

## PARAMETERS OF LINGUISTIC VARIATION

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### THE NULL SUBJECT PARAMETER

#### 1. NULL SUBJECT (= *PRO-DROP*) LANGUAGES

Apollonius Dyscolus:

(1) The nominative [subject] is implicitly present in [finite] verbs, and it is definite (i.e. has definite reference) in the first and second persons, but indefinite in the third because of the unlimited number of possible referents.

[On Syntax, Book 1, §17; Householder (1981:25)]

(2) In many languages the distinction between the three persons is found not only in pronouns, but in verbs as well .. in Latin .. Italian, Hebrew, Finnish, etc. In such languages many sentences have no explicit indication of the subject, and *ego amo, tu amas* is at first said only when it is necessary or desirable to lay special stress on the idea "I, thou." [Jespersen (1924:213)]

- (3)
- a. Parla italiano
  - b. \*Speaks English
  - c. Habla español
  - d. Mila ellinika.
  - e. \*Parle français.

In null-subject languages (= *pro-drop* languages) the subject of sentences does not need to be pronounced.

The Null-Subject parameter (1<sup>st</sup> version):

- (4) Does every finite clause require an overt subject?

YES: non-null-subject languages (French, English ..).

NO: null-subject languages (Italian, Spanish, Greek, Japanese, Navajo ..)

### 1.1. TYPES OF NULL-SUBJECT SYSTEMS

#### 1.1.1. CONSISTENT NULL-SUBJECT LANGUAGES

All persons in all tenses can feature an unexpressed pronoun (with some exceptions—see Italian *tu* in present subjunctive)

Rich agreement inflection:

(5) a. ITALIAN

bevo "I drink" (etc)

bevi

beve

beviamo

bevete

bevono

b. GREEK

pino "I drink" (etc)

pinis

pini

pinume

pinete

pinun

c. TURKISH

içiyorum "I drink" (etc)

içiyorsum

içiyor

içiyoruz

içiyorsunuz

içiyorlar

[Roberts & Holmberg in press: 6]

Overt pronouns are allowed (see Jespersen above)

(6) a. Lui parla italiano. (Italian)  
HE speaks Italian.

b. Él habla español. (Spanish)  
HE speaks Spanish.

c. Aftos mila ellinika. (Greek)  
HE speaks Greek.

[Roberts 2007]

Condition on interpretation [Vanelli, Renzi & Benincà 1986, Samek-Lodovici 1996, Frascarelli 2007]:

(7) a. Il professore<sub>i</sub> ha parlato dopo che (lui)<sub>\*i/j</sub> è arrivato. (Italian)  
The professor has spoken after that (he) is arrived  
"The professor spoke after he arrived."

b. I Maria<sub>i</sub> jelase afou (afti)<sub>\*i/j</sub> idhe ton Yianni. (Greek)  
The Mary laughed after (she) saw Yiannis.  
"Mary laughed after she saw Yiannis."

[Roberts 2007]

But:

(8) a. The professor<sub>i</sub> spoke after he<sub>i/j</sub> arrived.  
b. Le professeur<sub>i</sub> a parlé après qu'il<sub>i/j</sub> est arrivé.

#### 1.1.2. EXPLETIVE NULL-SUBJECT LANGUAGES

Some languages apparently allow expletive null subjects, but not referential ones. German is one such language, as are some varieties of Dutch and Afrikaans, and a range of creoles (Nicolis (2005, 2008) mentions Cape Verdean, Berbice Dutch, Kriyol, Mauritian, Papiamentu and Saramaccan; Roberts (2007a: 413) adds Haitian and Jamaican).

