

**Chapter 4: The Return of the Subset Principle**

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AIM OF THIS CHAPTER: *To reconsider the role of the subset principle (Berwick (1985)) in the context of language acquisition and change.*

**4.1. INTRODUCTION**

[ I ] CAUSE OF LANGUAGE CHANGE IN THE CONTEXT OF GENERATIVE THEORY  
= ASPECTS OF LANGUAGE ACQUISITION AND/OR LERNABILITY

The abductive aspect of language acquisition has been thought to lead to reanalysis and associated parametric changes.  
(cf. Lightfoot (1979, 1991))

( 1 ) SUBSET PRINCIPLE (SP)

The learner must guess the smallest possible language compatible with the input at each stage of the learning procedure.  
(Clark & Roberts (1993: 304-305))

(1') SUBSET PRINCIPLE

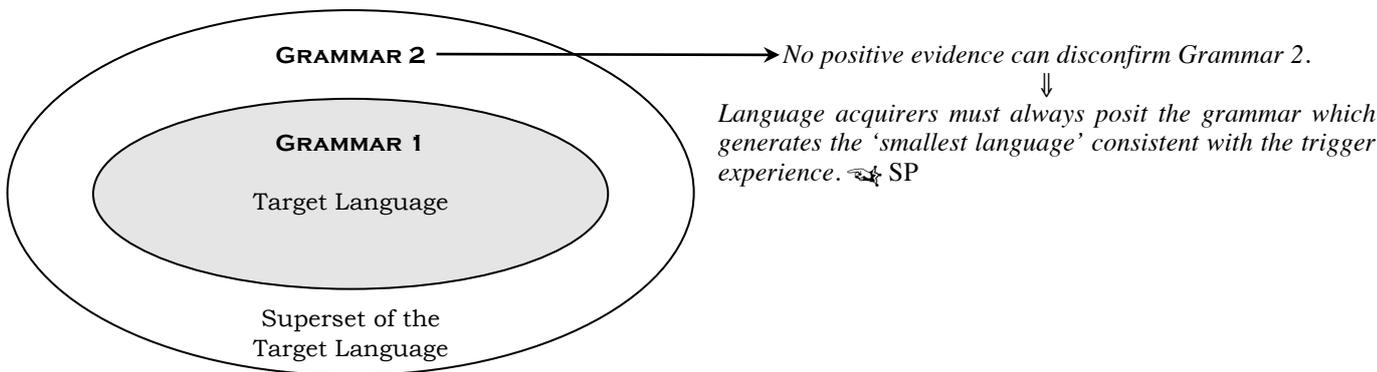
[G]iven two languages, one of which is a subset of the other, if both are compatible with the input data, ... the learning function must pick the smaller one. (Manzini & Wexler (1987: 414); cf. Berwick (1985: 23))

Let  $p_1, \dots, p_m$  be the set of parameters that determine a grammar. Parameters  $p_i$  has values  $p_{i1}, \dots, p_{in}$ . Let  $D$  be a set of data. Let  $f$  be the learning function. For any  $1 \leq k \leq m, 1 \leq r \leq n^k, f_{pk}(D) = p_{kr}$  iff

i. for all  $1 \leq j \leq m, 1 \leq i' \leq n^{j'}$ ,  $D \subseteq L(p_{1i}, p_{2i}, \dots, p_{ki}, \dots, p_{mi})$  and

ii. for any  $1 \leq s \leq n^k$ , if  $D \subseteq L(p_{1i}, \dots, p_{ks}, \dots, p_{mi})$ , then  $L(p_{1i}, p_{2i}, \dots, p_{ki}, \dots, p_{mi}) \subseteq L(p_{1i}, \dots, p_{ks}, \dots, p_{mi})$ .  
(Manzini & Wexler (1987: 433-434))

[II] CONCEPTUAL INTEREST IN SP: *no negative evidence used in language acquisition* ✂ *risk of falling into 'superset traps'*



[III] A PROBLEM WITH THE SP

*parameters proposed in the literature on comparative syntax* ✂ *defining intersection relations ≠ defining inclusion relations*

e.g. Head Parameter

- i. OV ---> (2)
- ii. VO ---> (3)

✂ INTERSECTION RELATION ---> (4) ⇒ SP = OF LIMITED VALUE OR OF NO VALUE?

