

## The making of the modern syntactic world

### 1. Zeitgeist 1: enriched surface structures [review]

#### "Conditions on Transformations"

(1) **Tensed S Condition: version 1**

No rule can involve  $X, Y$  in the structure  
 $\dots X \dots [\alpha \dots Y \dots]$   
 where  $\alpha$  is a tensed sentence. [20]

(2) **Specified Subject Condition: version 2**

No rule can involve  $X, Y$  in the structure  
 $\dots X \dots [\alpha \dots Z \dots Y \dots]$   
 where  $Z$  is the specified subject of  $WYV$  in  $\alpha$ . [26]

(3) \*John seems to the men to like each other.

- To explain the badness of (3), we might order *each*-movement before *it*-replacement. **Or:** In (3b), John leaves something called a "trace", which it controls. [p. 131]

(4) \*Who did they expect to kill each other?

- An ordering solution? *Each*-movement precedes *wh*-movement on the highest cycle. **Or:** Alternative: *wh*-movement also leaves a "trace" [p. 135]

Subjacency condition plus the COMP-substitution universal derives the apparent stricter upward-boundedness of right-ward movement rules, vs. leftward.

(5) \*John believes that a man was here despite the evidence to the contrary *who comes from Philadelphia*.

#### "Conditions on rules of grammar"

- Both the "reciprocal rule" and DR are now rules of interpretation, blockable by SSC. [p. 178]
- SSC: "a condition on surface structures applying quite generally to anaphora (hence to the NP-trace relation), rather than a condition on transformations." [p. 179]
- Traces count.

- (6) a. \*John seems to the men [ $t$  to like each other]  
 b. John seems to the men [ $t$  to like them]

- "The trace [is] a bound variable, with all of the (relevant) properties of its 'controller'" (p. 181)
- "Movement of a phrase by a transformation leaves behind a trace controlled by the moved phrase." (p. 181)

- **PRO counts as a subject for SSC, and as an antecedent for BT**

- (7) a. \*John promised the men [PRO to like each other].  
 b. John persuaded the men [PRO to like each other]

- **Surface structure determines LF. [(73)]**

### 2. "Filters and Control"

**Arbitrary aspects of transformational SDs and arbitrary orderings may miss the point, which is -- simple, unordered transformations + surface filter.**

#### Example 1: Rule ordering

(8) Who do you think (\*that) \_\_\_ left.

**Solution 1:** Order *wh*-movement after *that*-deletion, and make its SD sensitive to the presence of *that*.

**Solution 2:** Rule of free deletion "in COMP" unordered with respect to a simple rule of *wh*-movement + surface filter \**that t*.

[An argument for a filter approach (Perlmutter's dissertation):

Why languages like Spanish lacks the effect:

*pro*-drop is a rule of NP-deletion that also affects traces.]

- "Free deletion in COMP" also yields the paradigm of English relative clauses, when supplemented by a filter "\*NP Tns VP unless main clause or / Comp \_\_\_" to rule out \**The book interested me is called LGB*.

[Necessary to modify the *that t* filter so as not to rule out *the book that impressed us*.]

**Example 2: Exotic species of obligatoriness for transformational rules**

- (9) **Obligatoriness of EQUI**
  - a. John attempted [~~John~~ to read the book]
  - b. ?John condescended [~~John~~ to be arrested by the police]
  - c. \*John attempted [Bill to read the book].
  - d. \*John condescended [the police to arrest him].

**Solution 1:** The verbs *attempt* and *condescend* are "**positive absolute exceptions**" to the rule of EQUI-NP Deletion. The environment for EQUI must be met in the complement to *hope*, come what may. This renders passive in effect obligatory when the underlying embedded clause is *the police arrest John* in (9b). [Lakoff, *Irregularity in Syntax*, ch 6]

**Solution 2:** EQUI applies freely in appropriate environments (= PRO is freely available) in appropriate environments. Inappropriate non-application of EQUI/inappropriate presence of overt NP is excluded by the following filter:

- (10) **NP-to-VP filter**  
\*NP to VP except in the environment  
/[+F] \_\_\_\_
- (11) **+F vs. -F environments**
  - a. \*[Bill to leave] would be sad.
  - b. [For Bill to leave] would be sad.
  - c. I expect [Bill to leave]
  - d. We seek [a man for Bill to talk to \_\_\_\_]
  - e. We seek [a man to whom PRO to talk \_\_\_\_].
  - f. \*We seek [a man to whom Bill to talk \_\_\_\_]
  - g. [\*]A man to fix the sink is here.

