MORPHOLOGICAL ECONOMY AND ANAPHORA:
Binding Theory and Pronominal anaphora in Brazilian Portuguese
HIL/University of Leiden Dissertation
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1. Generative Linguistics, Universal Grammar and My Dissertation

- One of the main aims of Generative Linguistics: explain how children learn their language so quickly, uniformly and almost errorlessly. Main Hypothesis: Human beings dispose of an innate mental capacity – called "Universal Grammar" -- which guides language learning by imposing structure to an impoverished linguistic experience. Object of Interest: properties of natural languages which seem to be universal and whose acquisition is unlikely to depend on experience – these properties are candidates for "linguistic universals" , i.e., elements that belong to Universal Grammar.

- My dissertation: study of grammatical restrictions on the use of pronouns and reflexives in Brazilian Portuguese (my language) and many others: is there anything universal in these restrictions? What is it? And what is particular to languages? Why do they vary? Theoretical Background of the Discussion: Binding Theory, the study of grammatical restrictions on pronouns and reflexives within the Principles & Parameters approach to UG (Chomsky 1981, 1986); the reflexivity-and-chains approach to Binding Theory, proposed by Tanya Reinhart & Eric Reuland (1993, 1995, etc.); a constraint interaction approach in which grammatical conditions are violable, like in Optimality Theory (Prince & Smolensky 1993, Grimshaw 1997; for anaphora, Burzio 1989, 1991, 1992).

- This brief presentation: illustrate the results of the dissertation with one of its findings; no technical discussion!

2. On the Crosslinguistic Variation in the Use of Pronouns and Reflexives

- Two solid facts in many languages:

(1) Constraint A on Reflexives: reflexives must have a "close" antecedent:

    a.   [*João se* lavou]   [*João = se*]
        [*João* washed *himself*]

    b. **João disse que [Maria *se* lavou]   [*João ≠ se*]
       **João said that [Maria washed *himself*]

(2) Constraint B on Pronouns: pronouns cannot have a "close" antecedent:

    a. **[*João* lavou *ele*]   [*João ≠ ele*]
       **[*João* washed *him*]

    b.   *João* disse que [Maria lavou *ele*]   [*João = ele*]
       João said that [Maria washed *him*]

- "Closeness" varies from language to language, and can be counted according to a syntactic "metric" (most probably, according to the number of "barriers"):

(3) a. "VP": when VP is the only intervening constituent (no barrier):
     French: *Jean* [VP *se* lave]
     Braz. Port.   *João* [VP *se* lava]
     Dutch: *Jan* [VP was *zich*]

   b. "PP": when VP and complement PP intervene (at most one barrier):
     French: **Jean* [VP parle [PP de *soi (même)*]]
     Braz. Port.   *João* [VP fala [PP de *si (mesmo)*]]
     Dutch: *Jan* [VP praat [PP over *zichzelf*]]

   c. "LOC": when VP and adjunct locative PP intervene (at least two barriers):
     French: **Jean* a [VP [VP vu une serpent] [PP aprés *soi*]]
     Braz. Port. ?? *João* [VP [VP viu uma cobra] [PP atrás de *si*]]
     Dutch: *Jan* [VP [VP zagt een slang] [PP achter *zich*]]

- There is a hierarchy according to the "metric", and languages vary in choice of the place in the hierarchy where reflexives and pronouns are affected by the constraints:

(4)   Hierarchy of Closeness:

   VP > PP > LOC > ECM > NP, AP, NPS > CTRL > PR > SBJ > IND

   where "X > Y" = reflexive/pronoun and antecedent are closer in X than in Y.

Table 1: Crosslinguistic Distribution of "Reflexives"

	Lat	Dan	OI	Ice	Got	Rus	OG	Pol	Nor	Cz	Ger	It	Dut	Sp	BP	Fr
IND														-		
SBJ		-							-							
PR		-	-	-		-				-		-		-		
CTRL	-													-		
NPS	-		-		-					-	-			-		
AP	-		-		-	-	-			-	-			-		
NP	-		-		-	-	-			-	-			-		
ECM	-								-					-		
LOC				-												
PP			-		-		-			-						
VP																

Key:
(dark)	=	* , i.e. the form is unacceptable in the context
(grey)	=	# , i.e. the form is marginal in the context
(white)	=	✓ , i.e. the form is acceptable in the context
-	=	no example or explicit reference in the literature
(black)	=	acceptability reported does not agree the hierarchy

Languages: (a) *Old Germanic*: Gothic [Got], Old High German [OHG], Old Icelandic [OI];
(b) *Modern Germanic*: Dutch [Dut], German [Ger], Norwegian [Nor], Danish [Dan], Icelandic [Ice];
(c) *Romance*: French [Fr], Spanish [Sp], Brazilian Portuguese [BP], Italian [It], Latin [Lat];
(d) *Slavic*: Russian [Rus], Czech [Cz], Polish [Pol].

