouts from 5 class lectures at MIT in Fall 1994. These lectures summarized material that was developed in a much longer set of lectures the previous semester, and extended the material somewhat in the direction of explaining pronunciation patterns under movement (specifically V-to-I). The notes from those lectures have proved comprehensible to some people who were not at these classes. Hopefully, these more recent handouts will also be of some interest to devotees, at least until I can write the material up in a more permanent form. Questions or comments are welcome at [pesetsk@mit.edu](mailto:pesetsk@mit.edu).

The earlier lectures included some commentary on Grimshaw's work concerning optimality and syntax, as will the future write-up of these notes. This discussion did not form part of the Fall lectures, for reasons of time -- but also because Grimshaw's paper is currently being revised for publication.

The Hebrew examples include some characters from the font SILDoulosIPA-Regular.

# *Optimality Principles of Sentence Pronunciation*

*Fall handouts 1994 (D.Pesetsky)*

## **0. Milestones of Syntax**

- A. Grammatical Relations
- B. Constituency
- C. Definition of A. in terms of B.

D: Unpronounced elements (zero morphemes, zero words)

E. Phrases bearing Multiple Grammatical Relations/Multiple Locations in Constituent-structure.

A million-dollar question:

How is the pronunciation of phrases bearing Multiple Grammatical Relations determined?

### **"Snapshot theories"**

--->**Farewell picture:** Last position occupied in a derivation (movement), if at all (deletion).

This demands a theory in which some ordering is established among members of a chain of positions occupied by a phrase:

- a. 1960s syntax: ordering defined by sequential steps of a derivation, the derivation a product of successive application of rules (e.g. derivation of *There was a linguist believed to have been given a book*).
- b. 1970s "Trace theory": Much the same, except that the target of movement c-commands the source whenever the source cannot be filled by a later rule (cf. analysis of passive in NP; *there/it* construction)
- c. Advanced trace theory: Target always c-commands the source.

Covert movement throws a monkey wrench in to this clean picture.

### **Pronunciation as a snapshot of most recent chain positions at an intermediate stage in the derivation of LF.**

- a. S-structure: A snapshot theory, but a snapshot of an intermediate stage in the derivation. The stage is defined as the point at which processes labeled "S-structure" have occurred, and processes labeled "LF" have not occurred.
- b. Minimalist: A snapshot theory, minimally differing from S-structure theories. The derivation is constructed so that as few movements as possible are performed ("Procrastinate") before the snapshot ("Spellout") is taken. The only movements that are performed before the snapshot is taken are those such that if they were not taken, they would spoil the film.
- c. Other possibilities: Derivation to PF is distinct from derivation to LF. Similarities arise from the existence of features that need to be checked to avoid crash at both PF and LF.

**Are there reasons to suspect that non-snapshot factors enter into sentence pronunciation?**

1. Pronunciation targetting multiple chain positions. (The question already arises under the copy theory of movement.)

a. WH-copying (Afrikaans; Guasti, Thornton, Wexler [?] et al.)

(from du Plessis 1977, LI 8.4:723-726, cited by Nunes on LINGUIST):

a. **Waaroor** dink jy **waaroor** dink die bure **waaroor** stry ons die meeste?  
'What do you think the neighbors think we are arguing about the most?'

b. **Met wie** het jy nou weer gese **met wie** het Sarie gedog **met wie** gaan Jan trou?  
'Whom did you say (again) did Sarie think Jan is going to marry?'

b. I-to-C: *Did John didn't buy the book.* (Guasti, Wexler, Thornton 1994)

2. Partial pronunciations:

a. Resumptive pronouns:

a. Ze ha-baxur Se- yida?ti 'et ha-'idiot Se-ha-more yaxSil 'oto.  
this the-guy that-I-informed ACC *the-idiot* that-the teacher will flunk him  
[strong Crossover if 'oto and *ha-'idiot* bound by the relative operator;  
Shlonsky 1992]

b. Sin an fear ar dhúirt an bastard go maródh sé muid.  
That the man COMP said the bastard COMP would-kill he us.  
[thusly, McCloskey 1990]

b. *do* support

3. Technical problems with particular versions of snapshot theories:

Bobaljik (1995): Object shift before spellout unless impossible (Procrastinate vs. Earliness)

Pesetsky (1989): Distribution of auxiliaries and main verbs ounterfactual inversion poses problems for the featural accounts of the positioning of Spellout.

Since we need additional conditions governing what in a chain is pronounced where over and above what is given by the positioning of the snapshot, we need to reexamine whether medial positioning of a snapshot is at all correct

**A recasting of the achievements of intermediate snapshot theories:**

a. PF is a pronunciation of LF (cf. Brody 1994)

b. A principle governing pronunciation is "Silent trace" (cf. Earliness).

c. Factors can limit the ability of Silent trace to be satisfied. We see:

1. minimal violation (resumptive pronoun, *do* + uninflected verb) when silent trace cannot be satisfied
2. greater freedom of pronunciation position when Silent trace cannot be satisfied

Pronunciation may not correspond to "last position moved to" even at some intermediate stage in the derivation.

*do*-deletion: principles of pronunciation that govern which members of a chain receive what pronunciation may be of a piece with principles that govern how elements are pronounced independent of movement.

First: a theory of how certain elements are pronounced independent of movement.

Next: how some of these same principles do work to solve the problem of pronunciation in case of movement.

## **1. Contradictions and Worries at the Boundaries of Linguistics**

### **Gap between:**

- a. the pieces of language revealed by *linguistic theory*, and
- b. the pieces of language that are selectively impaired in conditions that affect brain activity and function -- for example: after brain injury or in early childhood

### **Early language acquisition**

- (1) Go nursery...Lucy go nursery. (Stevie, 25 months)
- (2) Where girl go? (Claire, 24 months)

"[T]he striking fact about the utterances of the younger children, when they are approached from the vantage point of adult grammar, is that they are almost all classifiable as grammatical sentences from which certain morphemes have been omitted" (Brown and Fraser (1963))

### **Telegraphic Speech in agrammatic aphasia**

- (3) a. That about right, 10 a day. (J.F.)  
b. Thank you very much for allow me see you. (K.C.)  
c. She also, I would like to think, when makes a friend is probably a friend for life. (J.A.)

**The grammar of telegraphic speech**

**Category absent?** The functional categories that are unpronounced in telegraphic utterances are truly absent from the structures assigned to these utterances.

