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WYDZIAŁ NEOFILOLOGII

Jacek Witkoś

SOME ASPECTS OF PHRASAL MOVEMENT IN ENGLISH AND POLISH

Praca doktorska
przygotowana pod kierunkiem
Prof. dr hab. Tadeusza Zabrockiego

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Preface

The 1980s proved very fruitful for the development of generative-transformational theory of syntax. This decade was marked by the publication of many influential works but two of the most critical moments occurred at its beginning and its half way point. In 1980 Noam Chomsky published his paper "On Binding" followed by the classic "Lectures on Government and Binding" (LGB) in 1981 and "Some Concepts and Consequences of the Theory of Government and Binding" a year later. These three publications, especially LGB, became the corner stones of the government and binding framework adopted by generativists in the early 80s. The second breakthrough came in 1986 with the publication of "Knowledge of Language" (KOL) and "Barriers". These two works, especially the latter, were the culmination of years of research in the theories of bounding and government providing account for barrierhood of certain domains with respect to government and bounding. A highly parametrized version of the GB framework adopted in "Barriers" and KOL, often referred to as the theory of principles and parameters, allowed for a more principled study of languages other than English. These languages have recently occupied much attention of generative grammarians. Owing to works by Richard Kayne, Rita Manzini, Luiggi Rizzi, Giuseppe Longobardi, Gugliemo Cinque, Jean Ives Pollock, Adriana Belletti, Mark Baker and many others, such phenomena as for example null subjects in Italian and Spanish, lack of ECP subject/object asymmetries in Italian, LBC violations in Italian and verb second phenomena in German and Dutch can be accounted for in a relatively systematic way.

Successful applications of the current framework of transformational-generative grammar in the description of highly inflected languages showing a relatively lax word (phrase) order and null subject properties constitute the basis for describing certain phenomena from the syntax of Polish, which to date have remained seemingly elusive to a systematic and principled account within the syntactic theory. The goal of this dissertation is to provide a detailed and coordinated analysis of various central phenomena of Polish syntax which result from the application of (mainly) syntactic phrasal movement. It is syntactic and LF movements that have been at the core of controversy over various formulations of the notions of bounding nodes, barriers and the Empty Category Principle (ECP) in recent literature. Generally speaking we shall investigate consequences and constraints on syntactic movement in Polish and the traces it leaves behind.

Following this brief introduction, in chapter 1 we shall present the outline of the theory of grammar, followed by the presentation of major theoretical bases of our comparative study of

nonpronominal Empty Categories (hence ECs) in English and Polish in chapter 2. This chapter will contain description of four systems making use of different formulations of the notions of the bounding node, the barrier and the ECP,: that of Lasnik and Saito (1984) in section 2.1, Chomsky (1986b) in 2.2, Rizzi (1990) in 2.3 and Cinque (1990) in 2.4. We will then try to make the most appropriate use of these hypotheses researching various aspects of phrasal movement in Polish syntax.

In particular in chapter 3 we shall examine conditions on NP movement in Polish in comparison with English and, occasionally, Italian. We shall devote special attention to three topical issues:

a) the VP internal hypothesis and its consequences for NP movement in Polish;
b) Burzio's generalization, the unaccusative hypothesis and Theme subject constructions in Polish;
c) certain constructions in Polish which show that "overt" NP movement can apply in this language.

In chapter 4 we shall conduct an analysis of the internal structure of nominals in English and Polish and Wh extraction from them. We shall try to point to the factors allowing for Wh extraction from the NP specifier position in Polish and Italian but not English.

Chapter 5 will be devoted entirely to a close examination of Wh extraction from various types of clausal complements in Polish. A principled explanation of severe constraints on these extractions will be provided together with an account of the possible variations in the interpretation of these structures among native speakers. This chapter also contains a section devoted to the problem of relative clause formation in Polish and a peculiar requirement on empty operator chain formation.

Chapter 6 will contain an analysis of parasitic gap constructions in Polish in the light of Cinque's (1990) hypothesis of A' bound nonlexical pronominals. We will extend, but also in some sense argue against, Kardela's (1986, 1989) account of parasitic gap and Across the Board (ATB) phenomena in Polish based on Pesetsky's (1982) Path Theory in favor of the analysis of parasitic gaps as pros both at D and S structure.

Topicalization and scrambling are discussed in chapter 7. Traditionally, these are contentious issues entailing the choice between classifying these processes as syntactic (thus being on the LF side of the grammar and subject to pertinent constraints: the ECP and Binding Principles) or as non syntactic (occurring on the PF side of grammar, unable to affect the reading of a sentence except for focal stress). We will argue that these operations are syntactic in nature and obey the ECP and the binding principles if combined with the process of reconstruction.

Chapter 7 will be followed by concluding remarks.

The past decade, marked by substantial developments in generative syntax also produced many generative transformational analyses of Polish data. Our position at the outset of this study is much more advantageous than that of researchers in the early 80s, when there were but only a few studies of Polish syntax. Since

then major works by Giejgo (1981), Zabrocki (1981), Kardela (1985, 1986), Willim (1986) and Tajsner (1990) have contributed considerably to its understanding. We shall then have the benefit of relying on other sources for data and significant analyses. However new developments and ideas addressed in the post "Barriers" period have made it possible to reconsider many proposed solutions and suggest new explanations for well known facts. We hope that these explanations will not only designate certain aspects of Polish syntax as marked constructions typical of this language, but will carry a more universal flavor of consequences of UG parameter settings.

Completion of this work would not have been possible if it had not been for three sets of my academic colleagues.

First, I feel deeply obliged to express my sincere gratitude to all staff members of the Linguistic Section at the University of Wales in Bangor (Gwynedd) who were kind enough to entertain me for the whole 1991-92 academic year as a Ph.D. student. I received most of my inspiration and necessary direction in research from Prof. Ian Roberts and Dr Robert Borsley who were patient enough to read through numerous preliminary drafts of my dissertation and provide me with invaluable comments. They were also most helpful through organizing sessions of reading groups and research seminars facilitating discussions on recent developments in the fields of both generative syntax and general linguistics. I owe a great deal of academic respect to my other colleagues who contributed most often to the aforementioned exchanges of opinions: Dr Bernadette Plunkett, Dr Michelle Aldridge and Dr Ewa Jaworska-Borsley, whose hospitality helped me keep my sanity through the worst of the wet Welsh winter.

Second, it must be stressed that my stay at the University of Wales would not have been possible without a generous grant from the Soros Foundation at Oxford University which allowed me not only to continue my Ph.D. program in Bangor but also to participate in the 1992 Linguistic Association of Great Britain Spring Meeting in Brighton. I hereby wish to express my gratitude to the Soros Foundation.

Third, I would like to thank Prof. Tadeusz Zabrocki for his careful supervision of my work after my return from Britain and Prof. Jacek Fisiak for his continuous encouragement and support. Comprehensive application of my hypotheses to Polish data by Prof. Tadeusz Zabrocki revealed some of their weaknesses and inspired new solutions which very often appeared in our joint detailed discussions of many drafts of this dissertation. These drafts were carefully proofread by Dr Martin Parker to whom I am also thankful for some critical comments concerning the English data.

Finally, I would like to thank all my numerous close friends from Bangor who revived my spirit whenever it faltered.

My dear wife Iwona and son Tomek deserve very special gratitude for their patience and love which made it all happen.

I assume full responsibility for any shortcomings of the present dissertation.

Chapter 1

Model of Grammar

1.1. Introduction

Language is viewed as an innate biological faculty and from the moment of birth every single human being is endowed with a set of principles which facilitate the acquisition of grammar under exposure to the language(s) spoken within a given community. The existence of such a system of principles (or language faculty of mind/brain) can be hypothesized on the basis of the poverty of stimulus claim of Chomsky (1986a): humans are able to acquire language and use it effectively despite very limited exposure to linguistic data at the early, formative age.

However the most trivial and superficial observation shows that languages differ from each other not only phonetically or lexically but also grammatically. This opposition between language acquisition, conditioned by general and universal genetic endowment, and language diversity can be resolved by the so called theory of parameters. Parameters of UG are responsible for a cluster of differential properties distinguishing two or more languages. The incorporation of the notion of the parameter into a theory of language acquisition dramatically simplifies the account for the process of language learning: it can very often be reduced to setting the value of a parameter which results in considerable surface variation. UG can thus be viewed as a combination of fixed principles and open parameters which are set by the language learner on the basis of his exposure to the language(s) used in his community. Even though a child has access to a limited amount of data it is able to determine the whole structure of its language (see Chomsky 1981, 1986a for more detailed discussion).

Principles of grammar do not operate in isolation or interact at random. They consistently cooperate to define grammatical structures for a given language. Principles operating together form subparts of the theory of grammar called modules. Modular organization of the theory means that the same string of constituents can be affected by several modules of grammar independently of each other. Thus (1.1) is ruled out as ungrammatical by two modules of grammar:

(1.1) *Tom knows [$_{CP}$ [$_{IP}$ himself to be happy]]

The module called Binding Theory rules (1.1) out because the reflexive pronoun in the embedded clause is free and violates Binding Principle A. Another module, Case Theory, excludes (1.1) because the subject of the embedded clause has no Case. We shall present these modules briefly in the following sections.

A grammar is modular also in the sense that it consists of various levels of representation, traditionally represented as:

(1.2)

D-structure

S-structure

Phonetic Form(PF) Logical Form(LF)

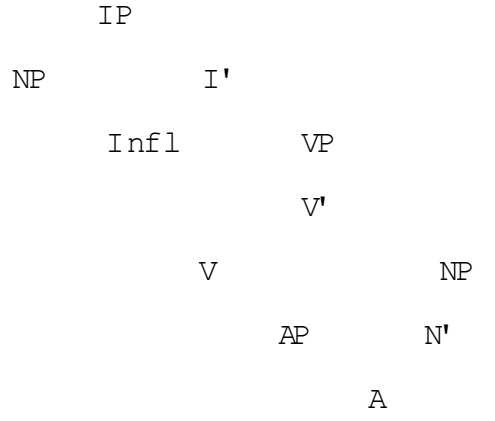
D-structure is said to be a pure representation of thematic relations (referential roles such as Agent, Experiencer, Theme, Source, Location, Time) which lexical items, viewed as logical predicates, assign to their arguments. Assignment of thematic roles is strictly local and whenever an argument appears at some distance from its theta role assigner (not in its vicinity) it is said to have been affected by a movement rule. Although now the argument is in its new position, its original position is not empty, but "filled" by a trace coindexed with the moved argument. Thus the rule Move alpha (Affect alpha) operates between the levels of D-structure and S-structure. At S-structure the history of movement is recorded by means of traces. S-structure plays a role of an interface between the representation of the grammar and other cognitive systems of mind/brain. Interpretation of language begins at LF and speech production at PF. The mapping of S-structure to LF is performed by the rules of Quantifier Raising, Wh movement, or again Move alpha (Affect alpha) in general. Various phonological rules of interpretation, which we will not attempt to fathom in the present study, operate between S-structure and PF.

1.2 X-bar Theory

This module of grammar was elaborated on in Jackendoff (1977) and Stowell (1981). It is generally assumed that all lexical items in language can be classified into a highly restricted number of categories of which the fundamental types are the following: Noun(N), Verb(V), Adjective(A) and Preposition/Postposition(P). These are lexical categories but not all categories are lexical: Inflection (Infl) encompasses verbal auxiliaries and affixes, Complementiser (Comp) houses elements such as English that or Polish zeby/ze/that.

(1.3) $[_{IP}$ Tomek $[_{I'}[_{VP}[_{V'}$ lamie $[_{NP}$ moje $[_{N'}$ piora]]]]]]
Tom breaks my pens

(1.4)



Every word is a head and projects higher constituents of a corresponding categorial type, the highest of which becomes the head's maximal projection. Thus the following phrases classify as maximal projections: Noun Phrase(NP), Verb Phrase(VP), Adjectival Phrase(AP), Prepositional Phrase(PP), Inflection Phrase(IP), Complementiser Phrase(CP) and as has been recently suggested Determiner Phrase(DP)(see Abney 1987, Fukui and Speas 1986 and others).

Partly independently of the lexical features of a lexical category heading a given structure, the head produces its projections in a very specific, constrained way. Chomsky (1986b) has extended this proposition to non-lexical heads as well which were previously treated as marked exceptions to the X-bar convention. X-bar Theory claims that whenever there is a head X there must also be its maximal projection XP(Xmax) and at least one intermediate projection X'. X-bar Theory defines levels at which various dependents of the head can be attached: the intermediate projection X' consists of X and its complement (1.5), whereas the following projection of X, X'' (generally X''=Xmax, for two projections are hypothesized for all lexical and non-lexical heads) consists of X' and its Specifier (1.6):

(1.5)$[_{X'}$ X - YP]

(1.6) $[_{X''}$ Spec - X']

Where X is a lexical/non-lexical head and YP is a complement of X.

Thus X-bar Theory defines the skeleton for phrase structure. This module must somehow allow for parametric variation, which in this case will mean branching direction. For example in English (and Scandinavian languages) the order of elements within the first verbal projection is Verb Object (VO), whereas in Dutch and German the order within the Verb Phrase is just the opposite Object Verb (OV). X-bar Theory accounts for these differences in the following way:

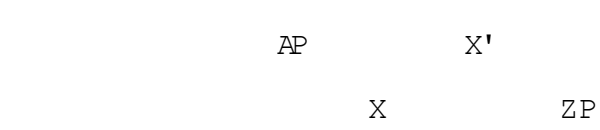
(1.7) $[_{V'}$ V - XP] (English and Scandinavian Germanic)

(1.8) $[_{V'}$ XP - V] (German and Dutch)

Interestingly, subjects of clauses in all these languages appear in [Spec,IP] on the left, therefore it is not a priori established that all the categories will be consistent in their branching direction. It can happen that in the same language some category projects its complements to the left, while another projects them on the right.

The rudimentary skeleton of the X' structure looks as follows:

(1.9)

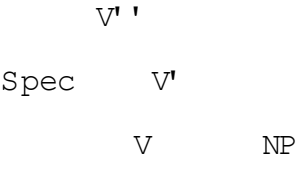


Where X is the head of the phrase, AP is its specifier and ZP its complement.

1.3 Theta Theory

X-bar Theory provides us with a structural framework for every phrase but it is Theta Theory which explains which positions within the categorial framework can be taken by which elements: which categories can locate themselves in the position of the Specifier and which in the position of the Complement. Allocation of elements to various positions within phrases is determined by semantic properties of the head. Each head assigns a semantic, i.e. thematic interpretation to its complements and, for some heads, also to its Specifier position. Consider the Polish verb lamac/break, it projects an intermediate projection V' dominating its NP complement piora/pens and its maximal projection Vmax (here assumed to be V''). Certain adverbials can appear in the preverbal position, for example zawsze/always, czesto/often.

(1.10)



The NP is interpreted with reference to the thematic grid of the verb: lamac/break takes Theme as complement (s-selection) and requires that it be a Noun Phrase (c-selection) thus the verb assigns a thematic (theta) role to its object. The theta marking potential of the verb is not saturated, for apart from the object theta role assigned internally (within V', the first projection of the head, under strict sisterhood), the verb assigns the theta role of an agent externally (this role is assigned to a constituent outside V'/VP). This role is assigned to the subject of the clause in the [Spec,IP] position. Thus the thematic relations in (1.4) have the following form:

(1.11) [Tomek [lamie [moje piora]]]
Agent verbal Theme
head

Theta-assignment is local in the sense that each head specifies semantic relations to phrases in its vicinity, thus Markowi/Mark cannot be theta-marked by lamac/break in (1.12):

(1.12) Powiedzialem Markowi, ze Tomek lamie moje piora.
I told Mark that Tom breaks my pens.

External theta-role assignment is not strictly local but it can be made local following either of the two assumptions:

A. The external theta role is not assigned by the head V directly but its maximal projections and Infl and I' are transparent to theta assignment by Vmax by virtue of being non lexical. Consequently if non lexical heads and their projections permit theta roles of another lexical head to be transmitted through their projections, they themselves cannot assign theta roles.

B. The external theta role of agent is assigned by V within Vmax to NP in the position of [Spec,Vmax] and subsequently the theta role assignee rises to [Spec,IP] (see Koopman, Sportiche 1985, 1988, 1991 and section 3.2 for detailed discussion).

Just like any other module of grammar Theta Theory rules out ill formed structures, which violate the Theta Criterion, one of the most significant principles of UG:

(1.13) Theta Criterion

A. Each argument is assigned one and only one theta-role.
B. Each theta-role is assigned to one and only one argument.

(Haegeman 1991:37)

where arguments are referring expressions, nominal and sentential phrases: NP and CP. Thus (1.13) rules out (1.14) where John is not assigned any thematic role, for the verb seem does not assign the external theta-role:

(1.14) *John seems to me that Mary is intelligent.

The formulation of (1.13) requires at least one additional comment: it specifies that theta assignment must be unique and double thematic specification is unavailable[1].

Finally, a position in which a theta role is assigned is a theta position. However every argument position is only a potential theta position, for not all predicates discharge external theta roles and require external arguments in their argument structure[2]. The verb seem in (1.14) does not assign an external theta role, thus the [Spec,IP] position of the matrix clause in (1.14) is not a theta position (but still an A position).

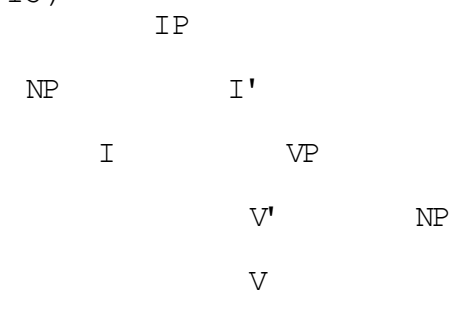
1.4. Theory of Movement

Theory of movement deals with restraining the rule "Move (Affect) alpha" operating between D structure and S structure. Without any condition on its application the rule "Move alpha" would overgenerate ungrammatical structures by, for example moving elements across too many maximal projections.

It is important to distinguish between at least three types of movement rules: A movement which moves NPs to A positions, A' movement which moves various XPs to A' positions and head movement.

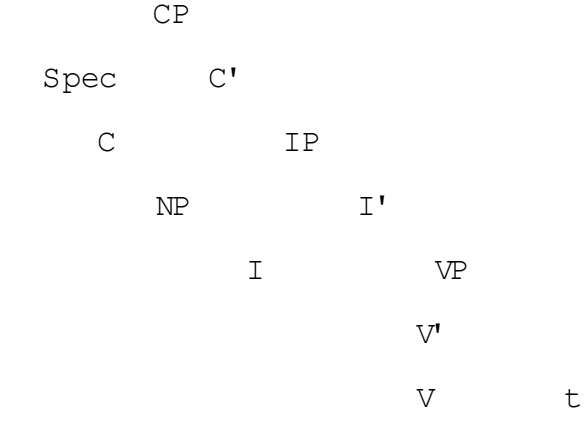
A movement (NP movement) can be exemplified by the process of passivisation moving a D-structure object into the S structure subject position [Spec,IP].

(1.15)



Following A' movement Wh elements in English appear at S structure in the [Spec,CP] (Wh operator) position:

(1.16)



This movement of Wh elements to [Spec,CP] at S structure (or LF) is conditioned by the Wh Criterion of May (1985):

(1.17) Wh Criterion

(a) Each Wh operator must be in a Spec/head configuration with $_{[+wh]}$ head

(b) Each $_{[+wh]}$ head must be in a Spec/head configuration with a Wh operator.

(adapted from Roberts 1993:63)

A maximally local movement process can also affect heads of phrases which adjoin to a higher head (X) creating a complex head[3]:

(1.18)

X°

X° Y°

$[_{Y}\ t]$

In all cases moved elements leave behind traces (t) which are coindexed with them. The relation between the antecedent and its trace can be represented in the form of a chain, whose length and composition is determined by both ECP (see next section) and Bounding Theory.

"Move alpha", as the most general form of syntactic reordering, can operate either via substitution or adjunction. NP movement and Wh movement are substitution processes. Due to cooperation of various modules of grammar, there is no movement to the complement position. The process of substitution can freely affect the specifier position as long as the category moved to it is a phrasal category, subject to further requirements. Adjunction can affect both heads and maximal projections. As (1.18) shows head to head movement is an adjunction process. Adjunction of maximal projections can apply either to maximal projections (XP), (Chomsky 1986b among others) or both maximal projections and intermediate projections (X'), (Larson 1988, Rizzi and Roberts 1989, Chomsky and Lasnik 1991).

The composition of A and A' chains is of primary concern to Bounding Theory which identifies certain domains which do not allow movement from within them. These domains are traditionally referred to as islands, following Ross (1967). The list of most important islands for movement is as follows:

(1.19) The Complex Noun Phrase Constraint (CNPC)

No element contained in an S dominated by an NP with a lexical head noun may be moved out of the whole NP by transformation.

(van Riemsdijk and Williams 1986:25)

(1.19) then rules out (1.19) and (1.20):

(1.20) * What did he refute [the proof [that you can't square t]] ?

(1.21) * How intelligent are you looking for an au pair [who is t] ?

CNPC excludes any possibility of extraction from both noun complement clauses (1.20) and relative clauses (1.21).

(1.22) The Sentential Subject Constraint

No element dominated by S may be moved out of that S if that node S is dominated by an NP which itself is immediately dominated by S .
(van Riemsdijk and Williams 1986:26)[4]

The Sentential Subject Constraint can account for such ungrammaticalities like the one in (1.23):

(1.23) * Who did [that Mary was going out with t] bother you?

where, as the trace indicates, the Wh operator A' binds a position within a sentential subject.

(1.24) Coordinate Structure Constraint

In a coordinate structure no conjunct may be moved, nor may any element contained in a conjunct be moved out of that conjunct.
(van Riemsdijk and Williams 1986:27)

(1.24) can be illustrated by (1.25):

(1.25) * Who is Bill [[proud of t] and [tired of his mother]] ?

(1.26) The Left Branch Condition (LBC)

No NP that is the leftmost constituent of a larger NP may be moved out of this NP.
(van Riemsdijk and Williams 1986:29)

(1.27) * Whose did you see guards?

(1.28) Upward Boundedness Constraint

No element that is moved upward by a transformation may be moved out of the next higher node S.
(van Riemsdijk and Williams 1986:30)

(1.29) a. [[That a serious discussion of this topic could arise here] was quite unexpected]
b. [[That a serious discussion t could arise here of this topic] was quite unexpected]
c. *[[That a serious discussion t could arise here] was quite unexpected of this topic]

(1.30) A-over-A Constraint

No constituent of category A can be moved out of a larger containing constituent of category A.
(Radford 1981:222)

(1.31) * To what age can you study linguistics up t ?

The above mentioned constraints on movement rules in syntax[5] were subsumed under a general and universal principle of the theory of movement; the principle of Subjacency proposed in Chomsky (1973):

(1.32) Subjacency

No rule can relate X and Y in the following structure:
...X...[$_B$...[$_B$...Y...]]
where X is separated from Y by more than one cyclic node (S and NP).
(adapted from Chomsky 1973:81)

Subjacency requires successive cyclicity of syntactic movement and movement from COMP to COMP. Thus (1.33) is grammatical if the movement of the Wh word progresses from one [Spec,CP] position to another without jumping over any [Spec,CP] position:

(1.33) Who do you think [that John said [that Bill saw t]]

The choice of bounding nodes is subject to parametric variation and therefore is language specific. For example in Italian CP and NP seem to be bounding nodes. The precise definition and functioning of Subjacency will be one of the key issues of this dissertation. Chapter 2 shows how (1.32) was developed and refined in subsequent works by Noam Chomsky and others.

1.5 Government Theory

The relations of c-command and government are significant for nearly all modules of grammar, they determine the order of elements at S-structure and LF as well as their mobility.

C-command (constituent command) is one of the notions defining structural relations on a derivational tree. We will define c-command as follows:

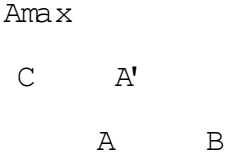
(1.34) C-command

A c-commands B iff A does not dominate B and every X that dominates A also dominates B.
(Chomsky 1986b:8)

Thus in our tree in (1.4) the verb lamie/break c-commands NP piora/pens but not conversely and NP Tomek c-commands all other

elements in the structure. However the choice of X can radically change the c-domain of A. If X is any node, strict c-command (immediate command) domain of A is restricted to the contents of A'. But X can be taken to represent the maximal projection dominating A, thus Amax. This concept of extended c-command, called m(aximal)-command was introduced in Aoun and Sportiche (1982).

(1.35)



In (1.35) A c-commands B but if the definition of c-command is extended to m-command, A also m-commands C. According to Chomsky (1986b) the two options of the formulation of c-command apply in different modules of grammar: Binding Theory makes use of c-command whereas Theta Theory makes use of its extended equivalent, m-command.

The crucial relation of government reduces to c-command, choice of governors and presence of any intervening material:

(1.36) Government[6]

A governs B if
(a) A is a head,
(b) A c-commands B,
(c) no barrier intervenes between A and B and
(d) Minimality is respected.
(adapted from Roberts 1993:19)

The concepts of Minimality and barrier refer to the presence of a closer governor and some (maximal) projections opaque to the relation of government. They are extensively discussed in chapter 2.

The relation of government is crucial for the theory of movement. Movement may not take place from any random position; the initial position of a moved element is subject to a very strong local requirement, the Empty Category Principle:

(1.37) The Empty Category Principle (ECP)

Every trace must be properly governed either by a lexical head or a coindexed phrase (basically by its antecedent moved locally).
(Giorgi and Longobardi 1990:20)

This general definition will be elaborated on and refined accordingly in the following sections. Coupled, Subjacency and ECP determine properties of movement. Subjacency is viewed as a condition on the route of syntactic movement, it is thus less local than ECP which determines the immediate, very local environment of a trace.

1.6. Case Theory

One of the characteristic features of nominal phrases is their ability to carry Case features overtly marked in some languages on nominals (e.g. Polish) or present only on pronouns in other languages (English). Even limited presence of visible Case alternations provides evidence for a grammatical process responsible for assignment of various (abstract) Cases to different NP positions. In languages with overt inflectional morphology abstract Case is spelled out in the form of Case endings. Since Case is assigned to NP positions, it is assumed that subjects of tensed clauses in [Spec,IP] position are marked for Nominative whereas objects of verbs and prepositions for Objective Case. Assuming that abstract Case is assigned to lexical NPs, the following Case Filter determines their distribution:

(1.38) The Case Filter

*NP [phonetic matrix]
if NP has no Case.
(Giorgi and Longobardi 1990:14)

While NPs are Case assignees, the role of Case assigners can be fulfilled by both lexical and non lexical categories which assign Case in two ways: structurally and inherently.

Structural Case is assigned by certain heads (such as Infl,V,P) under government:

(1.39) Mary believed [me to have left]
NOM OBJ

In (1.39) Mary in [Spec,IP] position receives its Nominative Case from the clausal head Infl and me receives its Case from the verb believe. Usually verbs both govern and theta mark their nominal complements but theta marking is not a necessary prerequisite for structural Case assignment. In (1.40) the verb both governs and theta-marks me assigning objective Case to it;

(1.40) John doesn't believe me.
OBJ

In (1.39) however, the verb assigns the same Case without theta marking me; instead it theta marks the whole clausal complement and governs and assigns Case to its subject across the clausal boundary in the process referred to as the Exceptional Case Marking.

Inherent Case assignment is a consequence of theta marking and can be performed only on theta marked dependents. In some languages it is realized through insertion of semantically empty prepositions, as for example of in English nominals:

(1.41) a portrait of Mary
(1.42) jealous of Ivonne

Nouns and adjectives are inherent Case assigners and cannot assign Case structurally:

(1.43) *Their belief of me to leave.

In (1.43) the noun belief does not assign Case to me. Although of governs me, belief does not theta-mark it.

1.7. Binding Theory

The theory of binding accounts for the distribution of coreferential NPs. All nominal phrases can be classified into three categories: anaphors, pronouns and names (R-expressions) and one principle of Binding Theory applies to each of them respectively. As a result of tests based on their coreferentiality all nominal elements, both overt and covert, can be assigned a binary set of features: [-/+ anaphoric], [-/+ pronominal]:

ANAPHORS: [+ anaphoric, - pronominal]
PRONOUNS: [- anaphoric, + pronominal]
NAMES: [- anaphoric, + pronominal]
PRO: [+ anaphoric, + pronominal]

(1.44) Binding Principles

A: An anaphor is bound in the local domain.
B: A pronoun is free in the local domain.
C: An R-expression (name) is free.
(Giorgi and Longobardi 1990:17)

From (1.44) it follows that distribution of anaphors must be confined to the domains in which they can rely on their antecedents for their reference. The term binding is understood as coindexation (implying coreferentiality) with a c-commanding element in an A(rgument)-position. The local domain in which an anaphor must be bound and pronoun free is traditionally called the governing category:

(1.45) Governing Category

(a) AGR is coindexed with the NP it governs,
(b) B is a governing category for A if and only if B is the minimal category containing A, the governor of A and a SUBJECT accessible to A[7].
(Chomsky 1981:211)

where

(1.46) A is an accessible SUBJECT for B if the coindexation of A and B does not violate any grammatical principles.

(Haegeman 1991:207)

SUBJECT is the most prominent nominal element in a given domain: within NP it is the pronoun or the full lexical noun in the [Spec,NP] position, it is the nominal element in the [Spec,IP] position in infinitival clauses and the AGR element of INFL (agreement phrase is claimed to carry nominal features such as person, number and gender). Notice that any relation of A to B in (1.46) takes place under c-command, for being a non-subject, B will always occur in the c-domain of A.

One of the grammaticality principles that ensues accessibility of a SUBJECT is the i-within-i filter:

(1.47) I-within-I Filter

Any structure involving A and B in the following configuration is ill-formed:

*[$_{Ai}$ ... B_i ...]

(Chomsky 1981:211-2)

(1.47) filters out cases of circularity of reference such as (1.48):

(1.48) *[Her_i $husband_j$] likes [his_j $wife_i$]

The element which is both [+ anaphoric, + pronominal] must have very special properties, it must be simultaneously both bound and unbound in its governing category. These contradictory requirements can be met only when this element has no governing category. PRO has no governing category nor can it be assigned Case. This requirement is captured by the PRO Theorem:

(1.49) The PRO Theorem

PRO must not be governed.

(Haegeman 1991:151)

1.8. Control Theory

The theory of Control predicts positions in which PRO can appear and the type of relation holding between PRO and the nominal element on which it depends for its interpretation (controller).

We should emphasize that the goal of this dissertation is to examine properties of empty categories resulting from syntactic movement. PRO does not appear at S-structure as a result of movement, it is base-generated, alongside pro, a pronominal empty category found mostly in the nominal subject position of tensed clauses in null subject languages. Thus both PRO and pro are pronominal empty categories whereas traces left by NP-movement and Wh-movement are non-pronominal ECs in the sense that they always have an antecedent in the form of the constituent moved from the positions occupied by these traces at S-structure.

1.9. The Projection Principle and the Principle of Full Interpretation

The Projection Principle says that lexical structure must be represented categorially at every level of interpretation:

(1.50) The Projection Principle (PP)

> Lexical information is syntactically represented at all levels of representation (DS, SS, LF).
> (Haegeman 1991:47)

(1.50) requires that the Theta Criterion be met at D-structure, S-structure and LF. If an argument is understood in a certain position, it must be there, even when phonetically unrealized. As such (1.50) presupposes existence of ECs which are both pronominal and non-pronominal.

The most direct consequence of the Projection Principle for movement is that considering the Theta Criterion, movement of a maximal projection can be allowed only to a non thematic position, for if a position occupied by a given maximal projection is thematic at D-structure, following its movement to a non-thematic position at S-structure, the argument will still receive its theta-role via a chain relating it to its trace. But if it is moved into a thematic position, it will end up bearing two theta-roles and violating the condition on uniqueness of theta role assignment. Generally speaking, in English the target of movement into an A (but non-theta) position is limited to the subject position which is either dethematised (by passive morphology on the verb) in passive constructions or non-thematic at all in the case of subjects of raising verbs.

The Projection Principle does not provide sufficient grounds for projection of all necessary syntactic positions. The presence of expletives in the clausal subject position (1.14) shows that its projection is not determined by the Projection Principle. Therefore extension of this principle is required:

(1.51) The Extended Projection Principle (EPP)

> The clausal subject position is obligatorily projected[8].

The Full Interpretation Principle says that at LF every maximal projection must be licensed,i.e. it must have an interpretation: every maximal projection XP can be either an argument, a predicate or an operator. As an argument, it must receive its theta role directly from its theta-marker or indirectly via a chain formed with its trace in a thematic position. As a predicate an XP must be licensed through predication by having a subject. As an operator an XP must be licensed through binding of a variable.

Notes

1. For example in:

(a) John ate the meat raw.

The meat superficially receives one theta-role from the verb eat and another from the adjective raw. In order to present the uniqueness of theta role assignment (in the spirit of Chomsky 1981, Stowell 1981), the above surface string should have the structure of:

(b) John ate the meat [$_{AP}$ PRO [$_{AP}$ raw]]

Such cases are however not unproblematic; the small clause boundary is transparent to external government and PRO is not protected from government.

2. Recent proposals of Grimshaw (1990) cast doubt on the generally assumed practice of drawing the equity sign between the notions of argument structure and the theta marking capacity of predicates. She suggests that keeping these two issues apart could be helpful in contrasting the status of nominal and verbal dependents. See chapter 4 for some discussion. For more detailed analysis see Grimshaw (1990), Rozwadowska (1991, 1992).

3. (1.18) shows the model of incorporation proposed in Baker (1988) and Chomsky (1991). Roberts (1993) develops the theory of head to head movement and argues that incorporation can involve adjunction, plain substitution based on morphological selection and substitution into an empty head position producing 'hybrid' structures. However these issues will not concern us directly in this study whose main aim is to account for phrasal movement.

4. Not only sentential subjects cause problems for extraction but so do any complex subjects, e.g.

*what did a book about t fall off the shelf?

This problem together with problematic extraction from adjuncts received much attention in Huang (1982) and Chomsky (1986b). See section 2.2.

5. Except the A-over-A Constraint and Coordinate Structure Constraint.

6. Current definitions of government differ mainly in their choice of c-command or m-command as the configurational relations on which they are based. The difference is quite essential and concerns the scope of head government; practically, if the m-

command option is taken the head can govern its specifier but if the c-command option is taken it cannot. We define government as based on c-command, for Case theoretic reasons. We want to claim that a head cannot assign Case to its own Specifier position. This allows us to make a distinction between the heads that assign Case under government and those that assign case under agreement. This distinction is blurred if government is based on m-command.

One of the consequences of this approach is that theta government and Case government have to be kept apart.

7. In Chomsky (1986a) the notions of the governing category and accessible SUBJECT were replaced by that of the Complete Functional Complex (CFC) which in its modified version can be presented as follows:

Complete Functional Complex

Beta is a Complete Functional Complex iff it meets at least one of the following requirements :

a. it is the domain in which all the theta-roles pertaining to a lexical head can be assigned.

b. it is the domain in which all the grammatical functions pertaining to that of head are realized (where R-relation, possessive, counts as the structural subject of the NP).

(Giorgi and Longobardi 1990:55-6)

8. We have adopted this imprecise formulation of EPP, for the accurate formulation of the principle is still a subject of ongoing research. The definition of the clausal subject position is rather elusive; for English, Polish or Italian it is [Spec,IP] but for VSO languages it can be either [Spec,VP] or [Spec,IP]. Thus it is neither clear whether EPP requirements are subject to parametric difference nor which position is obligatory by EPP.

Chapter 2

Subjacency, Barriers and the ECP

In what follows, four different systems exploiting the notions of Subjacency, Barrier and the ECP will be presented in a comparative way. Differences and similarities in the use of these notions will be outlined and their consequences for both the theory of grammar and the analysis of Polish data will be stressed. Section 2.1. presents Lasnik and Saito's (1984) analysis of the ECP and gamma marking, Chomsky's (1986b) framework will be analyzed in 2.2. and it will serve as a basis for the description of its two further modifications, Luigi Rizzi's (1990) theory of Relativised Minimality (RM) and Gugliemo Cinque's (1990) unified treatment of all barrier types[1].

2.1. Functioning of the ECP in Lasnik and Saito (1984)

Lasnik and Saito (1984) defined proper government in the following way:

(2.1) Proper Government

A properly governs B if A governs B and
a: A is a lexical category X (lexical government)
b: A antecedent-governs B if:
1. A and B are coindexed
2. A c-commands B
3. there is no G (G an NP or S') such that A c-commands G and G dominates B, unless B is the head of G.

(Lasnik and Saito 1984:248)

In their analysis Lasnik and Saito treat S(IP) and S'(CP) as deviant with respect to X-bar Theory and its structure composition requirements. COMP is a single, unitary constituent. The notion of lexical government is fairly straightforward and refers mainly to the government of an object trace by the preceding verb. It applies also in the ECM contexts. Antecedent-government holds in the following configurations:

(2.2) $[_{S'} A_i [\ldots t_i \ldots]]$

(2.3) $[_{S'} A_i [_{S} \ldots [_{VP} \ldots [_{S'} t_i [_{S} \ldots]]]]]$

and does not hold in:

(2.4) $[_{S'} A_i [_S ... [_{VP} ... [_{NP} ... [_{S'} t_i [_S ...]]]]]]$

(2.5) $[_{S'} A_i [_S ... [_{VP} ... [_{S'} ... [_S ... [_{VP} ... [_{S'} t [_S ...]]]]]]]]$

From these configurations it follows that in Lasnik and Saito's system VP is not a barrier to antecedent government. The configurations in which the ECP is violated correspond closely to the ones in which Subjacency is violated and vice versa.

Lasnik and Saito analyzed Wh-constructions typical of English, Japanese and Polish and concluded that although Wh-phrases occur universally in COMP at LF, there is parametric variation concerning their movement at S-structure:

(2.6) I know what John bought.
(2.7) *I know John bought what.
(2.8) Watasi-wa John-ga nani-o katta ka sitte iru.
'I-topic John-NOM what-ACC bought 0 know'
I know what John bought
(2.9) Zastanawiam sie, kto co prrzyniesie.
'(I) wonder who what will bring'
I wonder who will bring what.
(2.10) Zastanawiam sie, kto przyniesie co.
(2.11) *I wonder who what will bring.
(2.12) I wonder who will bring what.
(2.13) Kim-wa dore-ni John-ga naze kubi-ni natta tte itta no.
you-topic who-to John-NOM why was fired COMP said 0
To whom did you say that John was fired why.

Polish and English pattern together in that, unlike Japanese, they require overt syntactic movement of Wh elements to COMP. In Japanese any Wh phrases remain in situ at S-structure and subsequently are raised to COMP at LF for reasons of scope. Although both Polish and English show Wh movement in overt syntax, as (2.9) and (2.11) show, the two languages differ in the number of Wh phrases that can be fronted to a single preclausal position at S-structure. The provision in the form of "the preclausal position" is required because Lasnik and Saito claim that fronted Wh phrases in Polish do not necessarily all land in COMP, they could be S adjoined at S-structure. While English allows only one Wh element in COMP at S-structure, Polish does all its Wh movement overtly.

Although English allows only one Wh-phrase in COMP at S-structure, the choice of this Wh phrase is not arbitrary:

(2.14) Who [t saw what]
(2.15) *What [did who see t]
(2.16) Why [did you buy what t]
(2.17) *What [did you buy t why]

The ungrammaticality of (2.15) and (2.17) follows from the ECP because at LF the traces of the subject of (2.15) and the adverbial in (2.17) cannot be properly governed. Lexical government is not available for the subject of a tensed clause and an adjunct and antecedent-government from COMP is

impossible, for COMP in (2.15) and (2.17) is not accessible to the traces at LF.

To explain this fact Lasnik and Saito referred to the COMP Indexing Algorithm of Aoun, Hornstein and Sportiche (1981):

(2.18) COMP Indexing (at S- and LF-structure)

$[_{COMP}...X_i...]$ $[_{COMP}...X_i...]_i$
if ... includes no Y_j.
(Lasnik and Saito 1984:249)

X in COMP is thus treated as the head of COMP and (2.18) can be presented as:

*[...$Head_i$...]$_j$
where i ≠ j

Thus given (2.18), the LF representations of (2.14-7) have the following form:

(2.14) [$what_j$ who_i] [t_i saw t_j]
(2.15) *[who_i $what_j$] [did t_i see t_j]
(2.16) [$what_j$ why_k] [did you buy t_j t_k]
(2.17) *[why_k $what_j$] [did you buy t_j t_k]

(2.14) and (2.16) are grammatical because having moved to COMP at S-structure the antecedents of the subject and adjunct traces triggered off the COMP indexation allowing for the relation of antecedent-government to hold. This relation implies c-command plus coindexation of the antecedent and the trace, which obviously cannot hold in (2.15),(2.17) if the COMP is coindexed at S-structure by another Wh operator. As (2.14-7) also show, lexically governed elements do not need antecedent government either at S-structure or LF.

That antecedent-government must hold of both initial and intermediate traces can be seen in (2.19-20):

(2.19) * Who left why?
(2.20) *Who said he left why?

whose LF representations have the following form:

(2.19) *[Why_k who_i] [t_i left t_k]
(2.20) *[Why_k who_i] [t_i said [t'$_k$ [he left t_k]]

Both sentences are ungrammatical but while in the former the initial adjunct trace is ungoverned, in the latter the initial adjunct trace t_k is antecedent-governed from the coindexed COMP of the subordinate clause. However the intermediate trace positioned in this COMP fails to be antecedent-governed and violates the ECP. It follows then that intermediate adjunct traces must be governed.

Considering a simple set of examples Lasnik and Saito concluded that movement does not require traces by definition but other, independent principles of grammar guarantee that they will be created:

(2.21) John was killed t
(2.22) Why did you come t
(2.23) Who did John say [t [t came]]

In (2.21) the trace is required by the Theta Criterion and the Projection Principle, in (2.22) the trace is needed by the requirement against vacuous quantification. In (2.23) the intermediate trace is needed for antecedent-government of the initial trace.

Let us now turn to the cardinal set of examples involving the ECP asymmetries typical of subjects/nonsubjects and lexically governed/antecedent-governed categories:

(2.24) Who do you think [t'[t came]]
(2.25) *Who do you think [t' that [t came]]
(2.26) What do you think [[John likes t]]
(2.27) What do you think [that [John likes t]]
(2.28) How do you think [t'[he repaired his car t]]
(2.29) How do you think [t' that [he repaired his car t]]
(2.30) Which problem [did you wonder [how [PRO to solve t t
(2.31) *How [did you wonder [t' which problem [PRO to solve t][2]
(2.32) *Who did you wonder [t' how [t wanted [[PRO to solve this problem]]]][3]

(2.24-7) concern the so called 'that-trace effect' which rules out (2.25) in which <u>that</u> as the head of COMP does not allow for antecedent-government of the subject trace. Interestingly, <u>that</u> does not block antecedent-government of the adjunct trace in (2.29). Needless to say the presence of <u>that</u> does not affect proper government of lexically governed traces. (2.34) seems more puzzling considering the ungrammaticality of (2.25):

(2.33) Who [do you believe [t''[Mary said [t'[t left early
(2.34) Who [do you believe [t'' that [Mary said [t'[t left early]]]]]

Note that in (2.25) the initial trace fails to be antecedent governed while in (2.34) it is the intermediate trace t' that cannot be antecedent governed by t'' due to the presence of <u>that</u> as the head of COMP.

Lasnik and Saito (1984) propose to deal with these asymmetries in the following way: they assume that the ECP consists of two parts, the first indicates under what circumstances proper government holds, the other filters out structures in which nonpronominal empty categories are not properly governed:

(2.35) <u>The ECP</u>

a. t [+gamma] when lexically governed or antecedent governed
   t [-gamma] otherwise
b. *$t_{[-gamma]}$

(Lasnik and Saito 1984:257)

Gamma marking (under proper government) takes place at two different levels: for arguments at the level of S-structure, while for nonarguments (adjuncts) at LF. Now (2.34) can be dealt with properly: t in the subject position obtains its [+gamma] feature at S-structure from its antecedent governor t' which must be present at S-structure for gamma marking of the initial trace but it need not be present at LF; no principle of grammar requires its presence at LF, even the ECP. Thus once t as an argument trace is gamma marked at S-structure all intermediate traces delete at LF and the sentence is grammatical. (2.25) differs from (2.34) crucially in that it is the initial trace of an argument that does not satisfy the gamma marking requirement at S-structure, with that as the head of COMP disallowing COMP indexing with the intermediate trace. Thus at the output of S-structure (2.25) is ruled out with the subject trace assigned the [-gamma] feature. (2.27), as expected, presents no problem for the process of gamma marking, the object trace being lexically governed satisfies the ECP at S-structure.

(2.29) can be satisfactorily accounted for by the ECP in (2.35) with assistance from an auxiliary stipulation concerning the function of the complementiser that at LF. That is present at S-structure. But nonargument traces such as t in (2.29) receive their gamma marking at the output of LF, where, as Lasnik and Saito claim, that without any semantic content has been deleted[4]:

(2.36) That Deletion at LF

$[_{COMP}$ t that $]$ -- $[_{COMP}$ t 0 $]$

(Lasnik and Saito 1984:265)

Thus through the process of that deletion at LF Wh-adjuncts avoid that-trace filter.

(2.30-2) show asymmetries between lexically and antecedent-governed traces with respect to Wh-islands. While both (2.31) and (2.32) are clearly ungrammatical, (2.30) is much more acceptable. The differences in their acceptability status can be attributed to the type of proper government their respective ECs are subject to. In (2.31-2) antecedent-government requires that COMPs of subordinate clauses be available for coindexation with intermediate traces of subject and adjunct traces. These positions however are occupied by other Wh elements, heads of COMP distinct from the intermediate traces. The presence of how in the COMP in (2.32) at S-structure automatically excludes the subject trace from antecedent government and gamma marking at S-structure. In (2.31) the adjunct trace could be antecedent governed and gamma marked at LF provided the head of COMP which problem could be deleted. This option is unavailable because unlike that the head of lower COMP in (2.31) has semantic content and as such does not qualify for deletion. As a result the adjunct trace fails to receive its gamma marking at LF and the structure is filtered out as a violation of the ECP. The nonpronominal EC in (2.30) being lexically governed receives its

gamma marking at S-structure and is more acceptable than the other two.

2.2 The ECP and Subjacency in "Barriers"

In Chomsky (1986b) we find a fully uniform clausal structure with two non-lexical heads projecting both single and double bar levels. This expands former COMP[5] into two available landing sites for movement: [Spec,CP] and Comp. The observation that the contexts for antecedent government and Subjacency practically overlap inspired Chomsky to unify both phenomena and identify their common properties. Analyzing (2.2-5) he concluded that potentially all maximal projections are barriers to government and bounding nodes but their actual barrierhood depends on the structural configurations in which they appear. To a large extent he was inspired by James Huang's (1982) Condition on Extraction Domains. Huang noticed the argument/adjunct and subject/complement asymmetries in domains of extraction and demonstrated that a mere assumption of the bounding node status of NP and IP that Subjacency offered was not satisfactory. He concluded that subjects and adjuncts were barriers for extraction (and epitomized this observation in the Subject Condition and Adjunct Condition)[6].

From (2.2-5) it follows that for example VP never counts as a barrier. To account for this fact Chomsky (1986b) used the process of adjunction and assumed that adjunction to any nonargument maximal projection is allowed:

(2.37) The Adjunction Principle

> Adjunction is possible only to a maximal projection (hence X'') that is nonargument.
>
> (Chomsky 1986b:6)

Arguments such as NPs and CPs cannot be adjoined to for reasons connected with theta role assignment: theta role could not be assigned to an argument with another element adjoined to it. A typical adjunction structure takes the form of (2.38) where A is adjoined to category B:

(2.38) G ...[$_B$ alpha [$_B$ ...]]

and dominated by the upper segment of B but not the lower one. Obviously adjunction structures are crucial for antecedent government, thus A in (2.38) must be able to antecedent govern into the lower segment of B. Chomsky (1986b) follows May's (1985) theory of adjunction. May assumes that the process of adjunction creates an extra segment of the maximal projection to which it applies. Following its adjunction, A is not included in

the maximal projection B, for not every segment of B dominates A. The first maximal projection dominating (including) A would be some projection of G, the governor of B. This assumption has vital consequences for the relation of c(m)-command: the m-command domain of A includes the content of B but A is not c(m)-commanded from within B.

To assure that antecedent government holds, Chomsky (1986b) defines a barrier to government in terms of exclusion rather than domination. Thus (2.40) replaces (2.39):

(2.39) A governs B iff A m-commands B and every barrier for B dominates A.
(Chomsky 1986b:8)

(2.40) A excludes B if no segment of A dominates B.
A governs B iff A m-commands B and there is no G, G a barrier for B such that G excludes A.
(Chomsky 1986b:9)

Under (2.40) A in (2.38) is able to antecedent govern inside B but clearly G is not by virtue of being excluded by B.

After this analysis of adjunction it becomes clear why VP in (2.41) does not count as a barrier to antecedent government for the adjunct trace.

(2.41) How did [$_{IP}$ you [$_{VP}$ fix the car t]]

The adverb of manner is considered to be originally within VP (unlike in Lasnik and Saito 1984) on the basis of the VP preposing facts such as (2.42):

(2.42) John wanted to fix the fender with a crowbar and fix it that way he did t.

Thus at LF the structure of (2.42) is the following with the intermediate traces necessary to provide gamma marking at LF:

(2.42') how did [$_{IP}$ you [$_{VP}$ t'[$_{VP}$ fix the car t]]]

Thus the special status of VP as a maximal projection that never constitutes a barrier by itself with respect to other maximal projections can be accounted for by means of adjunction.

Chomsky suggests that a given category can become a barrier to government on three counts:

A: as a Blocking Category (BC) and as a minimal X^{max} dominating BC;
B: by Minimality;
C: intrinsically, depending on the setting of a parameter.

First we will consider B which is a condition on uniqueness of government. Minimality is defined as follows:

(2.43) Minimality

...A ...[$_G$ ...D ...B ...]
G is a barrier for B if G is a projection/the immediate projection of D, a zero-level category distinct from B.
(Chomsky 1986b:42)

The choice between "a projection" or "immediate projection" of D involves the choice between broader Minimality, when the head X protects both its complements and Specifier from outside government within Xmax, and the narrower Minimality, under which only complements of the head under X' are protected from outside government. Languages seem to differ in the choice between the type of Minimality required. For instance if the narrow Minimality option is taken, NP does not constitute an absolute barrier to government (it is not an obligatory bounding node)[7].

The Minimality Condition is able to rule out 'that trace effects' without recourse to COMP indexing, for Wh traces do not land in the head position of Comp occupied by that, but in the [Spec,CP]:

(2.44) [$_{CP}$...t'...[$_{C'}$ [$_{Comp}$ that][$_{IP}$...t...]]]

'That trace effects' are thus consequences of the Minimality Condition, as the closer head that prevents t from being antecedent governed by t' in [Spec,CP]; C' becomes a Minimality barrier. If the position of the head of the Complementizer is not occupied by any lexical material, it is featureless and in order to serve as a barrier, a minimal governor X' is supposed to be a projection of a category with features.

Opting for narrower Minimality entails assuming that under certain circumstances all single bar projections of heads should be barriers. (2.41) however shows that this is an unwelcome consequence:

(2.41) how did [$_{IP}$ you [$_{VP}$ t'[$_{VP}$ [$_{V'}$ fix the car] t]]]

Although the adverb is within VP it cannot be under V' in a position reserved for complements. In (2.41) both V' and I' could potentially count as barriers by Minimality. Chomsky (1986b) deals with this problem by assuming that X' levels need not be present when not required (thus essentially when a specifier of a given X'' is missing). The level of V' does not constitute a Minimality Barrier. I' does not constitute a barrier because of the defective character of the I system which includes I' and IP.

Besides Minimality, barrierhood is determined by lack of L-marking and immediate domination of Blocking Categories.
L-marking is defined as direct theta marking by a lexical

category:

(2.45) L-marking

A L-marks B iff A is a lexical category that theta governs B.

(Chomsky 1986b:15)

Barrierhood and Blocking Category status of maximal projections is a consequence of lack of L-marking:

(2.46) BC and Barrier

G is a Blocking Category (BC) for B iff G is not L-marked and dominates B.
G is a barrier for B iff a) or b):

a) G immediately dominates D, D a BC for B,
b) G is a BC for B, G is not IP.

(Chomsky 1986b:14)

The Subject Condition and Adjunct Condition of Huang (1982) are handled straightforwardly by (2.46b). The defective character of IP and I' must be assumed, for Wh elements on their way to COMP cannot adjoin to IP. If the Blocking Category status of IP were waived through IP adjunction of Wh elements on their way to [Spec,CP], Wh island effects could not be accounted for.

(2.47) Who did [$_{IP}$ John [$_{VP}$ t'[$_{VP}$ see t]]

IP is not L-marked by Comp, nor is VP by I although it is supposedly theta marked by it. Adjunction, parallel to VP adjunction is unavailable here, for IP should be a BC. It clearly is a BC but not a barrier therefore its defective character must be posited. (2.46) is able to account for Wh-island effects and adjunct/argument asymmetries:

(2.48) *how did Bill [t'''[wonder [who [t''[wanted [t'[PRO to fix the car t]]]]]]]
(2.49) who is it time [(for John) to visit t]
(2.50) *how is it time [(for John) to fix the car t]
(2.51) *what did John meet [a man [who fixed t]]
(2.52) *how did John meet [a man [who fixed a car t]]
(2.53) ?what did John announce [a plan [to fix t]]
(2.54) *how did John announce [a plan [t'to [fix the car t
(2.55) John expressed [the feeling [(that)* the meeting should not be held]]
(2.56) ?what did you wonder [[to whom] John gave t t]
(2.57) ?[to whom] did you wonder [what John gave t t]
(2.58) ?what did you wonder [[to whom] to give t t]
(2.59) [to whom] did you wonder [what to give t t]
(2.60) *how did John know [which car to fix t]
(2.61) *how did John tell you [to fix the car t]

In (2.48) the initial trace is properly governed by the first intermediate trace t' from [Spec,CP] and t' is in turn antecedent-governed by t'' adjoined to VP. t'' however fails to be antecedent-governed by t''' with CP being a barrier to government. Although CP is L-marked by V wonder, it inherits barrierhood from a non L-marked blocking category IP. Note that under the analysis in (2.49) the object trace is lexically governed while in (2.50) the adjunct trace can adjoin to VP, then move [Spec,CP] but any further movement crosses over one barrier CP, for being an adjunct CP is not L-marked. Consequently an ECP violation results.

In (2.51-52) the CP within NP is a relative clause, thus it is not theta marked by the head noun. CP constitutes a barrier to antecedent government. NP dominating it becomes the second barrier by inheritance. Two barriers are crossed and although in (2.51) the ECP for lexically governed traces is satisfied, crossing over two barriers causes a major Subjacency violation and the sentence is ruled out. Since even a single barrier blocks antecedent government, (2.52) must fail to meet the gamma marking requirement at LF.

(2.53-54) are cases of noun complement clauses in which CP is a sister node of N under N'. There should then be no barriers in these constructions, with CP L-marked by N and NP L-marked by V. However Subjacency violations are detected (in Chomsky's formulation the grammaticality status of these constructions is intermediate) and the impossibility of (2.54) indicates that one barrier must be crossed in the course of the derivation. Both NP and CP cannot be barriers, for this Subjacency violation is too mild. Since NP is L-marked by the verb, CP is a more likely candidate for a barrier in this construction, especially that as (2.55) shows that deletion in the noun complement clauses is impossible implying that the Complementiser position is not properly governed. Chomsky does not offer an elegant solution to this problem[8].
He suggests that CP may be a barrier for an independent reason; N' is a barrier through Minimality.

(2.56-59) show an interesting and rather unexpected contrast: (2.58-59) are said to be much more acceptable than (2.56-57). Since neither pair is fully grammatical and adjunct extraction is impossible in these contexts at least one barrier must be crossed in all of them. In (2.56) what adjoins to the lower VP. Assuming that IP adjunction for Wh elements is impossible, it can further adjoin to the matrix VP and thus cross over one barrier CP which inherits barrierhood from IP. With only one barrier crossed only a weak Subjacency violation and the ECP violation for adjunct traces occur. The same analysis extends to (2.58-59). Just like the asymmetry between relative clauses and noun complement clauses, there must be some inherent extra barrier distinguishing between the two pairs in question. This difference is credited to the infinitival or tensed status of the Wh island complements. Tense makes IP a (low level parameter) extra barrier in English[9].

"It may be that parametric variation involves not the

distinction between tense vs. infinitive but the distinction between indicative vs. infinitive-subjunctive, or perhaps some factor involving unrealized subject."

(Chomsky 1986b:39)

The cumulative effect of crossing over more than one barrier makes structures involving them less acceptable:

(2.62) ?*what did you wonder [who [knew [who saw t]]]

where the Wh-phrase first adjoins to the lowest VP, then to a higher VP crossing over one barrier (CP by inheritance from IP), then it moves to the higher VP again crossing over one barrier CP by inheritance from IP. If the effect of crossing over two barriers is stronger, the tensed IP barrier in English must be limited to the most embedded IP, otherwise (2.63) should be as degraded as (2.62) although it is perfectly grammatical:

(2.63) who do you think that John said that Bill saw t

Interestingly, (2.64) is as grammatical as (2.63):

(2.64) how do you think that John said that Bill failed the exam t

which means that the low level parameter of tensed IP in English counts only for Subjacency and does not affect antecedent government and gamma marking of an adjunct trace.

From the analysis of (2.48-64) it follows that Chomsky's attempt at unifying the effects of Subjacency and the ECP is astonishingly productive and both concepts are reducible to the crucial notion of barrier. Subjacency is formulated as follows:

(2.65) Subjacency

If (A_i, A_{i+1}) is a link of a chain, then A_{i+1} is subjacent to A_i.
B is n-subjacent to A iff there are fewer than n+1 barriers for B that exclude A.

(Chomsky 1986b:30)

where 0-subjacency as between the initial and the intermediate traces of the adjunct in (2.64) is the most welcome case of movement. 1-subjacency has a special status, it is a borderline between grammaticality and ungrammaticality and overlaps with the satisfaction of the ECP for object traces and the ECP violations for adjunct traces.

Unlike Lasnik, Saito (1984), Chomsky(1986b) incorporates A movement and head movement into his system. Here we will present only the rudimentary outline of this operation:

(2.66) $[_{CP}$ [how tall] $[_{C'}$ [is] $[_{IP}$ John [t_I [t_V t]]]]]]

with a familiar Wh movement to [Spec,CP] and V raising to Comp via I. The movement of heads must clearly obey some form of the

ECP since it leaves a trace in V. The ungrammaticality of (2.67) shows that this trace cannot be lexically governed:

(2.67) *[how tall] be$_v$ [$_{IP}$ John [$_{I'}$ will [t_v t]]]

Antecedent-government cannot hold between be and t, for VP is an inherent barrier to government. Although it is theta marked by I it is not L-marked, since I is not a lexical category and it is only theta government by lexical categories that nullifies inherent barrierhood of maximal projections. However if we assume that I does not L-mark VP, V raising to I should never be possible. Chomsky suggests that this problem can be resolved in the following way: on its way to C, be must first raise to I and amalgamate with I to form V. As a result of this process V will possess lexical features relevant for L-marking of VP which will cease to be an inherent barrier. Further, V moves to Comp across IP which is not a barrier[10].

From this analysis Chomsky concludes that head movement is constrained by the Head Movement Constraint which in turn reduces to the ECP requirement on antecedent government: heads can move only to the position of their governing heads:

(2.68) The Head Movement Constraint

> Movement of a zero level category B is restrained to the position of a head A that governs the maximal projection G of B, where alpha theta governs or L-marks G if A is not Comp.
>
> (Chomsky 1986b:71)

The analysis of A chains in terms of the ECP and barriers requires additional assumptions as can be seen from (2.69):

(2.69) John [$_{Infl}$ seem-I] [$_{VP}$ t_v [$_{IP}$ t to be intelligent]]

where seem is the antecedent of t_v bearing its index. The movement of John across the VP is barred because the VP is a barrier for t by Minimality. For A movement the option of VP adjunction to avoid barrierhood is unavailable, for that would create a case of improper movement; an A' bound trace must be A free in the domain of the head of its chain.

A suggested solution to this problem rests on the assumption that Spec/head agreement between the subject of the IP and its head Infl is a feature sharing process relevant for L-marking[11].

If the sharing of a feature F between a Specifier and its head transmits L-marking from the head to Spec, it must essentially be the same relation as L-marking. Thus the index of head/Spec agreement overlaps with that of index sharing in the chain resulting from movement. Now in (2.69) the subject NP is coindexed with its trace and agrees with seem-I, t is governed and coindexed with t_v, the trace of the raised V. Thus t is antecedent governed by t_v within an extended chain with all its links coindexed:

(2.70) Chain Coindexing

a. D = (A_1,..., A_n, B) is an extended chain if (A_1,..., A_n) is a chain with index i and B has index i.
b. Chain coindexing holds of the links of an extended chain.

(Chomsky 1986b:75)

Chomsky excludes the possibility of accidental clausal head coindexation and makes it dependent on some grammatical process, for example successive cyclic NP movement.

A simple passive involving NP movement can be analyzed along similar lines:

(2.71) John [$_{Infl}$ be-I] [$_{VP'}$ t_v [$_{VP}$ killed t]]

Again v is an index of V-to-I raising. Superficially t could be regarded as lexically governed by a past participle but then a separate principle would be required to rule out "long movement" and "super-raising" in (2.72) which can be very elegantly disposed of without recourse to any other conditions as a failure of antecedent-government:

(2.72) * a man seems [there to be killed t]

If theta government of t in (2.71-72) were disregarded or considered insufficient for proper government of the A bound trace, the spec/head relation and chains of movement would again form an extended chain under familiar conditions, and we would arrive at the familiar pattern where the index of the nominal trace is identical with that of a verbal trace. Then t_v would have to antecedent govern t which is possible under the assumption that (VP',VP) is a two-segment, base generated VP similar to an adjunction structure devoid of barrierhood[12].

The argument sketched for A bound traces entails that theta government may not be sufficient for proper government and could be disposed of if conditions for antecedent government of object traces were satisfied. Owing to the permanent availability of VP adjunction neutralizing VP barrierhood, the ECP can be simplified to antecedent government.

In his analysis, Chomsky (1986b) assumed that both Subjacency and the ECP require successive cyclic movement and their predictive power depends on the notion of barrier. Subjacency seems to be the less demanding of the two constraints because crossing over one barrier gives markedly better results if the ECP is still satisfied. The ECP does not tolerate crossing over even one barrier in the case of adjunct and subject extraction. Although the accounts of Subjacency and the ECP were considerably unified, the two phenomena differ marginally when they seem to take different values for barriers: the Minimality Condition concerns mainly government, not movement and the low level tensed IP barrier for English

concerns movement but not government.

2.3. Rizzi's ECP and Relativized Minimality

At the outset of his analysis of Relativized Minimality Rizzi (1990) observes that the concept of Minimality in Chomsky (1986b) is both rigid and asymmetrical. If the basic configuration for Minimality effects is:

(2.73) ...X...Z...Y
X cannot govern Y if Z is a closer governor.

Chomsky's Minimality is rigid because if Z is a head it blocks not only head government between X and Y but also antecedent-government in A chains and A' chains. It is asymmetrical because an intervening potential head governor blocks any type of antecedent government while an intervening potential antecedent governor blocks only antecedent government from X. In Rizzi's system Z is an intervening node with respect to only one type of government. In this sense Minimality is Relativised.

Rizzi based his observations on data provided by Huang (1982), Obenauer (1984) and Ross (1983).

Huang (1982) noticed that objects can still be extracted over Wh islands while adjuncts and subjects cannot[13].

In his study Obenauer (1984) analyzed certain pseudo-opacity effects in French: a VP initial adverbial QP selectively blocks extraction of VP internal constituents but still allows extraction of the object[14]. The relationship between the VP initial position and [Spec,NP] has significant properties: if the VP internal position is filled by an adverbial quantifier, the extraction of the NP Specifier from within its NP is blocked:

(2.74) Combien de livres a-t-il beaucoup consultes t
How many books did he a lot consult
(2.85) *Combien a-t-il beaucoup consulte [t de livres]
How many did he a lot of consult books

In order to account for this phenomenon Obenauer suggested a rule saying that ECs are bound by the closest potential binder available.

In his account of inner (negative) islands Ross (1983) pointed to the fact that negation interferes with extraction of adverbials but does not affect extraction of arguments:

(2.76) Bill is here, which they don't know.
(2.77) *Bill is here, as they don't know.

The argument/adjunct asymmetry typical of the ECP is best

evident in the following examples:

(2.78) What do you believe he weighed (last week)?
(2.79) What do you not believe he weighed (last week)?

(2.78) allows two types of answer: both potatoes and 200 pounds are suitable while (2.79) allows only one of them, the former. This proves that an object can be extracted over a negative particle but the adjunct (quasi object) cannot. Thus the negative element behaves like a potential A' binder and thus the whole inner (negative) island effect can be attributed to a violation of the ECP.

These observations led Rizzi to the conclusion that element Z of (2.73) cannot serve as a minimal governor to both arguments and adjuncts; it can serve as a potential minimal governor for a single type of elements only. This leads to a substantial modification in the definition of the Minimality Barriers and ECP. At first Rizzi proposes the following definition of ECP:

(2.80) Rizzi's ECP

An EC must be either head governed or antecedent governed;
A. Head government:
X head governs Y iff
(i) X { A, N, P, V, Agr, Tense }
(ii) X m-commands Y
(iii) no barrier intervenes
(iv) Relativised Minimality is respected.

B. Antecedent-Government:
X antecedent-governs Y iff:
(i) X and Y are coindexed
(ii) X c-commands Y
(iii) no barrier intervenes
(iv) Relativised Minimality is respected.
(Rizzi 1990:6)

In the first part of the definition head governors can be both lexical heads and two functional heads, Agr and Tense while Comp is totally inert for head government.

Rizzi's definition of Relativised Minimality runs as follows:

(2.81) Relativised Minimality (RM)

X alpha-governs Y only if there is no Z such that:
(i) Z is a typical potential alpha-governor of Y,
(ii) Z c-commands Y and does not c-command X.
(Rizzi 1990:7)

The notion of alpha-government encompasses four classes of government: head government plus three types of antecedent government. Antecedent-government is a property of chains, thus the three types will include A chains, A' chains and X chains

(head movement). Z can be defined for each individual type of relation in the following way:

a) Z is a typical potential head governor for Y if Z is a head m-commanding Y.
b) Z is a typical potential governor for Y, Y in an A chain, if Z is an A Specifier c-commanding Y.
c) Z is a typical potential governor for Y, Y in an A' chain, if Z is an A' Specifier c-commanding Y.
d) Z is a typical potential governor for Y, Y in an X chain, if Z is a head c-commanding Y.

Consequently, the four types of RM violations can be exemplified as follows:

(2.82) *How do you wonder [which problem [PRO to solve t t']

Here the A' Specifier which problem clearly intervenes between how and its trace t' creating an A' chain. By RM t' is not properly governed, for head government obviously does not apply, since t' is an adjunct. One of the more significant ramifications of the RM hypothesis is that (2.82) is ruled out even if the movement of the adjunct to [Spec,CP] proceeds through the intermediate landing site provided by VP adjunction:

(2.82') *How do you [t' wonder [which problem [PRO to [t'' solve t t''']]]]

Although t''' and t' are antecedent-governed, t'' is not, its chain connection with t' is broken up by another potential governor, the Wh operator belonging to a wholly different A' chain. Consequently extraction of an adjunct from within a Wh island always produces an ECP violation irrespective of the number of intermediate traces. (2.83) is an example of a grammatical adjunct extraction:

(2.83) How do you think [t' that [Bill solved it t'']]

Here the combined A' chain (how,t'),(t',t'') runs past three heads V,I,C and one A Specifier in [Spec,IP] but RM is not violated, for none of these elements qualifies as a potential A' specifier able to break up the chain (how,...,t'').

Cases of "super-raising" can best illustrate the relation between an intervening A Specifier and an NP trace:

(2.84) *John seems [$_{CP}$ that [$_{IP}$ it is likely [$_{IP}$ t to win]]]

The trace should be antecedent-governed by John from the [Spec,IP] position in the matrix clause, but an intervening A Specifier it blocks the government of the trace and causes an ECP violation, accounted for by RM. Again, the intervening heads Infl and V do not interfere with the elements of A chains.

(2.85) John does not seem [t to be here]

In (2.85) the presence of the negative particle does not affect relations within the A chain.

Descriptively, the condition on the length of X chains is captured by the Head Movement Constraint prohibiting any head movement over other heads into the target landing site[15].

(2.86) They could [have left]
(2.87) [$_{Comp}$ could] they t [have left]
(2.88) *[$_{Comp}$ have] they [could [t [left]]]

In (2.87) the moved head antecedent-governs its trace but does not govern its trace in (2.88), the head have intervening. In both cases again they, although the head of NP, does not interfere, for it potentially never participates in X chains.

The effects of RM on head government overlap with the effect that barriers have on government. They can be tested through Case Theory violations. In the ECM context in (2.89):

(2.89) ...V [$_{IP}$ NP...]

V assigns Case to [Spec,IP] across both IP and the head Infl. Infl, as a closer head should block government by a more distant head V but Rizzi assumes that Infl is defective for head government (anyway head government holds only under the immediate projection of the head governor). But with another head intervening between V and [Spec,IP] the relation of head government of the NP by V is broken up and Case assignment cannot take place:

(2.90) *John tried [Comp [Bill to win]]
(2.91) *John wondered [how Comp [Bill to win]]

Thus in Rizzi's approach the ungrammaticality of (2.90-91) results from an RM violation, it is not CP as a barrier as in Chomsky (1986b), but Comp (null or nonnull) that as an intervening head excludes the higher head governor V.

The above four examples of the operation of RM provided sound empirical basis for its formulation.

However Rigid Minimality still has one advantage over RM in that it is able to rule out cases of 'that trace effects' on subject traces, while RM is unable to do so, because clearly there is no other A' specifier in the domain of the A' chain to break it up and rule these structures out. One of the available options is to assume that it is not antecedent government that fails to hold in these constructions but some other relation holding concurrently with antecedent government. These two relations together form the conjunctive formulation of the ECP. Rizzi suggests that the other condition entering into the conjunctive ECP is proper head government of the nonpronominal EC.

The asymmetry of the position of [Spec,IP] and VP with respect to Infl is indicative: VP is the complement of Infl while [Spec,IP] its specifier. Thus proper head government can be formulated as:

(2.92) Proper Head Government

> Proper head government is head government within the immediate projection of the head, government by X within X'.
>
> (Rizzi 1990:31)

The conjunctive formulation of the ECP is as follows:

(2.93) Conjunctive ECP

> A nonpronominal empty category must be:
> (i) properly head governed (Formal Licensing)
> (ii) antecedent governed or theta governed (Identification).
>
> (Rizzi 1990:35)

Now the 'that trace effect' can be accounted for as a violation of the requirement on formal licensing: Infl does not govern NP outside its immediate projection I', that does not govern t at all, for Comp is inert for government. In effect the conjunctive ECP is violated.

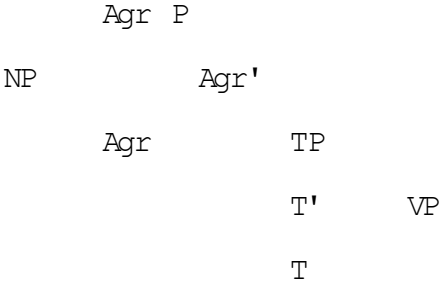
Unlike subject extraction, object extraction can never violate the proper head government requirement because the verb fulfills both roles simultaneously: it is the theta governor of the trace and its proper head governor.

Infl seems to be a proper head governor in untensed clauses, where it seems to be totally inert for government because PRO can appear in the subject position:

(2.94) ...and [fix the car], he tried [PRO to t]

To account for (2.94) Rizzi (1990) adopts recent suggestions concerning the internal structure of the Infl projection and assumes that both Agr and Tense head their independent projections:

(2.95)



Agr can act as a head governor only when it has features in tensed clauses but Tense is always a head governor, because sentences always have some tense specification. In infinitival constructions the Specifier of AgrP is always ungoverned with Agr and Comp inert for government but VP is head governed by Tense hence VP topicalisation is available.