Table 2: Crosslinguistic Distribution of Pronouns

	Lat	Got	OI	Ice	Pol	OG	Rus	Cz	Dan	Ger	It	Dut	Nor	BP	Sp	Fr
IND															-	
SBJ																
PR			-	-			-	-	-		-				-	
CTRL	-														-	
NPS	-	-	-	■		-			-		-		■		-	
AP		-	-	-	-	-		-	-	-	-				-	
NP	-	-	-			-	-	-	-	-			■		-	
ECM			-	-												-
LOC				-				-								
PP		-	-			-		-								
VP																

☞ CRUCIAL QUESTION: is there an explanation for the pattern of variation?

3. Explaining the Variation: Morphological Economy of Chains

☞ CRUCIAL OBSERVATION: there is a correlation between "closeness" and the morphosyntactic content of reflexives and pronouns:

(5)   VP > PP > LOC > ECM > CTRL > SBJ > IND

			VP	PP	LOC	ECM	CTRL	SBJ	IND
Reflexives	in BP	[3p]	✓	✓	#	*	*	*	*
	in It	[3p, C]	✓	✓	✓	✓	#	*	*
	in Lat	[3p, C_1, C_2]	✓	✓	✓	✓	✓	✓	*
Pronouns	in BP	[3p, m, s]	*	✓	✓	✓	✓	✓	✓
	in It	[3p, m, s, C]	*	*	#	✓	✓	✓	✓
	in Lat	[3p, m, s, C_1, C_2]	*	*	*	*	*	#	✓

(6) Generalization concerning Reflexives:

The more a reflexive is specified for morphosyntactic features, the less close it needs to be to its antecedent.

(7) Generalization concerning Pronouns:

The more a pronoun is specified for morphosyntactic features, the less close it can stay to its antecedent.

- Theoretical explanation: both generalizations are associated and derive from one and the same general constraint:

(8) Morphological Economy of Chains [MEC]:

A chain must manifest its morphosyntactic specification on its head, and only on it,

where a *chain* is a type of grammatical relation that includes not only the sort anaphoric relations here discussed, but also what generative grammar calls "movement":

(9)   a.   *John* was seen __ by Mary
      b.   *Who* has Mary seen __ ?

MEC on anaphoric relations: requires them to end up in the "most economical" form in the language; reflexives are, in general, more economical than pronouns.

☞ MEC explains many other interesting, seemingly unrelated, phenomena; for example, the choice of feminine pronouns in Frisian to express reflexivity:

(10) a.   Marie wasket *him*   "Marie washed him"
     b.   *Jan* wasket *him*   "Jan washed himself"

(11) a.   Jan wasket *har/se*   "Jan washed her"
     b.   *Marie* wasket *har/*se*   "Marie washed herself"

(12) a.   *har* [3p, f, s, +Objective]
     b.   *se*   [3p, f, s, +Objective, –Inherent]

4. MEC is a Linguistic Universal

- Two ways of explaining the distribution of reflexives and pronouns in a language:

(13) a.   The child *learns the distribution* directly from the input, i.e. from sentences instantiating each and every context (hence, independently of MEC);
     b.   The child *learns the morphosyntactic content* of reflexives and pronouns, and *deduces their distribution from MEC* (hence, MEC is innate).

- Some problems with (13a):
  i.   very low frequency of contexts which are not VP and PP (in Braz. Port., in playing settings reflexives and pronouns are 2-3% of all words uttered to children up to 3;0; of these 2-3%, only 1-2% are reflexives; all examples are in VP or PP).
  ii. if (13a) were true, the generalizations in (6) and (7) would be an accident, since no individual child can figure out from experience that her language is governed by them: (6) and (7) can only be figured out when many languages are compared!!
  iii. if (13a) were true, the historical development from Latin to Italian and Portuguese would also be an accident: why should there be a systematic correlation between loss of morphosyntactic content and change in the "closeness" required by reflexives and pronouns?!

☞ CONCLUSION: (15b) is much more plausible: MEC is a linguistic universal, i.e. one of the constraints Universal Grammar impose on our knowledge of language. What children learn, when they learn anaphora, is only the lexical content of reflexives and pronouns.