[NP Lucy] [ VP [V go ] [NP nursery]]

[Brown (1973); Lebeaux (1988); Guilfoyle & Noonan (1988); Radford (1990); Platzack (1989)]

**Category present but not pronounced?**

The functional categories that are unpronounced in telegraphic utterances are present in the structures assigned to these utterances. The lexical items that fill these categories are simply unpronounced: marked [+silent].

[IP [NP Lucy] [ INFL [ VP [V go ] [P  $\emptyset$  [DP the [NP nursery]]] ]]]

Gerken (passim.): Young children who omit functional categories in speech nonetheless distinguish utterances with and without functional categories, utterances with inappropriate functional categories, utterances with phonologically matched non-words substituting for functional categories.

Wexler and Poeppel (1992):

The use of infinitival instead of finite verbs in main clauses of German by a 25-month old child correlates with non-movement vs. movement to C (second-position placement of the verb) -- just as in older children and adults. As this result is replicated, we may conclude that German-speaking children at this age know about the finite/non-finite distinction and the correlation with verb-movement to C. (Likewise for I-to-C in English-speaking children with Specific Language Impairment, and somewhat telegraphic speech. [work in progress by Wexler and Rice])

Lonzi and Luzati (1993): Verb-movement to INFL in French and in Italian is appropriate in the linguistic knowledge and behavior of agrammatic aphasics. Infinitival verbs may precede or follow a certain class of adverbs (correlating with optional movement to INFL). Finite verbs always precede these adverbs. The Agrammatic studied reveal this knowledge, for example, through a word arrangement task, and in patterns of spontaneous speech.

- (4)a. Giovanni *mangia* sempre [ $t_V$  pesce]
- b. \*Giovanni sempre [mangia pesce]

- (5)a. PRO *mangiare* sempre [ $t_V$  pesce]
- b. PRO sempre [mangiare pesce]

(6) *A telegraphic speech constraint:*

**Telegraph:** Do not pronounce function words.

(7) Mark  $\alpha$  [+silent]. [= "deletion"]

(8) Telegraphic Grammar  $\approx$  Normal adult grammar + (6)

**Where is Telegraph in normal adult English (Italian, Russian, etc.)?**

***Optional omission of certain function words in adult normal speech***

(9) English

- a. John believes that it is snowing.
- b. John believes \_\_\_ it is snowing.

(10) Western Dialects of Japanese

- a. John-ga Koobe-ni iku te yuuta.  
John to-Kobe went that said  
`John said that he was going to Kobe`
- b. John-ga Koobe-ni iku \_\_\_ yuuta.  
[Saito (1986)]

***If Telegraph belongs to a system of absolute constraints, simultaneously satisfied...***

then Telegraph clearly plays no role in normal adult grammar for English, Italian etc.

***If Telegraph belongs to a system of ranked constraints, such that low-ranked constraints may be violated when this is necessary in order to satisfy more highly-ranked constraints ("Optimality Theory" [Prince & Smolensky (1994)])...***

then Telegraph may play a role after all in normal adult grammars.

We look for cases where functional categories are obligatorily suppressed *in certain circumstances* -- or for effects that might be attributable indirectly to obligatory suppression of a functional category.

## 2. Puzzles in the Standard French/Italian C-system

### Puzzle #1:

**French complementizers in embedded finite declarative clauses must be pronounced, except when SPEC,CP is filled by overt material, in which case they may be unpronounced.**

- (11) a. Je crois que Pierre a faim.  
I believe that Pierre is hungry.
- b. \*Je crois que Pierre a faim.

### Puzzle #2:

**In Standard French, complementizers in embedded finite clauses *must* be unpronounced when SPEC,CP is filled by overt material ("Doubly Filled COMP Filter" (Keyser (1975); Chomsky & Lasnik "Filters and Control" )**

- (12) a. \*Je me demande quand que Pierre arrivera. (Standard French)  
I wonder when that Pierre will come
- b. Je me demande quand que Pierre arrivera.

**Chomsky ("On WH Movement"), Chomsky and Lasnik:**

### (13) Free Deletion in C (updated)

Delete SPEC,CP or C, *when this does not violate recoverability* (loss of overtly expressed information):

### (14) Excluded by recoverability(13):

- a. \*Je me demande quand que Pierre arrivera.
- b. \*Je me demande quand que Pierre arrivera.

### (15) Doubly Filled COMP Filter (updated)

\* $\alpha$   $\beta$ , where  $\alpha$  occupies SPEC,CP and  $\beta$  is a C, and  $\alpha$  and  $\beta$  are overt.

### Puzzle #3:

**In French WH constructions (relatives and interrogatives [presumably]), the contents of SPEC,CP *must* be deleted "up to recoverability" (Kayne (1976)).**

### Puzzle #4:

**When the contents of SPEC,CP are deleted (Puzzle #3), the complementizer must be pronounced (c f. puzzle #1) [and not otherwise, by the Doubly Filled COMP Filter].**

- (16)a. \*l'homme qui que je connais (DFC) `the man who that I know`  
b. \*l'homme qui que je connais (Puzzle #3)  
c. l'homme qui que je connais

- d. \*l'homme qui que je connais (Puzzle #4; cf. Puzzle #1)
- (17) a. \*l'homme avec qui que j'ai dansé (DFC) `the man with whom that I danced`  
 b. l'homme avec qui que j'ai dansé  
 c. \*l'homme avec qui que j'ai dansé (Recoverability)  
 d. \*l'homme avec qui que j'ai dansé (Recoverability and Puzzle #4)
- (18) **What is going on (informally):**  
 Look at everything you can delete in the C-system. If there is a pattern of recoverable deletion that allows the complementizer to be *pronounced at the Left Edge* of CP, choose that pattern over all others. If there is no such pattern, choose a pattern in which the complementizer is not pronounced at all.
- (19) **Principles of Optimality Theory**  
 (Prince and Smolensky (1993);  
 text below from Prince and McCarthy (1993) "Generalized Alignment")
- a. Violability: Constraints are violable, but violation is minimal.
- b. Ranking: Constraints are **ranked** [on a language-particular basis]; the notion of minimal violation is defined in terms of this ranking.
- c. Inclusiveness: The constraint hierarchy evaluates a set of **candidate analyses** that are admitted by very general considerations of structural well-formedness.
- (20) "To best-satisfy a system of ranked well-formedness constraints means the following. Except for ties, the candidate that passes the highest-ranked constraint is the output form. A tie occurs either when more than one candidate passes the highest-ranked constraint or when all candidates fail the highest-ranked constraint...(Constraint violation is therefore not necessarily the end of a candidate's chances: failure on a constraint can be fatal only when there are other competitors that pass it.) In case of ties, all surviving candidates are tested recursively against the rest of the hierarchy. Once a victor emerges, the remaining, lower-ranked constraints are irrelevant; whether the sole surviving candidate obeys them or not does not affect its grammaticality. Likewise, the evaluation of failed candidates by lower-ranked constraints is also irrelevant; no inferences about degree of deviation from grammaticality can be drawn from further inspection of the failed candidates." (*ibid.*; for applications to syntax cf. Grimshaw (1993); Legendre and Smolensky (1993)).
- (21) **"Deletion" = Mark a category [+silent] (e.g. as traces are marked under the copy theory of movement (Chomsky 1992)**
- (22) **Candidate set**: Maximal set of otherwise identical phrase-markers (S-structure) to which different patterns of deletion have applied.