The requirement on proper government makes it possible to account for a number of facts concerning subject extraction; for example their inability to perform Heavy NP Shift:

(2.96) *[t are intelligent] all the students who can solve this problem.

In (2.96) the antecedent requirement is clearly met, the extraposed phrase c-commands its trace in the subject position but proper head government does not hold with t outside I' (Agr'). The conjunctive ECP predicts that if an independent proper head government of the subject trace were provided, subject Heavy NP Shift should be possible. This is exactly what occurs in ECM contexts and the movement of the subject NP is then possible:

(2.97) I believe [[t to be intelligent] all the students who can solve this problem.

The ECP is satisfied with the antecedent government of the trace by the extracted NP and the head government of the subject position by V under V'.

The head government requirement in its present form seems however too strong; no extraction from the subject position should be possible except in the case of raising and ECM contexts where V can properly head govern into the [Spec,IP] position across two heads inert for government: Comp and Agr.

This is not true and subject extraction must somehow be allowed by ECP. One possibility is raising of Agr into Comp in:

(2.98) Who do you think [t [$Comp_{Agr}$] [t left]]
(2.99) Who [$Comp_{Agr}$][t left]

As a result of Agr raising to Comp the initial trace in the subject position is under the intermediate projection of the raised Agr and thus can be properly head governed. But Agr can raise to Comp only if some form of spec-head agreement holds within CP: the relation between a Wh word or an intermediate trace in the [Spec,CP] and Agr in the head of Comp can be regarded as a reflex of spec/head agreement within IP. Rizzi (1990) suggests that in English a tensed Complementiser can be realized as:

(2.100) {that}
Comp
{Agr}

In standard English these two options remain in complementary distribution and both forms of the head of Comp are inert for government, it is the Agr in Comp that is a proper head governor for [Spec,IP] but its occurrence must be licensed by coindexation with its Specifier in [Spec,CP].

The assumption concerning Agr raising to Comp is now able to provide us with an explanation for (2.96) and Heavy NP Shift:

in these cases Agr cannot rise to Comp, for it is not a Wh movement operation and no trace appears in [Spec,CP]. Consequently the coindexation requirement on Agr raising is not fulfilled, Agr remains in its base generated position and the trace is not properly head governed[16].

As it follows from the above analysis, head government of the subject trace in English is performed by Agr raised to Comp on satisfying the requirement on coindexation. Thus the familiar ECP subject/object asymmetry in English can be reduced to different conditions on head government of ECs in both positions, strongly favoring object traces[17].

Apart from subject and object (argument) traces the head government requirement of the conjunctive ECP should also account for the extraction of nonarguments. English presents a complex pattern where for example adjectival predicates of selected small clauses can be extracted, whereas adjunct small clauses cannot move even to the nearest [Spec,CP].

(2.101) How intelligent do you consider John t ?
(2.102) How happy would she make him t ?
(2.103) How flat did she hammer the metal t ?
(2.104) *How angry did you meet Bill t ?
(2.105) *How raw did he eat the meat t ?
(2.106) How angry did he seem t ?
(2.107) *How angry did he telephone t ?

In (2.101) the small clause must allow for the head government of V into itself and the trace is properly head governed by the verb. In (2.107) though, the adjunct small clause is probably m-commanded but not c-commanded by the verb, which means that head government under an immediate projection of V is unavailable[18].

In general adverbials are said to attach at the following levels:

(2.108)

V' AP

V SC
NP AP

Now proper head government (available in certain positions but impossible in others) can account for differences in extractability of adverbs: VP(manner) adverbials are adjoined to VP and although like base adjoined APs they cannot be head governed by V properly, they can be properly governed by Tense through the transparent upper segment of VP.

This option is unavailable to APs which are dominated by both segments of TP. Reason Adverbials (sentential adverbials) such as why receive a different treatment. They are beyond the minimal projection of Tense, and not head governed although clearly they can undergo Wh-extraction. Rizzi assumes that these adverbs do not need any trace in the IP internal position and to be properly interpreted, they just require the clauses they modify in their c-domain. To support his claim he uses two arguments from French, where only the sentential adverb pourquoi cannot be left in situ (it must c-command the clause it modifies) and does not trigger stylistic inversion as other adverbials. Whenever why appears in [Spec,CP] it is base generated and when A' moved further its initial position is antecedent governed from a higher [Spec,CP] and head governed by a higher V across CP.

In the final part of "Barriers" Chomsky suggested a simplification of the definition of the ECP by abandoning the notion of theta government which proved insufficient for proper government of ECs in object position in passive structures. Similarly, Rizzi (1990) proposes to eliminate theta government from the conjunctive ECP. Theta government can be subsumed under head government by a lexical head and in the case of objects it overlaps with head government. What is more, Rizzi quotes examples in which theta government gives wrong predictions, elements which are lexically governed cannot move over Wh-islands just like every theta governed element is expected to.

First, there are some lexically selected adverbials which do not behave like arguments in extraction. In French bien/well is obligatorily selected by the verb se composer/to behave:

(2.109) Jean se comparte *(bien) avec les amis.
Jean behaves well with friends.

If an adverbial is s-selected by the verb, it should be in its thematic grid (in the sense of Stowell, 1981), thus it should be theta governed by the verb and long extraction over a Wh island should be available. However this is not the case and s-selected adverbials contrast sharply with arguments:

(2.110) ?Avec qui ne sais-tu pas [comment

[PRO te comporter t t]]
With whom don't you know how to behave?

(2.111) *Comment ne sais-tu pas [avec qui
[PRO te comporter t t]]
How don't you know with whom to behave?

Another argument comes from measure phrases in English. The verb weigh in its agentive variant takes a direct object but stative weigh takes a quasi object in the form of a measure phrase. Thus both the measure phrase and the object should be equally extractable from Wh islands, for they are both theta governed:

(2.112) John weighed apples.
(2.113) John weighed 200 lbs.

(2.112) can be ambiguous in colloquial English but a Wh island disambiguates the question and only the object can be associated with the Wh-word although (2.113) could be expected to be as ambiguous as (2.112):

(2.114) What did John weigh t ?
(2.115) What did John wonder how to weigh t ?

The third piece of evidence against theta government comes from the behavior of idiomatic expressions of which nominal parts can be extracted as freely as other nominals. To account for this fact Chomsky (1981) argues that nominal parts of idioms must receive their special thematic role of a quasi-argument from the verb. Since they are theta governed we could expect them to move over Wh islands but again this prediction proves inaccurate and nominal parts of idioms pattern similarly to subject and adjunct extractions:

(2.116) What headway do you think [t [you can make t on this project]]
(2.117) What project do you think [t you can make headway on t
(2.118) *What headway do you wonder [how [PRO to make t on this project]]
(2.119) ?What project do you wonder [how [PRO to make headway on t]]

Following this critical analysis of theta government Rizzi (1990) proposes to exclude it from the definition of the conjunctive ECP. He does not however choose to replace it with some modified or extended notion of antecedent government. His observations made in connection with the case of insufficient theta government point to the fact that it is not only the syntactic context in which a given category appears but also intrinsic semantic properties of this category that have bearing on its extractability. Thus categories which are in a sense defective semantically cannot move over Wh islands even in a syntactic context in which they are theta governed. Rizzi suggests that a proper distinction between "referential" and "nonreferential" categories should be made. The former can (marginally) extract over Wh-islands while the latter cannot.

This distinction should be based on the requirements of Theta Theory which has all the necessary concepts and plays a crucial role in determining the occurrence of traces. Thus the elimination of theta government from the formulation of the ECP does not mean that Theta Theory plays no role in the ECP.

It seems that not all s-selected elements receive the same type of theta roles. Some selected elements refer to participants of the action described by the verb, the others qualify it compositionally (measure or manner phrases) or idiosyncratically (idioms). This division corresponds to Chomsky's (1981:325) distinction between:

> arguments - referential expressions potentially referring to participants in the event;
>
> quasi-arguments - expressions that receive a theta role but do not refer to a participant such as the subjects of atmospheric predicates and the nominal parts of idioms.

Consequently, two corresponding types of theta roles should be distinguished: argumental (referential) such as Agent, Theme, Experiencer, Goal, Location, Time and quasi-argumental (nonreferential) referring to manner, measure, atmospheric role and idiomatic expressions.

Following Chomsky (1965) Rizzi claims that a referential index must be assigned by a referential theta role, preferably, at D-structure. Elements bearing referential indices need not A' move successive cyclically and can jump over Wh islands. The relation between an A' moved nominal bearing a referential index and its trace is that of binding:

(2.120) Binding

> X binds Y iff:
> (i) X c-commands Y
> (ii) X and Y have the same referential index.
> (Rizzi 1990:87)

This binary classification of elements with respect to the theta roles they bear leaves us with two different sets of requirements:

1. Elements with referential indices observe binding (non local, long distance) plus head government;

2. Elements without referential indices observe government (strictly local antecedent government) plus head government.

Accordingly, the Conjunctive ECP can be further simplified to:

(2.121) Revised ECP

A nonpronominal Empty Category must be properly head governed.

(Rizzi 1990:87)

Now the asymmetry with respect to the ECP can be attributed to differences between binding as defined in (2.120) and strictly local antecedent government which must hold with categories without referential indices. It follows then that subject traces need not be antecedent governed but in English the trace is necessary in [Spec,CP] to license Agr-to-Comp raising to secure proper head government of the trace in the subject position. It also follows, as Lightfoot (1992) observed that RM is practically reduced to hold of government but not binding.

An obvious counterexample to long distance binding of elements bearing referential indices is NP movement, where strict locality of moved phrases must be observed:

(2.122) It seems that someone told Bill that...
(2.123) It seems that Bill was told t that...
(2.124) *Bill seems that it was told t that...

Rizzi argues that the ungrammaticality of (2.124) does not follow from the ECP but a violation of an independent principle. In his (1991) lectures he proposes that a category X has a referential index only when X receives a referential and visible theta role at some step of the derivation. Visibility is a condition on A chain formation which should contain one theta position and one Case position. Consequently, Wh traces of arguments are referential whereas NP traces are not referential and subject to government[19].

2.4. Simplified Definition of Barrier and Its Consequences in Cinque (1990)

At the very outset of his analysis of A' depenendencies Cinque distinguishes between two types of Wh-movement: long Wh movement available as an extra option to complements of verbs and successive cyclic Wh movement available to adjuncts. Long Wh movement observes only **strong islands** (2.125-27) while successive cyclic movement observes both strong and (2.128-31) **weak islands:**

(2.125) Subject Island
a) *Which books did [talking about t] become difficult?
b) *How would [to behave t] be inappropriate?

(2.126) Complex NP Island
a) *To whom have you found someone who would speak t ?

b) *How have you found someone who would fix it t ?

(2.127) Adjunct Island
a) *To whom did you leave without speaking t ?
b) *How was he fired after behaving t ?

(2.128) Wh-Island
a) ??To whom didn't they know when to give their present t ?
b) *How did they ask you who behaved t ?

(2.129) Inner (Negative) Island
a) To whom didn't you speak t ?
b) *How didn't you behave t ?

(2.130) Factive Island
a) To whom did you regret that you could not speak t ?
b) *How do you regret that you behaved t ?

(2.131) Extraposition Island
a) To whom is it time to speak t ?
b) *How is it time to behave t ?

(Cinque 1990:1-2)

Thus elements having referential indices at D-structure in the sense of Rizzi (1990) and subject to binding, observe only (2.125-2.127) while the others must observe all the islands. This notion of referentiality is similar to the notion of D-linking of Pesetsky (1987) and the former probably subsumes the latter[20]. In his system Cinque modifies Rizzi's notion of referential expressions into D-linked expressions.

His major objectives in the first part of his work are the elimination of redundancy between the specification of barriers to movement and government and an ensuing modification of Rizzi's ECP.

Firstly, he discards the notion of Minimality barrier which is asymmetrical in the sense that it is relevant for government but not for movement. He states that in Chomsky's (1986b) system, the Minimality Barrier fulfills three functions:

- bars government by an outside head into the domain of another head;
- blocks extraction from noun complement clauses;
- explains "that" trace effect.

The first function is subsumed under a more general assumption of Rizzi's Relativised Minimality. The second can be explained on independent grounds and even Chomsky himself concludes that probably N improperly governs and L-marks its clausal complement and as a result the CP is a barrier to government and causes required Subjacency violations for adjuncts (see note 8). Finally the 'that trace effect' is again convincingly subsumed under Rizzi's definition of the ECP in (2.80) as a requirement on head government of nonpronominal ECs. Consequently the notion of the Minimality barrier can be dispensed with.

Secondly, Cinque reduces the notion of barrier to that of **inherent barrier** eliminating barriers by inheritance. Clearly in (2.125, 2.126, 2.127, 2.130 and 2.131) there are inherent barriers, non L-marked maximal projections blocking antecedent government: in (2.125-2.126) non L-marked CPs, in (2.127) a PP and again non L-marked CPs in (2.130-31).
It seems however that barriers by inheritance are necessary in at least two cases in Chomsky's (1986b) system. First:

(2.132) John decided [[PRO to see the movie]]

Neither CP nor IP can be a barrier by inheritance if V must govern a trace in [Spec,CP] under Kayne's (1984) analysis and IP must clearly allow ECM and raising. But in (2.132) PRO cannot be governed and CP becomes a barrier by inheritance. This conclusion however can be dispensed with with help from RM: head government of V into the domain of another head Comp is blocked and PRO remains ungoverned. Although inert for proper head government and lexically empty, Comp still manages to block external head government.
The second case is adjunct extraction from a Wh island which gives ungrammatical results:

(2.133) *How did Bill [t'''[wonder [$_{CP}$ who [$_{IP}$ [t''[wanted [t'
[to fix the car t]]]]]]]

CP is the only candidate for a barrier by inheritance from IP but again its barrierhood is redundant considering RM and the fact that <u>who</u> as an A' Specifier intervenes between t'' and t'''.
Thus the notion of barrier by inheritance can be discarded for government. In Chomsky's system this barrier plays another crucial role: it adds the extra barrier necessary to cause Subjacency violations which require more than one barrier to be crossed by offending lexically governed traces.
Cinque claims that also in this case the notion of barrier by inheritance can be made redundant and that it is rather the character of the single inherent barrier which is crossed that causes Subjacency violations than the number of barriers crossed. Three cases falling under Subjacency where there is more than one barrier crossed include complement extraction from certain adjuncts, complement extraction from relative clauses extraposed from an object and complement extraction from degree clauses:

(2.134) *To whom did [$_{IP}$ they leave [$_{PP}$ before speaking t]]?

The extracted element is supposed to cross two barriers: PP is an inherent barrier, as it is not L-marked, and IP inherits barrierhood from it. This conclusion rests on the crucial assumption that PP is outside VP, otherwise the Wh element could cross only one inherent barrier PP, adjoin to VP and consequently waive the barrierhood of IP. Cinque quotes examples of VP preposing and <u>do so</u> substitution proving that indeed the VP adjunction option is available:

(2.135) ...and leave before speaking to John, they certainly did.
(2.136) They left before speaking to John, and I did so too.

Thus it seems that in (2.134) only one inherent barrier is crossed (a non L-marked PP) and that it is sufficient to trigger Subjacency violations. A similar conclusion can be reached in the analysis of (2.137-38) where the relative clause is extraposed of an object and adjoined to VP and Subjacency results from crossing over one inherent barrier CP:

(2.137) Avevo [[presentato qualcuno t] a Gianni
I had introduced someone to Gianni
[che voleva parlare con sua figlia]].
who wanted to speak with his daughter.
(2.138) *Con chi avevi [[presentato [qualcuno t]a Gianni]
with whom did you introduce someone to Gianni
[che voleva parlare t]]
who wanted to speak.

Similarly, only one inherent barrier CP is crossed in extraction from degree clauses:

(2.139) *To whom were [they too angry [PRO to talk t]]?

Since sometimes only one barrier is sufficient to cause Subjacency violations, Cinque pursues the idea that the notion of barrier is different for binding of elements with referential indices and for antecedent government of elements without referential indices. He defines these two barriers accordingly:

(2.140) Definition of Barrier For Binding

Every maximal projection that fails to be (directly or indirectly) selected in the canonical direction by a category nondistinct from [+V] is a barrier for binding.

(2.141) Definition of Barrier For Government

Every maximal projection that fails to be directly selected by a category nondistinct from [+V] is a barrier for government.

(Cinque 1990:42)

The definition of the barrier for government is basically a rephrasing Chomsky's (1986b) notion of inherent barrier, that is any non L-marked maximal projection. "Directly selected" in Cinque's terminology corresponds to L-marked, "indirectly selected" means theta marked but not L-marked.

There are two differences between these definitions:

First, the canonical direction requirement holds only for binding but not of government. That government is indifferent to canonical direction can be seen in the successive cyclic extractions from Verb second complements in German, provided the extraction domain is L-marked:

(2.142) Wen hast du [gesagt [$_{CP}$ t' [wird
who have you said will
[er t sehen]]]]
he see

t' is properly antecedent and head governed and CP cannot count as a government barrier although it is projected on the noncanonical side of the verb gesagt. In such a situation in languages with mixed branching, cyclic Wh movement will be possible but long Wh movement will not. More importantly, the requirement of canonical direction of selection by a verb is very useful to account for strong barrierhood of Complex Subjects (Huang's 1982 Subject Condition). Preverbal subjects, although indirectly theta marked, constitute strong barriers. They are however theta marked in the noncanonical direction in the sense of Kayne (1984). For this reason this directionality condition has to be added to the definition of a barrier for binding[21].

The second difference is direct selection for government and direct or indirect selection for binding. Intuitively, the difference between strong and weak islands is that with the exception of preverbal subjects, the maximal category constituting a strong island is neither L-marked not theta marked by a [+V] element while weak islands are all theta marked maximal projections. Out of four weak island domains, two definitely involve L-marking (direct selection). CPs in Wh-island constructions (2.128) and Inner (Negative) island constructions (2.129) are L-marked (directly selected) by [+V] heads. Their weak barrierhood is produced by Relativised Minimality effects on A' chain formation. In these two constructions A' specifiers are occupied ([Spec,CP] and [Spec,NegP] respectively) and prevent antecedent government from outside Wh and Negative islands.

The remaining two cases of weak islands involve theta marking by the verb (indirect selection) but not L-marking (direct selection). CP complements of factive and manner-of-speaking verbs and extraposed elements are selected (theta marked) by verbs but they are not placed under V' and therefore the structural condition for L-marking is not satisfied; these maximal projections are not sisters of their theta marking verbal heads. Instead, they are placed (base generated or adjoined) under VP. Cinque bases this assumption on the analyses in Kayne (1981 b), Cardinaletti (1989) and Belletti, Rizzi (1988).

The requirement of canonical direction is less powerful than the one of theta marking, for ungrammaticality evoked by extraction of complements from subjects is milder in Italian

than the one caused by extraction from non theta marked constituents[22].

This contrast concerns binding and the presence of indirect theta marking in these cases. Understandably, it does not extend to government, which cannot hold across a maximal projection which is not L-marked in the sense of Chomsky (1986b) (directly theta marked by a head [+V] under sisterhood, e.g. under V'). Once direct theta marking does not hold, the presence or absence of indirect theta marking does not make any difference[23].

The requirement of theta marking by a category nondistinct from [+V] excludes N and P as proper theta markers, although P in English can be treated as nondistinct from [+V] and so can N under special circumstances, a question to which we will return at length in chapters 4 and 5:

(2.143) *Gianni, da cui disapprovo [i tentativi
Gianni by whom I disapprove the attempts
[di andare a stare t]]...
to stay

(2.144) *How did John announce the plan to fix the car t ?

Note, that for Cinque extraction from noun complement clauses is as ungrammatical as from relative clauses with respect to government and binding, unlike for Chomsky (see note 8).

Clearly indirectly selected CPs (relative clauses) are barriers to government:

(2.145) *Il modo in cui [[l'ho minacciato]
the way in which I menaced him
[di comportarmi in pubblico t]]
to behave in public

Unexpectedly, in Cinque's system the projections which are transparent to movement seem to be barriers to government: VP and IP. They are clearly not L-marked and in Chomsky's (1986b) system their barrierhood was voided in two different ways: IP was assumed to be defective with respect to inherent barrierhood and the possibility of VP adjunction voided inherent barrierhood of this maximal projection.

In his system Cinque maintains that although not L-marked, IP and VP are directly theta marked and c-selected by their governors (Comp and Infl respectively). C-selection in the case of nonlexical categories plays the role of s-selection with lexical governors: Infl cannot take any other complement than VP and Comp cannot take any other complement but IP. Thus in the sense of (2.140-41) VP and IP are directly (c)selected. The strong requirement of being directly selected by a [+V] category can be dealt with in the following way: both Infl and Comp are assumed to bear the feature [+V] on the grounds of their capacity to allow V raising to their positions (Infl and Comp). Thus they are supposed to be at least nondistinct from [+V].

The reformulation of government and binding barriers in terms of the notion of selection makes it possible to discard

the notion of VP adjunction with Wh movement, which had to be severely restricted even among nonargument maximal projections and caused problems for extraction from adverbial PPs.

The assumption that VP and IP are not barriers considerably simplifies the account of head movement and NP movement. The L-marking of VP by amalgamated V_I resulting from V-to-Infl raising to void its inherent barrierhood can be dispensed with. With NP movement the lack of inherent barrierhood of VP assumed by Cinque makes it possible to do away with: the concept of an extended chain composed of chain coindexing plus spec-head agreement (subject/passive copula in Infl) plus head-head agreement between Infl and aspectual elements of VP and the prohibition on an accidental clausal head coindexation to exclude "super-raising". In this approach "super-raising" and long passive are excluded by RM (see the relevant discussion in the previous section).

Following his modification of the definition of barriers, Cinque revised the definition of ECP:

(2.146) Cinque's Revised ECP

> A nonpronominal EC must be properly head governed by a head nondistinct from [+V].
>
> (Cinque 1990:49)

This definition seems to give correct predictions when [+V] is treated as a feature of being a proper head governor. Object traces are head governed by V, subject traces are head governed by Infl which is nondistinct from [+V], in English (and in Polish). Prepositions are said to be either proper governors just like verbs (essentially nondistinct from [+V] or at least underspecified with respect to V/N features (see Pollock 1989).

However note very significant differences between Cinque's definitions of barrierhood and proper head government. They do not overlap. Barrierhood is about (direct or indirect) selection by a [+V] head where selection is a Theta theory related notion: heads select members of their argument structure (with the notable exception of functional projections). Direct selection is the strictest form of head/complements relationship based on government and Theta marking. Indirect selection refers to a relation between a head and its argument which has been either moved out of the c-domain of the head, or base generated as an external argument.

Proper head government is a purely structural relation in the sense that no selection (Theta theory related) factors are involved. For example in (2.108) Rizzi suggests that manner adverbs in their VP adjoined position are properly head governed by Tense, a [+V] head which does not select them in any sense; Tense c-selects VP. If, instead of AdvP an adverbial clause were in the VP adjoined position in (2.108), Tense would not waive its barrierhood although it would properly head govern this clause. Functional heads c-select their complements but this is not tantamount to properly head governing them. Therefore although Comp c-selects IP it does not properly head govern its Specifier. Selection properties of functional heads and their

proper head government capacity have to be kept distinct. In general, in this framework conditions on extraction domains (selection by a [+V] head) are different from the local condition on the extraction site (ECP).

2.5. Conclusion

The above presented analyses of syntactic movement and interpretations of such vital principles as ECP and Subjacency become a starting point of our analysis of phrasal movement in Polish. In our analysis many of the suggested solutions will be tested on Polish data and efficiency of different approaches will be compared, sometimes showing that not always is it the latest theoretical hypothesis that works the best when applied to a language allowing for a greater freedom of movement than English or even Italian. The large number of given definitions, or in some cases even definitions incorporating elements of several different ones seem to be indispensable as in the course of the analysis of Polish data it becomes clear that certain theoretical solutions still require some modification. Sometimes an unexpected merger of Chomsky's and Cinque's definition of Barrier offers the best account.

If, in our discussion, we should touch on other theoretical issues they will be briefly presented in the following chapters, accompanying the empirical problems for which they are supposed to account.

Notes

1. Certainly there are many more interesting proposals and accounts of ECP related problems; such as Kayne's (1983) g-projection hypothesis, Aoun, Hornstein, Lightfoot and Weinberg's (1987) proposals of a simultaneous binding and lexical government requirement or Aoun's (1985, 1986) generalized X binding theory. However we chose to elaborate on the four ones discussed in chapter 2, for they form the basis of our further argumentation. It is by no means our objective to compile a history of ECP related research.

2. It is worth noting that in their system Lasnik and Saito (1984) assume that all categories of adverbials are placed outside VP immediately dominated by S. Most of their examples involving proper government of adjunct traces concern the sentential adverbial why but even the manner adverbial Wh phrase how has its trace outside VP:

How [do you want [t'[PRO to [$_{VP}$ solve the problem] t]

3. (2.30) is not fully acceptable to native speakers of English, because it clearly violates Subjacency as defined in (1.22). The discrepancy in the grammaticality (or rather ungrammaticality) judgments between (2.30) and (2.31-2) confirmed Lasnik and Saito's conviction that although the configurations allowing antecedent government and satisfying Subjacency are similar and point to the fact that the two are not thoroughly independent phenomena, they should however be kept distinct. While Subjacency rules out all the three (2.30-2) and is unable to account for the differences in the grammaticality judgments, the ECP can localize the source of discrepancy in different requirements on lexical and antecedent government. (2.31-2) are absolutely ungrammatical due to a cumulative effect of Subjacency and the ECP, whereas (2.30) appears more acceptable as only a Subjacency violation.

4. That deletion at LF is said to be a case of the 'Affect alpha' process.

5. From this point onwards we shall adopt the following spelling convention: COMP should refer to the Complementizer/Wh node in the older S/S' system, while Comp should refer to the head of Complementizer Phrase in the IP/CP model of structure.

6. For example Huang (1982) showed that AP can be a bounding node if it is an adjunct (a) but not if it is a complement (b):

(a) *who did you meet John [$_{AP}$ angry at t]
(b) who did you make John [$_{AP}$ angry at t]

Crossing over NP and S boundaries in a single swoop is also legitimate if the NP is in the object position (c). On the

contrary, if NP is in the subject position Subjacency effects appear as expected (d):

(c) which books [$_S$ did you admire [^{NP} the authors of t]]
(d) *which books [$_S$ did [$_{NP}$ the authors of t] commit suicide]

7. The choice between the broader and narrower Minimality does not seem to have any empirical consequences in English:

(a) they saw [$_{NP}$ Bill's [$_{N'}$ picture of Tom]]

Bill cannot be extracted out of NP. This fact could actually fever broader Minimality: N, although unable to lexically govern into its Spec position, still protects it from outside government and prevents its extraction. Under narrower Minimality [Spec,NP] is available for outside government from V but is immobile for independent reasons, which can be requirements on Case realization as proposed in Giorgi, Longobardi (1990).

Evidence from languages such as Italian, Spanish or Polish in which extraction from [Spec,NP] is allowed gives support to narrower Minimality. Chomsky (1986b) demonstrates that government into [Spec,NP] must be antecedent government and notices a very interesting property of subject NP traces which behave like adjuncts and receive their gamma marking at LF. (b) is quoted by Chomsky from Torrego (1985):

(b) *[de que pintor] me perguntaste si van a exponer
varios dibujos t .
by which painter did you [t''[ask me [whether they
are going to [t' [exhibit [several drawings t]]]]

(b) is ungrammatical because of a Wh island blocking proper government of the trace in [Spec,NP]. If the trace were governed lexically, (b) would get a much better grammaticality judgment. Assuming the option of VP adjunction and the narrower formulation of Minimality, t' manages to antecedent govern the initial trace: NP is not a barrier by Minimality, and the intermediate trace is not excluded by VP.
Therefore it must be the intermediate trace that is illegal and surely the Wh island constitutes a barrier to government. However if (b) is to be ruled out by the ECP as ungrammatical, it must occur at LF, for at S-structure t is antecedent governed. If t were an argument trace t' could be deleted at LF and the sentence would still be grammatical. Since it is not, t must be an adjunct trace requiring antecedent government and gamma marking at LF at which its intermediate traces must be present.

8. Alternatively, Chomsky (1986b) suggests that nouns may assign oblique Case which makes CP opaque and inherent barrier to government. Thus the case marking properties of the nominal

head make it an ineffective L-marker. Interestingly, CP cannot transmit its barrierhood to NP because the unacceptability effect would be as strong as with relative clauses. To some extent the CNPC case is a disputable issue on this account.

9. CP is said to fulfil the same function in Italian.

10. One additional condition is required, namely that in its final target position within Comp, V will not govern and Case mark the nominal subject of the clause (across IP along the lines of ECM). The desired effect can be achieved by assuming that the Case marking potential of a verbal head must be confined to the foot of its chain, the position from which theta role assignment takes place.

11. This extended notion of L-marking is defined as follows:

> Revised L-marking
>
> Where A is a lexical category, A L-marks B iff B agrees with the head of G that is theta governed by A.
> (Chomsky 1986b:24)

The effect is that A L-marks the category B that it theta governs and if B is IP, its Specifier.

12. The system of spec-head agreement and chain agreement in (Chomsky 1986b) must be enriched by a rule of head-head agreement (index sharing between Infl and aspectual elements of Vmax as in:

John will [$_{VP}$ be killed t]

where be remains in situ and cannot be coindexed with t by means of leaving a movement trace coindexed with itself and raising to Infl to receive index of John under spec-head agreement. If the head-head agreement between Infl and the aspectual elements of Vmax is extended to the main verb, the adjunction structure of (VP' VP) in (2.71) is not necessary and t is coindexed directly with the main verb killed.

13. Of which typical examples are:

(a) ? Which problem do you wonder how John could solve t t
(b) * Which student do you wonder how t could solve the problem.
(c) *How do you wonder which problem John could solve t.

extensively analyzed in Chomsky (1986b), see the previous section.

14. In French the Wh-quantifier combien/how many/much when used as an NP Specifier can either move together with the whole NP or extract from it freely, causing an LBC violation:

(a) [Combien de livres] a-t-il consultes t
How many of books did he consult
(b) Combien a-t-il consulte [t de livres]
How many did he consult of books.

French allows adverbial QPs in VP initial positions:

(c) Il a beaucoup consulte ces livres.
He has a lot/many times consulted these books.

It seems that the same VP initial position is an available landing site for an extracted NP Specifier:

(c) Il a consulte [beaucoup de livres]
He has consulted many of books
(d) Il a beaucoup consulte [t de livres]
He has many consulted of books.

15. There have appeared new proposals concerning relativised head minimality. Roberts (1993) proposes that just like XPs (phrases), heads can also be subdivided into A heads and A' heads. A heads license A chains (via Case assignment or theta marking) while A' heads license A' chains (by licensing an operator).
As a consequence of this assumption, HMC can be relaxed; A heads do not incorporate into A' heads and vice versa. This assumption has vital ramifications for the theory of functional categories (see Roberts 1993, Rizzi and Roberts 1989) but it will not concern us in the present study.

16. The assumption of Agr head government from the Comp position is corroborated by the facts of Wh extraction and NP movement from <u>for</u> clauses, where <u>for</u> occupies the head position of Comp:

(a) I would prefer [for [Bill to win]]
(b) *Who would you prefer [for [t to win]]
(c) *Bill was preferred [for [t to win]]
(d) *I would prefer [for [t to win] the candidate who...]

Although in these cases antecedent government of the subject traces holds and RM is not violated, head government does not hold. Probably the ECs are not immediately under P' which incapacitates P as a proper head governor.

17. However there are languages in which subject and object extraction does not show any ECP asymmetry but in which head government of the subject position must be satisfied.

The simplest grammatical strategy to avoid ECP asymmetries

is used by Swedish where the trace of the extracted subject is replaced by a resumptive pronoun.

In verb second (V2) languages of the Germanic group in simple declarative sentences the nominal subject moves to [Spec,CP] and the verb to the head of C:

(a) [Johann [hat [t [Maria gesehen] Infl]]]
Johann has Maria seen.(German)

(b) [John [har [t Infl [set Marie]]]]
John has seen Maria.(Danish)

Subject extraction from an embedded clause in a V2 context is fully grammatical in German:

(c) Wer hat sie gesagt [t'[ist [t gekommen]]]
Who did she say is coming.

Following den Besten (1983) and others Rizzi assumed that the productive feature of V2 languages is Comp endowed with proper morphosyntactic features which attract the verb and give Comp the head governing properties able to license a subject trace.

In Italian extraction of subject over Complementizers does not show any asymmetry:

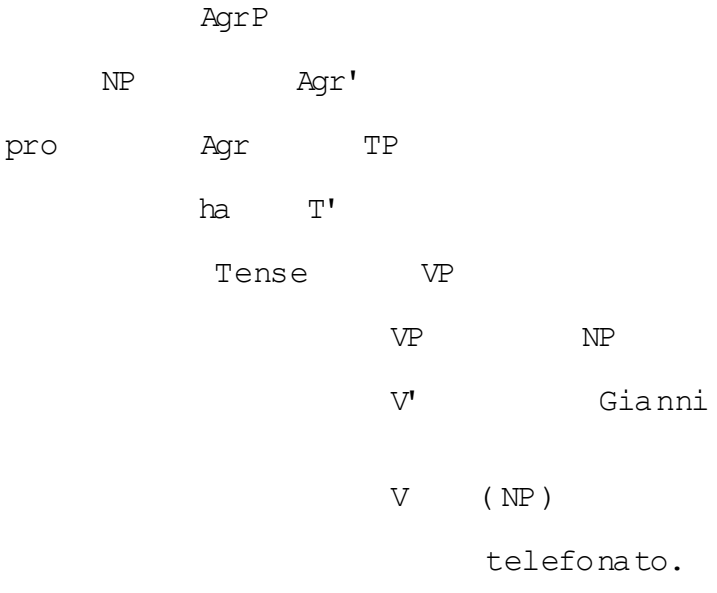
(d) Chi credi che abbia telefonato?
Who do you think that has telephoned?
(e) Un nomo che no so se ci potra aiutare.
A man that I don't know if he will be able
to help us.
(f) L'nomo che non so che cosa abbia detto.
A man who I don't know what said.

In Rizzi (1982a) it was proposed that the lack of typical ECP asymmetries was due to free inversion of the subject:

(g) Credo che abbia telefonato Gianni.
I think that has telephoned Gianni.
(h) Non so che cosa abbia detto Gianni.
I don't know what said Gianni.

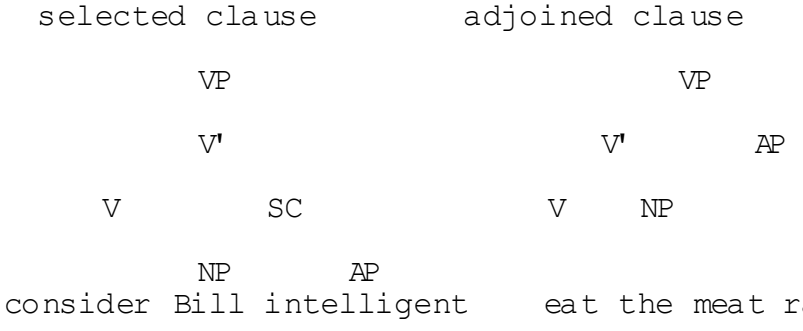
The extraction of the subject can now take place from the postverbal position. Antecedent government is available from [Spec,CP] and head government from Tense. The subject in its postverbal position attaches to VP and an expletive pro fills its preverbal position to satisfy the Extended Projection Principle:

(i)



Thus in Italian head government by Tense in the postverbal position is responsible for the lack of subject/object asymmetries. In order to exclude the alternative strategy of Agr rising to Comp, Rizzi (1990) proposes to associate this feature with the positive null parameter setting in Italian. The strong Agr responsible for this parameter setting counts as lexical and therefore blocks any government of the subject trace from the position of Comp by RM as the intervening head. The strong Agr does not properly head govern its Spec but protects it from external head government. Therefore movement to a postverbal position is the only option.

18. Thus the differences between selected and adjoined small clauses are as follows:



In the selected small clause AP is under V' and head government from V holds, thus extraction is possible. If the adjoined AP is not under V', head government is impossible and in case of movement an ECP violation ensues.

19. The issue of NP movement is not very well accounted for by RM framework. Rizzi (1990) originally suggested that (2.124) was ill formed due to the violation of the Theta Criterion

prohibiting assignment of more than one theta role to a single chain.

20. Pesetsky (1987) notices asymmetries existing between two types of Wh phrases in situ and attributes to them the ability to relate to referential sets preestablished in discourse: which N' refers to a set commonly identified in the minds of both the speaker and the hearer, bare Wh-operators like who, what or how many N' phrases are linked to previous discourse quite marginally and under special contextual conditions. They can cooccur with such phrases like the hell or on earth expressing surprise or ignorance and clearly do not refer to previous discourse. Thus D(iscourse)-linked phrases in situ do not move and are interpreted via a mechanism of unselective binding whereas non-D-linked Wh phrases in situ must move at LF as operators and show characteristics typical of successive cyclic movement:

(a) *Mary asked what who read.
(b) Mary asked what which man read.
(c) ??Tell me what proves who is innocent.
(d) Tell me which piece of evidence proves that which person is innocent.

D-linked Wh in situ can enter into coreference relations and coreference is a feature distinguishing between referential expressions and nonreferential expressions:

(e) Which boy started a fight with which girl wasn't clear even to them.
(f) ?*Who started a fight with whom wasn't clear even to them.

21. Note, that the status of the directionality condition is in no way affected by the VP internal subject hypothesis, for still in its D-structure position under VP the subject remains outside V' (it is still indirectly theta marked) and is on the nonrecursive side of V.

22. The relevant examples are as follows:

(a) ??Una persona a cui credo [che
a person to whom I think that
[[riuscire a parlare t oggi] sara impossibile]]
to be able to speak today will be impossible
(b) *Una persona a cui sono uscito
a person to whom I went out
[senza riuscire a parlare t]...
without being able to talk

23. The relevant examples are as follows:

(a) *Il modo in cui [[formulare la richiesta t]

the way in which to phrase the demand
sarebbe un errore]...
would be a mistake

(b) *Il modo in cui sono uscito [senza formulare
the way in which I went out without phrasing
la richiesta t]...
the demand

Chapter 3

NP Movement Controversy in Polish

Introduction

Under current theoretical assumptions concerning the correspondence between the D and S structure levels, especially the VP internal hypothesis, the Uniform Theta Assignment Hypothesis and Perlmutter and Burzio's Unaccusative Hypothesis, we believe we have legitimate reasons to assume that Polish syntax has NP movement.

In 3.1. we remind ourselves of arguments against NP movement put forward in Zabrocki (1981). Subsequently, (in 3.2. and 3.3.) we present the consequences of adopting two theoretical arguments showing that NP movement does indeed take place in Polish: the VP internal subject hypothesis and Burzio's treatment of ergative verbs and UTAH of Baker (1988). English ergative constructions are analyzed in (3.4.). In the following section we try to argue in favor of NP movement in ergatives in Polish on the basis of certain word order and Wh extraction facts which would be difficult to account for if some NP movement hypothesis of Theme subjects were not posited. We conclude our discussion of ergativity in (3.6.) where we put forward our hypothesis of long and short NP movement in Polish ergative constructions. To a large extent this hypothesis relies on the facts of Polish Wh extraction and can be regarded as an argument independent of the adoption of the two previously mentioned axioms: UTAH and the VP internal subject hypothesis. In the final section (3.7.) we analyze miscellaneous constructions in Polish and attempt to detect A chains in them on the basis of our NP movement hypothesis.

3.1 Arguments Against Syntactic NP Movement in Polish.

Any analysis of syntactic movement of maximal projections in Polish could be, arguably, limited to Wh movement related phenomena, for Zabrocki (1981) argued that constructions subsumed under a more general notion of NP movement can be satisfactorily analyzed in alternative ways involving base generation. In the current framework of the GB theory Passive and Raising are said to involve movement of nominal elements from one A position to another, [Spec,IP]. We will briefly outline major arguments in favor of base derived passive and raising structures in Polish and later show them in a different, wider perspective. For more detailed analysis of base derived constructions, see Zabrocki (1981).

In Zabrocki (1981) transformational analysis of passive constructions in Polish is dismissed on the following grounds:

First, passive participles in Polish show adjectival features.

One of the corner stones of the lexicalist hypothesis in generative syntax is the claim that syntactic operations cannot affect labels of categories. Thus adjective-like passive participles cannot be derived from proper verbs in their active form. For example participles with the negative prefix nie corresponding to English un, have no verbal counterparts:

(3.1) nieoczekiwany gosc - unexpected guest
(3.2) nieoceniona pomoc - invaluable help
V: *nieoczekiwac
V: *nieoceniac

This feature of the Polish passive participle corresponds to one of the four features of lexical passives distinguished in Wasow (1977), where it is argued that in English two classes of passives can be found: lexical adjectival and transformationally derived. The lexical adjectival passives have the following properties:

(3.3) a. occur in prenominal positions:

the eaten rabbit

b. can function as complements of verbs taking adjectival complements such as look, become, seem:

the rabbit looks squashed

c. can be preceded by the prefix un:

an uninterrupted lecture

d. can be modified by very without the following much:

Ivonne was very emaciated.

All other occurrences of the passive participle are of derivational, transformational origin.

Polish passive participles follow the above paradigm in translations of (3.3a-d):

(3.4) a. zjedzony krolik
b. krolik wyglada na zduszonego[1]
c. see (3.1-2)
d. Iwona byla bardzo zaglodzona.

Addition of nie to the participial base often changes the meaning of the phrase in an unpredictable way which excludes transformational origin of the participle:

(3.5) a. nieprzejrzany = nie przejrzany
vast not surveyed

b. niezapomniany = nie zapomniany

unforgettable not forgotten
(examples from Zabrocki 1981:114)

The meaning of adjectival participles denotes a feature rather than a result of action (see 3.6-7) and is often metaphorical, in no way connected with the verb (3.8-9):

(3.6) nadziewana kaczka
stuffed duck
(3.7) Lany Poniedzialek
'splashed-with-water Monday'
Easter Monday
(3.8) patentowany len
(patentowac-grant a patent to)
a very lazy person
(3.9) zgrana plyta
'worn out record'
an old yarn/bad excuse

Similar to adjectives, but unlike verbs, all participles decline for cases in both their prenominal and predicative positions:

(3.10) a. zabity mezczyzna lezy na ulicy
a killed man is lying in the street
b. zabitego mezczyzne wzieto z ulicy
a killed man was taken off the street
c. o zabitym mezczyznie pisano w gazecie
a newspaper wrote about a killed man
d. jeden mezczyzna zostal zabity
one man was killed
e. dwoch mezczyzn zostalo zabitych
two men were killed

But not all passives can be treated as adjectival in Polish. Some of them carry the meaning of a result of action rather than a feature:

(3.11) a. Pies byl glodzony
a dog was starved
b. Pies byl zaglodzony
a dog was starved to death
(3.12) a. Pies zostal zaglodzony
a dog was/got starved to death
b. *Pies zostal glodzony
a dog was/got starved

The passive copula in Polish can take two forms byc and zostac and while the former subcategorizes for adjectival passives and allows both stative and action interpretations, the latter occurs only with participles of perfective verbs, thus denoting the result of action when it has the meaning of become. Zabrocki (1981) concludes that zostac passives are verbal and byc passives are adjectival and both these passive copulas are in complementary distribution. But still the lexical analysis of passives in Polish seems to be the

more preferred option, for Polish lacks equivalents of nonlexically derived passives such as:

(3.13) -double object passives:
Mark was told a lie by John.
*Marek byl sklamany przez Jana
(3.14) -indirect (non-theme) object passives:
Ivonne was spoken to by Tommy.
*Iwona byla odezwana sie do przez Tomka
(3.15) -accusative subject passives:
Tommy was expected to play with LEGO.
Tomek byl spodziewany bawic sie LEGO

For Wasow (1977) and Lightfoot (in his 1979b analysis of Old English passives) these constructions are the core cases of transformational passives; their absence in Polish indicates that the lexical analysis is available.

The number of potentially raising predicates in Polish is practically limited only to three:

wydawac sie - seem,appear
zdawac sie - seem,appear
okazac sie - turn out

Assuming that a raising predicate does not discharge an external theta role, it can have expletive elements in its clausal subject position. The Polish equivalent of the English expletives it/there is pro in one of its many functions[2]:

(3.16) pro wydaje sie [ze Iwona jest chora]
it seems that Ivonne is ill
(3.17) Iwona wydaje sie byc chora
Ivonne seems to be ill.

A transformational account of Polish equivalents of English raising constructions can be avoided on three counts: selective raising contexts, apparent lack of structural contexts for NP raising and apparent lack of the subject position in infinitivals.

First, the quasi-raising predicates in Polish subcategorize predominantly for infinitival complements with the copula be:

(3.18) a. Iwona wydaje sie byc chora.
b. *?Iwona wydaje sie pracowac nad tym.
Ivonne seems to work on this.
c. pro wydaje sie [ze Iwona pracuje nad tym]
it seems that Ivonne works on this.
(3.19) a. Tomek zdaje sie byc grzeczny w towarzystwie.
Tommy appears to be nice in big company.
b. *?Tomek zdaje sie bawic w swoim pokoju.
Tommy appears to play in his room.
c. pro zdaje sie ze Tomek bawi sie w swoim pokoju
it appears that Tommy plays in his room.
(3.20) a. Pawel okazal sie byc zdrajca
Paul turned out to be a traitor
b. *?Pawel okazal sie pracowac dla wroga

Paul turned out to work for the enemy.
c. pro okazalo sie ze Pawel pracuje dla wroga.
it turned out that Paul worked for the enemy.

As such, Zabrocki claims that they can easily be reanalyzed as instances of lexically governed control involving selection of an embedded bare VP by the matrix predicate.

More evidence against treating the above predicates as truly raising comes from the analysis of equivalents of ECM contexts in Polish. Basically, from the point of view of government configuration both ECM and raising contexts are identical in that they allow external government of their clausal subject positions by a higher verb:

(3.21) V [$_{IP}$ NP [...]]

In Polish the equivalents of ECM constructions are ungrammatical:

(3.22) I believe him to be honest.
*Wierze mu byc uczciwy.

and can be rendered only as tensed verbal complements:

(3.23) Wierze [ze on jest uczciwy]
I believe that he is honest

Additionally, the lack of infinitival complements with lexical subjects in Polish suggests that infinitive complements in Polish are bare VPs, not clauses. Thus the DS position of subjects in raising constructions seems to be missing.

Since, apart from contexts corresponding to (3.18a), (3.19a), (3.20a) and other stative predicates such as miec/have, znac/know etc.[3], the allegedly raising predicates in Polish do not occur with clausal complements, Zabrocki (1981) assumes that these occurrences of infinitives can be accounted for by lexically governed rules of Control[4]. This assumption also concerns idiomatic phrases broken up by the aforementioned predicates.

Superficially NP movement could be involved in the process of inversion turning the underlying structure subject into the surface structure indirect object;

(3.24) Wstyd mi go pytac
shame me/DAT to ask him
(3.25) Zal mi wyjezdzac
regret me/DAT to leave
(3.26) Czas nam isc.
time us/DAT to go
(3.27) Chce mi sie spac.
want me/DAT to sleep

where for example (3.27) has a model counterpart:

(3.28) Ja chce spac
I want to sleep

But many other supposed underlying structures of such constructions, like in the case of lexical passives, involve a change of categorial label. E.g. in (3.24-5) wstyd and zal are nouns while their putative underlying structures have corresponding verbs:

(3.29) (Ja) wstydze sie go pytac.
I feel ashamed to ask him.
(3.30) (Ja) zaluje, ze tam jade.
I regret that I am going there.

The category change is unpredictable and sometimes no grammatically or morphologically corresponding paraphrase for a phrase involving Inversion can be found:

(3.31) (Ja) ciesze sie, ze tam jade.
I am glad that I am going there.
*Uciecha mi tam jechac.
gladness me/DAT to go there.
(3.32) (Ja) dziwie sie, ze o tym nie wiem.
I am surprised that I do not know about it.
*Zdziwienie mi nie wiedziec o tym.
Surprise me/DAT not to know about it.
(3.33) Udalo mi sie go zobaczyc.
Success me/DAT to see him.
*(Ja) udalem sie go zobaczyc.
I succeeded to se him.
(3.34) Strach mi o tym mowic.
Fear me/DAT to talk about it.
*(Ja) stracham sie o tym mowic.
I fear to talk about it.

(3.26) has no underlying equivalent, for morphologically no verb corresponds to the noun czas/time. In certain cases the meaning of supposedly related constructions is different:

(3.35) a. Cieplo mu.
He feels warm.
b. On jest cieply.
He is warm/his body is warm (which can be used referring to a victim of a car accident lying on a hard shoulder).

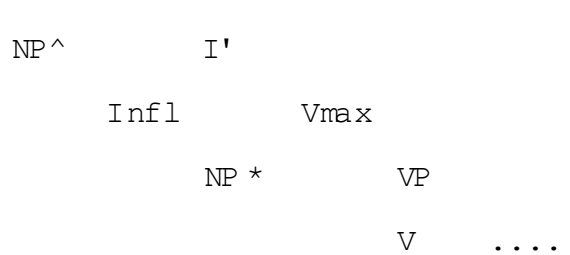
Again then, instead of being treated as related through NP movement, these constructions can be regarded as base derived with dative subjects with the application of rules of lexical control[5].

3.2 The VP Internal Subject Hypothesis and its Consequences for NP Movement in Polish

Our first major argument in favor of NP movement in Polish comes from the VP internal subject hypothesis. This hypothesis has been put forward by various authors: Kuroda (1988), Fukui and Speas (1986), Sportiche (1985, 1988) and Koopman and Sportiche (1991). Our discussion of VP internal subjects is based mainly on the approach advocated in Koopman and Sportiche (1991).

The major point of the VP internal subject hypothesis is the claim that [Spec,IP(AgrP)] is not a D-structure position of clausal subjects, but that subjects originate within VP (Vmax) at the level of D-structure and raise to [Spec,IP]:

(3.36)



This hypothesis receives its motivation from several sources.

First, Infl seems to be a raising category and displays all characteristics typical of raising predicates. The following characteristics of seem as a model raising predicate can be enumerated:

(3.37) 1. seem imposes no selectional restrictions on its subject
2. seem can take expletive or argument subjects
3. seem allows as subject an NP licensed by the predicate of the small clause embedded under it:
- weather it
- idiom chunks
- existential there

All these facts indicate that seem does not assign an external theta role.
(Koopman and Sportiche 1991:213)

All the above properties characterize Infl as well and we can exemplify this using the Polish Future Tense copula bedzie/will be.

1. bedzie/will be does not assign any external theta role.
2. bedzie/will be takes expletive or argument subjects.
3. it takes as its subject the external argument of the predicate which is embedded under it.

(3.38) Jan bedzie spal.

John will sleep.

Bedzie/will be takes weather pro in Polish:

(3.39) a. pro pada deszcz.
'(it) falls rain'
It is raining.
b. pro bedzie padal deszcz.
'(it) will fall rain'
It will rain.

Bedzie/will be preserves the meaning of idiom chunks in Polish:

(3.40) a. Jan puszcza pawia.
'John lets go peacock'
John is throwing up.
b. Janek bedzie puszczal pawia.
'John will let go peacock'
John will throw up.

Thus the Future Tense copula in Polish shows all the characteristics of a raising predicate. By analogy, Koopman and Sportiche (1991) conclude, that all modal verbs, and in general a tensed Infl are raising predicates. The conclusion concerning the modal verbs is definitely true for Polish, as our examples show:

(3.41) a. pro musi padac snieg.
'(it) must snow'
It must/has to snow.
b. Janek musi puscic pawia.
'John must let go peacock'
John must/has to throw up.

(3.42) a. pro powinien padac snieg.
'(it) should fall snow'
It should snow.
b. Jan powinien puscic pawia.
'John should let go peacock'
John should throw up.[6]

That tensed Infl is a raising category in Polish is obvious, the weather pro/it, expletives and idioms can be expressed in all tenses[7].

Second, the assumption that the subject originates within the same maximal verbal projection at D-structure[8], simplifies the mechanism of theta role assignment to external arguments. Theta roles are assigned under strict local conditions, internal arguments receive their theta roles under sisterhood. Chomsky (1981, 1985, 1986) proposes that external arguments receive their theta roles from VP compositionally but runs into a problem concerning locality. The external theta role has to be assigned to the position of the subject of a higher category IP. Thus the sisterhood condition has to be amended and functional categories have to be made transparent to theta role assignment from VP to

[Spec,IP]. This unwelcome transparency has to be extended onto aspectual verbs as well (which are raising predicates in Koopman, Sportiche's approach). The VP internal subject hypothesis makes it possible to preserve the locality of theta role assignment: internal arguments receive theta roles from the head under sisterhood; and external arguments under locality determined by the m-command domain of the head. This argument carries over to Polish directly.

Third, the Vmax containing the subject can be a small clause; a VP small clause in the sense of Stowell (1983). If, as Stowell (1981, 1983) and Chomsky (1981) assume, small clauses of four basic types exist in English: NPsc, VPsc, APsc and PPsc, the structure and existence of Vmax comes as no surprise[9]. It is not a mere stipulation but a further example of an existing phenomenon. In small clauses the subject is projected as a sister of its predicate and Vmax is a superprojection containing the predicate VP and its subject NP. Whether all types of small clauses exist in Polish syntax or not is a debatable issue, but such verbs as mianowac/appoint, uznac/consider, wybrac/elect, oglosic/announce seem to take NP small clauses:

(3.43) General mianowal Jana porucznikiem.
general appointed John lieutenant
The general appointed John lieutenant.

(3.44) Sedzia uznal Jana zdrajca.
judge considered John traitor
The judge considered John a traitor.

We will return to the question of nominal small clauses in Polish in the final section of this chapter.

Fourth, the phenomenon of quantifier float can be reinterpreted as quantifier stranding; at D structure [oni wszyscy/they all] occupies the same position of the most prominent NP within Vmax and subsequently this compound raises to the subject position as a whole or the quantifier is left behind in its base position:

(3.45) a. Oni wszyscy beda [$_{VP}$ jesc zupe]
'they all will eat soup'
b. Oni beda [$_{VP}$ wszyscy jesc zupe]
'they will all eat soup'

Fifth, there are languages such as Welsh, Irish or Breton whose basic (noninterrogative or stylistically affected) word order is VSO. This word order is also found in many Germanic languages and is said to result from V to Comp raising through Infl (den Besten 1983 and others). There are however major differences between the Celtic and the Germanic languages in this respect: the Celtic languages display the VSO order in both superordinate and subordinate clauses whereas the Germanic V2 can take place only in [+root] contexts, for in subordinate clauses the position of Comp is taken by lexical complementizers blocking Infl-to-Comp movement.

If a modal auxiliary is present, the Celtic languages show the Aux SVO order[10].
If the basic D-structure position of the subject were [Spec,IP], the subject would have to be moved to some position between Aux and VP which is not compatible with the X' theory schemata: as a result of the subject movement the head Aux and the complement [$_{VP}$ VO] would fail to form a constituent Aux' excluding the specifier of AuxP. Instead, in the Aux SVO order in the Celtic languages, [Spec,IP/AuxP] intervenes between Infl and its VP complement. The VP internal subject hypothesis account of these facts is rather more natural: the subject originates under Vmax and it surfaces in that position in the Celtic languages. The VSO word order results from head to head movement of the verb to the functional head of Inflection Phrase: V to Infl. The verb incorporation into Infl cannot take place if this position is already occupied by a base derived Auxiliary, hence the Aux VSO order.

Koopman and Sportiche (1991) provide several more arguments involving agreement processes in Arabic[11]. We will concentrate on one more universal argument supporting this hypothesis concerning the internal structure of idiomatic phrases. Idiomatic phrases in general contain open positions, usually in the subject slot:

(3.46) a. John
He kicked the bucket = died
Ian Paisley

b. John saw / kissed / smelt the bucket = John died

c. lose [$_{NP}$ one's [$_{N'}$ cool]]

The place of one in (3.46c) can be occupied by any name and is a variable, an open position in the idiom. Open positions are not allowed just in any positions:

(3.47) A pale man slowly put flowers next to John.

The combination of pale and slowly gives an impossible idiomatic interpretation; the adjective modifies the noun and the adverb modifies the verb, the only property they share is that they both cooccur in the same proposition. In order to exclude such impossible idioms the following principle can be proposed:

(3.48) If X is a minimal constituent containing all of the idiomatic material, the head of X is part of the idiom.
(Koopman and Sportiche 1991:224)

Thus a verb taking NP and PP as complements cannot be an open position in an idiomatic phrase consisting of V, NP, PP:

(3.49) a. [$_{VP}$ trafic [$_{NP}$ kula] [$_{PP}$ w plot]]
hit bullet/DAT in fence
make an incorrect guess

b. * rzucic kula w plot
throw bullet/DAT in fence

Now, if the clausal subject is part of the idiom, the following alterations are possible:

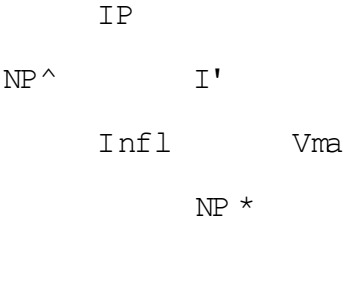
(3.50) a. The shit hit$_{past}$ the fan.
b. The shit will hit$_{future}$ the fan.

c. Oliwa (jest)$_{present}$ sprawiedliwa.
oil is just
Who is right is lucky.
d. Oliwa byla$_{past}$ sprawiedliwa.
oil was just
e. Oliwa bedzie$_{future}$ sprawiedliwa.
oil will be just
f. Oliwa moze byc sprawiedliwa.
oil may be just

Quite evidently in these idioms there is no constraint on the content of Infl; the Tense can differ and a modal verb will not affect the meaning of the idiom. If the structure of these idiomatic phrase were: [$_{IP}$ S [$_{I'}$ Infl VP]] it would be incompatible with the above constraint on idiom formation. But if at D-structure Infl remains outside Vmax which otherwise includes all components of the idiom, namely the subject and the predicate, the noninterference of Infl with the meaning of an idiom can be expected.

We accept the VP internal subject hypothesis as well motivated and underline its significance for any analysis of NP movement. The most important aspect of this analysis for our purposes is the movement of the subject from the Vmax internal position to [Spec,IP]. The major motivation for the subject to raise from NP* to NP^ is to satisfy the Case Filter of the Case Theory: the nominal dominated by Vmax in (3.36a) is not assigned any case in its D-structure position in English. The verb does not assign Case to it, for its Case assignment domain is limited to V'. If Infl is taken to be the Nominative Case assigner on standard assumptions in such languages as English, French or Polish, Infl can assign Nominative Case only under spec/head agreement. We repeat (3.36a) below for the ease of exposition:

(3.36a)



Although in (3.36a) Infl governs NP* in Vmax under the assumptions underlining ECM that if A governs B it also governs the specifier of B, Infl is not capable of assigning Nominative Case to NP* if

its Nominative Case assignment capacity is limited to the agreement relation. This mode of Nominative Case assignment in English is confirmed by Chomsky (1981, 1982, 1986 a,b) and others and it is well attested in Polish, Willim (1986), Tajsner (1990). Thus NP* raises in the standard way (Infl is a raising category) to the position of NP^ to receive Case[12].

The character of the movement from the position of NP* to the position of NP^ is quite straightforward: if a nominal moves from one position to another to receive Case, and via the Visibility Condition its Theta role and interpretation at LF, such a movement operation is traditionally referred to as NP movement. Subject movement from a VP internal position to [Spec,IP] seems to be a case of NP movement.

There is however one serious difficulty involved. NP movement is basically an A to A movement: an obligatory movement of a nominal from one argument position to another argument position. In the LGB framework two core cases of NP movement were distinguished: passive and raising. In both cases NPs are moved from one argument position: object or subject, to another argument position, the subject of a tensed clause. Two standard argument positions in the clause were defined as [NP,VP] for an object and [NP,S(IP)] for a subject. Chomsky (1981) defined argument positions in general as positions to which thematic roles (subject, object) are assigned at D-structure. Assuming the VP internal subject hypothesis this definition of argument (A) positions is no longer valid; the D-structure positions to which the subject and the object are assigned are [NP,VP] and
[NP,Vmax] rather than [NP,IP]. Paradoxically then, the [Spec,IP] position would be an A' position by Chomsky's (1981) definition. Assuming the VP internal subject hypothesis Pesetsky (1990) advocates this view[13]. We will follow Koopman and Sportiche (1991), Rizzi (1991), Chomsky and Lasnik (1991) and Roberts (1993) and claim that despite the fact that [Spec,IP] is not filled by any argument at D-structure, it is still an A position. [Spec,IP] meets all the requirements of an A position in both English and Polish although it is disconnected from the D-structure thematic role assignment[14]. If so, the movement from NP* to NP^ is a core case of NP movement of the raising type with Infl as a raising predicate. In the view of the general and cross-linguistic character of the VP internal subject hypothesis and the Nominative Case marking properties of Infl in Polish, which seem parallel to those of English, we can assume that clausal subjects in Polish originate in the VP internal position and subsequently raise to [Spec,IP] via NP movement. The Infl setting parameter looks as follows:

(3.52) The Infl Parameter
a. Infl is specified as a governed Case assigner or not.
b. Infl is specified as an agreement Case assigner or not[15].

(Koopman and Sportiche 1991:232)

The setting of the parameter for Polish seems to be [+agreement] and this means that the raising to [Spec,IP] has to take place (we discuss this question in more detail in 3.6.).

Consequently, the surface string of a simple clause in Polish derives from the following D-structure representation:

(3.53) a. Maria czytala ksiazke.
Mary read a book.

b. AgrP

NP^ Agr'

Agr TP

-a Spec T'

Tense Vmax

-l NP* VP(V')

Maria V NP

czyta- ksiazke

In the course of the derivation the subject Maria/Mary moves from a position within Vmax to [Spec,AgrP] to receive Nominative Case from Agr under spec/head agreement. On its way, it does not transit via [Spec,TP] which according to Rizzi (1991) and Roberts (1993) is an A' position. Thus if Maria/Mary leaps over [Spec,TP] Relativized Minimality is not violated. NP* is a theta position and NP^ is a Case position and this movement is a legitimate NP movement from an A to A position.

Additionally, head to head movement of verbal elements takes place. First the verb incorporates into Tense to pick up the past tense morpheme and successively, the V_T complex incorporates the agreement affix via movement from Tense to Agr. This movement is motivated by a very powerful filter, the Stray Affix Filter, demanding of affixes to incorporate into lexical stems specified in their morphological frame:

(3.54) The Stray Affix Filter

*X if X is a lexical item whose morphological subcategorization frame is not satisfied at S-structure.
(Baker 1988:140)

The head movement of the verb is compatible with the assumptions concerning head movement in Pollock (1989), Chomsky (1989), Belletti (1989) and Baker (1988). The issue of verbal incorporation in Polish is partly addressed in Borsley and Rivero (1992). Following its successive incorporations, the verb in Agr can still govern and assign structural Case (Accusative) to its object in VP: TP as a maximal projection is not a Minimality barrier, for the head of the Tense Phrase is not distinct from V (see the definition of Minimality Barrier in 2.81) because it has incorporated into V. The phenomenon of inheriting the government domain of a given head (V) by the head into which it incorporates

via head to head movement (V_{TAgr}) is best described as the Government Transparency Corollary:

(3.55) The Government Transparency Corollary (GTC)

> A lexical category which has an item incorporated into it governs everything which the incorporated item governed in its original structural position.
>
> (Baker 1988:64)

Thus by (3.55) and (2.81) V in its surface structure position in Agr still Case marks the object. A derivation of a simple surface string (3.53) involves two types of movement: NP (A) movement of the subject from its VP internal position into [Spec,AgrP] and the successive head to head movement of the lexical verbal head into functional verbal heads.

To sum up this part of our analysis, the VP internal subject hypothesis gives us an argument in favor of the existence of the NP movement operation in Polish on the basis of two well motivated assumptions: the functional heads known as Infl are raising categories and the Nominative Case in Polish is assigned under agreement by Infl.

3.3. The Unaccusative and Uniformity of Theta Assignment Hypotheses

The other theoretical assumption underlying our claim that NP movement takes place in Polish comes from Burzio's (1981, 1986) Unaccusative Hypothesis. This hypothesis was originally proposed in Perlmutter (1978), subsequently developed and adopted in Burzio (1981, 1986) and advanced in Belletti (1988).

Burzio (1986) suggested that the traditional division of all main verbs into two basic categories of transitive and intransitive should be replaced by a threeway classification into:

(3.56) Burzio's Classification of Verbs

a.	Transitive	Giovanni esamina il caso. Givanni examines the case.
b.	Intransitive	Giovanni telefona. Giovanni telephones.
c.	Ergative	[e] arriva Giovanni. arrives Giovanni (-- Giovanni arriva) Givanni arrives.

(Burzio 1986:30)

The verbs which Burzio refers to as ergative are also called unaccusative and we will use both names although there is much confusion in the literature whether the class of unaccusative verbs is homogenous.

Burzio distinguished two types within the former category intransitive on the basis of two salient differences in the behavior of these verbs in Italian syntax: ne-cliticization facts and a choice of aspectual auxiliaries.

In general, it is agreed that ne-cliticization in Italian is possible and grammatical only from an object position [$_{V'}$ V NP$_{-ne}$] (Belletti and Rizzi 1981)[16]. In the process of cliticization the head of the object NP in the form of ne cliticizes onto the verb on the left.

This observation coupled with "free inversion facts" in Italian produces an interesting contrast between purely intransitive and supposedly unaccusative verbs.

Subjects in Italian can appear in two basic sentence positions: preverbal [Spec, AgrP] and postverbal following VP. Following Burzio (1986) we refer to postverbal subjects in Italian as i(nverted) subjects. Inversion takes place with both two and one argument verbs:

(3.57) a. Il ragazzo [$_{VP}$ ha mangiato un dolce].
the boy has eaten a sweet
b. [$_{VP}$ ha mangiato un dolce] il ragazzo.

(3.58) a. Molti studenti telefonano.
many students telephone
b. Telefonano molti studenti.
telephone many students

(3.59) a. Molti studenti arrivano.
many students arrive
b. Arrivano molti studenti.
arrive many students

Interestingly, ne-cliticization can take place in (3.59) but cannot in (3.60-61):

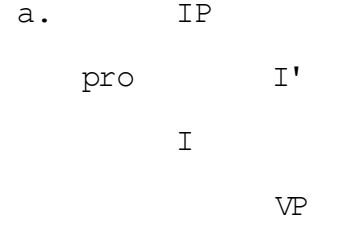
(3.60) * Ne telefonano molti.
of-them telephone many

(3.61) Ne arrivano molti.
of-them arrive many

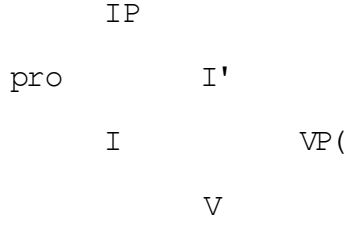
Now, if ne-cliticization is allowed only from the internal argument position under sisterhood with the verb, the placement of i-subjects of telefonare/telephone and arrivare/arrive must be different.

Burzio argues that while the i-subject of telefonare is in a VP adjoined position (just like i-subjects following VPs with transitive verbs, see 3.57) the i-subject of arrivare stays within V':

(3.62) a.



b.



telefonare i-subject arrivare i-subject

However in the case of arrivare type verbs it would be extremely extraordinary for a subject to move inside V', for the Structure Preservation Constraint would be violated and an active verb which is a one place predicate, should not project an object position within V'. Burzio proposed to solve this problem by assuming that with arrivare type verbs the i-subject position is their D-structure position and the standard preverbal position is derived. Thus the D-structure of arrivare is very similar to D-structure representations of passive verbs:

(3.63) $[_{IP}$ e $[_{I'}$ $[_{VP}$ $[_{V'}$ arrivare $[_{NP}$ molti studenti]]]]]

The consequences of having an identical D-structure representation as passive verbs are far reaching, the two salient properties of passive participles are the lack of Accusative Case marking properties and the lack of external theta role which makes the preverbal subject position empty and an available landing site for the D-structure direct object. These two properties are said to be absorbed by the passive morphology (Baker 1988 proposes an interesting extension of this idea)[17]. As it should now be evident, the movement from the postverbal subject position of arrivare type verbs (ergatives by 3.56) to the preverbal subject position proceeds via NP movement from one position to another A position. On the basis of this observation, Burzio (1986) formulated the following generalization:

(3.64) The Unaccusative Hypothesis/Burzio's Generalization

a. A verb which lacks an external argument fails to assign Accusative Case.
b. A verb which fails to assign Accusative Case fails to theta mark the external argument.
(Haegeman 1991:296)

By (3.64) telefonare and mangare/eat are not unaccusative verbs while arrivare is an ergative/unaccusative verb. In Burzio's terms and in terms of the thematic roles of their arguments, telefonare is an intransitive verb, a one argument verb whose argument has an Agent theta role. Arrivare is an unaccusative verb, a one argument predicate whose argument is a Theme, or in other words a Theme subject. This term is not contradictory although it could seem so. If the verb cannot assign Accusative Case, its internal argument has to move to [Spec,AgrP] to pick up Nominative Case in the standard fashion, or remain in situ and receive it via some alternative mechanism (Belletti 1988).

As we have mentioned before, ne-cliticization is not the only overt marker of the difference between intransitive and unaccusative verbs in Italian. The other distinct difference between the two types of verbs is the type of aspectual auxiliary they take:

(3.65) a. Giacomo ha telefonato.
Giacomo has telephoned.
b. Giacomo e arrivato.
Giacomo has arrived.

Burzio generalizes that the verbs that take essere/be auxiliary are unaccusative in Italian. Passive verbs also take essere auxiliary. Essere selection is supposed to take place where there is an A chain between the preverbal subject position and the complement position. Transitive and intransitive verbs take habere/have auxiliary.

The group of unaccusative verbs is not homogenous: it contains one argument verbs like arrive, passive participles, raising predicates which neither assign Accusative Case nor theta mark the subject position, but also transitive/ergative pairs of verbs; AVB/BV pairs in Burzio's (1986) terms. These constructions are quite common in such languages like English and Polish and they could give us support for the existence of unaccusative verbs, and consequently NP movement in Polish. First, let us consider the transitive/ergative pair of:

(3.66) a. L'artiglieria affondo due navi nemiche.
The artillery sank two enemy ships.

b. Due navi nemiche affondarono.
Two enemy ships sank.
(Burzio 1986:25)

Affondare/sink is an AVB/BV verb: it has an option of either taking two arguments on each side (in the basic word order), the external argument as A and the internal argument as B. Alternatively it can select just one argument, the internal argument which becomes Theme subject. The BV order in (3.66b) again results from NP movement of the subject from VP object position to [Spec,AgrP]. As Burzio argues there is no need to assume that the lexicon contains two entries for affondare/sink, one transitive and the other one unaccusative. The verb can simply have an option for assigning an external theta role to the subject position [+Theta$_S$] or not assigning it [-Theta$_S$]. If the [+] option is chosen, the verb is transitive, the external theta role is discharged and the external argument position must be lexically filled. If the [-] option is chosen, the verb cannot assign Accusative Case to its only internal argument by Burzio's generalization (3.64) and NP movement follows. The AVB/BV pairs are determined by idiosyncratic lexical factors, therefore they do not appear with full productivity. Thus the lexical process involved, the idiosyncratic property of verbs, concerns only the availability of two options: [+/- Theta $_S$]. This choice is determined by a lexical property of a given verb. However if both options are available and [-Theta $_S$] is applicable in a given construction, the process of the movement of the internal argument to the subject position is a syntactic NP movement.

This assumption rests on more general principles. Although languages differ from each other due to different settings of the

parameters, some of the modules and levels of representation are more universal and less susceptible to variation. Especially LF and the rules operating at this level are said to be universal. The same holds for Theta theory, particularly the mode of assignment of theta roles to the same fixed argument positions. The theta role of Theme is universally known as an object theta role assigned within V' by the verb under sisterhood. Therefore Theme subjects, typical of AVB/BV pairs, should be expected to originate in a position to which Theme is canonically assigned. This inference can be formally presented as a universal principle of grammar characterizing D-structure representations:

(3.67) The Uniformity of Theta Assignment Hypothesis (UTAH)

Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.
(Baker 1988:46)

In his theory of incorporation, Baker regards UTAH as one of the most important principles of UG[18]. Assuming UTAH, we have no doubts that the relation between a postverbal and a preverbal position of B in AVB/BV pairs should be that of NP movement. For example sink in English is an equivalent of affondare in Italian as (3.66) shows.

