

*Lecture notes by Edward Loper*

*Course: Linguistics 550 (Syntax I)*

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1st assignment posted (under ch 2). due tuesday? (send by email before noon)

Is syntax necessary? → how do we define syntax?

Saussure (founder of modern linguistics): langue (phonology/morphology) = the system of language parole (syntax/etc) = the use of language

Is a sentence more than the concatenation of words? If so, there is no (or rather, trivial) syntax.

∃ languages with very free word order, "w\* languages." Do we want to say these have no syntax? But there are constraints on the sets of words that can go together, etc.. Not really w\*.

Claim: it is not coherent to say that a language has no syntax (unless you define syntax to mean just word order..).

Notion of "sentence." (c.f. utterance?)

"I ate dinner" is a complete thought, but "after I ate dinner" is not. (adding a word can make a sentence incomplete)

Frege, Russell: think of NL in terms of the denotations (references) of its elements. denotations of sentences are either T or F. "John" is not a sentence, because its denotation is neither T nor F.

"John" is a correct answer to "who knocked" just in the case that "John knocked" denotes true.

We need sentences: expressions that can be T or F → syntax.

to what extent is it possible to examine a sentence regardless of its context?

Assume we accept the notion of a sentence; why do we need syntax? different words in the sentence have different statuses.

is syntax necessary? yes, because we use language to say things that are true → to do that, we need denotations that pick out things in the world, and we need things that pick out functions..

compositionality, independence, etc.

## 1 Constituency & X-bar syntax

Tree representation of a sentence has a natural notion of constituent: a node in the tree representation. Constituency is actually a property of a model of a sentence, not a property of a sentence.

PSG based on the hypothesis that the semantic object used to compose meaning & syntactic object used for syntax rules etc are very similar.

Standard tests for constituency

- substitution
- movement

hypothesis: rigid word order tends to be the order needed for semantic interpretation; free word order is derived..

high entropy languages tend to have more complex derivations. ;)

## 2 X-Bar Syntax

With a two-level system (X and XP), we can distinguish adjuncts from complements, but can't distinguish specifiers. Do we want to distinguish adjuncts from specifiers?

With a three-level system, we can handle specifiers.

"the man and the woman who met on the subway"

How to preserve binary branching, in the face of multiple complements? One way is to say that whenever we have multiple complements, something else is going on.. e.g., alternative analyses of ditransitive, etc. or e.g., with put, something like "I put the book [to be] on the table."... hrm.. big pro.. small clause.. yum.

2 meanings of "I dropped the book in the car" .. "I dropped [the book (is) in the car]" Try using a small-clause interpretation

```
|| [. dropped [. the [. book [. in the car]]]]
|| [. dropped [IP [. the book] [VP x [. in the car]]]]
```

What's the meaning of x? How do we transform the verb "dropped" to take a small-clause? :-/ x ≈ "is", i.e., "I dropped [the book is in the car]"

In "I dropped the book in the car", where car is the dest argument, is "[I dropped the book]" a constituent? "Where did you drop the book?" as 2 questions: what destination, and where were you?

```
|| [. wherei did you [. drop [IP [. the book] [VP x ti]]]]
```

We can't say "what did you do in the car" where "in the car" is a destination..

"I dropped the book in the car, and Mary did so in the truck," where car/truck are destinations??

Or: "I dropped the book into the car, and Mary did so into the truck"

"I dropped a book in the kitchen, and Mary did so also." (did so → "dropped a book in the kitchen")

That suggests that "in the kitchen" is attaching at the VP level, not the IP level. But if we assume that it's attaching at VP, .. how many levels of attachment at the VP/V'/V level do we want? In principle (assuming no V->V type rules), there's a max of 4 (V'->V, V'->V', VP->V', and VP->VP)... spec, compl, adjunct1, adjunct2.. do we want to distinguish adjunct1/adjunct2?