[IV] CLAIMS OF THIS CHAPTER

The SP is of great value, once the role of *true formal optionality* (i.e. syntactic ‘free variation’) is fully considered.

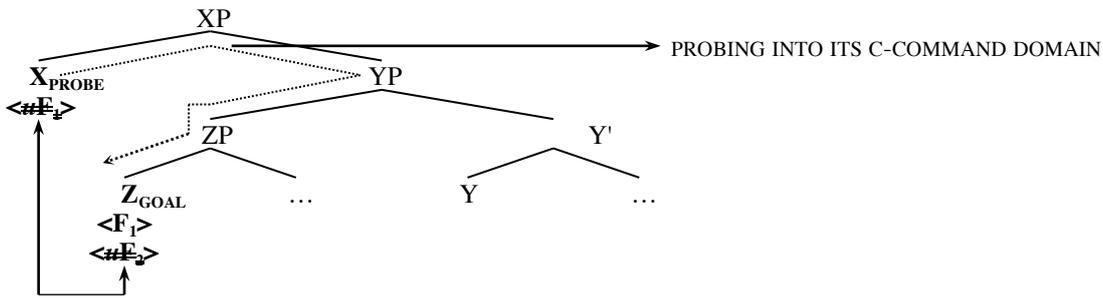
- i. There are parametric settings which give rise to grammars which generate languages which are inclusion, rather than intersection, relations, and therefore the SP is relevant to both language acquisition and language change.
- ii. Where the evidence for the grammar which generates the larger language is not sufficiently robust, acquirers ‘default’ to a grammar generating a smaller language.

✂ SP RELEVANT TO TWO TYPES OF CHANGE

- ① *the restriction of operation variations (i.e. pied-piping & stranding ⇒ stranding only)*  
---> §4.3
- ② *the restriction of function (i.e. the narrowing of an operation to a subset of the contexts in which it formerly applied)*  
---> §4.4

4.2. THEORETICAL PRELIMINARIES

(5') A BASIC ASSUMPTION: *Probe/Goal (i.e. Agree) system of Chomsky (2000, 2001, 2004, 2005, 2007, 2008)*



(6') PARAMETRIC OPTIONS IN RESPECT OF THE ‘SIZE’ OF THE CONSTITUENT THAT UNDERGOES MOVEMENT

- a. *Z-movement only:*  $[_{XP} \boxed{Z} +X [_{YP} [_{ZP} \boxed{Z} \dots ] [_{Y'} Y \dots ] ] ]$
- b. *ZP-movement only (stranding):*  $[_{XP} \boxed{ZP} [_{X'} X [_{YP} \boxed{t_{ZP}} [_{Y'} Y \dots ] ] ] ]$
- c. *obligatory pied-piping:*  $[_{XP} [_{YP} \boxed{ZP} [_{Y'} Y \dots ] ] [_{X'} X ] [_{t_{YP}} ] ]$
- d. *optional pied-piping:*  $[_{XP} \boxed{ZP} [_{X'} X [_{YP} \boxed{t_{ZP}} [_{Y'} Y \dots ] ] ] ] \& [_{XP} [_{YP} \boxed{ZP} [_{Y'} Y \dots ] ] [_{X'} X ] [_{t_{YP}} ] ]$

e.g. (7') a. <i>D-movement only:</i>	$[_{TP} \boxed{D} \langle \phi / \#Case \rangle +T \langle \# \phi \rangle [_{VP} \dots [_{DP} \boxed{t_D} \dots ] \dots ] ]$	✂ IRRELEVANT HERE
b. <i>DP-movement only (stranding):</i>	$[_{TP} \boxed{DP} \langle \phi / \#Case \rangle [_{T'} T \langle \# \phi \rangle [_{VP} \dots [_{t_{DP}} \dots ] ] ] ]$	
c. <i>obligatory pied-piping:</i>	$[_{TP} [_{VP} \dots \boxed{DP} \langle \phi / \#Case \rangle \dots ] [_{T'} T \langle \# \phi \rangle [_{t_{VP}} ] ] ]$	
d. <i>optional pied-piping:</i>	$[_{TP} \boxed{DP} \langle \phi / \#Case \rangle [_{T'} T \langle \# \phi \rangle [_{VP} \dots [_{t_{DP}} \dots ] ] ] ]$	
	$[_{TP} [_{VP} \dots \boxed{DP} \langle \phi / \#Case \rangle \dots ] [_{T'} T \langle \# \phi \rangle [_{t_{VP}} ] ] ]$	

On this system, it does not follow that the category that a given head probes has to correspond to the category that ultimately undergoes movement under the influence of the probe’s EPP-feature; as long as the moving category contains the goal, the computational system will ‘not mind’ (cf. Biberauer & Roberts (2005, 2006)).