That is: some verbs and complementizer *for* are +F.

**Chomsky (1979) "On Binding"**

- Case assignment and the Case Filter can explain the NP-to-VP filter.
- The area of non-overlap between the SSC and the TSC can also be given a case characterization: the "Nominative Island Condition".

**3. Zeitgeist 2: questioning transformations**

**If:**

- we are convinced that movement structures are identifiable at surface structure (trace theory); and
- we are convinced that such structures reflect processes that are not construction-specific or specially ordered, as in classical transformational grammar

**Then:**

- we are naturally led to reconsider the formal properties of the processes themselves.

**The transformational apparatus that served as a notation for construction-specific, ordered rules (conditions on analysability etc.) might be a poor match for the true mechanisms as revealed by the reorganization of the rest of the grammar.**

**Especially attractive because of peculiarities like:**

- Redundancies between "antecedent-trace" relations (chain formation) and transformations.
- Distinctions between A-movement and A-bar movement and the weird ban on improper movement.

**These issues, which emerged in the mid-1970s, helped form the landscape of syntactic research in which we work today.**

**"Everyone agrees that syntax involves context-free phrase-structure rules/Merge *plus* something. But *plus what...?*"  
— Zeitgeist (1977)**

**4. Plus lexical (GF-manipulating) rules?**

**Transformational theory of passive in (Extended) Standard Theory**

- Reassociation of internal argument with subject and reassociation of external argument with object is the result of a transformational rule of Passive.

**Adjectival passive:**

- Shows the same reassociation of  $\theta$ -roles with grammatical relations as passive:

- (12) a. Nothing daunts John.  
b. John is undaunted

BUT:

- involves a morpheme *-ed* that also attaches to nouns (*a salaried employee*)
- changes category (V->A) -- adjectives disallow NP complements:

- (13) a. Mary was taught French.  
b. Mary was untaught (\*French).

- feeds processes of derivational morphology like *un-* prefixation that care about the derived category

- (14) a. Antarctica is uninhabited.  
b. \*Someone uninhabits Antarctica.

**Givens:**

- Category-changing rules are **morphological processes** in the lexicon.
- Lexical integrity:** Transformations do not look inside lexical items.

**Conclusion:**

- The reassociation of  $\theta$ -roles and GRs may be accomplished by non-transformational means.

**Speculation:**

- Perhaps that is *always* how it's done...

**5. Towards LFG**

- (15) **Grammatical functions --> syntactic positions:** [p. 17]

a. NP <sub>1</sub>	"subject"	left-daughter NP of S
b. NP <sub>2</sub>	"object"	leftmost non-head daughter of VP
c. NP <sub>p</sub>	"prepositional object"	non-head daughter of PP
d. LOC	"locative"	PP daughter of VP

- (16) **Some partial lexical representations for active verbs**

		<u>syntactic context</u>	<u>functional structure</u>
a. <i>sleep</i> :	V,	[__]	NP <sub>1</sub> SLEEP
b. <i>hit</i> :	V,	[__ NP]	NP <sub>1</sub> HIT NP <sub>2</sub>
c. <i>eat</i> :	V,	[__ NP]	NP <sub>1</sub> EAT NP <sub>2</sub>
		[__]	( $\exists y$ ) NP <sub>1</sub> EAT y
d. <i>lie</i> :	V,	[__ PP]	NP <sub>1</sub> LIE LOC
e. <i>rely</i>	V,	[__ [PP on NP]	NP <sub>1</sub> RELY-ON NP <sub>on</sub>