"I dropped a book in the kitchen, and Mary did so in the living room." (did so → "dropped a book")

But if "dropped a book" is a constituent, then "a book in the kitchen" can't be a small clause.. But parallel construction with put..?

## 2.1 Cross-Category Parallelism

Distinction between lexical & functional categories.. Functional categories provide structure, grammatical functions... Lines are blurred.. open/closed class. Sometimes, if we can't tell if it's lexical or functional, that's an indication that it's a complex item, with a functional component and a lexical component.

give: cause to have.. we could imagine that "cause" is lexical and "have".. functional?

2 reasons to accept the dp hypothesis, assuming ip hypothesis: it simplifies our syntax; and it simplifies our semantics.. (det/i are similar..)

### Simplifying Semantics

relationship between temporal & spacial: here&now vs then&there.. structure of temporal & spacial phrases parallel? determiner→ space?

```
|| [ this dog] = a particular dog
|| [ dog] = {dogs}
|| [ Mary saw John] = a particular situation where M saw J
|| [ Mary see John] = {situations where M sees John}
```

Then we can say that the functional element maps a set of elements onto a particular element of that set. Pragmatics help us pick out the relevant member.. Tense/determiner are used to introduce context..

Functional categories are inherently transitive.. we can elide the object, but it's always conceptually there. c.f. intransitive of eat/die. Lexical categories can be optionally or inherently intransitive.

"the one of physics" with one-2?

"one" substitution is usually used in situations of contrast..

- the red one
- the one but not the other
- that's the one
- this one

difficult to tell whether a string is grammatical.. "the a are of one" :)

### 3 Verb Movement

|| John always visits museums.

|| \* John visits always museums.

|| \* Jean toujours visite des musées

|| Jean visite toujours des musées

i.e., toujours (jamais, etc) appear between the verb and the object.

British English:

|| John has often no time for his children.

English previously had french-like order..

|| John is often sad.

|| John goes regularly to the cinema.

It looks like we have an adverb between a verb and its object. How do we explain it?

### Substitution Analysis (probably incorrect)

Consider the hypothesis that the structure is:

|| [VP [DP subj] [V' [V [V verb] [? adv]] arg] ]

Syntactic principle: like tends to attach to like: heads to heads, and phrases to phrases.

Here, since like adjoins to like, we expect ? to be a head. But we can put a phrase there.

Semantic argument: \*if\* we assume that adv maps V'->V' or VP->VP, then we don't expect to get adv mapping V->V, so this structure is bad.

### Movement analysis

We might have movement..

|| Jean a souvent mangé son diner

V moves to I. This gives the right word order..

Why propose movement? Verbs are marked for tense. How does the verb combine with its tense? Verb composed of root + tense marking..

- carefully, john eats pizza often \*?
- often, john eats pizza carefully

## 4 Fun with case

|| \*It was eaten John

### impersonal passive

impersonal = expletive subject

|| Es wurde gelacht.  
|| It got laughed  
|| (there was laughing)

n.b.: laugh is not a transitive verb.

|| \*Es wurde gegessen Hans  
|| It got eaten John

⇒ no impersonal passives for transitive verbs

This is ok:

|| Es wurde Hans geholfen  
|| It was to-Hans help  
|| (John was helped)

because "Hans" is in the dative case.

Passivization retracts the ability of the verb to assign accusative case to its object. But for cases other than accusative, they can stay. So for other cases, we get an impersonal passive.

ECM verbs:

|| I believe [Mary to be smart].  
|| I believe her to be smart.  
(head-spec case marking, \*not\* head-compl)

Passivize:

|| Mary is believed to be smart.  
|| she is believed to be smart.

why did case change from objective to nominative?

|| It is believed that Mary is smart.

Here, "that Mary is smart" is a clause, so it doesn't need to be case marked.

When we passivize believe in:

|| I believe her to be smart.

then "her" can no longer get objective case from "believe" (head-spec). So it moves up to subj, and gets nominative case.