**Free deletion subject to:**



- a. **Recoverability**
- b. **Left Edge(C):** A complementizer must be pronounced, and must be pronounced at the left edge of CP.
- c. **Telegraph:** A function morpheme (e.g. C) must be unpronounced.

(23) **Ranking:** Recoverability >> LE(C) >> Telegraph

**Graphic conventions for displaying constraint interaction in Optimality phonology:**

1. constraints are written in their domination order;
2. violations are marked by "\*";
3. fatal violations are also signalled by "!";
4. shading emphasizes the irrelevance of a constraint to the fate of a candidate; a loser's cells are shaded after a fatal violation; the winner's, when there are no more competitors.

**Re: Puzzle #1 (Obligatory Declarative que)**

(24)

	RCV	LE (C)	TEL
Je crois que Pierre a faim. <span style="float: right;">↗</span>			*
*Je crois que Pierre a faim.		*!	

**Re: Puzzle #2 (Doubly Filled COMP Filter)**

(25)


	RCV	LE (C)	TEL
*Je me demande quand que Pierre arrivera.		*	*!
Je me demande quand que Pierre arrivera. <span style="float: right;">↗</span>		*	
*Je me demande quand que Pierre arrivera.	*!		*
*Je me demande quand que Pierre arrivera.	*!	*	

Doubly-Filled COMP effect "emerges" from the interaction of LE(C) and TEL.

**Re: Puzzles #3 and #4 (WH in relative deleted up to recoverability, and complementizer must be pronounced)**


[WH deletes **precisely because** deletion enables the complementizer to be pronounced -- and pronounced at the Left Edge of CP to boot!]

(26)

	RCV	LE (C)	TEL
*l'homme qui que je connais		*!	*
*l'homme qui que je connais		*!	
l'homme qui que je connais 			*
*l'homme qui que je connais		*!	

**Recoverability:**


(27)

	RCV	LE (C)	TEL
*l'homme avec qui que j'ai dansé		*	*!
l'homme avec qui que j'ai dansé 		*	
*l'homme avec qui que j'ai dansé	*!		
*l'homme avec qui que j'ai dansé	*!		

**Where's the explanation?**

1. A place for Telegraphic speech in the grammar of normal adults.
2. LE(C) is "reasonable": marking the beginning of CP with its head.
3. High-ranked LE(C) by itself yields both obligatory deletion of recoverable SPEC,CP and the obligatory pronunciation of que in declaratives.
4. LE(C) >> TEL yields Doubly Filled COMP Filter in all contexts -- plus solves a problem from Rizzi (*Rel. Min.*):

(28)

	RCV	LE (C)	TEL
*Avec qui as-tu dansé?		*	*!
Avec qui as-tu dansé? 		*	

Assume inflected V left-adjoins to C or substitutes for C. Questions answered (by the system already proposed):

1. Why do we not find forms like *as-que* under I-to-C?
2. Why do we not see overt C raising to a higher head?
3. Why is there no Doubly-Filled COMP interaction between SPEC,CP and V-in-C?

Right-adjunction of I to C would not motivate deletion of the complementizer (if right-adjunction is entertainable, contra Kayne's LCA): Irish

### 3. The Modern English C-system

**Unlike French:**

- Optional deletion of *that* in embedded declaratives
- Free deletion of *wh*, *that*, or both in relative clauses

**Like French:**

- Doubly-Filled COMP effects with movement to SPEC,CP
- \**as-que*//\**has-that* in C
- No Doubly-Filled COMP effect in I-to-C constructions

LE(C) and Telegraph are  tied  (equally ranked ). Otherwise, as in French.

Modern English: RCV >> LE(C) <> TEL

A < > B >> C =

submit the winners of A >> B and the winners of B >> A to C.

**English Puzzle #1: Optional *that*-deletion**

(29)

		RCV	LE (C)	TEL
I believe that Peter is hungry.	☞			*
I believe <del>that</del> Peter is hungry.	☞		*	




The explanation for optional *that*-deletion dovetails with the explanation for the absence of obligatory deletion "up to recoverability" in finite relative clauses, i.e. the difference in obligatoriness of *that* and the absence of the French pattern for relative clauses correlate.


**English Puzzle #2: Doubly-Filled COMP Effects**

Doubly-Filled COMP Filter still follows as in French, since violating both LE(C) and TEL will lose to a violation of one but not the other.


**English Puzzle #3: Contrast with French Relative Clauses**

The tie allows free deletion of *that* even in relative clauses, in addition to deletion of WH found in French:

(30)	RCV	LE (C)	TEL
*every book which that I read t		*	*!
every book which <del>that</del> I read t 		*	
every book <del>which</del> that I read t 			*
every book <del>which</del> <del>that</del> I read t 		*	

(31)	RCV	LE (C)	TEL
*every book about which that I spoke t		*	*!
every book about which <del>that</del> I spoke t 		*	
every book <del>about</del> <del>which</del> that I spoke t	*!		*
every book <del>about</del> <del>which</del> <del>that</del> I spoke t	*!		

**I-to-C behaves as in French:**

(32)	RCV	LE (C)	TEL
*What did- <del>that</del> Sue read t?		*	*!
What did- <del>that</del> Sue read t? 		*	

#### 4. Low Ranking for the ECP

##### ECP Effects on Deleted complementizers (Stowell 1981; Kayne "ECP Extensions")

- (33)a. Sue believes [that the world is round].  
 b. Sue believes [~~that~~ the world is round].  
 c. [That the world is round] is believed by everyone] .  
 d. \*[That the world is round] is believed by everyone]

- (34)a. John-ga [Koobe-ni iku *te*] yuuta.  
 John [to-Kobe went that] said  
 'John said that he was going to Kobe'

- b. John-ga [Koobe-ni iku ~~*te*~~] yuuta.  
 c. [Koobe-ni iku *te*] John-ga \_\_ yuuta.  
 d. \*[Koobe-ni iku ~~*te*~~] John-ga \_\_ yuuta.

