Chapter 3
A Minimalist View of the Syntax of Inversion

Introduction
In the next sections I will offer a possible analysis of the Italian facts we have examined so far. The account I will propose emphasizes the prominent role played by syntax in the grammar of inversion. Special attention will be paid to focus (information packaging) which will turn out to be a useful diagnostic for the underlying syntactic structure. Some residual problems that seem to defy the suggested approach will be examined and explained in chapter 4.

This chapter will be organized in the following way. In section 1 I will give a brief introduction of the theoretical background assumed in this study. Section 2 will deal with the interaction of focus with subject inversion and with its implementation in a fashion that fits the assumed minimalist framework. In section 3 and 4 I will present my syntactic account of subject inversion and inversion with a clause-initial PP (locative inversion). After a short summary of the conclusions we drew in chapter 1, I will proceed to explain how I think syntax determines the occurrence of subjects in preverbal and postverbal position.

1 Theoretical Background
In this section I will outline the relevant parts of the framework I am adopting, which is essentially based on Chomsky (1995).

The leading idea of the Minimalist Program is the thesis that the language faculty consists of two distinct components interacting with each other: "a cognitive system that stores information, and performance systems that access that information and use it in various ways." (Chomsky 1995:2). The cognitive system is directly linked to just two of these performance systems, i.e. to the articulatory-perceptual system (A-P) and to the conceptual-intentional system (C-I). The link takes place by means of two levels of
linguistic representation, the level of Phonological Form (PF) and the level of Logical Form (LF).

The cognitive system is a mechanism generating sound-meaning pairs (derivations) by means of a few universal constructive rules and in compliance with local conditions on economy. The resulting derivations at the PF- and LF-interfaces contain specific instructions for the the C-I and the A-P system, respectively.

1.1 The Core System
The mechanism that is the core of the cognitive system generates convergent derivations (grammatical structures) by taking the lexical elements contained in a numeration (a set of items chosen from the lexicon) and by combining them according to a highly restricted set of universal principles and general conditions on economy. The items stored in the lexicon are clusters of features, which can be phonological, semantic or formal in nature. A derivation is said to converge when all the elements of the numeration have been used and when the PF and the LF representations contain just items that are interpretable at that specific level. In order to achieve this, uninterpretable features have to be checked before they reach the relevant level. Checking involves Attraction of the required features and their subsequent Deletion (so that they are not visible at LF) or, possibly, Erasure (so that they are no longer accessible to the system).

There are two forms of checking, overt and covert, depending on the strong or weak valence of the attracting feature. Strong features are of a categorial nature and they require checking before Spell-Out (i.e., overtly). Overt checking implies that the strong features, which are always located on functional heads, attract the correspondent features on the closest c-commanded element of the same category. Strictly speaking, only the relevant features undergo attraction. However, for reasons of phonological convergence, this operation involves ‘pied-piping’ of the lexical material as well. The attracted feature-complex (i.e. a whole lexical category) moves to the specifier of the functional category in order to establish a Spec-Head configu-
ration (or, in the case of head-movement, an adjunction configuration), suitable for overt feature checking.¹

Weak features can delay checking to LF, in compliance with Procastinate (one of the conditions on economy that prefers covert movement whenever possible). In fact, covert checking affects only the relevant features that adjoin to the target head. Yet, weak features may be checked "for free" in overt syntax, when they appear on a constituent bearing strong features, since checking of strong features affects the whole constituent.

1.2 Subject Features
In this study we are particularly interested in features that characterize subjects and that regulate their occurrence in specific positions in the clause. Since Chomsky (1981) the Extended (part of the) Projection Principle (EPP) has been invoked to express the generalization that every sentence needs a subject. Traditionally, the requirement on Case assignment and phi-feature matching, combined with the EPP, have been held responsible for the parametric distribution of phenomena like pro-drop and free subject inversion, as illustrated in (1):

1  a  Parto domani.
    e leave-1sg tomorrow

   b  E' arrivato Gianni.
      arrived Gianni

According to the standard analysis (see Rizzi 1982, Burzio 1986) dropping of the pronominal subject in (1a) and the occurrence of the subject in postverbal position in (1b) are made possible by particular properties of inflection. The EPP forces the presence of a null expletive in preverbal subject position and some additional mechanism has to be invoked for Case (and phi-feature) transmission or assignment to the postverbal subject. For more details, see chapter 1.

¹ The movement operation is in fact more elaborate. Feature attraction creates a chain consisting of a head containing the moved feature cluster and of a foot containing their copy.
In Chomsky’s (1995, Ch.4), Case (and phi-features) are divorced from the EPP. This move is supported by empirical evidence from constructions with expletive subjects, constructions with ECM verbs and instances of locative inversion in English.² The *there*-sentence in (2) illustrates the point:

2  There arrived a man.

Chomsky (1986b) argues for the existence of a principle of full interpretation (FI) requiring that every element contained in a PF representation have an appropriate interpretation. For instance, in the case of (2) the expletive *there* satisfies FI only if it is associated with an element carrying a theta role. Hence, the interpretation of a *there*-sentence requires covert raising of the associate, *a man*, to the position occupied by the expletive.