### Cases

Accusative ≈ default case for objects Nominative ≈ default case for subjects

Questions:

- can a head assign >1 case? It looks like it, e.g., in bitransitives. But we might use invisible heads to account for it.
- are the 3 case configurations true for non-indoeuropean languages?
  - > ergative case systems

|| [for [John to work hard]] is desirable



original idea of xformational grammar – harris

- start with the idea of t-rules (xformational rules)
- assert that rules are constrained to some subset of possible rules
- reduce set of rules
- only one rule, structure dependant? (move- $\alpha$ )
- Joe Emonds
  - divide xforms into root/substitution
  - rules that occur in both are structure preserving = they just move around constituents, they don't actually modify the structure
  - transitive movement doesn't create a new position – it just moves the object to a position that was already there (subject position) but empty. thus, it's structure preserving..

Modern transformational grammar doesn't involve "transformations" per se. Just structural modifications that preserve the overall structure. – move $\alpha$ . output differs only because the input differs, not because there's different rules.

## 4.1 Raising predicates

|| seem  
|| be likely

can do raising of their subjects:

|| It seems John is eating.  
|| John seems to be eating.

|| It seems John is likely to eat  
|| John is seems to be likely to eat.

|| It is likely that <there> is a frog in the pond.  
|| <There> is likely to be a frog in the pond.

(here, <there> could be any subject expr)

|| It seems that <there> is a frog in the pond.  
|| <There> seems to be a frog in the pond.

(here, <there> could be any subject expr)

Requirement in english: expletive "there" is only ever used as the subject of subject-less to-be verb with an indefinite in the compl position.

|| \*There is likely to climb the mountain.

So "there" here needs to be licensed by the "to be" in the subordinated clause. This indicates that what's going on here is most likely going on in syntax, not at another level (semantics, etc). This was a problem with phrase structure grammar.

Not limited to one "step":

|| There seems to be likely to be a frog in the pond.

just use multiple subject → subject raising steps

Deep structures that can't surface.

Jean-Roger Vergnaud: took "case" from traditional grammars, and applied it to generative grammar.. we can then use case to explain why we don't get some surface forms: the case filter.

Questions:

- does case assignment occur before/after movement? either.. one for passive, the other for question formation.. hrm. do traces and chains, and say that case checking applies to a chain. i.e., there's

exactly one position in the chain that gets case. this solution is sort of sidestepping the question – there isn't really a notion of before/after as much anymore.

In language acquisition, we might want answers to questions like "how much info do you need in your input signal to acquire X". But mainly people are focusing on descriptive questions, not explanatory ones. This fact annoys Tony. :)

Principle of predication: every predicate must have a subject. what do we mean by subject? spec/IP

Two competing hypotheses about expletive subjects:

1. case: word needs to move so it can get case
2. PoP: verb needs a subject. reasonable because most movement to get case is movement to the subject position.

```
|| me/ACC likes money/NOM (n.b. accusitive subject)
|| * seems me/ACC to like money/NOM
|| me/ACC seems to like money/NOM
```

but seems assigns NOM normally. This is a problem for the case filter explanation.

Or maybe it's not really true that infinitives don't assign case to their subjects..?

Questions:

- one-to-one case with non-DP objects?
- what is case accomplishing? if it's as universal as it seems, it seems like it should have some semantic/processing function.

Finished with:

- principle of predication

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*Tuesday, October 23, 2001*

## **5 Case Assignment: Uniform Solution..**

- Are all cases assigned in the same way. i.e., is there a single configuration for case assignment?