##### Why no effect when SPEC,CP is filled?

- (35) a. \*[When that Peter will come] is unknown.  
 b. [When ~~that~~ Peter will come] is unknown.

##### Proposal for English: RCV >> LE(C) < >TEL >> ECP

ECP now irrelevant in subject questions.

A doubly-filled COMP violation is always worse than an ECP violation, since it arises from more highly ranked constraints:

(36)

	RCV	LE (C)	TEL	ECP
*[When that Peter will come] is unknown.		*	*!	
[When <del>that</del> Peter will come] is unknown.		*		*

↑  
irrelevant!

(37)

	RCV	LE (C)	TEL	ECP
*[Quand que Pierre viendra] est inconnu.		*	*!	
%[Quand <del>que</del> Pierre viendra] est inconnu.		*		*

**But:** the ECP decides the tie for finite declaratives, where there is no issue of a doubly-filled COMP violation. The key is that "deletion" makes a category subject to the ECP:

(38)

	RCV	LE (C)	TEL	ECP
[That the world is round] is believed by everyone]			*	
*[That the world is round] is believed by everyone]		*		*!

↗  
very relevant!

## 5. English Infinitival Relatives

### Puzzle #1:

Like French finite (and non-finite) relatives:  
deletion of wh up to recoverability  
Doubly-Filled COMP effect.

### Puzzle #2:

**\*for to (Chomsky and Lasnik "Filters and Control")**

- (39) a. \*a book which for PRO to read t  
 b. \*a book which ~~for~~ PRO to read t  
 c. \*a book ~~which~~ for PRO to read t  
 d. a book ~~which~~ ~~for~~ PRO to read t

- (40) a. \*a topic on which for PRO to work t  
 b. a topic on which ~~for~~ PRO to work t  
 c. \*a topic ~~on~~ ~~which~~ for PRO to work t  
 d. \*a topic ~~on~~ ~~which~~ ~~for~~ PRO to work t

**Modern English: RCV >> LE(to) >> LE(C) ∨ TEL >> ECP**

(41)

	RCV	LE (to)	LE (C)	TEL	ECP
*a book which for PRO to read t		*!	*	*	
*a book which <del>for</del> PRO to read t		*!	*		
*a book <del>which</del> for PRO to read t		*!		*	
a book <del>which</del> <del>for</del> PRO to read t ↗			*		

(42)

	RCV	LE (to)	LE (C)	TEL	ECP
*a topic on which for PRO to work t		*	*	*!	
a topic on which for PRO to work t		*	*		
*a topic on which for PRO to work t	*!	*		*	
*a topic on which for PRO to work t	*!		*		

### 6. Stacked Relatives: ECP effects on SPEC,CP

Relative clauses as in (30) **should** show a pattern of ECP effects deciding the tie in favor of *every book that I read* if such relative clauses are not head-governed and if C is the only category in the C-system to generate ECP effects.

Assume: relative clauses as in (9) are head-governed.

But **stacked** relatives are not head-governed, and show ECP effects for C and SPEC,CP:

(43)

	RCV	LE (C)	TEL	ECP
*the person who you invited <b>who that we know</b>		*	*!	
the person who you invited <b>who that we know</b>		*		C *
the person who you invited <del>who</del> <b>that we know</b>			*	SPEC,CP*
*the person who you invited <del>who</del> <b>that we know</b>		*		C * SPEC,CP *!

**Verbal description:** Obligatory deletion of either *who* or *that*. Each leaves one non-head-governed empty position in the CP-system (SPEC or head), and each satisfies one of LE(C) and TEL. So both are options. On the other hand, deleting both yields 2 head-government violations, and thus loses.

(44) **if LE(to) >> LE(C) and LE(C) >> ECP, then no stacked relative effects for infinitival relatives:**

- a. \*One possible book [that I own] [~~which that~~ you might work on *t* for the exam] is *War and Peace*.
- b. One possible book [that I own] [~~which for~~ PRO to work on *t* for the exam] is *War and Peace*.

[Possible extension to incompatibility of  $\emptyset$ - $\emptyset$  relatives with RC-internal topicalization.]

Absence of subject-object effects with *for*-deletion

	RCV	LE (to)	LE (C)	TEL	ECP
*[for PRO to win the lottery] would shock me		*!		*	
*[fɔr PRO to win the lottery] would shock me			*		*

**7. Sentence Grammar is not just one thing: how to CRASH**

(45)

	RCV	LE (to)	LE (C)	TEL	ECP
a. *a book which for Mary to read t		*	*	*!	
b. *a book which fɔr Mary to read t		*	*		
c. a book whieh for Mary to read t		*		*	
d. *a book whieh fɔr Mary to read t		*	*		



OK b, d: erroneous conclusions that can be pared down by Case

Case could be high or low in non-pied-piped infin relatives to pare down the output:

**Ineffability and pied piping:**

(46)

	RCV	LE (to)	LE (C)	TEL	ECP
*a topic on which for Mary to work t		*	*	*!	
*a topic on which fɔr Mary to work t		*	*		
*a topic ɔn-whieh for Mary to work t	*!	*		*	
*a topic ɔn-whieh fɔr Mary to work t	*!		*		

**CRASH!**

**The facts:** There is no acceptable output from *a topic on which for Mary to work*.

**Conclusion:** We need the Case Filter to stand outside the Optimality System. We need it to crash derivations that otherwise exit the Optimality System successfully.



## **8. Telegraph beyond the complementizer**

### **More on LE(to)?**

- (47)a. \*Sue wagered [Bill to be a fool].  
b. Bill was wagered [t to be a fool].  
c. Bill, who Sue wagered [t to be a fool]...  
d. Sue wagered [t to be a fool] every student who had taken the exam.  
(Postal, On Raising)

- (48)a. \*Sue claimed [Bill to be a fool].  
b. Bill was claimed [t to be a fool].  
c. Bill, who Sue claimed [t to be a fool]...  
d. Sue claimed [t to be fools] every student who had taken the exam.  
e. Sue claimed [PRO to be a fool]

Why are (3Ca) and (4Ca) bad?