- (17) **Some partial lexical representations for passive verbs without *by***

		<u>syntactic context</u>	<u>functional structure</u>
a. <i>hit</i> + $\phi$ :	V,	[ <i>be</i> __]	( $\exists x$ ) x HIT NP <sub>1</sub>
b. <i>eat</i> + <i>en</i> :	V,	[ <i>be</i> __]	( $\exists x$ ) x EAT NP <sub>1</sub>
c. <i>rely</i> + <i>ed</i>	V,	[ <i>be</i> __ [on] ]	( $\exists x$ ) x RELY-ON NP <sub>1</sub>

- (18) **... with *by***

<i>eat</i> + <i>en</i> :	V,	[ <i>be</i> __ [PP <i>by</i> NP] ]	( $\exists x$ ) (x HIT NP <sub>1</sub> & x = NP <sub>by</sub> )

- (19) **The lexical rule of Passive formation (without a *by*-phrase)**

- a. Bind the external argument to an existential quantifier.  
b. Associate the internal argument with the subject function ("NP<sub>1</sub>")

[may take as input a V-P complex verb; as argued in "The Passive in Lexical Theory"]

- "I will now show how these lexical functional structures permit us to extract, directly from the surface structure of a sentence, information equivalent to that provided by the syntactic deep structures of previous transformational theory."

- A problem: Raising constructions, in which the argument of one predicate acts as a subject or object of another.

- (20) **Raising-to-subject verb**

<i>tend</i> :	V,	[__ VP-bar ]	TEND ((NP <sub>1</sub> ) VP)
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**Notation:** *Tend* takes as argument a VP-function, whose subject is *tend*'s subject.  
[pp. 26-27]

- Interaction with *there*: *there* gets an interpretation only by virtue of lexical entry (21):

(21)

<i>be</i> :	V,	[___ NP]	NP <sub>1</sub> BE NP <sub>2</sub> THERE BE NP <sub>2</sub> ≡ NP <sub>2</sub> EXISTS
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- Thus, *there tends to be a knack to it* comes out right. [p. 31]

(22) **Subject-control verb**

<i>try</i> :	V,	[___ VP-bar ]	NP <sub>1</sub> TRY ((NP <sub>1</sub> ) VP)
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"[T]he lexical functional structure of *try* differs in one important respect from that of *tend*: the grammatical subject of *try* is also the logical subject of *try*."

(23) **Object-raising verb**

<i>believe</i> :	V,	[___ NP VP-bar ]	NP <sub>1</sub> BELIEVE ((NP <sub>2</sub> ) VP)
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- That is, the functional subject of the complement VP-bar also has the object function of *believe*.
- The lexical rule of passive will apply straightforwardly to (23), yielding (24). Note the similarity to *tend*:

(24) **Passive of an object-raising verb**

<i>believe+d</i> :	V,	[ <i>be</i> ___ VP-bar ]	((∃x) x BELIEVE (NP <sub>1</sub> ) VP)
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## 6. Movement?

- Something like it exists. But not for the "A-movement" family of relationships.

### Consequences:

- No need to block improper movement:** With passive *not* a blind, structure-dependent operation, we have no expectation that *wh*-moving an NP will render it accessible to upstairs passivization:

- (25) a. The boys wondered *which girls* they should talk to.  
b. \**Which girls* were wondered they should talk to.

- Impact on phonology:** Traces of *wh*-movement block phonological processes, but there is no comparable effect in raising constructions.

- (26) a. \*Teddy is the man I wanna succeed.  
b. There's a movie gonna be made about us.  
[p. 43]

- Realism:** [We expect measurable derivational complexity effects for *wh*-movement but not the same kind of effect for passive, raising, etc. -- cf. Wanner and Maratsos]

## 7. Alternatives to the "Realistic" model from various directions

- Perhaps all A-movement precedes all A-bar movement? [Riemsdik and Williams (1980) proposal of "NP Structure" as a level of representation]
- Perhaps Bresnan's factorization of phenomena is correct -- and perhaps the SD/SC mechanism of transformations is not correct for A-bar constructions either! [Gazdar 1981]
- Perhaps there is an important factorization to be made, but it is not at the A-movement/A-bar movement divide. Instead it is at the "clause-internal movement" vs. "cross-clausal dependency" divide. [Tree-Adjoining Grammar]

## 8. LGB Chapter 2: on the subject of infinitives and $\theta$ -roles

- Defends phrase-structural character of GF-manipulating rules (at least in configurational languages).
- Assumes both a derivational characterization of GF manipulations, and also a representational characterization.
- Argues that the essential nature of passive morphology is *not* GF-manipulation, but case-absorption [and indirectly external  $\theta$ -role elimination].
- Resulting view of passive provides a "poster child" for a central shift in approach to the phenomena of language: modular accounts of phenomena like passive as the result of many interacting factors that cross-cut traditional constructions.