- (9) a. Gestern wurde (\*es) getanzt. (German)  
yesterday was (it) danced.  
"Yesterday there was dancing."  
b. Gestern war \*(es) geschlossen.  
Yesterday was (it) closed.  
"Yesterday it was closed." [Roberts 2007]

But observe the following:

- (10) a. Gisteren werd ?(er) gedanst (Dutch)  
yesterday was it danced  
b. Gisteren werd op straat gedanst  
c. Gisteren werd \*(het) gesloten  
yesterday was it closed

### 1.1.3. DISCOURSE *PRO*-DROP (OR RADICAL *PRO*-DROP) LANGUAGES

- i. general possibility of non-expression/ellipsis of nominal arguments in various functions in addition to the subject
- ii. lack of person-agreement marking on the verb  
(Chinese, Japanese, Korean, Thai, Vietnamese)

- (11) a. \_\_\_ kanjian ta le (Chinese)  
(he) see he Asp  
b. Ta kanjian \_\_\_ le.  
he see (him) Asp  
"he saw him"

### DISCOURSE *PRO*-DROP GENERALIZATION (Tomioka 2003: 336)

- (12) All languages which allow discourse *pro*-drop allow (robust) bare NP arguments; Null pronouns in Discourse *Pro*-Drop languages are simply the result of N'-Deletion/NP-Ellipsis without determiner stranding.

Correlation of radical pro-drop with Chierchia's NOMINAL MAPPING PARAMETER (languages in which bare nouns can be argumental and languages in which bare nouns cannot).

1.1.4. PARTIAL NULL-SUBJECT LANGUAGES

(Finnish, Hebrew, Russian, Icelandic, Marathi, Brazilian Portuguese)

i. only 1<sup>st</sup> and 2<sup>nd</sup> person pronouns are freely dropped [R&H in press: 11]

- (13) (Minä) puhun englantia "I speak English, etc." (Finnish)  
I speak-1sg English  
(Sinä) puhut englantia  
You speak-2sg English  
\*(Hän) puhuu englantia  
He/she speak-3sg English  
(Me) puhumme englantia  
We speak-1pl English  
(Te) puhutte englantia  
You speak-2pl English  
\*(He) puhuvat englantia  
They speak-3pl English [Holmberg (2005: 539)]

ii. 3<sup>rd</sup> person pronouns can be left unexpressed only when bound by a higher argument

- (14) Pekka<sub>i</sub> väittää [ että hän<sub>i/j</sub>/Ø<sub>i/\*j</sub> puhuu englantia hyvin ].  
Pekka claims that he speaks English well  
[Holmberg's (2005: 539)]

iii. generic pronouns must be null

- (15) Täällä ei saa polttaa  
Here not may smoke  
"One can't smoke here" [Holmberg's (2005: 540)]

R&H: scale of 'liberality' of NSLs:

(16) expletive null subjects > partial null subjects > consistent null subjects >  
discourse *pro*-drop

## 2. THE NULL SUBJECT PARAMETER IN THE CONTEXT OF PPT

### 2.1. PROPERTIES OF NULL SUBJECT LANGUAGES

#### i. RICH INFLECTION

Rizzi (1982) and many others: the NS property of a language correlates with rich inflection.

Intuitively: the information on the subject can be retrieved directly from the verb. This property is called by Rizzi *pronominal* inflection.

#### ii. A SILENT REFERENTIAL DEFINITE SUBJECT OF FINITE CLAUSES (*pro*)

How do we express this *pronominal* feature on the verb? We can express it by saying that INFL has the property to license a null subject, which we call *pro*. *pro* is a subject which is not pronounced. It has all the features of a full subject (i.e. it can bear Nominative case, for instance, or it can be singular or plural, etc.) but it is phonetically empty.

If INFL is "rich enough", it will license a *pro*.

Null-subject languages, then, have a *pro* which can be licensed by rich inflection. Non null-subject languages do not have this *pro*.

#### iii. FREE INVERSION

Rizzi (1982): If a language is *pro*-drop, it will allow free inversion of the subject. A language allows free inversion of the subject if the subject can appear after the verb.

- (17) a. È arrivato Gianni. (Italian)  
b. \*Est arrivé Jean. (French)  
c. \*Has arrived John. (English)  
"John has arrived." [Roberts 2007]

- (18) a. Hanno telefonato molti studenti.  
b. \*Ont téléphoné beaucoup d'étudiants.  
have telephoned many students.  
"Many students have telephoned."

iv. SUBJECT EXTRACTION

Perlmutter (1971): in non-null-subject languages the subject of a finite clause cannot undergo *wh*-movement if the complementizer introducing the clause is present.