Perhaps *to* deletes to satisfy TEL when LE(*to*) cannot be satisfied because of an overt SPEC,IP. *To* may play a role in checking features of VP (Fabb, diss.), in which case deletion of *to* may crash the derivation.

*To* deletion would only occur when recoverable. This explains presence of tense or modal semantics in infinitival clauses with filled SPEC,CP or SPEC,IP (e.g. infinitival questions, infinitival relatives).

(49)	RCV	LE (to)	LE (C)	TEL	ECP	
*Sue wagered Bill to be a fool		*		to:*		
*Sue wagered Bill t <sub>θ</sub> be a fool		*				CRASH

(50)	RCV	LE (to)	LE (C)	TEL	ECP
Sue wondered what to+SEMANTICS do					
*Sue wondered what t <sub>θ</sub> +SEMANTICS do	*!				

### 9. ECM

We have just ruled out ECM when *to* lacks semantics. Yet ECM exists with infinitives whose semantics like like those in (56).

(51) **ECM subject must leave CP, or else to must be able to move to C**

- a. Sue believed [Bill to be a fool].
- b. Bill was believed [t to be a fool].
- c. Bill, who Sue believed [t to be a fool]

This could be movement to SPEC, VP à la Johnson "Object Positions" (*NLLT*), with V-to-AgrO, or else movement to SPEC of some other phrase.

Cf. Postal *On Raising*:

- (52)a. I believe John with all my heart to be the guilty party.
- b. We hold these truths, when we consider the matter, to be self-evident.

**If the ECM subject is in search of Case, then a non-NP subject of an ECM infinitive (which does not need Case) should re-generate the properties of a wager-class verb:**

(53) Locative Inversion

- a. \*Sue believed [in this corner to have stood an antique vase of great value].
- b. This is the corner in which Sue believed [t to have stood an antique vase of great value].

## 10. How many LE conditions?

(54) LE(f): A functional head must be spelled out at the left edge of CP.

"This could be spelled out in the format of "Generalized Alignment" (Prince and McCarthy (1993)) as *Align (l, CP, l, Func-head)* to mean align every left edge of a CP with some left edge of a functional head. Note that (54) might be worth generalizing to (i) if we assume that CP is the relevant "extended projection" of all heads on the way from VP to CP in the sense of Grimshaw (1991).

- (i) Le(x<sup>0</sup>): At the left edge of every XP, an x<sup>0</sup>, of which the XP is an extended projection, must be spelled out."  
(Fox 1994)

Assume as before:

1. deletion of *for, that* does not violate recoverability
2. deletion of *to* in infinitival relatives does violated recoverability
3. non-deletion of *for/to* violates TEL

LE(f) requires *for* or *to* to occupy LE of CP. This yields WH-deletion Optimality would then prefer that the other one be deleted. Recoverability prevents *to* (here) from being deleted. So the optimal choice involves deleting *WH* and *for*, with *to* at the LE of CP.

**LE(f): Left edge of CP is a pronounced functional element on the path from V to C. Align (l, CP, l, Func-head)]**

(55)

	RCV	LE (f)	TEL	ECP
*a book which for PRO to read t		*	*	
*a book which for PRO to read t		*	*	
*a book which for PRO to read t			**	
a book which for PRO to read t →			*	

(56)

	RCV	LE (f)	TEL	ECP
*a topic on which for PRO to work t		*	**	
a topic on which for PRO to work t →		*	*	
*a topic on which for PRO to work t	*!		**	
*a topic on which for PRO to work t	*!	*	*	

## 11. LE(tensed verb) - *That-trace*

### that-trace pure and simple

**LE(finite verb)**

Assume that tensed inflection cannot recoverably delete. Then LE(fin) could only have the effect of deleting deletable material to its left.

(57) **Sue, who I believe (\*that) t likes Mary.**

This results from LE(fin) deciding the tie between LE(C) and TEL. Here it is hard to tell where LE(fin) is ranked in a language with optional that-deletion, since it will make the distinction on either side of the tie.

(58)

	LE (C)	TEL	LE (fin)
*who I believe that t likes Mary		*	*!
who I believe <del>that</del> t likes Mary <span style="font-size: small;">↗</span>	*		

(59)

	LE (fin)	LE (C)	TEL
*who I believe that t likes Mary	*!		*
who I believe <del>that</del> t likes Mary <span style="font-size: small;">↗</span>		*	

[For object extraction, LE(fin) makes no decision. Culicover (1992) on long adverbs.]

Low ranking for LE(fin) in a language where *that* does not normally delete will yield *that-trace* violations. [German]

High ranking for LE(fin) in such a language will yield *that-deletion* only when necessary to avoid a *that-trace* violation: are there cases of this?

### **Why don't we Crash whenever we have a preverbal subject in IP?**

As long as LE(fin) is tensed, we have no deletion under recoverability.

### **Dutch: that-trace effects**

If *that-trace* has an optimality character, we should find that it rears its head only when there is some way for finite V to be first in CP (e.g. by C-deletion).

In English, this will be the case (ignoring adverbs and negation) whenever the subject is extracted.

In an SOV language, we will need both a missing subject \*and\* a missing pre-verbal object to generate an effect (Bennis (1984); Marcel den Dikken, Edith Kaan, Jan-Wouter Zwart, p.c.)

Direct object/er/intransitives

(60)a. Wie denk je dat \_\_\_ er komt?  
who think you that \_\_\_there comes

b. \*Wie denk je dat \_\_\_ komt?

(61) Wie denk je dat \_\_\_ het boek zag?  
the book saw

PP-over-V

(62)a. ?Wie denk je dat \_\_\_ aan het eten had gedacht?  
about the food has thought

b. \*\*Wie denk je dat \_\_\_ had gedacht aan het eten?

(63)a. Wat denk je dat in Den Haag zetelt  
resides

b. ??Wat denk je dat zetelt in Den Haag

(64) a. OK Wie denk je dat van Marie houdt  
Who think you that of Mary holds (that loves Mary)

b. ?? Wie denk je dat houdt van Marie (same effect)

V-raising

(65)a. ?\*Wie denk je dat komt?

b. OKWie denk je dat komen zal?

c. ?Wie denk je dat zal komen?