Suppose, now, that the EPP involves Nominative Case checking as well. Then we would expect *there* to satify both conditions, i.e. the expletive is the subject of the clause (EPP) and it checks Nominative Case. However, the postverbal subject would be left without Case, giving rise to ungrammaticality. This problem could be solved by enriching the system with a marked mechanism for structural Case assignment inside VP. For instance, Roberts (1987) proposes that Nominative Case could be assigned to the VP-internal subject under direct government by INFL. Alternatively, Case could be transmitted to the postverbal subject by exploiting some chain relation between the expletive and the subject (see Safir 1985). Clearly, these options appear to be problematic for a minimalist approach to grammar, where the notion of government has been eliminated and where chain formation is solely licensed by morphological feature checking.³

² The disjunction of EPP from Nominative Case was first proposed in Branigan (1992), in order to provide an explanation for stylistic inversion sentences in English, where a locative PP appears in preverbal subject position and the subject remains in its base position.

³ In order to account for these constructions, Belletti (1988) claimed that unaccusative verbs (i.e. the class of verbs occurring in *there*-sentences) assign inherent partitive Case to their internal argument. For reasons discussed in chapter 2 and in the present chapter, Belletti’s analysis is not tenable. In addition, the notion of inherent case to account for these data must be rejected for theory-internal reasons (see Chomsky 1995:288).
On the other hand, if EPP and Case are teased apart, constructions like (2) can be accounted for by assuming that the expletive in preverbal subject position satisfies the EPP, whereas the postverbal subject (the associate), checks Case and phi-features at LF.

In Chomsky (1995), the EPP is redefined in terms of the presence of a strong D-feature located on the head of the inflection I, which has to be checked by an element bearing the same categorial feature. As we just saw, the distinction between EPP, on the one hand, and checking or assignment of Case and phi-features, on the other, has interesting empirical consequences. In particular, it makes it conceivable that the EPP may be satisfied by an element which is not necessarily associated with Nominative Case. If the EPP reduces to checking of the strong D-features of I, we might wonder which elements are eligible for this operation, i.e. which elements bear D-features. Let us consider this question in more detail.

1.3 D-features
The strong D-feature of INFL must be checked against the D-feature of a nominal category (a DP, an NP or one of the two). With this condition Chomsky (1995) captures the empirical observation that the EPP is standardly satisfied by a nominal phrase. However, this generalization is less clear in the case of constructions that show an (apparently) non-nominal category in Spec of INFL, such as there-sentences and locative inversion constructions in English, or null-subjects and free subject inversion in Romance.
Consider first (3b) which illustrates an instance of locative inversion in English:

3 a) There is a bat in the room.
   b) Into the room strolled a hen.

As suggested by Stowell (1981) and Bresnan (1994), the PP occupies the subject position and satisfies the EPP. If this analysis of locative inversion is correct, it follows that the potential checker of the strong D-feature of INFL does not necessarily need to be a nominal element.

There-sentences appear to have a different pattern. In (3a) the lexical subject cannot be analyzed as dislocated to the right, as in (3b). Above we
saw that *there* is an expletive requiring the raising of its associate (the subject) at LF, by Full Interpretation. What satisfies EPP in this case then? Since the nominal raises only at LF, Chomsky must assume that the expletive *there* bears a D-feature and that, as such, it checks the strong D-feature of INFL.

Let us turn now to Romance languages. Null subjects and instances of subject inversion represent another problematic case for the definition of EPP in terms of a strong D-feature, since it is not straightforward that the potential checker bears the required [+D] feature. Chomsky discusses the following example from Italian:

4 Sono entrati tre uomini senza identificarsi.

*are entered three men without identifying themselves*

In (4) the lexical subject occupies a postverbal position whereas the preverbal subject position is said to be filled by a null expletive (see Rizzi 1982, Burzio 1986). This particular example clearly shows the ‘subject’ properties of the postverbal DP: the matrix verb agrees with the postverbal subject. In addition, the subject indirectly binds the anaphor *si* ‘themselves’ and must therefore control the PRO subject in the adverbial clause. These properties indicate that the postverbal subject must adjoin to the null expletive at LF, by analogy with the phenomenon observed in *there*-sentences in English. From these facts Chomsky concludes that the null expletive in Italian shares the relevant properties of English *there*. With respect to features, this parallelism suggests that the null-expletive in Italian bears only categorial D-features.

