

# Syntactic Agreement

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Class 2

EGG in Lagodekhi

# Agree (Chomsky 2000)

**Agree** is a syntactic operation taking place between a **probe P** and a **goal G** between which a **Matching** relation holds.

Chomsky's (2000) definition:

- “Matching is a relation that holds of a Probe P and a goal G. Not every matching pair induces Agree. To do so, G must (at least) be in the *domain*  $D(P)$  of P and satisfy locality conditions.

‘The simplest assumptions for the probe-goal system are:

- (I) **matching is feature identity**
- (II)  **$D(P)$  is the sister of P**
- (III) **locality reduces to "closest c-command"**

# Agreement as a rule

“We can state the occurrence of auxiliaries in declarative sentences by adding to the grammar the following rules:

- (i) *Verb*  $\rightarrow$  *Aux + V*
- (ii) *V*  $\rightarrow$  *hit, take, walk, read, etc.*
- (iii) *Aux*  $\rightarrow$  *C (M) (have+en) (be+ing) (be+en)*
- (iv) *M*  $\rightarrow$  *will, can, may, shall, must* “

(Chomsky 1957:39)



# Agreement as a rule

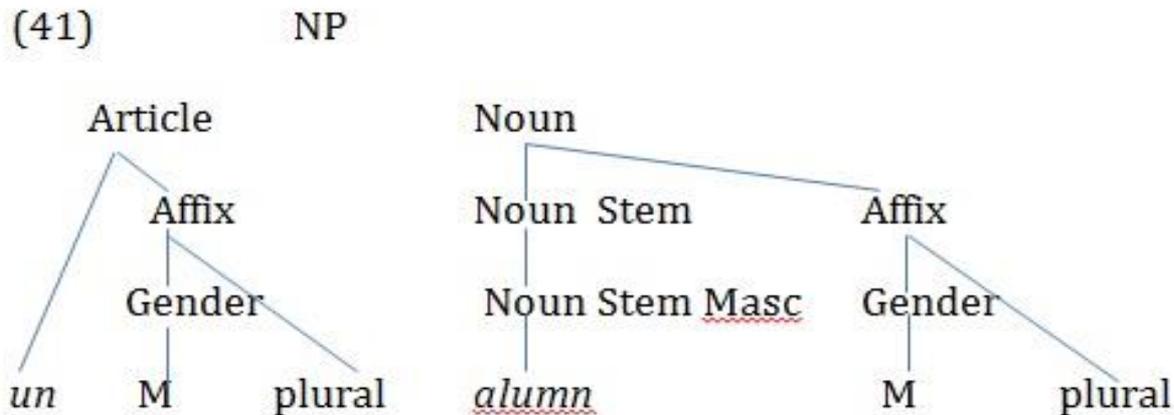
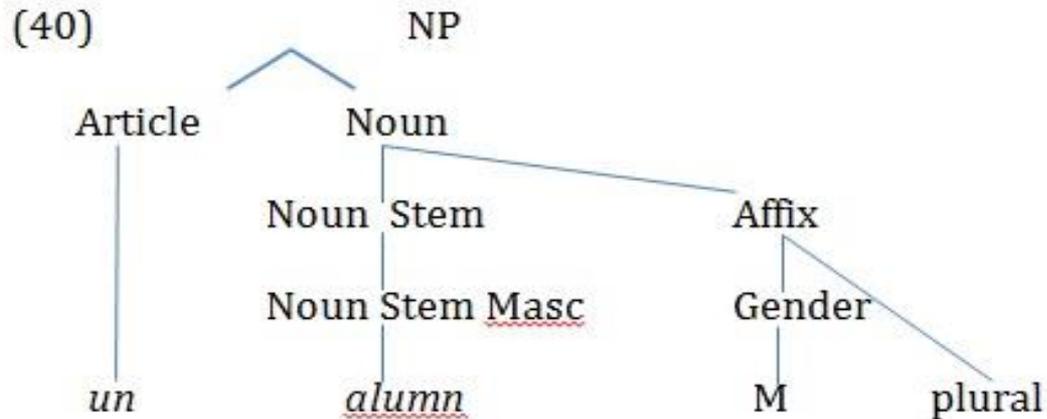
- In addition, he states that the grammar must contain the following agreement transformation:

- $T_{\text{AGREEMENT}}$

Article,	Noun Stem,	Affix,	(Adjective)
1	2	3	4

- 1...4  $\rightarrow$  Article + Affix, Noun Stem, Affix, (Adjective + Affix)

# Agreement as a rule



# Chomsky's (1965) version

(42)

“Article  $\rightarrow$   $\left\{ \begin{array}{l} \alpha \text{ Gender} \\ \beta \text{ Number} \\ \gamma \text{ Case} \end{array} \right.$  /  $\_ \dots$   $\left\{ \begin{array}{l} + N \\ \alpha \text{ Gender} \\ \beta \text{ Number} \\ \gamma \text{ Case} \end{array} \right.$ ”

where Article ... N is an NP”  
[Chomsky 1965:175]

# At work!

- Take example (1) and draw the transformational agreement rules according to Postal's model and according to Chomsky's model. Do you notice any difference?

(1) *La bella casa rossa antica*  
the-F.SG beautiful-F.SG house-F.SG red-F.SG old-F.SG  
'The beautiful red old house'

# INFL

S → NP INFL VP                      Chomsky (1981)

where INFL can have the values [ $\pm$  Tense]. Chomsky goes on specifying that if INFL is finite:

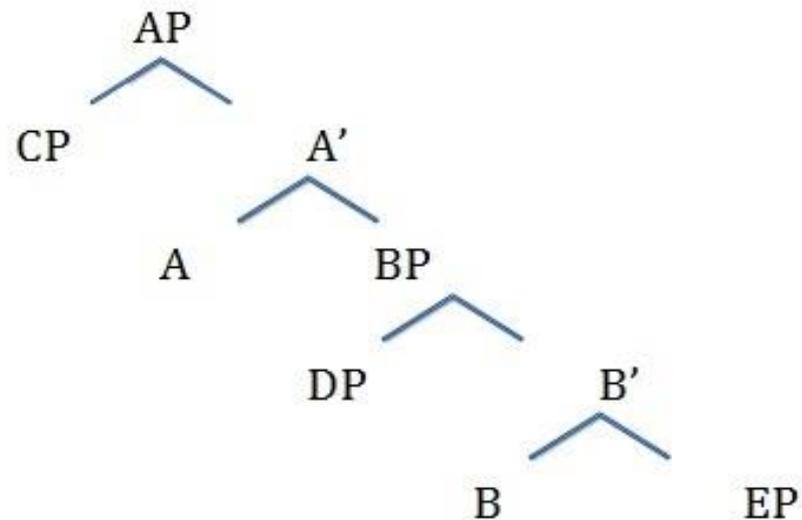
(44) “it will furthermore have the features person, gender and number; call this complex AGR (“agreement”). The element AGR is basically nominal in character; we might consider it to be identical with PRO and thus to have the features [+N, -V]. If so, then we may revise the theory of government, taking AGR to be the governing element which assigns Case in INFL. Since [+N, -V] is not generally a Case-assigner, we must extend the theory of Case so that [+N, -V, +INFL] is a Case-assigner along with [-N], regarding [INFL] as basically “verbal”, if we take AGR to be nominal. INFL governs the **subject** if it contains AGR, then assigning nominative Case by virtue of the feature [+INFL]. It now follows that the only governors are categories of the form  $X^0$  in the X-bar system (where  $X = [\pm N, \pm V]$ ). Subjects are nominative when they agree with the matrix verb – technically, with its inflection.”  
[Chomsky 1981: 52]

# Government

A **governs** B if and only if

- A is a **governor** and
  - A m-commands B and
  - no **barrier** intervenes between A and B.
- 
- **Governors** are heads of the lexical categories (V, N, A, P) and tensed I (T). A m-commands B if A does not dominate B and B does not dominate A and the first maximal projection of A dominates B. The maximal projection of a head X is XP. This means that for example in a structure like the following, A m-commands B, but B does not m-command A:

# C-command and M-command



# INFL

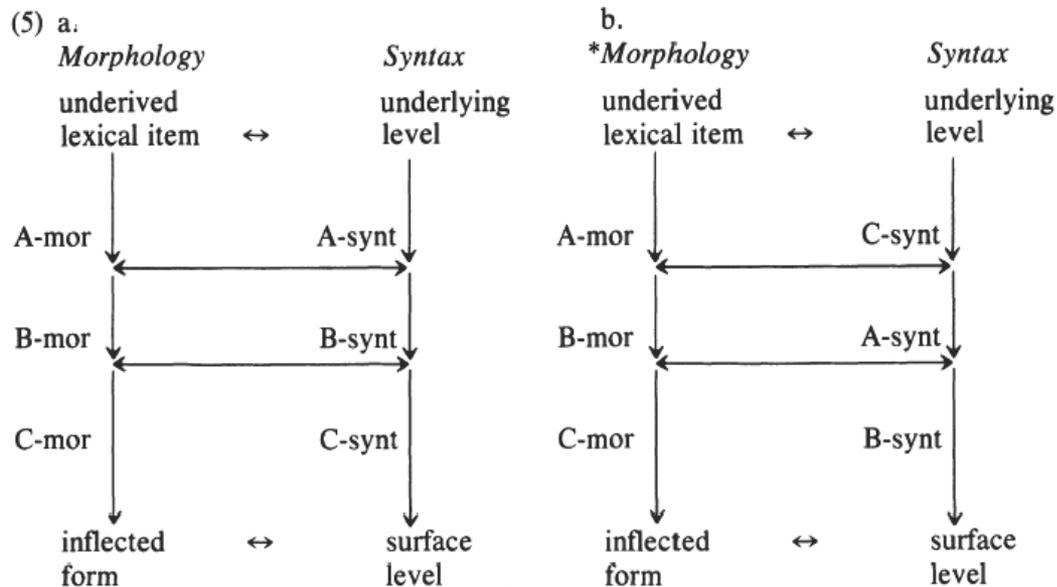
- Conceptually wrong
- A head must belong to a category for selectional reasons
- Decompose the head and recombine it through incorporation

# Agreement as a relation (GB)

## *The Mirror Principle*

- Morphological derivations must directly reflect syntactic derivations (and vice versa)

(Baker 1995)



# Pollock (1989)

(48) Jean embrasse souvent Marie

vs

(49) John always kisses Mary.

- The position of the verb in English and French is also different with respect to negation, as the following examples show.

(50) Jean n'aime pas Marie

(51) \*John likes not Mary

(52) John does not like Mary

(53) \*Jean ne pas aime Marie

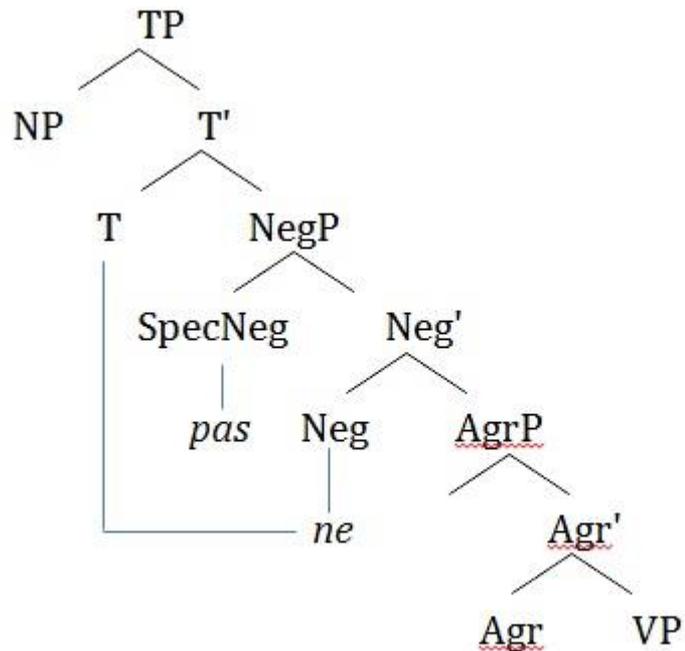
# Pollock (1989)