**What's the star-generating mechanism? *That*-deletion in principal OK in Dutch (let's say), but this crashes without I-to-C, which itself crashes in embedded contexts.**

## **12. Movement - towards a theory**

### **Movement leaving a pronoun:**

Certain aspects of movement theory *seem* to belong in the optimality system (Grimshaw 1993). But placing them in the optimality system raises so much complexity that one wonders if the move is correct -- e.g. concerning pied piping.

Suppose (for the moment) that A-bar movement always leaves behind a pronoun, which may be deleted under recoverability.

### **Perlmutter's "Shadow Pronoun Hypothesis":**

1. Movement leaves behind a *shadow pronoun*.
2. Shadow pronouns are subsequently deleted.
3. The rule that deletes shadow pronouns is what obeys Ross's island constraints.

[His evidence:

quantifier float from PP trace tracks quantifier float from cliticized pronouns.]

**Entails:** Resumptive pronouns result from movement where shadow pro-drop is impossible.

**An Optimality View:**

1. Assume the Shadow Pronoun Hypothesis.
2. The candidate set includes pronounced and unpronounced pronouns.
3. Suppose island conditions are constraints on the relation between **a binder and a gap** -- i.e. a [+silent] element. Then

Satisfy island conditions >> Silent trace

is the characterization of **resumptive pronouns as a last resort** (quite close to Perlmutter's theory).

If *pro* of pro-drop may function as a resumptive (Perlmutter, Rizzi):

drop-pronoun >> satisfy island conditions >> silent trace

where "drop-pronoun" is whatever forces pro-drop (Telegraph?).

**Shadow Pronoun Hypothesis conflicts with copy theory of movement (Chomsky "Minimalist Program"):**

(66) [Which picture of John<sub>i</sub>] did he<sub>i</sub> like *which picture of John<sub>i</sub>*

**Reconciliation of the Shadow Pronoun Hypothesis with the copy theory of movement:**

Pronoun is a **pronunciation** of  $\phi$ -features of a DP. It is a pronunciation of some, but not all features of its antecedent.

**The more features of a category K that are pronounced in a trace position, the greater the violation of Minimize Trace.**

Then we can maintain the copy theory of movement, and simply view resumptive pronouns as the copy in the base position *pronounced minimally*.

**The model:**

PF as the pronunciation of LF (cf. Brody *passim.*, Groat (Harvard ms.)).

WH-in-situ: Move WH, but something prevents pronunciation of WH in its raised position. (Cf. Watanabe.)

Note that the optimality system still does not directly regulate movement: only the clues we get to movement from PF.

### 13. Resumptive Pronouns in Modern Hebrew (Fox 1994)

#### Hebrew as French

#### **Undeletable complementizer in declaratives:**

- (67) dani amar \*(še) david yavo maxar.  
 dani said \*(that) david will-come to-morrow.

Borer (1984): dropping of the complementizer in RC is licensed iff a pronoun is present pre-IP.

- (68) a. ha-ʔiš [CP (še) oto [IP dani mekir]]  
 The man (that) him dani knows  
 'The man who Dani knows'

- b. ha-ʔiš [CP \*(še) [IP dani mekir (oto)]]  
 The man \*(that) dani knows (him)  
 'The man who Dani knows'

- (69) a. ha-ʔiš [CP (še) \*(alav) [IP dani diber]]  
 The man (that) \*(on-him) dani spoke  
 'The man about whom Dani spoke'

- b. ha-ʔiš [CP \*(še) [IP dani diber \*(alav)]]  
 The man (that) dani spoke \*(on-him)  
 'The man about whom Dani spoke'

#### Analysis:

1. Še deletable as in French -- only when overt material precedes it in CP.
2. The relative operator moves to SPEC,CP and is a pronoun.
3. MinTrace excludes pronunciation of the pronoun outside of SPEC,CP.

#### Še + pronoun is a resumptive construction

(70) From Doron (1982)

- a. [ha-ʔiša<sub>2</sub> [še kol iš<sub>1</sub> yivxar t<sub>2</sub>]] tišlax lo<sub>1</sub> tmuna  
 the-woman<sub>2</sub> [that every man<sub>1</sub> will-choose t<sub>2</sub>] will-send him<sub>1</sub> a picture.
- b. \*[ha-ʔiša<sub>2</sub> [še kol iš<sub>1</sub> yivxar ota<sub>2</sub>]] tišlax lo<sub>1</sub> tmuna  
 the-woman<sub>2</sub> [that every man<sub>1</sub> will-choose her<sub>2</sub>] will-send him<sub>1</sub> a picture.

- (71)a. [ha-ʔiša<sub>2</sub> [ota<sub>2</sub> kol iš<sub>1</sub> yivxar t<sub>2</sub>]] tišlax lo<sub>1</sub> tmuna  
 b. \*[ha-ʔiša<sub>2</sub> [še [ota<sub>2</sub> [kol iš<sub>1</sub> yivxar t<sub>2</sub>]] tišlax lo<sub>1</sub> tmuna

MinTrace tied with LE(C) will *not* work. This entails *še*-deletion in RC iff MinTrace satisfied, sure enough -- but there is a way to satisfy both: delete all occurrences of the resumptive pronoun (*ha-?iš* [<sub>CP</sub>  $\emptyset$  [<sub>IP</sub> *dani mekir*  $\emptyset$ ]]).

**Fox (1994): Resumptive configurations (*še* pronounced) are forced by Island >> MinTrace.**

**Resumptive pronouns only in islands**

(72) Shlonsky (1992): Resumptive pronouns OK as subject only if subject is in an island.

a. ha-yeled **še** (\***hu**) ohev rak et dalit  
the-boy that he loves only dalit

b. Ha-yeled **še** rak et dalit **hu** ohev

(73) ha-?iš še dalit ša?ala ?im \*(hu) ohev bašanut.  
The-man that Dalit asked if \*(he) likes linguistics.

(74) Fox (1994): Optionality of resumptive pronouns as object -- only apparent.  
Stranding vs. pied-piping of the accusative preposition

a. ha-?iš [<sub>PP</sub> **ot-o**]<sub>i</sub> še dani ohev t<sub>i</sub> (oto = 'et+hu)  
the-man ACC-him dani likes

b. ha-?iš [<sub>NP</sub> **hu**]<sub>i</sub> še dani ohev [<sub>PP</sub> **ot**-[<sub>NP</sub> **o**]<sub>i</sub> ]  
the man him that dani likes ACC-him

c. ha-?iš [<sub>NP</sub> **ot-o**]<sub>i</sub> še dani ohev t<sub>i</sub>  
the-man ACC-him dani likes

(75)a. \*Vieron el hombre.  
b. Vieron al hombre (al= a+el)

(76)a. El hombre que vieron ayer es muy alto.  
the man that saw(they) yesterday is very tall.  
'The man that they saw yesterday is very tall'  
b. El hombre a quien vieron ayer es muy alto.  
The man ACC who saw(they) yesterday is very tall.