## 6 Auxilliary Verbs

say an auxilliary verb is one that can take a VP complement. But:

|| I saw [<sub>VP</sub> John leave]

So an aux is a verb that takes a VP compl and keeps the same subject.

|| He got arrested  
|| He was arrested

Verbs take many different categories.. VP, IP, DP, etc. There is a sorta graded thing, where some verbs are more like auxilliaries than others..

stative vs. eventive as adjective vs verb

Q: verb whose stative & eventive forms can both take "un-" (different "un-"s)?

c.f.:

|| John had Mary steal the bicycle  
|| John got Mary to steal the bicycle

Bortzio's Generalization – If a verb that doesn't assign a theta role to a subject, then it doesn't assign case to the object.

The following might be predicted if bortzio's generalization were false:

|| [John<sub>1</sub> got [[the book]<sub>2</sub> [given t<sub>1</sub> t<sub>2</sub>]]].  
|| It got John<sub>1</sub> arrested t<sub>1</sub>

## 7 ECP

Trace of wh-movement has to be either:

1. lexically goverened (normal gov't)
2. antecedant governed (relationship between antecedant & trace)

Geometry of these is very different. e.g., lex govt is from head, antecedant govt is from phrase.

"antecedant govt" might better be called "local binding"

We would much prefer a conjunctive rule, since the disjuncts are so dissimilar. Dissimilar conjuncts are much better than dissimilar disjuncts.

- Who<sub>1</sub> did John think that he saw t<sub>1</sub>?
- Who<sub>1</sub> do you think that John loves t<sub>1</sub>?
- \* Who<sub>1</sub> did John think that t<sub>1</sub> saw him?
- \* Who<sub>1</sub> do you think that t<sub>1</sub> loves John?
- Who<sub>1</sub> did John think t<sub>1</sub> saw him?
- Who<sub>1</sub> do you think t<sub>1</sub> loves John?

## 8 Wh-Movement

Is wh-movement a purely syntactic issue? Maybe not..

- when is wh-movement licensed?

### 8.1 Movement out of DPs

- [Which war]<sub>i</sub> did she write [a book about t<sub>i</sub>]?
- \* [Which war]<sub>i</sub> did she lose [a book about t<sub>i</sub>]?

This isn't a syntactic problem.. Maybe it's:

- [Which war]<sub>i</sub> did she write [a book] [about t<sub>i</sub>]?

And we're not actually extracting out of a noun phrase. But:

- he became the king of France
- which country did he become the king of?

This sentence seems bad:

- \* [Which war]<sub>i</sub> did she lose [a book about t<sub>i</sub>]?

but c.f.:

- A: She lost a book about a war.
- B: [Which war]<sub>i</sub> did she lose [a book about t<sub>i</sub>]?

So maybe extraction out of DPs is fine, and this is all taken care of in pragmatics.

- Which book did you buy a copy of?

## 9 V2

Verb-second phenomenon (german, etc.)

- Second constituent in a matrix clause is tensed V
- to a first approximation, only and all germanic languages are V2.
  - why? describe V2 as the accidental coincidence of common properties.
  - every sentence has a "topic" constituent
  - verb immediately follows "topic" constituent

### 9.1 Where does the verb move from/to?

German/dutch:

- clauses introduced by a complementizer are verb-final:

|| that John sick is  
\* that John is sick

- Complementary distribution; so try claiming that the verb is in the position of the complementizer (for V2 sentences).
- What's the relationship between compl position and verb's position in V2?
  - complementary distribution: thus they \*might\* be the same position.
  - weak pronouns

|| because her<sub>i</sub> Maria loves t<sub>i</sub>  
forcertain loves her<sub>i</sub> Maria ...

Say these pronouns are right after compl position: accounts for complementary distribution..

So, say that verb moves from original position (verb-final in german) to the complementizer position.

### 9.2 What is the topic position?

Spec/CP

Alternatives:

- add a new topic-phrase: but we don't like adding new structure if we don't need to.
- adjunct to CP: but we need exactly 1.. so that's not good.

### 9.3 Why is topic-movement required?

Does spec of a projection need to be filled?