Some introductory notes (terminology)  
Questioning the subject of a finite clause

Finite clause:

- (18) John wrote a book

Questioning the subject of the finite clause:

- (19) Who wrote a book? [short *wh*-movement]

Let us now read the definition of subject extraction again:


What kind of sentence does Rizzi have in mind? Rizzi has in mind a sentence where the complementizer (*that*) is expressed and we are questioning the subject of the embedded sentence. Something like this:

- (20) You said that John wrote this book--->

questioning the subject of the embedded sentence:

- (21) You said that who wrote this book? -->

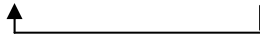
extraction of the subject:

- (22) \*Who did you say that \_\_\_\_ wrote this book? [long *wh*- movement]
- 

English is a non *pro*-drop language, and the result of extraction of the subject when the complementizer is present triggers ungrammaticality. (22) is in fact ungrammatical.

The Italian counterpart of (22) is perfectly grammatical

(23) Chi hai detto che \_\_\_ ha scritto questo libro?



Why would the 4 properties correlate?

## 2.2. EXTRACTION, INVERSION AND PRO

First track: superficial data observation + language specific rule.

We can have extraction in Italian and Spanish but not in English because the complementizers *che* and *que* are somehow transparent while *that* is not.

Italian rule:

move the wh of the embedded clause to the front of the sentence

[<sub>CP</sub>... that [<sub>CP</sub> wh TP..] → [<sub>CP</sub>Wh- that [<sub>CP</sub> \_\_\_ TP..]

English rule:

don't move the wh of the embedded clause to the front of the sentence

[<sub>CP</sub>... that [<sub>CP</sub> wh TP..] → \* [<sub>CP</sub>Wh- that [<sub>CP</sub> \_\_\_ TP..]

How do we capture the cross-linguistic generalization of this rule? How do we capture the correlation with other factors?

Rizzi (1982) Extraction, he claims, does not happen in one step, but what we actually do is:

1. first we invert the subject
2. then we move the subject from the inverted position

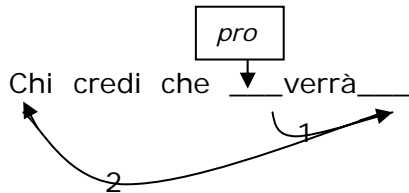
(24) You said that who wrote this book?

(25) Hai detto che chi ha scritto questo libro?

Rizzi: instead of fronting the subject directly, we first invert it.

BUT: inversion requires a *pro* in the subject position.

Rizzi's proposal (adapted from Rizzi 1982: 147):

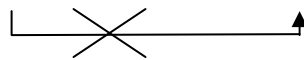


Step 1 is possible because Italian has a *pro*

Step 2 is possible because the wh can skip over the embedded subject position  
because we have a *pro* there

English:

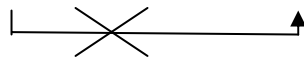
(26) You said that \_\_\_\_\_wrote this book who



We would need to insert a *pro* in the gap. English does not have it. In fact, inversion is impossible in English.

The same holds for French:

(27) Tu as dit que \_\_\_\_\_ a écrit ce livre qui



Italian has *pro*:

(28) Hai detto che \_\_\_\_\_ ha scritto questo libro chi



Cluster of properties

Evidence for Rizzi's analysis: agreement patterns in Florentine (from Roberts 2007)

(29) Florentine:

- a. **Gli** ha telefonato delle ragazze.  
SCL has telephoned some girls  
"Some girls phoned."
  
- b. **Gli** è venuto delle ragazze.  
SCL is come-masc.sg. some girls  
"Some girls came."

(30) Standard Italian:

- a. Hanno telefonato delle ragazze.  
Have-3pl phoned some girls  
"Some girls phoned."
  
- b. Sono venute delle ragazze.  
Are-3pl come-fem.pl. three girls  
"Some girls came."

Florentine does not allow the Standard Italian agreement patterns:

- (31) a. \*Le hanno telefonato delle ragazze.  
SCL-3pl.f. have-3pl phoned  
"Some girls phoned."
- b. \*Le son venute delle ragazze.  
SCL-3pl.f. are-3pl. come-f.pl. some girls  
"Some girls came."