### Against functional structure

**Presupposition:** The phrase structure of infinitival clauses in English is uniform across infinitive types.

**The question:** Does "VP-bar" exist?

**The field of battle:** Control constructions [p. 24ff]

- Some known PS rules:

(27)  $S' \rightarrow \text{COMP } S$

(28)  $\text{COMP} \rightarrow \left\{ \begin{array}{l} [\pm\text{WH}] \\ \text{for} \end{array} \right\}$

[where +WH is compatible with  $\pm T$ , -WH is compatible with +T, and *for* is compatible with -T.]

- What follows +WH as daughter of  $S'$  may be NP-Tns-VP or sound like *to*-VP.

(29) a. John knows who I saw.  
b. It is unclear who I saw.

(30) a. John knows who to see.  
b. It is unclear who to see.

- Uniform analysis: what follows +WH is always  $S$ .

### What do we know about $S$ ?

- We know that  $S$  contains a subject position obligatorily, as a result of a mysterious principle first called *P* and then later the *Extended Projection Principle*.
- The EPP is not a  $\theta$ -theoretic fact. Even when no  $\theta$ -role is assigned to subject position, the position is obligatory — in infinitives no less than in finite clauses:

(31) a. There is a good reason for his refusal.  
b. I believe there to be a good reason for his refusal.  
c. I'd prefer for there to be a better reason for his refusal.  
*etc.*

- And even if the EPP were  $\theta$ -theoretic, the availability of a  $\theta$ -role that may be assigned to a position does not entail the existence of a position. Positions may be required by (1) subcategorization (for complements only) or by (2) EPP. That is why NPs do not need subjects. No EPP in NP.
- The minute a structure contains a position that can receive a  $\theta$ -role, however, the relevant  $\theta$ -role must be assigned to that position.

### Consequence 1:

(32) \*There read the book.

**Consequence 2:** If the  $\theta$ -criterion is correct, there can be no raising to complement position.

Reasoning: Complement positions exist iff subcategorized.

Subcategorization entails  $\theta$ -marking (assumption).

Movement to a  $\theta$ -position is excluded.

[And if there's no raising to complement position, that's another blow against the "Realistic Grammar" proposals, which assume Raising-to-Object structures — though need they have?]

(33)  **$\theta$ -criterion**

Each argument bears one and only one  $\theta$ -role, and each  $\theta$ -role is assigned to one and only one argument.

### Conclusions:

- > *to*-VP sequences are always part of  $S$
- > Infinitival  $S$  has a subject position
- > If the subject position can receive a  $\theta$ -role, it must.

### Therefore:

Raising constructions and control constructions, especially with non-unaccusative/non-passive infinitivals, must involve a real phrase-structural subject with a real [movement-derived] connection to the surface position.

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**How does the system track the assignment of  $\theta$ -roles to individual arguments?**

(34) **Projection Principle [p. 29]**

Representations at each syntactic level (i.e. LF, and D- and S-structure) are projected from the lexicon, in that they observe the subcategorization properties of lexical items.

- A truism for LF, the key point here concerns D- and S-structure. [Note that the real intent is probably for every representation to obey the Projection Principle, though that is not said.]
- The Projection Principle entails the presence of traces in  $\theta$ -positions.
- Principle P that requires subject in S is also argued to hold at each syntactic level  $\rightarrow$  hence the name "Extended Projection Principle".
- Traces are thus motivated in  $\theta$ -positions and subject positions [not quite, actually]. Not motivated for what we would call Spec,CP today — but in this theory, A-bar movement proceeded through a slot in C, required by the PS rules...

[At the same time, an independent "trace" theory and an independent notion of *chain* was proposed.]