In English:

- Spec/IP does need to be filled (it/there)
- Spec/DP doesn't need to be filled..

Whether spec needs to be filled depends on language & category.

So in V2, spec/CP needs to be filled. Why? Because a tensed verb is moving to CP. So if we say that tensed verbs require that their spec needs to be filled, then we get that spec/CP needs to be filled.

Obligatory character of the topic comes from the fact that we're getting an element with the features of infl in C. So we don't expect to find languages with obligatory topic movement that don't have verb moving to C (and we don't).

## 9.4 Topics in subordinate clauses

We might expect to find topics to appear in spec/CP of subordinate clauses.

|| Happy<sub>i</sub> though he may be t<sub>i</sub>, ...

Here "happy" is a topic..

Bavarian:

- [[the Franca]<sub>i</sub> that he marries t<sub>i</sub>] is impossible.

Meaning "that he married Franca is impossible"

Why so rare?

- maybe because topicalization is a verbal thing, and subordinate clauses typically have nominal features

## 9.5 V2 properties

- Verb movement to C (~VSO languages – rare)
- Spec/CP must be filled for C=+tense (maybe rare)

## 10 Review Lecture

How seriously should we take extraction out of DPs?

|| ? Which book did she have an idea that you would like?  
||    Which book did she think that you would like?

Prohibition on stranding a determiner?

it's ok to adjoin to CP if it coindexes with something in the sentence..

|| John<sub>i</sub>, I like him<sub>i</sub> a lot.



## 11 Fun with Binding

- Reflexives, reciprocals  $\Leftrightarrow$  "anaphors"
  - Require a structural relation, within sentence..
  - Ordinary pronouns (unmarked case)
  - Can refer both inside and outside the sentence

Condition on reflexives is positive; condition on ordinary pronouns is negative.

Coreference of ordinary pronouns is not "binding." principle a: positive (what licenses anaphors principle b: negative (what prevents pronoun)

The knew pictures of themselves would be on display. The knew pictures of themselves would be on display.

Principle c: negative. Handles non-pronominal DPs. Non-pronominal DP can't have a commanding binding. proper nouns definite nouns, not relying on context. indefinite nouns

## 12 Case Assignment to Direct Objects

|| [IP [.] [I' [I] [VP [DP] [V' [V] [DP]]]]]

|| Me liken pears

V2, like agrees with pear.

|| [AgrP [DP] [Agr' [Agr] [TP ...]]]

|| [AgrP [TP [VP [...]]]]

= split infl

or:

|| [AgrsP [TP [Agr<sub>0</sub>P [VP [...]]]]]

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*Tuesday, November 27, 2001*

Ho hum. He's still not giving back the exams. Or I guess he's giving them back by email tonight or tomorrow morning. Whee. But we'll discuss it today anyway. :-/

### 13 Problem 1

- no negative examples: so we can't actually say that much
- (based on arabic)
- VSO in IP
- agreement patten varies with position of subject
- split case/agr
- spec/head from subj->verb licenses agreement
- head/spec from verb->subj (in spec/vp) licenses case
- silent pronouns
- introducing the expletive: case licensing problem (too many DPs). expletives don't need case? not likely. Maybe if we coindex it with the DP, and share case?

### 14 Problem 2

- c.f. homework with "have" and "get" passives
  - "John got arrested"
  - "he had his bike stolen (on him)"
  - always start by assuming that the principles we've already developed will explain the data: try to say "this is just like phenomenon xyz in language foobar," and then see what you need to change.
- rare=passive verb. can assign accusitive or not. supresses case assignment by the main verb. c.f. "got"
- in 16, "john ni" is an adjunct, not a subject (not an adversitive passive)
- Japanese doesn't let us easily distinguish "by John" from "John/acc", because of the double-o constraint (you can't have 2 accusitives in one clause in japanese)

|| Mary-wa John-ni zibun-no uit-de hon-o [[yom]-ase]-rare-ta  
|| John made mary read books in \*his/her house  
|| Mary was caused by John to read books in \*his/her house

So "by John" is an adjunct

## 15 Problem 3

- What all did you see?