(54) Jean essaye de rencontrer **souvent** Marie

(55) Jean essaye de ne **pas** rencontrer souvent Marie

(56) \*Jean essaye de ne rencontrer **pas** Marie

(60)



[Pollock 1989:414]

# Kayne (1989/2000)

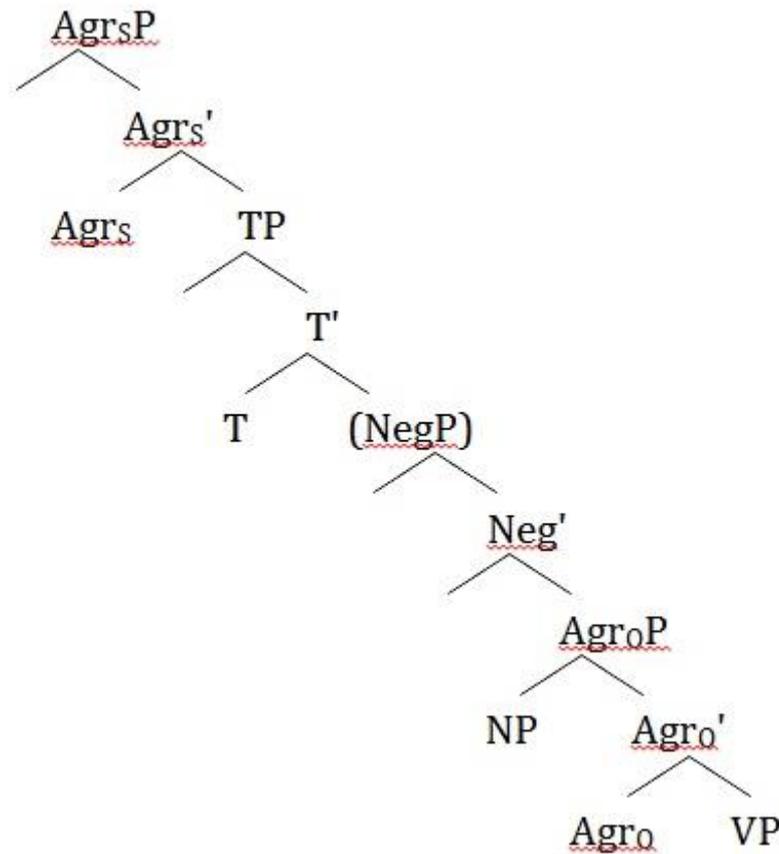
(63) a. Paul a                      repeint                      les chaises  
Paul has                      painted-sg ms the chairs-pl fem  
'Paul has repainted the chairs'

b.            \*Paul a repeintes les chaises

(64) Paul les                      a                      repeintes  
Paul them-pl fem                      has                      painted-pl fem  
'Paul repainted them'                      (Kayne 2000: 25)