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**As if this wasn't enough...**

- Chomsky cautions against constructing a theory in which grammatical relations are primitives, since grammatical relations (unlike precedence, Agentivity, etc.) fail a criterion of "epistemological priority", i.e. status in the primary linguistic data.

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**9. LGB chapter 2 on Passive**

If passive in *Mary was believed to have left* involves two phrase-structural positions and a movement relation, one would not expect a different story for mono-clausal passives like *Mary was arrested*.

- What is involved in a passive construction? Is there a universal characterization of passive that is not a matter of GF-changing?

(35) **The two properties of (English) passive:**

- (I) Elimination of external theta role; and
- (II) Absorption of object case. [p. 124 (22)].

- The GF reassignment in *Mary was arrested* is a *consequence* of these two properties.
- GF reassignment is not at the core of the passive construction.

(36) **Passive without GF reassignment**

It was claimed [that Mary left]

- ...since EPP is satisfied by *it* and S' does not care about Case absorption.

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**Proposal:** (II) — case absorption — is the central property of passive.

- GF-Subject assumption (movement) in passive is a way to get case onto an object NP that cannot otherwise receive it.
- Property (I) is also a property of Passive — because without it, the object NP could not move anywhere for case reasons.
- [Mystery: Why not an alternative in which a dummy case marker, e.g. *of*, is inserted to supply case for the object NP?]
- Why is there *always* dethematization of the external argument, even when the object does not need case, as in (36)? Answer: a **Morphological Uniformity Principle**. If *-en* sometimes must dethematize the external argument, it always does this.

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**The vision:**

- "Passive" is not an atom of the theory, but is composed of "more fundamental abstract features, such as the elements of Case theory,  $\theta$ -theory, etc." [p. 126]
- It could be the case that in a non-configurational language "Assume GF" replaces "Move  $\alpha$ ", with object in passive assuming some other GF because it does not receive case as object of passive.
- What *LGB* might have said about adjectival passives: In an adjectival passive, the subcategorized argument of the corresponding verbal passive is not subcategorized for, and may therefore be a subject. Because no objective case is assigned, it cannot be an object.

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Also — a GB/Minimalist hunch: the unity of movement phenomena.

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## 10. Connections

### The Generative Semantics debates

Strict derivationalism without "coding devices" such as traces entails *global rules*.

**A 1970s MIT response** (Baker/Brame, Chomsky, etc.):

- The proposed "coding devices" (e.g. traces) zero in on the globality that is real. The theory is "constrained", particularly important from the perspective of language acquisition.
- Ideas like "trace theory" allow an insightful and compact understanding of the constraints on movement that parallel constraints on anaphora, and provide a natural theory of the LF interface
- The coding devices also eliminate arguments for stipulated ordering.
- Because the coding devices allow the statement of constraints that cross-cut particular constructions, they suggest a view in which such constructions are "epiphenomena" — the result of many interacting constraints and a highly impoverished generative rule system.

**A non-GB take on the 1970s results:**

- We now see clearly that enriched representations eliminate arguments for construction-specific *transformations*, ordered and sorted as obligatory/non-obligatory, etc.
- It is not obvious that we should be conservative about the nature of the relevant enrichments. They need not faithfully record transformational movements, but can be understood as following laws of their own.
- The correct understanding of the "enrichments" found in syntactic representations may well eliminate any explanatory role for derivations themselves.

"The strongest way to constrain a component is to eliminate it."  
(Gazdar (1980) "Phrase Structure Grammar")

▪ Alternatives include

- free generation of chains (Koster, Rizzi, Brody, and others), which preserves the phrase-structural view of a variety of processes familiar from transformational grammar;
- mechanisms for identifying the subject or object of one predicate with a syntactically unsaturated argument of another predicate (LFG);
- mechanisms for identifying constituents with gaps and linking them to their fillers (GPSG) or for identifying syntactically unsaturated arguments of a predicate and linking them to a variety of other positions (HPSG).

**So the questions to ponder include:**

- Arguments for derivationalism: the opacity issue.
- Phrase-structural vs. non-phrase structural accounts of dependencies in passive, raising, A-bar constructions, etc.