

Before we start

L2 Syntax Lecture 12: Universal Grammar

Robert Truswell

- Next week's schedule:
 - Monday, Tuesday: No lecture
 - Wednesday: Dr Sharon Maguire (careers service)
 - Thursday: Tutorials as usual
 - Friday: No lecture

Plan for today

- Recap of Monday
- Summary of the whole course (but please don't use this as a substitute for revision – it's not that comprehensive)
- The big picture – syntactic theory embedded in cognitive science

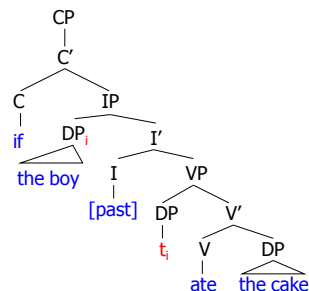
Today's reading

- Jackendoff (2002), ch.4
- Copies available on WebCT, in the DSB ground floor resource room, and in the library

Wh-movement: core properties

- Not driven by the need for case
- Not just DPs that move
- Movement to [Spec,CP]

Building an indirect question



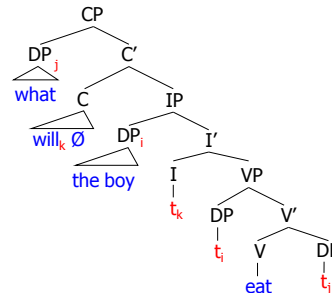
Moving on to direct questions

They wonder [_{CP} what [_{IP} the boy will eat *t*]]
 Theme Agent

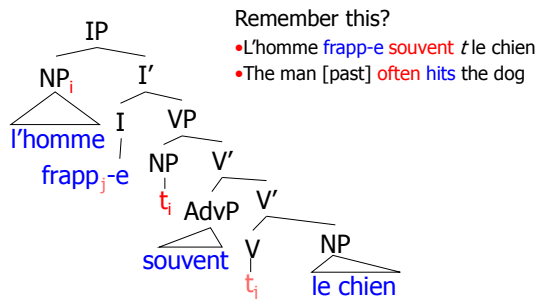
Direct question: What will the boy eat?

- almost same structure as indirect version

Head movement



Head movement



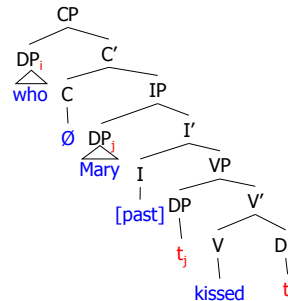
Head movement

- Head movement is the **third type of movement**
- Driven by different requirements:
 - Raising, passive, subject movement: **Case filter**
 - *Wh*-movement: **interpretive properties** (question vs statement, etc.)
 - Head movement: **form complete words** from individual morphemes

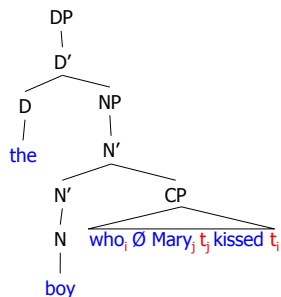
Wh-movement beyond questions

- The same sort of movement is also found in **relative clauses**
 - The boy [_{wh}_i *t*_i ate all the sweets]
 - The boy [_{wh}_i Mary kissed *t*_i]
 - The woman [from whom_i I learnt French *t*_i]
- No head movement here

Relative clause structure



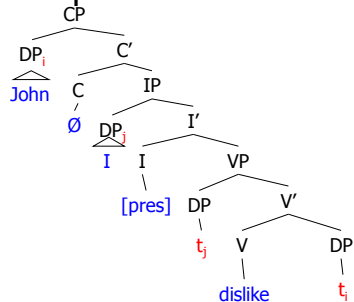
Relative clause structure



Wh-movement beyond questions

- The same sort of movement is also found in **topicalization**
 - [Idiots like him]_i, I just can't stand t_i
 - To John_i, I gave a card t_i , and to Mary_i, I gave a present t_i
- Not even movement of a *wh*-phrase here
- Movement still driven by interpretation, not case