(77) Resumptive in PP due to P-stranding?:

- a. ha-?iš hu še dalit xoševet [PP al-[NP av]<sub>i</sub>]  
 the man him that Dalit thinks about-him
- b. ha-?iš [PP alav]<sub>i</sub> še dalit xoševet t<sub>i</sub>  
 the-man about-him dalit thinks

(78) Clear when A-bar movement without deletion in SPEC,CP [Doron, Sells (via Fox)]

- a. Kol gever, Ruti xoševet alav.  
 Every man, Ruti thinks about-him.
- b. \*Al kol gever, Ruti xoševet alav.  
 \*About every man, Ruti thinks about him.

(79) a. ? eyze gever Ruti xoševet alav?

- which man Ruti thinks about-him?
- b. \*Al eyze gever, Ruti xoševet alav?  
 \*About which man, Ruti thinks about him

**Resumptive pronouns as a pronunciation of trace**

(80) **Resumptive pronouns license parasitic gaps [Sells (1984)]:**

- a. \* ha-?iša<sub>1</sub> [še [ha-?anashim<sub>2</sub> še šixnati t<sub>2</sub> levaker t<sub>1</sub>] ti?aru et ha-bait.  
 the-woman<sub>1</sub> [that [the-people<sub>2</sub> that convinced-I t<sub>2</sub> to visit t<sub>1</sub>] described the house
- b. ? ha-?iša<sub>1</sub> [še [ha-?anashim<sub>2</sub> še šixnati t<sub>2</sub> levaker t<sub>1</sub>] ti?aru t<sub>1</sub>  
 the-woman<sub>1</sub> [that [the-people<sub>2</sub> that convinced-I t<sub>2</sub> to visit t<sub>1</sub>] described t<sub>1</sub>
- c. ? ha-?iša<sub>1</sub> [še [ha-?anashim<sub>2</sub> ?e šixnati t<sub>2</sub> levaker t<sub>1</sub>] ti?aru ota<sub>1</sub>  
 the-woman<sub>1</sub> [that [the-people<sub>2</sub> that convinced-I t<sub>2</sub> to visit t<sub>1</sub>] described her<sub>1</sub>

(81) **Strong Crossover with resumptive pronouns [Shlonsky 1992]**

- a. yidafti ?et ha-?idiot<sub>1</sub> še ha more yaxšil ?oto<sub>1</sub>  
 I-informed ACC the idiot that the teacher will-flunk him
- b. \*Ze ha baxur še yidafti ?et ha-?idiot<sub>1</sub> še ha more yaxšil ?oto<sub>1</sub>/t<sub>1</sub>  
 this (is) the guy that I-informed the idiot that the teacher will-flunk him/trace

(82) **Reconstruction with resumptive pronouns [?]**

(83) **PCC argument**

**Infinitival relatives**

(84)a. macati mišehu lehov (oto)  
found-I someone to-love (him)

b. \*macati miSehu oto lehov

(85)a. macati mišehu ledaber alav  
found-I someone to-talk about-him

b. \*macati mišehu alav ledaber

Hebrew: LE(f) >>MinTrace

English: MinTrace >> LE(f) [flag this!]

**14. Minimize Trace and Pronunciation Position**

Note that the optimality system still does not directly regulate movement: only the clues we get to movement from PF.

**An example:**

**V-to-I in English and French**

(86) **Modern English: not Main-Verb | Auxiliary not**

- a. He does **not speak** English.
- b. He **has not** spoken English.

(87) **Older English: Main-Verb not | Auxiliary not**

- a. He **speaketh not** English
- b. He **hath not** spoken English.

(88) Wepying and teres **counforteth not** dissolute laghers. [ca. 1400-1450]

(N.Love *The Myroure of the Blessyd Lyf of Jesu Christ*. citation from Ian Roberts (1993) *Verbs and Diachronic Syntax*, Kluwer.)

(89) **French finite clauses: like Older English finite clauses**

- a. Il ne **parle pas** anglais.  
he speaks not English
- b. Il n'a **pas** parlé anglais.  
he has not spoken English

(90) **French infinitival clauses: like Modern English finite clauses**

- a. [Ne **pas parler** anglais] est une condition pour étudier à MIT.  
not to-speak English is a condition for studying at MIT
- b. [N'**avoir pas** parlé anglais] ...  
to-have not spoken English

- (91) a. Être ou n'ê**tre pas**...  
To-be or to-be not...
- b. \*Exister ou n'**exister pas**...  
To-exist or exist not

(92) Pollock (1989)'s Filter: \* $\theta$ -assigner [pronounced] in INFL.

Assume: Both English and French move V-to-I in the syntax (to check features)

- (93) a. English: Pollock's Filter >> Minimize Trace
- b. French: Minimize Trace >> Pollock's Filter

## 15. English Verb Pronunciation

➤ **Why \*John not speaks English ?**

This violates the Syntactic Structures/LSLT requirement that INFL be "close" to V [Revived by Bobaljik (1994)]:

**INFL-support: \*INFL if not adjacent to a projection of the related V.**

***Do* partially pronounces V -- just as a pronoun partially pronounces N.**

**In particular, it pronounces the purely functional parts of V.**

**It is a "resumptive verb".**

- (94) **INFL support**
  - a. John does<sub>i</sub> not speak<sub>i</sub> English.
  - b. \*John \_\_\_ not speaks English.

If V-in-I is pronounced *do*, recoverability allows V-in-VP to lack AGR and TNS pronunciation, which is a more minimal pronunciation than the full pronunciation.

➤ **Why \*John does not speaks English ?**

- (95) **Minimize trace**
  - a. John does not speak English. [\*]
  - b. \*John does not speaks English. [\*\*]

➤ **What prevents "overuse" of *do*?**

- (96) **Telegraph!**
  - a. \*John does<sub>i</sub> speak<sub>i</sub> English.
  - b. John \_\_\_ speaks English.