[V] LANGUAGE VARIATION UNDER (7')

- i. *(optional) pied-piping mode of EPP-satisfaction* ✂ FORMAL OPTIONALITY ---> (7'd): e.g. earlier stages of English
- ii. *stranding mode of EPP-satisfaction* ---> (7'b): e.g. NE

(cf. Biberauer & Roberts (2005); henceforth, B&R)

VERY ROBUSTLY TRIGGERED BY THE PLD (PRIMARY LINGUISTIC DATA) AS A SYSTEM OF THIS KIND IS INHRENTLY DISFAVOURED BY THE SP

4.3. CASE STUDY I: WORD-ORDER CHANGE IN MIDDLE ENGLISH

[VI] PROPOSALS OF B&R

- i. OE and ME represent stages of English that feature pied-piping modes of EPP satisfaction in domains in which this is no longer possible.
- ii. OE [and ME] differed from NE in that both T and *v* bore movement-triggering EPP-feature.

[VII] OE = OPTIONAL PIED-PIPING LANGAGE = SUPERSSET LANGUAGE ---> (8') & (9')

(cf. (6'd))



(16) SUMMARY: SUPERSSET OPERATIONS ⇒ SUBSET OPERATIONS

a. *Change in the satisfaction of v's EPP-feature*

Reanalysis I

i. Early ME: loss of the VP-pied-piping mode of satisfaction

$[_{VP} [_{VP} t_V \text{Obj}]] [_{V'} V+v [_{VP} ]]] \Rightarrow [_{VP} \text{Obj}] [_{V'} V+v [_{VP} t_V \text{Obj}]]]$

ii. Later ME: restriction of the presence of EPP on v

$[_{VP} \text{Obj}] [_{V'} V+v [_{VP} t_V \text{Obj}]]] \Rightarrow [_{VP} \text{Obj}_{NEG}] [_{V'} V+v [_{VP} t_V \text{Obj}]]]$   
 $[_{VP} V+v [_{VP} t_V \text{Obj}_{NON-NEG}]]]$

b. *Changes in the satisfaction of T's EPP-feature*

Reanalysis II

Late ME (around 1450): loss of the vP-pied-piping mode of satisfaction

$[_{TP} [_{VP} \text{Subj} [_{V'} V+v [_{VP} t_V \text{Obj}]]]] [_{T'} T' [_{VP} \text{Subj} [_{V'} V+v [_{VP} t_V \text{Obj}]]]]]$

$\Rightarrow [_{TP} \text{Subj}] [_{T'} T' [_{VP} t_{Subj} [_{V'} V+v [_{VP} t_V \text{Obj}]]]]]$