When the subject is questioned, only the agreement pattern in (32) is allowed:

- (32) a. Quante ragazze gli ha parlato con te?  
How-many girls SCL has talked with you  
"How many girls have talked to you?"
- b. Quante ragazze gli è venuto con te?  
How-many girls SCL is come with you  
"How many girls have come with you?"

This extends to examples where the subject of a finite clause is questioned:

- (33) a. Quante ragazze tu credi che gli abbia parlato?  
How-many girls you think that SCL have-3sg talked  
"How many girls do you think talked?"
- b. Quante ragazze tu credi che è sia venuto?  
How-many girls you think that SCL be-3sg come?  
"How many girls do you think have come?"

→ In subject extraction contexts agreement follows the subject inversion pattern, not the preverbal subject pattern. This means that subject extraction is preceded by subject inversion.

### 2.3. ANALYSES OF NULL SUBJECTS

Two possible analyses of null subjects:

1. *pro*
  2. the null subject is directly expressed by the rich verbal agreement inflection. No need to postulate an empty pronoun (the I-subject) (Borer 1986 and others)
1. and 2. depend on the view on the EPP (do sentences need to have a subject position filled or not? Is this principle really there?)

Cardinaletti (1997, 2004), Holmberg (2005), Sheehan (2006): the subject is there in Romance. *pro* is licensed by a feature on the infl: the D feature.

*pro* is licensed by a special pronominal feature associated with the head bearing the features realized as person-agreement on the verb (T)

Rephrasing the null-subject parameter in minimalist terms:

The Null-Subject parameter (2<sup>nd</sup> version):

(34) Does T bear a D-feature?

## 2. Typology strikes back

Implicational statements (R&H in press: 17):

- (35)
- a. A language has null subjects iff it has rich agreement.
  - b. A language has null subjects iff it has free subject inversion.
  - c. A language has null subjects iff it does not show complementizer-trace effects.
  - d. A language has rich agreement iff it has free subject inversion.
  - e. A language has rich agreement iff it does not show complementizer-trace effects.
  - f. A language has free subject inversion iff it does not show complementizer-trace effects.

Reformulation (Newmeyer 2004:203).

Safir (1985) broke the NSP into three parts, dissociating null nonthematic subjects, null thematic subjects and subject inversion:

(36)

Null TS	Null NTS	SI	that-t
yes	yes	yes	yes
yes	yes	no	no
no	yes	yes	yes
no	no	yes	yes
no	no	no	no

Gilligan (1987)

100 language sample

(37)

	yes-yes	yes-no	no-yes	no-no
null ts-null nts	24	0	15	2
null ts-SI	22	49	11	15
null ts-that-t	5	3	2	1
null nts-SI	14	25	1	1
null nts-that-t	7	2	0	1
SI-that-t	4	0	3	4

[Newmeyer 2004:204]

The only robust correlations among the four properties are:

- (38) a. Null TS → Null NTS  
b. SI → Null NTS  
c. SI → That-t  
d. That-t → Null NTS

BUT:

these correlations are very strong and unexplainable by means of a single rule

(38b) has explanatory force. Poverty of stimulus: the child encountering the relatively accessible phenomenon of free inversion in the PLD will thereby acquire the possibility of complementizer-trace violations, an otherwise fairly inaccessible aspect of the PLD. [R&H in press:21]

R&H (in press): We can in fact combine the implications in (38) to give a modest implicational scale along the following lines:

(39) Free Inversion → (allow that-trace violations → expletive null subjects).

THREE TYPES OF LANGUAGES

Type I has all three properties;

Type II allows complementizer-trace violations and hence allows expletive null subjects;

Type III only allows expletive null subjects [R&H in press: 21]

- (40) a. Type I: Italian, Spanish, Greek  
b. Type II: Cape Verdean, Berbice Dutch, Kriol, Mauritian, Papiamentu, Saramaccan  
c. Type III: Haitian, basilectal Jamaican [Nicolis 2008]

Null subject parameter: a Macro-parameter?

Cluster of parameters?

Cluster of properties derived from a fixed parameter?

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