"I saw them all" vs. "I saw what all"

What's the structure of "I saw them all"?

|| [DP [D' [D all] [DP ...]]]

Second dp doesn't get case, so we can add:

|| [DP [D' [D all] [PP [PP' [P of] [DP ...]]]]]

Try starting out with:

|| [DP [D' [D all] [DP what]]]

And transform to:

|| [DP [DP<sub>i</sub> what] [D' [D all] [DP t<sub>i</sub>]]]

And then we can move "what" out of spec.

Cyclic movement, yada yada...

Object control verbs: force, expect..

|| I forced Mary to leave her home.

How to deal with them?

|| What did you force Mary all to do

|| What did you expect Mary all to do

c.f. ECM verbs

Explaining "expect"? Maybe expect can be an ECM verb "I expect there to be a dog" and can also be a force verb "I expect John to come."

c.f. two meanings of:

|| England expects every man to do his duty.

is it "england expects of every man..." or "england expects that every man..."

Dialect is spoken in Western Ireland. Interesting because:

- Irish shows overt evidence of cyclic movement
- Irish influence accounts for some of the interesting peculiarities of the harder examples.
- this dialect might be a perverted VSO?
- Learners of this dialect start out knowing Irish, and try to apply Irish rules to English

## 16 Pollock's article

Split-infl was adapted, but all of his explanations for it were not.

The real motivation behind the article: non-split-infl can't account for the structure of French sentences.

Since we're splitting infl to account for word order variations, the labels we put on the phrases doesn't really matter so much. We don't have much evidence for what we should call them.

E.g., one possibility: tense/mood/aspect phrases

### 16.1 Infinitive Word Order

In french, the adverb can precede the infinitive:

```
|| à peine parler fran,cais
|| parler à peine fran,cais
```

So in French, infinitives move around. (In English, non-finite verbs don't move.)

Can't be adverb movement, because how would the adv get between the verb and its object.

One solution: English has "to", french infinitives don't. So in French, infinitives can move to I, and in English they can't.

### 16.2 Negations

```
|| Jean ne parle pas fran,cais
```

→ indicates that "parle" moved up to infl.

But for infinitives:

```
|| *ne parler pas fran,cais
|| ne pas parler fran,cais
```

Why can't the verb move to infl in the infinitive?

But combine:

```
|| ne pas parler à peine fran,cais
|| *ne parler pas à peine fran,cais
```

Here "parler" moved over the adverb, so it must have moved. But it didn't move over "pas."

## 17 Iatridou

Demolished Pollock's arguments that English has verb movement. But Pollock's arguments for French still stand..

## 18 Double-Object Construction

Consider:

```

|| I gave Johni pride in himselfi/*himi
|| I gave pride in *himselfi/himi to Johni
|| I showed the actori to himselfi/*himi
|| I showed *himselfi/*himi the actori
|| I showed *himselfi/*himi to the actori
|| I showed a picture of ?himselfi/*himi to the actori

```

How to explain anaphora? Easiest way: assume that c-command explanation covers this data.. leads us to believe that double-object structure is:

```

|| [VP [V] ... [. [DP] ... [. [DP] ...]]]
||   VP
||   /\
||  v /\
||   DP/\
||   DP

```

N.b.: we could also explain by appealing to "precedence" (left→ right order). But we'd rather not.

```
|| I talked to Johni about *himi/himself
```

John is in a PP, but is binding – maybe PPs are like case-marked DPs.. (PP/DP complex is one category...)

Ideas for double object construction:

- small clause with zero-be

But if we try to do a small clause with:

```
|| I gave John a book
```

then what's the zero verb? Certainly not be!