However even this type of unaccusative verbs has no counterpart in Polish, where typical ABV/BV constructions exist but the BV option is accompanied with the particle sie/self. Italian shares the option of having a reflexive particle si/self in a similar distribution to Polish sie/self. In the pertinent cases of AVB/BV pairs, the following picture emerges:

(3.68) a. Maria si guarda.
Maria herself watches
Maria watches herself.

b. Il vetro si rompe.
the glass itself breaks
The glass breaks.

c. Giovanni si sbaglia.
Giovanni himself mistakes
Giovanni is mistaken.
(examples from Burzio 1986,:37)

All of the verbs from the above constructions combine with essere/be auxiliary, thus NP movement can be suspected. In (3.68a) si is a reflexive clitic, base generated in the clitic position and forming an A chain with a coindexed empty category in the object position for theta role transmission. Si in (3.68b) has no reflexive meaning and does not alternate with an object as reflexives do. It does however alternate with the subject:

(3.69) a. Il vetro si rompe.

The glass breaks.

b. Giovanni rompe il vetro.
Giovanni breaks the glass.

The alteration between (3.69a-b) is exactly like the one involving affondare/sink, a typical AVB/BV verb, but rompersi/break requires si as a morphological reflex of the loss of the subject theta role as a result of a idiosyncratic lexical process involving the choice between [+/- $Theta_S$]. Burzio refers to this type of si as ergative si. Rompersi/break passes the ne-cliticization and essere/be selection tests for ergativity in Italian.

The case of (3.68c) is different from the previous two. Si is neither reflexive nor ergative. There is no AVB/BV alternation involving sbagliarsi/mistake:

(3.70) a. Giovanni si sbaglia.
Giovanni himself mistakes
Giovanni is mistaken.

b. *Giovanni sbaglia Piero.
Giovanni mistakes Piero.

Burzio refers to this type of si as inherent (reflexive) si which is also ergative. It is ergative because it passes the ne-cliticization test. Burzio claims that the existence of such verbs as sbagliarsi/mistake comes as no surprise; all unaccusative/ergative verbs fall into two major categories in Italian: those that take ergative si and those that do not. Within these two major categories there is a subdivision into the verbs that appear as both transitive and unaccusative and the verbs that are only unaccusative. As a result of this classification, Burzio (1986) distinguishes four subtypes of ergative/unaccusative verbs:

(3.71) The Types of Ergative Verbs in Italian

	Verbs taking ergative si	Verbs without si
ABV/BV	rompersi/break	affondare/sink
BV	sbagliarsi/mistake	arrivare/arrive

(Burzio 1986:66)

As it can be expected, sbagliarsi/mistake, just like arrivare/arrive does not take any direct objects, only adjuncts and prepositional objects and allows for ne cliticization:

(3.72) Givanni si sbaglia su tutto.
Giovanni himself mistakes on everything.
Giovanni is mistaken on everything.

Burzio's (1986) analysis of ergative verbs in Italian seems to be directly applicable to the facts of Polish syntax. If we assume that transitive/ergative pairs in Polish display identical properties to their Italian counterparts, we would have a case for

NP movement in Polish. First we will however see how the Unaccusative Hypothesis functions in English.

3.4. Ergatives/Unaccusatives in English.

Burzio (1986) and Baker (1988) consider ergativity a language universal phenomenon. Consequently, ergative verbs should be present in English. A slightly different opinion is advocated by Haegeman (1991). English facts may be of some interest to us and they shed some light on ergativity in Polish.

Burzio regards the following verbs as ergative of the BV type in English: arise, emerge, ensue, begin, exist, occur, follow (Burzio 1986:159). As he noticed presentational there in existential constructions in English can be treated on a par with Italian expletive pro and analogously the argument subjects in these constructions in English are i-subjects. He concludes that all one argument verbs appearing in existential constructions are unaccusative and base generate their Theme subjects in the object position:

(3.73) a. There began a riot.
b. *There started a riot.

Clearly begin is an unaccusative verb while start fails the syntactic test for ergativity in English.

The usefulness of the presentational there construction as the test for ergativity in English is confirmed by a group of verbs which, although they have transitive counterparts, also successfully appear in 'there constructions' in a systematic way:

(3.74) a. ?There spilled a large amount of wine over the floor.
b. ?There rolled a big boulder into the lake.
(examples from Burzio 1988:161)

There are however cases in which evidently non-ergative verbs (showing non-Theta subjects) can appear in presentational 'there constructions', as for example:

(3.75) a. There walked into the bedroom a unicorn.
b. There ambled into the bedroom a frog.
(examples from Burzio 1986,:162)

As Burzio notes, following Milsark's (1974) observation, the i-subjects of non-ergative verbs in there constructions appear in the VP final position, following PPs while with ergative verbs the i-subjects immediately follow the verb. This V adjacent/VP final distinction is reminiscent of the positions of i-subjects with ergative and non ergative verbs in Italian, the former are within V', the latter are adjoined to VP.

Burzio points to another morphological evidence for the ergative/non-ergative division in English one argument verbs. Many non-ergative verbs selecting an external argument with Agent theta role have cognate nouns denoting the Agent of a given activity:

(3.76)
kill	killer
walk	walker
arrive	*arriver

As an ergative verb, arrive does not select any external argument and therefore it has no nominal derivative denoting an agent of arriving.

Haegeman (1991) does not treat verbs like sink, and in general causative/unaccusative pairs in English as true examples of ergativity. She provides two reasons for disregarding sink and other AVB/BV pairs as unaccusative verbs:

1. the allegedly unaccusative sink has a transitive pendant which is able to assign Accusative case .

2. sink does not appear in existential constructions involving propositional there:

a. There arrived three ships.
b. *There sank three ships.

Instead Haegeman proposes to treat one argument sink as a standard verb whose D-structure representation has the following form:

(3.77) $[_{IP}$ the boat $[_{I'}$ past $[_{VP}$ sink $]]]$

where the Theme theta role is assigned directly to the subject position.

In order to distinguish verbs like sink which assign the Theme theta role to their external arguments from other intransitive verbs assigning the Agent theta role to their external arguments, Haegeman calls them ergative. Thus she distinguishes four types of verbs in English:

(3.78)

1. transitive, assigning theta roles to their internal and external arguments;

2. intransitive, one argument verbs assigning Agent theta role to their external arguments

3. ergative verbs, one argument members of AVB/BV pairs like sink;

4. unaccusative verbs, one argument verbs of movement and change of state which have to show the following characteristics, typical of unaccusative verbs in English:
a. they are able to cooccur with presentational there:

There came three students.

b. In the earlier stages of English (Old and Middle English) they appeared with a different aspectual auxiliary be of which there is still a remainder today:

The students are gone.

The only arguments of unaccusative verbs are base generated under V'.

It should be noted, that in her analysis Haegeman (1991) does not mention UTAH on which our analysis largely depends. However even if the distinction between ergatives and unaccusatives is introduced there is still in English a class of one argument verbs with Theme subjects base generated in the object position and distinct syntactic properties.
As we shall try to demonstrate in the following section the distinction made by Haegeman for English does not hold in Polish where all verbs taking Theme subjects seem to be ergative in the sense of Burzio (1986).

3.5. Theme Subject Constructions in Polish.

The situation in Polish is different from Italian in the sense that there seems to be no overt indication of existence of a separate class of verbs in the form of ne-cliticization or essere/be auxiliary selection. Equivalents of these two processes indicative of ergativity do not exist in Polish. However the existence of unaccusative/ergative verbs can be deduced from a few facts: the presence of AVB/BV pairs, the existence of Theme subjects, the assumption of UTAH and certain word order and Wh extraction facts.

We claim that the most evident type of ergative predicates in Polish is of the AVB/BV type + sie/self. This transitive/ergative alteration always requires sie/self, whose function here is supposedly identical to ergative si in Italian. The examples we present come from Zabrocki (1981) where this particular type of syntactic alterations is referred to as a Causative Construction (following Wasow 1977):

(3.79) a. Jan zbil szklanke.
John/NOM broke glass/ACC

b. Szklanka zbila sie.
glass/NOM broke self

(3.80) a. Maria stopila snieg.
Mary/NOM melted snow/ACC

b. Snieg stopil sie.
snow/NOM melted self

(3.81) a. Tomek otworzyl drzwi.
Tomek/NOM opened door/ACC

b. Drzwi otworzyly sie.
door/NOM opened self

Following Wasow (1977), Zabrocki (1981) treats the Causative Transformation as a lexical rule which does not belong to the syntactic component of grammar but is idiosyncratic and dependent on lexical properties of particular verbs. Zabrocki (1981) presents three arguments against the treatment of the AVB/BV alteration as a syntactic NP movement process.

Firstly, it is not fully productive and extremely idiosyncratic; certain transitive verbs have ergative counterparts, others do not:

(3.82) a. Chuligani spalili lawki w parku.
hooligans burnt benches in park
b. Lawki spalily sie w parku.
benches burnt self in park
(3.83) a. Chuligani zdemolowali lawki w parku.
hooligans vandalized benches in park
b. *Lawki zdemolowaly sie w parku.
benches vandalized self in park

In Burzio's (1986) approach this idiosyncrasy is expected, for indeed a lexical process is involved. It does not however encompass the whole Causative Transformation, only the choice of the [+/- Theme_S] option. If a transitive verb allows the [-Theme_S] option, subject to lexical idiosyncrasy, the remaining part of the operation is a purely syntactic NP movement, uniform in its form provided the proper conditions on NP movement are met, such as an empty non theta marked subject position and the lack of Case assigning properties of the verb. These conditions are provided by various lexical settings: raising verbs, ergative verbs and passive participles.

Secondly, Zabrocki (1981) rejects the transformational account of the AVB/BV alteration on the grounds that there are cases in Polish where sie/self occurs with a transitive verb which also takes an object. In the AVB/BV contexts he treats sie/self as a marker of dethematization of the object and transmission of the Theme role onto the subject.

(3.84) If a transitive verb which is followed by a Theme direct object has a homophonous counterpart that does not have such an object, the counterpart in question is followed by the reflexive particle sie.
(Zabrocki 1981:135)

The above generalization does not question a transformational character of AVB/BV cases directly. It states the fact that the BV counterparts have base derived Theme subjects. Note that for Burzio ergative si is a spellout of the loss of the subject theta role, a morphological marker of the [-Theta_S] setting of a lexical parameter. We believe that this assumption subsumes Zabrocki's

claim in (3.84) and straightforwardly carries over onto the function of the Polish ergative sie/self. Consequently, the examples used by Zabrocki to refute the NP trace marking role of sie/self in (3.85-86) do not concern the Unaccusative Hypothesis:

(3.85) a. pro dotknalem porecz.
(I) touched handrail
b. pro dotknalem sie poreczy.
'(I) touched self handrail'

(3.86) a. pro trzymalem galaz.
(I) held branch
I held a branch (in my hand).
b. pro trzymalem sie galezi.
'(I) held self branch'
I held on to a branch (e.g. climbing a tree)

Pro subjects in (3.85b-86b) do not bear either Agent or Theme theta roles. Similarly, the verbs in these examples do not allow for any AVB/BV alterations (nor do the ones in Zabrocki 1981:135/136):

(3.87) a. *Porecz/AGENT dotknela sie.
handrail touched self
b. *Galaz/AGENT trzymala sie.
branch held self

Thirdly, sie/self appears to be involved in a change of meaning of the verbs in (3.85-86) and this fact is used as an argument against the treatment of sie/self as an NP trace marker in AVB/BV pairs. As we have mentioned above, we do not agree that sie/self is an NP trace marker, but Zabrocki's (1981) arguments refute any uniform treatment of sie/self in Polish. We could only agree with this point of view; as we can see Burzio (1986) distinguishes three types of si in Italian relevant to our discussion of ergative constructions. Apart from these three uses there are at least two more: impersonal si used in impersonal constructions and si occurring with transitive verbs which also take direct objects. Both of these types appear in Polish as well:

(3.88) a. pro kopie sie pilke...
'(one) kicks self ball'
b. pro najadl sie strachu...
(he) ate self fear...

These examples show the use of impersonal sie/self and idiosyncratic sie/self with transitive verbs[19].

Following Zabrocki (1981), we propose that such pairs as in (3.85-86) should be treated as base derived constructions reflecting lexical idiosyncrasies of the verbs. This proves that not all constructions involving sie/self should be treated uniformly and that there is more than one function played by this reflexive particle in Polish syntax[20]. We feel however that it does not weaken the analysis of Theme subjects based on UTAH and the Unaccusative Hypothesis.

AVB/BV constructions involving sie/self are only one type of ergative/unaccusative predicates in Polish. There are no counterparts of Italian and English pairs of the affondare/sink type but the remaining two types are present.

Instead of one verb corresponding to transitive/ergative sink, Polish has two, transitive zatopic/sink:

(3.89) Lodz podwodna/AGENT zatopila statek
a submarine sank enemy
nieprzyjacielski/THEME
ship

and ergative zatonac/sink

(3.90) Statek nieprzyjacielski/THEME zatonal.
enemy ship sank

Thus Polish zatonac/sink is an equivalent of ergative sink. A similar situation involving a two to one correspondence is found with pekac/crack and lamac/break of which the former is ergative while the latter is transitive/ergative :

(3.91) a. Janek/AGENT lamie rure/THEME
John breaks pipe
b. Rura/THEME lamie sie.
pipe breaks
c. *Janek/AGENT peka rure/THEME
John cracks pipe
d. Rura/THEME peka.
pipe cracks

Thus pekac/crack, tonac/sink belong to the arrivare/arrive type of (3.71) and zbic/break, stopic/melt belong to the rompersi/break type of (3.71). Polish literal translation of shagliarsi/be mistaken, mylic sie is also an ergative verb of a corresponding type. Mylic sie/be mistaken has no transitive equivalent as its Italian counterpart:

(3.92) a. Janek myli sie w rachunkach.
John mistakes self in arithmetics
b. *Janek myli Piotra.
John mistakes Peter.

We propose the following inventory of Polish ergative verb types:

(3.93)

	Verbs with ergative sie	no ergative sie
AVB/BV	zbic/break topic/melt	-----
BV	mylic sie mistake	pekac/crack nastepowac/follow

It is difficult to judge whether for example przyjsc/arrive is an ergative verb in Polish due to the lack of clear cut syntactic tests such as ne-cliticization or aspectual auxiliary selection. We thus need a reliable indication of the ergative character of the verb, not only the Theme subject theta role.

We base our argument on some clues from the word order facts. Thus the following verbs in Polish, translations of English and Italian BV-si type seem to share the same subject theta roles and ergativity status:

(3.94) powstac, wylonic sie, nastapic, rozpoczac sie, istniec, zdarzyc sie, zapasc.

In presentational constructions these verbs usually precede their arguments, otherwise the structure is stylistically marked:

(3.95) a. pro nastapila cisza.
there followed silence/NOM
b. %cisza nastapila
silence followed

(3.96) a. pro rozpoczela sie klasowka.
there began test/NOM
b. %klasowka rozpoczela sie
test began

(3.97) a. pro zdarzyl sie wypadek.
there occurred accident/NOM
b. %wypadek zdarzyl sie
accident occurred

This word order and the position of Nominative subjects calls for an explanation. Throughout this work we have proposed that the only syntactic position in Polish in which Nominative Case can be assigned is [Spec, AgrP], for this Case can only be assigned via spec/head agreement in the domain of Agr in accordance with the setting of the Infl parameter of Koopman and Sportiche (see 3.52). For reasons which we discuss in detail in chapters 5 and 7 we do not want to allow for the movement of the subject to the postverbal position in Polish[21]. However, since the standard SV order is reversed, a special provision is required to cover the case of ergative verbs in Polish.

This extra provision is also justified by the following observation: if the pleonastic pro in Polish is related to the presentational there in English, we could expect constructions involving pleonastic pro to avoid 'that trace effects', analogously to the English cases involving there:

(3.98) a.[How many people] did you say that there came t to the party?
b. *[How many people] did you say that t came to the party?

(3.98b) is out as expected due to the violation of the 'that trace

filter' if the NP is extracted from the clausal subject position. (3.98a) is however grammatical, for the subject is extracted from the postverbal position. This fact has two consequences of considerable importance for the analysis of Polish data: the logical subject of (3.98a) has to be both properly head governed (to satisfy Rizzi's 1990 formulation of the ECP) and Case marked to satisfy the Case Filter.

As shown in detail in chapter 5, Polish syntax reluctantly allows extraction from clausal complements. There is one type of subjunctive complements, which we call the e-subjunctive, that freely allows extraction from the object and adjunct positions but disallows subject extraction:

(3.99) a. Co Tomek chce [zeby mama kupila t]
what Tomek wants that-cond mum bought
What does Tomek want mum to buy?

b.? *Kto Tomek chce [zeby t kupil cukierki]
who Tomek wants that-cond bought sweets
Who does Tomek want to buy sweets?

We will attribute unacceptability of (3.99b) to the 'that trace effect' although a more detailed analysis of this issue is presented in chapter 5.

Now, interestingly, the extraction of Nominative Theme subjects of supposedly ergative verbs from the subjunctive complement gives satisfactory results:

(3.100) a. Co Tomek chce [zeby pro sie rozpoczelo t]
'what Tomek wants that-cond self began'
What does Tomek want to begin?

b.? *Kto Tomek chce [zeby t rozpoczal klasowke]
'who Tomek wants that-cond started off test'
Who does Tomek want to start off the test?

(3.101) a. Co Tomek chce [zeby pro sie otworzylo t]
'what Tomek wants that-cond self opened'
What does Tomek want to open?

b.? *Kto Tomek chce [zeby t otworzyl drzwi]
'who Tomek wants that-cond opened door'
Who does Tomek want to open the door

(3.102) Co Tomek chce [zeby pro peklo t]
'what Tomek wants that-cond cracked'
What does Tomek want to crack?

(3.103) Kto Tomek chce [zeby pro sie mylil t]
'who Tomek wants that-cond self mistook'
Who does Tomek want to be mistaken?

(3.108) ? *Kto Tomek chce [zeby t gwizdal]
'who Tomek wants that-cond whistled'
Who does Tomek want to whistle?

(3.109) ?*Kto Tomek chce [zeby t sie smial]
'who Tomek wants that-cond laughed'
Who does Tomek want to laugh?

It is surprising that such a contrast should hold if in AVB/BV pairs the NPs undergoing extraction are both marked Nominative and both seem to be clausal subjects. The extraction from subjunctives should become our test for ergativity of verbs in Polish[22].

3.6. Long and Short NP Movement in Polish Ergative Constructions.

We assume that this extraction is possible as a result of a combination of factors: availability of a double subject position in Polish ergative predicates and Nominative Case assignment capacity of Tense.
Following Rizzi (1990, 1991) and Roberts (1993) we enrich the Infl parameter in (3.52) by splitting Infl into two heads Agr and Tense. With this proviso and the VP internal subject hypothesis in mind we can represent the D-structure of ergative constructions as in (3.110) with the Theme subject under V':

(3.110) $[_{AgrP}$ NP^$[_{Agr'}$ Agr $[_{TP}$ Tense $[_{VP}$NP*$[_{V'}$ peklo $[_{NP}$ co]]]]]]

As an unaccusative verb pekac/crack is unable to assign Case to its object. At S-structure the object is marked Nominative which is not assigned by verbs. Because of overt morphological case marking on the noun in Polish it is impossible to claim that the i-subject is marked for Ergative Case (Belletti 1988)[23]. The only way to assure that the i-subject receives the Nominative Case is to rely on NP movement.

The VP internal subject hypothesis provides us with two potential landing sites for the NP moved object: NP* in [Spec,VP] and NP^ in [Spec,AgrP]. The Relativized Minimality condition on NP movement (2.81) forces successive cyclic movement of the object and its transition through [Spec,VP]. From what we have assumed so far it follows that the object is forced to reach the [Spec,AgrP] position in order to receive Nominative Case and pass the Case Filter.
On the contrary, Wh extraction facts in (3.100-109) require a different interpretation. ECP reduced to proper head government condition strongly favors [Spec,VP] as the extraction site; as we demonstrate in detail in chapter 5 [Spec,AgrP] of e-subjunctives is not properly governed while [Spec,VP] is properly governed by Tense. There is however a problem: since Wh traces have to be Case marked, [Spec,VP] cannot be the Wh extraction site.

We thus face a conflict between Case Theory and the theory of movement.

As is known from the analyses of Rizzi (1982, 1990, 1991) and Burzio (1986) subjects in Italian are able to avoid the 'that trace effect', for prior to their extraction they appear (as moved or base generated) in a postverbal position leaving [Spec,AgrP] filled

by a coindexed nonargument pro. In order to undergo Wh movement they must be Case marked. Rizzi (1991) assumes that the heads of the two functional projections Agr and Tense cooperate to assign Nominative to i-subjects. [Spec,AgrP] must be filled to satisfy the EPP but Agr does not discharge Nominative Case to pro which has to be in a potentially Case marking configuration. If Agr does not assign Nominative under agreement, this property is transmitted onto Tense via head/head agreement/coindexation. Consequently, Tense assigns Nominative case to i-subjects under government.

This mechanism can be effectively applied to the analysis of Polish ergative constructions: Agr and Tense share the Nominative Case assigning potential. In (3.110) Tense cannot assign Nominative to [$_{NP}$ co] in situ, for V is a Minimality Barrier. However following the movement of the object to NP*, V ceases to be an intervener and NP* is in the scope of the head government domain of Tense and its Case marking domain. Assuming that Tense can be a Nominative Case assigner in Polish resolves our dilemma concerning the contradictory requirements of ECP and the Case Filter. If the object moves to [Spec,VP] and receives Nominative Case from Tense it can be Wh moved out of the clause, for Tense is also a proper head governor. In this situation there is an A chain holding between the D-structure position of the object and [Spec,VP]; this chain satisfies the Theta Criterion and the Case Filter.

We propose to call **movement to [Spec,VP] short NP movement** in Polish ergative constructions.

The alternative process consists of two steps in NP movement: if Tense does not possess the Nominative Case assigning capacity, movement to [Spec,VP] does not suffice to satisfy the Case Filter and another step of movement to [Spec,AgrP] has to be completed. Because Tense is always a proper head governor of NP* the second step is justified by the ECP. The moved element is assigned Nominative in [Spec,AgrP] but it is not properly governed and cannot move further (in embedded contexts, for in matrix contexts movement is possible).

We propose to call **movement to [Spec,AgrP] long NP movement** in Polish ergative constructions.

As far as Nominative Case assignment is concerned, we propose to revise the setting of the Infl parameter (3.52) for Polish from [+agreement] to:

(3.111) Agr [+agreement]
Tense [+government][24]

Our analysis of Polish ergatives does not apply to English where ergativity/unaccusativity is marked in ways specific to English syntax discussed above (3.4.)[25].

The analysis presented above requires some additional clarification. We consider it desirable to maintain that in Polish Agr is able to assign Nominative case only under agreement to the [Spec,AgrP] position and this is the standard mode of Nominative Case assignment in Polish. Therefore Tense can perform the role of Nominative Case assigner in exceptional cases. The choice of Tense has another obvious advantage, Tense selects VP and enters into head/head agreement with the verb. The exceptionality of Nominative

Case assignment by Tense in Polish is limited to ergative verbs only. Our system outlined above calls for the following condition:

> If Tense selects VP headed by an ergative verb, head/head agreement triggers off the exceptional mode of Nominative case assignment by Tense.

Even then [Spec, AgrP] cannot be left void. We assume that this position must be filled either by an argument or expletive pro to satisfy the Extended Projection Principle. Our system should provide for both possibilities.
Little pro has to appear in a potentially Case marked position (see Rizzi 1986). It does not require Case, for it is not a lexical NP. In this situation Agr does not have to assign Nominative Case and "bequeaths" this property onto Tense.
Let us stress once again that this mode of Nominative Case assignment depends on the selection of ergative VPs by Tense and is limited only to these cases; if Tense selects any other verbal head it is unable to inherit the Case marking properties from Agr. This explains why i-subjects of transitive verbs cannot be extracted from e-subjunctive complements successfully. In other words the 'Italian' Case marking strategy of i-subjects works only with ergative verbs in Polish and depends on head/head agreement between Tense and the head of the VP it selects.

Note that our proposals concerning long and short NP movement in these constructions rather elegantly account for VS/SV differences in word order. If the Theme subject reaches only NP* and the verb incorporates into Tense and Agr via head to head movement, the VS word order results. If the subject is in NP^ and the verb raises the SV order shows[26]. Let us compare the VS and SV word orders in the following examples:

(3.112) a. pro nastapila cisza
there followed silence
b. pro pekla rura
there cracked pipe
c. cisza nastapila.
silence followed
d. rura pekla
pipe cracked

(3.112a-b) show the short NP movement word order. The Theme subject follows the verb and is situated in [Spec, VP]. [Spec, AgrP] is filled by expletive pro which does not require Case. Nominative Case properties of Agr are transmitted onto Tense provided Tense selects VP with an ergative head. This condition is satisfied, NP receives its theta role from the verb and Case from Tense in the way described above.

In (3.112c-d) the situation is different; at D-structure the position of [Spec, AgrP] is literally empty, although projected by the EPP. Agr may have to discharge Nominative Case at a further stage of the derivation, for at D-structure it is not "saturated" by some filler in its specifier which would need Case. Agr does not transmit its case marking capacity to Tense unless it "makes sure" that its specifier does not need Case. If [Spec, AgrP] is filled by

pro at D-structure this condition is met. Otherwise Agr retains its Case marking properties and does not transmit them to Tense even though Tense could potentially receive them, for it selects an ergative VP. Thus the objects in (3.112c-d) cannot remain in their NP* positions and are forced to raise to [Spec,AgrP] to pick up Nominative Case in the standard fashion and satisfy the Case Filter.
From our discussion of the variation in the content of the [Spec,AgrP] position it follows that for Tense to become a Nominative Case assigner this conjunctive condition has to be fulfilled:

(3.113) Tense becomes a Nominative Case assigner iff:

A. it selects an ergative VP and
B. Agr need not assign Nominative Case to its Spec position and via head/head coindexation transmits its Case marking capacity onto Tense.

To sum up this section, we claim that the constructions with Theme subjects in postverbal positions in Polish involve their exceptional Nominative Case marking by Tense in [Spec,VP] and the constructions with Theme subjects in the preverbal position involve NP movement of this subject from a position within V' to [Spec,AgrP]. UTAH, the Unaccusative Hypothesis and the aforementioned Wh extraction asymmetry suggest that NP movement applies in Polish syntax.

3.7. Miscellaneous Cases of Overt NP Movement in Polish.

Theme subject constructions and the VP internal subject hypothesis show that the syntactic operation of NP movement[27] is available in Polish. It may not be as prominent as in English but it is certainly available and less costly as a UG operation than language particular idiosyncrasies. We believe that if this is true, certain constructions in Polish can be reinterpreted as involving NP movement. We discuss small clauses, copula zostac/get passives, raising and NP movement at LF.

3.7.1. Passive and Complement Small Clauses in Polish.

The VP internal subject hypothesis makes use of the notion "small clause". Probably the clausal subject is in the position of the VP small clause subject at the level of D-structure. IF VP internal subject hypothesis extends into Polish, this language should have complement small clauses, at least at the level of D-structure[28]. Certain constructions in Polish seem to display the characteristics of small clauses in surface strings as well. These

small clauses are only of one type: nominal and marginally adjectival:

(3.114) a. pro mianowalismy Jana prezydentem.
(we) appointed John/ACC president/INSTR

b. Druzyna wybrala Jana kapitanem.
team elected John/ACC captain/INSTR

c. Sedzia oglosil Jana zwyciezca.
referee announced John/ACC winner/INSTR

d. Maria i Tomek uznali Jana swoim przywodca.
Mary and Tomek considered John/ACC their leader/INSTR

Thus the four verbs mianowac/appoint, wybrac/elect, oglosic/announce and uznac/consider select NP small clause complements, not only the Accusative objects, for without the head of the nominal small clause these structures are ungrammatical, unless regarded as structures affected by ellipsis:

(3.115) a.? *Druzyna wybrala Jana __
team elected John

b.? *Sedzia oglosil Jana __
referee announced John

The marginality of the small clause constructions in Polish can be inferred from the fact that out of the above mentioned four verbs, three have an alternative means to realize the same argument structure. They can do so in the form of a direct nominal object followed by a prepositional object. Thus the equivalents of (3.114 a-d) have the following form:

(3.116) a. pro mianowalismy [Jana] [na prezydenta]
(we) John for president

b. Druzyna wybrala [Jana] [na kapitana]
team elected John for captain

c.?Sedzia oglosil [Jana] [za zwyciezce]
referee announced John as winner

d. Maria i Tomek uznali [Jana] [za swojego przywodce]
Mary and Tomek considered John as their leader

The choice that these lexical items have between two alternative modes of representation of their argument structure is purely idiosyncratic and analogous to the [+/-Theme_S] switch. The principle by which the switch is set is also purely idiosyncratic and lexical. Once it has been made, the lexical item projects its argument structure at D-structure level along the lines of the X' schemata and syntactic rules apply to it. Thus the verbs under investigation have these two options available [+/-$_{NP}$SC].

(3.117) a. wybrac [$_{NP}$ NP_{Acc} [$_{NP}$ NP_{Instr}]]
b. wybrac [$_{NP}$ NP_{Acc}] [$_{PP}$ P NP]

Representation (3.117b) is a two argument structure involving one nominal and one prepositional complement whereas (3.117a) is a nominal small clause structure. In (3.117a) NP is in a position typical of a small clause subject; it receives its predicate theta role from the nominal head of the small clause. But because small clauses have no functional heads their subjects cannot receive Case from within small clauses and take it from the matrix verb across the small clause boundary which is not a barrier (it is selected by a lexical category, therefore L-marked). Accordingly, NP_{ACC} in (3.117a) receives its Case from the verb.

Small clauses in Polish are very important in the discussion of lexical/nonlexical passives. One of the characteristic features of lexical passives is their locality: they overlap with the theta marking domain of the Case assigning (checking) lexical head. Because both of these processes are dependent on head government, lexical passives apply to arguments within the m-command domain of their head. Subjects of small clauses, as elements theta marked by heads of small clauses, are not placed in the theta marking domains of matrix verbs. Consequently, a passive affecting a subject of a small clause cannot be a lexical passive, for it is not local: the subject of the small clause belongs to the argument structure of its head. If not lexical, such a passive transformation must be a fully fledged syntactic NP movement (we omit irrelevant details of the structure, e.g. obligatory transition through [Spec,VP] required by RM and breakdown of Infl into Agr and Tense):

(3.118) a. [$_{IP}$ Tomek [$_{I'}$ byl [$_{VP}$ wybrany [$_{NP}$ t [$_{NP}$ prezydentem]]]]
Tomek was elected president

b. [$_{IP}$ Tomek [$_{I'}$ zostal [$_{VP}$ wybrany [$_{NP}$ t
Tomek became elected
[$_{NP}$ prezydentem]]]]]
president

The matrix verb is in the form of Past Participle and as such it cannot assign Accusative Case to the subject of the small clause. The clausal subject position is base generated as empty to satisfy the Extended Projection Principle, the external theta role of the verb is absorbed by (assigned to) the passive auxiliary. The subject of the small clause is forced to raise to [Spec,AgrP] to receive Case and satisfy the Case Filter. (3.118) can be used as evidence for transformational passive NP movement in Polish. The other three verbs show identical passive patterns:

(3.119) a. Jan zostal mianowany [$_{NP}$ t [$_{NP}$ prezydentem]]
John became appointed president

b. Jan zostal ogloszony [$_{NP}$ t [$_{NP}$ zwyciezca]]
John became announced winner

c. Jan zostal uznany [$_{NP}$ t [$_{NP}$ przywodca]]
John became considered leader

The alternative representations of the argument structure can be also passivized but because the direct object in (3.117b) is in the theta grid of the verb, the resulting passive could be lexical, along the lines of Zabrocki (1981):

(3.120) Jan zostal mianowany na prezydenta.
'John became appointed for president'

where John is an external argument of the passive participle/adjective.

There is a marginal number of constructions in Polish showing surface structure adjectival small clauses, for example:

(3.121) a. Sedzia oglosil [$_{AP}$ Jana [$_{AP}$ winnym]]
judge announced John guilty

b. ?Tomek uznal [$_{AP}$ Jana [$_{AP}$ genialnym]]
Tomek considered John ingenious

Consistently, oglosic/announce does not allow the nominal object/prepositional object combination but uznac/consider does:

(3.122) a.? Maria oglosila Jana za winnego wypadku.
Mary announced John guilty of accident

b. Lekarze uznali dziecko za zywe/*zywym i przystapili do reanimacji.
doctors considered child as alive/alive and embarked on resuscitation.

The passive counterparts of (3.121) involve syntactic NP movement:

(3.123) a. Jan zostal ogloszony [$_{AP}$ t [$_{AP}$ winnym]]
John became announced guilty

b. Jan zostal uznany [$_{AP}$ t [$_{AP}$ genialnym]]
John became considered ingenious[29]

3.7.2. Verbal Passives

If we examine the regular passive formation in Polish, some asymmetry between the application of two passive copulas byc/be and zostac/become emerges. Copula byc/be can appear with both perfective and imperfective participles while zostac/become cooccurs only with perfective passive participles:

(3.124) a. Jan byl bity.
b. Jan byl pobity.
John was beaten (up).
c. *Jan zostal bity.
d. Jan zostal pobity.
'John became beaten (up)'

Zabrocki (1981) admits that participles of perfective verbs could be treated as verbal elements, not adjectives but it would still not undermine a lexical analysis of passives. The consequences of this distinction between the two passive copulas are very welcome from our point of view. It is commonly agreed (Chomsky 1981) that lexical passive is involved with passive participles/adjectives preceded by negative prefixes un/in- in English and nie- in Polish:

(3.125) a. Antarctica is uninhabited.
b. Janek byl niepokonany.
John was not beaten
John was invincible.

Since both uninhabited and niepokonany have no active verb equivalents, they are regarded as adjectives, separate entries in the lexicon. It is intriguing then that the passive auxiliary zostac/become does not tolerate these adjectival complements:

(3.126) a. *Jan zostal niepokonany.
John became not beaten
b. Jan nie zostal pokonany.
John not became beaten
c. Jan pozostal niepokonany.
John remained invincible

(3.126) is a very clear case, the passive auxiliary zostac/become followed by a base derived adjective cannot have a perfective reading (3.126b). This meaning can be rendered by a slightly altered construction with Negation preceding the auxiliary. (3.126a) can be regarded as grammatical only if the auxiliary is understood as a reduced form of the verb pozostac/remain (3.126c) which can be followed by an adjective. In this sense the verb pozostac/remain is a copula verb like be. The incompatibility of auxiliary zostac/become with adjectives constitutes an argument against treating it on a par with byc/be as a copula selecting adjectival phrases. This fact was observed in Zabrocki (1981) who however argued that verbal passives could still be base derived. We propose that in view of the presence of other cases of NP movement in Polish syntax these passives can receive a more natural interpretation as syntactic passives involving NP movement[3031].

3.7.3. Raising

As it has been shown, there are substantial reasons to believe that NP movement operates in Polish syntax in the derivation of simple clauses and Theme subject constructions. Analogously, another borderline construction which was supposed to be a base derived control structure, can be considered a regular syntactic NP movement operation: Raising.

There are three raising verbs in Polish, of which two have a wide range of application: wydawac sie/seem and zdawac sie/appear[32], which seem to meet all the requirements of raising predicates:

(3.127) a. they assume selectional restrictions of their complements and have no selectional restrictions of their own with respect to their subjects:

Jan wydaje sie byc zakochany.
John seems to be in love.
??Lisc wydaje sie byc zakochany.
Leaf seems to be in love.

b. They can take expletive subjects:

Jan wydaje sie byc chory.
John seems to be ill.
pro wydaje sie [ze Jan jest chory]
(it) seems that John is ill.

c. They allow as their subjects the subjects of the predicates which are their complements:

- weather pro
  pro wydaje sie padac
  (it) seems to rain
- idiom chunks
  Szydlo wydaje sie wychodzic z worka.
  needle seems to be getting out of sack
  The truth seems to be revealed.

The lexical base derived analysis of these constructions as cases of subject control was motivated by their low productivity. Wydawac sie/seem can select three types of complements: APs, IPs and CPs,

(3.128) a. Maria wydaje sie [$_{AP}$ chora]
  Mary seems ill.
b. Maria wydaje sie [$_{IP}$ byc chora]
  Mary seems to be ill.
c. pro wydaje sie [ze Maria jest chora]
  (it) seems that Mary is ill.

The type of the adjectival head of AP selected by wydawac sie/seem is not limited. Neither is the content of the CP complement. However if this raising predicate is followed by IP, it usually selects predicative IPs with the copula verb. The selection of IP complements is very idiosyncratic, for apart from byc/be certain other verbs seems to be fairly compatible with it:

(3.129) a. Jan wydawal sie wczoraj pracowac do pozna.
  John seemed self yesterday work till late
  John seemed to work till late yesterday.

b. Pan wydaje sie nie rozumiec o co chodzi.
  you sir seem self not understand about what matters.
  You don't seem to understand what the matter is, sir.
c. ?? Maria wydawala sie calowac Jana.

Mary seemed self kiss John
Mary seemed to kiss John.

d. ?? Maria wydawala sie siedziec na krzesle.
Mary seemed self sit on chair
Mary seemed to sit on the chair.

Judging from the above examples, lexical selection is involved. It applies to the verb within the embedded IP: wydawac sie/seem is compatible with some but rejects others. If a given verb is compatible with it, the syntactic process of raising applies. We propose that the process of the embedded clause VP selection relies on subsequent head/head coindexation holding between the raising predicate, infinitival Infl and V. Thus the D-structure representation of (3.128a) is as follows:

(3.130) [$_{IP}$ __ [$_{VP}$ wydawac sie [$_{AP}$ Maria [$_{AP}$ chora]]]]

The raising predicate selects the AP small clause as its complement. The subject of the small clause Maria/Mary receives its theta role from its adjectival head but is unable to assign case to it. Nor is the matrix verb able to assign Accusative Case because it is intransitive. Maria/Mary raises to [Spec,AgrP] through [Spec,VP] to receive Nominative Case there.

The derivation of the surface string in (3.128b) is one step longer, for it encompasses a longer NP movement operation. If copula be is a raising predicate the relevant D-structure representation is as follows:

(3.131) [$_{IP}$ [$_{VP}$ wydawac sie [$_{IP}$ [$_{I'}$ byc [$_{AP}$ Maria [$_{AP}$ chora]]]]]]

Maria/Mary undergoes NP movement in three steps, first to [Spec,AgrP] of the lower raising predicate but because this position is not a Case position in an infinitival, it is forced to move to [Spec,VP] of the raising verb. Here it cannot receive the Nominative Case either with Tense unable to assign Case in these circumstances. Finally, the NP moves to [Spec,AgrP] of the matrix clause where it is assigned Nominative.

A similar D-structure representation was proposed for idiomatic phrases in Zabrocki (1981) to account for the meaning preserving property of wydawac sie/seem with idioms.

The base derived core constituent of both:

(3.132) a. Gra wydaje sie byc warta swieczki.
The game seems to be worth the candle.
b. Gra musi byc warta swieczki.
The game must be worth the candle.

is supposed to be:

(3.133) Gra... byc warta swieczki[33].

which can be modified by various verbal elements. We assume that because byc/be is subject to alterations as well, thus it is not a part of the idiom as predicted by the Idiom Principle, the core of

the idiomatic phrase is the small clause:

(3.134) [$_{AP}$ gra [$_{AP}$ warta swieczki]]

whose subject raises to [Spec,IP] to receive Case. Thus the meaning of idioms in Zabrocki's (1981) approach and our analysis is preserved by different mechanisms although D-structure representations are very similar; the former analysis relies on the possibility of the insertion of sentence modifying phrases, while ours involves NP movement, raising from the small clause subject position.

3.7.4. NP Movement at LF

Our final argument for NP movement in Polish comes from the interpretation of presentational pro at LF. If, as we assumed earlier, non argument pro in Polish is comparable with English presentational there, in order to be fully interpreted at LF, this pro must be accompanied by a coindexed (cosuperscripted) NP. Chomsky and Lasnik (1991) propose the following account of this LF NP movement:

(3.135) a. There arrived a man into the room.
b. [There, a man] arrived t into the room.

(3.135a) is an S-structure representation and (3.135b) is an LF representation. The expletive is base generated in [Spec,IP] to satisfy the Extended Projection Principle and it is a grammatical subject. The coindexed NP is the logical subject. The apparent paradox is that the verb agrees in F-features with the noun phrase that follows it although there remains the same, irrespective of the features of the grammatical subject. Chomsky and Lasnik propose that the S-structure agreement is a reflex of LF agreement which holds between [Spec,IP] and Infl following the raising of the lexical subject to form and "amalgamated expletive" [there,a man]. Since the expletive occupies an A position at S structure, the LF movement forming an amalgamated expletive is an A movement (NP movement).

Relying on our earlier assumptions, we can claim that exactly the same process takes place in Polish:

(3.136) a. pro nastapila cisza.
(there) followed silence
b. [pro, cisza] nastapila t.

In both (3.136a-b) subject/verb agreement holds irrespective of the position of the subject. In the VS order we treat this concord as an S structure manifestation of the LF NP movement. At LF the logical subject raises from [Spec,VP] to [Spec,AgrP] to secure the interpretation of the expletive pro. This raising to [Spec,AgrP] is an A (NP) movement. This subject/verb agreement proviso complements our earlier discussion of long and short NP movement in Polish ergatives (section 3.6.). In the previously discussed cases NP

movement took place between D and S structure and was motivated by the conspiring principles of theta theory and Case theory. In this case NP movement occurs to assure that the principle of Full Interpretation is observed, for the moved NP is in a theta and Case position at S structure, prior to its raising to the clausal subject position.

3.8. Summary and Conclusions

In summary, we would like to claim that the hypothesis that the NP movement operation is unavailable in Polish syntax is difficult to maintain in view of the presented arguments. Subjects in Polish seem to originate within VP (in the subject position of VP small clause) at D structure as in English and then subsequently raise to the clausal subject position to receive Case, as predicted by the VP internal subject hypothesis. There seem to be both causative/unaccusative pairs in Polish and plain one argument verbs which means that by UTAH and the Unaccusative Hypothesis of Perlmutter and Burzio these constructions involve NP movement, raising of the single argument marked Theme from the object position to the subject position; a one argument unaccusative verb is unable to assign case to its object which as a consequence undergoes movement resembling the passive transformation.

We have also provided a substantially independent argument based on certain word order and Wh extraction facts in the alleged Polish ergative constructions, rather straightforwardly accounted for by means of NP movement. We have postulated the existence of two types of NP movement in these constructions: short and long NP movement with [Spec,VP] and [Spec,AgrP] as their A landing sites respectively.

All the idiosyncrasies involved in NP movement related processes in Polish are purely lexical in the sense that a given item either selects a configuration to which a general syntactic process of NP movement applies (nominal small clauses, raising predicates) or the one to which they do not apply; other independent factors make NP movement in these environments redundant.

Therefore, it is possible to reanalyze certain constructions in Polish as involving "overt" NP movement; passivization of NP small clauses, raising and passives involving the passive auxiliary zostać/become. As a result passive participles can be regarded as verbal, not adjectival forms, and preserve their argument structure essential in the syntactic account of passives.

Following Chomsky and Lasnik's (1991) account of LF A movement of arguments coindexed with expletives, we presume that there is also LF NP movement in Polish in corresponding constructions involving nonargument pro. Unlike the NP movement between D and S structure which is motivated by Theta and Case theories, NP movement at LF helps to satisfy the principle of Full Interpretation by which all arguments (or their traces bound by A/A' operators) should be in argument positions at that level of interpretation and no expletive elements are allowed.

Certainly we do not want to claim that all passive constructions in Polish involve syntactic movement. The lack of Exceptional Case Marking constructions and a rich system of morphological case and inherent case marking considerably confine the possibility of structural Case marking and structural passivization. Probably, as demonstrated in Zabrocki (1981), this language extensively uses base generation strategy for passive constructions (for example it also has passive idioms which are adjectival) but we believe to have shown that syntactic NP movement is available[34].

Notes

1. The translation (3.4b) of English (3.3b) shows the structural contrast between the two languages where the complements of the enumerated verbs in English are adjectives but adverbs or prepositional phrases in Polish.

2. In the present study we are concerned only with nonpronominal Empty Categories and will not investigate the role of various semantic types of pro. For the directory of impersonal pro functions see Fisiak, Grzegorek and Zabrocki "An Introductory Polish-English Contrastive Grammar", 1979.

3. Boniewicz (1978) observes that in Polish the alleged raising predicates select only stative verbs and very reluctantly dynamic verbs. As we develop our account of these cases in further sections of this chapter, we credit this fact to selective properties of raising heads imposed on their complements.

4. In English raising freely affects idiom chunks. Similarly in Polish the quasi raising predicates do not influence the meaning of idiom chunks:

Gra jest warta swieczki.
The game is worth the candle
Gra wydaje sie byc warta swieczki
The game seems to be worth the candle.

This fact can cause problems for the lexical control approach, for if the idiomatic expression were to be listed in the lexicon with all its possible modifiers and in all possible mutations, it would lead to an unwelcome complication of the lexicon. But Zabrocki (1981) suggests that the idiom be listed in the lexicon in the following basic form:

Gra...byc warta swieczki

and can later appear with various sentence modifiers which do not obliterate its idiomatic meaning, such as:

wydawala sie/seem, musiala/must, zaczela/began, zaczela wydawac sie/began to seem, etc.

5. The indirect object in dative seems to fulfil the function of the syntactic subject. Dyla (1979) claims that these indirect objects in Dative occupy the subject position at a certain stage in the derivational process. This could be confirmed by cases of Equi-NP deletion (earlier equivalent of PRO control) and anaphor binding. Both of these processes are subject controlled in Polish. (b) is a typical subject control structure with the deleted NP controlled by mi/me/DAT. One of the peculiar features of Polish syntax is that it freely allows Opacity (Specified Subject Condition) violations but binding is subject orientated and strictly observes the NIC. Thus in (a) the reflexive pronoun

sobie/self, can refer to both the clausal and the nominal subject:

(a) (Ja) chcialem Marka ksiazke o sobie.
I wanted Mark's book about (my)self.

The dative subject retains the capacity to bind a reflexive:

(b) Chcialo mi sie Marka ksiazki o sobie
wanted me/DAT Mark's book about (my)self.

To counter Dyla's arguments Zabrocki (1981) gives examples of Equi-NP deletion and anaphoric binding from the position of Indirect object, not subject.

6. There can be superficial counterexamples to the claim that modal verbs and Infl are raising predicates in Polish in the form of:

a. *? Sniegowi nie wolno padac
snow must not fall
b. *? Szydlu nie wolno wyjsc z worka.
needle must not leave sack
The truth must not be revealed.
c. *? Szydlu nalezy wyjsc z worka.
needle ought to/should leave sack
The truth should be revealed.

The fact that certain verbs in Polish corresponding to modal verbs in English do not take weather pro/it and do not preserve the meaning of idiom chunks shows that they are not true raising predicates and not true modal verbs either.

Nie wolno/must not and nalezy/ought to for example show selectional restrictions with respect to their subjects which have to be [+animate] and display other syntactic peculiarities such as the lack of inflection. These verbs do not simply qualify as modal verbs/raising predicates (see Zabrocki (1979) for a detailed analysis of modal verbs in Polish) but clearly recent developments in the GB theory warrant an updated study of the Polish verbal system.

7. Although Koopman and Sportiche's (1991) analysis assumes the existence of a uniform Inflection Phrase, it can be easily decomposed into a sequence of functional projections AgrP, TenseP and NegP (their order subject to parametric variation) which are all raising predicates.

8. Koopman, Sportiche (1991) do not define precisely whether [NP,Vmax] is a specifier position, base derived adjunct position of a small clause subject or [Spec,VP]. They present three alternatives:

a. Vmax = VP and NP* is adjoined like in a small clause structure (Manzini 1983)

b. Vmax is a further projection of V, similarly to the X' theory of Jackendoff (1977). V would then project in the following way: V, V', V''=VP, V'''=Vmax. This view was advocated in earlier versions of Koopman, Sportiche (1985, 1988).

c. Vmax = VP and NP* is in the specifier position of VP [Spec,VP].

9. Here we use the term "small clause" in its general meaning and we are aware of the fact that Chomsky (1981) treated all four types of small clauses as non-maximal S projections, where S' is a maximal projection. Small clauses resemble regular clauses but they lack the functional head Infl.

For Stowell (1983) there are four basic types of small clauses which share the same structure. He demonstrates that different predicates s-select and c-select different types of small clauses:

We feared [John [drowned]]
We appointed [Bill [chairman]]
*We feared [Bill [chairman]]
* We appointed [John [drowned]]

The internal structure of small clauses of an XP type is:

$[_{XP}$ NP $[_{XP}$ ...X...]]

where NP is the subject of the small clause bearing the external theta role assigned by the head X.

We are also aware of Williams (1983) criticism of the small clause theory on the basis of the predication theory of Williams (1980). His theory of predication defined subjects as:

The subject of a predicate phrase XP is the single argument of X that located outside of the maximal projection of X.
$[_{M}$ NP $[_{XP}$...X...]]
(Williams 1983:287)

By this definition small clause predicates should not form syntactic constituents with their subjects. By the same definition however, subjects should be positioned outside AgrP (IP), not in the [Spec,IP] position which is still included in the maximal projection of the head.

10. The relevant examples come from Roberts (1993):

(a) Gwelodd y plentyn geffyl.
'saw the child horse'
(b) Y mae'r plentyn yn gweld ceffyl.
'Prt is-the child in see horse'
the child is seeing a horse

(a/b) come from Welsh and demonstrate the VSO and the Aux SVO word orders.

(c) Diesen Roman las ich schon letztes Jahr.
'this book read I already last year'
(d) dass ich schon letztes Jahr diesen Roman las
'that I already last year this book read'

(c/d) come from German and show a V2 word order in a matrix clause and the verb final word order in the subordinate clause.

11. In Classical Arabic both orders VSO and SVO are possible, however in the VSO order the verb shows no agreement with the nominal subject and displays a default number agreement (3rd person singular). In the SVO order however the verb fully agrees with the subject. If agreement is a morphological reflection of spec/head agreement between Infl/Agr and its specifier position, the form of the verb in these two cases can be accounted for. In the VSO order the verb moves to Infl via head to head movement but default agreement features on the verb are due to the fact that Infl/Agr has no specifier (its position can be assumed to be either empty or, according to Fukui, Speas (1988) the functional projection Infl/Agr does not project to the X'' level; if its specifier position is empty). In the SVO order the subject in [Spec,Infl(Agr)] triggers off morphological agreement via spec/head agreement.

12. In VSO languages such as the Celtic languages and Arabic, Infl assigns Nominative Case under government, similarly to lexical heads V and P. Analogously to Exceptional Case Marking in small clauses, Infl assigns Nominative to NP* directly which can remain in situ within Vmax. V raise to Infl and the VSO order results.

In infinitival clauses PRO originates in NP* accordingly and it has to follow the raising path of lexical NPs for a different reason. Although tenseless Infl is not a Nominative Case assigner, it is still a head with a government capacity (just like tensed Infl). The PRO Theorem of Chomsky (1981) precludes PRO from a governed position so that it has to escape from the head government domain of Infl by raising to [Spec,IP] where it is Caseless and ungoverned in infinitivals. PRO surfaces in [Spec,IP] in accordance with the PRO Theorem.

13. Pesetsky (1990) claims that [NP,IP] is an A' position and that all subjects originate in the VP internal position:

a. Who will John see t
b. John will see Bill
c. * Bill_{obj} will John_{subj} see t

According to Pesetsky Infl assigns Nominative Case under government, thus NP* is an A position and in a. John receives Case from Infl. In b. the movement from NP* to NP^ creates an A' chain, starts in an A position and ends in an A' position. c. is excluded

for NP^ is a position either of subjects or Wh elements, very much like [Spec,CP]. Pesetsky claims that the CP level is activated only in subordinate clauses and intermediate traces of movement land in [Spec,CP]. In [+root] contexts the CP level is not activated in syntax and NP^ is the position occupied by A' specifiers.

14. According to Koopman and Sportiche the properties of A and A' positions are as follows:

a. Movement to an A (subject) position observes the

Specified Subject Condition as a form of Relativized Minimality; movement to an A' position does not.

b. Movement to an A position always starts from an A position which is not always true for a movement to an A' position.

c. Movement to an A position proceeds from a Caseless position; movement to an A' position must proceed from a Case marked position (if it starts in an A position).

d. An A position is a Case position; an A' position cannot be a Case position.

e. Movement to an A position does not license parasitic

gaps; only movement to an A' position does.

f. Movement to an A position does not produce Weak Crossover Effects:

Jego$_i$ ojcu on$_i$ wydawal sie t$_i$ chory.
'his father/DAT he seemed ill'
To his father he seemed ill.

Movement to an A' position may produce WCO effects.

g. A positions qualify as binders for lexical anaphors whereas A' positions cannot.

In Chomsky and Lasnik (1991) the argument status of the [Spec,AgrP] position is based on the fact that Agr is an L-related head (it contains some lexical properties required by the verb). Its specifier is also L-related, in this position the external argument of the verb can show in the surface string.

15. Koopman, Sportiche argue that in English Infl can assign Nominative only under agreement. For an alternative view, see Cardinaletti and Roberts (1991), Roberts (1993) where Agr can assign Nominative in English both under agreement and government but Agr has features of a governed Case assigner only following its raising to Comp. Otherwise NP^ receives Nominative Case under

agreement and NP^ is the only position to which the subject can raise assuming that [Spec,TP] is an A' position. This is how subjects receive Case in V2 contexts in German if they do not occupy the sentence initial position. In Chapter 7 we claim that such a situation is impossible in Polish where subject/Auxiliary inversion is a purely stylistic variation, unlike in English.

16. Ne cliticization facts in Italian can be illustrated in their basic form as follows:

a. Giacomo ha insultato due studenti.
Giacomo has insulted two students.

b. Giacomo ne ha insultati due.
Giacomo of-them has insulted two.
Giacomo has insulted two.

c. Giacomo ha parlato a due studenti.
Giacomo has spoken to two students.

d. *Giacomo ne ha parlato a due.
Giacomo of them has spoken to two.
Giacomo has spoken to two.
(examples from Haegeman 1991:299)

17. According to the standard view of the GB theory, the Agent theta role and the accusative Case marking properties of the passive participle are "absorbed" by the passive morphology. Baker adopts the views of Jaegli (1986) and Roeper (1984) that the verb external theta role is actually assigned to the passive morpheme in the usual way. In English it can be (marginally) an antecedent for reflexive pronouns:

Such a privilege cannot be kept to oneself.

The passive morpheme as an "implicit argument" can control PRO, mainly in adjunct clauses:

The bureaucrat was bribed [PRO to gain special privileges]

The active counterpart of this construction, devoid of the passive morpheme as an external argument, is ungrammatical:

*Bureaucrats bribe easily to gain special privileges.

18. UTAH does indeed seem to be a very powerful principle of grammar but its predictive power has its limitations. Recently Rozwadowska (1991) observed certain facts in the realm of Polish nominal constructions challenging the omnipotence of UTAH; external arguments in nominalizations of transitive verbs may not surface as possessives (as in English) but only as adjunct przez/by phrases.

However we do not believe that this observation in any way refutes UTAH, it rather shows certain peculiarities of NPs as

predicates. In standard cases of verbal predicates UTAH seems operational.

19. Similar use of si in Italian can be illustrated by means of the following example:

(a) Le vacanze Giovanni se le sogna.
(the vacation) Giovanni to himself them dreams.
As for a vacation, Giovanni dreams about it.

which can be rendered in two ways in Polish, with or without a reflexive pronoun which is in its full Accusative form instead of that of a reflexive particle:

(b) a. Jesli chodzi o wakacje, Jan marzy o nich.
b. Jesli chodzi o wakacje, Jan marzy sobie/himself o nich.

Burzio treats such constructions as (a) as involving si as base derived:

"...it may not seem too implausible to treat these case as idiomatic, essentially like idioms."
(Burzio 1986:42)

20. Note a very curious property of impersonal pro plus sie/self in (3.88a); the object is a true direct object in Accusative while in (3.88b) it cannot appear in Accusative but in Genitive. The placement of negative particle nie/not triggering obligatory Genitive of Negation on Accusative reveals this difference.

21. The basic reason behind this assumption is that there is no Wh extraction from the subject position of clausal complements in Polish. In chapters 5 and 7 we claim that this position is not properly head governed. The placement of the subject NP in a VP adjoined position would make it available for proper head government from Tense and available for extraction.

22. This test does not seem as reliable as the syntactic ergativity tests in Italian because for some speakers of Polish extraction from subjunctive or even indicative clausal complements is acceptable. However for the speakers who do not allow random extraction from clausal complements, the regularities which we have presented hold and can be regarded as indicative of the unaccusative character of these verbs.

23. Belletti (1988) notes that unaccusative verbs in the sense of Burzio (1986) lose only the ability to assign structural Case such as Accusative but retain the capacity of assigning inherent Case , coupled with the assignment of theta roles in the same m-command domain of the verbal head.

Belletti observes that the single arguments of unaccusative verbs can be marked by feature DE (in)definiteness:

a. there arrived a man.
b. *there arrived the man.

The indefinite article is tantamount to the existential quantifier some which in turn serves to render the function of Partitive Case in English. Belletti argues that unaccusative verbs are still able to assign Partitive Case to their arguments and that i-subjects of ergative verbs in Italian receive Ergative Case from the verbs instead of Nominative from Infl.

Burzio (1986) suggested the following configuration of i-subjects in Italian, where they are supposed to receive Nominative from Infl under government:

IP

pro_i I'

Infl VP

V NP_i
unaccusative

Belletti (1988) claims that Infl is unable to mark NP_i for Nominative, for it is beyond the government domain of Infl, where VP is a Minimality Barrier between Infl and NP_i. NP_i is then assigned Partitive Case by the verb which allows it to escape the Case Filter and be Wh moved.

24. A corresponding analysis of the Infl (Nominative Case assignment) parameter under the split Infl hypothesis is proposed in Roberts (1993). The setting of the parameter(s) for Italian is the same as for Polish.

25. It is worth mentioning that the parameter setting in (3.111) is different for English where Tense is never able to assign Case but Agr can do it both ways:

Agr [+agreement, +government]
(Roberts 1993)

26. Another issue concerns economy of derivation. Instead of the derivational process outlined above, another way could be suggested. The Theme subject of the ergative verb could first undergo NP movement to pick up Case in [Spec, AgrP], subsequently the VP could prepose and adjoin to AgrP to yield the VS word order. Finally, the subject NP could be extracted via Wh movement. We regard this longer derivation as inaccurate for two reasons. Firstly, [Spec, AgrP] in Polish is not properly head governed and extraction from this position violates the ECP. This is the reason for the ungrammaticality of subject extraction from subjunctive complements in Polish. Secondly, the extraction from the postverbal position of ergative verbs and exceptional Nominative Case marking of i-subjects compares very well with the extraction of objects of

transitive verbs from subjunctives. These two cases seem grammatical for the same reason: they are both properly head governed.

27. Burzio (1986) notes that there is an obvious difference between ergative/unaccusative verbs and passive participles reflecting differences in their argument structure. The passive participles can take by phrases denoting the agent while ergative/unaccusative verbs cannot:

The ship was sunk by the navy.
*The ship sank by the navy.

Burzio follows Maranz's (1981) idea that the argument structure of passive participles is identical with that of active verbs and they retain the capacity to assign the subject theta role although they cannot assign it to the subject position. This subject theta role can be assigned without referring to any structurally defined position.
Thus both ergative/unaccusative verbs and passives fail to assign a theta role to the subject position but passive participles can still assign the subject theta role to an by adjunct.

28. Polish shows a full range of adjunct small clauses:

a. Jan przyszedl do nas [PRO zawiedziony swoja porazka]
John came to us disappointed with his failure.

b. Jan wstal [PRO ziewajac okropnie]
John got up yawning horribly.

c. Jan wrocil do domu [PRO pijany]
John returned home drunk

We base our analysis of small clauses on the work of Chomsky (1981), Stowell (1981) and Haegeman (1991). However it is not really clear that the nonlexical subjects of these adjunct small clauses are PROs because they are weakly c-commanded (m-commanded) by the verbs. It can be argued that these subjects are pros rather than PROs, for they appear in governed contexts.

29. There is an archaic construction in Polish involving AP small clauses selected by verb znalezc/find in the sense of consider, regard as:

pro znalazlem [$_{AP}$ Jana [$_{AP}$ wesolym]]

However this verb did not have its passive equivalent in this meaning:

*Jan zostal znaleziony wesolym.

30. Zabrocki (1981) devotes a lot of attention to the differences

between passive transformations in English involving movement from the verbal object position and corresponding Polish constructions such as:

a. Andrew was thanked t for his support by Mary.
* Andrzej byl podziekowany za poparcie przez Marysie.

b. Mary was told an interesting story by Bill.
* Marysia byla opowiedziana interesujaca historie przez Billa.

c. John was expected to win.
* Jan byl spodziewany wygrac.

Now it is assumed that syntactic passive concerns only structural Case assignment (Nominative) or its lack (Accusative). Inherent case assignment overlapping with theta marking domain of a given head is not affected by the form of the verb. NP movement takes place only from a potentially Accusative marking position. The number of these positions in English is much bigger than in Polish as English verbs unanimously assign abstract Accusative Case to their direct objects while Polish verbs are different in this respect.

31. Recent developments in the study of functional heads and their projections have made it possible to account for the adjectival character of passive participles following the passive auxiliaries. It is an empirical fact that these participles decline in an exactly identical way as adjectives and adjectives/passive participles seem to be used both attributively and predicatively (see 3.3-4). Despite their identity, participles and adjectives can be still kept apart on the basis of the following assumption: adjectives in their attributive use are modifiers of nouns and agree in case with the nominal heads they modify. Thus the morphological case identity with the nouns is possible due to case checking under agreement. In Polish agreement is a feature of specification/modification relation as opposed to complementation which takes place under government. For the sake of this case we can follow this elaborate sentence structure of Chomsky (1988. 1991 a, 1991 b, 1992), differing slightly from the one we assumed in our mainstream argumentation:

(a)

Agr_SP

Spec Agr_S'

Agr_S TP

Tense Agr_OP

Spec Agr_O'

Agr_O VP

Agr_O is available to check object agreement between the verb and its object. Neither in English nor Polish is Agr_O overtly active with active verbs. In his recent papers Chomsky argues that [Spec, Agr_OP] is the position where Accusative Case is assigned (checked) by he verb. As he claims both structural cases Nominative and Accusative are assigned in [Spec, Agrp] positions of two different agreement projections. Assume that if a transitive verb has no Accusative case to assign (because it is in the form of the passive Participle) the Np raising to [Spec, Agr_OP] on its way to [Spec, Agr_SP] triggers off agreement with the participle which shows the F-features (person, gender, number) of the noun phrase. Hence the familiar pattern:

(b) Chlopiec zostal zaproszony.
boy 3rd/ps/mas became invited 3rd/ps/mas

(c) Dwoch chlopcow zostalo zaproszonych.
two boys 3rd/ppl/mas became invited 3rd/ppl/mas

Assume that the D-structure object triggers agreement (shares its F-features) twice: first with the passive participle via transiting through [Spec, Agr_OP] and second when it reaches [Spec, Agr_SP] and agrees with the passive auxiliary. This situation can be expected, for the passive auxiliary also agrees in F-features with the subject. By virtue of transiting through two specifier positions of two distinct agreement projections, the noun phrase enters into agreement relations with them independently.

These relations of agreement are identical in both cases and so are the F-features shared. As Chomsky (1992) claims, Agr_S and Agr_O are equally weak/strong in a given language; they can be thought of as two identical bundles of F-features.

This assumption has vital consequences for identifying past participles with adjectives on the grounds of their identical agreement features. If the agreement process for both objects (which remain in the relation of complementation to the past participles) and subjects/modifiers (including adjectives) is virtually identical, the similarity between participles and adjectives is due to the fact that essentially in F-features Agr_S = Agr_O.

The identity of both Agrs produces the same agreement features on the participle and the auxiliary. The same agreement process is involved in the modification of nominal by adjectives. Thus:

(d) zaproszony Agr gosc
invited/3ps/mas guest 3ps/mas

(e) Gosc zostal [$_{AgrO}$ zaproszony]
guest/3ps/mas got invited/3ps/mas

Instead of claiming that in both cases zaproszony/invited is

an adjective (or at least not a verb) we can state that the two agreement processes involved are identical.

In a language that fully displays morphological case, we should expect Case to be among F-features; it shows on attributive adjectives but it fails to show on past participles which are always compatible with Nominative. This can be accounted for if the D-structure object of a passive participle has no Case (assigned/checked) and cannot leave its print in [Spec, Agr_O] to be transmitted onto the participle which is not marked for case. Once NP receives Case it becomes another F-feature and is transmitted via agreement to attributive adjectives:

(f) Maria przywital zaproszonego goscia.
Mary greeted invited/ACC guest/ACC

(g) Maria uklonila sie zaproszonemu gosciowi.
Mary bowed self invited/DAT guest/DAT
Mary bowed to the invited guest.

32. The third verb okazywac sie/turn out seems to have the strictest selectional restrictions on the following complements and can be practically followed only by a CP, AP or an IP containing copula byc/be.

33. As Zabrocki (1981) shows, the type of verbal material between the subject and the adjective in this particular idiom and others can be quite varied. Under our analysis it would follow, that only raising predicates are allowed in that position if the idiomatic meaning of the phrase is to be preserved. Therefore for example:

a. Gra musi byc warta swieczki.
The game must be worth the candle.
b. Gra zaczyna byc warta swieczki.
The game begins to be worth the candle.

The first example is not problematic, for as we showed earlier true auxiliary verbs are raising predicates. Example b. is compatible with our assumptions only if zaczynac/begin is a rasing verb in Polish. As we can see, it preserves the meaning of idiomatic phrases. It can also occur with the weather pro:

c. pro zaczyna padac.
(it) begins to rain.

However it cannot take nonargument subjects:

d. *pro zaczyna sie [ze Jan pracuje]
(it) begins that John works.

If zaczynac/begin is a subject control verb, it stands out as a member of this class, for it apparently does not select any external argument and allows the argument of its complement to become its argument. Other typical subject control verbs as

chciec/want contrast with zaczynac sharply in that they do not preserve the meaning of idioms:

e. ?*oliwa chce byc sprawiedliwa.
oil wants to be just

nor do they cooccur with the weather pro:

f. ?*chce padac.
(it) wants to rain.

Apparently, chciec/want selects its subject which has to be [+animate].

It appears that zaczynac/begin acts like a defective raising predicate.

34. See Willim (1990) for an analysis of the Case system in Polish also assuming some syntactic passives (NP movement).

Chapter 4

Extraction from Nominals in Polish and English

4.1. Introduction

The semantic and syntactic composition of Nominal Phrases has received much attention in GB literature since Noam Chomsky's "Remarks on Nominalization" (1970). The syntactic properties of nominals vary among languages. For our purposes, the most evident difference concerns the fact that they allow for extraction of their modifiers and specifiers in such languages as Italian, Spanish and Polish but not in English, German and Dutch. The following set of examples should illustrate the similarities and differences between extraction from nominals in English and in Polish:

(4.1) a. O kim czytałeś [książkę t]?
b. About whom did you read [a book t]?
(4.2) a. *Kim czytałeś [książkę o t]?
b. Who did you read [a book about t]?
(4.3) a. Czyj widziałeś [portret t]?
b. Who did you see [a portrait of t]?
(4.4) a. Czyj widziałeś [portret Iwony t]?
b. *Whose did you see [t portrait of Ivonne]?
(4.5) a. * O kim czytałeś [książkę Piotra t]?
b. *About whom did you read [Peter's book t]?
(4.6) a. Jaka Iwona miała [t sukienkę]?
b. *What did Ivonne have [t dress]?
(4.7) a. [Ilu żołnierzy] widziałeś t ?
b. How many soldiers did you see?
(4.8) a. Ilu widziałeś [t żołnierzy]?
b. *How many did you see soldiers?
(4.9) a.*Czego denerwuje mnie [twoje pisanie t]?
b.*What irritates me your writing?
(4.10) a.*Czego denerwuje mnie [pisanie t przez Jana]?
b.*What irritates me John's writing?

As (4.1) shows both Polish and English allow extraction of nominal prepositional complements but on the condition that the nominals are unspecified (see (4.5)). Polish does not allow preposition stranding (4.2a) and in Polish Prepositions are specified as [-V] elements in Cinque's terminology. This is in line with Richard Kayne's (1983) analysis of Prepositions as structural governors in English but not in French. Exactly as in Polish, French prepositions do not allow P stranding and are not structural Case assigners or proper head governors. Consequently, they cannot properly head govern traces of their complements. (4.4) and (4.6) exhibit LBC (see (1.26)) violations, where in Polish the leftmost component of the nominal phrase can be

extracted out of this phrase to a pre IP position.

The above differences can be attributed to purely syntactic factors such as for example different settings of the value of the Minimality domain: narrower in Polish and broader in English (see Chomsky 1986b). Alternatively, they can be traced down to deeper semantic/thematic properties of noun phrases in both languages. Ever since Chomsky (1970) the thematic properties of nouns have been widely regarded as parallel to those of verbs. Thus the nouns were said to require an identical set of arguments as verbs. Although regarded as theta markers, nominal heads are not Case markers and therefore require the mediation of dummy prepositions (mainly of). If nominals are really theta role assigners, the contrasts in extractability from NPs in Polish and in English could be credited to the differences in the structural projection of nominal arguments or their relation to the head.

Therefore section 4.2. will be devoted to a brief discussion of the thematic structure of nominals in both languages. This topic is currently an issue of contentious debate and it deserves much more space. Since we are not primarily concerned with the semantics of nominals, we will only focus on syntactic consequences of different views of the semantic/thematic dress up of nominals contrasting the views of Giorgi and Longobardi (1990), Grimshaw (1990) and Rozwadowska (1991, 1992). Precise reasons for our enquiry into the thematic/argument properties of nominals will gradually become clear once we take a closer look at the syntactic projection of external arguments in transitive nominals in Polish; both as possessive pronouns and przez/by phrases they produce Specificity effects (4.9-10), rather unexpected with adjunct-like przez/by phrases. We will try to link this blocking effect of the adjunct to the suppressed external argument in the sense of Grimshaw (1990).

In section 4.3. the syntactic make up of nominals will be discussed in the light of the DP hypothesis of Abney (1987) and the coheadedness hypothesis of Radford (1991). We will claim that different Case, and government and agreement properties of Polish and English nominals warrant substantially different analyses of their structures. We will also propose a syntactic template for Polish nominals which has much in common with the DP hypothesis for Germanic languages.

The remaining section 4.4. will include a detailed analysis of extraction from the modifier and specifier positions of Polish nominals and the lack of this possibility with English nominals.

4.2. Thematic Structure of Nominals

Semantic, thematic or argument structure of nominals has been recently analyzed in two different and contrasting frameworks. Giorgi and Longobardi (1990) analyze nominals in a more traditional way as heads assigning theta roles in a manner very similar to that of corresponding verbs. Conversely Grimshaw

(1990) proposes a different analysis of nominals, involving their classification into various types. She claims that nominals are not only defective structural governors and Case markers but also defective theta markers. Only complex event nominals share an argument structure with corresponding verbs. S-selection of lexical heads depends on the level of lexical and semantic representation called lexical semantic structure (lcs). These two analyses are significant for any account of structural/syntactic properties of nominal phrases.

Giorgi and Longobardi (1990) assume that there is a direct link between the thematic structure of nominals and verbs, their D-structure projection in the form of the X′ schemata and syntactic properties.

Grimshaw's (1990) arguments demonstrate that semantic and syntactic properties of nominals are to a large extent independent of each other and the deceptively verb like properties of nominals stem from the strict and universal requirements of the X′ theory.

Rozwadowska (1991, 1992) critically analyses these two hypotheses and points out to their strengths and weaknesses evident in the description of Polish data.

In what follows, we will briefly present the relevant discussion and try to emphasize its impact on the issue of the representation of the syntactic NP template.