Topicalization structure



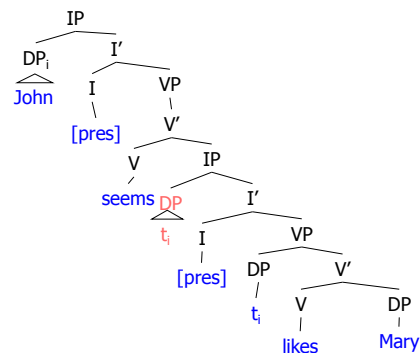
The three types of movement: similarities

- Structure-preservation:
 - XP-movement targets XP-positions, head movement targets heads
 - *Sun_i, I like [the t_i]
 - *The_i, I like [t_i sun]
 - Nous mang-erons [t_i du fromage]
 - We eat-will.1pl some cheese
 - *Nous [mange du fromage]_i-erons t_i

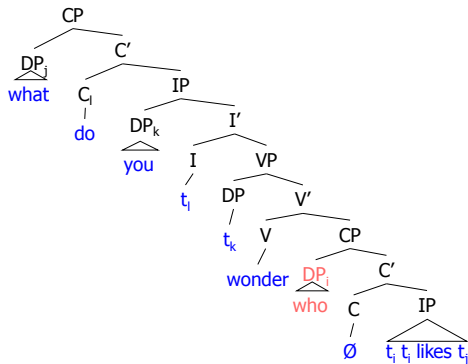
The three types of movement: similarities

- Locality:
 - Movement for case only to the nearest case position
 - *John seems [t_i likes Mary]
 - No *Wh*-movement out of *wh*-questions
 - *What_i do you wonder [who_j [t_j likes t_i]]
 - Head movement only to the nearest head
 - Could_i you t_i have won
 - *Have_i you could t_i won

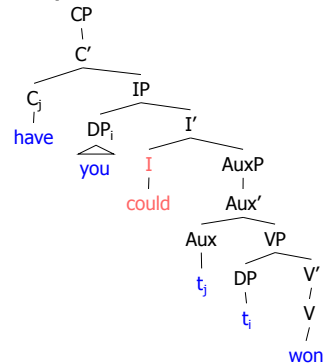
*John seems likes Mary



*What do you wonder who likes?

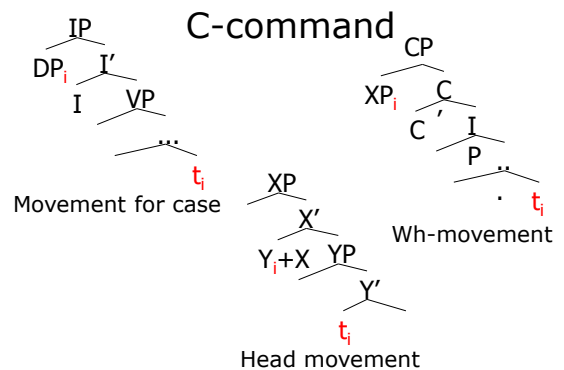


*Have you could won?



The three types of movement: similarities

- Landing site:
 - The "shape" of every movement is very similar
 - The trace of movement...
 - ...is contained in the sister...
 - ...of the landing site of the movement
 - We call this configuration "c-command". It is very important in many syntactic phenomena you may see in honours.



Overall summary

We have given you:

- A set of building blocks
 - Elementary trees
 - Small inventory of lexical category labels (N, V, Adj, Adv, ?P)
 - Small inventory of functional category labels (D, I, C, ?P)
 - Inventory of thematic role labels (Agent, theme,...)

Overall summary

We have given you:

- A set of operations ("rules")
 - Substitution
 - Adjunction (cloning + substitution)
 - Movement
 - leaves a coindexed trace
 - Obeys restrictions on structure preservation, locality, and c-command

Overall summary

We have given you:

- A set of well-formedness constraints
 - Theta Criterion
 - Every semantically contentful DP must be assigned exactly one thematic role, and every thematic role must be assigned
 - Case filter
 - All DPs (except PRO?) must bear case
 - “Extended Projection Principle”
 - every clause must have a subject
 - X'-theory

Overall summary

We have given you:

- A large amount of choice points
 - Does the complement in an elementary tree follow (English) or precede (Japanese) the head?
 - What about the specifier?
 - Does cloning create an extra node on the left or the right (or both)?
 - Are these choices constant across lexical categories?