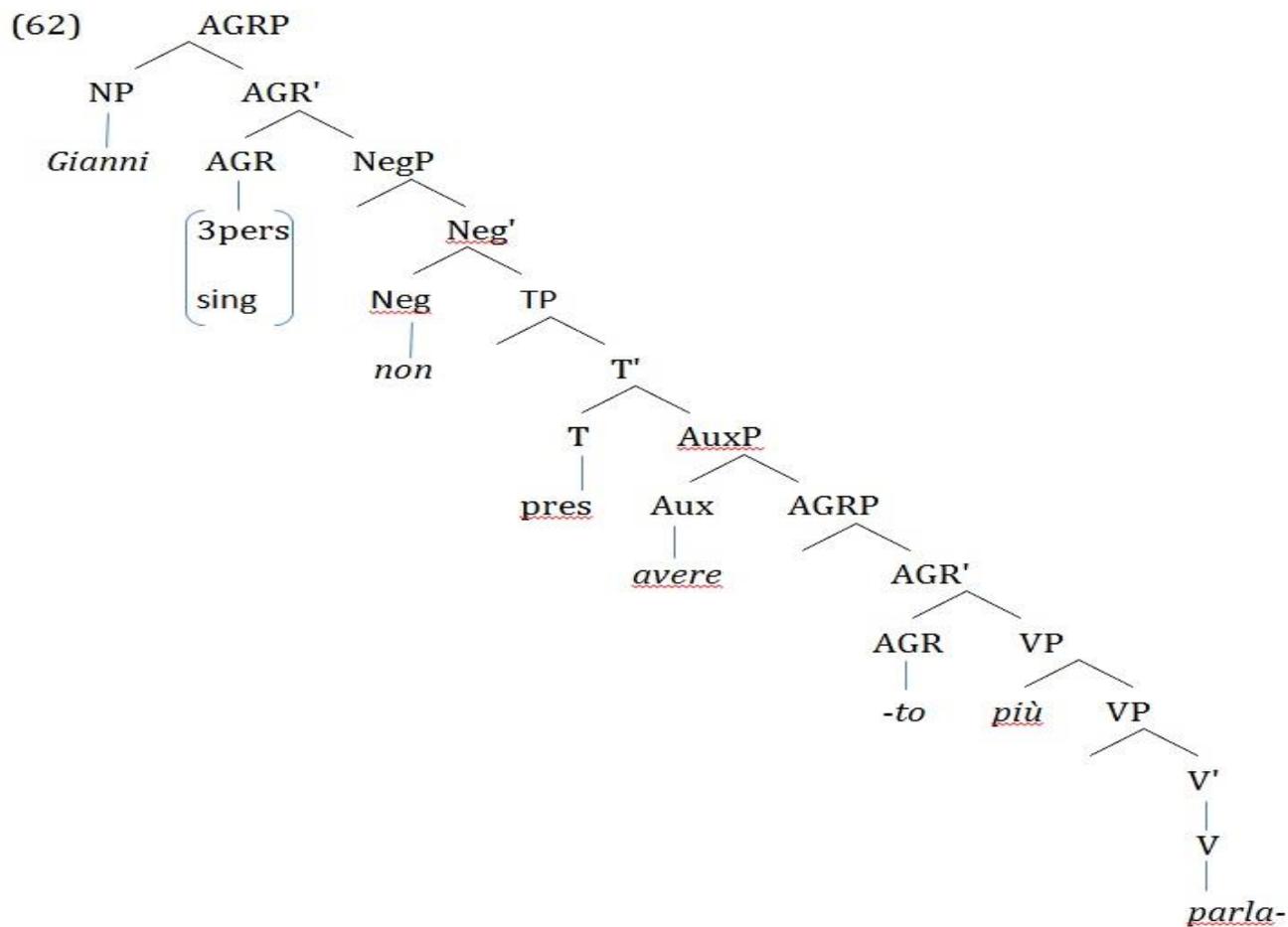
# Kayne (1989/2000)

(65)



# Belletti (1990) GVM

(61) Gianni non ha più parlato  
Gianni neg has-3RD.SG more talked-M.S.  
'Gianni no longer spoke'



# The Minimalist Program

- Chomsky 1995 (Chapter 4)

## MOVE

- There are only two possible operations in the  $C_{HL}$  (computational system of Human Language, another name for FL): **Merge and MOVE**. Move is a **Last Resort** operation, as it is costly. Given a syntactic element  $\alpha$ , and a **target K c-commanding  $\alpha$** ,  $\alpha$  can move only for the following reasons:

(66)  $\alpha$  can target K only if:

- a. a feature of  $\alpha$  is checked by the operation
- b. a feature of either  $\alpha$  or K is checked by the operation
- c. the operation is a necessary step toward some later operation in which a feature of  $\alpha$  will be checked  
(Chomsky 1995: 257).

# The MP – Move - features

- There are several key concepts in this definition that need to be underlined here.
- The first is the question whether  $\alpha$  moves together with its feature or not. There are at least two conceptual alternatives:
  - 1.  $\alpha$ , a syntactic item, moves together with the feature on  $\alpha$  that needs checking (pied-piping)
  - 2. the feature that needs checking moves, while  $\alpha$  stays behind (stranding).