4.2.1. Configurational Hypothesis of Giorgi and Longobardi (1990).

We begin with Giorgi and Longobardi (1990) who follow the general assumption that nouns just like verbs have their own theta grids and nominal heads discharge exactly the same types of theta roles as main verbs:

(4.11) a. Nick deserted the British 8th Army in 1942.
AGENT PREDICATE SOURCE TIME
b. Nick's desertion from the British 8th Army in 1942.
AGENT HEAD SOURCE TIME

(4.12) a. The barbarians destroyed the city.
AGENT PREDICATE THEME
b. The destruction of the city by the barbarians.
HEAD NOUN THEME AGENT

However it seems that apart from identity of theta roles assigned by both verbs and nouns the specific procedures of theta role assignment within nominals and clauses are very different.

Major differences between nouns and verbs affecting theta role assignment are said to be as follows:

(i) the maximal projection of a nominal can be an argument which means that by the Principle of Full Interpretation it is licensed by the Theta Criterion and the Case Filter. Verbs, as predicates, are licensed by predication, i.e. by externalizing a subject argument (Rothstein's 1983 Predication Principle). It follows then that unlike clauses, nominals need not have subjects

in their theta grids, where a subject of a nominal has a role of an agent or possessor.

(4.13) a. *__ destroyed the city
THEME
b. the destruction of the city
THEME

(ii) nouns, unlike verbs, do not display any passive morphology:

(4.14) a. the city was destroyed t
b. the city's destruction t

(iii) nouns are not structural governors or structural Case assigners. They can only assign Case inherently within Nmax to elements which they also theta mark, often by means of the dummy preposition of as a direct governor and Case assigner. This assignment of Case occurs at D-structure but is realized at S-structure by the insertions of dummy prepositions or through Genitive 's. Thus while Case assignment by nominal heads is strictly local, structural Case assignment by verbs can reach within their clausal complements in the standard interpretation of ECM contexts:

(4.15) I believe [him to be honest]
*my belief of [him to be honest]
(4.16) Mary expects [us to be friendly to each other]
Mary's expectation of [us to be friendly to each other]

(Giorgi and Longobardi 1990:3)

The lack of structural government by head nouns has also further consequences and Fukui and Speas (1986) attribute to it the possibility of moving any argument or nonargument member of a nominal theta grid to [Spec,Nmax].

We deliberately keep using the node label Nmax in this section without actually specifying its syntactic character of NP or DP to avoid confusion of a simultaneous analysis of constituent and thematic structure of nominals. At present we would like to keep these two issues apart.

Thus with predicates, their subjects can be elements bearing either an external theta role (4.12 a) or an internal theta role in passive structures, but never adjuncts:

(4.17) a. The city was destroyed by the barbarians yesterday.
b. the city's destruction by the barbarians.
(4.18) a. *[yesterday [was destroyed the city by the barbarians.]]
b. yesterday's destruction of the city by the barbarians.

This specific property of nominal heads, the ability to move adjuncts to the [Spec,Nmax] position is not in any way connected with the number of arguments they take. For example appearance is classified in Giorgi and Longobardi (1990) as an ergative,

agentless noun:

(4.19) a. the appearance of Mary yesterday
b. Mary's appearance yesterday
c. yesterday's appearance of Mary

and as we can see in (4.19c), the movement of an adjunct is still possible. Analogous examples of di-transitive nominals confirm this assumption:

(4.20) a. the presentation of Ben to the Queen by the mayor yesterday
b. the mayor's presentation of Ben to the Queen yesterday
c. Ben's presentation to the Queen by the mayor yesterday
d. the Queen's presentation with Ben by the mayor yesterday
e. yesterday's presentation of Ben to the Queen by the mayor

where "Ben" stands for a new panda bear and (4.20d) looks odd but still acceptable. From the analysis of this long list of examples it follows that both the verb present and the nominal presentation have identical theta grids (which also holds true for the predicate/nominal pairs of destroy/destruction, appear/appearance).

(4.21)

present	verb	1	2	3
		NP	NP	PP
presentation	noun	1	2	3
		NP	NP	PP

Obviously the theta grids are identical with the provision made in (i) that nominals may have no subjects. The above observations constitute the Thematic Correspondence Hypothesis:

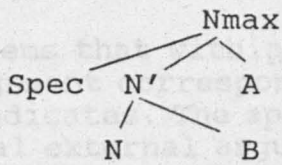
(4.22) The Thematic Correspondence Hypothesis

Verbs and corresponding nouns define the same theta role from their grid as the external one. Such an external theta role is the only one assigned outside N' in Nmax and outside V' in Vmax. The other theta roles will be assigned internally, under N' and V' respectively.
(adapted from Giorgi and Longobardi 1990:29-30)

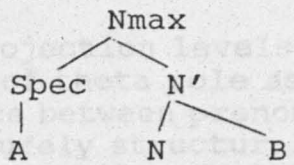
Giorgi and Longobardi (1990) claim that within Nmax definite theta and non theta positions can be identified and that whenever an element within Nmax occurs in a position which is not its base position, its displacement must be created by syntactic movement (Move alpha) and that Binding Theory facts support their claim. Consequently they argue that in English (and other Germanic languages) internal theta roles within nominals are assigned uniformly to the left, while the external theta role to the right, to the position of [Spec,Nmax]. In Romance languages both

the internal and external theta roles are assigned to the left of the head, naturally at different head projection levels, with the [Spec,Nmax] position empty and available as a potential landing site for elements moving outside Nmax:

(4.23) Romance



Germanic



where B is an element bearing an internal theta role and A is the position of the element bearing an external theta role. (4.23) presents different settings of the Spec-Head parameter in Germanic and Romance and is known under the name of the Configurational Hypothesis.

This hypothesis however requires certain modifications in account of the structure of nominals in English. The external theta role in Germanic can be assigned to an element in a non [Spec Nmax] adjunct position as in passive nominals (4.12b) or (4.20a). Obviously passive nominals are a special case involving partial reversal of theta role assignment pattern with the internal theta role externalized beyond N'. However (4.24) does not involve a passive nominal and clearly the external theta role of Agent is realized by an element not in [Spec Nmax]:

(4.24) yesterday's government reforms

(4.24) has two readings:

(4.25) a. yesterday's reforms of the government
b. yesterday's reforms by the government

In reading (4.25b) government is an Agent, although not in [Spec Nmax]. Note that government cannot be said to be an adjective, for adjectives have to be able to appear both prenominally and predicatively and government fails this test:

(4.26) *These reforms are government.

while governmental, a proper adjective, can be used in both positions:

(4.27) a. these governmental reforms
b. These reforms are governmental.

Clearly Agents in non [Spec Nmax] positions still occupy some prominent position within nominals, for they can bind reflexive pronouns:

(4.28) a. the criticisms of each other by cabinet members
b. yesterday's cabinet criticisms of each other
c. the accusations against each other by Tom and Mary

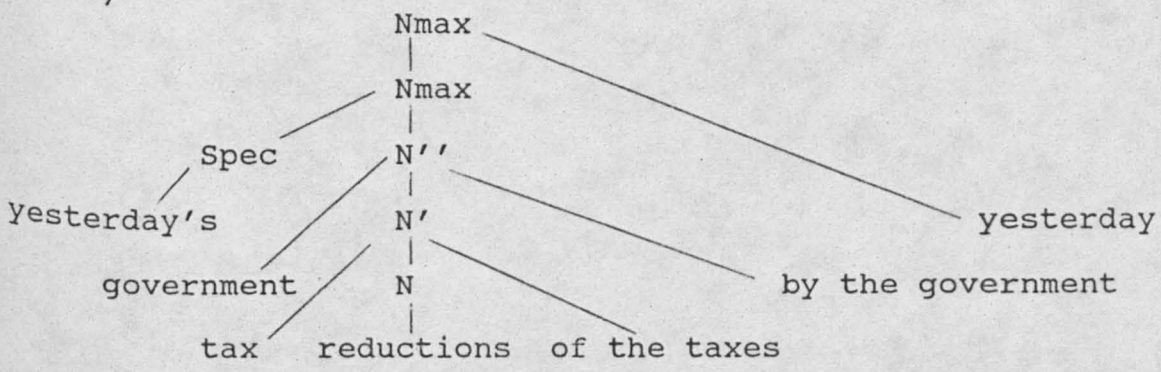
(4.29) presents the full array of positions that can be occupied

within nominals by elements bearing various theta roles:

(4.29) a. the reductions of taxes by the government yesterday
b. government reductions of taxes yesterday
c. government tax reductions yesterday
d. yesterday's government tax reductions

Thus it seems that within nominals the projection levels of theta role assignment correspond to the levels of theta role assignment within predicates. The apparent difference between prenominal and postnominal external arguments are of a purely structural nature; the prenominal external argument occupies the position of a modifier and the postnominal external argument is an adjunct:

(4.30)



As expected, the internal theta role is on both sides of the head assigned within N'. Similarly the external theta role is assigned at a level higher than N' on either side of the head. We want to say then that the nominal head can assign the internal theta role on either side and consequently its internal arguments are base generated on either side of the head noun in English. At this point however we have to acknowledge differences between left and right side internal arguments. As (4.29a) and (4.29c) show, right hand arguments have a set of features referred to in Radford (1991) as D-properties (can be determinate), C-properties (Case properties because the postnominal internal arguments are within PPs with Ps serving as their direct Case assigners), and G-properties of agreement (here number agreement). Prenominal internal arguments are devoid of these properties. We will capitalise on these differences in the following section on the constituent structure of nominals.

Although prepositions are direct Case assigners to postnominal internal arguments Giorgi and Longobardi (1990) claim that they do not assign any independent theta role and play only the role of syntactic elements realizing Case assignment. We can substantiate our claim by referring to (4.28a) as an example of reflexive binding in which the antecedent binds the reflexive through a maximal projection PP as if the prepositional phrase were transparent in the sense that it would allow c-command of the bindee:

(4.28) a. The criticisms of each other by Liverpool players leaked to the press.

We are therefore inclined to assume that within nominals heads theta mark arguments for internal theta roles on either side. Then these arguments can be syntactically realized on either of the two sides. The way in which these arguments are realized syntactically can be attributed to their own lexical or syntactic properties. For example reflexive pronouns as internal arguments of nominal heads cannot appear in the prenominal position:

(4.29) *the government [themselves criticism]

We will try to account for this property in the following section but at present we can hint at a possible explanation: reflexive pronouns in English have to match their antecedents in number and person which are their inherent agreement features; prenominal arguments however have to be devoid of agreement features and therefore reflexives cannot appear prenominally[1].

As far as external arguments are concerned we have a much clearer picture. Without taking big risks we can say that in accordance with Giorgi and Longobardi's conclusions, they appear in prenominal positions, probably as sisters of N'. Still though, we must keep the provision that not always do they occur in the [Spec,Nmax] position. Nominal arguments of nominal heads bearing the role of Agents in by-phrases can be regarded as base derived adjuncts to passive Nmax (assuming that only adjunction to maximal categories is allowed), similarly to by-phrases in passive predicates.

Again, similar to internal arguments, some lexically determined mechanism must be at work to allow some external arguments to appear in the [Spec,Nmax] position (if these nominals are [+animate] or idiomatic (a stone's throw)) or just in a position between [Spec,Nmax] and N'.

(4.30) a. John's [tax reforms]
b. government [tax reforms]

4.2.2 Argument structure of Nominals according to Grimshaw (1990).

Grimshaw (1990) presents her own theory of argument structure based on the prominence theory. She claims that instead of disorganized sets of arguments being represented by theta role labels, argument structures have their own internal structure. This structure is a reflection of the lexico-semantic information of a given predicate. Since the argument structure in this understanding is a reflection of meaning, it cannot be affected by any rules or altered syntactically.

A(rgument) structure is a representation structured according to prominence relations among arguments. The prominence relations reflect two aspects of meaning:

- thematic hierarchy of predicates;
- aspectual properties identified with event structure.

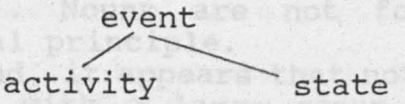
External argument is always the most prominent of all but other arguments are also in a relation of prominence to each other. The argument prominence hierarchy is as follows:

(4.31) (Agent(Experiencer(Goal/Source/Location(Theme))))
(Grimshaw 1990:8)

This argument dominance is a crucial factor in theta marking: the least prominent argument must have its theta role assigned first, while the most prominent argument must have its theta role satisfied at the end.

The event/aspectual structure of the predicate is presented as follows:

(4.32)



(Grimshaw 1990:26)

Thus for:

(4.33) x breaks y

the activity is the one x engages in breaking and the ensuing state is the one in which y is broken. A cause argument is usually associated with the first sub-event, causally related to the second sub-event. Thus the argument involved in the first sub-event is more prominent than the argument engaged in the second sub-event (the argument corresponding to the element whose state is changed).

In Grimshaw's (1990) system theta roles are only labels useful for naming arguments occupying different positions in the prominence hierarchy.

Grimshaw departs from the standard view on the differences between nominal and verbal heads, which mostly reduce to the lack of Case marking properties of nouns and claims that, unlike verbs, nominal heads are not theta markers by definition. They are not able to assign theta roles independently. No nominals can assign theta roles but they can be subdivided into two groups: complex event nominals which have their argument structure and require arguments to saturate this structure; and simple event and result nominals which do not have any argument structure and consequently do not take any arguments to satisfy it.

These claims can be substantiated by some evidence.

The complement taking properties of nominals are directly linked to complement taking properties of corresponding verbs. The range of elements that can occur following nouns is related to the complements of the verbs:

(4.34) a. CP complements:

The physicists claimed that the earth is round.
The physicists' claim that the earth is round

b. Infinitival complements:

They attempted to leave.
Their attempt to leave

c. Locative PP complement

The train arrived at the station.
The train's arrival at the station

There are however two striking inconsistencies between nouns and verbs:

First, at least in tensed clauses subjects are obligatory by the EPP (predication or some other form of Saturation Principle). Nouns are not forced to have subjects by any grammatical principle.

Second, it appears that not only subjects are optional with nouns but with a large group of nouns their complements are optional too:

(4.35) a. *The doctor examined.
b. The doctor's examination (of the patient) was successful.
c. *They attempted.
d. Their attempt (to reach the top) was successful.

Nouns denoting complex event obligatorily require complements. Thus for example the ambiguous noun examination can take no complement if it is understood as a result nominal (in 4.35b it would mean an examination of the doctor with the contents of the brackets omitted) or it has to take an obligatory complement if understood as an event, in which case the doctor denotes Agent.

Complex event nominals, just like verbs, have argument structure which has to be satisfied. All gerundive nominals are complex event nominals:

(4.36) a. *He kicks.
b. He kicks a ball.
c. *the kicking
d. the kicking of the ball

Nominals that can have both the result and complex event readings such as examination or assignment, can be disambiguated by certain modifiers forcing an event reading, for example frequent and constant:

(4.37) a. The assignment is to be avoided.
b. *The constant assignment is to be avoided.
c. The constant assignment of unsolvable problems is to be avoided.

(4.37a-b) have a result reading while (4.37c) has an event reading.

The presence of possessive subject with ambiguous nouns somehow forces the event reading and obligatory arguments:

(4.38) a. *The instructor's deliberate examination.
b. The instructor's deliberate examination of the patients.

The Agent oriented adjective deliberate imposes the agentive interpretation of the possessive and simultaneously the of phrase becomes obligatory.

As can be noted in (4.35b) the possessive nominal subject is not limited in its function only to denoting Agents. It can also have a modifying role with result nominals:

(4.39) Fred's dog.

Exactly the same dual role can be played by by phrases which can be either agentive or modifying:

(4.40) a. *the destruction by the enemy
b. the destruction of the city by the enemy
c. *the expression by patients
d. the expression of aggressive feelings by patients

In (4.40) the by phrases have an agentive role and they force a complex event nominal reading of ambiguous nouns. Consequently the a-structure of these nouns has to be satisfied and the internal arguments are forced to appear. Result nominals can be modified by means of a by phrase:

(4.41) a. a book by Chomsky
b. a portrait by Picasso

Thus Grimshaw (1990) claims that the apparent optionality of nominal complements is due to the fact that the nouns fall into two major categories: complex event nominals have an argument structure corresponding to that of verbs and obligatorily take internal arguments; result and simple event nominals do not require internal arguments[2].

Following this classification of nouns into two groups of result/simple event nominals and complex event nominals, it seems that the obligatoriness of internal arguments with the latter makes them very similar to verbs. Actually, nominals projecting argument structure should be able to theta mark their arguments if they share this property with verbs. Grimshaw (1990), following Emonds (1985) distinguishes between argument taking and theta marking: a head licenses its arguments and in turn the arguments satisfy a slot in the argument grid of the head. The first of these properties corresponds to theta marking and the other to argument taking. If these two notions are kept distinct, the difference between nominals and verbs can be grasped in a rather elegant way: while verbs have both of these properties (they license arguments through theta marking which in turn satisfy their argument grids), complex event nominals are defective licensers and therefore defective theta markers. The consequence of this state of affairs is that nouns which have argument structure take their arguments through a mediation of a preposition which is supposed to be a theta marker.

Prepositions which combine with nouns for theta role

assignment have their own argument structures but have no independent theta roles to assign. The argument structure of these prepositions can be satisfied by identification: a position in one argument structure is linked to a position in another argument structure in such a way that they are both satisfied by the same syntactic expression (Higginbotham 1985, Li 1990). In this way the argument of a preposition is identified with the argument of the noun. The obvious syntactic consequence of this position is that nouns with argument structure always occur with PP internal arguments and never with any other arguments.

Conversely, non PP elements following nominal heads and selected by them cannot be arguments and such nominals are not complex event nominals.

(4.42) a. N PP
b. N CP
c. N NP

Only (4.42a) can potentially be a complex event nominal, subject to other tests, while (4.42b) cannot. (4.42c) represents an impossible configuration in English, for the NP complement has no opportunity to receive Case and violates the Case filter.

The inability of nominal heads to assign structural Case is in a standard interpretation (shared by Giorgi and Longobardi 1990) the major cause of the differences between verbal and nominal heads. Grimshaw regards the nouns with clausal complements and the lack of nominal passives as evidence against this claim.

If CP complements were internal arguments of complex event nominals, the claim that nominal heads do not assign theta roles would be falsified and the standard interpretation strengthened: the nouns assign theta roles but cannot assign Case. CP arguments do not require prepositions, for they do not need Case. However as Grimshaw demonstrated CP complements are not members of the nominal argument structure[3].

The idea that nouns are not only defective Case assigners but also defective theta role assigners receives further support from the analysis of passive nominals. Although passive nominals have often been treated as equivalents of passive verbal constructions, Grimshaw (1990) claims that passive nominals are not complex event nominals. They have no argument structure and consequently the element in the [Spec,NP(DP)] position does not originate as an internal argument of the NP.

The best known case of passive nominals include possessives (4.43a-b) and what Grimshaw calls "group adjectives" (4.43c-d):

(4.43) a. Reagan's defeat
b. the defeat of Reagan
c. the American invasion of Vietnam
d. the invasion of Vietnam by America

As could be seen earlier the possessive can have among others both agentive and modifying role. If a "group adjective" has an agentive role, it is related to argument structure and its nominal head requires an internal argument:

(4.44) a. *The American love.
b. The American love of free speech.

In fact, the passive nominals never act like complex event nominals according to Grimshaw[4].

She believes that the lack of passive event nominals and event nominals taking CP complements shows that nouns are indeed defective theta markers and that they can only assign a theta role through a medium of a preposition. If passive event nominals do not exist, there can be no passive transformation within NP moving an internal argument of a noun to its specifier position. This conclusion naturally follows from Grimshaw's analysis: passive nominals are not complex event nominals, they do not have any argument structure and do not take any arguments, either internal or external. Besides on standard assumption nouns are theta markers and the internal argument preposed in a passive nominal carries its theta role assigned directly by the noun. If, as Grimshaw suggests nouns are defective theta markers, the preposed internal argument should have no theta role and the passive nominals should be illegal due to the Theta Criterion violation[5].

As we mentioned before, the participants of complex events depicted by nominals are their arguments indirectly theta linked to the head. However result and simple event nominals also have various accompanying phrases. They fall into two categories: modifiers and complements. Modifiers are expressions predicated of the head noun. They modify through identification of the external argument of the modifier with the external argument of the head. Modifiers can be separated from their heads by a copula:

(4.45) a. John's dog.
b. This dog is John's.
c. a blue skirt
d. this skirt is blue.

The second type of phrases accompanying result and simple event nominal heads is complements. Grimshaw (1990) uses this term not in the meaning of an internal argument (although these terms are synonymous with respect to verbal complementation) but in a very significantly different sense. A complement is directly related to the lexico-semantic representation of the head, although this direct relationship is not mediated through argument structure.

(4.46) John's murder.

In (4.46) the possessive is a complement in the above sense, it is connected to the lexical meaning of the head noun murder and selected by it, therefore the whole phrase gives an impression of a passive construction. Unlike a modifier, a complement cannot be separated from its head by a copula:

(4.47) *This murder is John's.

Because the complements are related to the lcs of their heads they are subject to selection. For Grimshaw selection of complements is not determined by a theta marking capacity of a head but rather by its lexical meaning. Therefore, a similarity between nouns and corresponding verbs can be accounted for: they both have similar lexical meaning (lcs) and select similar complements. Verbs have argument structure and their complements are their internal arguments theta marked directly by the verbs. Complements selected by result nominal heads are not arguments, although they have to be compatible with the lexical meaning of their heads. It clearly follows that every nominal head has its lexico-semantic structure and its complements which are not necessarily arguments. It is then the semantic property of the head that determines the complement selection.

Under Grimshaw's analysis, a nominal head can be accompanied by three types of elements:

- arguments; if the nominal head is a complex event nominal and has an argument structure. Arguments are always obligatory and directly theta marked by prepositions.

- complements; directly connected to the lexical meaning of the head and selected by it. Since they are not members of the argument structure of a nominal head they are optional.

- modifiers; predicated of the head, optional, can be separated from the head by a copula. They are possessives and adjectives except "group adjectives" which are complements[6].

Grimshaw's (1990) hypothesis is in many ways different from Giorgi and Longobardi's (1990) although not necessarily contradictory. Her arguments undermine the Thematic Correspondence Hypothesis but only in its strongest reading: that all nouns require the same set of arguments as corresponding verbs. However if the scope of operation of the Thematic Correspondence Hypothesis is narrowed down to complex event nominals it would still hold true. Instead of strict thematic correspondence between nouns and verbs, argument structure correspondence would hold; both verbs and corresponding nouns would have the same argument structure (but nouns would be defective theta markers).

From a different perspective the whole correspondence hypothesis could be preserved if instead of thematic correspondence it was a hypothesis concerning selection correspondence: equivalent nominal and verbal heads select identical elements. Because of independently different properties of verbal and nominal heads, this selection has different consequences: obligatory complements selected by verbs are their arguments, theta marked and Case marked by the verb. If a nominal head denotes a complex event, the complement of its lexico-semantic structure is its obligatory argument directly theta marked and Case marked by a preposition. The result/simple event nominal selects a complement of its lexico-semantic structure which is optional, for it is not an argument.

Similarly, the parametric variation in the structural projection of arguments in Germanic and Romance analyzed in

Giorgi and Longobardi (1990) can be viewed as a variation in the syntactic organization of argument structure. At this point Giorgi and Longobardi's analysis is superior to Grimshaw's who analyses mainly English data.

When it comes to the relation between the semantic and syntactic tier in nominals, Grimshaw (1990) strongly claims that they are completely independent of each other; the structural projection of nominal arguments, modifiers and complements is subject only to X' theory whose role as an independent module of grammar is therefore strengthened. For example the same structural position of the nominal specifier can be occupied by three types of elements:

(4.48) a. John's dog
b. John's murder
c. John's examination of the patients

In (4.48a) the element in the specifier position is a modifier, in (4.48b) it is a complement and in (4.48c) it is an external argument, Agent. All these elements are generated in the same syntactic position and their structural properties are the same, for instance they all resist extraction out of NP(DP), This corroborates the claim of independence between semantic and syntactic representation of nominals.

As for the origin of by phrases, Grimshaw argues that they are neither arguments nor adjuncts but an intermediate category of argument adjuncts (a-adjuncts). They are typical of passive constructions and nominalizations in the sense that they are somehow linked to the missing external arguments. External arguments of complex event nominals and passives undergo a process of suppression (this is the difference between a two argument active kick and a one place argument passive participle kicked and nominal kicking). As suppressed, these external arguments cannot be members of the argument structure but they can license adjuncts (by phrases) which fulfil their function. By phrases are thus licensed by argument structure and in this sense they are arguments. They do not however satisfy argument structure positions and are not theta marked. Therefore they are optional and have the status of adjuncts.

As a natural consequence of the claim that external arguments in nominals are suppressed, agentive possessives also have the status of adjunct like elements. If all syntactic realizations of external arguments of nominals are treated as argument adjuncts, not elements occupying A positions (possessive), two otherwise independent issues can be explained: the existence of group adjectives as external arguments and the optionality of nominal subjects:

(4.49) a. American invasion of Grenada.
b. Britain's invention of hot dogs.
c. the invention of hot dogs by Britain.
d. the invention of hot dogs.

In (4.49a) the group adjective does not occupy any argument position of the nominal, and as a modifier it is an optional

phrase. However it is not an ordinary adjunct, it is linked to the argument structure, licensed by the suppressed external argument and plays its role of the Agent. As we can see in (4.49b-d) the possessive is wholly optional (an adjunct like feature) but is still linked to the argument structure, for it expresses the Agent. Thus both possessive modifiers and agentive possessives are adjuncts, although of a different type[7]. Finally, if all structural realizations of nominal external arguments are argument adjuncts, their optionality can be accounted for: as adjuncts they do not satisfy the argument structure and can be missing.

4.2.3. The Consequences of the Two Approaches in the Light of the Facts of Polish Nominalizations.

Both above presented hypotheses are able to account for certain descriptive facts of Polish but at the same time they are unable to provide a fully satisfactory explanation of the internal structure of nominals.

The Thematic Correspondence Hypothesis is confirmed by the Polish data, (4.50a-b) are Polish translations of (4.12a-b), (4.51a-c) are Polish translations of (4.20a-c):

(4.50) a. Barbarzyńcy zniszczyli miasto.
AGENT PREDICATE THEME
b. zniszczenie miasta przez barbarzyńców
HEAD THEME AGENT

(4.51) a. pojawienie się Marii wczoraj
b.? Marii pojawienie się wczoraj
c. wczorajsze pojawienie się Marii

A careful comparison of (4.52), which is a Polish translation of nominalizations from (4.21), with its English equivalents shows certain asymmetries:

(4.52) a. podarowanie Bena królowej przez burmistrz wczoraj
b. *Bena podarowanie królowej przez burmistrza wczoraj
c. *burmistrza podarowanie Bena królowej wczoraj
d. podarowanie królowej Bena przez burmistrza wczoraj
e. wczorajsze podarowanie królowej Bena przez burmistrza

In Polish, a language whose word order is much looser than English, only deep structure direct objects become subjects in "passive" structures. In the so called passive nominals the number of options available for movement into [Spec,Nmax] is reduced to nought, for the adjunct in (4.52e) is not in Genitive and Genitive Case is supposedly the feature carried by elements in [Spec,Nmax].

The first marked difference between English and Polish is (as (4.23) predicts for Romance languages) the position of a full nominal in Genitive; in Polish it appears on the right of the head while possessive pronouns occur on the left[8]:

(4.53) a. zdjęcie Jana
John's picture
b. jego zdjęcie
his picture

Just as in English, (4.53a-b) are ambiguous and Jan could denote an Agent, Possessor or Theme. In many cases if the nominal head takes a bare nominal complement (not a PP), the element denoting a Possessor or Agent must obligatorily appear in the prenominal position:

(4.54) a. Jana zdjęcie Marii
AGENT THEME
b. *Marii zdjęcie Jana
THEME AGENT
c. *zdjęcie Jana Marii
picture AGENT THEME

At this point it seems that external arguments can appear pre or postnominally but if the nominal head takes a bare nominal complement, they must obligatorily appear on the left of the head. This observation turns out to be wrong in the case of nominal heads subcategorizing for a prepositional complement and some cases where double Genitive following the nominal head is allowed:

(4.55) a. teoria względnosci Einsteina
AGENT
b. galeria sztuki Małgorzaty Fornalskiej
AGENT

Another configuration is typical of nominals taking prepositional complements. Then the full lexical noun expressing an external thematic role can appear postnominally and is followed by a prepositional internal argument; in a configuration at odds with the Thematic Correspondence Hypothesis which claims that internal arguments should be closer to the head (under V' or N' respectively) than the external ones:

(4.56) a.? Tomasza zwycięstwo nad Piotrem.
AGENT THEME
Tom's victory over Peter
b. Zwycięstwo Tomasza nad Piotrem

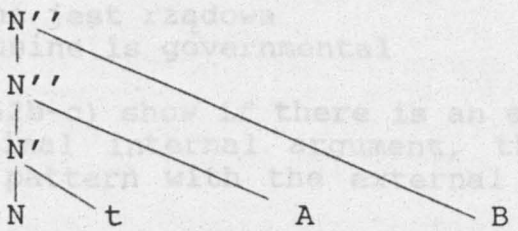
(4.57) a.? Liverpoolu zwycięstwo nad Arsenalem.
Liverpool's victory over Arsenal
b. Zwycięstwo Liverpoolu nad Arsenalem.

(4.56) and (4.57) seem to stand in opposition to the claim of Giorgi and Longobardi (1990) that theta role assignment within nominals uniformly follows the lines of theta role assignment by the predicates. At a certain cost, we could regain this uniformity for Polish: by stipulating that in Polish prepositional internal complements of nominals originate like their nominal counterparts under N' and are subsequently moved (probably attached to Nmax) prior to S-structure:

(4.58) $[_{NP}\ [_{N'}\ N - PP\ ]\ X] = [_{NP}\ [_{NP}\ [_{N'}\ N\ t\ ]\ X\ ]\ PP\ ]$

where X is the external argument. An alternative to this assumption entails base generation of the internal prepositional argument in this peripheral position with the external argument intervening between it and the head. In (4.56-57) the postnominal external argument can bind a reflexive pronoun but by no means can the c-command relation hold in the adjunction structure of (4.61):

(4.59) zwycięstwo Tomasza nad samym sobą
(4.60) the victory of Thomas over himself
(4.61)



where A is the external argument and B the internal one adjoined to N'' via movement from t or base generated as an N'' adjunct. Note that the c-domain of A extends to N'', the first projection dominating it. B however is not included in N'', for it is dominated only by its upper segment. Thus B c-commands A but not conversely. Note that once again the PP in (4.61) must be transparent to the binding capacity of the noun within A.

How can we account for proper binding in (4.61)? One of the options left (in order to avoid crossing of branches B definitely cannot be under N') is that of adjoining B under exactly the same segment of N'' as A (in that case N'' would have only one segment). It is difficult to imagine a movement rule achieving exactly this effect because elements usually move to Spec positions or adjoin to maximal projections. To preserve the unitary account of theta role assignment and the integrity of Binding Theory we have to stipulate a rightward movement rule transferring B from under N' directly under the lower segment of N''. There is however one more alternative that presents itself: we could assume that whenever an external argument appears postnominally and it is not in the form of a przez/by phrase, the nominal head itself raises through head to head movement to a position corresponding to Determiner in Germanic Languages. This possibility will be discussed in detail in 4.3 where the arguments for and against the presence of DP in Polish are presented.

The Polish equivalent of (4.29) is as follows:

(4.62) a. redukcje podatków przez rząd wczoraj
b. rządowe redukcje podatków wczoraj
c. rządowe redukcje podatkowe wczoraj
d. wczorajsze rządowe redukcje podatkowe

Three comments are necessary:

First, the Agent can be expressed either by a prepositional

by- phrase przez or in a prenominal position. In the latter position however its syntactic realization is that of an adjective, for rządowy is a true adjective: it follows the paradigm of adjectival inflection:

(4.63)	Nom. rządowy budynek a governmental building	rządowa limuzyna a governmental limousine
	Gen. rządowego budynku	rządowej limuzyny
	Dat. rządowemu budynkowi	rządowej limuzynie

and can be used predicatively:

(4.64) Ta limuzyna jest rządowa
This limousine is governmental

Second, as (4.62b-c) show if there is an explicit external argument and a nominal internal argument, their arrangement follows a familiar pattern with the external argument in the prenominal position.

Third, the adjunct in the phrase initial, prenominal position is also an adjective, it inflects like an adjective and can occur in a predicative position:

(4.65)	Nom. wczorajszy chleb yesterday's bread	wczorajsza decyzja yesterday's decision
	Gen. wczorajszego chleba	wczorajszej decyzji
	Dat. wczorajszemu chlebowi	wczorajszej decyzji

(4.66) Ten chleb jest wczorajszy.
this is yesterday's bread

As we have seen internal arguments in Polish occur postnominally when expressed by bare nouns or prepositional phrases. They can also be expressed as adjectives and even when no external arguments are projected, adjectival complements tend to occur on the right side of the head:

(4.67) a. reforma podatkowa
tax reform
b. *podatkowa reforma

The Configurational Hypothesis of Giorgi and Longobardi runs into difficulties in its predictions for transitive nominals. If the theta grid of these nouns should correspond closely to that of respective verbs, external arguments of these nominals should surface in the position typical of an external argument in (4.23), either as possessive pronouns or postnominal external arguments. This prediction is borne out if these arguments are pronominal. The same positions should be available for nominal external arguments. This is not however the case, for they appear in the form of przez/by phrases, although they are not "passive" nominals:

(4.68) a. jego pisanie listu wieczorem

his writing a letter in the evening
b.* Tomka pisanie listu wieczorem
Tom's writing a letter in the evening
c. pisanie listu przez Tomka wieczorem
writing a letter by Tom in the evening

(4.69) a.*wroga zniszczenie miasta
enemy's destruction of the city
b. zniszczenie miasta przez wroga
destruction of the city by the enemy

Rozwadowska (1991, 1992) rejects Giorgi and Longobardi's theory on exactly the same grounds but she accepts their NP syntactic template as such for Polish. Although inclined to agree with Rozwadowska in many respects, we will reject (4.23) as an appropriate syntactic NP template for Polish and propose a solution along the lines of the DP hypothesis.

Grimshaw's argument structure hypothesis can be questioned on three accounts in its application to Polish data.

First, the position of the possessive in Polish is sensitive to the semantic function of its content. In English it is not, as (4.48) shows. As Grimshaw claims this position is projected in syntax due to a semantically independent X' theory template and is oblivious to its semantic value. Its Polish counterpart is indifferent to the semantic function of its content as long as it is pronominal. As the above examples showed, the distribution of nonpronominal arguments depends on the character of the nominal head:

(4.70) a. pies Jana
b. zabójstwo Jana
c. *Jana zbadanie pacjentów
d. zbadanie pacjentów na stole kuchennym przez Jana
examination of the patients on the kitchen table by John
e. jego pies
his dog
f. jego zabójstwo
his murder
g. jego badanie pacjetów na stole kuchennym
his examination of patients on the kitchen table

These examples correspond to identical types of nominal heads in English (4.48). In (4.69a) Jana is a modifier and it can follow a copula verb:

(4.71) Ten pies jest Jana.
This dog is John's.

Jana in (4.70b), although also in Genitive, is not a modifier but a complement and cannot follow a copula:

(4.72) *?To zabójstwo jest Jana[9].

This murder is John's.

Although the Genitive in Polish is used to denote both possessive modifiers and complements, its function can be identified in interrogative constructions where two different interrogative particles are used for modifiers and complements: czyj/whose refers to possessive modifiers and kogo/of whom refers to complements[10]. Thus further disambiguation between the modifier in genitive and the complement in Genitive is provided by Wh constructions:

(4.73) a. Czyj to jest [$_{NP}$ pies t]?
whose this is dog
b. Kogo to było [$_{NP}$ zabójstwo t]?[11]
of whom this was murder

This minimal difference, Polish so far behaves exactly like English: the modifier is in Genitive and the complement is in Genitive. They both behave similarly in syntax, for as we can see, they both allow for an extraction of a part of an NP. This is a true LBC violation in (4.73a) and a complement extraction in (4.73b).

There is however a problem with (4.70c-d). As already noted, unlike English, Polish does not readily allow for agentive possessives and a przez/by phrase is regularly used to denote Agents in complex event nominals (4.59d). There seems to be some semantic/syntactic constraint on structural realization of agentive possessives with complex event nominals. They are regularly realized as przez/by phrases.

A further asymmetry between modifiers which can be realized as possessives and Agents which apparently cannot, was noted in Rozwadowska (1991). In principle Polish allows for two bare nominals in Genitive to follow the nominal head. The one immediately following the head is the complement and the other is the modifier. Thus this configuration is allowed with result/simple event nominals:

(4.74) a. kantor wymiany walut Kowalskiego.
Kowalski's money exchange office
b. opis zachodu słońca Mickiewicza.
Mickiewicz's description of the sunset

However the Agent of a complex event nominal cannot follow the head and the internal argument as the second bare nominal in Genitive but has to appear in a przez/by phrase:

(4.75) a. * napisanie listu Kowalskiego.
writing letter/GEN Kowalski/GEN
b. napisanie listu przez Kowalskiego.
the writing of the letter by Kowalski
c. *zniszczenie miasta wroga.
destruction city/GEN enemy/GEN
d. zniszczenie miasta przez wroga.
the destruction of the city by the enemy.

Thus generally speaking, external arguments of complex event

nominals in Polish are canonically realized as przez/by phrases while modifiers are realized as possessives. Apparently the semantic value of a noun does influence the syntactic realization of its accompanying phrases in Polish[12].

Another two objections against Grimshaw's theory were put forward in Rozwadowska (1991, 1992). Under Grimshaw's analysis nominals corresponding to psych-verbs can be divided into two classes: frighten class verbs (Object Experiencer,OE) should have corresponding result nominals while fear class verbs (Subject Experiencer,SE) could undergo nominalization and have argument structure because they have an external argument available for suppression. In some contexts their complements are obligatory, which proves their argumenthood, and their Experiencer arguments appear as possessives, not as by-adjuncts:

(4.76) a. John's fear of flying.
b.*fear of flying by John
c. John and Betty were united in their fear *(of flying)

Corresponding SE psych nominals in Polish display similar features, their complements are obligatory and their Experiencer arguments are expressed by postnominal possessives:

(4.77) a. jej obawa *(przed karą)
her fear of punishment
b. obawa Marysi *(przed karą)
Mary's fear of punishment
c. *obawa przez Marysię przed karą
fear by Mary of punishment

(4.78) a. jego miłość *(do Marii)
his love for Mary
b. miłość Jana *(do Marii)
John's love for Mary
c. *miłość przez Jana do Marii
love by John for Mary

However, some OE nominals in both Polish and English also show obligatoriness of their complements if their Experiencer arguments are present:

(4.79) a. zdumienie Penelopy *(przyjazdem Odyssa)
Penelopy's astonishment at Ulysses' arrival
b. *zdumienie przez Penelopę przyjazdem Odyssa
astonishment by penelopy at Ulysses' arrival

(4.80) a. zainteresowanie chłopców *(boksem)
boys' interest in boxing
b. *zainteresowanie przez chłopców boksem
interest by boys in boxing

(examples adapted from Rozwadowska 1992)

These two examples show that nominals which should not require arguments (OE psych-nominals) do indeed need them, despite their

classification to the category of simple result nominals.

Another objection to Grimshaw's hypothesis stems from the analysis of intransitive nominals denoting events. As event nominals they should allow for their external arguments to surface only in przez/by phrases, similarly to transitive event nominals. However, irrespective of their ergative or truly intransitive character, intransitive event nominals allow only Genitive arguments:

(4.81) a. twoje pływanie w basenie
your swimming in the pool

b. pływanie Janka w basenie
John's swimming in the pool
c.*pływanie przez Janka w basenie
swimming by John in the pool

(4.82) a. twój przyjazd za pięć minut
your arrival in 5 minutes
b. przyjazd Janka za pięć minut
John's arrival in 5 minutes
c.*przyjazd przez Janka za pięć minut
arrival by John in five minutes

Grimshaw's account fails to predict this contrast between transitive and intransitive event nominals.

In order to remedy the drawbacks of both theories, Rozwadowska (1992) proposes a different classification of nominals based on event identification. External (non-psych) events and internal (psych) events should be distinguished. Both psych events and intransitive events are either located in the Experiencer participant (psych) or identified through the only participant (intransitive). External events extend to more than one participant. As a consequence:

(4.83) przez/by phrases are licensed by complex event iff the event is external.
(Rozwadowska 1992:19)

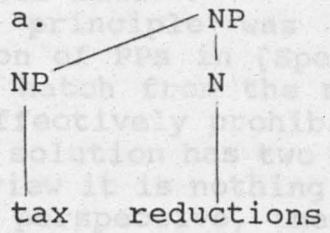
The proposed condition seems operational in Polish. It is neither purely semantic nor syntactic in nature but we will try to show that it may have concrete syntactic consequences, namely its affinity to the Superiority Condition (see 4.10).

4.3 The Constituent Structure of Nominals

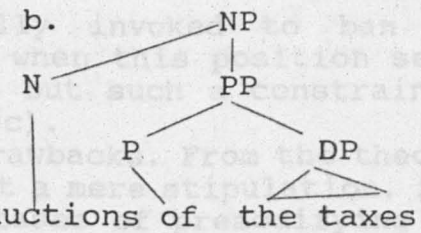
We have already touched upon this issue when we mentioned differences between pre and postnominal internal arguments; prenominal have no Case properties or agreement properties and are indeterminate while all the above mentioned features occur in postnominal arguments within prepositional phrases. Following Abney (1987), Fukui and Speas (1986) and Radford (1991), we will

attribute this difference to two different constituents, NP and DP:

(4.84) a.



b.



Now we can say that reflexive pronouns can appear only as DPs not as nominal arguments.

External arguments are often expressed as adjectives (adjectival arguments), which is in line with proposals made by Grimshaw (1990):

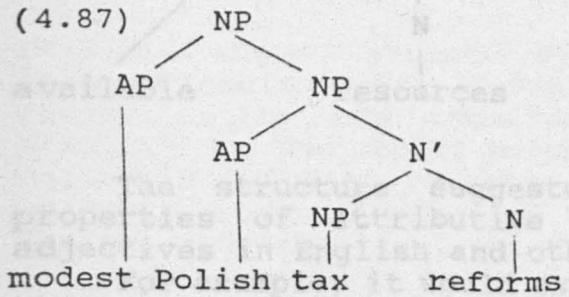
(4.85) Polish tax reforms.

Interestingly, adjectival modifiers can also appear prenominally but cannot follow adjectival arguments:

(4.86) a. modest Polish tax reforms
b. *Polish modest tax reforms

Thus adjectival arguments should be internal to nominal structure while adjectival modifiers should be external, probably adjoined to NP:

(4.87)



However (4.87) does not reflect a specific feature of modifying adjectives; when they appear prenominally, they do not take any complements and when they appear postnominally they are capable of projecting their complements:

(4.88) a. available resources
b. resources available to the government
c. *available to the government resources

Adopting (4.87), we would have to exclude (4.105 c) by means of some additional principle, such as this one:

(4.89) The Consistency Principle

An XP immediately expanding a lexical category on the nonrecursive side is directionally consistent in every projection. (Giorgi and Longobardi 1990:98)

The recursive side in English is the right and a constituent appearing on the prehead side of an NP cannot be expanded to the right of its head[13].

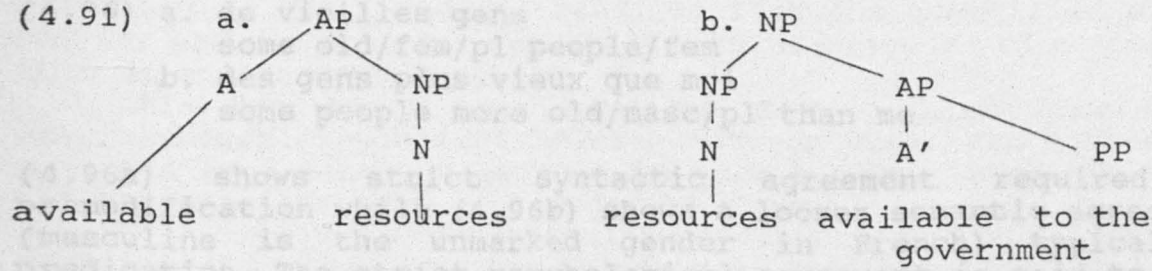
This principle was originally invoked to ban surface realization of PPs in [Spec,Nmax] when this position served as an escape hatch from the nominal. But such a constraint would equally effectively prohibit (4.88c).

This solution has two major drawbacks. From the theoretical point of view it is nothing more but a mere stipulation. from the empirical perspective, there are cases of premodifying phrases containing postmodifiers:

(4.90) a. [after dinner] speeches
b. a [better than average] student
c. the [end of term] celebrations

A radically different solution was presented in Radford (1991) following Abney (1987). The relation of postnominal modifying adjectives and the nominals they modify is that of adjunction, while the relation between prenominal modifying adjectives and nominals is that of complementation. Then the difference between (4.88a) and (4.88b) is as follows: in (4.88a) the adjective is subcategorized for a nominal complement, while in (4.88b) it is subcategorized for a prepositional complement:

(4.91)



The structure suggested in (4.91) explains different properties of attributive (premodifying) and postmodifying adjectives in English and other languages.

For example, it would explain the distributional properties of such transitive adjectives as fond:

(4.91) a. Mary is fond of peanuts.
b. *Mary is fond.
c. a fond embrace
d. *a fond

As a transitive adjective fond always requires a complement which can be either nominal or prepositional.

Some adjectives appear only as premodifiers, never as postmodifiers. If they are treated as modifiers, their behavior is difficult to account for. If they are treated as heads subcategorizing for a particular type of complement, their incompatibility with nonnominal complements is a simple selectional property:

(4.93) a. mere excuses
b. utter chaos

c. *excuses so mere
d. *chaos so utter

The opposite selectional restrictions are also possible with certain adjectives like afraid which never take bare nominal complements (never appear attributively):

(4.94) a. a woman afraid of spiders
b. *an afraid woman

Some combinations of premodifying adjectives and following nouns form idiomatic phrases, which exactly resemble verb - complement pairs in VP idioms. If this type of idiomatic phrases is built on the basis of the relation of complementation, the adjective - noun pairs seem to meet this requirement:

(4.95) a. sacred cow
b. flying saucer
c. cold shoulder

Another supporting piece of evidence comes from French morphology, where premodifying adjectives have to rigidly agree with the following nouns in phi-features but postmodifying adjectives show less strict agreement:

(4.96) a. de vieilles gens
some old/fem/pl people/fem
b. des gens plus vieux que moi
some people more old/masc/pl than me

(4.96a) shows strict syntactic agreement required by premodification while (4.96b) shows a looser semantic agreement (masculine is the unmarked gender in French) typical of predication. The strict morphological agreement is said to be a reflection of the syntactic process of head to head agreement which is present in English but less evident, for the system of nominal and adjectival phi features is impoverished.

On the basis of these observations plus some more empirical evidence Radford (1991) draws the conclusion that prenominal adjectives are modifying heads selecting NP complements but postnominal adjectives are predicative adjuncts to NP (see 4.91).

In this approach, similar to premodifying adjectives, quantifiers are also heads selecting NPs or APs:

(4.97) a. $[_{QP}$ many $[_{NP}$ cars]]
b. $[_{QP}$ many $[_{AP}$ new $[_{NP}$ cars]]]

No matter how accurate empirically and theoretically, the assumption that premodifying adjectives and quantifiers are heads selecting NP seems to overlook one extremely significant property of all these constructions which is very elegantly grasped by the more traditional solution treating them as prenominal adjuncts; all these constructions independent of the type of modification are in essence nominal. Under the standard approach this observation was substantiated by the structural form of these phrases where the noun was the head pre or postmodified by

various elements.

Under this new approach such a conclusion is rejected by radford but in its place he proposes the notion of coheadedness:

(4.98) The implicit assumption behind this analysis is that modified expressions are coheaded, in the sense that the head of the modifying phrase is the immediate head and the head of the modified phrase is the ultimate head.

(Radford 1991:35)

Radford also suggests new notation to express the notion of coheadedness: the phrase in (4.97a) is:

$[_{QNP}\ [_{Q}$ many $][_{NP}$ cars $]]$

and the phrase in (4.97b) is:

$[_{QNP}\ [_{Q}$ many $][_{ANP}\ [_{A}$ new $][_{NP}$ cars $]]$

They are a Quantified Noun Phrase and an Adjective-modified Noun Phrase respectively. The coheadedness hypothesis has an obvious advantage of maintaining the head complement status of modifying phrases but simultaneously giving them all the ultimate status of nominal expressions. The features of the ultimate head percolate to the immediate head, so that the quantified phrase can for example occupy a syntactic position typical of a nominal, such as an argument position.

This hypothesis provides also a principled account of morphosyntactic agreement holding between modifiers and heads, now this agreement can be said to hold between immediate heads and the ultimate head of a coheaded phrase.

With a little extra stipulation concerning the selectional requirements of attributive adjectives, this hypothesis can give an account of multiply stacked premodifying adjectives. If these adjectives can select as their complements both NPs and ANPs, they can combine together to form recursive ANPs:

(4.99) $[_{ANP}\ [_{A}$ Japanese $][_{ANP}\ [_{A}$ small $][_{NP}$ cars$]]]$

Quantifier phrases however do not appear recursively, for they do not subcategorize for QNPs, only for ANPs and NPs:

(4.100) a. $[_{QNP}\ [_{Q}$ many $][_{ANP}\ [_{A}$ Japanese $][_{ANP}\ [_{A}$ small $]$ $[_{NP}$ cars$]]]]$

b. $[_{QNP}\ [_{Q}$ many $][_{NP}$ cars $]]$

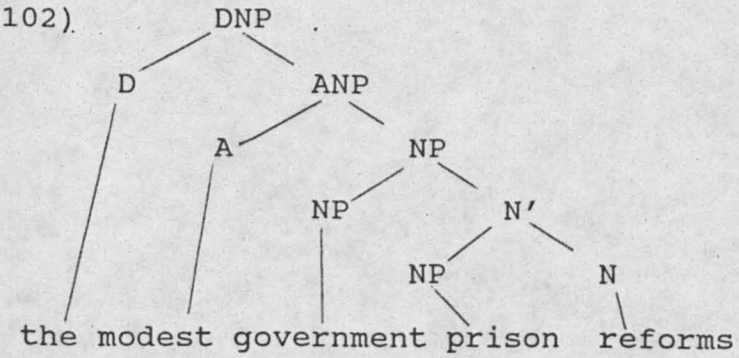
This account of coheadedness replaces the Inheritance Principle adopted by Radford in earlier versions of his paper[14].

The constituent structure of a nominal like:

(4.101) the modest government prison reforms

is said to be as follows:

(4.102)



with the Determiner heading its own phrase (DP).

The characteristic features of DPs are as follows:

1. DP is a functional projection, similar to IP and CP.
2. Similar to the two other functional projections, it discharge certain grammatical features (F-features in the sense of Fukui and Speas 1986) depending on the content of its head:

(4.103)

	C	I	D
F-feature assigner	wh	Tense	's
Non F-feature assigner	that	to	the

(Fukui and Speas 1986:53)

The F-feature assigned by the head of DP is that of Genitive Case. Similar to Infl, which assigns Nominative Case to the left, Determiner assigns Genitive also to its left.

3. Determiner 's requires a DP in its Specifier position, probably via the well known relation of Spec-head agreement.
4. The class of determiners includes: articles, demonstrative pronouns, possessive adjectives: my, your, her, etc, which are prenominal determiners subcategorized for a following nominal complement, possessive pronouns: mine, yours, etc which are pronominal determiners and do not take any nominal complements, the Genitive marker 's, ' for Genitive marking of plural DPs in [Spec,DP] and 0.
Some determiners can be used both pro and prenominally:

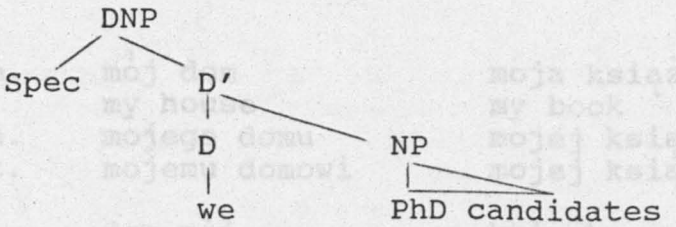
(4.104) a. Give me [this]
b. Give me [[this] [one]]

where one is a pronominal noun which can take the plural ending and a prepositional complement:

(4.105)
- Which bottles do you want?
- Give me [the [ones [with water]]]

5. Personal pronouns are determiners which determine a null pronominal head, as can be seen from (4.106) where the reflexive pronoun must be coindexed with the pronoun in Determiner:

(4.106) a. We PhD candidates despise ourselves/*yourselves *themselves.
b. You PhD candidates despise yourselves/*ourselves /*themselves.
c. They PhD candidates despise themselves/*ourselves /*yourselves.
d.



Thus a standard personal pronoun would have the following structural representation:

(4.107) a. he
b. $[_{DNP}\ [_{D}$ he $]\,[_{NP}\ ]]$

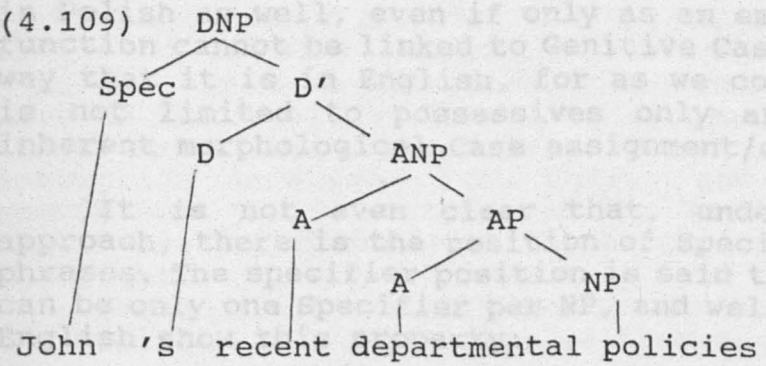
Radford (1991) quotes some examples from nonstandard varieties of English to support this claim. In these examples the personal pronouns precede full nominals:

(4.108) a. Tell Cooper to shift [they stones] there.
b. It was like this in [them days], years ago, you see.

6. As 5. shows the agreement and Case features of nominals are determined by their Determiner. Nominals not dominated by DP projections lack these features as the previous section showed.

Following this analysis of DP, a nominal like: John's recent departmental policies, has the following structure:

(4.109)



The DP hypothesis gives satisfactory predictions for English (see Radford 1991 for details) and one might expect that this

functional head is also projected in other languages. If DP is a functional projection it should be present for example in Polish.

However, the evidence for the presence of DP in Polish is not as convincing as in English[15]:

1. Demonstrative pronouns in Polish as well as possessive adjectives and possessive pronouns share grammatical properties with adjectives, they show agreement with the following noun, they can be used a postmodifiers and follow the copula:

(4.110) a.

Nom.	mój dom	moja książka
	my house	my book
Gen.	mojego domu	mojej książki
Dat.	mojemu domowi	mojej książce
b.	dom mój	książka moja
	domu mojego	książki mojej
c.	Ten dom jest mój.	Ta książka jest moja.
	This house is mine.	This book is mine.

2. There are no articles in Polish.
3. There is no pronominal noun corresponding to the English <u>one</u> although demonstrative pronouns can be used pronominally. The function of <u>one</u> is taken over by pro following adjectives or demonstratives:

(4.111) - Którą chcesz suknię?
Which dress do you want
- Te pro/zielona pro
this/ the green one

Apparently, no empirical evidence forces us to assume that the functional projection of Determiner Phrase is projected in Polish syntax. We can however maintain that there is not much evidence against assuming DP in Polish. Under a very deterministic view that language shows one universal phrasal template, subject to parametric variation, DP should be projected in Polish as well, even if only as an empty head. Its syntactic function cannot be linked to Genitive Case assignment in the same way that it is in English, for as we could see above this Case is not limited to possessives only and is assigned through inherent morphological Case assignment/checking.

It is not even clear that, under a more conservative approach, there is the position of Specifier within Polish noun phrases. The specifier position is said to be nonrecursive, there can be only one Specifier per NP, and well behaved languages like English show this property:

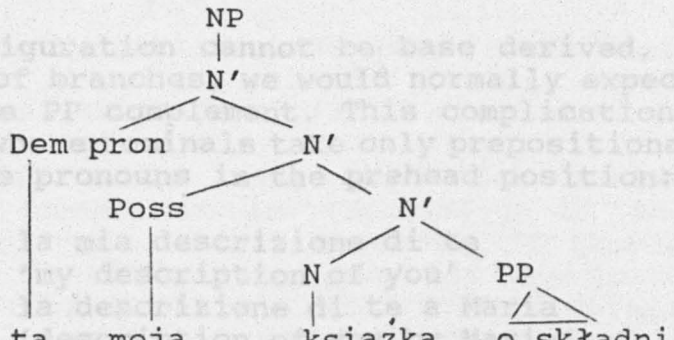
(4.112) *this my book

Polish however allows for such 'reduplicated' specifiers:

(4.113) ta moja książka
'this my book'

One plausible alternative is then, that there is no Specifier in Polish at all and that personal and demonstrative pronouns should be treated as adjectives and adjoined at the recursive N' level:

(4.114)



'this my book about syntax'

At this point I would like to follow another plausible alternative, namely that the underlying structures of nominals in both languages are to a large extent very similar.

First, it is interesting that in Polish possessive nominals possessive pronouns normally precede nominal heads while full possessive NPs appear postnominally (in unmarked word orders). As we could see in the previous section, this phenomenon is typical of all types of nominals irrespective of their event structure with the exception of transitive event nominals:

(4.115) a. jej książka
'her book'
b.?*książka jej
c. książka Basi
'book Barbara's'
d. ?Basi książka

This property of Polish syntax can be accounted for on the basis of the assumptions in Giorgi and Longobardi (1990) who claim that basically in some languages (Italian) external arguments of nominals are base generated in postnominal positions and the prehead Spec position is only an escape hatch from the NP in the cases of Wh extraction. It is worth noting that under this assumption languages like Polish and Italian would not be homogeneous in the setting of the Spec-head parameter; eg. in clauses subjects appear on the left of the head while in Nps on the right.

Second, full nominal possessives can appear prenominally if the nominal has a complement (either nominal or prepositional):

(4.116) Jana zdjęcie Marii
'John's picture Mary'

(4.117) ?Marii książka o składni
'Mary's book about syntax'

(4.116-17) show that the prenominal position is not reserved for pronominal possessives only.

Third, (4.118) is very difficult for Giorgi and Longobardi's analysis, although it represents a typical Polish nominal.

(4.118) książka Marii o składni.
'book Mary's about syntax'

This configuration cannot be base derived, for it would cause crossing of branches, we would normally expect the possessive to follow the PP complement. This complication does not arise in Italian, where nominals take only prepositional arguments, except possessive pronouns in the prehead position:

(4.119) la mia descrizione di te
'my description of you'
(4.120) la descrizione di te a Maria
'description of you by Maria'
(4.121) la decsrizione a Maria di te

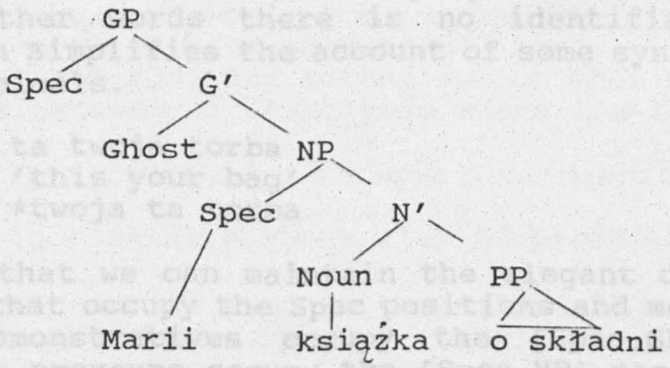
Now if the external prepositional argument precedes the internal prepositional argument, some type of syntactic movement must be posited. This is exactly what one would have to suggest for (4.118).
This operation would require one or two movements, depending on the assumed underlying position of possessive elements. If we assume that in Polish the possessive can be projected on both sides of the nominal head, (4.121) would have to be a result of a single extraposition of PP to the right periphery of the clause. However, if we opted for this choice we would have to expect unmarked word orders if the optional extraposition did not take place. But (4.122) sounds rather bad:

(4.122) %książka o składni Marii
'book about syntax Mary's'

If, on the other hand we assumed that in Polish all possessive elements are base generated on the left of the nominal head, the surface word order in (4.122) would require two movement operations: first, the possessive should adjoin to the right periphery of the NP yielding the intermediate structure of (4.122), and then the PP complement should adjoin to NP to yield (4.121).

It seems that the three phenomena above can have a better description if we posited the existence of GP (Ghost Phrase) in Polish whose distribution corresponds to DP in English[16]:

(4.123)



The assumed structure of (4.123) has the following advantages:

We can assume that in Polish possessive elements are uniformly generated in [Spec,NP]. If the possessives are pronouns, no movement is required. If they are full Nps (GPs), the nominal head 'ksiazka/book' may move to the position of Ghost via head to head movement. This form of movement is well attested for verbal heads and assumed for nominal heads in languages allowing for lexical incorporation (Baker 1988).

If the nominal head has a nominal complement in Genitive, the head movement is prohibited by some condition on interpretation and morphological Case adjacency: Genitives side by side are possible as long as their semantic functions are distinguishable. Thus interpretacja wiersza/GEN Przybosia/GEN/'the interpretation of a poem by Przybos' is grammatical while interpretacja Przybosia/GEN wiersza/GEN is not. We provide an analysis of the former structure shortly. It seems that some surface structure word order constraint is involved in these cases (ala Zabrocki 1989). The word order takes on a guiding role in such situations and (4.123) seems to provide the correct setting of the Spec/head parameter.

(4.118) receives a rather natural interpretation; the head noun moves to Ghost via head to head movement. This option has a considerable advantage over the two previous versions of adjunction because it is less costly. If we agree that free word order languages resort to their basic word order to disambiguate structures where the adjunction option would have to involve two movements rather than one. Our new GP hypothesis requires less effort in accordance with the Principle of Economy which prohibits unnecessary movement. If we assume (4.123), there is no need to assume double adjunction because a single head to head movement is sufficient.

A further advantage of (4.123) is that it is fully compatible with the X' template. The positions of specifiers are not recursive but their distribution accounts for 'double specifier' constructions in Polish (see 4.113). In line with X' theoretic assumptions N' and G' are recursive and allow for multiple adjectival modification.

We believe that at present our choice of the name for this projection, Ghost Phrase, can be justified. As we could see there is no overt lexical evidence for the existence for Determiners in Polish but the described phenomena justify the presence of an

empty headed nominal/functional projection immediately dominating NP. In other words there is no identifiable head but its projection simplifies the account of some syntactic phenomena in Polish nominals.

(4.124) ta twoja torba
'this your bag'
(4.125) *twoja ta torba

It seems that we can maintain the elegant distinction between elements that occupy the Spec positions and modifying positions, Polish demonstratives occupy the [Spec,GP] position while possessive pronouns occupy the [Spec,NP] position.

(4.126) and (4.127) do not cause any problems and their structure depends on the head movement of Noun to Ghost:

(4.126) ta torba Marka
'this bag Mark's'
(4.127) ?ta Marka torba
(4.128) ten zielony sweter Marka
'this green sweater Mark's'
(4.129) ?ten zielony Marka sweter
(4.130) ?ten Marka zielony sweter

(4.128-30) show that adjectival modification is not affected by Noun to Ghost movement. In (4.128-9) the adjective appears at the recursive level of G'(in 4.128 it precedes N in G and in 4.129 it precedes the element for which we reserve the [Spec,NP] position), while in (4.130) the adjective is at the N' level.

However, there seems to be a group of nominal constructions in Polish that may create difficulties for our approach:

(4.131) jego teoria grawitacji
'his theory of gravitation'
(4.132) teoria grawitacji Newtona
'theory of gravitation Newton's'
(4.133) traktat o ruchu ciał niebieskich Kopernika
'treatise about the movement of heavenly bodies'
(4.134) interpretacja wiersza Mickiewicza
'interpretation of a poem Mickiewicz's'

So far we have consistently assumed that Noun to Ghost movement is a case of head movement, thus instead of (4.132-33), where apparently the complex nominal head plus its complement have moved, we should expect:

(4.135) *teoria Newtona grawitacji
(4.136) ?traktat Kopernika o ruchu ciał niebieskich

Syntactic movements are constrained by a number of principles, including the Structure Preservation Principle, which informally states that maximal projections move to positions typical of maximal projections and heads move to head positions. If we want to maintain the Structure Preservation Principle, we face two options: - either we resort to the adjunction option with the

possessive element adjoined on the right side of NP(GP), which we rejected to motivate our new approach; - or we treat the head plus complement as a complex head.

We suggest that the latter option should be taken and that there is a process of reanalysis along the following lines:

(4.137) $[_{N'}$ traktat $[_{PP}$ o ruchu ciał niebieskich]]

$[_{N}$ traktat o ruchu ciał niebieskich]

Two arguments can be used in support of this claim.

First, a similar type of reanalysis is assumed in Larson (1988) in the analysis of Heavy NP Shift as Light Predicate Raising where give to John is treated as a light predicate head following reanalysis:

(4.138) I $[_{V}$ gave to John] everything that he demanded t[17].

Second, this reanalysis applies only in particular contexts where the nominal head is mostly followed by a nominal complement (marked Genitive) or a PP and in some sense they form one lexical unit[18]. It seems that as (4.135) shows reanalysis is obligatory with nominal complements and more optional with prepositional complements[19].

(4.139) ?%książka o składni Tomka
'book about syntax Tom's'

Our GP hypothesis easily accommodates the facts concerning the noun/adjective order if both G' and N' are recursive and allow for adjectives to be adjoined at that level.

(4.140) czerwona jarzębina
'red rowan-berry'

(4.141) jarzębina czerwona

Finally, we would like to give some thought to the precise status of the Ghost Phrase. We could see that it can host nominal elements, probably personal pronouns are base derived in this position:

(4.142) my studenci składni pozdrawiamy was wykładowców literatury
'we students of syntax greet you lecturers of literature'

A natural solution to the problem of the placement of pronouns and full nouns in (4.142) is that the pronouns are in Ghost and the nouns are in Noun. With a slight modification, the GP hypothesis can also account for constructions of the following type:

(4.143) my Polacy, katolicy, obrońcy ojczyzny

Again the pronoun is said to be in Ghost and the following string of nominals is a result of NP recursion.

Another interesting fact concerning the distribution of pronouns is that they cannot cooccur with demonstratives:

(4.144) Ach ten Tomek!
'oh this Tom'
(4.145) *Ach ten on!
'oh this he'

This fact could support the claim about the complementary distribution of demonstratives and personal pronouns. We do not however want to claim that these two elements occupy the same position. Rather we would like to assume that the personal pronouns in Ghost have to be licensed by an empty [Spec,GP]; if this position is occupied by a demonstrative, Spec/head incompatibility follows and a personal pronoun cannot occupy the Ghost position.

There is another reason for which we would prefer demonstratives in [Spec,GP]; they seem to trigger Minimality effects in Wh extractions from nominal phrases:

(4.146) zielony sweter Marka
'green sweater Mark's'
(4.147) Jaki widziałeś sweter Marka?
'what saw-you sweater Mark's'
(4.148) ten zielony sweter Marka
(4.149) *Jaki widziales ten t sweter Marka?

(4.150) O kim czytałeś [książkę t]
'about whom read-you a book'
(4.151) *O kim czytałeś [tę książke t]
(4.152) *O kim czytałeś [książkę Piotra t]
'about whom read-you book Peter's'
(4.153) Who did you read a/that book about?
(4.154) *Who did you read John's book about?

(4.146) shows a typical LBC violation in Polish, impossible in English for other reasons. However extraction is blocked by a demonstrative in (4.148). This blocking effect closely resembles the Specificity Effect in (4.152) and (4.154), nominals whose Specifier positions are lexically filled do not allow for extraction from within. Interestingly, in the contrast between (4.151) and (4.153), we can see that articles/demonstratives in English do not produce the Specificity effects whereas demonstratives in Polish do[20]. This fact strengthens our claim that demonstratives in Polish are in [Spec,GP] but articles in English are in the head position Det. Spec positions of NP and DP(GP) are escape hatches for movement out of NP. If these positions are lexically occupied no elements can use them as escape hatches and derivations crash.

So far our GP hypothesis has given correct empirical predictions for all types of nominals in Polish except transitive nominals with przez/by phrases. The basic template in (4.123) can accommodate them as NP adjuncts. Their occurrence is determined by some semantic principle and the one suggested in Rozwadowska (1992) seems a very suitable candidate (see 4.83).

As a final argument in favor of our GP hypothesis, we will turn to the troublesome nominal constructions involving anaphoric binding:

(4.155) książka Marii o sobie
Mary's book about herself

(4.156) fascynacja Marii swoimi kompleksami
Mary's fascination with her complexes

If we assume our GP hypothesis, such cases are straightforward and the antecedents c-command the anaphors from more prominent positions in the structure; both in (4.155) and (4.156) the head nouns move via head to head from N to Ghost, the anaphors are included in N' as complements and the antecedents remain in [Spec,NP] satisfying Binding Principle A.

At this point we should return to the facts concerning Radford's proposals for coheaded nominals. Quite contrary to English, where adjectives used attributively do not usually expand to the right (see earlier examples), Polish seems to allow freely for such expansions:

(4.157) ojciec dumny ze swego syna
'father proud of his son'
(4.158) dumny ze swego syna ojciec
'proud of his son father'
(4.159) miasto zniszczone przez wroga
'city destroyed by the enemy'
(4.160) zniszczone przez wroga miasto
'destroyed by the enemy city'

Examples (4.158) and (4.160) demonstrate that for Polish we are not forced to assume the coheadedness principle and a rather more standard view which we adopt in our analysis can be maintained; namely that adjectives are base derived N'(and G') modifiers, no complementation is involved, for they can have their own complements apart from the nominal head they modify[21].

The structure adopted for Polish premodified adjectives shows a very interesting agreement pattern: no matter on which side of the head the adjectival modifier is placed it always fully agrees with the head noun in phi features. This is an obvious contrast between Polish and French. If, as data suggest, the complementation relation does not hold between premodifying adjectives and nominal heads, these phrases cannot constitute coheaded phrases. One of the consequences of this conclusion is that the agreement in phi features between the nominal head and the modifying adjective cannot be a reflex of the syntactic head/head agreement. In Polish, there seems to be an agreement domain of the head; all inflected modifiers have to agree with the head. Agreement in nominal phrases in Polish is a feature of the relation of modification/specification, while the relation of nominal complementation is subject to (indirect) theta role assignment with complex event nominals and inherent Case assignment. Interestingly, a closer definition of agreement

domain matches the notion of 'checking domain' of Chomsky (1991).

(4.161) The Checking Domain

> The positions of specifier and adjuncts associated with morphological checking are called the checking domain of the head. (adapted from Chomsky 1991:13)

The checking domain of the head in X' theoretical terms includes all positions within the maximal projection of the head except the positions occupied by internal arguments/complements. These elements are projected within the immediate projection of the head and their relation to the head is that of complementation. The checking domain includes phrases that specify and modify the head.

The notion of the agreement/checking domain makes it easier for us to account for identical agreement features of both pre and postmodifying adjectives and provides us with a suitable descriptive equivalent of the agreement holding by means of head/head agreement within coheaded phrases.

The behavior of Quantifier Phrases is inconclusive for the coheadedness hypothesis. The agreement pattern is as follows:

(4.162) Nom. wiele samochodów
many cars
Gen. wielu samochodów
Dat. wielu samochodom
Acc. wiele samochodów
Instr. wieloma samochodami
Loc. wielu samochodach

The quantifier wiele/many can be treated as a regular premodifying adjective which receives (checks) its agreement features within the checking domain of the head. In a language with a very active morphological Case system phi features participating in agreement include the morphological Case and therefore modifiers, which are not abstract Case carriers, carry morphological Case features. Under the coheadedness hypothesis the agreement between the quantifier and the noun would have to involve morphological case transmission through head/head agreement.