**Standard Modern English**

(97)

*John walked<sub>i</sub> (recently) walked<sub>i</sub> to school*

		RCV	Pollock	INFL-support	TEL	MinTrace
∅	∅	*!				
∅	do	*!				
∅	did	*!				
∅	walk	*!				
∅	walked					
do	∅	*!				
do	do	*!				
do	did	*!				
do	walk	*!				
do	walked				*!	
did	∅	*!				
did	do	*!				
did	did	*!				
did	walk				*!	
did	walked				*!	
walk	∅	*!				
walk	do	*!				
walk	did		*!			
walk	walk	*!				
walk	walked		*!			
walked	∅		*!			
walked	do		*!			
walked	did		*!			
walked	walk		*!			
walked	walked		*!			

(98)

*John had<sub>i</sub> (recently) had<sub>i</sub> walked to school*

		RCV	Pollock	INFL- support	TEL	MinTrace
∅	∅	*!				
∅	do	*!				
∅	did	*!				
∅	have	*!				
∅	had					*!
do	∅	*!				
do	do	*!				
do	did	*!				
do	have	*!				
do	had				*!	
did	∅	*!				
did	do	*!				
did	did	*!				
did	have				*!	
did	had				*!	
have	∅	*!				
have	do	*!				
have	did					
have	have	*!				
have	had					*!
had	∅					
had	do					*!
had	did					*!
had	have					*!
had	had					*!

(99)

*John walked; not walked; to school*

			RCV	Pollock	INFL-support	TEL	MinTrace
∅	not	∅	*!				
∅	not	do	*!				
∅	not	did	*!				
∅	not	walk	*!				
∅	not	walked			*!		
do	not	∅	*!				
do	not	do	*!				
do	not	did	*!				
do	not	walk	*!				
do	not	walked				*	*
did	not	∅	*!				
did	not	do	*!				
did	not	did	*!				
did	not	walk				*	
did	not	walked				*	*
walk	not	∅	*!				
walk	not	do	*!				
walk	not	did		*!			
walk	not	walk	*!				
walk	not	walked		*!			
walked	not	∅		*!			
walked	not	do		*!			
walked	not	did		*!			
walked	not	walk		*!			
walked	not	walked		*!			

In the above tableaux, if TEL and INFL-support are tied, you get the same result, because MinTrace will favor *did not walk* over all the others.

(100) *Where walked-that John walked?*

	LE(C)	TEL
did that John walk	*	**
did that John walk	*	*

(101)

*John had<sub>i</sub> not had<sub>j</sub> walked to school*

			RCV	Pollock	INFL-support	TEL	MinTrace
∅	not	∅	*!				
∅	not	do	*!				
∅	not	did	*!				
∅	not	have	*!				
∅	not	had			*!		
do	not	∅	*!				
do	not	do	*!				
do	not	did	*!				
do	not	have	*!				
do	not	had				*!	
did	not	∅	*!				
did	not	do	*!				
did	not	did	*!				
did	not	have				*!	
did	not	had				*!	
have	not	∅	*!				
have	not	do	*!				
have	not	did				*!	
have	not	have	*!				
have	not	had					*!
had	not						
had	not	do				*!	
had	not	did				*!	
had	not	have					*!
had	not	had					*!

The range of alternative patterns reported in the secondary literature for 14th-17th C. English arise from rerankings and ties:

**Euphuistic *do* (oblig)**

(102)

*John walked<sub>i</sub> (recently) walked<sub>i</sub> to school*

		RCV	Pollock	INFL-support	MinTrace	TEL
∅	walked				*!	
do	walked				*!	
did	walk					
did	walked				*!	

**Euphuistic *do* (oblig)**

(103)

*John walked<sub>i</sub> (recently) walked<sub>i</sub> to school*

		RCV	Pollock	INFL-support	MinTrace	TEL
∅	walked				*!	
do	walked				*!	
did	walk					
did	walked				*!	

**Euphuistic *do* (optional)**

(104)

*John walked<sub>i</sub> (recently) walked<sub>i</sub> to school*

		RCV	Pollock	INFL-support	MinTrace	TEL
∅	walked				*	
do	walked				*	*!
did	walk					*
did	walked				*	*!

**Do avoidance [oblig] [this will still favor *has not* over *not has*]**

(105)

*John walked<sub>i</sub>; not walked<sub>i</sub> to school*

		RCV	Pollock	TEL	INFL-support	MinTrace
∅	not walked					
do	not walked			*!		
did	not walk			*!		
did	not walked			*!		



**Do avoidance [opt] [also euphuistic]**

(106)

*John walked<sub>i</sub> not walked<sub>i</sub> to school*

				RCV	Pollock	TEL	INFL-support	MinTrace
1.	∅	not	walked				*	*
2.	do	not	walked			*		*
3.	did	not	walk			*		
4.	did	not	walked			*		*

**General tie:**

(107)

*John walked<sub>i</sub> not walked<sub>i</sub> to school*

					Pollock	INFL-support	TEL	MinTrace
1.	∅	not	walked			*		
2.	do	not	walked				*	
3.	did	not	walk				*	
4.	did	not	walked				*	
5.	walk	not	did	*			*	
6.	walk	not	walked	*				
7.	walked		not ∅	*				
8.	walked		not do	*			*	
9.	walked		not did	*			*	
10.	walked		not walk	*				
11.	walked		not walked	*				

**16. French: The Emergence of The Unmarked**

Suppose infinitival INFL moves to C, and infinitival morphology counts as a  $\theta$ -marker for Pollock-style filter -- i.e. no pronunciation of V in C:

C $\theta$  >> Minimize trace >> Pollock

**Outcome:** Pronunciation anywhere V has landed except C and if V is a  $\theta$ -marker, except AGRs!

(108)

**French infinitival clauses: auxiliaries**

a. [N'**avoir pas** parlé anglais] ... /**avoir pronounced in I/**  
to-have not spoken English

b. [Ne **pas avoir** parlé anglais] ... /**avoir pronounced in V/**

(109) **French infinitival clauses: main verbs**



- a. */\*parler pronounced in I/*  
 \*[Ne **parler pas** anglais] est une condition pour étudier à MIT.  
 to-speak not English is a condition for studying at MIT
- b. */parler pronounced in V/*  
 [Ne **pas parler** anglais] est une condition pour étudier à MIT.

"AGRo"-pronunciation also possible:

- (110) a. [Ne pas **parler souvent** anglais]..  
 b. John knocked often on it.

(111)

*Parler; ne pas parler; souvent parler; anglais*

	RCV	Cθ	MinTrace	Pollock
C		*!		
INFL (AGRs)			*	*!
AGRo 			*	
V 			*	