Evidence that double-object & double-complement actually don't mean the same thing:

```

|| Nixon gave Mailer an idea for a book.
|| Nixon gave an idea for a book to Mailer.

```

The first sentence has 2 interpretations: Nixon could be actively giving Mailer an idea, or Mailer might have watched Nixon and gotten an idea.

```

|| The storm gave John an idea for a book
|| * The storm gave an idea for a book to John.

```

```

|| John taught his children French.
|| John taught French to his children.

```

→ Did his children actually learn French? Yes for the first, maybe not for the second.

```

|| I sent the book to Max
|| I sent the book to Philly
|| I sent Max the book
|| I sent *Philly the book

```

## 19 Final Exam

- handed out midnight tomorrow
- due 10 days later
- final counts more than the midterm

## 20 More fun with double-objects

### 20.1 VP Shell analysis

- One VP inside another.
- In surface structure, the lower V is empty

Advantage:

- Allows us to preserve the simplest account for the binding theory. (no "precedence")
- For careful examples, we can show that the indirect object acts like a subject.
  - (but not true for all examples? – suggests that our current theory of binding is inadequate)
  - Allows binary branching syntax, strictly xbar.

Interesting question: why would language need to be binary branching?

### 20.2 Control

Consider:

|| I tried to leave the meeting early.

What's the subject of [to leave the meeting early]. One option – PRO:

|| I tried [PRO to leave the meeting early.]

(Called "subject control").

Decide between:

- try takes an I' compl with no subject
- try takes an IP compl with PRO subject

|| Who to invite isn't clear.

|| Who one should invite isn't clear.

What position is "who" in? compl. So [to invite] is an IP

C.f.:

|| Who PRO to invite isn't clear

→ PRO isn't bound ("arbitrary pro")

|| I tried PRO to leave

→ PRO is bound ("control pro")

Interesting thing about arbitrary pro: it must be +human.

Are they different elements?

Evidence for control-pro: icelandic

Recall: "lack" takes accusitive subject and nominative object

|| I want to lack money-nom.

We can insert quantifiers at various positions

|| They want all-nom to lack money

(gets object case from "want")

|| They want all to all-acc lack money

|| They want all to lack money all-acc

(gets subject case from lack's subject)

If all is agreeing with the subject of "lack", then "lack" must have a subject..

Structure for believed..

|| [. I believed [. John to have left.]]

Structure for persuade? This isn't reasonable:

|| [. I persuaded [. John to leave.]]

Maybe this:?

|| [. I [VP persuaded [. John PRO to leave.]]]

What's the structure here? We could do ternary branching:

|| [. I [. persuaded John [. PRO to leave]]]

But we don't like that.

( $\exists$  evidence that [PRO to leave] is a CP for persuaded) ( $\exists$  evidence that [John to leave] is an IP for believed)

Use VP shell analysis to account for "persuade":

|| Cause to believe that should.

We might be getting the subjunctive ("should") from "to". E.g., c.f:

|| who to invite

|| who one should invite

So then persuade could mean:

|| cause to believe

This is consistent with the fact that all of our double-object verbs used "cause" as their higher verb.

|| [I [V' [. CAUSE BELIEVE<sub>i</sub>]

|| [IP John [V' t<sub>i</sub> [IP PRO to leave]]]]]

object control is an illusion: we can just away with subject control.

### 20.3 Larson's Idiom Arguments

hypothesis: idoms must be constituents in deep structure

might not be true..

These idoms include pronouns:

|| John craned his neck.

|| Mary lost her way.

And this can include arbitrary NPs:

|| sent Drysdale to the showers

John doesn't like things like:

|| John gave linguistics his all.

For Larson, this is the transformed version. But we can't say:



|| John gave his all to linguistics.

What about:

|| Linguistics got my all.

Larson says "his all" is the idiom, not including the give.

But if we split "give" into CAUSE+get, then we can say that the idiom is actually "get his all," and that give is just adding CAUSE.