Quantifiers can appear in the predicative use either as postmodifiers or in the company of a copula:

(4.163) a. Tych samochodów jest wiele.
These cars are many.
b. samochodów wiele
cars many

Postmodifying quantifiers are stylistically marked (4.182 b) but still the agreement pattern is the same as with premodification:

(4.164) Samochadami wieloma jeździłem...
cars many/INSTR (I) drove
many cars I drove...[22]

It is worth noting that numerals in Polish show an interesting feature of being not homogeneous and falling into two classes: adjective like modifiers and regular nominals requiring their nominal complements to show Genitivus Partitivus:

(4.165)	dwa samochody	two cars/NOM
	trzy samochody	three cars/NOM
	cztery samochody	four cars/NOM
	pięć samochodów	five/NOM cars/GEN
	sześć samochodów	six/NOM cars/GEN
	milion samochodów	million/NOM cars/GEN

There is a syntactic test in Polish that shows that numerals over four have nominals features. In Polish the verbs which normally take Accusative objects require Genitive objects when negated:

(4.166) a. Marek widzi samochody.
Mark sees cars/ACC
b. Marek nie widzi samochodów.
Mark can't see cars/GEN

If numerals are modifiers, their morphological Case feature (a reflex of agreement with the noun) should alternate according to the case of the nominal head. This is the case with the nominals between two and four:

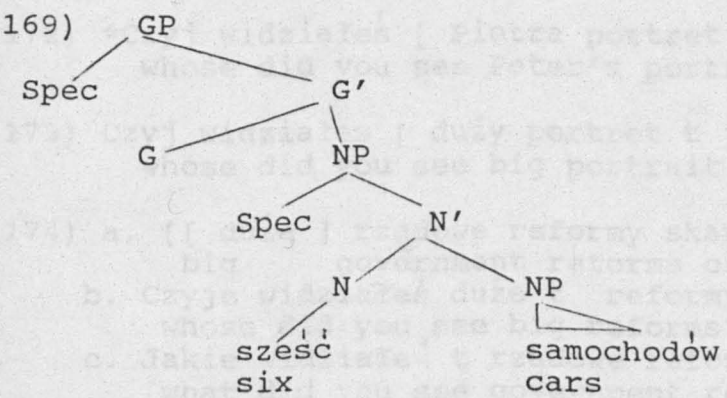
(4.167) a. Marek widzi cztery samochody.
Mark sees four/NOM cars/NOM
b. Marek nie widzi czterech samochodów.
Mark can't see four/GEN cars/GEN

The numerals denoting six and over behave as nominal heads; they are in Accusative if the verb is not negated and change to Genitive if the verb is negated while their complements are constantly in Genitive:

(4.168) a. Marek widzi sześć samochodów.
Mark sees six/ACC cars/GEN
b. Marek nie widzi sześciu samochodów.
Mark can't see six/GEN cars/GEN

We assume that the structure of numerals involving Genitivus Partitivus is based on NP recursion[23]:

(4.169)



The above structure is sufficient to account for standard word orders with pronominal possessives, e.g.

(4.170) jego sześć samochodów
his six cars

and standard word orders with nonpronominal possessives, e.g.

(4.171) sześć samochodów Tomka
'six cars Tomek's'

where the [N - NP] complex undergoes reanalysis and moves to Ghost. In this case our condition on reanalysis holds, for it affects a nominal head and its nominal complement in Genitive.

In conclusion, we believe that Giorgi and Longobardi's NP syntactic template can be easily replaced by our GP hypothesis which shows several empirical and theoretical advantages over the former approach: it appears to account for possible word orders within nominals, accounts for the complementary distribution of pronominal and nominal possessives in Polish, explains proper binding of anaphors in various nominal contexts, excludes movement to the right and multiple adjunction, is less costly in terms of Economy and involves a simple operation of reanalysis which is limited to one context only: a head followed by a nominal complement.

4.4. Extraction From Nominals

Following the major claim of Giorgi and Longobardi (1990), we will assume that extraction from nominals can proceed only via [Spec,Nmax], or from a position adjoined to NP. This strong claim is corroborated by a closer analysis of examples at the beginning of chapter 4. (4.2 a), (4.3 a) and (4.4 a) show that Specificity prohibits extraction of elements from a nominal if there are some lexical elements attached at a higher level of the head projection than the element in question.

Specifically, internal arguments cannot be extracted if external arguments are present. If the possessive and a modifying adjective are present, both of them can be extracted:

(4.172) *Czyj widziałeś [Piotra portret t]
whose did you see Peter's portrait

(4.173) Czyj widziałes [duży portret t]
whose did you see big portrait

(4.174) a. [[duże] rządowe reformy skarbu]]
big government reforms of the treasury
b. Czyje widziałeś duże t reformy skarbu?
whose did you see big reforms of the treasury
c. Jakie widziałeś t rządowe reformy skarbu?
what did you see government reforms of the treasury

(4.175) a. Widziałem duży Piotra portret Marii.
I saw big Peter's portrait of Mary
b. Jaki widziałeś t Piotra portret Marii?
what did you see Peter's portrait of Mary
c. Czyj widziałeś duży t portret Marii?
whose did you see big portrait of Mary
d. *Czyj widziałeś Piotra portret t?
of whom did you see Peter's portrait

(4.176) a. Widziałem zielony fartuch mamy.
I saw mother's green apron
b. Jaki widziałeś t fartuch mamy?
what(color)did you see mother's apron
c. Czyj widziałeś zielony fartuch t ?
whose did you see green apron?

One conclusion that can be drawn from the above examples is that whenever present, modifiers can be extracted and they do not obstruct the movement of elements via the Specifier position.

Note that in (4.175) and (4.176) the nominals in Genitive denoting possessive appear on opposite sides of the nominal head and are equally available for extraction. Two positions on the periphery of an NP then are available for extraction: the position of an adjectival modifier adjoined at the level of G' and [Spec,GP].
There is also clearly a hierarchy of elements available for extraction from Polish nominals:

(4.177) 1. Possessive and adjectival modifier or adjectival argument,
2. Complements, internal arguments in complex event nominals.

Elements in position 1.are always available for extraction, 2. is available for extraction only when the possessive is missing.

This hierarchy resembles the organization of argument structure within the prominence hypothesis (see section 4.3. for details) and it supports it in some sense. But it is quite striking that (4.177) seems to be working for both complex event nominals and result/simple event nominals. Basically in both types of nominals the phrases that accompany them stem from their lexico-semantic representations. The difference is that in the case of complex event nominals their accompanying phrases do not correspond to the lcs directly but via an argument structure. Within this argument structure internal hierarchy and prominence effects can be expected but as (4.175) shows, these phenomena show also in the case of plain result nominals. If the only link between their lexico-semantic structure and their structural realization is the X' schemata, as Grimshaw (1990) argues, the hierarchy in (4.177) reduces to X' theoretic relations. At the moment this assumption seems correct. The elements projected (adjoined) higher in the nominal structure can move out of the nominal phrase earlier than the elements placed at a lower level. This conclusion is nothing else but some strict version of the Superiority Condition of Chomsky (1973), where superiority could

be defined through the relation of c-command:

(4.178) The Superiority Condition

a. If A unilaterally c-commands B, A is superior to B.
b. Only superior elements leave the domain of a nominal in Polish (and Italian).

This simply means that (4.177) reflects the superiority effects.

At this point however, we have to acknowledge extraction facts concerning the presence of the przez/by phrase. Consider the following examples:

(4.179) a. Tomek widział [podpisanie umowy].
'Tom saw signing of agreement'
b. ?czego Tomek widział [podpisanie t]?
'what Tom saw signing of'
c. Tomek widział [podpisanie umowy przez prezydenta]
'Tom saw signing of agreement by president'
d. *czego Tomek widział [podpisanie t przez prezydenta]?

Both (4.179b) and (4.179d) sound awkward but to our ear the latter example is definitely worse. It is interesting how these facts can fit into a very clear Superiority pattern outlined above. As an NP adjunct under our GP hypothesis the przez/by phrase should not cause Minimality effects and block extraction. These effects can be caused by occupation of [Spec,GP]. A plausible solution to this problem can be suggested on the basis of the suppression of the external argument thesis of Grimshaw (1990). In the light of (4.179) this suppression has the side effect of incapacitating the [Spec,GP] position as a possible landing site and thus, indirectly, produces Minimality effects[24].

We will assume that extraction from a nominal is not exempt from universal conditions imposed on movement and must obey the ECP in the formulation of Rizzi (1990) and Cinque (1990). We can distinguish three different modes of satisfaction of the ECP in nominal extractions corresponding to three most common base positions of moved elements: extraction from [Spec,GP], extraction from [Spec,NP] and extraction from within N'.

As LBC violations, common in Polish, indicate movement of elements out of [Spec,GP] is possible while it is impossible in the case of [Spec,DP]. In short, from the perspective of Rizzi's (1990) theory, Polish allows for external proper head government of nominal specifiers but English does not.

As our initial hypothesis, to be revised subsequently, we recognize this difference between Polish and English in the following way. Giorgi and Longobardi (1990) assume that 's is a postposition and its position for Case realization of Genitive in English is fixed. Genitive in English can be morphologically realized only in [Spec,DP] and any movement of an element which does not form a constituent violates the Unit Movement

Constraint.

(4.180) [[John] [['s] [book]]]

Clearly in (4.180) the Spec and the head Det do not form a constituent and cannot be moved. Ultimately, it seems that extractability of members of the lcs of the nominal heavily depends on the choice of the scope of Minimality effects in the sense of Chomsky (1986b).

English produces broader Minimality effects while Polish shows narrower Minimality effects. Consequently, in English DP seems to be a closed off projection: the S-structure realization of Genitive in [Spec,DP] forces the choice of Broader Minimality. Once taken, the parametric choice of the scope of Minimality remains constant for a given language. Therefore personal pronouns, if they are base generated in Det and head governed from the outside by the verb, still cannot be extracted, for DP is an island due to Broader Minimality. Under Broader Minimality the exclusive domain of a head is defined on the basis of m-command. Narrower Minimality defines this exclusive domain on the basis of c-command. Consequently in English this domain extends to the boundaries of Nmax(Dmax) but in Polish it includes N'(G'). Polish Genitive Case marking is inherent within the lcs of a nominal and identifiable through morphology. Therefore there is no need to protect the position of [Spec,NP(DP)] from external government.

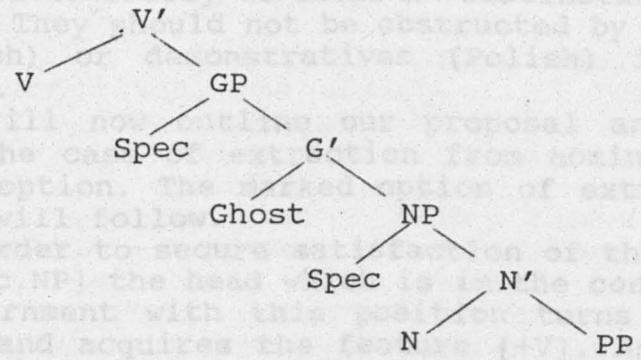
This the starting point of our analysis of both differences between Polish and English and extractions from nominals in general. We shall gradually clarify details of our proposals.

As a consequence of these assumptions the mode of the satisfaction of the ECP in extractions from [Spec,GP] in Polish is quite straightforward: this position is properly head governed by a verb external to GP.

(4.181) Czyja [Marek znalazł [t rękawiczkę]]?
'whose Mark found glove'

In practice though, the satisfaction of the ECP through external head government of [Spec,GP] from V does not explain much. As our GP template in (4.123) demonstrates all elements which would traditionally be referred to as possessive/agentive are now assumed to be base generated in [Spec,NP] (remember that we have reserved the [Spec,GP] position for demonstrative pronouns in Polish). Consider the following template of a GP complement of a verb:

(4.182)



If we assume that elements traditionally referred to as external arguments of the nominal head (both nominal and prenominal) are uniformly base generated in [Spec,NP] (with surface differences in word order resulting from N to Ghost movement) proper head government of [Spec,GP] by V does not suffice to secure movement from [Spec,NP] to [Spec,GP]. Proper head government of V does not reach the [Spec,NP] position, for there is another head, Ghost, intervening which causes head Minimality principle violation.

At this point, if we want to preserve the consistence of our claim that there is no movement without satisfaction of Rizzi's ECP, we face two alternatives: we can assume that Ghost and N have a special status of transparent heads and although not proper governors themselves ([-V]), they are transparent to head government of V itself; alternatively we can devise a mechanism that turns them to proper head governors and allows for extraction from both [Spec,NP] and from under N'. We propose to reject the former option and advocate the latter.

We postulate to reject the transparency option for two reasons.

First, one of the basic tenets of the theory of government has always been that heads do not govern the complements of the heads which they select. Under current assumptions of Rizzi's (1990) theory even heads which are not lexically filled should still trigger Minimality effects. For example on the basis of this assumption Rizzi (1990) accounts for the ungoverned status of PRO protected from external government by a nonlexical Comp (a defective proper head governor itself). Thus although heads can be defective head governors, they still protect their complements from external head government in line with the Minimality Principle.

Second, the transparency option would mean that proper head government of V could for example reach a clausal complement of a nominal head (in a CNPC configuration). That should devoid this configuration of a well attested barrierhood effect. This would be an empirically incorrect and most unwelcome consequence of Ghost and N transparency. Besides, if we adopted transparency we would leave Specificity/Minimality effects unexplained: nothing would force elements traditionally referred to as arguments with referential indices to move successive cyclically via every Spec position. Under Rizzi's (1990) assumptions arguments should be

able to travel freely to their A' destination in some preclausal position. They should not be obstructed by possessives (English and Polish) or demonstratives (Polish) in the nearest Spec positions.

We will now outline our proposal and at first we will discuss the case of extraction from nominals in Polish as an unmarked option. The marked option of extraction from English nominals will follow.

In order to secure satisfaction of the ECP in extractions from [Spec,NP] the head which is in the configuration of proper head government with this position turns into a proper head governor and acquires the feature [+V]. As (4.182) shows only Ghost head governs [Spec,NP] (it i-commands it). Since it is a defective head governor it can become a proxy head governor of V iff the element it governs agrees with it via Spec/head agreement. This Spec/head agreement can be effectively triggered off only if the aforementioned element moves through [Spec,GP]. In other words two conditions have to be met to turn Ghost into a proper head governor: it has to be selected by a proper head governor (V) and the element it governs should transit via its Spec to produce Spec/head agreement.

(4.183) Ghost as a proxy head governor

A. Ghost must be selected by a proper head governor (V),
B. The element it properly head governs must transit through [Spec,GP] to trigger off Spec/head agreement.

This mode of satisfaction of the ECP is not entirely new under Rizzi's proposals; the B component of (4.183) corresponds closely to the licensing condition of Agr to Comp raising which secures proper head government of the subject position in English. This licensing condition is based on the reconstruction of the Spec/head agreement between Agr and the clausal subject (see chapter 2 section 3 for detailed discussion). Thus our proposal agrees with Rizzi's theory and rests on the powerful status of the relation of Spec/head agreement.

There is a further advantage to our proposal, we have an independent explanation for successive cyclicity of extraction from NP and GP. Although their argumental status entitles them to an unobstructed passage out of nominal projections the extracted elements cannot take this option, for this would lead to a lack of proper head government from Ghost and a violation of the ECP. Therefore they are forced to move through [Spec,GP] to turn defective Ghost into a proper head governor. Consequently, they are made sensitive to lexically filled [Spec,GP]. Specificity/Minimality effects in GP cause violation of condition B of (4.183).

Another advantage is that as soon as Ghost turns into a proper head governor it voids the strong barrierhood of NP which previously, as directly selected by a [-V] head has not allowed any extraction from within.

Thus our proposal epitomized in (4.183) is able to account for extraction of possessive/agentive elements from [Spec,NP] and its sensitivity to the presence of lexical demonstratives. However we are still short of explaining a wider range of

extraction phenomena, namely extraction of nominal complements from under N'.

As (4.182) demonstrates, proper head government of Ghost does not reach into the domain of N' due to head Minimality caused by the intervening head N. It is this head that is in the configuration of head government with its complements. We will rather naturally extend our proposal and assume that N can also be turned to a proper head governor, a proxy head governor of V, if it is selected by Ghost which observes (4.183) plus its moved complement must agree with nominal head N via Spec/head agreement. Certainly this Spec/head agreement can be checked only if the complement passes through [Spec,NP]. The suggested solution explains Specificity/Minimality effects analogously to the proposal adopted for the GP level; nominal complements are forced to move via [Spec,NP] (and next via [Spec,GP] by 4.183) not due to the lack of referential indices but in order to secure the proper head government of its initial base structure position.

The mechanism of turning a defective head governor N into a proxy proper head governor seems analogous to the one adopted for the GP level. It can account for extraction of all types of nominal complements, prepositional phrases, bare nominals or full clauses:

(4.184) a. $[_{PP}$ O kim] pro czytałeś $[_{GP}$ $[_{NP}$ książkę t]]
'about whom (you) read book'
b. [Jaka] pro odwiedziłeś $[_{GP}$ $[_{NP}$ galerię t]]
'what (you) visited gallery'
c. pro odwiedziłem [galerię sztuki]
'(I) visited art gallery'
d. [Jaka] pro znasz $[_{GP}$ $[_{NP}$ hipotezę t]]
'what (you) know hypothesis'
e. pro znam [hipotezę $[_{CP}$ że Ziemia obiega Słońce]]
'(I) know hypothesis that earth revolves round sun'

These extractions can proceed because all conditions on N as a proper head governor have been fulfilled.

There is however one type of extraction that has to be avoided at any cost: one from within a clausal complement of a noun. Our proposal must predict barrierhood of CNPCs. This means that our present system needs a safeguard against the following situation:

(4.185) *Co pro znasz $[_{GP}$ $[_{NP}$ teorię $[_{CP}$ że Ziemia obiega t]]]
'what (you) know theory that earth revolves round'

In (4.185) there is no obstacle to N becoming a proper head governor: it is selected by Ghost previously selected by a verb, the moved element moves through [Spec,NP] and next through [Spec,GP]. The consequence of N becoming a proper head governor in (4.185) may be that CP is now directly selected by a [+V] head and ceases to be a strong barrier in terms of Cinque's (1990) hypothesis.

In order to remedy this fault in our system we propose a safeguard based on the idea of argument structure in the traditional sense (advocated in Giorgi and Longobardi 1990): N

becomes a proper head governor for its complement if this complement passes through [Spec,NP] and if it is a member of the argument structure of a given nominal head. The idea behind this qualification is that this process should be very local, N can become a proper head governor for its complement as a whole but it should not facilitate any extraction from within this complement to preserve strong barrierhood of clausal nominal complements. Consequently in further parts of this dissertation we will refer to nouns as defective head governors of their clausal complements meaning that they cannot govern them and void their barrierhood.

The conditions on turning N into a proper head governor are then slightly more specific:

(4.186) Noun as a proxy head governor:

A. Noun must be selected by Ghost meeting (4.201),
B. Its complement must pass through [Spec,NP] to produce Spec/head agreement,
C. Spec/head agreement is triggered off only by members of the argument structure of Noun[25].

The formulation of Condition C requires at least one further comment. Its formulation reflects the more traditional approach to the problem of nominal argument structure advocated by Giorgi and Longobardi (1990). If we wanted to follow the hypothesis of Grimshaw (1990), the phrase 'members of the argument structure of Noun' should be replaced by 'members of the argument structure of Noun (for event nominals) and complements of the lexico-semantic structure (for all other nominals)'. Neither formulation affects the sense of our Condition C provided lcs of non-event nominals are hierarchically and locally organized.

Our proposals can now account for extraction from nominals. To see how they operate, we can trace the longest extraction of a PP complement on our suggested structure in (4.182). In order to satisfy the ECP the prepositional complement moves to [Spec,NP] and turns Noun into a proper head governor of the initial trace in the complement position. Once in [Spec,NP] it can move further provided [Spec,NP] is properly head governed by Ghost. This forces the complement to transit via [Spec,GP]. This final position in turn is properly head governed by V. This successive movement is very sensitive to the presence of other elements in respective specifier positions[26].

As we mentioned before we laid out our proposal, we would like to treat extractions from Polish nominals as an unmarked phenomenon while extraction from nominals in English as a marked version of the same process.

Nominals in English show some paradoxical and seemingly unrelated properties: as we could see in many examples (e.g. 4.1-9) English shows Specificity effects parallel to those of Polish, however surprisingly at the same time it does not allow for Left Branch Condition violations. This surprising combination of features could support the more traditional approach to the question of extraction from nominals in English: possessives/external arguments cannot be extracted but complements can. Consequently, they could exit the nominal via

some other route than the nominal specifier.

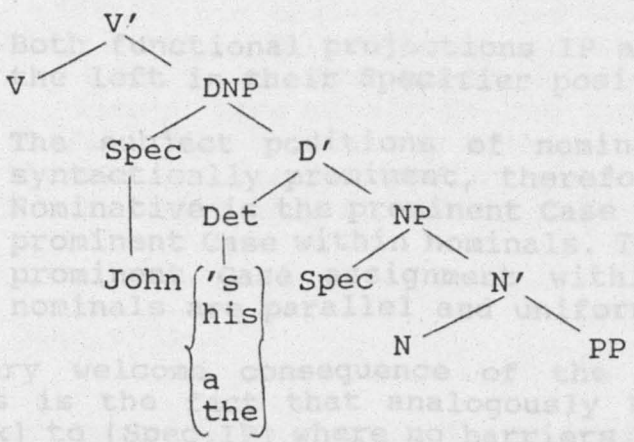
Such a solution was described in Chomsky (1977) where it was supposed to escape from NP first to form a PP complement of V at an 'intermediate structure' and subsequently move to the clause initial position:

(4.187) a. He saw [a picture [of John]]
b. he saw [a picture t][of John]
(example from Chomsky 1977:114)

This 'readjustment rule' as Chomsky calls it following Bach and Horn (1976) creates an escape hatch for prepositional complements from nominals exactly on the opposite end of the nominal than we have assumed and does not principally coordinate this extraction with Specificity. We would like to claim that prepositional argument/complement extraction in English proceeds also through [Spec,NP] and [Spec,DP] and therefore if these positions are occupied, PP extraction is blocked. Notice, that in (4.187) the intermediate trace still has to be head governed to satisfy the ECP and there is no proper head governor that can fulfil this role.

We will demonstrate this process on our basic template:

(4.188)



The key point of our analysis of English nominals is the function and content of Determiner; if it contains articles or demonstratives there are no Specificity effects and extraction of complements can follow. We will claim that if Det is used in this function, it can become a proxy head governor of the [Spec,NP] position in the mode outlined in (4.183). Consequently the extraction of the complement can follow unobstructed; the Noun becomes a proper head governor of its complement if it passes through [Spec,NP] along the lines of (4.186). [Spec,NP] can be properly head governed by Det if it contains demonstratives or articles and the extracted element can move to [Spec,DNP] where it can be properly head governed by V. Notice, that all consequences follow exactly as in Polish:

- first, Specificity/Minimality effects are accounted for,
- second, Determiner allows for external head government of its Specifier position by V and in this respect it is similar to Polish Ghost.

So far extractions in English and Polish proceed identically

and we propose that this is a reflex of a more universal unmarked process of extraction from nominals. In short, Left Branch Condition violations are unmarked.

Thus it seems that the source of the paradox in extractions from English nominals and the lack of LBC violations lies in the function of Determiner as a Genitive Case assigner.

Under the DP hypothesis Genitive Case assignment in English is parallel to Nominative Case assignment in the sense that the external argument of the noun can be said to be base derived in [Spec,NP].

This reasoning runs along lines parallel to Koopman and Sportiche's (1991) VP internal subject hypothesis. They assume that the external argument of a verb originates within Vmax (in [Spec,Vmax]) but obviously outside V'. Subsequently it rises to [Spec,IP] to get Nominative case in English. The situation within DP looks very much the same: if we generalize the idea that external arguments originate within the maximal projections of their heads in some sort of Specifier position they then rise to [Spec,DP] where they receive Case. The parallels with the VP internal subject hypothesis are clear:

1. External arguments move from Caseless positions in lexical projections to the Specifier position of functional projections to pick up Case.

2. Both functional projections IP and DP assign Case to the left in their Specifier positions.

3. The subject positions of nominals and clauses are syntactically prominent, therefore within the clause Nominative is the prominent Case while Genitive is the prominent Case within nominals. Thus the procedures of prominent Case assignment within both clauses and nominals are parallel and uniform.

A very welcome consequence of the NP internal subject hypothesis is the fact that analogously to the movement from [Spec,Vmax] to [Spec,IP] where no barriers are crossed and VP is not a barrier, the movement from the external argument position of NP to [Spec,DP] does not cross any barriers. Clearly if NP is a complement of D, selection of the NP by D must take place. Thus if extraction from NP takes place Det cannot be different from [+V], for D must deprive NP of its barrierhood because otherwise, under current assumptions, no extraction from DP would be possible.

Thus our proposition rests on the role of the two value content of Determiner:
1. it can be [-Case], filled by demonstratives and articles and then it has standard features of Polish Ghost outlined above,
2. it can also be [+Case] and take part in Genitive Case assignment and then Det cannot become a proxy proper head governor. Apparently because it has to fulfill another syntactic function based on government (Case assignment), Det [+Case] cannot be a proper head governor. This single difference between Determiner and Ghost leads to a whole range of interesting consequences.

If Determiner cannot become a proxy head governor no movement out of NP will be possible for two reasons: [Spec,NP] will not be properly head governed and NP as such will constitute a strong barrier in the sense of Cinque (see chapter 2 section 4).

Apparent lack of LBC violations will follow, for the reason proposed by Giorgi and Longobardi (1990), with John in [Spec,DNP] and 's in Det their movement together would cause a Unit Movement Constraint violation.

Even if the element on the left branch forms a unit as it is in the case of possessive pronouns which are said to be base generated in Det it cannot move without the following NP. The reason for this limitation ensues from Radford's coheadedness hypothesis: DNP is a unit and units cannot be broken up in movement. Another constraint is an illicit chain formation.

The same assumption can also explain the lack of LBC violations involving extraction of adjectives or quantifiers if Det were [-Case]. If we assume that they are ANPs and QNPs with nominal complements selected by adjectival heads or quantifier heads any separation of these would again violate the Unit Movement Constraint. Besides as a head the adjective or quantifier cannot move via an A' chain, only via a head movement chain.

It is worth noting that we do not have to assume broad Minimality effects for English as some independent property of [+Case] Determiners. [Spec,DP] can be available for external government by V but due to the defective character of Det as head governor no element from within NP can reach this position. If [Spec,DP] is filled by an element undergoing Case assignment, it cannot be plucked out for independent reasons connected with the above mentioned constraint on moving units.

4.5. Conclusion.

In conclusion to our analysis of extraction from nominals in Polish and in English it must be stressed that our system predicts the empirical facts of extraction and proposes a solution based on the ideas of Rizzi (1990), Cinque (1990) and Radford (1991). In essence we trace the differences between Polish and English in this respect to different syntactic roles of Ghost and Determiner, the supernominal projections. Polish Ghost does not participate in Case assignment while English Determiner can be a Genitive Case assigner. [-Case] Determiner behaves analogously to Ghost and allows for extraction while [+Case] Determiner cannot become a proxy head governor of V, for it has to be an independent governor for Case reasons. This excludes the possibility of extraction out of NP (it becomes a barrier). Additionally, LBC and broad Minimality effects are triggered off by specific structural properties of English nominals embraced by the Coheadedness Hypothesis.

Notes

1. Other noun classes cannot appear in the prenominal positions of internal arguments, for example some proper names. This property must be specified in the lexicon because while you can say:

Warsaw uprising - the uprising in Warsaw

you cannot say:

*Jack problem - the problem with Jack.

2. Further syntactic differences between complex event nominals and result/simple event nominals include:

- the choice of the determiner; complex event nominals take only the definite article:

a. They studied the/an/one/that assignment.
b. They observed the/*an/*one/*that assignment of a problem.

- the choice between plural/singular form; complex event nominals do not pluralize but the result nominals do:

c. The assignments were long.
d. *The assignments of the problems took a long time.

- complex event nominals resist indefinite subjects:

e. ??A teacher's assignment of the problem.
f. The assignment of the problem by a teacher.

- complex event nominals do not appear with equational <u>be</u> as result nominals do:

g. That was the assignment.
h. *That was the assignment of the problem.

More telling differences between these two types of nominals show with respect to control. Complex event nominals, just like verbal passive constructions, allow event control into an infinitival purpose clause:

i. The translation of the book (in order) to make it available to a wider readership.
j. The book was translated (in order) to make it available to a wider readership.

Result nominals do not allow for this type of control.
Finally, complex event nominals tend to take the same

aspectual modifiers as their corresponding verbs:

k. The total destruction of the city in only two days appalled everyone.
l. *The total destruction of the city for two days appalled everyone.
m. The bombing destroyed the city in two days.
n. Only observation of the patient for several weeks can reveal the most likely...
o. *Only observation of the patient in several weeks can determine the most likely...
p. They observed the patient for several weeks/*in several weeks.

3. Nouns with clausal complements behave like result or simple event nominals, not complex event nominals:

- clausal complements are always optional:

(a) The conclusion (that an investigation has been initiated) was inaccurate.

- nouns with sentential complements do not have the meaning of process nouns, for example announcement does not refer to the event of referring but to an announcement of which the complement specifies the content:

(b) The announcement that the position had been filled was a surprise.

- infinitival complements of attempt behave in the same way as other CPs, against the view of Stowell (1981) and are optional.

- attempt allows indefinite determiners:

(c) An attempt to attack immediately was a mistake.

- attempt can pluralize and preserve the same reading:

(d) Their attempts to convince the people that the procedure was fair were doomed to failure.

- the nouns taking clausal complements do not allow adjuncts typical of complex event nominals:

(e) *Their constant announcement that they were the greatest eventually became tiresome.

- finally, these nouns never allow event control:

(f) *Their statement that the gun misfired in order to mislead the public was absurd.

4. Grimshaw's analysis of passive nominals is as follows:

- the active/passive cooccurence can be found with obvious result nominals, e.g. solution:

(a) the problem's solution
(b) the solution to/*of this problem

If result nominals can behave in a way typical of allegedly thematic role marking nominals even though they do not have an argument structure, the property of having a passive form cannot depend on argument structure and its properties. Thus the subject of the passive nominal does not have to be linked to its argument structure if it can be missing altogether.

- by the same token proven complex event nominals should not allow preposing of their internal argument to their specifier position. Gerundive nominals are said to be 100% complex event nominals and their behavior corroborates this prediction:

(c) the falling of a tree
(d) *the tree's falling

- passive nominals easily pluralize, take demonstratives or posthead genitive phrases, unlike complex event nominals:

(e) Reagan's defeats
(f) All these Central American invasions of Reagan's

- complex event nominals do not allow possessive modifiers like yesterday's but result and simple event nominals do. Group adjectives allow for possessive modifiers with their heads and therefore cannot classify as complex event nominals:

(g) yesterday's European defeat
(h) *yesterday's defeat of the Europeans

In (h) the nominal takes arguments and does not allow for a possessive modifier.

- passive nominals do not allow for event control, the control of PRO in a purpose clause. This property is associated with complex event nominals and its lack indicates the lack of complex event interpretation:

(i) The translation of the book (in order) to make it available to a wider readership.
(j) *The book's translation in order to make it available to a wider readership.
(k) The invasion of Grenada to rescue endangered medical students.
(l) *The Grenadian invasion to rescue endangered medical students.

5. If as Grimshaw (1990) and Emonds (1985) suggest nouns are defective theta markers, the island status of CP noun complements would receive some further support in the light of Cinque's (1990) analysis: not only would these CP complements be selected by a head distinct from [+V], but they would not be theta governed and consequently not even L-marked by a lexical head.

6. Following the suggestions of Williams (1981 a) and Higginbotham (1985), Grimshaw assumes that result and complex event nominals have an external non thematic argument R. R is different from other participants of the lexico-semantic structure in the sense that it is not a participant. R is necessary for the combination of nouns into bigger units and their modification by adjectives:

a. John is fond of Bill.

Fond has an internal argument (the prepositional phrase) and an external argument that has to be satisfied by predication. The same apparently holds true for nouns in the following examples:

b. John is a man.
c. John is a policeman.

where both a man and a policeman have their R arguments satisfied by predication. If nouns are not used predicatively, their R external arguments are satisfied by reference as in:

d. A man walked into the room.

Grimshaw assumes that all nouns have a non thematic external argument and that it is not only involved in predication but also modification:

e. a long dissertation

Both the adjective and the noun have an external argument R and the modification of the noun is accomplished through identification of the external argument of the modifier with the external argument of the noun. The two external arguments are identified and then jointly satisfied.

In the case of complex event nominals, nominalization brings about a new nonthematic and nonsyntactic argument which does not satisfy the argument structure: Ev. Ev is the equivalent of R in result nominals.

7. This proposition carries with itself a certain amount of doubt. Currently the question of the distinction between A and A' positions is the subject of a heated debate. For different, sometimes opposing views in this matter see: Fukui and Speas (1986), Koopman and Sportiche (1991), Chomsky and Lasnik (1991), Pesetsky (1989). The position of the Genitive in nominals in English has an Argument status, for it can actively participate in A binding:

John's picture of himself.

If Grimshaw (1990) assumes that it is an adjunct (A') position, the binding theory facts will be unexplained, unless an abstract, syntactically unrealized Ev external argument linked to lcs can serve as a binder. This solution would however push the explanation for anaphoric binding facts back into the unknown territory on the borderline between syntax and semantics. The binding theory in its current shape can explain these facts with some accuracy, ease and elegance.

8. The functions of nonpronominal NPs in Genitive in Polish are numerous. Rozwadowska (1990) provides the following examples:

1. Simple possession:
samochód Marii
Mary's car

2. Authorship:

Film Felliniego
Fellini's movie

3. Any free contextually specified relation:

drużyna Jana
John's team

4. Kinship:

siostra Romka
Romek's sister

5. Object of a picture noun:

zdjęcie Zosi
Sophia's picture

6. Any argument of intransitive nominals denoting events, states or properties:

przyjazd Jana
John's arrival
inteligencja Jana
John's intelligence
zdenerwowanie Marii
Mary's nervousness

7. Object argument of a transitive nominal:

zagłada miasta
the city's destruction
odczyt licznika
the reading of a counter
interpretacja wiersza
the poem's interpretation

(Rozwadowska 1990)

9. This construction would be fully grammatical if Jana served as a modifier in a different, figurative sense. Let us imagine that a murder has been committed and a police inspector put in charge of the investigation is called Jan/John. Then

zabójstwo Jana
John's murder

would have the interpretation:

"a murder that John investigates" rather than "a murder of John"

Consequently both:

To zabójstwo było Jana.
This murder was John's.

and

Czyje to jest zabójstwo?
Whose is it murder?

are grammatical in this sense.

10. Ideally, all speakers of Polish should use this distinction in the above way. In colloquial Polish kogo/of whom very frequently replaces czyj/whose in all uses.

11. This test however does not show all the features of reliability and this question sounds rather unnatural. Normally, the interrogation would take the form of:

Kto został zabity?
Who was killed?

12. Rozwadowska (1991) gives an example of a class of nominals in Polish where the external argument is not realized by means of a przez/by phrase. They are Experiencer nominals:

a. zdziwienie się Jana nagłym przyjazdem dzieci.
John's becoming surprised at the sudden arrival of the children

b. zafascynowanie się kobiet aerobikiem
women's becoming fascinated with aerobics

That they are complex event nominals becomes obvious when they appear without their internal arguments:

c. *zdziwienie się Jana
John's becoming surprised

d. *zafascynowanie się kobiet
women's becoming fascinated

With this type of complex event nominals the Agent not only may but has to appear in Genitive, for przez/by phrase Agents are disallowed and seem to be in complementary distribution with the Genitive:

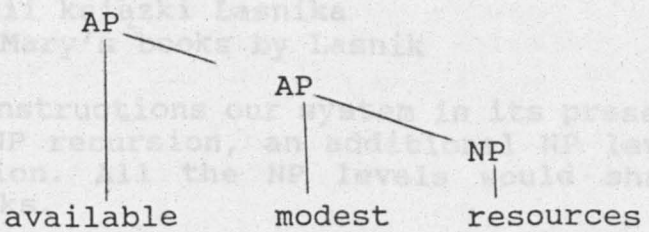
e. *zafascynowanie się przez kobiety aerobikiem

f. *zdziwienie się przez Jana przyjazdem dzieci

13. Giorgi and Longobardi's principle is closely related to the "head final filter" of Williams (1982) positing that premodifying expressions must be head final and must not contain postmodifiers.

14. Prenominal premodifying adjectives can be reiterated and Radford suggests a constraint prevent an occurrence of APs as complements of A:

a.



To solve this problem an additional principle was applied:

b. The Inheritance Principle

A modifier phrase (i.e. a phrase headed by a modifier) inherits the categorial properties of its complement.
(Radford 1991 a,:11)

Thus an AP in a. is intrinsically an AP but inherently an NP and as such can be taken as a complement of AP.

15. For example Corver (1990) in his study of Left Branch Condition violations proposed that Russian, Polish and Czech did not project the DP level. Therefore their nominal specifiers could move out of NP, for there was no DP barrier. He based his assumptions on observations parallel to ours in (4.110-13).

16. Tadeusz Zabrocki suggested to me (personal communication) that Ghost could in fact be Agr_N, some nominal superprojection determining agreement processes within nominals. This proposal seems in line with various recent proposals concerning the character of the Agr projections system 'insulating' every lexical maximal projection.

17. As Larson proposes in such structures the verb and its PP complement in the lower VP shell reanalyze as a complex head and raise to the upper VP shell head position leaving the indirect object behind.

18. It is unclear whether our reanalysis is also responsible for such nominals as reforma podatkowa/tax reform in which the noun and the adjective seem to form one semantic unit. However initially the adjective podatkowa/tax modified the head under N'. Following the movement of the head to Ghost the surface structure word order appeared. Reanalysis in this case would not involve a head and its complement but a head and a modifier of a lower head.

19. As Tadeusz Zabrocki (personal communication) noticed, an alternative to the reanalysis option could be suggested. Our system could be less radical in its rejection of Giorgi and Longobardi's (1990) Configurational Hypothesis and assume that External arguments in Polish nominals could be projected on the right side of the nominal head. This would allow a simpler account of these structures. Additionally, certain rare structures for which our system would need three Spec positions could be handled straightforwardly:

te Marii książki Lasnika
These Mary's books by Lasnik

For such constructions our system in its present form would have to assume NP recursion, an additional NP level with the third Spec position. All the NP levels would share the same head książki/books.

20. With respect to definiteness versus indefiniteness status of nominals and a possibility of extraction from them, we can propose that there is some Def element in [Spec,DP] if Determiner houses a definite article or demonstrative pronoun. Presence of this Def element in [Spec,DP] can produce worse results of extraction.

21. As for the structure of idioms involving nominal heads and adjectival modification, e.g. swieta krowa/sacred cow we believe that Radford's claim that idiom formation is based only on the relation of complementation is too strong and that the Idiom Principle of Koopman and Sportiche (1991) is more accurate (see 3.48).

22. There is however one aspect of quantification that the coheadedness hypothesis explains better than a regular modification relation. The fact that a single head can be modified by more than one modifier can be grasped by the recursive capacity of the X' level, but the fact that only one modifier can accompany a nominal head must remain a stipulation based on the semantic properties of the relation of quantification. If the quantifier were not a modifier but a head selecting its complements, the impossibility of reiteration of quantifying phrases could be the consequence of selectional restrictions typical of the relation of complementation:

a. *wiele cztery samochody
many four cars
b. wiele samochodów

many cars
c. cztery samochody
four cars

Thus quantifiers could take NPs as their complements but not other QPs(QNPs).

In our framework, with the Coheadedness Hypothesis rejected for Polish we will have to invoke some semantic constraint on multiplication of QPs modifying one nominal head.

23. We owe this suggestion to Ian Roberts (personal communication).

24. Corresponding effects can be observed in English, where the by-phrase also blocks extraction:

a. Tom saw the signing of an agreement.
b. What did Tom see the signing of?
c. Tom saw John's signing of an agreement.
d. *What did Tom see John's singing of?
e. Tom saw the signing of an agreement by John.
f. *What did Tom see the signing of by John?

These facts corroborate our assumptions concerning the consequences of suppression.

25. Clause C may not be necessary if the notions properly head governed and directly selected by [+V] are kept distinct as they should be. However CP is directly selected by N. If N becomes a proxy proper head governor of V, it may be regarded as a [+V] head in some sense. Therefore clause C is needed to preserve strong barrierhood of the nominal complement.

26. A possible counterargument to our analysis can depend on the fact that for example in English complement Prepositional Phrases never appear in [Spec,NP/DP] at S-structure. If we assume that they transit through this position in the extraction process, this position should be able to house them overtly.

Our response to this challenge is inspired by Roberts's (1993) account of V-to-Comp raising through Agr in Scandinavian languages. This movement is invisible in the sense that Vs never appear in Agr overtly, for they have no agreement features to check through Spec/head relation with Agr.

Analogously, we can assume that PPs (and clauses) do not appear in [Spec,NP/DP] at S-structure because they do not have Phi features (person, number, gender) to check with the nominal head. Their movement through Spec is covert, unprovided for morphologically, but required by Relativized Minimality condition on A' chains.

Chapter 5

The ECP and Wh Movement in Polish[1]

Introduction

In this chapter Wh extraction from clausal complements in Polish is analyzed. Section 5.1. is devoted to a simple presentation of the problems connected with interrogative extraction from various types of clausal complements in Polish. Section 5.2. contains an analysis of the 'that trace effect' and proper head government of the subject position which seems to be available only in root contexts. The following section 5.3. contains a few suggested solutions to the problem of barrierhood of finite clausal complements and one type of subjunctive complements. An account of the discrepancies in native speakers' judgements of extractions from certain indicative complements is also provided. Section 5.4. is devoted to an analysis of the relative clause formation in Polish and English, differences between relative complementizers co/that in Polish and that in English and their consequences for both languages. It is our aim to show that many apparent differences between the two languages are in fact reducible to a few underlying properties such as a morphological versus abstract Case system, the mode of proper head government of the subject position or the status of extraposition barrier.

5.1. Wh extraction from Clausal Complements.

In this section we attempt to analyze Wh extraction from complement clauses and simple clauses and we will particularly focus our attention on the ECP and Subjacency predictions for Polish data.

We will start with an unproblematic analysis of simple clauses:

(5.1) Marek powoli jadl jablko.
'Mark/NOM slowly ate-3rd p/sing apple/ACC'
Mark slowly ate the apple.

In (5.1) the extraction of every single element is possible: direct object can be Wh moved, so can the manner adverb and the subject:

(5.2) a. Co Marek jadl powoli?
What did Mark eat slowly?

b. Jak Marek jadl jablko?
How did Mark eat the apple?
c. Kto jadl jablko?
Who ate the apple?

For the direct object and manner adverb traces, the ECP (of Rizzi 1990 and Cinque 1990) is obviously straightforwardly satisfied; the direct object is head governed by its verbal governor while the adverb of manner, not being in the immediate projection of V, has to be governed by the next closest head, probably Tense. The possibility of subject extraction in simple clauses indicates that the subject position is properly head governed by a head nondistinct from [+V].

As we know from the discussion of Rizzi (1990) in section 2.3, there seem to be three possibilities of obtaining proper head government for the subject position: the option taken by V2 languages, where Comp is not inert for head government and properly head governs the [Spec,IP] position; the English option with the feature Agr attached to empty Comp and providing necessary head government for [Spec,IP] under Spec-head agreement with an element in [Spec,CP] and finally the Italian option, where subjects are apparently extracted not from the [Spec,IP] position but from a postverbal position head governed either by V or Tense.

Certainly none of these options can be tested on an extraction from a simple clause. Before we proceed any further we can safely dismiss the first possibility, for Polish is not a V2 language and, unlike V2 languages, it does exhibit 'that trace' effect and subject/object asymmetry. At the first glance the Italian option should look very attractive: both Polish and Italian are null subject (pro-drop) languages and both allow for a much more free word order than English. Rizzi (1982b, 1990) and Burzio (1986) assume that null subject languages share three properties:

pro subjects
free subject/verb inversion
no "that trace" effects

Astonishingly, Polish does not display the third property of other null subject languages. Examining Wh extraction from complement clauses, we will try to show that the mechanism of the proper head government of the subject position in Polish is in fact much more similar to that in English than in Italian.

We shall analyze Wh extraction from infinitival complements, subjunctive complements, gerunds and participial clauses and indicative complements.

5.1.1. Wh extraction from Infinitival Complements.

Wh extraction from infinitival complements is allowed and unobstructed:

(5.3) a. Marek chce [$_{CP}$PRO szybko zjesc jablko]
'Mark/NOM want-3rd p/sing quickly eat apple/ACC'

Mark wants to eat the apple quickly.
b. Co Marek chce szybko zjesc?
What does Mark want to eat quickly?

c. Jak Marek chce zjesc jablko?
How does Mark want to eat the apple?

The direct object in (5.3 b), as an element with a referential theta role, proceeds directly to the matrix [Spec,CP] whereas the manner adverb in (5.3 c) as an element without any referential theta role proceeds successive cyclically via embedded [Spec,CP] to satisfy the antecedent government requirement. Subjects of infinitival clauses cannot be extracted for they are not governed and consequently no nonpronominal empty category is allowed in their position. Since PRO has no Case, any extraction of a nominal from its position would violate the Case Filter, for the Wh operator would have no Case.

5.1.2. Wh extraction from Subjunctive Complements.

Subjunctive complements in Polish fall into two groups: the ones taken by predicates subcategorized also for bare infinitival complements (chciec/want, kazac/order, radzic/advise) and the ones taken by predicates which do not take infinitival complements (such as przekonac/persuade,convince):

(5.4) a. pro chce [PRO widziec sie z dyrektorem natychmiast]
'(I) want-1st p/sing refl clitic see manager/INST immediately'
I want to see the manager immediately.
b. pro chce [zeby Tomek natychmiast widzial sie z dyrektorem.]
I want that Tomek should see the manager immediately.

(5.5) a. *pro przekonalem Janka [PRO widziec sie z dyrektorem natychmiast.]
'(I) convinced-1st p/sing Janek see manager/INST immediately'
I convinced John to see the manager immediately.
b. pro przekonalem Tomka [zeby pro widzial sie z dyrektorem natychmiast.]
I convinced Tomek that he should see the manager immediately.

There seems to be one more structural difference between e- and n-subjunctives; the former (especially chciec/want) are the only (clausal) complements of their predicates while the latter are clausal direct objects preceded by nominal indirect objects. We will try to capitalise on this fact in section 5.3. Strangely enough, Wh extraction in Polish is allowed only from subjunctive complements of the verbs able to take bare infinitival complements (hence e(xtractable)-subjunctives) but is disallowed from the other

type of subjunctive complements (hence n-subjunctives):

(5.6) a. Z kim [Iwona chce [zeby sie Tomek widzial t natychmiast]]
'with who/INST Ivonne want-3rd p/sing that-3rd p/sing' Tom should see immediately
Who does Ivonne want Tom to see immediately?
b. Z kim [Iwona zada [zeby Tomek sie widzial t natychmiast]]
Who does Ivonne demand that Tom should see immediately?
c. Kiedy [Iwona chce [zeby Tomek sie widzial z dyrektorem t]]
When does Ivonne want Tom to see the manager?

(5.7) a. *Z kim [Iwona przekonala Tomka [zeby pro sie natychmiast widzial t]]
'with who/INST Ivonne convinced-3rd p/sing Tom that-3rd p/sing (he) should immediately see'
Who did Ivonne convince Tom that he should see immediately?
b. *Kiedy [Iwona przekonala Tomka [zeby pro sie widzial z dyrektorem t]]
When did Ivonne convince Tom that he should see the manager?

However subject Wh extraction from subjunctive complements is impossible, even from e-subjunctives, although as (5.6 a-c) show that other elements can be extracted freely:

(5.8) a. *Kto [Iwona chce [zeby t sie natychmiast widzial z dyrektorem]]
Who does Ivonne want t to see the manager immediately?
b. *Kto [Iwona zada [zeby t sie natychmiast widzial z dyrektorem]]
Who does Ivonne demand that should see the manager immediately?
c. *?Kto [pro chcesz [zeby t natychmiast wypil piwo]
who/NOM want-2nd p/sing that-3rd p/sing immediately drank beer
Who do you want to drink beer immediately?

All the examples from (5.8) sound bad. However (5.8c) sounds markedly better than the previous two and for some speakers can be marginally acceptable. Note that in (5.8c) there is pro in the subject position while in the previous examples full lexical NPs occupy this position. Since pro, as a non phonetically realized pronominal should be fully interchangeable with overt pronouns, we could expect that the slightly more acceptable (5.8c) would retain its status with an overt pronoun in the position of pro. This however is not the case and (5.8d) is as bad as (5.8a-b):

(5.8) d. *Kto [on chce [zeby t natychmiast wypil piwo]]
Who does he want to drink the beer immediately?

From (5.8a-d) we will thus conclude that subjects cannot be Wh extracted from either e- or n-subjunctive clauses and we will attribute a relatively better status of (5.8c) to its parsing properties; the null subject in the matrix clause makes it easier for the parser to process, or rather decipher, the object of the question. This condition on processing is in line with proposals of Zabrocki (1989) who observes that it is difficult to process a structure in which there are adjacent NPs carrying the same Case. In the aforementioned examples the Wh word in Nominative occurs next to the Nominative subject of the matrix clause.

(5.8) displays a sharp contrast between Polish and Italian: Polish shows 'that trace effects' while Italian does not. Since Wh extraction of embedded subjects is unconditionally disallowed in Polish[2], we face two alternatives: we can either claim that in Polish subjects are moved directly from the [Spec,IP] position (keep in mind obvious extractability of subjects from simple clauses), or, like in Italian, from a postverbal position. The latter hypothesis seems untenable, for the impossibility of subject extraction would entail that in Polish V and Tense are not proper head governors nondistinct from [+V]. This conclusion seems unavoidable if we assume that VP adverbs are adjoined to VP and head governed by Tense (see section 2.3); however the possibility of both direct object and adverb extraction from positions which are governed by V and Tense respectively, shows that these terminal projections are proper head governors nondistinct from [+V].

In Italian postverbal subjects of ergative verbs are said to be properly head governed by V and subjects of transitive and intransitive verbs in the postverbal position, referred to as i(nverted) subjects are properly head governed by Tense (see Rizzi 1982, 1990 and Burzio 1986 for detailed analysis)[3].

We are left only with the hypothesis that subjects are extracted from the [Spec,IP] position. It follows then that although in Polish a pronominal empty category pro can occur in a tensed complement subject position, a nonpronominal empty category cannot, i.e. this position is not properly head governed. Consequently government requirements of a variable and pro in Polish are different, a conclusion consistent with Rizzi (1978a, 1982b) and Burzio (1986). It seems then that although Polish is a null subject language and allows for a free word order, it does not allow for Italian type inversion.

5.1.3. Extraction from Gerunds and Participial Clauses.

At present we will briefly analyze the possibilities of extraction from gerunds and participial clauses. Following Giejgo (1981) and Kardela (1986), we shall assume that these two are nominal dependents in Polish:

- gerunds, bearing the suffix -anie:

  malowanie/painting
  spiewanie/singing

tanczenie/dancing
jezdzenie/riding

as in: Painting a picture is a difficult job.

- participial clauses with the suffix -ac:

malujac/painting
spiewajac/singing
tanczac/dancing
jezdzac/riding

as in: Painting a picture, she realized that she was a talented artist.

In contrast with e-subjunctive complements, only subjects can be extracted from both gerunds and participial clauses. As in Giejgo (1981) and Kardela (1986), we will treat gerunds as nouns and participial clauses as reduced relatives[4].

(5.9) a. Maria krytykuje [$_{NP}$ Piotra [$_{N'}$ spiewanie koled]]

Mary criticizes Peter's singing of the carols.

b. Czyje [$_{IP}$ Maria krytykuje [$_{NP}$t [$_{N'}$ spiewanie koled]]]

whose/GEN Mary criticizes singing carols/ACC
Whose singing of carols does Mary criticize?

c. *Czego [$_{IP}$ Maria krytykuje [$_{NP}$ Piotra [$_{N'}$ spiewanie t]]

what/GEN Mary criticizes Peter's singing
Peter's singing of what does Mary criticize?

(5.10) a. Maria widzi [$_{NP}$Piotra$_i$ [$_{CP}$wh-[$_{IP}$t$_i$ calujacego czule

Kasie]]]
Mary sees Peter/ACC kissing Cathy/ACC tenderly.

b. Kogo$_i$ [$_{IP}$Maria widzi [$_{NP}$t$_i$ [$_{CP}$wh-[$_{IP}$t'$_i$ calujacego czule

Kasie]]]
Who does Mary see kissing Cathy tenderly?

c. *Kogo$_j$[$_{IP}$Maria widzi [$_{NP}$Piotra$_i$ [$_{CP}$wh-[$_{IP}$t$_i$ czule

calujacego t$_j$]]]
Who does Mary see Peter kissing?

d. *Jak$_k$ [$_{IP}$Maria widzi [$_{NP}$ Piotra$_i$ [$_{CP}$wh-[$_{IP}$t$_i$ t$_k$

calujacego Kasie]]]
How does Mary see Peter kissing Cathy?

The possibility of subject extraction out of a gerundive nominal comes as no surprise after our analysis of Wh extraction out of nominals in Polish: the [Spec,NP/GP] position is available for external head government which means that it cannot be head governed by N (which is inert for proper head government).

The case of participial clauses is much more puzzling. It is difficult to imagine that the active participle calujacego may not be a proper head governor. Still extraction of a direct object of the participle is impossible, even though it bears a referential theta role and could move via long, nonlocal movement to matrix [Spec,CP] unless a reduced relative were a barrier for binding. Indeed Complex NP Constraint is a strong barrier, a barrier for binding in Cinque's (1990) terminology: it is not theta marked (neither directly nor indirectly) by a category nondistinct from [+V]. Thus while NP is not a barrier for binding or government, for it is theta governed by V, CP is a maximal projection indirectly (not under sisterhood) theta governed by N and therefore constitutes a strong barrier. In the "Barriers" framework the relative clause is a barrier for it is not L-marked, not selected and has the syntactic function of an adjunct.

We are forced to assume the barrierhood of participial clauses in Polish because of the impossibility of complement extraction from them. The status of their English equivalents is that of ECM cases (IP complements) allowing for both complement and adjunct extraction:

(5.11) a. Mary sees Peter kissing Cathy tenderly.
b. Who does Mary see kissing Cathy tenderly?
c. Who does Mary see Peter kissing tenderly?
d. How does Mary see Peter kissing Cathy?
e. Mary sees [$_{CP/IP}$ Peter kissing Cathy]

with the reduction of CP to IP to allow for Accusative Case assignment to the subject position of the complement[5].

5.1.4. Wh extraction from Indicative Complements.

Finally, we will examine the possibility of Wh extraction from indicative complements in Polish.

Unlike in English or Italian, for the majority of Polish speakers no element can be moved via Wh movement out of indicative complements:

(5.12) a. Iwona wie [$_{CP}$ ze Tomek je czekolade zachlannie]

'Ivonne/NOM knows-3rd p/sing that Tom/NOM eats-3rd p/sing chocolate/ACC greedily'
Ivonne knows that Tom eats chocolate greedily.

b. *Co [$_{IP}$ Iwona wie [$_{CP}$ ze Tomek je t zachlannie]]

What does Ivonne know that Tom eats greedily?

c. *Kto [$_{IP}$ Iwona wie [$_{CP}$ ze t je czekolade zachlannie]]

Who does Ivonne know that eats chocolate greedily?

d. *Jak [$_{IP}$ Iwona wie [$_{CP}$ ze Tomek je czekolade t]]

How does Ivonne know that Tom eats chocolate?

Again the impossibility of moving the direct object seems to be a crucial piece of evidence for strong barrierhood of the indicative complement.

However there seem to be discrepancies in native speakers' judgements about this limited possibility of Wh extraction from indicative complements of certain verbs. These discrepancies are reflected in the literature: Giejgo (1981), Kardela (1986) and Willim (1986) do not assume the existence of any "bridge" verbs in Polish allowing complement extraction, while Cichocki (1983) and Zabrocki (1989) point out that mowic/say and powiedziec/tell are bridge verbs, unlike for example myslec/think and other verbs:

(5.13) a. *Co [Janek mysli [ze studenci czytaja t]]
What does John think that the students read?
b. ?Co [Janek mowil [ze studenci czytaja t]]
What did John say that the students read?
c. ?Co [Janek powiedzial [ze studenci czytaja t]]
What did John say/tell that the students read?

We will draw two conclusions from (5.13), in which to our ear all examples sound equally bad.

First, subject Wh extraction from indicative complements is totally unacceptable even as a marginal construction, irrespective of the content of the subject position:

(5.14) a. Marek wie [ze studenci czytaja Trockiego]
Mark knows that the students read Trotsky.
b. *Kto [Marek wie [ze t czyta Trockiego]]
Who does Mark know that reads Trotsky?

(5.15) a. Marek wie [ze oni czytaja Trockiego]
Mark knows that they read Trotsky.
b. *Kto [Marek wie [ze t czyta Trockiego]]
Who does Mark know that reads Trotsky?

(5.16) a. Marek wie [ze pro czytaja Trockiego]
Mark knows that (they) read Trotsky.
b. *Kto [Marek wie [ze t czyta Trockiego]]
Who does Mark know that reads Trotsky?

We will claim that this is because the [Spec,IP] position in Polish complement clauses is not properly head governed thus an ECP violation ensues.

Second, we will assume that the existence of "bridge" verbs in Polish is a highly subjective issue and the grammaticality judgments in (5.13) are determined by a native speaker's idiolect. It is difficult to detect any difference between (5.13a) on the one hand and (5.13b-c) on the other; all of them uniformly regain their grammaticality if the Wh operators licensing the complements occur in [Spec,CP] of the indicative complements and the matrix complementizers are filled by interrogative particles jak/how or czy/whether:

(5.17) a. Jak [Janek mysli [co studenci czytaja t]]
'how John thinks-3rd p/sing what/ACC students/NOM read-3rd p/pl'
What does John think that the students read?
b. Czy [Janek mowil [co studenci czytaja t]]
'whether John said what students read'
What did John say that the students read?
c. Czy [Janek powiedzial [co studenci czytaja t]]
'whether John said what students read'
What did John say that the students read?

The examples in (5.17) are fully grammatical to any native speaker and we will assume that for the majority of speakers extraction is disallowed but for some speakers it is acceptable. We will attempt to explain this ambivalent status of extraction of non subjects from indicative complements in 5.3.

From the extraction facts presented above it seems that the indicative complement has to be a strong barrier disallowing binding of an element bearing a referential theta role from matrix [Spec,CP], despite the fact that the proper head government requirement of the ECP is satisfied.

Before we analyze the barrierhood of indicative complements in Polish, we will attempt to account for the lack of proper head government of the subject position in clausal complements.

5.2. Proper Head Government of the Subject Position

So far we have analyzed the possibilities of Wh extraction from simple clauses, infinitival complements, e-subjunctive complements, n-subjunctive complements, gerunds and participial clauses and indicative complements. We will exclude gerunds and participial clauses as not pertinent to the question of proper head government of the [Spec,IP] position, for as it was demonstrated in (5.9-10), their subjects are properly head governed by V and movable. Out of the other constructions, two will be of special interest to us: simple clauses, out of which the subject can be extracted, and e-subjunctives which apparently are not islands, for they allow extraction of complements and adjuncts. Infinitival complements are not islands either but PRO subjects cannot enter into operator variable relations. Both indicative clauses and n-subjunctives do not allow for any Wh extraction from within and are barriers for binding. Consequently it is impossible to test empirically whether or not their subject positions are head governed. However by analogy, their subject positions must be configurationally compatible with that of e-subjunctive complements and simple tensed clauses. We believe that this parallelism holds.

The subject position of a tensed clause has to be head governed if it allows for Wh movement of the subject:

(5.18) a. Marek zjadl jablko powoli.
Mark ate the apple slowly.

b. pro zjadl jablko powoli.
(he) ate the apple slowly.
c. Kto [$_{CP}$ t zjadl jablko powoli]

Who ate the apple slowly?

The fact that pro can appear in the subject position of tensed clauses indicates that this position must be somehow especially strongly governed. In the following section we will however claim that this condition on the [Spec,IP] position in Polish cannot be identified with proper head government of this position.

5.2.1. Pro identification versus proper head government of subjects.

The classic analysis of the conditions allowing for the occurrence of pro conducted in Chomsky (1982) concluded that pro required rich (strong) Agr node that could provide it with F-features (number,person,gender) under agreement. Such formulation of the pro requirement did not explain why there are languages with seemingly rich inflectional paradigms such as German which do not allow thematic null subjects[6] and languages such as Chinese, without any inflectional paradigm reminiscent of Indo-European languages, which nevertheless allows for a full range of null subjects. Several attempts were made to formulate the pro parameter more precisely (e.g.Rizzi 1982, 1986) and recently Jaeggli and Safir (1989) formulated the parameter as follows:

(5.19) The Null Subject Parameter

> Null subjects are permitted in all and only languages with morphologically uniform inflectional paradigms[7].
>
> (Jaeggli and Safir 1989:29)

A paradigm is uniform morphologically if all forms are equally complex: stem plus different suffixes, prefixes, infixes for different persons, numbers and genders or if all forms are equally simple and consist of the stem only.

Identification of a null subject can be achieved by two means: either by agreement or by inheritance of agreement features by a lower Infl node from a higher Infl or a c-commanding NP. In Polish pro is identified by agreement:

(5.20) Identification by Agreement

> Agr can identify an empty category as a thematic pro iff the category containing Agr Case-governs the empty category.
>
> (Jaeggli and Safir 1989:35)

Thus Agr must not only be strong but it must constitute a part of the node governing pro and assigning Case to it. In order to

fulfil the requirement of the identification of <u>pro</u> by agreement, we will assume that the entity referred to as the Infl node in Polish consists in fact of two heads; Agr and Tense with TenseP as a complement of Agr. This assumption is in line with various versions of the split Infl hypothesis developed in Pollock (1988), Chomsky (1989, 1991) and Rizzi (1990) among others. By assuming the approach to the Null Subject Parameter of Jaeggli and Safir, we have to secure Case government of <u>pro</u> by a category Agr which becomes Nominative Case assigner in the split Infl hypothesis.

(5.21) The structure of Inflection phrase in Chomsky and Lasnik (1991):

```
          IP
     Spec         Agr-S'
          Agr-S       TP
                      Tense Agr-O''
                           Spec        Agr-O'
                                Agr-O VP
```

(5.22) The structure of Inflection phrase in Rizzi (1990):

```
          AgrP
     NP          Agr'
          Agr         Tense Phrase
                      T'
                      T          VP
```

(5.23) The structure of Inflection phrase in Tajsner (1990):

          IP

     NP   I'

               I^i VP

               T'

          T_i Agr_i

(5.21) seems appropriate for English, where the inflectional paradigm is not uniform, the occurrence of null subject is impossible and Agr need not form a single constituent with Infl which assigns Nominative Case to the [Spec,IP] position.

In Italian the head of the Agr phrase is said to be a clitic with pronominal features binding pro and transmitting its features onto it, including Case (Rizzi 1982, 1986). However, as Rizzi (1990) explicitly points out, Agr does not properly head govern pro.

In Polish, the dual headedness of Infl achieves a twofold objective in Tajsner's system: Nominative Case assignment (or rather Nominative Case checking) and licensing of pro. Nominative Case checking takes place under government, provided that this notion is based on extended c-command, m-command: the terminal Tense node m-commands the [Spec,IP] position within its maximal projection IP and is able to check the Case. Similarly, Agr passes F-features onto pro under government within its maximal projection IP. Under the current assumptions concerning the Case marking properties of Agr (Cardinaletti and Roberts 1991, Koopman and Sportiche 1991, Rizzi and Roberts 1991, Roberts 1993) this system can be simplified and instead of a two-headed Infl, Agr and Tense head their own projections in Polish in exactly the same way they do in Rizzi's system in (5.22).

Note that the [Spec,IP] position is not head governed either by Tense or by Agr because it is not placed within their immediate projections. To secure lack of proper head government of the subject position, we have to assume that as in English, Comp in Polish is a head inert for government and cannot properly head govern a subject on its own. As the examples in (5.18) show, the subject can be Wh extracted out of simple clauses, thus in order to satisfy the ECP, the nonpronominal empty category left behind has to be properly head governed. We will claim that it obtains its proper head government in a way analogous to subjects in English: through assignment of Agr feature to Complementizer.

Following Rizzi (1990), we conclude that the Agr element can fulfil a dual role in Polish, it can either act as a head, or be a feature assigned to a phonologically null Complementizer. Only the assignment of this feature transforms Comp into [$_{Comp}$Agr], a proper head governor for [NP,IP].

Note, that the English option of the proper head government of the subject position, with which its Polish equivalent has much in common, requires one further condition: that Spec-head agreement be reconstructed between the Agr feature in Comp and the Wh operator or the intermediate trace in [Spec,CP] along the lines of the agreement between the clausal subject and the head of AgrP. We do not think that the peculiar character of the Polish clausal complement system requires this further condition as it stands.

The obligatoriness of some element in [Spec,CP] when Agr has raised to Comp stems from the following condition:

(5.24) A head containing Agr must have a filled specifier.
(Roberts 1993:56)

Following Rizzi, Roberts assumes that this licensing condition is a consequence of the Extended Projection Principle of Chomsky (1982) and, for example, it is responsible for the obligatory presence of some lexical/empty elements in [Spec,CP] in V2 languages whose Comps inherently bear feature [Agr]. By the above mentioned condition the word order in matrix clauses is verb **second.**

As a matter of fact subject extraction is not allowed from any clausal complement in Polish, only from simple clauses, therefore subjects do not move from complements to matrix [Spec,CP]. This additional Spec-head agreement reconstruction principle is useful in English, where long and successive cyclic movements are possible, to prohibit at least partially illicit multiple Wh extraction at S-structure:

(5.25) a. ...V $[_{CP}$ John repaired the car slowly]

b. *...V $[_{CP}$ t'$_j$ $[_C$ Agr]$[_{IP}$ John$_i$ repaired the car t$_j$]]

Without the Spec-head agreement reconstruction provision, the adjunct slowly would be allowed to move out of the complement clause successive cyclically and, independently, the subject could leave its now properly head governed position and move to the matrix [Spec,CP] via long movement. This could lead to a multiple Wh question formation at S-structure[8]. The construction is ruled out if t$_j$ in [Spec,CP] has to change to t'$_i$ to license Agr to Comp movement as required.

As we briefly mentioned the configuration presented in (5.25) cannot occur in Polish syntax because only e-subjunctives and infinitivals are not islands. Besides, in the form proposed by Rizzi, the licensing requirement of Agr in Comp would immensely complicate the multiple Wh question formation process in Polish because it would require that Wh operators licensing the subject position be always present in [Spec,CP] to secure its proper head government. This would consequently require some reordering of Wh operators in the initial string between overt syntax and the output of LF.

With these consequences in mind, we propose to modify the Agr-to-Comp raising licensing condition in the following way; we will keep (5.24) intact and assume that it holds in Polish in its literal sense: Agr-to-Comp raising depends on presence of **some trace** in [Spec,CP]. This trace however need not be coindexed with Agr and reconstruct its Spec/head agreement. This more relaxed condition on Agr-to-Comp raising in Polish does not cause any unpredicted consequences. Three scenarios must be considered: extractions of subjects from e-subjunctives, infinitivals and matrix clauses.

The impossibility of subject extraction from e-subjunctives is discussed below and attributed to processes independent of the presence of trace in [Spec,CP].

Adverb extraction from infinitivals proceeds through embedded [Spec,CP] (on the assumption that objects can perform long movement as elements bearing referential indices) and facilitates the raising of Agr to Comp. Once in Comp, Agr should presumably govern the subject position occupied by PRO. However nonfinite Agr as a defective governor does neither properly head govern PRO nor assign Case to it. PRO still cannot move because both ECP and the Case marking condition on Wh traces are violated.

The case of matrix clauses is not really problematic, for as we could see the subject can move freely. Additionally the structure of [Spec,CP] should allow for multiple A' binding of traces in multiple Wh questions. The order of clause initial Wh

words is unconstrained with the subject Wh word possible in the initial, final or central position[9]. The "English" option of the Agr-to-Comp licensing condition would force the subject Wh word to occupy the initial position only (at least at LF). The order variations in the initial Wh string would have to change between S structure and LF to secure the [Spec,CP] position for the subject operator. Our formulation of this condition makes it possible to account for the subject extraction facts, avoid a complication of our grammar at no cost and still provide for proper head government of the subject position.

5.2.2. Proper Head Government of the Subjects of e-subjunctives.

At this point we will attempt to account for the fact that e-subjunctive complements disallow subject extraction, even though the agreement morpheme is obligatorily attached to complementizer ze/that. There arises an amalgam of ze/that plus conditional element by, while the verb is in its past form 3rd person masculine, feminine or neuter in singular and 3rd person plural masculine or nonmasculine in plural. We will consider two options and argue that the presence of the agreement morpheme in Comp is not tantamount to the required Agr to Comp raising:

(5.26) a. Iwona chce zebym (ja) zasnal.
Ivonne wants that-cond-1st p/sing (I) fell-3rd p/masc asllep
Ivonne wants me to fall asleep.
b. Iwona chce zebym (ja) zasnela.
Ivonne wants that-cond-1st p/sing (I) fell-3rd p/fem asleep
c. Iwona chce zebys (ty) zasnal.
Ivonne wants that-cond-2nd p/sing (you) fell-3rd p/masc asleep
d. Iwona chce zebys (ty) zasnela.
Ivonne wants that-cond-2nd p/sing (you) fell-3rd p/fem asleep
e. Iwona chce zebys (ty) zasnelo.
Ivonne wants that-cond-2nd p/sing (you) fell-3rd p/neuter asleep
f. Iwona chce zeby (on) zasnal.
Ivonne wants that-cond-3rd p/sing (he) fell-3rd p/masc asleep
g. Iwona chce zeby (ona) zasnela.
Ivonne wants that-cond-3rd p/sing (she) fell-3rd p/fem asleep
h. Iwona chce zeby (ono) zasnelo.
Ivonne wants that-cond-3rd p/sing (it) fell-3rdp/neuter asleep
i. Iwona chce zebysmy (my)zasneli.

Ivonne wants that-cond-1st p/pl (we) fell-3rd p/msc asleep

j. Iwona chce zebysmy (my) zasnely.
Ivonne wants that-cond-1st p/pl (we) fell-3rd p/nonmasc asleep

k. Iwona chce zebyscie (wy) zasneli.
Ivonne wants that-cond-2nd p/pl (you) fell-3rd p/masc asleep

l. Iwona chce zebyscie (wy) zasnely.
Ivonne wants that-2nd p/pl (you) fell-3rd p/nonmasc asleep.

m. Iwona chce zeby (oni) zasneli.
Ivonne wants that-3rd p/pl (they) fell-3rd p/masc asleep

n. Iwona chce zeby (one) zasnely.
Ivonne wants that-3rd p/pl (they) fell-3rd p/nonmasc asleep

Tajsner (1990) analyses the obligatory attachment of agreement features to Complementizer as an outcome of head to head movement of Infl to Comp forming a complex head node CONFL. He claims that in the subjunctive clauses it is the agreement element of the Infl node that gains more prominence of the two, Tense node being weakened and reduced to one setting: Past.

(5.27)

CP

Spec C'

CONFL IP

NP I'

I_i

Agr'

Agr_i Tense

(Tajsner 1990:102)

It would appear that CONFL including Agr in (5.27) properly head governs the subject position and contrary to our claims the subject should be available for Wh extraction. We must then dismiss CONFL as a proper head governor. We consider two options tenable.

First, that CONFL does not contain the whole Agr; if the presence of Agr in Comp turns Complementizer to proper head governor, it should be the presence of the whole Agr complex responsible for assignment of F-features (person, number, gender). As we can see in (5.26) not all features discharged by Agr appear on CONFL, only person and number. The feature determining gender remains in the Agr node and is incorporated by the verb (for the time being we will disregard the exact mechanism of this incorporation). We could thus claim that only the presence of

entire Agr in Comp transforms this functional head into a proper head governor. Note that the feature gender cannot belong to Agr_o, for the verb used in (5.26) is a truly intransitive verb and no agreement with the object is required.