Overall summary

We have given you:

- A large amount of choice points
 - Does V move to I (French) or does I agree with V (English)?
 - Does V move further to C (language in tutorial)?
 - N to D (proper names)? D to P (French *au*, German *zum*)?

Overall summary

We have given you:

- A large amount of choice points
 - What is the distribution of different cases in the language? What is assigned where?
 - What use is made of C and [Spec,CP]?
 - Any further projections?

Overall summary

Everything else is **epiphenomenal**

- The distribution of case-driven movement is determined by our choice of theta-positions and case-positions
 - Subject movement from [Spec,VP] to [Spec,IP] and from [Spec,NP] to [Spec,DP]
 - Passive: movement from complement of V/N to [Spec,IP] or [Spec,DP]
 - Raising: movement from nonfinite [Spec,IP] to finite [Spec,IP] or [Spec,DP]

Overall summary

Everything else is **epiphenomenal**

- The distribution of non-case-driven phrasal movement is determined by the use we make of [Spec,CP]
 - *Wh*-questions (direct and indirect)
 - Relative clauses
 - Topicalization

Overall summary

The ultimate goal

- Design a template for different grammars, with choice points
- Fix the choice points, and you get a grammar of a particular language
- Plug lexical items in, and you get well-formed sentences of that language
- Fix the choice points a different way, and you get a different language

Language acquisition

Language **must** be learned

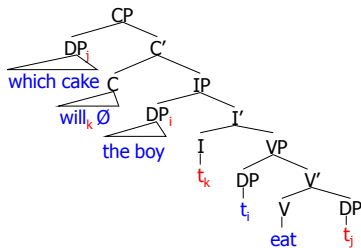
You are not born knowing a **particular** language



You learn a language from data

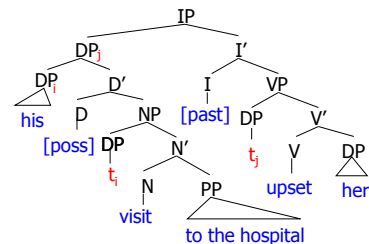
Learning language: some observations

- Language is complicated



Learning language: some observations

- Language is complicated



Learning language: some observations

- Language is complicated
- But children **always** succeed
- Children acquire essentially the same language as the rest of their speech community
- This is remarkable, given the data that children learn language from

The poverty of the stimulus

- Children learn language from data (the **stimulus**)
- This data is deficient in various ways (the **poverty of the stimulus**)
- So they may well have some cognitive capacity to help them overcome the deficiencies

The poverty of the stimulus

- children are exposed to data containing **errors**
- children get **incomplete data**
- different children are exposed to **different data**
- children don't get **negative evidence**
- children **aren't directly rewarded**

Universal Grammar: the basic idea



"An engineer faced with the problem of designing a device for meeting the given input-output conditions would naturally conclude that **the basic properties of the output are a consequence of the design of the device**. Nor is there any plausible alternative to this assumption" Chomsky (1967)

UG and language acquisition

UG helps in two ways:

- **reduces the range** of options
- **fully specifies** the options

Language acquisition is "the growth of cognitive structures along an internally directed course under the triggering ... effect of the environment" (Chomsky 1980)

The poverty of the stimulus

How DO children learn language?

A problem: Children reliably acquire a complex system on the basis of a degenerate set of data

A solution: **Universal Grammar**: children are born with a "language instinct"

Universal Grammar

Innate knowledge guides children during language acquisition

- restricts the range of possible human languages
- gives an acquisition procedure for picking the correct grammar (**Language Acquisition Device**)

Principles and Parameters

One way of thinking about UG.

UG provides:

Principles: hard-wired universal constraints on the form of languages

Parameters: points where languages choose from among limited options

Learner just has to **set parameters**.