# The MP – Move

In Chapter 4, Chomsky considers both options.

- Features move with their host
- Features move without their host, (i.e. it is features, not morphemes, that move)

(Distributed Morphology was in the air: Halle & Marantz were discussing the possibility that morphemes are abstract entities, called “Q” by Halle, to indicate variables for complex symbols. Reconceptualizing morphemes as abstract entities, separating features from their “hosts” has been the aim of Distributed Morphology).

# Move – Egoistic or altruistic?

The second issue contained in (66) concerns the fact that movement can obtain to check a feature on **either  $\alpha$  or K**.

In other words, movement obtains for the needs of  $\alpha$  but it can also obtain for the needs of K.

Does a syntactic item move to satisfy its own needs or to satisfy the needs of another item?

The first stand taken by Chomsky is to leave the issue open.

**BUT**

# Early MP – Greed

## Three principles

- **LAST RESORT**

Move  $\alpha$  to  $[\text{Spec}, \beta]$  only if some property of  $\alpha$  requires it.

- **GREED**

Movement of  $\alpha$  to  $\beta$  must be for the satisfaction of formal requirements of  $\alpha$ .

- **PROCRASTINATE**

Delay movement whenever possible.

# Move for Case checking

If  $\alpha$  is an argument, it will Move for instance to check its Case feature. The formulation goes as follows:

“ $\alpha$  has uninterpretable Case features which need to be checked against a head with interpretable ones, and subsequently deleted”.

(2) There is a man in the garden

Why do we insert there, if we have “a man” in the numeration?

# Feature movement

Wh- movement in English and in Mandarin Chinese

(1) **What** does Zhangsan think [Lisi bought t] ?

(2) Zhangsan yiwei [Lisi mai-le **shinwe**]?

Zhangsan thinks [Lisi bought **what**]

Does the wh- element move or not?

- In English the wh- phrase is pied piped with its feature (STRONG FEATURE)
- In Chinese the wh- feature moves alone (WEAK FEATURE)

# The Minimal Link Condition

- MINIMAL LINK CONDITION
- $\alpha$  can move to target K only if there is no legitimate operation Move  $\beta$  targeting K, where  $\beta$  is closer to K than  $\alpha$ .  
(Chomsky 1995: 296)

Question: you are  $\alpha$ . How do you know that there's a  $\beta$  closer to K than you?

# MLC

(5) Seems [that **it** was told **John** [that IP]

We can move *John*

We can move *it*

Both will give unconverging intermediate derivations



ATTRACT

ATTRACT

K attracts F if F is the closest feature that can enter into a checking relation with a sublabel of K.

(Chomsky 1995:297).

# Delete and Erase

- Recall Pollock and Emonds
- T has uninterpretable  $\Phi$  features – strong D feature
- It attracts the V (in Romance) because the D feature is strong
- Once the Verb moves to T, the uninterpretable  $\Phi$  features are deleted

→ Why do we see inflection on the verb?

**Features are deleted but not erased**



# Movement and Agreement

- Attract: the verb in V (what we so far have called  $\alpha$ ) Moves to T (V-to-T movement). The verb checks the uninterpretable V-feature on T. This feature gets deleted (but possibly not erased).
- The uninterpretable D-feature on T also needs checking; it is a strong feature, so the subject is attracted to Spec, T by it. Move takes  $\alpha$  (the subject) and moves it to Spec, T.
- At this point the whole DP subject has moved, pied-piping unvalued features. What happens to them?
- Uninterpretable ([u] henceforth) Case ([u]Case) on the subject is checked against [i]Case=Nominative on T as a free rider and deleted.
- [u] $\phi$  on T are checked against [i] $\phi$  on the subject as free riders
- Agreement is now checking of interpretable features against uninterpretable ones. Agreement does not drive computation.

# The next step: Agree

- Movement and agreement are dissociated
- The needs of the probe drive the computation

**Agree** is a syntactic operation taking place between a **probe P** and a **goal G** between which a **Matching** relation holds. Chomsky's (2000) definition:

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# Readings

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