Second, we could capitalise on the distinction between Agr as a head and Agr as a feature that can be assigned to Comp, made in Rizzi (1990), and applied to exclude (5.28):

(5.28) *[$_{CP}$Who$_i$ [$_C$did$_j$][$_{IP}$t$_i$ [$_I$t$_j$] leave]]

It would seem that the raising of the inflected auxiliary [Agr+Tense] to Comp should activate it as a proper head governor. However it is only Agr as a <u>feature</u> that can activate the government capacity of Comp. The Recoverability Principle enables the movement of Infl into Comp on the condition that the Comp node is empty, i.e. it has not been assigned the Agr feature. Thus despite filling Comp with lexical material, it still remains a head intrinsically inert for government (Rizzi and Roberts 1989). Analogously, in (5.26) CONFL occupies Comp which must have been empty previously, not assigned the feature Agr transforming it into a proper head governor, the presence of lexical material in Comp does not activate its government capacity and although the e-subjunctive complement is not an island, subject extraction is prohibited due to the ECP requirement of proper head government.

Consequently, if we extend the spirit and the letter of our analysis to n-subjunctives and indicative complements, it will follow that subjects in n-subjunctives are not properly head governed (redundantly, for this type of complement is an island) while subjects of indicative complements are not head governed due to the presence of complementizer <u>ze</u>/that (also redundantly for their movement is prevented by barrierhood of their clausal domains).

5.3. <u>Barrierhood of Clausal Complements</u>

At present, having completed our analysis of head government of the subject position in Polish, we will focus our attention on the second most important issue, the barrierhood of clausal complements. At first we will show how Subjacency and the Island Constraints of the pre "Barrier" framework could account for Polish data (5.3.1). In the following subsection (5.3.2) some accounts of the barrierhood of complements are presented and followed by our analysis of this phenomenon in (5.3.3.). In (5.3.4) we propose our definition of barrier for Polish and argue that the capacity of English and Italian to move arguments from within extraposed clauses is a marked option.

(5.3.1.) <u>Subjacency and Island Constraints in Polish.</u>

The difficulty of Wh extraction from clausal complements in Polish lead to disappointment with ECP and Subjacency as universal

principles of grammar. Nominal complements of verbs, properly governed under any formulation of the ECP (theta governed, lexically governed and head governed) could not be extracted from simple clausal complements. The difficulty with Subjacency concerned mainly the number and type of bounding nodes blocking movement in Polish:

(5.29) Czyja [$_{IP}$ Iwona czyta [$_{NP}$ t[$_{N}$ksiazke]]]

Whose book does Ivonne read?

(5.30) *Kogo [$_{IP}$ Iwona wie [$_{CP}$ ze[$_{IP}$ Tomek kocha t]]]

Who does Ivonne know that Tom loves?

The previous analyses of Wh movement in Polish, conducted in the LGB framework could not pinpoint precisely why it is so that in (5.29) the crossing over NP and IP(S) did not constitute a Subjacency violation, while in (5.30) the crossing of a single IP(S) in a single leap (assuming successive cyclic Wh movement of all elements) and of CP(S') and IP(S) in another, triggered off Subjacency violations. LBC seemed to be the more troublesome condition, for (5.30) could be handled well in the Subjacency framework; as Chomsky (1981) claims selection of bounding nodes is parametrized and while English takes only IP/S and NP as bounding nodes, Polish can take IP/S, NP and CP/S'. Therefore it is the movement over IP and CP in a single swoop that violates the condition in Polish. The only problem was the fact that various types of clausal complements differed with the respect to the bounding node status of their CP/S' levels. For example it was troublesome to account for Wh extraction from infinitival clauses and e-subjunctives. Various proposals have been put forward and we will consider them in the following subsection.

Apart from LBC violations, Polish seems sensitive to typical island constraints; Complex Noun Phrase Constraint (CNPS), Sentential Subject Constraint (SSC), Wh Island Condition, Coordinate Structure Constraint:

(5.31) *Kogo$_j$ [$_{IP}$pro przeczytales [$_{NP}$ ksiazke [$_{CP}$ ktora$_i$ [$_{IP}$ t$_i$ krytykowala t$_j$]]]]

Who did you read the book that criticized?

(5.32) *Kogo$_i$[$_{IP}$[$_{NP}$to [$_{CP}$ ze Maria uderzyla t$_i$]] zaskoczylo ich]

Who that Mary hit surprised them?

(5.33) *Co$_j$ [$_{IP}$ pro zastanawiales sie [$_{CP}$ komu$_i$ [$_{IP}$ Jan da t$_i$ t$_j$]]]

Who did you wonder to whom John will give?

(examples from Willim 1986)

(5.34) *Kogo$_i$ [$_{IP}$ pro spotkales dzisiaj t_i i Tomka]

Who did you meet today and Tom?

From our discussion of extraction facts, it could follow that the Wh Island Condition, exemplified in (5.33), is not operational and may not apply in Polish. The absence of a Wh operator in lower [Spec,CP] or IP adjoined position does not improve its grammaticality:

(5.35) *Co [$_{IP}$ pro zastanawiales sie [$_{CP}$ ze/czy/0 [$_{IP}$ Iwona da t Tomkowi]]]
What did you wonder whether Ivonne will give to Tom?

No matter whether or not the [Spec,CP] position of the indicative clausal complement is filled by a Wh operator, any extraction out of this complement is prohibited, as we could see throughout this section. Exactly identical parallelism applies to n-subjunctive complements and participial clauses (gerunds have no available Comp for an intervening Wh word):

(5.36) a. *Co$_i$ [$_{IP}$ Iwona przekonala Tomka [$_{CP}$zeby [$_{IP'}$ komu$_j$ [$_{IP}$

pro dal t_i t_j]]]]

What did Ivonne convince Tom that to whom he should give?

b. *Co [$_{IP}$ Iwona przekonala Tomka [$_{CP}$ zeby [$_{IP}$ pro dal t

tacie]]]
What did Ivonne convince Tom that he should give to his daddy?

(5.37) a. *Co$_j$ [$_{IP}$ Iwona widziala [$_{NP}$ Tomka$_i$ [$_{CP}$ komu$_k$ [$_{IP}$$t_i$

dajacego t_j t_k]]]]

What did Ivonne see Tom giving to whom?

b. *Co$_j$ [$_{IP}$ Iwona widziala [$_{NP}$ Tomka$_i$ [$_{CP}$ wh-[$_{IP}$ t_i dajacego

t_j tacie]]]]

What did Ivonne see Tom giving to daddy?

Because these types of complements seem to be strong barriers, the island effects of the Wh Island Condition seem obscured. We will however claim that its effects are doubled up and strengthened by accidental barrierhood of certain complements but the Condition itself is operational in Polish[10]. It shows its effects in the clausal complements allowing extraction from within; e-subjunctives and the infinitivals allow multiple Wh extraction. If one of the Wh operators does not move to an available matrix clause initial position ([Spec,CP] or an IP adjoined position) and remains in the clause initial position of the complement, the acceptability of the

construction changes according to the type of the Wh operator crossing over an occupied embedded [Spec,CP].

(5.38) a. Co_i [Iwona chce [zeby [$_{IP'}$ $komu_j$ [Tomek dal t_i t_j]]

What does Ivonne want that to whom Tom should give?

b. Co_i i jak_j [Iwona chce [zeby Tomek zjadl t_i t_j]]

What and how Ivonne wants that Tom should eat?

c. Co_i [Iwona chce [zeby [$_{IP'}$ jak_j [Tomek zjadl t_i t_j]]

What Ivonne wants that how Tom should eat?

d. *Jak_j [Iwona chce [zeby co_i Tomek zjadl t_i t_j]]

How Ivonne wants that what Tom should eat?

(5.39) a. Co_i $komu_j$ $kiedy_k$ [Iwona chce [$_{CP}$ PRO dac t_i t_j t_k]]

What to whom when Ivonne wants to give?

b. Co_i $komu_j$ [Iwona chce [$_{CP}$ $kiedy_k$ [PRO dac t_i t_j t_k]

What to whom Ivonne wants when to give ?

c. Co_i [Iwona chce [$komu_j$ $kiedy_k$ [PRO dac t_i t_j t_k]]]

What Ivonne wants to whom when give?

d. *$Kiedy_k$ [Iwona ently dominated not by a nominal but verbal maximal projection, cannot be accounted for by Giejgo's analysis. Still Wh extraction from (5.57) seems ungrammatical.

(5.58) a. *Kto mama sadzi [$_{CP}$ ze t jest grzeczny]

Who mum thinks that is polite?

b. *Co Iwona przypuszcza [$_{CP}$ ze Jacek umie t]

what Ivonne presumes that Jack can
What does Ivonne presume that Jack can do?

It seems then that the ungrammaticality of (5.58b) has to be accounted for by means other than barrierhood of a clausal complement caused by a dominating nominal projection[11].

Second, for some native speakers of Polish, Wh extraction from the object position of indicative clausal complements of mowic/say, powiedziec/tell and other verbs is acceptable. These verbs could then constitute a group of 'bridge' verbs. Although in the author's idiolect extraction from their complements remains ungrammatical, it must be said that it is more comprehensible (semantically interpretable) than extraction from overtly nominal complements. Assuming (5.56) we should expect Wh extractions from both indicative complements (supposedly dominated by a nominal projection) and overtly nominal complements to be equally degenerate. In both cases the barrierhood of the indicative complement is caused by the fact that their directly selecting head is distinct from [+V].

(5.59) a. pro wiem [$_{CP}$ ze Newton odkryl prawo grawitacji]

(I) know that Newton discovered principle gravitation/GEN

I know that Newton discovered the principle of gravitation.

b. * Co pro wiesz [$_{CP}$ ze Newton odkryl t]

what (you) know that Newton discovered

What do you know that Newton discovered?

(5.60) a. pro wiem [$_{NP}$ to [$_{CP}$ ze Newton odkryl prawo grawitacji]]

(I) know it that Newton discovered the principle of gravitation.

b. ** Co pro wiesz [$_{NP}$ to [$_{CP}$ ze Newton odkryl t]]

What (you) know it that Newton discovered?

(5.61) a. pro znam [$_{NP}$ teorie [$_{CP}$ ze Newton odkryl prawo grawitacji]]

(I) know theory that Newton discovered principle gravitation/GEN

I know the theory that Newton discovered the principle of gravitation.

b. ** Co pro znasz [$_{NP}$ twierdzenie [$_{CP}$ ze Newton odkryl t]

what (you) know the theory that Newton discovered

What do you know the theory that Newton discovered?

(5.62) a. Jan mowil [$_{CP}$ ze pro czytal ksiazke]

John said that (he) read book

John said that he was reading a book.

b. * Co Jan mowil [$_{CP}$ ze pro czytal t]

what John said that (he) read

What did John say that he was reading?

c. Jan mowil [$_{PP}$ o [$_{NP}$ tym [$_{CP}$ ze pro czytal ksiazke]]]

John said about it that (he) read a book

John spoke about the fact that he was reading a book.

d. ** Co Jan mowil [$_{PP}$ o [$_{NP}$ tym [$_{CP}$ ze pro czytal t]]]

what John said about it that (he) read

What did John say about the fact that he was reading?

We have starred (5.60b, 5.61b, 5.62d) twice in order to indicate that their grammaticality status is markedly worse than that of (5.59b). This demonstrates the fact that bare indicative complements (bare in the sense that they are not preceded by an overt nominal head, either the correlative pronoun or a full lexical NP) are somehow weaker barriers than true overtly nominal complements. Nominal heads in the position of the governors of

clausal complements seem to produce much stronger barrierhood[12].

Despite its initial appeal, (5.56) does not seem adequate. As for the presence or absence of correlative to/it, we assume that the verbs taking clausal complements have a wider selection option, they either take clausal complements or the correlative pronoun followed by these clausal complements; we reject the empty correlative pronoun hypothesis. Only lexical to/it acts as a nominal head. Note, that the only type of clausal complement that cannot be preceded by to/it is the infinitival complement. This fact shows that its character is somehow different from the other clausal complements. We provide its analysis in a later part of this section.

Having rejected the non-lexical nominal head option, we may claim that the barrierhood of clausal complements is not caused by some [-V] head intervening between the verb and its clausal complement but by a defective character of the verb itself.
In order to account for barrierhood of CP in these constructions we will move one step back in the study of the ECP, Subjacency and barriers, to the notion of L-marking, which in our framework translates as direct selection by a lexical category.

As we could see in chapter 2 section 2 L-marking applies to a complement governed by its theta marking head. Thus to account for the ungrammaticality of interrogative extraction from bare infinitival complements in Polish, we would have to claim that bare indicative complements are not L-marked by their verbal heads and become blocking categories[13].

The assumption that verbs do not L-mark their clausal complements may not seem unmotivated. Indeed, such verbs as mowic/say, powiedziec/tell or wiedziec/know need a clausal argument in their theta grids. But so do English non bridge verbs such as whisper or quip which, on standard assumptions, do not allow extraction from their clausal complements, or at least extraction from their clausal complements gives markedly degenerate results[14].

(5.63) a. ?* What did you whisper [$_{CP}$ that John likes t]

b. ?* What did you quip [$_{CP}$ that john likes t]

If we look in detail at bare clausal complements of Polish (bridge?) verbs and English non bridge verbs, we can see that the barrierhood of CP caused by the lack of L-marking may be an available option:

(5.64) V [$_{CP}$ [$_{IP}$ ... ...]]

In the "Barriers" framework IP can be a blocking category (BC) hence CP can inherit barrierhood from it. This can be waived by successive cyclic movement to [Spec,CP]. Besides, there are good reasons to maintain Cinque's (1990) claim that Comp is a head essentially nondistinct from [+V] considering the fact of Agr to Comp raising in subjunctive clauses. Clearly Comp directly selects its IP complement. If IP is not a barrier, CP is not a barrier. One option left to us is that the barrierhood of CP ensues from the lack of L-marking by the verb[15].

In the "Barriers" framework crossing over one barrier should not result in an ECP violation of an empty category in the object position. Instead a milder Subjacency violation results. This claim is upheld by Rizzi's (1990) formulation of the ECP where nothing prevents arguments in the object position, as elements with referential indices, from moving via long movement, not successive cyclically.

At present we will check how this assumption of the lack of L-marking carries over to other configurations which both allow and disallow interrogative extraction in Polish. We will capitalise on the fundamental idea behind the attempt at unifying the theories of bounding and government in "Barriers", that of the cumulative effect of barrier crossings.

First, we will try to account for the possibility of interrogative extraction out of e-subjunctive clauses and infinitivals. Since both of these clausal complements share exactly the same set of governing verbs, it will be natural to claim that these verbs can L-mark their complements, e.g. chciec/want:

(5.65) $V_{+L\text{-}mark}$ [$_{CP}$ infinitive]

$V_{+L\text{-}mark}$ [$_{CP}$ subjunctive]

Control verbs, such as przekonac/convince taking complements in the subjunctive mood which do not allow interrogative extraction, cannot L-mark their complements. Nor can the verbs taking indicative complements:

(5.66) $V_{-L\text{-}mark}$ [$_{CP}$ subjunctive]
$V_{-L\text{-}mark}$ [$_{CP}$ indicative]

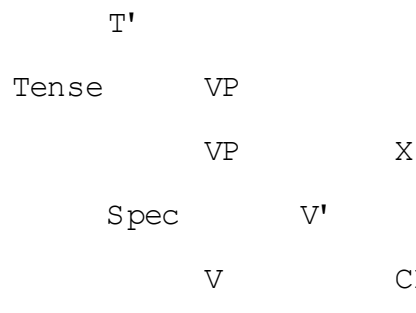
However this alternative based on the defective character of verbs selecting clausal complements has a serious flaw; it seems rather spurious, especially if it is based on the observation that certain verbs in English (non-bridge) do not allow extraction from within their clausal complements. In English, this class of verbs forms a semantically well defined group. It is neither clear why Polish verbs should be defective nor why for some speakers object and adverb extraction is possible. Lack of the L-marking property of verbs would be a serious defect and it should unconditionally prohibit any extraction from within the clausal complements. It is also difficult to imagine how the same verb, for example slyszec/hear would be able to L-mark (directly select) a nominal object but it would lose this ability with respect to clausal complements. We now propose an alternative which we consider the most plausible.

It is based on the notion of extraposition moving clausal complements from the object position to some other position in the structure. We thus avoid making claims about category internal (syntactic) capacity of verbs. We attribute the barrierhood of some clausal complements to a syntactic operation affecting the relation of direct selection. Relevant verbs have identical properties in English and Polish, they both L-mark (directly select) their clausal and non-clausal complements. However certain clausal

complements in Polish move out of the direct selection domain (basically X') while in English they remain in situ.

Relying on Cinque's (1990) notions of the strong and weak barrier, we should identify this structural position as not directly selected by any [+V] head. For the sake of convenience, we return to the relevant fragment of the structure:

(5.67)



Our reasoning runs along the following lines: clausal complements are generated at D structure in the typical internal argument position within V'. Subsequently, they are moved to a position disallowing further movement. (5.67) represents the configuration typical of single (clausal) object predicates of the type wiedzec ze/know that.

We will now consider the typical adjunction site: VP (position X). Movement to position X is allowed by ECP, for the trace of the extraposed CP would leave a properly head governed trace (by V). If the extraposed CP is a (strong) barrier, position X should not be directly or indirectly selected by a [+V] head in the canonical direction. This is not however the case: extraposition to X places the CP complement in a position indirectly selected by a verbal head. Indirect selection of the clausal complement should hold irrespective of the adjunction site (matrix IP or V'), for the verb selects its clausal complement at D structure. Note that under Cinque's analysis extraposition should produce weak barrier effects; our analysis of Polish data seems to challenge this view. Note that CP in X (a VP adjoined position) lies in the head government scope of Tense which is a proper head governor. However it is not proper head government by [+V] heads that waives barrierhood of maximal projections but direct/indirect selection by [+V] heads (see 2.140-41). Tense selects VP not CP and the clausal complement in X is a (supposedly weak) barrier. Therefore CP may become a barrier by movement to X which is head governed by Tense.

The adjunction to VP hypothesis gives us an instrument of accounting for the lack of unanimous judgements (5.59-62) among native speakers. We take this process of VP adjunction to be optional in the sense that it is caused by some mild form of the Case Resistance Principle of Stowell (1981) which we can formulate as follows:

(5.68) Mild Case Resistance Principle

Clausal complements in Polish avoid Case marked positions.

With (5.68) in mind we assume that tensed CP complements in Polish usually move to the X position. For the speakers who allow for

extraction of objects and adverbs from indicative complements the extraposition to X does not take place, CP is still directly selected by V and the expected possibility of extraction follows. In our solution the barrierhood of indicative complements rests on the absence of direct selection of the CP domain. Consequently, adjunction to VP constitutes the difference between English and Polish clausal complements[16].

The barrierhood of n-subjunctives can be accounted for along similar lines, however we will suggest that the configuration of their VPs is different.

As we already mentioned in section 5.1. n-subjunctives are clausal complements in double object (although not double Accusative object) constructions. It is interesting that the presence of a Dative object between the verb and the subjunctive complement should affect the grammaticality of the extraction from the subjunctive clause; even from subjunctive complements of the verbs which also take infinitival complements (thus e-subjunctives). Consider radzic/advice and kazac/order. They both allow for infinitival complements:

(5.69) a. Tomek kazal mu [PRO wybic szybe]
Tomek ordered him to break the window.
b. Tomek radzil mu [PRO wybic szybe]
Tomek advised him to break the window.

Extraction from infinitival complements is unaffected by the presence of the Dative object:

(5.70) a. Co Tomek kazal mu [PRO wybic t]
What Tomek ordered him to break?
b. Co Tomek radzil mu [PRO wybic t]
What Tomek advised him to break?

Extraction from their corresponding subjunctive complements seems worse than extraction from the subjunctive complement of chciec/want, a single object model e-subjunctive:

(5.71) a. ?Co Tomek kazal Marii [zeby pro zjadla t]
'what Tomek ordered Mary that-cond (she) ate'
b. ?Co Tomek radzil mi [zebym pro wybil t]
'what Tomek advised me that-cond (I) broke'
c. Co Tomek chcial [zeby Maria zjadla t]
'what Tomek wanted that-cond Mary ate'

The presence of the Dative object in these constructions calls for a structure of VP different from (5.67). We adopt the structure proposed for double object constructions in Larson (1988) and Chomsky and Lasnik (1991)[17]:

(5.72)

VP

NP^ V'

Z VP

VP X

NP* V'

V CP

NP^ is the clausal subject position in line with the VP internal subject hypothesis, NP* is the Dative object position. Z is the position of the verbal head in the upper shell following the raising of the verbal head from V. The subjunctive complement CP is base generated under V' as in (5.67). In e-subjunctives it stays in this position but in n-subjunctives it adjoins to VP in the X position. For the same reasons as in the case of indicative complements, X is the position in which CP will not be directly selected by V but head governed by Tense. Again, configurationally, CP in X should be expected to be a weak barrier (it should allow for argument extraction) but it turns out to be a strong barrier in Polish. The differences in native speakers' judgements in extraction from e- and n-subjunctives reflect the presence or absence of CP movement to the X position. For example our model e-subjunctive verb chciec/want takes its subjunctive complement in its D structure object position.
In the course of the derivation the verb moves to Z, its head position in the higher VP shell, and subsequently to Tense and Agr. Thus the expected surface word order appears. Notice, that (5.72) is also the suggested structure for double nominal object constructions with the Accusative object in the place of CP. The direct object receives structural (Accusative) Case from the verb and NP* receives Dative as inherent Case (as a member of the argument structure of the verb), independently of structural government. Because Polish does not have double Accusative object structures, it does not require the operation of Object Shift (see Larson 1988).

As for infinitival complements, it seems that they are unproblematically placed in the object position within V'. Interestingly, even if there are intervening Dative objects between the verb and the infinitival, their presence does not affect the grammaticality of the extraction (see 5.70). As we noted earlier in this section they stand out from among other clausal complements by not allowing correlative to/it to precede them.

We would like to provide a further argument adducing our claim that infinitival complements are in the object position. This argument is based on certain incorporation facts typical of Polish infinitival complements and on the phenomenon of Genitive of Negation.

In Polish, verbs taking Accusative objects change their morphological Case marking of these objects to Genitive if negated.

(5.73) a. Jan czyta list/ACC.
John is reading a letter.
b. Maria widzi drzewo/ACC.
Mary can see a tree.

c. Jan nie czyta listu/GEN
John is not reading a letter.
d. Maria nie widzi drzewa/GEN.
Mary cannot see a tree.

Infinitival complements show a very interesting property; if the matrix verb is negated the objects of embedded Accusative object verbs change to Genitive as if the negation was present in the embedded clause:

(5.74) a. Jan chce [PRO czytac list/ACC]
John wants to read a letter.
b. Jan nie chce [PRO czytac listu/GEN]
John does not want to read a letter.
(5.75) a. Jan kazal Marii/DAT [PRO czytac list/ACC]
John ordered Mary to read a letter.
b. Jan nie kazal Marii/DAT [PRO czytac listu/GEN]

This transfer of negation[18] into a lower clause gives the impression of a 'clause union' or 'predicate union' at some level of representation: chce czytac/wants-to-read seems to be one complex verb[19]. The contemporary framework offers a version of 'predicate union' based on incorporation, head to head movement. Actually, we claim that in the case of infinitival complements the embedded verb incorporates into the matrix verb at LF:

(5.76)

```
     VP

NP^       V'

     Z         VP

          NP*       V'

                    V/V-Infl  CP

                         Spec      C'

                              Comp      IP

                                   PRO       I'

                                             t         VP

                                                       t         NP

Jan kazal Marii                                        czytac list
```

We claim that at LF, V of the embedded clause (by this time V-Infl) incorporates to V-Z-Infl of the matrix clause passing through Comp. We have omitted the internal structure of the embedded VP as irrelevant to our present argument. The structure of the infinitival complement of chciec/want is analogous but the matrix VP is a single non-recursive verbal projection. The effects caused

by the Genitive of Negation are a syntactic reflex of the following LF incorporation. Similar operation at LF with analogous properties at S structure has been posited for causative constructions in French in Baker (1988). Incorporation can take place only under strict head government in the head/complement configuration (see 1.18). Certain properties of infinitival complements follow: the verb and its complement have to be in this head/complement configuration[20] and the presence of an intervening nominal head in the form of the correlative pronoun is prohibited, for it would constitute a Minimality barrier and preclude incorporation. Our incorporation at LF hypothesis based mainly on the Genitive of Negation facts explains the non-intervening character of Dative objects in these constructions as opposed to their presence in subjunctive complement contexts; infinitival complements have much closer links with their matrix predicates. Therefore while there is a difference between extraction of the Dative object and extraction from within an e-subjunctive direct object (Dative object extraction is markedly better) attributable to the fact that they take place from two different clauses, no such difference can be attested in identical contexts involving infinitival complements. In this case these two positions are interpreted as members of the same clause following the LF 'predicate union'.

Extraction from adverbial clauses is much worse than from bare indicative complements, as expected, for there is neither direct nor indirect selection of the adverbial clause by the verb. Adverbial clauses in Polish meet the condition of the strong barrier (2.140) of Cinque (1990).

(5.77) $[_{VP} [_{V'} V ...] CP, adverbial]$

(5.78) *Za co [Mario pocalowal Paule [zeby [PRO przeprosic t]]][21]

For what did Mario kiss Paula to apologize?

Interrogative extraction out of all types of nominal heads including the correlative pronoun to/it can now be accounted for in a straightforward way:

(5.79) $V [_{NP} [_{CP} ... ...]]$

Under Cinque's (1990) analysis CP is a (strong) barrier: its barrierhood can be attributed to the fact that it is directly selected by a head distinct from [+V], namely N. The same applies to (5.80) where the correlative pronoun is within a prepositional phrase. Prepositions in Polish are [-V] and although the correlative pronoun is directly selected, its maximal projection becomes another (strong) barrier.

(5.80) $V [_{PP} [_{NP} [_{CP} ... ...]]]$

Form our proposed VP extraposition account it follows that the extraposed clausal complements become strong barriers (for both arguments and adjuncts) contrary to Cinque's (1990) claims that extraposition islands should allow for argument extraction. In view

of this conflict in the following section we attempt to find answers to the following questions:

A. Does Polish have two types of barriers?
B. Which barriers are weak and which are strong?
C. Does the Polish situation require a language specific definition of the barrier?

5.3.4. Definition of Barrier in Polish.

In order to answer questions A and B we propose to inspect the effects of crossing over the barriers defined in Cinque (1990) as strong and weak.

As we demonstrated in section 2.4. Cinque (1990) distinguished seven types of island domains: Subject Island, Complex NP Island and Adjunct Island as strong islands (non argument extraction out of them is impossible) and Wh Island, Inner (Negative) Island, Factive Island and Extraposition Island as weak (extraction of arguments is insensitive to them). As we could see throughout this chapter island domains corresponding to strong islands in English do not allow interrogative extraction of arguments in Polish either.

As we demonstrated earlier the issue of Wh Islands in Polish is determined by general extraction conditions from particular clause types. If a given type of clausal complement allows Wh extraction, Wh Island effects show with object/adverb asymmetries typical of a weak island (see section 5.1.).

Factive and Extraposition Islands are analogous to extraction from indicative complements and n-subjunctive complements. In our system they all involve extraction from extraposed clausal complements which is equally ungrammatical for both arguments and adjuncts:

(5.81) a. Tomek zaluje [$_{CP}$ ze mama wczesnie wylaczyla tv]

Tomek regrets that mum early turned off tv

b. * Co Tomek zaluje [$_{CP}$ ze mama wczesnie wylaczyla t]

what Tomek regrets that mum early turned off
What does Tomek regret that mum turned off early?

c. * Kiedy Tomek zaluje [$_{CP}$ ze mama wylaczyla t tv]

when Tomek regrets that mum turned off tv
When does Tomek regret that mum turned off tv?

(5.82) a. pro jest czas [$_{CP}$ zeby PRO szybko opowiedziec bajke

(it) is time that-cond quickly tell story.
It is time to tell the story quickly.

b. * Co pro jest czas [$_{CP}$ zeby PRO szybko opowiedziec t]

what (it) is time that-cond quickly tell

What is it time to tell quickly?

c. * Jak pro jest czas [$_{CP}$ zeby PRO t opowiedziec bajke

how (it) is time that-cond tell the story
How is it time to tell the story?

Apart from the Wh Island one more barrier affects non arguments but is insensitive to arguments: Inner (Negative) Island:

(5.83) a. pro nie rozmawialem z Brianem poufnie.
(I) not spoke with Brian confidentially
I didn't speak with Brian confidentially.

b. Z kim pro nie rozmawiales poufnie t ?
with whom (you) not spoke confidentially
With whom didn't you speak confidentially?

c. * Jak pro nie rozmawiales z Brianem ?
how (you) not spoke with Brian
How didn't you speak with Brian?

(5.84) a. Ziemniaki nie wazyly dwa kilo.
The potatoes didn't weigh two kilos.

b. * Ile nie wazyly ziemniaki t ?
how many/much not weighed potatoes
How much didn't the potatoes weigh?

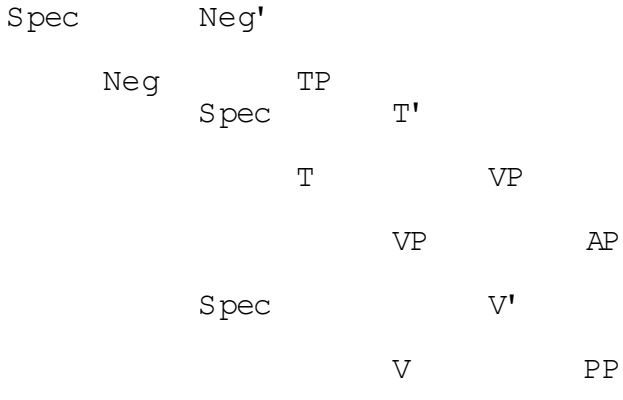
The facts presented above show that despite many similarities caused by barrierhood of clausal complements, the conditions on interrogative extraction of arguments and non arguments do differ in Polish. This fact supports Rizzi's (1990) hypothesis of Relativized Minimality: only properly head governed arguments satisfy the ECP and move via long movement to the appropriate [Spec,CP] or IP adjoined position. The only obstacle on their way can be a (strong) barrierhood of the domain in which they are base generated.

Non-arguments however move successive cyclically not from [Spec,CP] to [Spec,CP] but from an A' specifier to another A' specifier. Rizzi (1990) assumes that the negative element is base generated in [Spec,TP] which is an A' position. Pollock (1989) and Chomsky (1991) convincingly argue that Negation should head its own projection, presumably between Agr and Tense.

In order to capture both properties of Neg, we can adopt the idea suggested in Haegeman (1992) that Negation indeed heads its own projection but the appearance of some lexical material in the head of Neg is licensed under agreement with some element in [Spec,NegP]. This way the A' position of [Spec,NegP] is occupied and a non argument cannot land in it or raise above it. Therefore non arguments cannot leave the m-command domain of Neg. We propose the following structure for (5.83):

(5.85)

```
          AgrP
NP              Agr'
          Agr       NegP
```



pro nie rozmawialem z Brianem poufnie

We treat [Spec,VP] as the base position of subjects on the basis of the VP internal subject hypothesis. [Spec,TP] is an A' position analogous to English and it is accessible to successive raising of the AP. As we hypothesized above [Spec,NegP] is inaccessible as a landing site for the moving non argument.

Thus it seems that, different from Cinque's analysis, the Extraposition Barrier is strong in Polish but weak in English and Italian. We still need two types of barriers in Polish, for the Wh and Inner Islands are weak. Descriptively, we can at present define barriers in Polish as follows:

(5.86) Definition of Strong Barrier

The following domains are strong barriers in Polish:

a. Maximal projections nonselected or indirectly selected by heads nondinstinct from [+V];
b. Maximal projections directly selected by heads distinct from [+V].

(5.87) Definition of Weak Barrier

The following domains are weak barriers:

a. Maximal projections nonselected or indirectly selected by heads nondistinct from [+V];
b. Maximal projections directly selected by heads distinct from [+V].
c. Complements of lexically supported Neg.
d. Clausal complements whose [Spec,CP] is occupied.

Note, that since the Inner Island does not affect extraction of arguments, we are forced to assume that Neg must be essentially nondistinct from [+V]. Otherwise TenseP would be a strong barrier.

A closer comparison of (5.87) and (5.86) shows that our system of barriers for Polish can be constrained even further. The two final clauses of (5.87) can be dispensed with at no cost. They are a consequence of two other independent and well motivated

assumptions: Relativized Minimality and long movement of arguments versus successive cyclic movement of non-arguments. The latter assumption is well motivated for Polish extraction facts as contrasts between arguments and non-arguments show in the form of the relative barrierhood of Wh and Negative Islands. These island effects are basically two different manifestations of a more general principle of Relativized Minimality; successive cyclic A' movement should transit through every A' Specifier position in the structure including [Spec,CP] and [Spec,NegP]. We believe that we can dispense with (5.87c-d) as some extra features of weak barriers in Polish and fall back on Relativized Minimality to prohibit extraction in these contexts. Weak barriers in Polish practically reduce to strong barriers plus Relativized Minimality effects.

Capitalizing on this observation we propose the following definition of (strong) barrier in Polish:

(5.88) Definition of Barrier in Polish

> Every maximal projection that fails to be directly selected by a category nondistinct from [+V] is a barrier in Polish.

Our definition in (5.88) is identical to Cinque's definition of weak barrier in (2.141). It seems to give correct predictions for Polish extraction facts: the Subject Condition follows, for the subject is not directly selected by its predicate (it does not appear within V' at S structure); the Adjunct Condition follows for the adjunct is not selected at all; the Nominal Island effects follow because nominals are distinct from [+V] (but keep in mind our discussion of 4.186). The barrierhood of certain clausal complements follows if we assume that they move to the right periphery of VP and are not directly selected at S structure. Negative and Wh Island effects (weak barrierhood) rely on RM. In short, the results of our analysis fall in line with the system proposed in Rizzi (1990): we have found evidence for both RM and local and nonlocal Wh movement in Polish. However our system does not overlap with Cinque's (1990) theory of barriers.

At this point we would like to suggest an answer to question C: does the Polish situation require some language specific provisos concerning strong barrierhood effects of extraposition? We believe that this is the case although these provisos are related to some parametric variation. This parametric variation does not ruin our theory of barriers, for it does not concern an arbitrary choice between barrierhood or non-barrierhood of a given domain. It rather seems that UG understates the character of barrier domains and leaves a certain margin for parametric variation in borderline contexts.

A detailed comparison of Cinque's definitions of barrier in (2.140-42) reveals a very interesting asymmetry; the difference between the strong and the weak barrier boils down to extraposition effects.

If we assume that clausal complements of factive verbs undergo extraposition to some clause final position, the Factive Island reduces to the Extraposition Island. The other two weak barriers do not count as independent syntactic phenomena because they are

manifestations of RM.

Hereby, the differences between (2.140) and (2.141) reduce to direct versus indirect selection (the case of extraposition) plus the canonical versus noncanonical side of the selecting head. The latter contrast is obviously a way of deriving the Subject Condition if indirect selection is allowed; all domains indirectly selected on the canonical side of a [+V] head (read: extraposed) are transparent to movement while the indirectly selected domains on the noncanonical side of a [+V] head (subjects in English and Italian) are opaque to movement from within.

We propose that the strong/weak barrierhood status of extraposition is subject to parametric variation. The more predictable and stricter setting of the parameter seems to be the one taken in Polish. Note, that the weak barrier of Cinque and our barrier for movement in Polish (5.88) are able to account for all the facts except argument extraction from extraposed domains. As we could see above strong barrier effects follow from (5.88). What is more important, weak barrier effects follow elegantly as a result of complementation of (5.88) by Relativized Minimality. It is argument extraction from extraposed domains that stands out and requires additional provisos.

We can hint at a certain possible explanation. Cinque (1990) himself points to a possibility of parametrization of barrier domains. He notices that in Italian extraction of complements from within subjects gives better results than extraction from adjuncts although both are equally bad in Polish and English. It would be difficult to imagine that the position of subjects and adjuncts in Italian is substantially different from the other two languages. Thus probably apart from structural properties there is to some extent a language particular preference for weaker or stronger barrierhood of a given domain once it is not directly selected. The difference between extraction from indirectly selected domains (subject) and nonselected domains (adjunct) should be expected to show equally clearly in the three languages. We can account for this fact if extraposition has a special status. It seems to be a borderline case; lack of selection produces strong barrierhood and selection waives barrierhood. Extraposition is already marked as an island domain and particular languages precisely define its barrier status. In a sense, this language particular preference as to whether extraposition should produce weak or strong barrier effects corresponds to the low level parameter of extraction from tensed clauses in Chomsky (1986b) and to a large extent it is structure independent.

We believe that the strong island status of extraposition in Polish is related to morphological Case and a very general functional clausemate condition on extraction. In the case of inflectional (Slavic) languages extractions from embedded clausal domains seems to be an exception rather than a rule. Therefore the extraction domains have to meet rigorous condition (5.88). In these languages only direct selection by [+V] counts.

On the contrary, it seems that the stricter word order of a given language is, the bigger is its extraction domain. However it expands gradually and instead of allowing extraction from nonselected clauses the extraction domain spreads onto extraposed (indirectly selected) constituents first.

5.4. Relative Clause Formation in English and Polish

Our analysis of interrogative extraction from clausal complements in Polish would be incomplete without some account of relative clauses. Ever since Noam Chomsky's influential paper "On Wh Movement" (1977) relative clause formation alongside topicalization and equative clause formation, has been regarded as a subcase of Wh movement, a general syntactic process relating a Wh operator in an A' specifier position to a coindexed variable. Subsequently the Wh operator in COMP ([Spec,CP]) could delete under recoverability, i.e. its syntactic function should be properly identified by adjacent syntactic elements in a proper configuration.

The issue of subsuming a number of syntactic processes under a more general and rigid formulation of Wh movement has always been very controversial. Some of these processes are still poorly understood and show unexpected inconsistencies with interrogative extractions. Consequently a number of authors suggested that these processes are only partly similar to Wh movement but also retain their original characteristics, Bresnan (1976), Bresnan and Grimshaw (1978) or more recently Rizzi (1990) and Cinque (1990). Doubts about uniform derivation and characteristics of free relatives and equatives in Polish were expressed in Borsley (1981, 1982).

In this section we will see how our analysis of Wh extraction from clausal complements carries over to restrictive and nonrestrictive relative clause formation.

5.4.1. A Brief Comparison of Relative Clauses in English and Polish.

While in English restrictive and nonrestrictive relative clauses differ considerably, these differences in Polish can be reduced to two aspects; semantics and intonation:

(5.89) a. the book which/that was lying on the edge fell off the shelf

b. the book, which/*that I remember reading in childhood, fell off the shelf

(5.90) a. A man$_i$ came to see me [who$_i$ said he was from the gas board]

b. * Mary$_i$ is living at home [who$_i$ is very nice]

Thus in English, appositive relative clauses require commas, do not allow for that in the place of a relative pronoun and are less easily separable from the nominal heads predicated of them.

(5.91) a. Mezczyzna, ktory nosil spodnie w kropki, przeszedl ulice.
man which/who wore trousers in dots crossed street
The man who wore dotted trousers crossed the street.

b. Mezczyzna, ktorego pamietam jeszcze ze szkoly, przeszedl ulice.
man which/who (I) remember still from school, crossed the street
The man, whom I still remember from school, crossed the street.

(5.92) a. * Mezczyzna przeszedl ulice, ktory nosil spodnie w kropki.
man crossed the street, which/who wore trousers in dots.
The man crossed the street, who wore dotted trousers.
b. * Mezczyzna przeszedl ulice, ktorego pamietam jeszcze ze szkoly.
man crossed the street which/who (I) remember still from school
The man crossed the street whom I still remember from school.

As (5.91-2) demonstrate restrictive and appositive relative clauses in Polish do not show the contrasts typical of these types of relative clauses in English. They require the same relative pronouns and are equally badly detachable from their heads. They clearly differ in their semantic functions; restrictive clauses add information about the predicated element which is relevant in a given context, while appositive clauses contain digressions not directly relevant in the discourse.

Intonationwise, restrictive relative clauses do not need any gaps in intonation, nor specific contours. Appositive relative clauses are uttered with the fall-rise intonation on their nominal head followed by a brief pause before the relative clause.

Superficially, Polish and English use the same set of relative pronouns (or rather relative expressions) to introduce relative constructions:

(5.93)

who	kto/ktory
what	co
which	ktory
that	
whichever	ktorykolwiek
whoever	ktokolwiek
wherever	gdziekolwiek
whenever	kiedykolwiek

In English, what plus the combinations of interrogative pronouns with ever occur in free relatives, while in Polish, the counterparts of interrogatives plus ever introduce free relatives

but co/what has a more peculiar function in restrictive and appositive relatives which we will present shortly. It also introduces simple free relatives.

However before we do so, let us point to an obvious contrast between English and Polish relatives. In the manner parallel to lexical complementizers, relative pronouns in Polish do not delete as their English counterparts:

(5.94) a. ...the man that I know...
b. ...the man who/m I know...
c. ...the man 0 I know...
d. ...mezczyzna co pro go znam...
e. ...mezczyzna ktorego pro znam...
f.* ...mezczyzna 0 pro znam ...

Thus (5.94f) with the deleted relative pronoun is ungrammatical. It is worth noting, that in Polish the relative pronoun ktory refers to both human and nonhuman referents and corresponds to both who and which.

From the presentation of relative pronouns in (5.93) it could follow that Polish has no relative element corresponding to that.

5.4.2. English Relative Clauses in Rizzi's Framework.

All the elements in (5.93) are collectively known as relative pronouns although that is clearly a complementizer functioning differently from that in interrogative/declarative clauses. That in relative clauses is referred to as a **predicative complementizer** (Rizzi 1990).

(5.95) a.* Who did you say [$_{CP}$ that t ate the apple]
b. Who did you say [$_{CP}$ t ate the apple]
c. the man [$_{CP}$ that t ate the apple]
d.* the man [$_{CP}$ t ate the apple]

In the interrogative extraction in (5.95a) that in Comp blocks the proper head government of the trace in the subject position and must delete[22]. In (5.95b) proper head government of the subject position is possible and interrogative extraction can proceed. (5.95c-d) show a reverse regularity in relative clauses; here that cannot delete.

In many languages lexical complementizers in declarative clauses are different from complementizers in relative clauses (som in Swedish and qui in French). Rizzi (1990) extends this division into English, and claims that there are two distinct types of that, one used in interrogatives and declaratives and the other one in relatives.

The different types of the complementizer result from two sets of binary features:

(5.96) a. [+/- Wh]

b. [+/- predicative]

A [+wh] Comp cooccurs with a [+wh] operator in its specifier at S-structure and LF while a [-wh] comp cannot cooccur with a [+wh] operator in its spec. This agreement is obligatory in the m-command domain of complementizer. Similarly, a [+pred] Comp must head a CP which is predicated of the subject of predication, a [-pred] Comp heads a sentence that cannot be predicated. The [+wh] specification of Comp is compulsory in questions and [+pred] specification of Comp is compulsory in relatives. The doubly negative specification is characteristic of declaratives. This system generates the following possibilities:

(5.97) a. +wh -pred (I'm curious) what 0 he stole t
b. +wh +wh The book which 0 you read t
c. -wh +pred The book 0 that you read t
d. -wh -pred (I know) 0 that you read this book.

Rizzi (1990) concludes that in Modern English that is the lexical representation of a [-wh] complementizer in tensed clauses. Thus in interrogative extraction Wh operators cooccur with [+wh] complementizers, so no predication is involved in (5.97a). In (5.97b) the relative clause has a complementizer which is [+pred], for predication is involved in this construction. If the complementizer is also [+wh], that cannot appear but a Wh operator can. In (5.97c) the complementizer must be [+pred] because this is the case of a relative clause, however no lexical Wh operator appears and a [-wh] feature on Comp licenses a lexical complementizer that. This particular situation calls for an additional assumption that empty or deleted operators (and intermediate traces) are not characterized by the [+/-wh] feature. Thus while (5.97c) is grammatical:

the book $0_{*+/-wh}$ $that_{+pred,-wh}$ you read t

(5.98) involving a lexical operator is not:

(5.98) *the book $which_{+wh}$ $that_{+pred,-wh}$ you read t

Here the lexical Wh operator which bears the feature [+wh] which should be matched by the same feature [+wh] on the head of Comp. But the head of Comp is specified [-wh], the only feature specification that allows for a lexical Comp that. (5.98) is excluded as ungrammatical due to the lack of agreement of [+/-wh] features in the domain of Comp.

Returning to (5.95c-d), we can say that the presence of the lexical complementizer is necessary for the proper head government of the subject trace: in (5.95d) the trace has no proper head governor, while in (5.95c) that plays the role of the proper head governor. If agreement features (Agr) cannot raise to an occupied Comp, they have to be transmitted onto that in a different manner. Rizzi (1990) claims that agreement features on that turning it into a proper head governor, can appear as a ramification of the process of predication. As a result of this process, the subject of predication agrees with the head of its predicate, here that. In

English the head of a relative clause carrying agreement features with the subject of predication is spelt out as that. The presence of agreement features on that turns the complementizer into a required proper head governor for the trace in the subject position of (5.95c). Because proper head government of variables in positions different from [Spec,IP] is secured on independent grounds, the presence of that as agreement feature carrier and proper head governor is not required.

5.4.3. Relative Clauses in Polish.

As observed by Zabrocki (1979) and Borsley (1981, 1982) co/what in Polish serves rather as a **relative (predicative) complementizer** than a relative pronoun. A comparison of relative clauses introduced by ktory/which,who and co/what shows some interesting properties of the latter:

(5.99) a. mezczyzna, ktory t palil fajke w parku
man which/who smoked pipe in park
the man who smoked a pipe in the park

b. fajka, ktora mezczyzna palil t w parku
pipe which/who man smoked in park
the pipe which the man smoked in the park

c. park, w ktorym mezczyzna palil fajke t
park in which/who man smoked pipe
the park in which the man smoked a pipe

(5.100) a. mezczyzna, co t palil fajke w parku
man that smoked pipe in park
the man that smoked a pipe in the park

b. fajka, co ja mezczyzna palil w parku
pipe that it man smoked in park
the pipe that the man smoked in the park

c. park, co w nim mezczyzna palil fajke
park that in it man smoked pipe
the park in which the man smoked the pipe

Ktory/which,who seems to be an example of a well behaved relative pronoun, a Wh operator binding variables in various syntactic positions. Co/what behaves differently: when binding a trace in the subject position, it is similar to ktory/which,who as a regular A' binder but when binding variables in non subject positions, it requires the presence of a resumptive pronoun it. The contrast between (5.99) and (5.100) on the one hand and (5.97), or their English counterparts, on the other, indicates that in Polish, similar to English, 'doubly filled Comp filter' holds in these cases:

(5.101) a. * czlowiek [$_{CP}$ ktory [$_{C'}$ co t czyta ksiazke]]

man who that reads book
the man who that reads the book

b. * ksiazka [$_{CP}$ ktora [$_{C'}$ co ja czlowiek czyta t]]

book which that man reads
the book which that the man reads

In terms of Rizzi's (1990) classification of complementizer types, we could say that in Polish in the m-command domain of Complementizer, the lexical predicative complementizer cannot cooccur with a lexical Wh operator and vice versa:

(5.102) a. [$_{CP}$ Wh operator [$_{C'}$ [$_{C}$ null]...t...]]

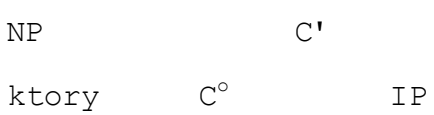
b. [$_{CP}$ empty operator [$_{C'}$ [$_{C}$ co]...]]

We will show, that with no qualifications (5.102) appears to be true for Polish relative clause formation[23].

First, however note, that (5.102) assumes the presence of empty operators in Polish relative clauses 5.102b). This assumption is vital if we want to account for the special properties of co/what as a predicative complementizer.

On the basis of the comparison of (5.99-100) we can say that ktory/which,who is a true Wh operator binding variables in various syntactic positions. These variables are properly head governed in their respective positions. We can claim that the subject position is properly head governed in the usual manner for the interrogative extraction in Polish: the raise of Agr to an empty Comp with the requirement of licensing by a trace from [Spec,CP] (see section 5.2)[24]. By virtue of occupying the [Spec,CP] position ktory/which,who has the remaining parts of the structure in its c-domain which means that it can easily provide antecedent government for traces of nonarguments that need it:

(5.103)



Co/what behaves differently from an A' binder, for it requires resumptive pronouns in nonsubject positions.

Actually, leaving the problem of the subject position aside for a while, co/what cannot be an A' binder. If it requires resumptive pronouns, it does not bind any variables. However resumptive pronouns are present at S-structure only to overcome island effects of the domains from which regular Wh extraction cannot take place. At LF they are supposed to move to the positions of their operators. Thus at LF resumptive pronouns behave like variables at S-structure. There must be some independent motivation for the presence of resumptive pronouns in these constructions in

Polish but not in English.

One of the most obvious differences between these two languages is that English has only abstract Case marking while Polish shows morphological Case marking. The requirement of morphological Case marking is very powerful and the following hypothesis can be tentatively put forward:

(5.104) Morphlogical Case Visibility Requirement (MCVR)

In Polish morphological Case has to be identified on some member of the A' chain.

In practice, the consequence of (5.104) is that morphological Case is marked usually on the A' operator. Non empty Wh operators have to meet some form of Case Filter and are marked for morphological Case, (5.104) is satisfied and the Case of the Wh trace can be identified.

However if the operator is phonetically null, the other member of the A' chain has to be marked for morphological case and the resumptive pronoun is forced to appear as a 'spellout' of the trace to carry morphological Case features.

If co/what is generated as the head of Comp, nothing prevents empty operator movement to [Spec,CP] and the binding of variables from that position. Empty operators are included in the coindexation chain; the resumptive pronouns they A' bind take their reference from the nominal element in the A position predicated of the relative clause. This coindexation (very much along the lines of Rizzi's 1990 analysis mentioned at the beginning of this section) can be presented as follows:

(5.105) a. czlowiek_i [$_{CP}$ ktorego_i [$_{C'}$ 0 [$_{IP}$ pro widzialem t_i]]]

man which/who (I) saw

b. czlowiek_i [$_{CP}$ 0_i [$_{C'}$ [$_{C}$ co][$_{IP}$ pro go_i widzialem]]]

man that (I) him saw

The chain of coreference between the subject predicated of the relative clause and the coindexed equivalent within the relative clause, runs similarly in (5.105a-b). In the former case of the Wh operator ktorego/which,who is coindexed with the predicated noun by the relation of predication and thus the Wh operator becomes the head of the relative clause (for a similar analysis see Taraldsen 1986, Cinque 1990). It is also coindexed with the variable at S-structure via movement. In (5.105b) the predicated noun is coindexed with the null operator and, through it, with the resumptive pronoun go/him.

Our analysis seems to run into problems in the case of relative clauses from which the nominal in the subject position has been predicated (see 5.100a). In the examples above we have shown that a consequence of the empty operator analysis is that it should A' bind a resumptive pronoun marked for morphological Case. In (5.100a) however, there is no resumptive pronoun in the subject position. This case seems to call for some extra proviso allowing a Wh trace in [Spec,IP]. This alternative seems to be tempting also

from another point of view; the trace in the subject position could be properly head governed by co/what in the manner analogous to that presented in connection with (5.95c-d). Co/what could acquire agreement features from the predicated subject via head-head agreement.

However the adoption of this alternative would be inconsistent with (5.102b) and our claim that lexical predicative complementizers cooccur with empty operators. We can preserve consistency of our claim by resorting to the pro strategy, available in Polish as a null subject language. Little pro as a lexically null, fully referential resumptive pronoun is licensed by rich Agr of a tensed clause. We claim that this is exactly what takes place in (5.100a); if the status of the gap in the subject position is pro, an empty operator can license it and this case involves a resumptive pronoun just like the others, with one difference: this resumptive pronoun is phonologically empty but still its morphological case is identified, for pro is licensed only in the configuration of Nominative Case assignment.

(5.106) mezczyzna [$_{CP}$ 0 [$_{C}$ co][$_{IP}$ pro palil fajke w parku]]

man that smoked pipe in park

At the same time we will assume that in (5.99a) Wh operator ktory/which,who binds a variable in the subject position. We have then arrived at a uniform treatment of operator bound variables in (5.99) and resumptive pronouns in (5.100).

It seems then that our Morphological Case Identification Requirement (MCVR) has to be complemented by this explanation of the term 'identification':

(5.107) Morphlogical Case Visibility Requirement (MCVR)

In Polish morphological Case has to be identified on some member of the A' chain, where identification can be performed either by Case morphology or position.

In its present form our observation in (5.107) confirms the idea behind the surface constraint on nominal function interpretation in Zabrocki (1989). Thematic functions of nominals can be identified either through their placement in a certain fixed position in the structure (this situation is typical of English) or through Case morphology (for example Polish). (5.107) shows that Polish uses the latter strategy in A' chains whose both members are lexically null; the foot of the chain has to be pro.

At this point three remarks seem to be in order: the first about the classification of the complementizers in Polish similar to the one arrived at by Rizzi (1990) for English, the second about the qualification of the very strong claim in (5.102b) and the third about the nature and consequences of the relation of predication.

The problem with classifying complementizers in Polish along the lines of [+/-predicative] distinction is as follows: there is only one predicative complementizer in this language and it does not appear in any [-pred] contexts. Besides, as we have claimed

throughout this work, the possibility of Wh extraction from clausal complements in Polish is very limited, practically confined only to e-subjunctives and infinitivals. It is also allowed in the manner which is notoriously controversial for any theoretical approach:

(5.108) czlowiek [ktorego [PRO spotkac e] pro znaczy polubic t]
man which/who$_{ACC}$ meet/infinitive (it) means like/infinitive
the man whom to meet is to like

The gap e is a parasitic gap and its location is often said to be inaccessible to movement. In the following chapter on parasitic gaps and Across-The-Board phenomena in Polish, we will claim that e in (5.108) may not involve any movement at all but a resumptive pro strategy. Interestingly, the process of predication can 'prolong' interrogative extraction from embedded clausal complements allowing extraction:

(5.109) a. czlowiek [$_{CP}$ ktorego [$_{IP}$ pro chce [$_{CP}$ PRO poznac t]]]

man which/who (I) want meet/infinitive
the man who I want to meet

b. czlowiek [$_{C'}$ co [$_{IP}$ pro chce [$_{CP}$ PRO go poznac]]]

man that (I) want him meet/infinitival
the man that I want to meet

(5.110) czlowiek [$_{CP}$ ktorego [$_{IP}$ pro chce [$_{CP}$ zeby Tomek poznal t]]]
man which/who (I) want that-cond Tomek meet/infinitive
the man that I want Tomek to meet

In these examples predication is not just an extension of an A' chain of Wh movement but also involves the characteristic resumptive pronoun strategy if co/what is involved instead of a regular Wh operator.

The second remark pertains to qualifications of (5.102b). There are rare cases in which a lexical operator coexists with a complementizer:

(5.111) a. czlowiek [ktorego [zeby PRO usunac e] pro trzeba zabic t]
man which/who that-cond remove/infinitive (one) has to/impersonal kill
the man who in order to remove one has to kill

b. czlowiek [co [zeby PRO go usunac] pro trzeba go zabic
man that that-cond him remove/infinitive (one) has to/impersonal him kill
the man that in order to remove him one has to kill him

in (5.111a) we find the prohibited word order with Wh operator next to a complementizer in the predicative context of a relative

clause. However this word order is purely accidental, for the Wh operator and the complementizer belong to two different Complementizer Phrases: [zeby PRO usunac go] is an adverbial clause of purpose which in its base position follows the main clause; (5.112) is the more usual counterpart of (5.111):

(5.112) [$_{CP1}$ pro trzeba [$_{CP2}$ PRO go zabic [$_{CP3}$ zeby PRO go usunac]]]
(one) has to/impersonal kill him that-cond remove him
one has to kill him in order to remove him

CP_3 in (5.112) is an adverbial clause of purpose. CP_3 can undergo topicalization and adjoin to the root IP which results in:

(5.113) [$_{CP1}$ [$_{IP1'}$ [$_{CP3i}$ zeby PRO go usunac] [$_{IP1}$ pro trzeba [$_{CP2}$ PRO go zabic t_i]]]]

Now, if the object of kill is predicated following its movement via [Spec,CP_1], the superficially unaccounted word order arises: the lexical Wh operator in [Spec,CP_1] is next to the complementizer zeby/that-cond of CP_3.

(5.114)

CP_1

NP C'

C°_1 IP_1'

CP_3 IP_1

Spec C'

C°_3 IP_3

ktory zeby

By the same token we can account for the presence of two adjacent complementizers co/what and zeby/that-cond in (5.111b). In terms of (5.114) co/what occupies the position of C°_1.

The third remark concerns the nature of the relation of predication. As our account has shown, predication is fully compatible with Wh movement and apparently shares many characteristics with it, mainly the creation of the chain of coindexation running across the tensed CP border and sensitivity to Island Constraints. This property of relativization has been amply documented in literature starting with Chomsky (1977). In (5.109a), (5.110a) and (5.111a) the predication of some nominal element from tensed clauses seems to be an extension of interrogative

extraction.

First, if we return to examples of plain relativization in (5.99) and (5.100), we notice that even in the cases involving the overt Wh operator the variable is not bound only by the operator but somehow also by the nominal subject of predication. To put it more precisely, assuming coindexation between the subject of predication and the Wh operator and the same subject and the variable (see 5.105), the variable is both A' bound by its Wh operator and pronominally A bound by the predicated nominal. The weakest link in this chain of coindexed elements seems to be the one between the predicated nominal and the Wh operator. Even if this link did not hold, the variable would still be linked to two antecedents, one in the A and the other one in the A' position. Some clarification of these terms seems to be in order. A' binding of the variable by the operator is taken for granted and reflects the basic assumptions of the standard analysis of Wh movement. Pronominal A binding of the variable by the predicated nominal is more problematic. These two elements may not enter into the same A(theta) chain, for that would violate the theta criterion: the variable and the subject of predication are in A positions and receive their theta roles independently of any chain formation. If we put (5.99b) in the context of a root clause, we will see it more clearly:

(5.115) pro znalazlem fajke$_i$ [$_{CP}$ ktora$_i$ mezczyzna palil t_i w parku]
I found the pipe which the man was smoking in the park.

Clearly, both fajke$_i$/pipe and t_i receive their theta roles independently of each other and cannot form an A chain. However conditions for chain formation seem to be satisfied (minus the lack of barriers): both elements are in A positions, they both refer to the same entity in the D domain, thus they must bear the same index and finally the predicated nominal clearly c-commands the variable. All the above features of the predicated nominal/variable relation do not violate the theta criterion because both arguments fill in the slots in the theta grids of two different predicates, therefore no NP raising is involved. All that the variable and the predicated nominal have in common is the same index. We will say that the variable is pronominally A bound by the predicated nominal in (5.115) and A' bound by its Wh operator in [Spec,CP]. What requirements does this dual dependency impose on the variable? Certainly the A' binding by the operator licenses the gap and identifies it and the presence of the operator requires that the gap should be a variable, a nonpronominal empty category [-pronominal,-anaphoric]. Pronominal A binding by the predicated nominal only identifies the gap. With respect to its indirect A binder, the gap has clearly a pronominal function. Consequently, the predicated nominal has no influence on the syntactic make-up of the element coindexed with it in the relative clause, as long as it bears its referential index. This is exactly the case with the predicative complementizer co/what and resumptive pronouns in the relative clause in (5.100). The empty operator licenses the index carriers of the predicated nominal as variables (under 5.104). They are generated as resumptive pronouns but still the indirect A binding holds and the resumptive pronouns are overtly pronominal,

which means that they depend on their reference on the nominal element outside their binding domain.

To sum up, our account of predication in Polish involves the following relations:

(5.116) $[_{NP}$ A...$[_{CP}$ B' $[_{C'}$ B''...C...]]]

Since C enters into dual relations:

B'(B'') ----- C
A ----- C

it has to satisfy the requirements of both of them simultaneously: with respect to its indirect A binder A, C must always be [+pronominal,-anaphoric]. Its actual syntactic make-up is determined by the character of B. If it is a lexical Wh operator B' in [Spec,CP], C is a [-pronominal,-anaphoric] empty category (variable). If B is B'', the predicative complementizer head co/what, C has an empty operator to be licensed by and it is a lexical resumptive pronoun [+pronominal,-anaphoric]. Because of the requirement of the visibility of morphological Case in an A' chain, the foot of this chain has to be lexical to carry Case features.

It is hard to imagine any direct movement relation between A and C. If C is a variable, it can share coindexation with another element only via movement. Movement analysis is excluded, for no extraction out of CP in (5.116) is possible; as a relative clause it is not directly selected by a head nondistinct from [+V]. Therefore we must posit existence of a coindexation chain between the subject of predication and the head of the relative clause, the lexical relative pronoun (B') or the null operator coindexed via Spec/head agreement with co/what (B''). The coindexation via predication is strictly local, limited to the c-domain of the subject of predication (Noun) and immune to the barrierhood of the relative clause. We will not pursue this matter further, but clearly for the reason of barrierhood this coindexation cannot result from movement.

Via the head of the relative clause this coindexation reaches C (the variable or the resumptive pronoun). C is then coindexed with A via an extended chain:

(5.117) $(A_i...B_i'/B_i''),(B_i',B_i''...C_i)$

where the coindexation in the first link of the chain results from predication and the second link is either the operator variable relation or just head of the relative clause plus an empty operator coindexed with a resumptive pronoun.

As we concluded in section 5.3., indicative complements are barriers for binding (and government) because they presumably fail to be directly selected by their verbal governors. Their barrierhood should prevent the formation of extended coindexation chains in relative clauses. However examples in (5.118b-c) sound more acceptable than corresponding simple interrogative extractions. We can attribute their status to the optional character of CP extraposition which may be constrained in relative clauses as a result of somehow stronger links imposed on the

variable. Therefore, not only is it A' bound by its operator but also coindexed with the head of the relative clause. (5.118a) is ungrammatical for the subject position of the embedded clause is not properly head governed.

(5.118) a.* mezczyzna [$_{CP}$ ktory Tomek wie [$_{CP}$ ze t palil fajke w parku]][25]
man which/who Tomek knows that smoked pipe in park
the man that Tomek knows that smoked a pipe in the park

b. fajka [$_{CP}$ ktora Tomek wie [$_{CP}$ ze mezczyzna palil t w parku]]
pipe which/who Tomek knows that man smoked in park
the pipe that Tomek knows that the man smoked in the park

c. park [$_{CP}$ w ktorym Tomek wie [$_{CP}$ ze mezczyzna palil fajke t]]
park in which/who Tomek knows that man smoked pipe
the park in which Tomek knows that the man smoked the pipe

That the indicative clause extraposition is a strong tendency can be seen in (5.119) which is more difficult to accept. Acceptability of Wh movement from more than one CP in relative constructions deteriorates sharply. Presumably, because the lowest CP has greater freedom to extrapose to the VP periphery[26]:

(5.119) a. *? fajka [ktora Tomek sadzi [$_{CP2}$ ze Maria i Alicja wiedza [$_{CP1}$ ze mezczyzna palil t w parku]]]
pipe which/who Tomek thinks that Mary and Alice know that man smoked in park
the pipe which Tomek thinks that Mary and Alice know that the man smoked in the park

b. *? park [w ktorym Tomek sadzi [$_{CP2}$ ze Maria i Alicja wiedza [$_{CP1}$ ze mezczyzna palil fajke t]]]
park in which/whom Tomek thinks that Mary and Alice know that man smoked pipe
the park in which Tomek thinks that Mary and Alice know that the man smoked

The above derivations can be 'rescued' by the resumptive pronoun strategy: if the Wh operator/variable relation cannot hold across a barrier, the resumptive pronoun <u>it</u> appears in the position of the variable:

(5.120) a. fajka [ktora Tomek sadzi [$_{CP2}$ ze Maria i Alicja wiedza [$_{CP1}$ ze <u>ja</u> mezczyzna palil w parku]]]

b. park [w ktorym Tomek sadzi [$_{CP2}$ ze Maria i Alicja wiedza [$_{CP1}$ ze <u>w nim</u> mezczyzna palil fajke]]]

Again, similar to (5.100a), predication and extraction from the subject position stand out in the construction equivalent to

(5.120), for the empty resumptive pronoun strategy is available:

(5.121) mezczyzna [ktory Tomek sadzi [$_{CP2}$ ze Maria i Alicja wiedza [$_{CP1}$ ze pro palil fajke w parku]]]

We would expect a single barrier in the form of a CP not directly selected by a category distinct from [+V] to break up the relations of predication and Wh movement successfully. This seems to be the case with complements of nominal heads: the 'strengthened' Wh operator variable relation cannot hold from within nominal complements:

(5.122) a. Piotr$_i$ [o ktorym$_i$ znam [$_{NP}$ historie [ze pro$_i$ szukal Janka w parku]]]
Peter about which/whom (I) know story that (he) looked for John in park
Peter about whom I know the story that he looked for John in the park

b. Janek$_i$ [o ktorym$_i$ znam [$_{NP}$ historie [ze Piotr go$_i$ szukal *t$_i$ w parku]]]
John about which/whom (I) know story that Peter him looked for in park
John about whom I know the story that Peter looked for him in the park

c. park$_i$ [o ktorym$_i$ znam [$_{NP}$ historie [ze Piotr szuka w nim$_i$ Janka *t$_i$]]]
park about which/whom (I) know story that Peter looked in it for John
the park about which I know the story that Peter looked in it for John

(5.122b-c) are ungrammatical with variables in them but they regain their grammaticality if resumptive pronouns are inserted. (5.122a) again looks deceptively different due to the nonlexical resumptive pronoun pro in the subject position.

The predicative complementizer co/what plus the resumptive pronoun (overt or pro) are rarely used in more complex constructions and are attributes of colloquial Polish. Co/what seems to require strong emphasis on the subjects of predication, for example in the form of a demonstrative pronoun ten/this. Even then the examples in (5.124) seem to be less acceptable than the ones involving lexical Wh operators:

(5.123) a. ten Piotr [co Tomek wie [ze go Marek szukal]]
this Peter that Tomek knows that him Mark looked for
Peter that Tomek knows that Mark looked for him

b. ten Marek [co Tomek wie [ze pro szukal Piotra]]
this Mark that Tomek knows that (he) looked for Peter
Mark that Tom knows that he looked for Peter

c. ten park [co Tomek wie [ze w nim Marek szukal

Piotra]]
this park that Tomek knows that in it Mark looked for Peter
the park that Tomek knows that Mark looked in it for Peter

(5.124) a.?ten Piotr [co Tomek sadzi [ze Maria i Alicja wiedza [ze go Marek szukal]]]
this Peter that Tomek thinks that Mary and Alice know that him Mark looked for
Peter that Tomek thinks that Mary and Alice know that Mark looked for him

b.?ten Marek [co Tomek sadzi [ze Maria i Alicja wiedza [ze pro szukal Piotra]]]
this Mark that Tomek thinks that Mary and Alice know that (he) looked for Peter
Mark that Tom thinks that Mary and Alice know that he looked for Peter

c.?ten park [co Tomek sadzi [ze Maria i Alicja wiedza [ze w nim Marek szukal Piotra]]]
this park that Tomek thinks that Mary and Alice know that in it Mark looked for Peter
the park that Tomek thinks that Mary and Alice know that Mark looked for Peter in it

We propose to deal with (5.123-4) as with other similar cases; CP extraposition does not take place in them. Interestingly, relative clauses involving predicative complementizer co/what, the empty operator and a resumptive pronoun within a nominal complement are ungrammatical:

(5.125) * ten Piotr [co Tomek slyszal [$_{NP}$ historie [ze go zona zbila]]]
this Peter that Tomek heard story that him wife beat up
Peter that Tomek heard the story that his wife beat him up

The reason for the deteriorating grammaticality of the co/what relative clauses even despite the presence of the resumptive pronoun could be as follows: the pronoun in (5.125) depends on its identification on the empty operator and in some sense it is, as we have said, a spell out of a Wh trace which has to carry morphological Case. Resumptive pronouns bound by the null operator have to be bound at S structure by a Wh moved operator. It is impossible in (5.125) where the operator cannot move to [Spec,CP] across an NP barrier. (5.125) and (5.122) demonstrate the contrast between two types of the resumptive pronoun strategy. In the latter case resumptive pronouns receive their interpretation at LF (unmarked resumptive pronoun strategy). In the former they are forced to appear at S structure by (5.104) and as such, they function as 'lexical Wh traces'(marked resumptive pronoun strategy). They have to bound by the null operator at S structure

and seem to be sensitive to island domains.

This phenomenon is then fully compatible with our assumptions concerning relative clause formation in Polish, MCVR and extended chains of predication and identification by the subject of predication.

5.5. Conclusion

In this chapter we analyze interrogative extraction from clausal complements in Polish and relative clause formation. It was demonstrated that Wh extraction from clausal complements is very limited in Polish and is said to be fully grammatical only from one type of subjunctive clauses and infinitival clauses. Generally speaking extraction from finite complements is ungrammatical although some speakers regard extraction of objects and adjuncts as acceptable. The problematic status of extraction from clausal complements can be attributed to their optional extraposition to the right periphery of VP. Only infinitival complements and one type of subjunctive clauses are directly selected by their verbal governors.

There are severe restrictions on Wh extraction from the subject position in Polish. It is unconstrained only in root contexts, otherwise it is impossible. This property can be attributed to the lack of proper head government of the subject position. Unlike Italian, Polish does not seem to allow for extraction from the i-subject position (bearing in mind the provision for ergatives) and takes the "English" strategy of proper head government of the subject position in the sense of Rizzi (1990); raising of feature Agr to an empty Comp.

Relative clause formation in Polish involves basically the same elements as in English and is based on Wh movement. Similarly, Polish allows for lexical and empty operators. Because of specific requirements of morphological Case visibility, the empty operator in Polish cannot license a Wh trace but a resumptive pronoun or pro in the subject position which have to identify morphological Case. The relation of predication involved in relative clause formation seems to 'strengthen' interrogative extraction and prevent CP extraposition in certain contexts.

Notes

1. Two earlier drafts of this chapter were presented at the Research Seminar at the University of Wales in Bangor (January 1992) and the 26th International Conference on Contrastive Linguistics in Rydzyna (December 1992). I would like to thank these audiences for their valuable comments.

2. With a striking exception of relative clauses which we will examine in the following section.

3. In his analysis Rizzi assumes that subjects in the [NP,IP] position in both null subject and non null subject languages observe the "that trace" filter but Italian and other null subject languages have the option of inversion; the subjects of intransitive and transitive verbs are adjoined to VP. Ergative verbs are base derived as sisters of V under V'. Thus in Italian it is rather I-subjects than subjects that are properly head governed and therefore indifferent to the "that trace " filter. See the examples in chapter 1.5.

4. In this particular case we will treat the relative clause as derived via movement along generally accepted lines of Chomsky (1977 a,b). In the following section devoted to the analysis of reflexives, we will treat them as base derived constructions involving pros controlled from an A' position.

5. Many solutions have been proposed to this particular question of Case assignment across the clause boundary in ECM contexts. The classic proposals were Chomsky's (1981) S' deletion to S and Kayne's (1983) idea that in fact there is some empty prepositional complementizer, a nonlexical equivalent of for that occupies the COMP position in raising and ECM constructions.

Some other propositions include:

Webelhuth's (1987) suggestion that with raising predicates and ECM constructions the CP level of the complements is not projected at all and they have a status of IPs.

Baker (1988) where the head of the Complement phrase is deleted and therefore the head government and Case assignment by an external head are not blocked by Relativized Minimality.

6. Not all languages that allow null subjects allow both thematic and nonthematic null subjects. There are languages that allow only nonthematic null subjects, such as German or Icelandic. Polish allows both types of null subjects.

7. Morpohological uniformity of a paradigm is defined as follows:

(a) Morphological Unity

An inflectional paradigm P in a language L is

morphologically uniform iff P has either only underived inflectional forms or only derived inflectional forms.
(Jaeggli and Safir 1989:30)

Thus a paradigm is uniform morphologically if all forms are equally complex: stem plus different suffixes, prefixes, infixes for different persons, numbers and genders or if all forms are equally simple and consist of the stem only. Polish demonstrates morphological unity while English inflectional is paradigm morphologically inconsistent:

(b)

inf.	biec	run
1st p/sing	biegne	run
2nd p/sing	biegniesz	run
3rd p/sing	biegnie	runs
1st p/pl	biegniemy	run
2nd p/pl	biegniecie	run
3rd p/pl	biegna	run

The morphological unity of inflection in Polish enables identification of a thematic null subject, while the lack of morphological consistency in English rules out this possibility.