CREATING A 'CANONICAL SUBJECT POSITION' IN SPEC TP

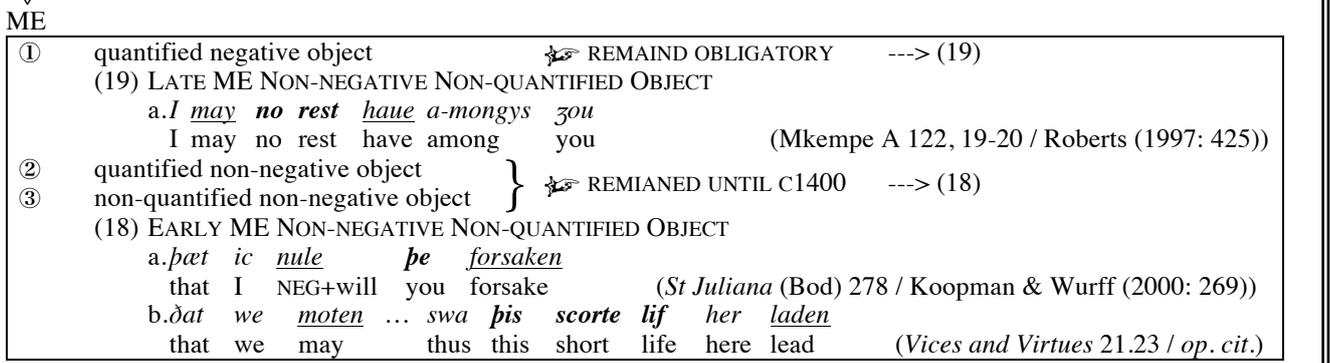
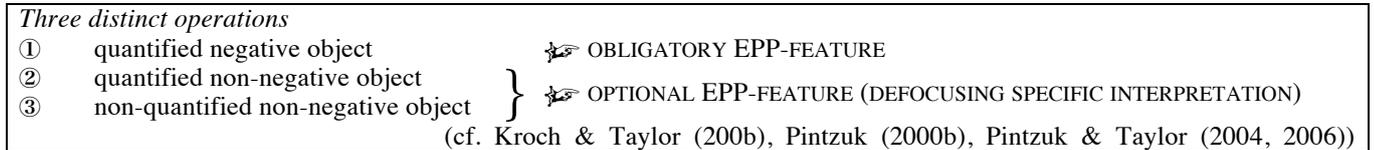
✂ *Consequences: expletive distribution*  
*raising to subject in passive and unaccusative contexts*  
*'Stylistic Fronting' structures*

4.4. CASE STUDY II: 'RESTRICTION OF FUNCTION'

[X] 'RESTRICTION OF FUNCTION' = LIMITATION OF THE SET OF THE CONTEXTS IN WHICH A MOVEMENT OPERATION APPLY



[XI] OV ORDERINGS IN OE



The instance of restriction of function in question concerns the precise nature of the category where movement is triggered by the EPP-feature. ---> (22)





[XVII] DEVELOPMENT OF V-TO-T MOVEMENT

15th century: V2 (no V-to-T movement)  
 ↓ LOSS OF V2 ✗ REANALYSIS  
 emergence of V-to-T movement (poor tense inflection)  
 ↓ REANALYSIS OF MODALS AND DO AS AUXILIARIES

early 16th century: loss of V-to-T movement

After the loss of V-to-v-to-T movement, v-to-T movement remained: what was lost was V-to-v movement.



- ① AUXILIARIES MERGED IN V AND RAISED TO T
- ② NO OVERTLY REALIZED AUXILIARY (“NULL” v) RAISED TO T

Do was not required in negative clauses, even in the absence of main verb movement. ---> (35)

- (35) a. *Or if there were, it not belongs to you.* (1600: Shakespeare *Henry IV*, IV.i.98 / Battistella & Lobeck (1988: 33))  
 b. *Safe on this ground we not fear today to tempt your laughter by our rustic play.* (1637: Jonson *Sad Shepherd*, Prologue 37 / Kroch (1989: 33))

[XVIII] DEVELOPMENT OF DO-SUPPORT

negative auxiliaries (e.g. *won't*, *can't*, *shan't*, *don't*) ✗ DERIVED BY SUFFIXATION (NOT CLITICIZATION)  
 ↓ REANALYSIS IN THE EARLY 17TH CENTURY

negative auxiliaries = T-elements (independent of the EPP-feature)



obligatory EPP-feature  
 ↓  
 optional EPP-feature ✗ DISCOURSE EFFECT: Moved v must be overt.

(36) a. INTERROGATIVE  
*Did he smoke?*  
 b. EMPHASIS  
*John DOES (so/too) smoke.*  
 c. VP-FRONTING  
*He threatened to bring some sandwiches and bring some sandwiches he did .*  
 d. VP-ELLIPSIS  
*I hoped he would bring some sandwiches and he did bring some sandwiches.*

[XIX] SUMMARY: GENERAL OBLIGATORY V-TO-T MOVEMENT ⇒ OPTIONAL V-TO-T MOVEMENT ✗ RESTRICTION OF FUNCTION

earlier grammar: v realised as either do or zero ---> RAISED TO T ✗ DO IS NEVER OPTIONAL.

↓  
 later grammar: v realised as do ---> RAISED TO T  
 as zero ---> REMAIN IN SITU