Principles and Parameters

- some Principles in this course
 - structure-dependency (X'-theory)
 - Availability of substitution, adjunction, and movement
 - Case filter and the theta criterion
- some Parameters in this course
 - head-complement (etc.) ordering
 - distribution of non-case-driven movement
 - How many cases? Where are they assigned?

A Principle: structure-dependency

Syntactic operations depend on **constituent structure**.

Example: yes/no questions

Is_i the girl **t_i** tall?

Is_i [the dog that is in the garden] **t_i** barking?

Formed by moving **main clause** auxiliary verb in front of **subject DP**

Not moving the first Aux to the front

Structure-dependency and stimulus poverty

The crucial type of example:

- Is_i [the dog that is in the garden] **t_i** barking?
- *Is_i [the dog that **t_i** in the garden] is barking?

“You can go over a vast amount of data of experience without ever finding such a case”
Chomsky, in Piattelli-Palmarini (1980)

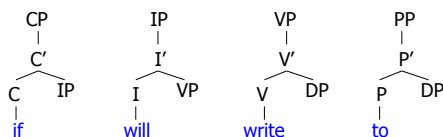
Data **incomplete**, therefore this knowledge must be in UG.

Principles: a summary

- UG contains information on invariant properties of language
 - Principles
- All languages have these properties
 - universal
- Children don't have to learn these properties
 - innate knowledge

Parameter: head-complement ordering

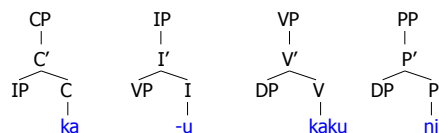
What order do heads and complements appear in?



English is **head-initial**

Parameter: head-complement ordering

What order do heads and complements appear in?



Japanese is **head-final**

Parameter: head-complement ordering

The head-order parameter has two settings:

- head-initial
- head-final

Children learning **English** pick the first option

Children learning **Japanese** pick the second

Typological data

	Preposition	Postposition	Other
Verb-Object	418 (41%)	38 (4%)	26 (3%)
Object-Verb	10 (1%)	427 (42%)	43 (4%)
Other	13 (1%)	27 (2%)	14 (1%)

Dryer (2008), in *World Atlas of Language Structures*,
<http://wals.info>

The null subject parameter

Yes: tensed clauses can have null subjects

No: every tensed clause must have an overt subject

No setting: English (French, Edo, ...)

1. he speaks English
2. * speaks English

Yes setting: Spanish (Italian, Navajo, ...)

3. él habla Español
4. habla Español

The null subject parameter

Yes: tensed clauses can have null subjects

No: every tensed clause must have an overt subject

Further consequence: dummy subjects

1. it is raining / * is raining
2. llueve

The null subject parameter

Yes: tensed clauses can have null subjects

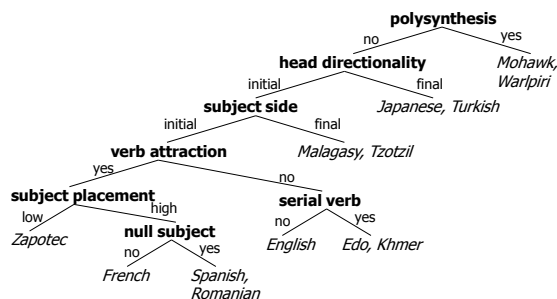
No: every tensed clause must have an overt subject

Further consequence: non-movement of subjects

1. Alex will come / * will Alex come
2. Alex vendrá / vendrá Alex

[Spanish raises V to I]

A parameter space (from Baker (2001) *The Atoms of Language*)



A P&P grammar

- In the Principles and Parameters framework, a grammar is nothing more than:
 - a specification of the **settings of all parameters**;
 - a list of **lexical items** (elementary trees)

Principles and Parameters: summary

Principles: provided by UG, invariant

Parameters: provided by UG, languages vary in parameter settings

P&P aims to explain:

- language acquisition
- language universals
- linguistic variation

Universal Grammar: summary

- The poverty of the stimulus problem
 - language can't be learned purely from the data children are exposed to.
- Children must have innate linguistic knowledge
 - Universal Grammar
- Principles and Parameters approach
 - one way of thinking about UG