8. Certainly the Spec-head agreement reconstruction requirement does not prevent a second extraction of an element bearing a referential index and properly head governed from the same clause.

9. There do not seem to be any differences in grammaticality between:

(a) Kto co komu ukradl?
who what whom stole
(b) Co kto komu ukradl
what who whom stole?
(c) Komu co kto ukradl?
whom what who stole

although (a) sounds the most usual and stylistically neutral. The solution we suggest can account for these word order facts and proper head government of the subject position.

For an analysis of multiple Wh questions in Polish see Witkos "On Multiple Wh Questions in Polish" (in preparation) where various analyses of this problem are discussed; for example Wachowicz (1974), Toman (1981), Cichocki (1983) and Rudin (1988).

10. This claim seems to hold even in cases of unbounded dependencies such as deletion in equative clauses. As Borsley (1982) observed, Polish apparently allows for unbounded deletion of APs in equative constructions:

(a) Janek jest wyzszy$_i$ [niz Maria twierdzila [ze EC jest

t_i]]
John is taller than Mary claimed that he is

He gives the following construction as an example of Wh Island violation:

(b) *Janek jest wyzszy$_i$ [niz Maria twierdzila [ze kto EC jest t_i]]

11. (5.58a) is accounted for by our analysis of the proper head government of the subject position; it is blocked by the presence of lexical Comp.

12. The terms weaker and stronger barriers as we have used them above do not correspond to Cinque's (1990) terms: the barrier for binding (strong) and the barrier for bounding/government (weak).

13. The barrierhood of non L-marked indicative complements in Polish can alternatively be interpreted as the case of low level parameter of barrierhood in the spirit of Chomsky (1986b); tensed IP is a low level barrier for English in this approach. Correspondingly, in Polish the lowest tensed CP could be regarded as a barrier.

14. This fact may also be due to CP extraposition to the right periphery of VP. This would be our desired analysis of these structures in the later part of this section where we take extraposition to be the source of (weak) barrierhood. For the sake of argument we will however keep referring to these verbs as 'non-bridge' verbs.

15. Ian Roberts (personal communication) suggested one more possibility, namely that indicative complements are obligatorily extraposed to some IP adjoined position on the left periphery of the main clause. As extraposed constituents they are islands, for they are not selected or theta marked in their adjoined positions (they are not L-marked in the sense of Chomsky 1986b).

This proposal has the advantage of being able to account for the discrepancy in native speakers' grammaticality judgements of extraction from indicative complements with 'bridge verbs'. For some native speakers all indicative clausal complements are extraposed while for others the 'bridge verbs' permit their clausal complements to remain in situ and therefore extraction of adjuncts and internal arguments is possible. Extraction from the subject position is barred due to the 'that trace effect' or an ECP violation (lack of proper head government if a lexical complementizer is a defective head governor).

16. We believe that the escape of Polish clausal complements from the Case marked position may be some further consequence of the morphological Case system in Polish. This condition however cannot be rigid as the case of e-subjunctives shows.

17. Larson (1988) provides arguments based on the asymmetry between indirect and direct objects in favor of his 'VP shell' hypothesis. Some of his arguments depend on A binding facts in English, e.g.:

(a) I told them about each other

where them has each other in its c-command but not conversely, for a Principle C violation would follow. Besides, rigid binary branching imposed by the X' theory can be simultaneously observed. Although anaphor binding in Polish is definitely subject orientated, Zabrocki (1981) gives the following examples of indirect object binding:

(b) pro pogodzilismy ich ze soba.
We reconciled them with each other.
(c) pro oglaszam go niezdolnym splaceniа swych dlugow.
I announce him to be unable to pay his debts.

In (b-c) the anaphors can refer to both the subject and the direct object. If such an interpretation is possible, Larson's (1988) 'VP shell' hypothesis should also apply in Polish.

18. The effects of the presence of lexical negation in the lower clause do not show in our model e-subjunctives of chciec/want:

(a) Maria chce [zeby Jan czytal ksiazke/ACC]
Mary wants John to read a book.
(b) Maria nie chce [zeby Jan czytal ksiazke/ACC]
Mary does not want John to read a book

This fact shows that our analysis of infinitival complement incorporation is not available for e-subjunctives.

19. Tajsner (1990) treats this question of the Genitive of Negation in the lower clause differently. He assumes the activation of the Agr_{o} level of the matrix predicate. See Tajsner (1990).

20. As for the intervening Comp head we claim that it is either deleted prior to incorporation or 'truly empty'. In either case it does not produce Minimality effects. Baker (1988) proposes the 'truly empty Comp' following deletion option for CP to IP reduction in ECM and raising complements in English. Note, that the presence of the CP level is required, for Wh Island condition effects show in this context in Polish and [Spec,CP] has to be projected.

21. We believe that there is a difference between zeby/that-cond of subjunctive complements and zeby/in order to of adverbial clauses of purpose. Only the former allow for verbs in the subjunctive mood in the IPs they select while the latter require infinitivals. We assume that the former come into being as a result of lexical Agr to Comp movement (see our analysis in 5.2.2.) whereas the latter are base derived homophones of subjunctive zeby.

22. This formulation is still very often used although it is clearly compatible with the earlier (up to mid 80s) approach. In more contemporary terms that cannot be present as the content of the Complementizer head at S structure.

23. In multiple Wh questions we can find examples involving presence of Wh operators in front of Complementizers in interrogative constructions, such as this colloquial question:

[$_{CP}$ co [$_{C'}$ [$_{C}$ zes] [$_{IP}$ pro znalazl t]]]
what that+2nd p/sing found
what have you found

The above construction however does not involve predication.

24. We will then assume that co/what, the predicative complementizer in Polish differs from its English counterpart ([+pred] that) in a very important respect: it is not a proper head governor. This assumption forces some resumptive pronoun strategy for empty operator bindees in both subject, object and adjunct positions. Therefore the differences between the subject position and the others can be reduced to the empty resumptive pronoun strategy of pro.

If we assumed that co/what was a proper head governor the empty operator would exceptionally bind a trace in the subject position but require resumptive pronouns in other positions. Under our present account this unexpected asymmetry is avoided by a well motivated case of a nonlexical resumptive pronoun pro. Simultaneously, (5.107) is preserved.

25. The empty category in the subject position of the embedded CP in (5.118a) can be pro coindexed with Tomek. We believe that this possibility determines a slightly odd (less sharp) judgement of this structure.

26. Independently, we may claim that there is some functional constraint on long extraction in 'free word order' languages linked to the presence of morphological Case and interpretation of thematic functions marked by it.

Chapter 6

Parasitic Gaps and Across the Board Phenomena in English and Polish

6.1 Introduction

In the present chapter we will analyze the phenomena of parasitic gaps and ATB constructions in Polish as well as theoretical considerations concerning licensing and identification of parasitic gaps. Before an account of parasitic gaps in Polish is presented, a review of the major approaches to the issue of parasitic gaps will be provided in order to emphasize the advantages and weaknesses of these approaches. In section 6.2 Chomsky's (1982) analysis will be presented, followed by the (binding) paths approach of Pesetsky (1982) and Kayne (1983, 1984) in section 6.3. Section 6.4 focuses on the notion of an extended chain and A' binding of a parasitic gap by an empty operator, as suggested in Chomsky (1986b). Section 6.5 contains our preferred analysis of parasitic gaps as A' bound empty pronominal elements (pro) of Cinque (1990). The following section contains our account of parasitic gaps in Polish as A' bound null pronouns. Section 6.7 contains the analysis of Coordinate Structures in Polish along the lines of Grant Goodall's (1986) theory of union of phrase markers.

Specifically, in this chapter we would like to show that Polish data concerning parasitic gaps is best analyzed in the framework suggested in Cinque (1990) and that it creates certain problems for the analysis involving the existence of empty operators independently binding parasitic gaps.

Although in principle we will not follow the (binding) paths approach, we will draw on the interesting conclusions arrived at in Kardela (1986, 1989) and we will try to recast them and develop further in the present framework.

As noted in Chomsky (1982) the properties of parasitic gaps, a syntactic phenomenon far from central in natural language, should not be explained by a separate module of UG, but rather as a result of interplay between various powerful syntactic principles. We believe that this is the case and that the A' bound pro hypothesis accounts for the existence of parasitic gaps as well as other gaps which are not easily attributed to Wh movement.

In order to illustrate the subject of our discussion, we will use an example of the so called adjunct parasitic gap:

(6.1) Which plan did [$_{IP}$ you shelve t [$_{PP}$ without considering e]]

which is synonymous with (6.2) where a resumptive pronoun appears in the position of the parasitic gap:

(6.2) Which plan did [$_{IP}$ you shelve [$_{PP}$ without considering it]]

In (6.1) e stands for a parasitic gap and t stands for a variable, a licit gap created by Wh movement. Most analyses of the parasitic gap phenomenon assume that both the variable t and the gap e are linked to and identified by one and the same operator in [Spec,CP]. From the analyses we consider only one posits existence of two separate operators for both gaps, a Wh operator A' binding the variable and an empty operator A' binding the parasitic gap. We shall now consider available theoretical options in more detail.

6.2. The Analysis of Parasitic Gaps in Chomsky (1982)

Following Taraldsen's (1979) and Engdahl's (1981) accounts of parasitic gaps, Noam Chomsky tried to explain their properties in the framework of the theory of government and binding.

Parasitic gaps are a marginal syntactic phenomenon and strictly speaking are the Bijection Principle (weak crossover) violations:

(6.3) The Bijection Principle

> Every A position is locally bound by at most one A' position.
>
> Every A' position locally binds at most one A position.
>
> (Koopman and Sportiche 1982:9)

(6.4) and (6.5) are S-structure representations violating (6.3):

(6.4) His mother loves everyone.
(6.5) Who did you give a picture of e to t

Their corresponding LF representations are as follows:

(6.6) [$_{IP}$ everyone$_i$ [$_{IP}$ his$_i$ mother loves t_i]]

(6.7) who$_i$ did [$_{IP}$ you give a picture of e_i to t_i]

The account of parasitic gaps in Chomsky (1982) depends crucially on two assumptions: the anti c-command condition which should hold between the variable t and the parasitic gap e and the existence of a common A' binder for both gaps.

The name of this particular type of syntactic gap itself derives from the fact that they depend on the existing real gaps caused by Wh movement. Without the presence of a licensing variable a parasitic gap cannot occur, which (6.8) demonstrates:

(6.8) *I filed this article without reading e.
(6.9) Which article did you file t without reading e ?

In order to specify the character of e in (6.9), Chomsky (1982)

distinguishes between its D structure content and its S structure content; the D structure representation of (6.9) is as follows:

(6.10) you filed which article [$_{PP}$ without reading e]

At D-structure e is PRO, for only pronominal empty categories are allowed at this level prior to any syntactic movement. Besides, a resumptive pronoun in the place of the gap at S-structure gives the sentence the same reading and causes a Bijection Principle violation at LF:

(6.11) which article did you file t[$_{PP}$ without reading it]

From the semantic point of view, the parasitic gap in (6.9) corresponds to the resumptive pronoun in (6.11) and is its phonologically null counterpart.
The assumption that e is PRO at D-structure does not conflict with the PRO Theorem stating that PRO can never appear in a governed position. Control theory (as an extension of binding theory) does not have to be satisfied at this early level of representation, but higher, at S-structure and LF.

In its S-structure form (6.9) contains two gaps t and e; t can be easily identified with the D-structure position of the Wh phrase, thus t is a variable. Now e clearly cannot be PRO, for it would be governed at S-structure and therefore it would have to be excluded as a PRO Theorem violation. Thus at this level of representation e must be a trace of syntactic movement. In Chomsky's (1982) framework e could only be a variable, identified (recovered via coindexation) by the Wh operator. The reasons for excluding the NP trace option are as follows:

(6.12) Z... t... e...

where the order of t and e is irrelevant, Z is the Wh operator, t is a variable in an A position and e is a parasitic gap in an A position. If e were to be an NP trace its coindexed binder Z would have to occupy an A position in order to satisfy Principle A of the binding theory. But then, since Z c-commands and shares its index with both t and e placed in A positions, Z would violate the theta criterion. It would be a member of two independent A chains: (Z ,t) and (Z ,e) and acquire two independent theta roles via these chains. Certainly provided that t and e do not c-command each other, for then a two link A chain could be established: (Z ,t), (Z ,e). The mutual anti c-command between t and e seems to be an empirical fact. They do not c-command each other in any examples presented so far (6.1, 6.5, 6.9), nor do they c-command each other in the subject parasitic gap constructions:

(6.13) a person$_i$ [$_{CP}$ who$_i$ [$_{IP}$ [$_{NP}$ close friends of e$_i$] admire t$_i$]]

In (6.13) the c-domains of t and e are mutually exclusive. The c-domain of t is VP(V') and the c-domain of e is confined to the subject NP. In the cases of adjunct parasitic gaps the c-domain of t is limited to VP(V') and the c-domain of e to the adjunct PP. Note, that in order to maintain the anti c-command relation between

t and e, V cannot c-command into the adjunct of the VP or IP type, thus clearly the concept of command here, refers to i(mmediate) command rather than m(aximal) command.

If Z in (6.12) occupies an A' position and the anti c-command relation between t and e holds, no violations of the theta criterion result. Z does not form A chains with t and e and does not receive any theta roles from them. As an A' binder it identifies two variables at S-structure. Thus from the syntactic point of view, e at this level becomes a Wh trace. Its A' binder Z is the head of two A' chains and therefore a Bijection Principle (weak crossover) violation occurs. Although it does not c-command e, t links it as a variable to the Wh operator for proper identification at S-structure.

This account predicts the ungrammaticality of (6.14-15):

(6.14) *John was called t an idiot as often as they called him/e a cretin.
(6.15) I forget who filed which/every article without reading it/*e.

In (6.14) Z = John and occupies an A position, t is an NP trace and either e or him is illicit. The parasitic gap at S-structure cannot remain PRO because it is governed and the PRO Theorem is violated. It cannot be a variable either, for t as an NP trace cannot link it to a Wh operator/variable chain. (6.15) is a piece of evidence showing that binding theory applies at S-structure, not only LF. As it stands (6.15) is ungrammatical with a parasitic gap in the object position of the adjunct PP. At S-structure the gap cannot be a governed PRO and a Wh phrase/quantifier in situ does not identify parasitic gaps. Although at LF, following Wh in situ movement to [Spec,CP] and quantifier adjunction to IP, the parasitic gap is licensed as a variable, the binding theory (the theory of control) excludes (6.15) at S-structure. The derivation is rescued if a resumptive pronoun is base generated in the position of the parasitic gap. Then only the familiar violation of the Bijection Principle results.

From (6.12) it follows that the A' binder of the parasitic gap must be placed in some A' position which does not however mean that its distribution is limited only to [Spec,CP]. Chomsky (1982) gives an example of dislocation in the form of a Heavy NP Shift which also licenses a parasitic gap.

(6.16) John offended t by not recognizing e immediately, his favorite uncle from Cleveland

The heavy NP adjoined to the right of NP serves as a legitimate A' binder for both the variable t and the parasitic gap e. Since (6.16) is grammatical, it follows that a dislocated NP cannot enter into any A chain formation either with t or e, for the previously mentioned consequences could ensue[1].

The peculiarities of e in (6.12) concern mainly its position, namely the parasitic gap is situated in the domains which do not allow Wh extraction such as adjuncts (6.10), relative clauses (6.13) and subjects (6.5). However it was noted that Wh movement

from adjunct islands does not always produce unanimously ungrammatical effects:

(6.17) ?* the article [that I went to England [without reading t]]

First, Chomsky (1982) observed that such extractions in relative clauses are more acceptable than in plain interrogative transformations:

(6.18) * Which article did [you go to England [without reading e]]

Second, he noted that preposition stranding makes these constructions more acceptable than pied piping which produces explicit ungrammaticality:

(6.19) ?* the man [that I went to England [without speaking to t]]
(6.20) * the man [to whom I went to England [without speaking t]]

Following Taraldsen (1979), Chomsky (1982) assumes that parasitic gaps cannot occur in the subject position due to violation of the ECP:

(6.21) *Someone who John expected t would be successful though believing e is incompetent
(6.22) *this is the student everyone thinks t is intelligent because John said e was intelligent.
(6.23) * a woman who t called John an idiot as often as e called him a cretin

Although in (6.21-3) the variables link parasitic gaps to their own Wh operators for identification, the Wh operators are too far away from the parasitic gaps to fulfil a much more local requirement of antecedent government of the parasitic gap as an empty category. The ungrammaticality of (6.21-3) without the 'that trace' phenomenon was regarded as evidence against empty operator analysis adopted later in "Barriers". With resumptive pronouns in the place of parasitic gaps, the above sentences are fully grammatical. Naturally, parasitic gaps are permitted in the subject position of small clauses when this position is properly governed by a matrix verb under Exceptional Case Marking:

(6.24) Someone who John expected t to be successful though believing e to be incompetent.

Finally, having looked at the possibilities of placement of Z and e of (6.12) a word of comment concerning the properties of t is due. From the previous discussion of Chomsky (1982) it follows that t cannot be an NP trace or an empty pronominal PRO, it can only be a variable. But still, there is one possibility left, that of t being a resumptive pronoun. As (6.25-26) demonstrate, this possibility is unavailable:

(6.25) *a man who everyone who meets him likes e
(6.26) * a man who everyone who meets e likes him

Resumptive pronouns do not license parasitic gaps because they are not equivalent to variables; they are base generated in positions from which extraction is impossible (within island domains) and therefore they are not able to form A' chains with Wh operators.

The grammaticality of (6.12) as an S-structure representation of a construction involving a parasitic gap calls for a closer inspection of the relation between (Z, e). In particular, Chomsky (1982) has to justify the linking role of the real gap t and exclude the possibility of free coindexation between a Wh operator and the parasitic gap at S-structure. Clearly such coindexation must be prevented, for it would make the variable t redundant and allow for free violations of island constraints; base generation of PRO and the Wh operator followed by transformation of PRO into a variable freely coindexed with the operator at S-structure must be prevented. In order to exclude this possibility the following constraints on free indexing are proposed:

(6.27) Free indexing at S-structure is limited only to A positions.

(6.28) An A' position is indexed at S-structure only if the element in this position has been moved into it as a result of a syntactic process.

(6.29) A' positions are freely indexed at LF.

(6.27) reflects indexing at S-structure following NP movement, (6.28) is a statement of A' binding following Wh movement and (6.29) concerns LF coindexation of Wh operators and resumptive pronouns[2].

The analysis of parasitic gaps in Chomsky (1982) is concluded with a brief descriptive characterization of this phenomenon:

(6.30) In the construction (A), where order is irrelevant and we assume Z, t, e to be coindexed, the parasitic gap e is indexed if and only if (B):
(A) ...Z...t...e...
(B) (i) Z c-commands t and e
(ii) t does not c-command e or conversely.
(iii) Z does not head A chains (Z, t) and (Z, e)
(iv) e is governed (not PRO) and heads a chain with a theta role.
(Chomsky 1982:66)

The relation between (Z, t) is that of a simple Wh movement. The relation between (Z, e) is the same except that the bounding theory is not respected.

6.3 The Theory of (Binding) Paths and Parasitic Gaps. The

Connectedness Condition.

As a counterproposal to Chomsky's (1982) analysis Kayne (1983) and Pesetsky (1982) suggested different solutions. Although slightly different in their formulation and theoretical orientation, both of these approaches explored the notion of a (binding) path extending from the residue of Wh movement to the operator binding the variable.

Richard Kayne (1983) noticed that cases of Subject Condition violation become acceptable when there is another Wh gap present lower in the structure:

(6.31) a. * a person who people that talk to e usually end up fascinated with him.
b. a person who people that talk to e usually end up fascinated with t.
(6.32) a. the negotiations that they followed t without knowing whether they should consider writing about e
b. * the negotiations that they followed t without knowing whether writing about e was a good idea

As (6.32b) shows the last parasitic gap in the structure may not be contained within the subject. In this example e does not violate the ECP but it apparently violates the Subject Condition. (6.32a) shows a grammatical parasitic gap in the object position of an adjunct clause.

On the basis of his analysis of analogous examples, Kayne (1983) concludes that there is a striking difference between binding of gaps in the left and in the right branch of the tree diagram, following his binary branching hypothesis. This difference is reducible to the requirement of proper government of empty categories, the notion of canonical direction of government configuration and percolation (g-projection). Kayne's ECP is defined as follows:

(6.33) Kayne's Extended ECP

An empty category A must have an antecedent B such that:
(1) B governs A or
(2) B c-commands A and there exists a lexical category X such that X governs A and B is contained in some g-projection of X.
(adapted from Kayne 1984:58)

The notion of g-projection is defined as follows:

(6.34) Y is a g-projection of X iff
a. Y is a projection of X (in the sense of X' theory) or of a g-projection of X or
b. X is a structural governor and Y immediately dominates W and Z, where Z is a maximal projection of a g-projection of X, and W and Z are in a canonical

government configuration.

(Kayne 1983:225)

Structural governors (Xs in the above definition) are said to be V, probably also Infl and P in English although P is not a structural governor in Romance or Polish.

Much weight in the above definition rests on the notion of canonical government configuration which is defined in the following way:

(6.35) W and Z (Z a maximal projection, and W and Z dominated by some Y) are in a canonical government configuration iff:
a. V governs NP to its right in the grammar of the language in question and W precedes Z or
b. V governs NP to its left in the grammar of the language in question and Z precedes W.

(Kayne 1983:225)

Thus for Kayne, the order W Z is a canonical government configuration in English and French but Z W is a canonical government configuration in German and Dutch.

In the light of the above definitions, the Subject Condition violations by parasitic gaps in (6.31a) and (6.32b) can be accounted for in terms of Kayne's ECP: both gaps have lexical governors (the respective prepositions). The antecedents of these gaps have to be within the g-projections of their governors. The governors extend their projections up to [writing about e] in (6.32b) and the relative CNP [people that talk to e] in (6.31a). Up to this level X' projections containing the governors of the gaps are positioned on the right branches in the strictly binary X' schemata (for Kayne S is a projection of V). But as subjects on the clausal level of the phrase marker, both NPs occupy a left branch position. Since in English the canonical direction of government, consistent with the head/complement parameter, is 'to the right', the g-projections of the governors of both parasitic gaps stop at subject NPs. Kayne's ECP requires that the gaps should have their antecedents within their g-projections (6.33). Clearly the parasitic gaps in these constructions do not satisfy this condition and violate Kayne's ECP and the Subject Condition.

Interestingly, in (6.31b) and (6.32a) cases of apparent Subject Condition (Extended ECP) violations are acceptable, if the gaps lower in the phrase marker located on the right branch rescue them. This 'rescue operation' however is subject to further conditions, not only the fact that the lower gap itself cannot violate the Subject Condition:

(6.36) a. a book that people that discover the first chapter of e usually end up liking t
b. * a book that people that discover the first chapter of e missing usually end up disliking t.

The difference between (6.36a-b) cannot be based on the placement of the second gap, rather on the position of the subject parasitic gap: in (6.36a) the gap is within the prepositional complement of

the NP constituting the subject of a clause in which the real gap occupies the object position. In (6.36b) the parasitic gap is within the nominal subject of the sentential subject of the clause in which the variable is in the object position. Thus in this example the distance between the parasitic gap and the variable is much bigger than in the former one. In (6.36a) the left branch g-projection of the governor of the parasitic gap is a sister of VP, a part of the right branch g-projection containing the variable. In (6.36b) the whole sentential subject is the sister of VP instead of just the subject NP. In some sense then, in grammatical structures involving two gaps the g-projections of the governors of the two gaps connect and form a common g-projection running to the top end of the structure and embracing the Wh operator common to both gaps. As (6.36a) shows, the connection between the two g-projections in a parasitic gap construction can take place only when the left branch constituting the g-projection of the governor of the parasitic gap is a sister of VP.

Thus the structures of (6.31b) and (6.36b) look as follows:

(6.37) a. 1,2

a person who 1,2

people 1 usually 2

that 1 end up 2

e 1 fascinated 2

talk 1 with 2

to 1 t

e

b. 2

a book that 2

people 2

that usually 2

e end up 2

discover disliking 2

the first 1 t

chapter 1 missing

1

of e

The two g-projections running from the governors of the empty categories in (6.37a) clearly connect whereas in (6.37b) they do not intersect; the g-projection marked 1 does not reach the level of the subject of the superordinate clause where it could reach g-projection 2.

The Connectedness Condition (CC) for a set of g-projections running from governors of empty categories, is formally formulated in the following way:

(6.38) The Connectedness Condition

> Let $\beta_1 \ldots \beta_j, \beta_{j+1} \ldots \beta_n$ be a maximal set of empty categories in a tree T such that $\exists\alpha, \forall j, \beta_j$ is uniformly bound by α. Then $\{\alpha\} \cup (\cup_{1 \leq j \leq n} G_{\beta j})$ must constitute a subtree of T.
>
> (Kayne 1983:239)

In other words in order to connect up to a g-projection of a real gap and be rescued from the Subject Condition (Extended ECP) violation via CC, the g-projection of a gap in the left branch should form a subtree with the g-projection of the lower gap.

Kayne (1983) extends the application of CC and his extended ECP to the cases of multiple Wh interrogation, lexical anaphora and pied-piping. Since these issues are of no immediate concern to the question at hand, we will not pursue them here. However the hypothesis of pied-piping via a g-projection plays a rather important role in Cinque's (1990) approach to parasitic gaps and therefore we will present Kayne's formulation of this principle here.

Following his discussion of possessive NPs, Kayne concludes that as an answer to the question:

(6.39) Do you know who is reviewing whose book?

one expects a two element set answer: John is reviewing Mike's book, Betty is reviewing Susan's book, etc. In this situation there are no answers to whose directly, rather to whose book, for the answer John is reviewing Bob('s) is not related to the question. Thus for the purposes of Kayne's Extended ECP it is rather the g-projection of the governor of whose book rather than just whose that forms a subtree containing who in COMP

An analogous mechanism is supposed to apply to Prepositional Phrases in French (and Polish). We will analyze a Polish example:

(6.40) a. * dom [ktorego pro [poszedles [$_{PP}$ do t]]]
house which (you) went to

b. dom [do ktorego [pro poszedles [$_{PP}$ t]]]
house to which (you) went
the house to which you went.

We can see that because Polish prepositions are not proper (structural) governors, the Wh word itself in [Spec,CP] causes ungrammaticality which is explained in Kayne's framework by the lack of a g-projection running from do/to. Because the preposition

is not a structural governor, it does not begin a g-projection running to COMP along right branch positions. The g-projection of the gap bound by a Wh operator starts with the verb, the structural governor of the PP including the variable. Polish prepositions do not have g-projections apart from their own X' projections. As a conclusion of possessive phrases and prepositional phrases in French (Polish), Kayne (1983) formulates the following principle of pied-piping via g-projection at S-structure:

(6.41) If β is a Wh phrase and $Z \in G_\beta$, then Z is a Wh phrase.

(Kayne 1983:243)

The above principle formalizes the observation that an immediate g-projection of a nonstructurally governed Wh phrase plays a role of that Wh phrase and moves to COMP at S-structure.

In his account of parasitic gaps under Extended ECP, Kayne adopts Taraldsen's (1979) and Chomsky's (1982) assumption that the parasitic gap and the variable may not c-command each other.

The same assumption is incorporated as an axiom into the analysis of parasitic gaps conducted by Pesetsky (1982) within the theory of (binding) paths. Since this approach was presented in more detail by Kardela (1986, 1989) in his discussion of parasitic gaps and ATB phenomena in Polish, we will limit ourselves to a few brief remarks.

Pesetsky's (1982) Path Theory is similar in its mechanics to Kayne's concept of g-projections: both are, on a descriptive level, tracks running from Wh gaps (in core cases) to their A' binders in COMP. Both theories make provisions for union or intersection of these tracks. Finally, both theories assume that these tracks run through maximal projections dominating the gaps.

There are however certain significant differences between these two approaches. Kayne assumes that his system should account for cases of multiple Wh movement, parasitic gaps and A' binding. Pesetsky claims that his theory is able to explain a wide variety of syntactic phenomena such as Wh movement, parasitic gaps, multiple Wh movement, extraction from coordinate structures, gapping, the that trace phenomenon and Superiority.

His paths are not government projections but a set of maximal projection nodes between the gap and the operator. Pesetsky's (1982) system rests on three basic definitions supported by a small set of auxiliary conditions.:

(6.42) Paths

Suppose t is an empty category locally A' bound by b. Then:

(i) for the first maximal projection dominating t.

(ii) for the first maximal projection dominating b.

(iii) the path between t and b is the set of nodes P such that P={x/ (x=a) v /x dom. and $\neg$x dom.)

(Pesetsky 1982:289)

(6.43) Path Containment Condition (PCC)

If two paths overlap, one must contain the other.
(Pesetsky 1982:309)

(6.44) Overlapping

Two paths overlap if their intersection is nonnull and nonsingelton.
(Pesetsky 1982:309)

Additionally, there is one crucial condition, namely that in every tensed sentence there is a path running from Infl, or rather the component of Infl corresponding to Tense in Pesetsky's system, to COMP. This path was motivated by the assumption that at D-structure Tense appears in Infl but at LF it moves to COMP to have the whole proposition in its scope. As a direct result of this assumption in every tensed sentence there is a path running from Infl' to S' which is able to produce overlapping effects with illicitly moved subjects. In Pesetsky's system infinitivals do not have Tense nor this extra path.

(6.45) a. Which book did Susan buy t?
b. Who did you say [t kissed Susan]?
c. * Who did you say [that t kissed Susan]?

In (6.45a) there are two paths: from t to its A' binder and from Infl to COMP. They can be presented as follows:

VP Infl' S S' path 1
Infl' S S' path 2

PCC is not violated, for path 1 contains path 2. In (6.45b) the paths are formed as follows:

S S' VP Infl' S S' path 1
INfl'S S' Infl' S S' path 2 and 3

Again, no violation of the PCC is recorded because the first segment of the path of the successive cyclic Wh movement is contained within the path from Infl' to S' in the subordinate clause and the second segment of the Wh movement path contains the path from Infl' to S' in the subordinate clause.
(6.45c) is ungrammatical and the Path Theory can account for it:

S S' VP Infl' S S' path 1
Infl' S S' Infl' S S' paths 2 and 3

Because the COMP of the subordinate clause is unavailable as the landing site for Wh movement (the presence of a lexical complementizer blocks it), the Wh extraction is completed in a single leap. Its path nonvacuously intersects with the Tense to COMP path of the lower clause and causes a PCC violation.

Similarly, in Pesetsky's system Subject Condition violations are interpreted as PCC violations:

(6.46) Who did [$_S$ [$_{NP}$ a story about t] interest Mary]?

where the path between the trace and its Wh operator runs along:

```
          PP
          NP
          S S'                      path 1
     Infl' S S'               path 2
```

The two paths partially overlap but neither contains the other: Path 1 and 2 share the S and S' nodes but path 1 does not include the Infl' node, nor does path 2 contain the NP and PP nodes.

Analogously, applying Kayne's Connectedness Condition to paths, Pesetsky claims that if more than one gap share the same A' binder, their binding paths combine and form one forked (or spurred) common path. Obviously, for the CC to apply to paths their intersection must be nonnull.

(6.47) A person [$_{S'}$ who [$_{NP}$ stories about e] amuse t

The path from t to <u>who</u> is as follows:

```
          VP Infl' S S'        path 1
                S S'
              NP
              PP      path 2 (starting at e)
        Infl' S S'        path 3
```

As in (6.46) paths 2 and 3 on their own violate the PCC but if paths 1 and 2 combine, they form a single common path of which path 2 constitutes only a spur (a subpath). The combined path does not violate the PCC, for it contains the Tense to COMP path and they have a singleton intersection in the S' node.

Thus a standard Path Theory analysis of an adjunct parasitic gap construction is as follows:

(6.48) Which book [did you file t [without reading e]?

```
          VP Infl' S S'             path 1 (from t)
     NP PP VP Infl' S S'            path 2 (from e)
             Infl' S S'             path 3
```

Here both the binding paths running from the gaps contain path 3 separately and their union does not rescue the derivation the way it does in (6.47) in the case of subject parasitic gap. Notice however that in (6.48) we assume that the prepositional phrase <u>without reading</u> is a VP adjunct with a VP node dominating it as a maximal projection and consequently allowing path 2 to transit via VP and Infl'. If we assumed that this prepositional phrase is an S adjunct the connection of paths would save the derivation. If e were positioned in an S adjunct its path would include:

```
          NP PP S S'
```

and illegally overlap with path 3. But the CC would again rescue the derivation.

In both of the above presented systems the facts concerning parasitic gaps were one of many syntactic phenomena that these systems could cover. Both the extended ECP and the PCC were supposed to be viable alternatives to Chomsky's (1981) formulation of the ECP. Both Kayne's (1983) and Pesetsky's (1982) theories shared two basic assumptions with earlier analyses of the parasitic gap phenomena: the assumption that although both the variable and the parasitic gap share the same A' binder, the variable is licensed via movement while the parasitic gap is base generated at D-structure; the second vital assumption concerns the anti c-command requirement which should invariably hold.

Despite the differences between the variable and the parasitic gap both the aforementioned theories underlined a significant similarity between them: the fact that they both form A' binding paths of the same nature which can combine with each other. In 6.6 we mention several reasons for which in our analysis of the parasitic gap phenomena in Polish we will not follow the Path Theory although we will try to apply the CC in a new role.

6.4. Binding of Parasitic Gaps by Empty Operators.

The account of the parasitic gap phenomena presented in "Barriers" is the only one involving two separate A' binding chains, one between a Wh operator and a Wh trace and the other between an empty operator and a parasitic gap. Such an account of parasitic gap binding ensues from three basic premises: grammaticality of parasitic gap placement in the subject position, sensitivity of parasitic gaps to island constraints and vacuous movement[3] and the unclear status of the anti c-command condition, supposedly holding between the real gap t and the parasitic gap e in (6.12).

In Chomsky (1986b) the following three constructions involving parasitic gaps are contrasted:

(6.49) which book did you file t [without believing [Mary would like e]]
(6.50) which book did you file t [without believing [e would please Mary]]
(6.51) * which book did you file t [without believing [that e would please Mary]]

While in Chomsky (1982) (6.50) would have been paired with (6.51) as ungrammatical and juxtaposed against (6.49), in Chomsky (1986b) (6.50) is regarded as acceptable. In Chomsky (1982) that ungrammaticality was credited to an ECP violation, the lack of a local antecedent governing operator. Consequently, it became an argument against A' binding of the parasitic gap by an empty operator. In Chomsky (1986b) the difference in acceptability between (6.49-50) is negligible but these two constructions considerably differ from (6.51) which is said to be an ECP

violation due to the 'that trace effect' which prevents antecedent government of the parasitic gap by the empty operator by Minimality Barrier. Thus the placement of parasitic gaps in the subject position is now fully warranted.

In Chomsky (1986b) a long list of examples showing sensitivity of parasitic gaps to island constraints can be found, with an accompanying conclusion that this sensitivity and parallelism with regular Wh extractions proves that a movement related operator variable relation characterizes licensing of parasitic gaps:

(6.52) this is the man John interviewed t before__
a. expecting us to tell you to give the job to e
b. expecting us to ask you which job to give to e
c.* reading the book you gave to e
d.* hearing about the plan you proposed to e
e.?* announcing the plan to speak to e
f.?* hearing about the plan to speak to e
g.* expecting you to leave [without meeting e]

(6.52a-b) are as grammatical as cases of successive cyclic Wh movement out of a deeply embedded clausal complement. (6.52c-d/e-f) show a familiar contrast, parallel to interrogative extraction, between movement out of complement Complex NPs and relative Complex NPs. Extraction from complement Complex NPs is said to be markedly more grammatical than extraction from relative clauses, which is totally ungrammatical. So is extraction out of adjunct prepositional phrase in (6.52g). As a result, the presence of a lexically empty operator in the gerundive phrase dominated by the PP headed by before can be posited:

(6.53) This is the man[O [John interviewed t [before [O [giving a job to e]]]]

Subject parasitic gaps also show island effects, although their ungrammaticality degrades more sharply than in the case of adjunct parasitic gaps:

(6.54) a. he is a man that [anyone who talks to e] usually likes t
b. he is a man that [anyone who tells people to talk to e] usually likes t
c.* he is a man that [anyone who meets people who talk to e] usually likes t
d.* he is a man that [anyone who meets people who talk to e] usually likes t

Again, (6.54a-b) are grammatical and resemble standard cases of extraction from embedded clauses. (6.54c-d) show typical Wh island violations. Thus also in this case it seems plausible that subject parasitic gaps are subject to A' binding by some empty operator at S-structure, an operator different from the one binding the real gap and probably placed in [Spec,NP].

In Chomsky (1986) the crucial anti c-command requirement of the earlier framework was considerably weakened.

First, there is a possibility of c-command by a variable in the object position into an adjunct phrase:

(6.55) a. * they$_i$ visited us [before we admitted those$_i$ students]
b. ? we interviewed them$_i$ [before we admitted those$_i$ students]
c. we interviewed [their$_i$ parents][before we admitted those$_i$ students]

(6.55a) is ungrammatical with the suggested coindexation as a plain example of Principle C violation: they in the matrix subject position A binds those. (6.55c) is perfectly grammatical; those although coindexed, is not c-commanded by their because the c-domain of the latter is limited only to the NP. (6.55b) is the most interesting; if c-command from the object position did not reach into the adjunct phrase, the construction should be undoubtly as grammatical as (6.55c). However its status is marginal and intermediate between the other two examples. This indicates that c-command probably 'weakly' reaches into the adjunct. Chomsky (1986b) suggests two possible structures:

(6.56) a. O [NP [$_{VP}$ ...t [$_{Adjunct}$...e...]]]
b. O [NP [$_{VP}$ [$_{vp'}$...t...] [$_{Adjunct}$...e...]]]

In (6.56a) ...e... would be straightforwardly c-commanded by t as an element within its sister node. This seems the less possible of the two alternatives, for (6.55b) would have to be as bad as (6.55a). (6.56b) is more plausible with the adjunct attached to VP but not to "smaller VP'" including only the verbal head and the direct object position. Then t would not i(mmediately) command e but it would m(aximally) command it within the same maximal projection. The relation of m-command is considerably weaker than that of c-command, hence the intermediate status of (6.55b).

The second argument against anti c-command between t and e came from the analysis of structures involving dyadic verbs taking both a nominal object and a sentential complement:

(6.57) which men did the police warn t [$_{CP}$ that they were about to arrest e]

If in the above example CP were assumed to be a sister of both t and warn, e would undoubtly be i-commanded (strongly c-commanded) by t[4].

Although as a result of these analyses the anti c-command requirement was not refuted, some notion of 'weak' c-command holding between a variable and a parasitic gap cannot be firmly rejected.

With or without the anti c-command requirement, Chomsky (1986b) assumes that there is sufficient evidence to claim that although the operator binding the real gap, this gap itself and the parasitic gap carry the same index and the two gaps refer to the same entity in the D-domain, these gaps are not bound by the same A' binder. They belong to two separate A' chains where the

parasitic gap is bound by an empty operator O. Thus the interpretation of the parasitic gap is achieved through a chain composed at S-structure:

(6.58) Chain Composition

If $Z = (x_1,...,x_n)$ is the chain of the real gap, and $Z' = (y_1,...,y_m)$ is the chain of the parasitic gap, then the "composed chain" $(Z,Z') = (x_1,..., x_n, y_1,..., y_m)$ is the chain associated with the parasitic gap construction and yields its interpretation.

(Chomsky 1986b:63)

(6.58) can be modified according to the conviction whether the anti c-command should stand or not. In the former case, the following Chain Condition will exclude c-command between t and e:

(6.59) Chain Condition

A maximal A chain $(x_1,..., x_n)$ has exactly one Case Marked position(namely, x_1) and exactly one theta marked position (namely x_n).

(Chomsky 1986b:63)

If this condition holds for any chain whose links meet the c-command condition, both one link chains and subchains of a composed chain (satisfying the c-command requirement for links), the real gap cannot c-command the parasitic gap. Otherwise (6.59) would be violated with two gaps in A positions, both governed and assigned Case and both having independent theta roles.

If the anti c-command requirement were to be disposed of, the chain composition could be based upon some notion of Subjacency holding between elements of the composed chain. Although superficially accurate, standard notion of Subjacency is not satisfactory:

(6.60) a. what did you file t [$_{PP}$ before [$_{CP}$ O [$_{IP}$ you read e]

b. * who [$_{IP}$ t [$_{VP}$ spoke to you [$_{PP}$ before [$_{CP}$ O [$_{IP}$ you met e]]]]]

In (6.60a) O is subjacent to t, separated only by a barrier PP, while in the ungrammatical (6.60b) O is not subjacent to t because it is separated from it by two barriers, PP and VP. This is a welcome result and VP adjunction of O to waive the barrierhood of VP is impossible, for the link between t and O is based on coindexation, not movement. But the ungrammaticality of (6.60b) is too strong for an ordinary Subjacency violation.

Therefore Chomsky (1986b) proposes to apply the notion of O-subjacency to chain composition. O-subjacency holds only between t and O and makes both chains O-subjacent:

(6.61) A is O-subjacent to B if there is no barrier including A and excluding B.

(adapted from Chomsky 1986b:30)

Thus reanalyzed (6.60a) involves operator adjunction to PP to void its barrierhood:

(6.62) what did you file t [$_{PP}$ O [$_{PP}$ before [$_{CP}$ e' you read e]]]

As a result, the empty operator is O-subjacent to the variable, for PP does not exclude O which is dominated only by its upper segment. As required, in (6.60b) O remains 1-subjacent to t because of the barrier VP. The new O-subjacency condition requires further limitations on both elements that perform the adjunction and the domains onto which this operation is conducted:

(6.63) a. * he is the person to whom [they left [before speaking t]]
b. he is the person [they left [before speaking to t]
c. * how did you leave [before fixing the car t]
d. * who left [before fixing the car how]
e. who left [before fixing what]
f. * who do you consider [t [$_{AP}$ absolutely certain [that we can help e]]]

(6.63a) is definitely less grammatical than (6.63b) where an NP is extracted from an adjunct. Exactly the same situation happens with extraction of adjuncts from adjuncts, only (6.63e) is grammatical; even LF movement of an adjunct out of an adjunct phrase impossible in (6.63d). Thus the possibility of adjunction to PP in order to satisfy the O-subjacency requirement of chain composition (or avoid the Adjunct Condition as in 6.63a-e), has to be limited only to NPs. Cinque (1990) draws on this observation. (6.63f) is a case of a subject of a complement small clause that cannot license a parasitic gap. In order to achieve this, the empty operator binding e from [Spec,CP] cannot be allowed to adjoin to AP to void its barrierhood. Chomsky (1986b) excludes this possibility by referring to the general condition on adjunction: it cannot operate on arguments and the adjectival small clause in (6.63f) is selected as a complement of consider, therefore it counts as an argument and does not allow adjunction.

The choice as to whether the anti c-command requirement or O-subjacency between the subchains constitutes the basic condition of chain composition was left open in this account.

6.5 Parasitic Gaps as A' Bound Empty Pronominals

In chapter 3 of his "A' Dependencies" Gugliegmo Cinque presents an interesting analysis of constructions troublesome for any syntactic theory: parasitic gaps, complement object deletion (COD) gaps and gaps of apparent extraction from islands. In our brief presentation of his theory, we will focus mainly on parasitic gaps and we will only illustrate the other two constructions in (6.64):

(6.64) a. The article was too long for us to read e

b. The article that we went to England without reading e

In (6.64a) e is a COD gap whereas in (6.64b) it is a gap resulting from an extraction from an adjunct island.

In Cinque's theory all the three constructions receive similar treatment and the e gaps are supposed to be empty pronominals (pros) identified at S-structure by A' binders, Wh or empty operators.

In his approach to the phenomenon of parasitic gaps, Cinque (1990) agrees with Chomsky (1982) and maintains both the anti c-command requirement and the claim that parasitic gaps are base generated, not produced by Wh movement as in Chomsky (1986b). However Cinque rejects the prohibition on free indexing of A' positions at S-structure.

Descriptively speaking, parasitic gaps and the other two gaps show many characteristics typical of Wh movement traces:

1. they are bound by Wh operators.
2. they show crossing effects (for example Wh island constraint)
3. they do not easily allow Wh extraction from the dative object position in double object constructions in English:

(6.65) * the man we invited t [without giving e the invitation]

4. even though parasitic gaps are found within islands, they show sensitivity to further embedding within islands.

On the other hand, the three constructions mentioned above (including parasitic gaps) show some surprising inconsistencies with the other well behaved types of Wh movement. We will examine these inconsistencies only with respect to parasitic gaps unless examples of the other two constructions prove necessary.

First, parasitic gaps are limited strictly to nominal phrases. Compare (6.66a-b) below:

(6.66) a. Which book did you lose t [before reading e]
b. * How did you run t [without breathing e]

Knowing that the variable and the parasitic gap are coindexed, we can expect the following answer to (6.66a):

(6.67) I lost "Red Dragon" without reading it.

but never could (6.68) correspond to (6.65b):

(6.68) I ran fast without breathing fast.

An analogous property holds for adjectival phrases, parasitic gaps cannot correspond to them:

(6.69) * How important can one become t [without feeling e]

It follows then, that there is a certain asymmetry between NPs and other phrases. All of them can be A' bound by Wh movement operators but the parasitic gap construction as a more marked and marginal option is available only to nominal phrases.

Second, not all NPs can be referred to by parasitic gaps, only those which are fully referential:

(6.70) * How many kilos does he weigh t [without believing he weighs e]

The quasi object can undergo standard Wh movement (subject to certain conditions, see section 2.3.):

(6.71) How many kilos does he say he weighs t?

In the framework of Chomsky (1986b) both these features could be accounted for by hypothesizing that not only is PP adjunction limited to NPs but also only to referential NPs.

Third, parasitic gaps, unlike properly head governed variables, reluctantly appear in the subject position of tensed clauses in English:

(6.72) ?* someone who John expected [t would be successful [though believing e is incompetent]]

(6.72) was considered grammatical on a par with similar constructions without the adjunct phrase as opposed to the counterparts of (6.72) with the lexical complementizer in the adjunct internal tensed clause (see 6.49-51).

Fourth, apart from the aforementioned reluctance to extraction from the dative object position in double object configurations characteristic of Wh traces, parasitic gaps and gaps in the other two constructions produce degraded effects also in the second object position in these constructions. The acceptability judgments concerning these constructions are said to be inconclusive, varying from speaker to speaker, but there is a contrast between an ordinary variable in the second object position and a parasitic gap in this position:

(6.73) a. What did you give that man t?
b. ?* the book that we filed t [instead of giving that man e]

Fifth, Wh movement theory of parasitic gaps is unable to explain impossibility of embedding adjunct parasitic gaps within other adjuncts:

(6.74) * the book that we made t famous in Russia [without being arrested [after distributing e]]

The PP empty operator adjunction option is fully available in this case, the NP is fully referential, thus through successive VP and double PP adjunction the O-subjacency condition on chain

composition can be satisfied. Still, (6.74) remains ungrammatical which is apparently a problem for the O-subjacency option in "Barriers", but not for the anti c-command requirement.

By means of presenting the above five distinct features of parasitic gaps, Cinque (1990) questions the ordinary Wh movement analysis of parasitic gaps and proposes a solution similar to the one suggested in Chomsky (1982): parasitic gaps are base generated at D-structure as empty pronominals, not as PROs with the intrinsic makeup of [+anaphoric;+pronominal] but pros [-anaphoric;+pronominal]. By its very nature pro can be governed and can appear in a Case marked position both in the subject and the object positions (see Rizzi 1986). Unlike Chomsky (1982), Cinque (1990) does not have to claim that the syntactic makeup of the parasitic gap changes at S-structure to avoid PRO theorem violations; parasitic gaps remain pros throughout the whole derivation.

The condition on the appearance of pro can be subdivided into two parts: formal licensing and identification. Formal licensing depends on some form of government, in particular it seems that pro must be governed by a particular type of head, Agr° in null subject languages[5] or V°. Identification of pro consists in feature sharing between this empty category and some other element. In the cases discussed so far (mainly Rizzi 1986) pro was said to be identified via head binding with Agr° or an element in [Spec,CP]. The identification of pro involves F-features (person, number, gender) transmission onto it.

In Cinque's system, at S-structure pro parasitic gaps in A positions freely coindex with lexical or empty operators in [Spec,CP], the operator they share with true syntactic gaps. The licensing requirements of pro are satisfied, for they are properly governed by V or P and they are identified at S-structure by their coindexed A' binders: they inherit their F-features via coindexation. The A' binder provides "overt grammatical indication" of F-features of pro and plays a role similar to that of Agr in null subject languages[6].

(6.75) a. * I filed that book without reading e.
b. Which book did you file without reading e?

(6.75a-b) show a familiar contrast, an A binder cannot identify the features of a parasitic gap while an A' binder can. However at the level of S-structure, parasitic gaps are not only pronominal but by being A' bound they are also variables: variables are coindexed with their A' binders via LF movement and receive their F-features from them. Thus for Cinque (1990) parasitic gaps, as well as gaps of apparent island constraint violations and COD gaps are **pronominal variables**; A' bound pros.

This assumption flouts the prohibition on free indexing (not resulting from movement) of A' positions at S-structure. For Cinque's system this is a rather welcome development for it allows for island constraints violations and in the further part of this section we present mechanisms and limitations on selective island violations.

Another consequence of the prohibition of free indexing of A'

positions at S-structure was the explanation for the impossibility of licensing of parasitic gaps by resumptive pronouns. Cinque does not attribute this property to the ban on free indexing but rather to some poorly understood conditions on backward pronominalization, analogous to:

(6.76) a. * They managed to fix it_i without moving the $clock_i$
b. * The clock which they managed to fix it_i without moving e_i

Cinque also demonstrates that in certain cases where the pronoun is more deeply embedded its presence is compatible with the presence of a parasitic gap:

(6.77) $Gianni_i$, che dovranno convocare anche il poliziotto che lo_i ha arrestato prima di poter interrogare e_i.

$Gianni_i$ who they will also have to summon the policeman who arrested him_i before they will be able to interrogate e_i

In our analysis of parasitic gaps in Polish we will demonstrate cases of constructions involving resumptive pronouns licensing parasitic gaps. The fact that the gaps under analysis are pronominal variables can explain their peculiar features setting them apart from other standard Wh constructions.

Because variable pronominals are simply nonlexical resumptive pronouns, the only syntactic category with access to the resumptive pronoun strategy can be the nominal phrase; only nominals can be characterized according to the feature
[+/- anaphoric; +/- pronominal].

The requirement of full referentiality of nominals in parasitic gap constructions also follows from the fact that they are nonlexical resumptive pronouns. Their lexical equivalents cannot be used to "resume" nonreferential NPs:

(6.78) * I spent $[_{NPi}$ three weeks in Berlin] before Gianni spent $them_i$

Thus it seems that resumption by a pronominal form (lexical or nonlexical) depends on the full referentiality of the NP.

The relative unacceptability of parasitic gaps in the subject position of tensed clauses in English (see 6.72) is attributed by Cinque to the licensing requirement of pro. It must be formally licensed by a head and Comp in English is not an appropriate licenser, just as it is an inappropriate head governor (subject to other conditions, see section 5.5.)[7].

The final contrast between parasitic gaps and pure variable concerned the degraded status of parasitic gaps as second objects in double object constructions (see 6.73). If parasitic gaps were to be nonlexical pronominals, this position should be relatively inaccessible to pronouns as well. This indeed seems to be the case:

second objects can be pronouns only very marginally, if focally stressed or if the dative object is a pronominal itself:

(6.79) a. ? Gimme it.
b. ? I gave 'im THEM.

Cinque (1990) relies on a solution suggested in Oehrle (1976), a general filter on double object constructions stating that the rightmost of the two objects must be more prominent along a certain scale of prominence. This scale is in no way precise but useful in this analysis because it indicates that pronominal elements as less prominent do not usually appear in the second object position[8].

The analysis of parasitic gaps as pronominal variables seems to run into serious problems with respect to selective island violations. The account of parasitic gaps as pure variables bound by empty operators at S-structure in Chomsky (1986b) could explain why parasitic gaps could be separated from their alleged lexical A' binders only by a single barrier: in fact they were not separated by any barriers from their empty operators. In Cinque's analysis the sensitivity to more than one barrier between pro and its A' binder is rather unexpected: if pros act as nonlexical resumptive pronouns, they should be insensitive to any bounding theory violations, the number of barriers between pro and its A' binder should be unlimited. This statement turns out to be false as (6.74) demonstrates.

At this point, Cinque (1990) refers to the notion of connectedeness and Kayne's CC. The pronominal variable as an empty category should obey the Connectedness Condition. Although it remains in situ in overt syntax, pro moves at LF either by itself or pied piped in a larger phrase constituting its g-projection. This pied piping allows pro to void the effects of only one island. Cinque tightens the notion of g-projection so that each intermediate maximal projection should not only be in the canonical government configuration, but also **properly governed**[9].

This mechanism operates in the case of parasitic gaps and the other two constructions involving pronominal variables, under the assumption that pro, stationary in overt syntax, must move to its A' binder in [Spec,CP] at LF within a larger phrase formulated via pied-piping[10]. This two step process involves first, the formation of the g-projection of the governor of pro at S-structure and second, its subsequent movement to [Spec,CP] at LF. As a result, one island but not more can be waived. This is the explanation of the limitation on the distance between pronominal variables and their operators and the lack of such limitations in the case of resumptive pronouns which corefer freely at LF.

The hypothesis of the g-projection of the governor of pro movement at LF is corroborated in parasitic gap constructions:

(6.80) a. the book which you criticised t [without reading e]
b. * the book which you criticised t [without being punished [after reading e]]
c. the book [which [people [who read e]] dislike t]

In (6.80a) the g-projection of pro extends to PP which although on

the right branch is not properly governed. Thus PP via pied-piping counts as a pro phrase, carries the feature of pro and its raising to [Spec,CP] of the relative clause is not obstructed by any barrier.

In (6.80b) the first phase of the formation of the g-projection of pro is completed just like in (6.80a) but the LF movement of PP to [Spec,CP] is rendered impossible by the presence of the intervening barrier - another PP. As a result the construction is ungrammatical.

(6.80c) is an example of a subject parasitic gap construction. Analogously to the other examples, the g-projection of pro reaches the first maximal projection which is not properly governed. Complement CNPs qualify easily, for CPs in them are in a properly governed position[11]. In relative CNPs the CPs are not properly governed. Hence the g-projection of pro stops at the NP internal CP. There is an NP barrier between the g-projection of pro and its A' binder and the structure should be ruled out as ungrammatical.

Superficially, Chomsky's (1986b) account of parasitic gaps as variables fares much better in these cases, for subject parasitic gaps show VMH effects:

(6.81) a. He's a man [that [everyone [[who gives presents to e]] likes t]]
b. * This is a book [that [any man [to whom [we'll give e]] will like t]]

In (6.81a) at S-structure the empty operator binding the parasitic gap can move to the unoccupied [Spec,CP] and then adjoin to the operator binding the real gap. In (6.81b) this option is excluded, for [Spec,CP] is occupied at S-structure by the nonvacuously moved operator of the prepositional phrase. Thus (6.80a) is in this analysis treated on a par with (6.81a).

However Cinque (1990) points to a few inconsistencies of the application of the VMH to subject parasitic gap constructions. The contrast between NP and non NP extractions remains unexplained[12]. Even in the case of fully referential NPs, the adjunction to PP option plus the voiding of the Complex Noun Phrase Constraint by VMH should make it possible to construct at least marginally acceptable derivations involving either CNP (Complex Noun Phrase Constraint) within an adjunct or an adjunct within a CNP. Such options are however unavailable[13].

The A' bound pronominal variable analysis can overcome these difficulties only if the g-projection of the governor of pro in (6.80c) could extend to the complex NP inclusively. Cinque achieves this result by including the notion of predication in the definition of g-projection:

(6.82) Y is a g-projection of X iff:
a. Y is the projection of X in the usual sense of X' theory, or of a g-projection of X
b. Y immediately dominates W and Z where Z is a maximal projection of a g-projection of X and Z is selected in the canonical direction by W, or is predicated of W

(Cinque 1990:146)

This extension of the definition of g-projection allows Cinque to treat (6.80c) and examples of subject parasitic gaps in a principled way, according to the LF raising of pro via pied-piping hypothesis. Analogously, the prohibition on the placement of parasitic gaps inside more than island holds.

Still, two theoretical problems remain unsolved, the contrast between (6.81a-b) which can no longer be credited to VMH only and the impossibility of voiding a relative CNPs twice in the same structure, both times using the possibility of extending the g-projection of pro via predication. In order to account for the first contrast, Cinque follows Taraldsen's (1986) assumption that at S-structure, the predication of CP from the head N involves coindexation between N and CP. The CP has to be headed by a Wh phrase to receive this index, which implies that Comp is no longer the head of the CP:

(6.83) $[_{NP}\ N^{\circ}_i\ [_{CP}\ Wh_i\ [_{C'}\ C^{\circ}\ [\ IP\ ]]]]$

As a consequence of this process IP, although still selected by Comp, is no longer selected by the head. Selection by the head is one of the conditions on the extension of the g-projection (see 6.82) and subsequently the g-projection of the governor of pro in (6.80b) stops at IP, does not include CP and cannot be prolonged via the predication clause in (6.82).

The situation is different for structures involving Wh extraction from the subject position (6.81a). Assuming vacuous movement, the indexing pattern at S-structure looks as follows:

(6.84) $[_{NP}\ N^{\circ}_i\ [_{CP}\ [_{C'}\ C_i\ [_{IP}\ who_i\ [_{I'}\ I_i\ \ldots\ ]]]]]$

In (6.84) IP is still selected by Comp which is the head of the relative clause and the g-projection of the governor of pro reaches CP. The predication relation still manages to hold under coindexation: via spec/head agreement between who and Infl the index of who reaches Infl and via head/head agreement between Infl and Comp it reaches Comp, percolates to CP and CP carries this index independently of movement.

The problem of voiding the barrierhood of two consecutive relative CNPs is solved by Cinque in the following way: once the upward extension of the g-projection via proper government is abandoned in favor of its extension via predication, the previous mode cannot be reactivated and vice versa. Following this provision, the mode of the g-projection extension can be altered only once.

In the A' bound pronominal variable hypothesis there remains one more question concerning the mechanics of the LF g-projection movement. Does it proceed locally, via antecedent government or nonlocally via binding. Because adjunct parasitic gaps occur in the position of adjuncts, the g-projection of the governor of pro in (6.80a) is placed in the position of an adjunct properly head governed by the Tense node. Since it is properly head governed it can undergo movement, however it can move only locally, from one A' specifier to another under Relativized Minimality. If so, it should be sensitive to weak islands and as Cinque points out this claim is

borne out in Italian:

(6.85) * Il tuo libro, che non ho ricevuto t che ieri [senza dover pagare e]...
your book which I haven't received but yesterday without having to pay

(6.85) is ruled out since at LF there is a weak barrier of the negative type between the g-projection of the governor of pro and its A' binder.

Another problem is caused by subject parasitic gaps at LF. Consider (6.86):

(6.86) He is a man that [anyone who talks to e] usually likes t.

At LF pro does not move by itself, only in a bigger phrase produced by its governor to. This g-projection is extended via predication to NP which should now raise to [Spec,CP]. However due to the presence of the lexical complementizer that, the position of the NP cannot be properly head governed (unlike in 6.80c where the position of the subject NP is available to proper head government by Agr in Comp). For this configuration Cinque suggests an option available due to Kayne's CC: the g-projection of the governor of pro remains in situ and connects to the A' binding path (chain) running from the variable. This is a classic example of the lowering gap rescuing a higher gap.

It appears then that the analysis of parasitic gaps in Cinque (1990) combines in an interesting way elements from the approaches of Chomsky (1982) and Kayne (1983, 1984): the parasitic gaps are empty pronominals at D-structure and pronominal variables at S-structure, they coindex freely with their A' binders as pronominal elements[14], the anti c-command requirement holds. Pronominal variables form g-projections of their governors, move via pied-piping to their A' binders and suspend the barrierhood of one but not more than one barrier. In their LF movement pied-piped pronominal variables have to meet the conditions of proper head government, successive cyclic movement and have an option of remaining in situ and connecting up to the Wh path of a variable lower in the structure.

6.6 Parasitic Gaps As A' bound Empty Pronominals in Polish

6.6.1. Introduction

Parasitic gaps in English have been analyzed in various modes in the previous sections. In our analysis of the parasitic gap phenomena in Polish, we will favor the theory of A' bound pronominals proposed in Cinque (1990). In his approach, unlike in Chomsky's (1982) syntactic makeup of parasitic gaps remains more

consistent throughout the derivational process. They have to be base generated as empty categories at D-structure, for any syntactic movement from their position would involve a bounding theory violation. At S-structure they do not become pure variables (Chomsky 1982, 1986b) but remain pronominals identified by A' binders. As Cinque showed their properties are partly similar to those of pure variables, but partly distinct. This proposal seems to be particularly attractive for Polish, where apart from the usual constraints imposed on formation of parasitic gap constructions, there is a further provision pertaining to a peculiar Case harmony between the variable and the parasitic gap. This correlation can be much more easily explained if parasitic gaps are assumed to be pronominal, not just [- anaphoric; - pronominal].

This section will be organized as follows: first we will present data concerning parasitic gaps in Polish showing that they observe universal conditions plus the additional requirement of Case correlation. Then we will present several objections to the application of the PCC as a theoretical device for description of parasitic gap phenomena in Polish. This condition was used in Kardela (1986, 1989) as a pivotal element of parasitic gaps and ATB phenomena in Polish. Finally, we will present our adaptation of Cinque's theory to the facts of Polish syntax.

6.6.2. Instances of parasitic Gaps in Polish.

As expected, parasitic gaps in Polish are licensed by Wh movement and can be replaced by resumptive pronouns within adjuncts.

(6.87) a. * pro skatalogowalem te ksiazke [nie czytajac e]
I filed this book without reading (it)

b. pro skatalogowalem te ksiazke [nie czytajac jej]
I filed this book without reading it.

c. Ktora ksiazke pro skatalogowales t
[nie czytajac e]
which book (you) filed not reading
Which book did you file without reading

d. Ktora ksiazke pro skatalogowales t
[nie czytajac jej]
which book (you) filed not reading it
Which book did you file without reading it.

The resumptive pronoun renders the structures grammatical both with and without A' based dependencies.

The status of adverbial phrases in these examples deserves a word of comment. They are not prepositional phrases as in English (nie/not is a negative particle) but rather active (or passive participle phrases) with an adverbial function, they do not decline for number, gender or person and refer to the subject of the tensed

clause. Nie/not heading these adverbials does not produce the Negative Island effects.

Subject parasitic gaps are less easily interchangeable with resumptive pronouns:

(6.88) a. czlowiek [ktorego [$_{NP}$ kazdy kto spotyka e] lubi t]
man who/which everyone who meets likes
a man who everyone who meets likes
b. ?* czlowiek [ktorego [$_{NP}$ kazdy kto go spotyka] lubi t]
man who/which everyone who him meets likes
a man who everyone who meets him likes
c. * czlowiek [ktorego [$_{NP}$ kazdy kto spotyka e] lubi go
man who/which everyone who meets likes him
a man who everyone who meets likes him

In (6.88b) the resumptive pronoun is marginally possible while it is excluded from the position of the variable licensing the parasitic gap in (6.88c).

Constructions equivalent to those in English involving gaps in the subject position of tensed clauses, are perfectly grammatical:

(6.89) Oto student [o ktorym kazdy mysli [ze e jest inteligentny [bo Jan powiedzial [ze e jest inteligentny]]]]
this is student about who/which everyone thinks that is intelligent because John said that is intelligent.
This is the student everyone thinks is intelligent because John said was intelligent.

(6.90) a. Ktora ksiazke pro skatalogowales t [wiedzac [ze e spodoba sie Marii]]
which book (you) filed knowing that (it) will please Mary
Which book did you file knowing that (it) would please Mary?
b. ?Ktora ksiazke pro skatalogowales t [wiedzac [ze ona spodoba sie Marii]]
which book (you) filed knowing that it will please Mary
Which book did you file knowing that it will please Mary?

As we recall from our analysis of relative clauses in chapter 5, the empty categories in the subject position are best treated not as variables but nonlexical (resumptive) pronouns. These ECs cannot be variables, for extraction from the subject position would violate the 'that trace filter'. We will continue to treat such ECs as nonlexical resumptive pronouns with very interesting properties. Although such constructions were not analyzed in Kardela (1986, 1989), they violate the PCC: the combined path running from the lower subject position to the common A' binder o ktorym/about whom overlaps with the Tense COMP path of the tensed clause within the adjunct, the Infl' node is not included in the A' binding path and

it itself does not include its nodes higher than the lower S'. Since the construction is grammatical, we could conclude that the lower path behaves like a resumptive pronoun which does not enter into path relations in Pesetsky's Path Theory.

The issue of pros in (6.89) is interesting because of the double identification they apparently receive. By being base generated in the subject position of a tensed clause, they are licensed by an appropriate head - Agr in Polish. They are also identified (receive their F-features: person, number, gender and probably morphological Case features) by Agr via head binding (see Rizzi 1986). Apart from this identification typical of null subject languages, these nonlexical pronouns are (vacuously) identified by their A' binders along the line sketched by Cinque. Nonlexical pronominal subjects in Polish are independently licensed and can appear irrespective of any barriers. As we can see in (6.103b) they violate the anti c-command constraint. Their distribution is subject only to Binding Principle B, they have to be free in their binding domains. In brief, pros in the subject position do not behave like parasitic gaps.

Clearly this double identification of pro is redundant but does it undermine Cinque's theory? Not necessarily. This unwelcome redundancy can result from conspiracy of other modules of grammar, as it often happens in the case of marginal, heavily marked constructions such as parasitic gaps. On the one hand strong Agr in a null subject language assigns F-features to pro, on the other undeletability of complementizer ze/that and lack of proper head government of the subject position render the presence of a variable in it impossible. Consequently, the possible double identification of F-features on pros in the subject position ensues.

This double identification of F-features is not exceptional in this configuration and is in fact quite common in Polish. It can occur in a very basic construction of the following type:

(6.91) a. Ja poszedlem do domu.
I went home
b. pro poszedlem do domu.
(I) went home

In (6.91a) the lexical matrix of the pronoun is redundant. It can be present for stylistic reasons rather than Full Interpretation: the pronominal in the subject position is identified by Agr as 1p/sing/masc and (potentially) Nominative. It does not need a lexical matrix but its presence, although redundant in syntax, does not render this structure ungrammatical. In fact, (6.91) can be treated as an application of the Avoid Pronoun principle.

The presence of Wh operator o ktorym/about whom in (6.89) although not required for the identification of pro, fulfills another function, as a relative pronoun it marks the process of predication. Following Cinque (1990) and Taraldsen (1986) we can assume that the process of predication involves the coindexation of the subject of predication student with the Wh head of the relative clause in the [Spec,CP] position.

(6.90) poses a problem for our claim that pro in the subject position of tensed clauses in Polish is a nonlexical resumptive

pronoun. (6.90b) should be as grammatical as (6.90a), however it is slightly less acceptable. Our response to this challenge will be that, as it has been often noted, the Bijection Principle violated in constructions involving multiple gaps under the scope of the same operator is much more sensitive to lexical pronouns than empty categories, we attribute lesser acceptability of (6.90b) to this fact. As an alternative explanation, we can suggest the Avoid Pronoun principle again.

Polish allows for parasitic gap constructions involving A' binding by a non operator, an element dislocated to an A' position other than [Spec,CP]. Parasitic gaps in Polish are triggered off by Topicalization (6.92), scrambling (6.93) and Heavy NP Shift (6.94):

(6.92) a. [$_{IP'}$ Studenta [$_{IP}$ Maria przyslala t do mnie [nie uprzedziwszy e o konsekwencjach]]]
student Mary sent to me not having warned about consequences
A STUDENT Mary sent to me without warning about the consequences.

b. [$_{IP'}$ Studenta [$_{IP}$ Maria przyslala t do mnie [nie uprzedziwszy go o konsekwencjach]]]
A STUDENT Mary sent to me without warning him about the consequences

(6.93) a. Maria [$_{VP'}$ studenta [$_{VP}$ przyslala t do mnie [nie uprzedziwszy e o konsekwencjach]]]
Mary student sent to me not having warned about the consequences
b. Maria [$_{VP'}$ studenta [$_{VP}$ przyslala t do mnie nie uprzedziwszy go o konsekwencjach.
Mary student sent to me not having warned him about consequences
Mary a student sent to me without warning e/him about the consequences.

(6.94) a.?[$_{IP'}$ [$_{IP}$ Jan ciezko obrazil t [nie poznajac e wsrod innych gosci]] [$_{NP}$ swego wuja z Sochaczewa]]
John heavily offended by not recognizing among other guests his uncle from Sochaczew
b. [$_{IP}$ Jan ciezko obrazil [$_{NP}$ swego wuja z Sochaczewa]
[nie poznajac go wsrod innych gosci]]
John heavily offended his uncle from Sochaczew by not recognizing him among other guests.
c. *[$_{IP'}$ [$_{IP}$ Jan ciezko obrazil t [nie poznajac go wsrod innych gosci]] [$_{NP}$ swego wuja z Sochaczewa]]
John heavily offended by not recognizing him among other guests his uncle from Sochaczew.

(6.94a) as a case of Heavy NP Shift is heavily marked stylistically and in spoken Polish it would require an appropriate intonation contour and a pause in the place of the variable. (6.94b) shows the structure unaffected by any dislocation, where the resumptive pronoun go/him is the only grammatical possibility as expected. Interestingly (6.94c) is ungrammatical, unlike (6.92b) and (6.93b)

which are acceptable with resumptive pronouns instead of gaps. (6.94c) cannot be ruled out as a Binding Principle C violation, for the right dislocated NP, although coindexed, is not c-commanded by the pronoun go/him. The ungrammaticality of this structure can be attributed to the constraint on backward pronominalization mentioned in section

As we could see in the previous sections, resumptive pronouns do not license parasitic gaps in English. This empirical fact has been explained differently in various theories, but surprisingly in Polish, empirical facts are very different. As we presented it in the previous chapter, relative clauses in Polish can be formed by means of a relative pronoun or alternatively an empty operator occupying [Spec,CP] and the relative complementizer co/what. In the former case the D-structure position of the Wh phrase is occupied by a variable at S-structure like in English. In the latter, a resumptive pronoun coindexed with the empty operator has to be base generated, probably for the reason of morphological Case marking in Polish. The resumptive pronoun coindexed with the empty operator is able to license a parasitic gap of the adjunct type:

(6.95) a. ta ksiazka [0 [co pro ja skatalogowales t [nie czytajac e]]]
this book that (you) it filed not reading
the book that you filed (it) without reading
b. ten student [0 [co pro go oblales [nie pytajac e]]]
this student that(you) him failed not examining
the student that you failed (him) without examining

In (6.95) the resumptive pronouns link up to the same operators as in the parasitic gaps, very much unlike in English. The explanation for this contrast can be provided on the basis of the assumption that in Polish, a language with morphological Case marked on full NPs, this morphological Case on NP has to be visible at PF and LF for proper interpretation. The Case form on the NP plus the Case specification on the predicate provide vital information concerning the thematic role of a given NP in the structure: Nominative usually designates Agent NP, Accusative Theme, Dative - Bene/Malefactive ,etc. If an NP enters into an A' dependency via movement, it creates an A' binding chain:

(6.96) $(A'_i, \ldots, t_i)$

where t is a variable and A' an operator. We assume that in Polish the Morphological Case Visibility Requirement (MCVR) holds (see section 5.5. for more detailed discussion).

By MCVR morphological Case in Polish is marked either on the lexical relative pronoun or on the variable (which is impossible). Since empty operators cannot bear lexical features, morphological Case has to be realized on the other end of the A' chain. Wh trace as an empty category cannot carry overt Case features either, thus a lexical resumptive pronoun is generated in its place to satisfy the MCVR. Under this convention resumptive pronouns linked to empty operators in relative clauses, license parasitic gaps. In this

sense they behave like lexical Wh traces (see section 5.5, for more examples)[15].

Since English has no morphological Case, MCVR does not operate in it and thus resumptive pronouns are not invoked with the sole purpose of carrying the Case of an element in an A' dependency.

In section 6.2. we mention Chomsky's observation that Wh extractions from adjunct islands are more acceptable in relative clauses than plain questions and Belletti's remark that extraction from these constructions via pied-piping produces much worse results than via preposition stranding. These two observations interestingly combine in parasitic gap constructions in Polish:

(6.97) a. ?*Z ktorej ksiazki pro przepisales t wiersz
[nie przeczytawszy e przedtem]
from which book (you) copied poem not having read before
From which book did you copy the poem without reading (it) before?
b. ? Ksiazka [z ktorej pro przepisales t wiersz [nie przeczytawszy e przedtem]]
book from which (you) copied poem not having read before
the book from which you copied the poem without reading (it) before.

(6.98) a. ?*Z ktorego arbuza pro zdarles t skore [zanim pro zjadles e]
from which watermelon (you) peeled skin before (you) ate
From which watermelon did you peel the skin before you ate (it)?
b. ?Arbuz [z ktorego pro zdarles t skore [zanim pro zjadles e]]
watermelon from which (you) peeled skin before (you) ate
the watermelon from which you peeled the skin before you ate (it)

(6.97) and (6.98) show a very unexpected case of categorial mismatch between the variable left behind by Wh movement and the parasitic gap. The variables categorially correspond to Wh fronted Prepositional Phrases while the parasitic gaps correspond clearly to nominals. Both (6.97a) and (6.98a) are less acceptable than their b-counterparts; (a) examples are interrogative extractions while (b) examples are relative clauses. We presented our account of differences interrogatives and relatives in section 5.5. by claiming that the syntactic operation involving relative clause formation is much stronger because it combines regular Wh movement plus predication.

Even Polish (6.97b) and (6.98b) contrast in grammaticality with their English translations where pied-piping makes them wholly unacceptable in English. The reason for this contrast can follow from the prohibition on preposition stranding in Polish: pied-piping of prepositions is the only option and in marginal case the index and the F-features of the NP within PP percolate via g-

projection to the whole Wh phrase which can thus identify them on the pronominal variable (parasitic gap). In relative clauses these features of the NP are confirmed by the assumed coindexation of the Wh head of the relative clause with the nominal head under predication. This increases acceptability of these constructions. However this admissible categorial mismatch is limited to a small class of (mainly) locative Prepositional Phrases and disallowed with temporal PPs:

(6.99) a. *O ktorej godzinie [pro zjadles obiad t [nie sprawdziwszy e]]
at which hour (you) ate lunch not having checked
What time did you have lunch without checking (the time)
b. *godzina [o ktorej pro zjadles obiad t [nie sprawdziwszy e]]
hour at which (you) had lunch not having checked
the time at which you had lunch without checking (the time)

This difference can be attributed to theta theory and the specification of empty categories. The locative PPs in (6.97) and (6.98) are locative arguments and fill in slots in the theta grids of their predicates. As locative arguments they meet the requirement for the D-structure characterization of a variable licensing a parasitic gap: they are in an Argument position at D-structure and an A' position at S-structure.

(6.100) a. zedrzec +V __ NP PP/locative
peel theme source

b. przepisac +V __ NP PP/locative
copy theme source

Temporal prepositional phrases are not arguments and while they can easily be Wh extracted, provided other conditions on proper head government and extraction domains are met, they cannot license parasitic gaps.

Interestingly, this observation confirms Cinque's (1990) argument that only (fully referential) nominals can be involved in parasitic gap constructions; only they can be referred to by parasitic gaps. By extension, because they share the common A' binder that identifies them, only fully referential NPs can be variables licensing parasitic gaps. In Polish, in the examples provided above, these nominals within locative prepositional arguments percolate their indices and F-features via g-projection onto the Wh phrase and consequently, these Wh phrases become proper A' binders for parasitic gaps.

Crucially, parasitic gaps in Polish observe the anti c-command requirement which seems to be universal in parasitic gap constructions:

(6.101) a.*Ksiazka [ktora t interesuje mnie [nie czytajac e]]
book which interests me not reading

the book which interests me without reading
b. *Rachunek [ktory t mnie zaskoczyl
[nie placac e]]
bill which surprised me not paying
the bill which surprised me without paying

The anti c-command requirement still plays an important role in our theory: coindexation of a variable and a pronominal variable in two A positions would set up an A chain which should legally share only one theta marked position and one Case marked position. As we know, both the variable and pro belong to theta grids of two different predicates and any A chain formation should be avoided.

The possibilities of violating the anti c-command requirement do not seem to be attested in Polish:

(6.102) *Ktore dokumenty Jan powiedzial swojej sekretarce ze [
t byly niedostepne [zanim pro przeczytal e]]
which papers did John tell his secretary were
unavailable before reading

Extraction from the subject position of a tensed clausal complement is impossible in Polish due to the violation of the ECP and additionally (weak) barrierhood of the tensed complement.

There are however constructions in which the anti c-command requirement seems threatened:

(6.103) (a) Ktorych mezczyzn [policja ostrzegla t
[ze pro ma zamiar [PRO aresztowac e]]]
Which men did the police warn that they were about to
arrest?
(b) Kto [t wyszedl [zanim powiedziales [ze pro jest
zly]]]
Who left before (you) said that (he) was angry.

Following our analysis of the English equivalent of the construction in (6.103a), we will claim that the CP complement of the verb ostrzegac/warn is extraposed and adjoined to IP. In this way the anti c-command relation is secured. We will discuss this particular example in detail in further part of this section. In (6.103b) the element violating the anti c-command requirement is pro in the subject position of the most deeply embedded clause. However because it is fully recoverable by virtue of its position, licensed and head bound by Agr, no connection between the nonlexical pronominal and the A' operator of the Wh trace has to be posited. Again the null subject strategy allows for this violation of the anti c-command constraint in a null subject language. In other words, pro in the subject position does not behave like a parasitic gap.

Now we will demonstrate the sensitivity of parasitic gaps in Polish to further embedding:

(6.104) Czlowiek [ktorego Jan widzial t...
man who John saw t
a. nie pozdrawiajac e]

not greeting e
b.* wiedzac [ze my powiadomimy o tym ciebie
[nie pozdrawiajac e]]]
knowing that we will inform you about it
not greeting e
c.* zanim zasnal [nie powitawszy e]
before (he) fell asleep not greeting e
d. ? nie znajac plotki [ze zatrudnil e]]]
not knowing the rumor that (he) will employ e
e. ?* zanim [pro pozdrowil e]]
before (he) greeted e
f. * zanim pro wiedzial [ze my pozdrowimy e]]
before (he) knew that we will greet e

In general, parasitic gaps in Polish do not allow for any further barriers between themselves and their A' binders in [Spec,CP]. This supports our analysis of barriers in Polish which under Cinque's account affects all A' dependencies equally, apart from the fact that they allow one barrier between the pronominal variable and its A' binder. Thus in (6.104b) further embedding of e within an additional adjunct island and indicative complement barrier renders the structure ungrammatical. It can be rescued by a base generation of a lexical resumptive pronoun. Similarly in (6.104c) the parasitic gap is too far away from its A' binder separated from it by an adjunct island. The Complex Noun Phrase does not seem a barrier for the extension of the g-projection of the governor pro, for the clause is the complement of the noun, hence it is properly governed. Therefore (6.104d) seems more acceptable because the g-projection reaches the Participle Phrase. Consequently only this Participle Phrase boundary separates pro from its A' binder and at LF the pied-piped pro can move to [Spec,CP] unobstructed. Note that the conditions on the g-projection of the governor of the pronominal variable and regular Wh extraction differ in one crucial aspect, allowing for coreference of pro within a complement CNP (and a relative CNP via VMH and coindexation procedure) with its A' binder but disallowing this coreference in the case of a regular variable. The latter for its extraction requires that all maximal projections on its way should be selected from categories nondistinct from [+V][16]. The former in the tracing of its g-projection needs only proper government, without the [+V] specification. As a result, Wh extraction from within nominal islands in Polish renders ungrammatical structures (see section 5.3.) but parasitic gaps can be nested in complement CNPs and relative CNPs under the VMH proviso.

(6.104e) shows an interesting property of Polish, sensitivity to Tense. The parasitic gap is marginally possible in the tensed complement, where a resumptive pronoun is the best option. This sensitivity is much smaller in parasitic gap constructions in English, for the English translation of (6.104e) is perfectly grammatical. This sensitivity of parasitic gaps in Polish to tensed complements resembles the tensed IP low level parameter of Chomsky (1986b) violated in extraction of objects from tensed Wh islands. As Cinque (1990) notes, parasitic gaps in Italian show a similar sensitivity to tensed complements. Following him, we will account for this fact by claiming that the nonull node Tense impedes the

upward expansion of the g-projection of the governor of the parasitic gap, hence the gaps are only marginally possible in such settings.

(6.104f) is very degraded with two tensed CPs in the way of the g-projection which cannot reach PP. The role of tensed complements as blocking categories in both plain Wh movement and parasitic gap constructions is confirmed.

Finally, we will demonstrate peculiar Case requirements of the parasitic gaps constructions in Polish. As noted by Kardela (1986, 1989) and Zabrocki (1989), parasitic gaps and variables have to be identified with the same Case:

(6.105) a. * samochod [ktorym/INST przejechalem t/INST cale Wlochy [nie naprawiajac e/ACC]]
b. samochod [ktorym/INST przejechalem t/INST cale Wlochy [nie naprawiajac go/GEN]]
a car with which I drove across Italy without having to have it repaired.

(6.106) a. * dziewczyna [ktorej/DAT dlugo sie przygladalem t/DAT [nie zamieniajac e/DAT slowa]]
b. dziewczyna [ktorej/DAT dlugo sie przygladalem t/DAT [nie zamieniwszy z nia/DAT slowa]]
a girl I was glancing at whom without having spoken to her

(examples from Kardela 1989)

The examples above, quoted in their original form, show that whenever there is a Case mismatch between a variable and a parasitic gap, the resumptive pronoun has to appear. If both gaps are associated with the same Case, the construction is acceptable:

(6.107) a. Ktoremu chlopcu/DAT [pro zepsules t/DAT rower [nie pomagajac e/DAT potem go naprawic]]
which boy (you) broke bicycle not helping later it repair
Which boy's bicycle did you break without helping (him) to repair it?
b. ktorym samochodem/INST [pro przejechales t/INST cale Wlochy [przedtem przejechawszy e/INST pol Austrii]]
which car (you) drove across Italy after having driven across half of Austria
Which car did you drive across Italy after driving (it) across half of Austria?

In order to account for this additional constraint on the formation of parasitic gap structures in Polish, Kardela proposes the Case Transmission Convention by means of which parasitic gaps acquire case from the variables licensing them. Kardela (1989) assumes that in Polish the process of Case assignment is of a double character: lexical NPs receive Case from the verbs that govern them. The verbs in turn, select particular morphological Cases that they assign. Therefore resumptive pronouns can have a different case from the variable in (6.105b) and (6.106b).

Parasitic gaps however can be assigned Case not from their governing verbs but from the variables that license them. Variables, under Chomsky's (1981) theory receive Case from their governing verbs and can pass it onto the parasitic gaps.
As Kardela (1989) notes in the closing remarks of his paper, this hypothesis runs into problems when the exact mechanism of Case transmission cannot be outlined: it should proceed via a chain and c-command is one of the basic conditions of chain composition. But the variable does not c-command the parasitic gap and the transmission of Case via chain is an inviable option. Alternatively, Kardela suggests that both the variable and the parasitic gap receive Case from their common A' binder via an A' chain.

However, as (6.105a) and (6.106a) show, the problem is how to detect the Case mismatch if the Case comes from the A' binder. Obviously it cannot come from this source only, for the should be no cases of mismatch then. It seems that the Cases of the variable and the parasitic gap are assigned independently and later examined for compatibility via some procedure involving the A' binder. In the following subsection we present certain arguments against Kardela's (1986, 1989) approach to the parasitic gap phenomenon in Polish and against the predictive power of the PCC.

6.6.3 Arguments Against the Path Theory.

In this part of our analysis we will focus on our criticism of the analysis of the parasitic gap phenomena in Polish based on the PCC. We will not criticize directly Chomsky's (1986b) approach to parasitic gaps as variables bound by empty operators because we fully agree with the points raised in Cinque (1990). Besides, we have to reject the analysis of parasitic gaps as variables if want to maintain our Morphological Case Visibility Requirement disallowing chains composed of empty operators and Wh traces in which neither elements carries the features of morphological Case. We will fully justify our view in 6.6.4.

As the most important contribution of Kardela's (1989) analysis of parasitic gaps in Polish we consider the proposition of dual character of Case assignment to lexical and empty categories in Polish. As in Cinque's theory Case can be identified not only by a lexical governor and Case assigner but also a lexical operator (or just a dislocated A' binder as cases of stylistic movement triggering parasitic gap constructions show).

We will go beyond the range of problems accounted for by Kardela's analysis. Only the core cases of adjunct and subject parasitic gaps are easily analyzed within the Path Theory framework. However in this account there are no constructions involving the relative complementizer co/what (see 6.95), parasitic gaps in the subject position of tensed clause (see 6.89-90), parasitic gaps triggered off by stylistic dislocation (see 6.92-94), parasitic gaps in constructions showing categorial mismatch between argument PP Wh traces and nominal gaps (6.97-98), nor any account of parasitic gaps in tensed environs (6.104).

The presentation of the problems of Case concord between the

variable and the parasitic gap was not very accurate. We quoted (6.105-106) exactly from Kardela (1989:401-402) and as you can see there is no morphological Case tag on the resumptive pronoun go/him in (6.105b). from Kardela's presentation of facts you would expect that go/him is Accusative just as the corresponding parasitic gap in (6.104a) was marked Accusative. This is not however the case. Polish syntax shows the phenomenon of the Genitive of Negation; the verbs which mark their nominal complements Accusative in affirmative contexts, change their Case marking to Genitive if negated. Therefore go/him in (6.105b), although identical with its Accusative form is indeed Genitive. So is the corresponding gap in (6.105a). Masculine nouns do not show morphological differences between Genitive and Accusative but feminine nouns do:

(6.108) dziewczyna [ktora/ACC pro podziwialem t/ACC
[nie znajac e/GEN / jej/GEN]]
girl who (I) admired not knowing
the girl who I admired without knowing her.

Thus the Case concord presented in Kardela (1989) does not resemble a one to one case identity: ACC Wh traces commonly cooccur with parasitic gaps requiring GEN by virtue of their position; resumptive pronouns fully interchangeable with parasitic gaps within adjuncts show this different morphological case. Any analysis assuming case transmission from the variable to the parasitic gap would give incorrect predictions in this very common construction. We will account for these facts in 6.6.4.

We feel that considerable objections can be raised against the framework of Pesetsky (1982) applied to the problem of parasitic gaps. Recent development in the standard GB framework in late 1980s and early 1990s undermined certain cornerstone assumptions of the Path Theory which has still remained useful as a graphic means for presenting A' binding paths.

Under its standard assumptions, the Path Theory is unable to accommodate hypotheses concerning full X-bar projections of functional categories. The special character of Infl' is no longer motivated and all (especially functional) intermediate X' projections play an equally important role: Chomsky's (1986b) notion of Minimality Barrier concerns N' and C' not maximal projections, in Polish (as well as Spanish and Italian) N' seems to be a barrier while NP is arguably not. Consequently, a simple extraction from the subject position should look like (6.110) not (6.109):

(6.109) $[_{S'}$ Who $[_{S}$ t $[_{Infl'}$ [Infl kissed Mary]]]

S' S Infl path infl COMP
S' S path t, COMP

(6.110) $[_{CP}$ who $[_{C'}$ $[_{IP}$ t $[_{I'}$ Infl kissed Mary]]]]

C' IP I' path Infl Comp
CP C' IP path t, [Spec,CP]

(6.110) is an example of PCC violation: both paths overlap but do not contain each other. PCC is violated because two positions are now available (without IP adjunction) in the preclausal position, instead of one place in COMP.

The pivotal point in the operation of the PCC is the assumption that Tense, a component of Infl, raises to COMP at LF to form Complete Proposition (see Pesetsky 1982:461). The crucial issue concerns the path left by movement of Tense to COMP. In the Path Theory this particular path is a path of A' binding, with properties analogous to other paths of Wh movement. The Subject Condition and 'that trace effects' are derived within this theory from the overlap of this path with other paths. If so, by contemporary standards this path should be created by a movement of Tense to [Spec,CP]. But this would be a case of illegal movement violating the Head Movement Constraint, Relativized Minimality and the Structure Preservation Hypothesis. Heads can move only to head positions and the [Spec,CP] position is a phrasal position. Without the Tense to COMP movement the PCC is practically inoperative (apart from crossing effects and Wh islands).

Since in the contemporary framework two positions are available in COMP instead of one, 'that trace effects' cannot be accounted for by the lack of an available landing site in COMP or impossibility of c-command or coindexation. Under these circumstances the PCC is unable to predict the 'that trace effects'. The presence of <u>that</u> in Comp in (6.110) will not affect the derivation, for [Spec,CP] is available.

We could see that stylistic dislocation both in English and in Polish licenses adjunct parasitic gaps. Even in its original formulation the PCC is unable to account for this fact and rules such constructions out as ungrammatical:

(6.111) [$_{S*}$ ksiazke [$_{S}$ pro zgubilem t [nie przeczytawszy e calej
book (I) lost not having read all

```
          S* S Infl' VP PP VP        path e+t, S*
      S'    S Infl'                  path Tense ,COMP
```

Paths 1 and 2 overlap and the PCC is violated although the structure is acceptable.

As David Pesetsky himself admits, one of the big shortcomings of the Path Theory as an account of syntactic movement is its inability to cope with NP movement. The passive transformation, subject raising, VP internal subject raising and "Theme" subject raising, all fall foul of the PCC:

(6.112) [Mary was [kissed t]]

```
          S Infl' VP             path t, [Spec,IP]
      S'S Infl'                  path Tense, COMP
```

(6.113) [Mary seems [t to [like John]]]

```
          S Infl' VP S      path t, [Spec,IP]
      S' S Infl'                 path  Tense, COMP
```

(6.114) [John [t [eats apples]]]
S Infl' VP path t, [Spec,IP]
S' S Infl' path Tense, COMP

(6.115) [The ship [sinks t]]
S Infl' VP path t, [Spec,IP]
S' S Infl' path Tense, COMP

The standard GB framework can account for both NP movement facts and Wh movement facts. The Path Theory has to draw on other modules of grammar for the motivation of the anti c-command requirement. Besides it runs into problems with accounting for the Case concord in parasitic gap constructions in Polish. The Path Theory however is based on similarities between parasitic gaps and real Wh traces, mainly the observation that both generate A' binding chains sharing the same properties so that the lower gap in the structure (the parasitic gap in adjuncts and the real gap in objects) can rescue the higher which violates some principle if left on its own (the PCC or Kayne's ECP).

We want to preserve that insight without the burden of the Path Theory: parasitic gaps as pronominal variables share some features with variables: A' binding, crossing effects, unavailability of extraction from the dative object position in English and sensitivity to island domains. Other features result from their pronominal character.

6.6.4. Parasitic Gaps in Polish as Pronominal Variables.

In this section we will present our analysis of parasitic gaps in Polish as A' bound pros.

First, we hope that it has become clear that in Polish all the characteristic features of pronominal variables have been shown. Parasitic gaps can refer only to (fully referential) nominals and they are sensitive to further embeddings. They are sensitive to the Tense feature of the domain they have been generated in. Polish fully allows Wh extraction from the positions of the dative object and the second object in double object constructions so these structures do not provide any test for Wh extraction or parasitic gaps. Still, it must be said that typical heaviness effects can be observed. Although with lexical Nps the unmarked order of objects is the dative object followed by the accusative object, less prominent elements in the sense of Cinque (1990) and Oehrle (1976) avoid the second object position:

(6.116) a. pro dalem Marii/DAT ksiazke/ACC
(I) gave Mary book
b. komu/DAT [pro dales t/DAT ksiazke/ACC]
who (you) gave book
c. co/ACC [pro dales Marii/DAT t/DAT]
what (you) gave Mary
d. % pro dalem ksiazke/ACC Marii/DAT
(I) gave book Mary

(6.117) a. pro dalem jej/DAT to/ACC
(I) gave her it
b. % pro dalem to/ACC jej/DAT
(I) gave it her
c. pro dalem to/ACC Marii/DAT
(I) gave it Mary

(6.116d) and (6.117b) are stylistically marked and through the changed word order emphasis is put on the ACCUSATIVE objects. The effect of this flexibility of double object constructions on parasitic gaps is that they can freely appear in the second (Accusative) object position:

(6.118) Ktora ksiazke [pro oddales t do biblioteki
[nie dajac Tomkowi/DAT e/ACC]]
which book did you return to the library
without giving Tomek (it)

In our analysis we need an extra proviso for our apparent violation of the anti c-command requirement:

(6.119) Ktorych mezczyzn [policja ostrzegla t
[ze pro ma zamiar aresztowac e]]
which men did the police warn that they were about to arrest

If we want to maintain our anti c-command requirement (which seems to be a very sound principle) we have to assume in this case extraposition of the indicative clause from the second object position to a position right adjoined to IP. This causes a problem with pro movement at LF: following the formation of the g-projection of the governor of pro (CP) this projection is not properly head governed if Comp is a defective head governor. We have to add a proviso that some process of restructuring then takes place which places the clausal complement within VP where it is properly head governed by Tense (see section 5.4.). Let us stress once again that in Cinque's approach at the level of LF barrier domains including parasitic gaps "transform" to variables in adjunct/subject positions through g-projection pied piping. Now only their proper head government is necessary for their movement but direct selection is not. This mode of movement allows to waive only one barrier.

If the LF movement of the g-projection of the governor of pro proceeds successive cyclically via antecedent government chains, we would expect it to be sensitive to the Inner (Negative) Island. It seems to be difficult to provide any straightforward judgments but constructions with overt negation fare markedly worse then constructions with negation in the adjunct phrase:

(6.120) a. *? Ktorego chlopca [pro nie przedstawiles t
[potem przepraszajac e]]
which boy (you) not introduced later apologizing
b. Ktorego chlopca [pro przedstawiles t

[nie znajac e samemu]]
which boy (you) introduced not knowing yourself

(6.120a) sounds awkward and its first interpretation that springs to mind is that the apology was given to some other person rather than the boy, with an arbitrary rather than specified pro. Certainly, the structure is fully grammatical with a resumptive pronoun in the place of the parasitic gap. The above contrast indicates that indeed the g-projection of pro cannot cross over the additional NegP barrier as predicted in our approach.

We reject the analysis of parasitic gaps in Chomsky (1986b) for Polish for the reasons of the MCVR. On what grounds do we claim that this principle is valid for nominal Wh traces in Polish? Consider:

(6.121) Ktora ksiazke [pro zgubiles t [nie [0 czytajac e]]
which book (you) lost not reading
Which book did you lose without reading?

(6.122) ta ksiazka [$_{CP}$ 0 [$_{C'}$ co [pro ja zgubiles]]
this book that (you) it lost
the book that you lost

where (6.121) is an adjunct parasitic gap structure with an empty operator binding the parasitic gap as a variable and (6.122) is a relative clause with an empty operator and a resumptive pronoun (as we could see in the previous chapter no EC is possible in the place of the pronoun). We came across the same situation in both structures: an empty operator and a dependant. There can however be no principled explanation as to why in (6.121) the empty operator binds the EC but in (6.122) the EC is excluded. In both cases there are no barriers separating the dependant from the operator. If the variable could be bound by an empty operator in Polish, this contrast would be wholly unexpected.

Why is it so that the nominal Wh traces have to obey the Morphological Case Visibility Requirement in Polish but can be easily bound by empty operators in English? The answer involves touching on the issues of the difference between the abstract and morphological Case. In English the abstract Case feature is transmitted via an A' chain from the trace to its A' binder but need not be morphologically identified. Hence, if the A' binder is empty, it can still carry all the features of the variable. In Polish, morphological Case in an A' chain has to be lexically identified because with a freer word order the grammatical (theta) functions of nominals are identified by their Case forms. In (6.122) the A' chain and coindexation make three elements available as a morphological Case feature carrier: the empty operator and the variable are linked by an A' chain and therefore coindexed but the lexical complementizer co/what bears the same index via spec/head agreement with the empty operator placed in the specifier position of its projection. In this situation the operator cannot carry the morphological Case because it is nonlexical. The lexical complementizer cannot carry it either, for it is [-N] and cannot be a Case bearer. The dependant is the only option left and instead of

an EC a resumptive pronoun is generated.

The advantage of positing the presence of a pronominal variable in the parasitic gap position is twofold: first, an empty operator can bind pro which is not a Wh trace, second, apparent bounding theory and the ECP violations can occur at S-structure. These advantages are visible not only in parasitic gap constructions but also in relative clause constructions and questions. Consider the following cases:

(6.123) czlowiek [$_{CP}$ 0 [$_{C'}$ co [pro biega]]]
man that runs

(6.124) czlowiek [$_{CP}$ ktory [t biega]]
man who runs

(6.125) kto [t biega]
who runs

The empty category in the subject position of (6.123) cannot be a Wh trace either by the ECP or our MCVR. The ECP is violated because the subject position is not properly governed in (6.123), Agr cannot raise to Comp because it is lexically occupied[17]. The MCVR is violated because Case is not manifested either on the A' binder or the dependant. If the empty category in the subject position is pro then the ECP does not have to be satisfied at S-structure and co/what does not matter at LF, the g-projection of the governor of pro, Comp, reaches the empty operator via regular X-bar projections situated on right branches. The MCVR is not a big problem either, for null subject pro is exempt from it.

The situation is different in (6.124) and (6.125). Here both principles are satisfied; the subject position is properly head governed by Agr in Comp and the Wh operator is lexical and carries the morphological case features. Our analysis of (6.123-25) shows why alleged island condition and ECP violations in Polish can take place. As (6.123) shows they are the consequences of the null subject strategy and the possibility of pronominal A' binding.

Our analysis now faces the following problem: if we claim that pro is exempt from the MCVR (see 6.123) why cannot it appear in the place of the resumptive pronoun in (6.122) and equivalent constructions with lexical complementizers? If it does not have to satisfy the MCVR, but its licensing and identification requirements, it should be allowed in this position. Our answer will be based on a further exploration of the identification requirement of pro. As we mentioned before, following Rizzi (1986), we assume that the conditions on the appearance of pro fall into two subclasses: formal licensing and formal identification; pro is licensed if selected by a proper head: Agr licenses pro in its specifier position, V in its object position. Identification is based on either of the two relations: head binding, transmission of features of the licensing head onto pro (Rizzi 1986) or identification by an A' binder (Cinque 1990).

In Polish the identification of pro in [Spec,Agr] is straightforward, there is rich morphological agreement (full paradigm) between the subject and the verb in Agr/auxiliary and this property of Polish agreement system contributes to the

positive setting of the null subject parameter. Thus in our analysis subject pro in (6.121) receives double identification: one from the empty operator as its A' binder and the other one through head binding from Agr. Just like in the case of a variable, this relation involves three elements: the empty operator coindexed via A' binding with pro, pro itself and Agr coindexed with pro via spec/head agreement. The double identification of pro is a very welcome assumption because it allows for satisfaction of two independent principles: A' binding of the (nonlexical) resumptive pronoun At LF by the empty operator and identification of morphological case (MCVR). Neither the operator nor pro can carry morphological Case features as nonlexical elements but these features are marked and identified on Agr and the MCVR is satisfied.

Note that this double identification of pro in the subject position is rather marginal in parasitic gap constructions (and it is strongly marked in English). In the standard configuration of subject and adjunct parasitic gaps, the gaps occur in the object position. Thus pro in the object position and its identification is the most important for the parasitic gap phenomenon.

There is a difference between an argument pro in the subject position and pro in the object position in that V does not fully specify pro for F-features; person, number, gender and probably Case. There is no overt object agreement nor head binding like in the subject case. Again, three elements are involved: V licensing pro, the arbitrary null object and an A' binder (see 6.120). In Polish, a synthetic language, the morphological affixes show not only Case but simultaneously other features. The empty operator and pro will not carry morphological Case (and other F-features) as nonlexical elements. V does not show the object agreement either and the content of pro cannot be recovered. The empty operator, although it binds pro at LF, does not identify it fully for its F-features. The MCVR is violated, for Case cannot be shown either in the form of an affix of the verb or on either member of the A' chain. Thus again the overt resumptive pronoun strategy has to be invoked.

From our analysis it follows that only pro in the subject position can enter into A' dependencies with empty operators for via subject agreement its case can be recovered from Agr. The lack of morphological object agreement coupled with the MCVR in Polish makes this option unavailable for pros in the object position. Because parasitic gaps usually appear in this position, they cannot be bound by empty operators under our analysis and the MCVR, irrespective of the fact whether they are Wh traces or pronominal variables.

As parasitic gaps, pros in the object position need identification and the only way in which they can receive it is by linking up to another A' binder of a regular Wh movement, via Kayne's CC. Because this binder is a member of an A' chain involving an EC, it must be lexical and therefore show morphological Case and recover the content of the parasitic gap and the real gap simultaneously. Thus pro as a parasitic gap shows its parasitic character just as in any other interpretation of the parasitic gap phenomenon.

Now we can address the last important issue mentioned before in connection with Kardela's (1986, 1989) analyses: Case concord between parasitic gaps and real gaps. We will start our analysis of Case concord in Polish by emphasizing the idea presented in the closing remarks in Kardela (1989) that Case assignment in Polish is of dual character. Lexical elements receive their Case from their lexical governors but (parasitic) gaps receive Case from their A' binders. Following our adoption of the MCVR as a condition on A' chains we seem to face three types of Case marking phenomena:

- lexical NPs which receive Case from their X° governors under the procedure of Case checking (Tajsner 1990),

- Wh nominal traces whose abstract Case is assigned to them, then transmitted and morphologically visible on their A' binders,

- parasitic gaps.

The case of parasitic gaps is definitely the most interesting one because in this case the previously presented anomaly occurs. In some cases the verb governing the real gap and the verb governing the parasitic gap assign the same Case:

(6.126) Ktoremu chlopcu [pro przeszkadzales t/DAT
[nie dokuczajac e/DAT]]
which boy (you) disturbed not teasing
which boy did you disturb without teasing

But in some cases the two gaps definitely receive different Cases:

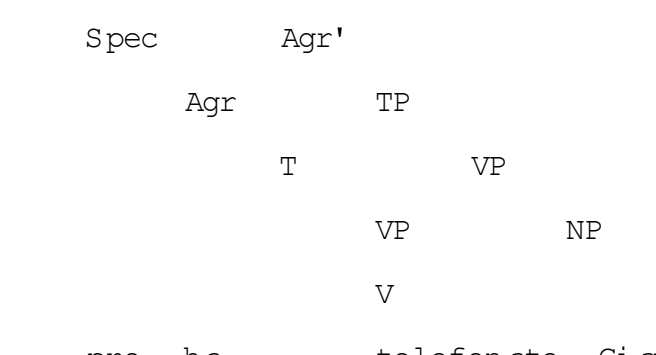
(6.127) Ktora dziewczyne [pro potraciles t/ACC
[nie przepraszajac e/GEN]]
which girl (you) push not apologizing
which girl did you push without apologizing (to her)

This happens with Genitive of Negation. We believe that the only viable account of this process should assume that parasitic gaps do receive Case from their governors. Without this assumption the Case Filter would be violated in (6.127). The parasitic gap should carry Genitive Case by virtue of regular Case assignment. This Case however cannot be manifested morphologically, for under the MCVR the morphological case of the parasitic gap shows on the A' operator of the Wh trace. However this operator carries the Case transmitted from the variable within a legitimate A' chain. Additionally, a resumptive pronoun in the place of the gap in (6.127) would receive Genitive Case. Considering this fact we cannot claim that verbs in parasitic gap constructions lose their case marking capacity because the same verbs assign case to resumptive pronouns.

If in our approach parasitic gaps are pronominal variables, pros, saying that parasitic gaps do not receive Case from their structural governors is tantamount to claiming that pros may appear in non Case marked positions. This seems totally implausible, unless we claim that they can appear in positions in which Case can be potentially assigned.

We seem to have some independent support for our claim. Although Rizzi (1986) claimed that pros are Case marked by their licensing heads there are reasons for weakening this strong claim. As it was pointed out by Ian Roberts (personal communication) the split Infl hypothesis and the postverbal subject configuration in Italian call for a reformulation of this principle (see also section 3.6.). Consider:

(6.128)



(Rizzi 1990)

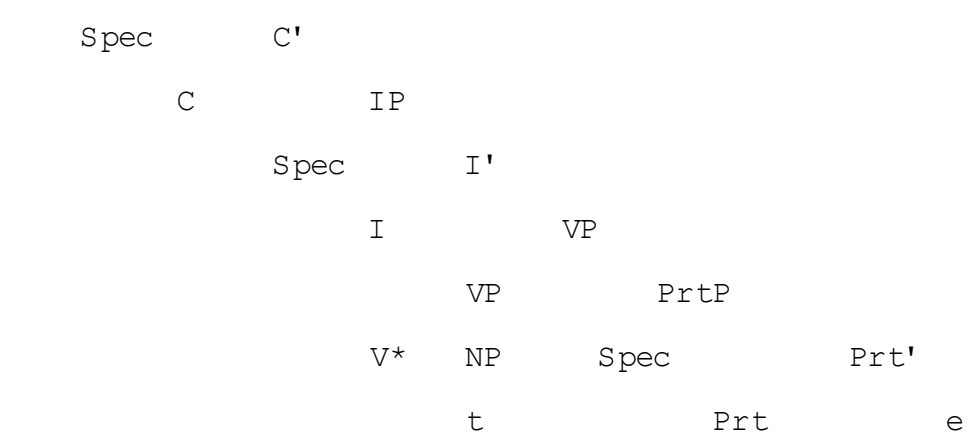
In (6.128) an empty resumptive pronoun is generated in [Spec,Agr] the canonical subject position whereas the lexical NP is adjoined to VP. In this structure the full NP receives Nominative Case from tense, under government. The Tense head is said to be both a proper head governor and a Nominative Case assigner. The sentence initial pro however, by virtue of being in the standard subject position, should be assigned Nominative case as well (in the usual manner, via spec/head agreement with Agr). This would however be a very unwelcome situation, where the Nominative case would be assigned twice in the same sentence and carried by two elements. Thus either pro or Gianni should give up its Nominative case. The lexical element cannot remain unmarked for case, for this would contravene the Case Filter of Chomsky (1981). We are not concerned with a detailed solution to the problem of Nominative case assignment within the split Infl hypothesis but we can hypothesize that both Tense and Agr have Case assigning properties and Case is assigned under some kind of coindexation between the these heads, so that if one of these heads assigns Nominative, the Nominative case assignment capacity of both heads is used up and the other head is inert for case assignment. Thus in (6.128) Tense assigns Case to Gianni and Agr does not assign Case to pro. As a result of our discussion it follows that pro in (6.128) is not actually Case marked by its licensing head but it is in a potentially Case marked position.

This observation from Italian can be extended onto Polish: subject pro is in a potentially Case marked position in [Spec,Agr] in Polish. Case is not discharged by Agr, for the Case assignee is nonlexical and the Case Filter violation does not follow. The MCVR is satisfied, for all F-features of pro (including potential Case) are marked on Agr. Next, the Visibility Condition of Chomsky (1981) will require some reformulation, since not only Case marked

elements but also nominal elements in potentially Case marked positions should be visible for theta role assignment.

The issue of Nominative Case assignment to subject pros under the split Infl hypothesis is far from settled but for our purposes it can serve as an example of some regularity: namely that pros need not be assigned Case. In this situation pros in parasitic gap positions will not constitute an exception by not being assigned Case by their verbal governors. Why should a verbal head not discharge Case to pro in a parasitic gap position? It definitely should discharge Case to a nominal object under the Case Filter. We will assume that although a verb has a Case marking capacity, it need not show it overtly unless some stronger principle requires it (e.g. the Case Filter). If a Case assignee does not require Case from its Case assigner or its Case can be identified otherwise, Case is not discharged. This idea can be best presented in the framework of Case marking in Polish proposed in Tajsner (1990). The verb abstractly checks the Case of its object at the level of lexical representation. At the level of S-structure, it matches its morphological Case requirements with the lexical NPs in the structure. We can assume that in the case of gaps, case matching involves A' chains on the surface, the morphological Case shows on the Wh operator. In the case of the pronominal variable, the verb needs not check the Case if it can be identified in the structure by some other means: the A' binder, receiving Case via the A' chain from the Wh trace is an obvious candidate for an element manifesting the Case matching requirements of the verb which Case governs the parasitic gap. Provided, of course, that the Case shown on the Wh operator, matches that of the object of the Case governor of the parasitic gap. Schematically, this process can be shown as follows:

(6.129)



ktoremu chlopcu pro przeszkadzales nie dokuczajac

V* Case marks the Wh trace. This trace is transmitted via an A' chain to the Wh phrase. Then it is checked with the parasitic gap via coindexation and A' binding. But, essentially, Case on the Wh operator in [Spec,CP] has to be the same as the Case checked on its object by Prt(V). If they do not match, a Case identification conflict ensues and the pronominal variable cannot be properly

identified via its A' binder.

The startling lack of the identification conflict with Accusative and Genitive of negation can be due to the fact that they are both structural Cases in the terminology of Chomsky (1981) while Dative and Instrumental are inherent Cases. Inherent cases are assigned (checked) in the lexicon and they apply to arguments theta governed by the Case assigner. Negation does not affect them and in their case Case identity between the A' binder of the real and the parasitic gap and the governor of the parasitic gap holds strictly.

Structural Cases allow for a mismatch only in a very limited sense: one structural Case can mismatch only with the other structural case in question (Nominative Case as another structural case is excluded from this mismatch as it is recoverable from respective Agrs). Accusative on the real gap mismatches without any consequences with Genitive on the parasitic gap. Both of these Cases are assigned to (accusative) objects in Polish. It appears then that in parasitic gap constructions, with other F-features being equal, A' binders can identify both real and parasitic gaps simultaneously if their inherent cases are identical or if they are both marked for a structural Case, Accusative or Genitive of negation. The dubious status of (6.120a) with the real gap in Genitive and the parasitic gap in Accusative shows that in this case the Case mismatch (again between two structural cases but in an irregular order) is marginally allowed.

6.7. Some Remarks on ATB Phenomena in English and Polish

6.7.1. ATB Violations and the Path Theory.

Although we do not plan to conduct a deep and detailed analysis of Across the Board (ATB) Phenomena, we believe that we should show how our system could account for them. The main reason for our attempt at an explanation of this problem is that if we want to replace Kardela's approach by our system, we should be able to account for grammaticality of extractions out of Coordinate Structures in a way different from the one offered by the Path Theory.

Kardela (1986, 1989) accounts for ATB violations of Ross's Coordinate Structure Constraint within the framework of the Path Theory. Thus compare:

(6.130) a. * ksiazki ktore Jan [$_{VP_0}$ [$_{VP1}$ czyta t] i [$_{VP2}$ pisze recenzje]]
the books which John reads and writes reviews

b. ksiazki ktore jan [$_{VP_0}$ [$_{VP1}$ czyta t] i [$_{VP2}$ recenzuje t]]
the books which John reads and reviews

(6.130a) is ungrammatical and the PCC is violated: the path from the variable to its operator, path 1: VP_1 VP_0 Infl' S S' overlaps

with the path from both conjuncts to the coordinate structure, path 2: VP_1 VP_2 VP_o. In particular, node VP_2 is not included in path 1. (6.130b) observes the PCC, for another gap in the object position of VP_2 rescues the derivation: path 2 runs as usual from both conjuncts to the coordinate phrase but path 1 is now a forked path: VP_1 VP_2 VP_o Infl' S S'. Both paths overlap licitly and path 1 contains path 2.

Analogous situation holds with sentence coordination:

(6.131) a.* motocykl ktory [$_{So}$ [$_{S1}$ Janek kupil t] a [$_{S2}$ Marek umyl samochod]]
the motorcycle which John bought and Mark washed a car
b. motocykl ktory [$_{So}$ [$_{S1}$ Janek kupil t] a [$_{S2}$ Marek umyl t]]
the motorcycle which John bought and Mark washed.

The only difference between this example and the former one is that now three paths should be distinguished: path 1 running from the first maximal projection dominating the trace to COMP, path 2 between the two sentential conjuncts and the coordinate structure and path 3 between $Infl'_1$ and $Infl'_2$ and S'. Again, (6.131a) violates the PCC:

path 1: VP_1 $Infl'_1$ S_1 S_o S'
path 2: S_1 S_2 S_o
path 3: $Infl'_1$ S_1 $Infl'_2$ S_2 S_o S'

Path 1 does not contain S_2 of path 2 and $Infl'_2$ and S_2 of path 3.

But by virtue of the CC and a placement of a gap in the object position, path 1 can be extended into the right conjunct and the derivation is saved: path 1 will not include VP_2 $Infl'_2$ and S_2.

The Path Theory is able to account for subject/object asymmetries in extraction from coordinate structures:

(6.132) a.* Who [$_{So}$ [$_{S1}$ t ate soup] and [$_{S2}$ Peter kicked t]]
b.* Kto [$_{So}$ [$_{S1}$ t zjadl zupe] i [$_{S2}$ Piotr kopnal t]]

In (6.132) Wh extraction in the first conjunct applies to the subject while in the second conjunct it applies to the object. The Path Theory rules such structures out as PCC violations on the assumption that Infl' node in the left conjunct is not contained in the forked path from the variables to COMP.

As Pesetsky (1982) noted himself, there are a few arguments against such treatment of ATB phenomena.

First, as Engdahl (1981) noted, parasitic gaps are different from gaps in coordinate structures. In parasitic gap constructions the gaps can be replaced by a resumptive pronoun to no detriment of the grammaticality of a structure but in coordinate structures the presence of a resumptive pronoun is as illicit as a presence of a lexical NP:

(6.133) * What did you buy and John lost it?

Second, in ATB violations of the Coordinate Structure Constraint all gaps must be subjacent to the Wh operator while

parasitic gaps are not subjacent to their lexical A' binders:

(6.134) * Which book did Susan buy t and you left London without reading e?

Pesetsky's (1982) counterargument against Engdahl's criticism was that resumptive pronouns do not generate paths (unlike for example Wh in situ). As we showed however in the previous section, resumptive pronouns seem to be able to license parasitic gaps in Polish and (to some extent) their functions can thus overlap with those of regular variables. (6.134) is a big problem for the Path Theory, for the forked path running from both gaps includes both the paths of sentential coordination and all nodes of Infl' to COMP paths.

As we can see the critical remarks concern mainly the identity of treatment that the Path Theory shows for both parasitic gaps and regular Wh gaps in coordinate structures.
We consider these critical remarks well motivated and consequently claim that gaps created by coordinated Wh extraction are regular variables, not parasitic gaps - pronominal variables. One of the basic characteristic features of parasitic gaps is the fact that they can correspond only to (fully referential) nominals. Gaps in ATB constructions can correspond to non nominal elements as well:

(6.135) Jak Jacek pisze t a Iwona spiewa t?
how Jack writes and Ivonne sings
How does Jack write and Ivonne sing?

But similarly to parasitic gap constructions, ATB violations of the Coordinate Structure Constraint in Polish show Case concord effects:

(6.136) * kolezanka ktora Marysia zrugala t/ACC a Piotr podziekowal t/DAT.
A friend who Mary rebuked and Peter thanked.

Here, the PCC is satisfied but the trace in the left conjunct is marked Accusative while the trace in the right conjunct is marked Dative. This Case mismatch does not rule out the structure if the structural Cases are involved, Accusative and Genitive of Negation:

(6.137) a. dziewczyna ktorej Marysia nie zaprosila t/GEN ale Tomek przyprowadzil t/ACC
a girl who Mary didn't invite but Tom brought
b. dziewczyna ktora Marysia zaprosila t/ACC ale Piotr nie zawiadomil t/GEN
a girl who Mary invited but Peter didn't inform

These familiar contrasts call for our MCVR. Some explanation involving the MCVR is able to account for the cases of Case mismatch in Polish and we will indeed base some part of our account on the MCVR. But we still need some wider approach to account for facts of English and Polish alike without recourse to the Path Theory.

We believe that such an opportunity is provided by Grant Goodall's theory of coordination (Goodall 1986) based firmly on the requirements of the theta theory, binding theory and other principles central to the contemporary GB framework. We will briefly sketch the outline of this theory in its aspects concerned directly with the ATB phenomena and the matters at hand.

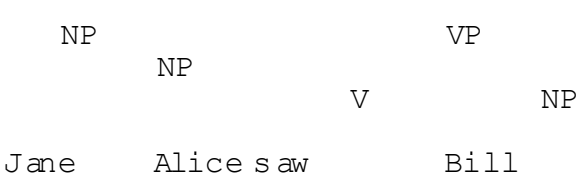
6.7.2. The Union of Phrase Markers and the Theory of Coordination.

In his theory Goodall assumes that coordinate structures are formed as a union of phrase markers. In this approach a coordinate structure is thought of "in tree terms as a pasting together, one on top of the other, of two trees with any identical nodes merging together" (Goodall 1986:20). For example:

(6.138) a. Jane and Alice saw Bill.
b. Jane saw Bill
Alice saw Bill

Jane
c. saw Bill
Alice

d.



Where (6.138a) is the linearized structure, (6.138b) component phrase markers prior to their union, (6.138c) shows the merger of identical nodes and (6.138 d) is the tree diagram of the union of phrase markers in which neither Jane nor Alice dominates or precedes the other.

For proper interpretation at PF this structure must be linearized by means of the following principle:

(6.139) The Linearization Principle

> Given a Reduced Phrase Marker (RPM) containing distinct terminal strings $x_1, x_2, \ldots, x_n$, for each element y_i of x_i, y_i not an element of x_{i+1}, there is an element y_{i+1} of x_{i+1}, y_{i+1} not an element of x_i, such that y_i precedes y_{i+1}.
>
> (Goodall 1986:23)

This formal principle says simply that if there are two distinct elements from two different strings, one of them must precede the other. The position of these elements depends on (6.139) and the original features of a given phrase marker. In (6.138) Jane saw

Bill is x_1 and Alice saw Bill is x_2. Consequently, Jane is y_1 and Alice is y_2. As a result of the linearization procedure one of them precedes the other.

Certainly coordination cannot conjoin elements at random:

(6.140) a. * The bouncer was muscular and a guitarist.
b. * Elaine took Mary to the airport and Jane.
c. The bouncer was muscular and was a guitarist.
d. Elaine took Mary to the airport and Jane to the beach.

e. the bouncer [VP was muscular]
[VP was a guitarist]

f. Elaine took [NP Mary] [PP to the airport]
[NP Jane] [PP to the beach]

Components of a coordinate structure have to meet a particular condition called the Law of Coordination of Likes:

(6.141) The Law of the Coordination of Likes (LCL)

Conjuncts should be composed of like categories.
(Goodall 1986:34)

Goodall adopts this principle from Williams (1981a) but he also expands it to cover more marginal cases than the ones in (6.140) where conjunction composed of different syntactic categories takes place:

(6.142) a. We walked [AdvP slowly] and [PP with great care]
b. John is both [AP crazy] and [NP a genius]
c. Pat is [NP a Republican] and [AP proud of it]

d. We wanted to leave [AdvP tomorrow] or [PP on Tuesday]

Strictly categorial basis for the definition of the LCL does not apply here and Goodall proposes to use archicategories such as Manner (6.142a), Time (6.142d) and Predicate (6.142b-c). The archicategory Predicate is the most difficult to define, for not all predicate nominals enter into coordinate structures with adjectives:

(6.143) a. * John is both crazy and a French citizen.
b. * John is both muscular and an attorney.

The archicategory predicate seems to be limited only to adjectives and these nominals that can be modified by very much:

(6.144) a. Jack is very much a genius.
b. Jack is very much a liar.
c. Jack is very much a French citizen.
d. Jack is very much an attorney.

In Goodall's approach theta theory requirements apply to individual constituents of a coordinate structure. If it consists of two or more sentences sharing the same nodes, individual sentences must be well formed and satisfy the principles of grammar independently. For example:

(6.145) a. John and Mary eat doughnuts.
b. John eats doughnuts.
c. Mary eats doughnuts.

It seems that in (6.145a) there are two arguments John and Mary in a one place predicate eat. But as (6.145b) shows theta theory is not violated, for the theta criterion applies independently to both component sentences, where one place predicates have one argument each.

The same assumption concerning the well formedness of component sentences holds true for binding theory violations:

(6.146) a. John and Mary saw himself and herself (respectively)
b. * John and Mary saw herself and himself (respectively)

	John	himself
c.		saw
	Mary	herself
	John	herself
d. *		saw
	Mary	himself

(6.146a/c) are grammatical and show how component sentences are well formed and satisfy Principle A of the binding theory, himself is A bound by John and herself by Mary. (6.146b/d) are Principle C violations: the antecedents of the reflexive pronouns are not coindexed with them.

Coordinate Structure Constraint violations corresponding to (6.131a) and (6.132a) are attributed to theta theory violations and vacuous quantification in component sentences:

(6.147) a. * What did Mary cook the pie and Jane eat t?
b. * What did Mary cook the pie
c. What did Jane eat t

According to Goodall's (informal) definition of a union of Phrase markers identical nodes merge together but prior to this merger they look like (6.147b/c). As components of conjunction they should satisfy all principles of grammar but while (6.147c) is well formed, (6.147b) is not. Because the Wh operator does not license any variable, this structure is an example of vacuous quantification. Besides theta theory is violated, for the Wh operator does not receive any theta role from its trace since it has none. Analogously, without any recourse to the PCC, (6.131a) and (6.132a) can be excluded:

(6.132) a. * motocykl ktory Janek kupil t a Marek umyl

samochod.
the motorcycle which John bought and Mark washed a car
b. ktory motocykl Janek kupil t
which motorcycle John bought
c. * ktory motocykl Janek umyl samochod
which motorcycle Mark washed a car

Again, one of the component sentences of the coordinate structure is ungrammatical. (6.132c) violates the requirement against vacuous quantification, the Wh operator does not license any variable, and the theta criterion - the Wh operator representing an argument at D-structure has no theta role.

In its original formulation Goodall's theory has no problem with excluding ATB asymmetries by using Principle C of the binding theory as a testing device:

(6.148) a. the man who
John saw t
Mary kissed t
saw John

b. the man who t
kissed Mary
[$_S$ John saw t]]

c. * the man [$_{S'}$ who
[$_S$ t kissed Mary]]
[$_S$ John saw t]]

d. the man [$_{S'}$ who
[$_S$ Mary thinks [$_{S'}$ t is handsome]]
[$_S$ t saw John]]

e. * the man [$_{S'}$ who
[$_S$ Mart thinks [$_{S'}$ t is handsome]]

Principle C of the binding theory says that a name cannot be A bound anywhere. Wh traces are names with respect to the binding principles and cannot be bound in the domain of their A' binders. However in (6.148c/e) principle C is violated and these structures are ruled out. In (6.148a) Wh traces in neither conjunct c-command the other because their c-domains reach only their VPs respectively. In (6.148b) the trace in the subject position is common to both component sentences and legally A' bound by the operator. In (6.148d) the trace in the upper conjunct does not c-command into the lower conjunct because again its c-domain includes only VP. In (6.148c) the first maximal projection dominating the variable in the lower conjunct is S' (for Goodall S' is a maximal projection while S is not). Thus S' also dominates the variable in the upper conjunct. C-command holds and a Principle C violation ensues. The same is true for (6.148e).

Note that Goodall's theory is superior in this respect to the PCC which would overgenerate and exclude all (6.148c,d,e), for the gaps in them on different levels in the structure and the Infl' node in one of the conjuncts is not contained in the forked path running from the gaps.

6.7.3. MCVR and Goodall's Theory.

However, in its original formulation Goodall's theory did not assume fully expanded functional projections: IP and CP. If we translate the examples from (6.148) to current X-bar terms, his explanation of the ATB asymmetries through the medium of binding Principle C is no longer viable. If S=IP and S'= CP and both are maximal projections, no variable in the subject position ([Spec,IP]) of one of the conjuncts will c-command into the other conjunct via CP as its maximal projection. The first maximal projection dominating [Spec,IP] is IP not CP and consequently (6.148c/e) cannot be treated as Principle C violations.

We cannot offer an equivalent replacement for this aspect of Goodall's theory for English. Case theory seems to provide a probable solution but falls short of accounting for ungrammaticality of (6.148e) and grammaticality of (6.148d). We could assume that Wh traces in individual conjuncts have to be assigned the same abstract Case. Examples (6.148a-c) are accounted for straightforwardly but the last two are a problem for this hypothesis.

In general, properties of coordinate structures follow from an interplay of many principles and modules of grammar. Thus if Principle C cannot rule out (6.148c/e) it can still rule out the following cases:

(6.149) a. * Who does John like t and t?
b. * Who does John like t and friends of t?
c. Who does John like pictures of t and books about t?

In (6.149a) both traces c-command each other. In (6.149b) the variable in the left conjunct c-commands into the right conjunct. In (6.141c) Principle C is not violated because the c-domains of the variables in the conjuncts are mutually exclusive.

Although some English examples look problematic, Polish is much easier to analyze in this framework because apart from binding theory, Case theory is sufficient to account for ATB asymmetries.

First, analogously to Goodall, we will use bounding theory to rule out cases of extraction of elements carrying the same theta roles and the same Case (see 6.149a-b for translations):

(6.150) a. * Kogo/ACC Jan lubi t/ACC i t /ACC
b. * Kogo/ACC Jan lubi t/ACC i przyjaciol t/GEN

In (6.150a) both variables carry the same morphological Case and Case accord holds. However their c-domains overlap and Principle C

is violated. (6.150b) is an interesting case. In colloquial Polish kogo is very often used instead of czyj which is a prescriptively proper Wh word corresponding to Genitive, while kogo refers to Accusative. This example is a Case of double violation: of Principle C, because the object of lubi/like c-commands into NP, and of Case accord for Genitive of possession is not a structural Case but an inherent one and as such it cannot cooccur with Accusative. This second point can be demonstrated in a construction in which Principle C violation does not take place:

(6.151) a.* Kogo/ACC Jan lubi t/ACC a Zosia lubi przyjaciol t/GEN
who does John like and Sophie likes friends of

Thus Genitive of Possession seems to behave differently from Genitive of negation[18].

If the union of phrase markers in certain points of the structure depends on identity of nodes, merging Wh words have to match in all F-features: person, number, gender and morphological Case. By the MCVR morphological case shows on Wh operators and if this Case is identical on both of them, merger of identical nodes follows and phrase markers unite:

(6.152) a. Ktorym autobusem/INST Zosia przyjechala t/INST
a Tomek odjechal t/INST
Which bus did Sophie come on and Tomek leave on?
b. Ktorym autobusem/INST Zosia przyjechala t/INST
a ktory autobus/ACC Tomek wyprzedzil t/ACC
Which bus did Sophie come on and Tomek overtake?

Although the bus refers to the same entity in both parts of the coordinate structure and the merger can freely proceed in English where only abstract Objective Case is assigned, in Polish the nodes are not identified as fully identical. Since morphological cases differ, the merger of Wh operators cannot take place and each conjunct retains its separate Wh operator. As expected, inherent Cases such as Dative, Locative and Instrumental observe strict matching conditions and require exactly the same Case to merge:

(6.153) a. Ktoremu chlopcu/DAT Tomek pomagal t/DAT a Ryszard przeszkadzal t/DAT
which boy did Tomek help and Richard disturb
b.* Ktoremu chlopcu/DAT Tomek pomagal t/DAT a Ryszard uderzyl t/ACC
which boy did Tomek help and Richard hit
c. Ktorym mlotkiem/INST Jacek stukal t/INST a Tomek sie bawil t/INST
(with) which hammer did Jack knock and Tomek play
d.* Ktorym mlotkiem/INST Jacek stukal t/INST a Tomek nie zgubil t/GEN
(with) which hammer did Jack knock and Tomek didn't lose

Wh words marked for structural Cases seem to be underspecified for the morphological Case form and either Genitive of Negation or Accusative suite each other:

(6.154) a. Ktory autobus/ACC Marek wyprzedzil t/ACC a Zosia tylko zauwazyla t/ACC
which bus Mark overtook and Sophie only noticed
b. Ktory autobus/ACC Marek wyprzedzil t/ACC a Zosia nawet nie zauwazyla t/GEN
which bus Mark overtook and Sophie didn't even notice
c. Ktorego autobusu/GEN Marek nie wyprzedzil t/GEN a Zosia tylko zauwazyla t/ACC
which bus Mark didn't overtake and Sophie only noticed
d. Ktorej dziewczyny t/GEN Marek nie zauwazyl t/GEN a Zosia poznala t/ACC
which girl Mark didn't notice and Sophie recognized

(6.154c-d) show that this case compatibility does not only depend on identical suffixes in the masculine gender but occurs also in feminine gender although Genitive and Accusative suffixes are different.

The facts presented above reinforce the difference between the structural and inherent Cases and show that also in the analysis of ATB violations of the Coordinate Structure Constraint the PCC and the Path Theory can be dispensed with in favor of other approaches deeply rooted in standard GB assumptions.

Finally, we can show that structures involving A' bound <u>pros</u> and variables can also appear in coordination, provided that the usual conditions licensing the appearance of <u>pro</u> and Case concord hold:

(6.155) a. chlopiec ktory/NOM t/NOM zjadl lody
Zosia mowila ze pro/NOM wypil lemoniade
a boy who ate ice cream and Sophie said that drank lemonade

b. ksiazka ktora/ACC zgubilem t/ACC nie czytajac pro/GEN
Zosia znalazla t/ACC
a book which I lost without reading and Sophie found

Note that (6.155a) corresponds in its configurational shape to (6.148e), ungrammatical in English. Thus under present assumptions the trace in the subject position does not c-command into the other conjunct and (6.155a) seems to confirm this claim. It may be so then that the ungrammaticality of (6.148e) is due to some other principle, probably impossibility of the formal licensing of <u>pro</u> by English Agr. The empty pronominal in the subject position could become A' bound by the Wh word.

6.8. <u>Conclusion</u>

In summary, we can feel fully justified to claim that our analysis of parasitic gaps and ATB constructions in Polish is an extension of the one conducted in Kardela (1986, 1989). We have considered these phenomena (especially parasitic gaps) in a wider context and provided a viable explanation for the Case concord observable in these structures in Polish by means of the MCVR and the conditions on licensing and identification of pro. Our analysis is free from the limitations of the Path Theory. The A' bound pro strategy seems to find application in Polish syntax in parasitic gap constructions. Due to LF movement of pro to its A' binder, multiple crossings over island domains are not possible under this strategy. This strategy applies to null subject pro vacuously, for it is licensed and head bound by Agr.

From our analysis it follows that the MCVR and the morphological Case system in general impose strict requirements on any form of parallel movement in syntax.

Notes

1. Clitics in Romance seem to challenge the claim that the position of adjunction heads an A' chain. In Chomsky (1982) the following two constructions are contrasted:

(a) i libri che gli dobbiamo far mettere t nello scaffale [invece di lasciare e sul tavolo]
the books that we must make him put on the shelf instead of leaving on the table

(b) * glieli dobbiamo far mettere t nello scaffale [invece di lasciare e sul tavolo]
we must make him put them on the shelf instead of leaving them on the table.

In (a) the A' binder is the Wh operator in its classic formulation. It binds the variable and the parasitic gap at S-structure. In (b) the Binder is not a Wh operator in [Spec,CP] but the clitic li/them of glieli occupying an A' position. The clitic is not as well behaved as the dislocated NP and does not license a parasitic gap, (b) is ungrammatical. Apparently, clitics in Italian require transmission of theta roles from their postverbal to their preverbal positions. Although their preverbal positions are not argument positions, the transfer of the theta role takes place and consequently the clitic (like an A binder) finds itself in two theta chains (li/them, t) and (li/them, e). This, in turn constitutes a plain violation of the theta criterion. The difference between Heavy NP Shift and clitic movement in (b) consists in the fact that the position of a dislocated NP is created by adjunction at S-structure, while the clitic position is base generated and although neither a subject nor object position, it qualifies for theta role transmission.

2. As a consequence of the three above constraints, the following structure is excluded:

(a) * I wonder [O_i who$_j$ [t_j filed the article [without reading e_i]]]

In (a) who binds t_j and empty operator O_i binds the parasitic gap. The ungrammaticality cannot be blamed on the fact that two operators bind two different variables, for this exactly what happens at LF in the case of multiple questions:

(b) I wonder [what$_i$ who$_j$ [t_j left [without reading t_i]]]

However this is the situation at LF, (a) is ungrammatical because the parasitic gap has to fall under the scope of the operator binding the real gap at S-structure; the coindexation of O_i and e_i cannot result from movement, for e_i is placed in an adjunct island. As (6.27) states free coindexation at S-structure cannot concern A' positions, thus O and e cannot possibly have the same index at S-

structure. The parasitic gap can only carry the index of the Wh operator and in (a) the operator and e have different indices, hence ungrammaticality results.

3. The empty operator/parasitic gap relation also shows effects of the Vacuous Movement Hypothesis, characteristic of regular Wh movement in relative clauses:

(a) he is a man that they wonder who
[gives presents to t]
(b) * he is a man that they wonder [which present
[they will give to t]]

(a) is more grammatical than (b), for who can remain in situ at S-structure (its movement is vacuous with respect to the word order in the Wh clause) but must move to [Spec,CP] at LF. (b) is ungrammatical as a true Wh island constraint violation in the sense, that which present occupies [Spec,CP] in overt syntax and Subjacency is violated (the operator binding t cannot transit via the position of the lowest [Spec,CP]. An analogous effect shows with parasitic gaps:

(c) he's a man that [everyone who [gives presents to e]] likes t
(d)* this is the book that [any man to whom [we'll give e]] will like t

By the VMH who remains in situ at S-structure and allows an empty operator O to bind e at this level of representation:

(e) he's a man that [everyone [$_{CP}$ O_i [$_{IP}$ who gives presents to e_i]]] likes t_i

e is then properly licensed in this situation and at LF when who must move to [Spec,CP] for the reasons of scope, O must still be present for proper interpretation of the parasitic gap as well. It is then said to adjoin to the operator binding the real gap in [Spec,CP]. (d) is accordingly rejected, for O cannot appear in a [Spec,CP] occupied by another Wh operator at S-structure.

4. There is however another explanation available, along the lines of the Case Resistance Principle of Stowell (1981): the CP in the Case marked position, unable to receive Case, is extraposed out of VP and adjoined to the right of the matrix IP. In the resulting configuration, e would not even be in the m-command domain of t. For a different interpretation of such structures see Larson (1988).

5. For a similar analysis based on a [+pronominal] Agr^{-1} projection see Roberts (1993).

6. A binders do not identify pro parasitic gaps, for pro is [-anaphoric;+pronominal] and as such subject to Binding Principle B,

it must remain free in its binding domain.

7. Two potentially available options to secure the licensing of pro are excluded on independent grounds.
First, pro could raise to [Spec,CP] to be licensed by the superordinate clause V at S-structure:

(a) ...V [$_{CP}$ pro$_i$ [$_{IP}$ t$_i$ ...]]

Although in (a) the licensing requirement of pro would be satisfied, pro would not be able to be identified by an A' binder: it is not a variable, an EC in an A position. Since it is not a variable, its F-features cannot be identified.
The other option could involve base generation of an empty category in coindexed with pro in the lower [Spec,CP]. This would in turn license Agr to Comp raising as in standard case of Wh extraction from the subject:

(b) O$_i$... [$_{CP}$ EC$_i$ Agr$_i$ [$_{IP}$ pro$_i$...]]

In this structure however, although pro is licensed and identified by its A' binder, EC$_i$ itself receives no interpretation at LF violating economy requirements of Chomsky (1989) and the Projection Principle.

8. Starting from the bottom, the scale of dominance is organized as follows: cliticized pronouns, me, it, us, you, other third person pronouns and finally everything else. No wonder that parasitic gaps as nonlexical pronominals are strongly marked when they appear in the second object position.

9. This revision of the CC allows Cinque to distinguish between grammatical (a), (c) and ungrammatical (b), (d):

(a) Carlo, affezionati al quale non erano...
Carlo, fond of whom they were not
(b) * La sconfitta, arrabiati per la quale non saranno...
the defeat, angry because of which they will not be

(c) La Russia, l'attacco alla quale fu un disastro...
Russia, the attack on which was a disaster
(d) * L'inverno successivo, l'attacco alla Russia durante il quale fu un disastro
the following winter the attack on Russia during which was a disaster

Under the standard definition of a g-projection and pied piping, both (a), (c) and (b), (d) examples should constitute the g-projections of the Wh NP because in all of them each intermediate projection is placed on the right branch (where the adjuncts are governed, although not properly governed). Under the revised definitions of g-projection and, consequently, pied-piping, the

constituents in [Spec,CP] of a examples qualify as g-projections of Wh words, thus Wh phrases. In (b) and (d) the g-projections of the Wh words stop at the level of the adjunct, since the adjunct PP is a non properly governed maximal projection. This stops the percolation of features to the matrix [Spec,CP] and the structure is excluded by the Extended (Kayne's) ECP.

10. Cinque (1990) demonstrated the mechanism of this movement in one example of extraction from an island in Italian:

(a) ? I dolci che e scappato [$_A$ dopo aver rubato e] erano pochi.
the sweets [that he ran away [after stealing e]] were few
(b) * I dolci che escappato [$_{A'}$ dopo esser stato sgridato [$_A$ per aver rubato e] erano pochi
the sweets [that he ran away [after being scolded [for stealing e]] were few

If pro at LF were to move by itself, both (a) and (b) examples should be ungrammatical, for A is a strong barrier. But if pro had the option not to move by itself but within its pied-piped g-projection (like Wh elements in Wh phrases), then the g-projection of the governor of pro would be the phrase A (for the g-projection of pro stops at a maximal projection which is not properly governed). Subsequent movement of A to [Spec,CP] of the relative clause does not cross over any barriers in (a) but in (b) there is still one more barrier to cross, namely A' which excludes the movement of A to the operator position.

11. Bear in mind that this requirement is different from the requirement of proper head government by [+V] (Cinque's ECP) extensively discussed in chapters 2, 4 and 5.

12. For example:

(a) ? L'unica persona che non troveremo [nessuno [che sia disposto ad ospitare e questa notte]]...
the only person that we won't be able to find anyone who is willing to put up for the night

(b) * L'unica persona su cui abbiamo trovato [qualcuno [che sia disposito a contare e]]
the only person on whom we found someone who is willing to count

In (b) the PP Wh phrase cannot use the additional escape hatch at S-structure created by VMH while the nominal Wh phrase can use that opportunity. This difference cannot be attributed to NP adjunction potential, because the nodes between the A' binder and the trace are NP, IP and CP, and NP and CP do not allow adjunction.

13. For example:

(a) * Un libro che abbiamo ordinato t [anche senza conoscere [una persona [che fosse interessata a leggere e]]
a book that we ordered even without knowing one single person who was interested in reading

(b) * Un libro che mi sono stupito [per aver conosciuto [qualcuno [che era interessato a leggere e]]]
a book that I was astonished for meeting someone who was interested in reading.

(a) shows illicit parasitic gap in a CNP within an adjunct and (b) demonstrates an illicit parasitic gap in an adjunct within a CNP.

14. Cinque does not formulate any constraint on this free coindexation at S-structure precisely. Certainly such a constraint is necessary in order to island violations with Wh movement of arguments. In this approach Wh movement on the one hand and parasitic gap constructions, COD constructions and selected Adjunct Condition violations are two partly related but distinct phenomena. A' bound pro strategy is available for the latter but not the former type of operation.

15. There seems to be one particular type of structure that behaves differently from the predictions of the MCVR, the comparatives. Zabrocki (1986) gives an interesting account of these facts in such structures as:

(a) Przyszlo wiecej ludzi niz Janek zaprosil EC.
More people came than John invited.

(b) Przyszlo wiecej ludzi niz EC dostalo zaproszenie.
More people came than John invited.

In our terms (b) can be handled easily as an example of an empty pro resumptive pronoun in the subject position. (a) however is the problematic case; we would expect an empty operator in the [Spec,CP] of the comparative clause whose morphological Case should be identified by a lexical resumptive pronoun, obligatory in such cases. There is no lexical resumptive pronoun but apparently the morphological Case is identified through the fixed position of the gap. As Zabrocki (1986) argues the gap in such constructions is licit only if it refers to the direct (Accusative/Genitive) object. Otherwise gaps are excluded from these constructions. This observation falls in line with our general observations underlining the MCVR: the morphological Case is after all identified, for only A' chains carrying Accusative/Genitive can appear in these structures. We assume that the EC in (a) is a pronominal variable (pro) licensed by the verb under V' and identified by its empty operator.

16. Cinque's (1990) solution to the problem of barrierhood is elegant in the sense that it provides a unitary account for the barrierhood of both complement and relative CNPs. He adopts it as a consequence in the simplification in the definition of the barrier and dispensation with the notion of Minimality Barrier of Chomsky (1986).

However Cinque's uniform treatment of complex Noun Phrases in English does not reflect subtle grammaticality judgments concerning these constructions: extractions from complement CNPs are said to be markedly more acceptable that extractions from relative CNPs (Chomsky 1986b, Roberts personal communication):

?* Who did you announce [$_{NP}$ a plan [PRO to kill t]]
* Who did you introduce [$_{NP}$ the man [PRO to kill t]]

Bearing this fact in mind, we will however continue using Cinque's uniform definition of barrier because in Polish there is no difference between the two constructions:

* Kogo pro oglosiles [$_{NP}$ plan [zeby PRO zabic t]]
who (you) announced plan that kill
Who did you announce the plan to kill ?

* Kogo pro znalazles [$_{NP}$ czlowieka [ktory zabije t]]
who (you) found man who will kill
Who did you find a man who will kill?

Both are definitely ungrammatical. It must be admitted that it could be due to the fact that relative clauses in Polish have to be tensed and tensed complements in Polish are indicative barriers.

However, we must admit that there is a problem for this type of uniform analysis in Polish.

Kogo pro oglosiles [$_{NP}$ zamiar [zeby PRO zabic t]]
who (you) announced intention that kill
Who did you announce the intention to kill?

The above example looks only slightly degraded. It improves considerably when the verb oglosic/announce is replaced by miec/have:

Kogo masz [$_{NP}$ zamiar [PRO zabic t]]
who (you) have intention to kill
Who do you have the intention to kill?

The set phrase miec zamiar/have intention means exactly the same as zamierzac/intend. This resembles the familiar pattern in English:

hope = have hope

where [have hope] behaves just like a simple verb; for example it allows for the omission of the lexical complementizer in complement

CNPs:

I have a theory that/*0 the earth is flat.
I have hope that/0 Mary wins.

Thus our apparent counterexample the uniform ungrammaticality of Wh extraction from CNPs in Polish can be reanalyzed as:

[$_{VP}$ miec zamiar] = [$_{V}$ zamierzac]

Similarly, miec nadzieje/have hope can be treated as a verb although its purely verbal equivalent does not exist in modern Polish (in 16th,17th and 18th century its role was played by tuszyc/hope).

Kogo pro [$_{VP}$ masz zamiar [PRO zabic t]]
who (you) have intention to kill
Who do you intend to kill?

Kogo pro [$_{VP}$ masz nadzieje [PRO pocalowac t]]
who (you) have hope to kiss
Who do you hope to kiss?

Both sentences are grammatical and show no island violations, which is typical of infinitival complements of verbs.

The anomaly in the example with the phrase oglosic zamiar/announce intention ensues from the minimal mismatch in the set collocation where miec/have is replaced by oglosic/announce.

17. The situation in English is different where [+pred] that is a proper head governor. We assume that in Polish all lexical complementizers are defective proper head governors.

18. Genitive of negation appears on the objects of verbs which normally take Accusative in affirmative contexts but there is an interesting exception to this rule. The verb nienawidziec/hate marks its objects for Genitive, not Accusative. If it is negated, its object retains Genitive case:

Jan nienawidzi Malgosi/GEN
John hates Maggie.

Jan nie nienawidzi Malgosi/GEN
John doesn't hate Maggie.

As we can see this verb is morphologically inherently negative for it contains the negative prefix nie/not. Consequently, its object, even if not negated, is in the negative context and its Genitive case should count as structural Genitive of negation, not inherent Genitive. This is indeed the case and the Genitive object of nienawidziec/hate can cooccur with Accusative in ATB constructions and parasitic gaps:

Kogo/GEN pro nienawidziles t/GEN przedtem kochajac e/ACC
who did you hate loving earlier

Ktorego chlopca/GEN Marysia nienawidzi t/GEN a Janek lubi t/ACC

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