The facts discussed in Chapter 4 of Chomsky (1995) suggest that the inventory of elements satisfying the EPP includes, in addition to lexical DPs/NPs, at least also expletives like *there* in English and the null-expletive in Italian, which are assumed to carry only a D-feature.

Finally, let us turn to instances of subject inversion in Italian. Consider (5):

5 Ha telefonato Dante.

*called Dante*
According to the standard analysis the EPP is satisfied by an expletive pro in subject position and the subject has been adjoined to the right of VP. However, as extensively argued for in the preceding chapters, subject inversion constructions like (5) must be analyzed as (6), where the peculiar meaning of the clause reveals the presence of a covert locative argument (which I will call loco/temporal pro):

6  pro ha telefonato Dante.
   has called Dante
   ‘Dante called here/this place’

The characteristics of constructions like (6) are such that it may be plausible to assume that the loco/temporal pro satisfies the EPP instead of the subject, by analogy with the expletive pro in null subject clauses. Given that EPP is checking of a strong D-feature, it follows that the loco/temporal pro must bear such a feature as well.

In conclusion, the inventory of possible D-checkers of the strong D-feature of INFL may contain nominal expressions of the [N] or [D] type, the English expletive there, the null expletive pro and the loco/temporal pro in Italian.

1.4  Considerations of Economy
The computational system is hypothesized to provide instructions for the two performance systems. In other words, PF and LF must contain interpretable representations. In order to achieve this goal, uninterpretable features must be checked at some point in the derivation, and they must be either deleted or erased.

In Chomsky (1995, Ch.4) checking is formulated in terms of the syntactic operation of Attraction. The functional heads bearing uninterpretable features attract the relevant features from an element in their near vicinity. This operation is constrained by conditions that evaluate its cost and its complexity, on the hypothesis that the system will always choose the cheapest option. Since the discussion of the Italian data builds upon some of these conditions, I will introduce them briefly here.
1.4.1 The Minimal Link Condition

It may be the case that more than one element is eligible in principle for the checking of a particular feature. A concrete example is represented by a transitive clause. Consider the structure in (7)⁴:

![Diagram of the structure]

Suppose (7) is the structure of an English clause containing a transitive verb. Since English has no overt verb raising (the V-feature of INFL is weak) the only feature which has to be checked in overt syntax is the strong D-feature of INFL. Theoretically, both the subject and the object are possible checkers since they both carry a D-feature. Clearly, a condition is required that determines how far to look for a constituent carrying the relevant feature. Chomsky suggests that the choice of the optimal checker is determined in terms of relative distance from the target. This condition, the Minimal Link Condition (MLC), is incorporated into the definition of feature attraction, by stating that checking always attracts the closest element bearing the required feature. In the case of a clause containing a subject and an object, the MLC ensures that the EPP can be satisfied only by the subject since this is the closer element carrying [+D].

---

⁴ Strictly speaking, IP consists of an AGR-phrase, selecting a Tense-phrase. Here I will abstract away from these functional categories.
1.4.2 Equidistance

The MLC is inviolable. Yet, there are cases in which two potential checkers not only carry the relevant feature, but also appear to be equally close to the target node. In this case we speak of **equidistance**. The notion of equidistance is introduced in Chomsky (1995, Ch.3) in order to account for certain constructions that seem to violate the MLC. Take, for instance, object raising, as illustrated below. Suppose AGRo has a strong feature to check, for instance [+D]. The MLC predicts that AGRo will attract the closest relevant category, i.e. the subject. However, in reality, it is the object that moves, causing an (apparent) violation of the MLC.

Chomsky proposes the following solution. Object raising does not violate the MLC since Spec of AGRoP and Spec of VP are equidistant from the object. Movement of the verb to AGRo creates the chain (V,t). This has the effect that both Spec of VP and Spec of AGRoP belong to the minimal domain of the verbal chain and are therefore equidistant from Obj. Feature checking can thus attract the object without violating economy.

1.4.3 Phonological Heaviness

The `cost' of feature checking is strictly related to the stage of the derivation at which this operation takes place. This can be either the overt syntax, prior to Spell-Out, or the covert component, at the level of Logical Form. Chomsky (1995, Ch.4) hypothesizes that while strong features must be checked overtly, weak features can wait until LF. Checking at LF involves only attraction of the relevant features. Overt checking, however, involves pied-
piping of the minimal phonological constituent carrying the relevant feature, as the phonological component is not able to interpret ‘loose’ features. Therefore, in terms of phonological ‘heaviness’, covert checking appears to be more economical than overt checking.

However, it is not clear whether considerations of economy apply to phonological features as well. Chomsky discusses this problem and states the following economy condition on overt movement:

9  (A feature) F carries along just enough material for convergence.  
   [Chomsky 1995:262]

The amount of material necessary for convergence should then vary according to the morphological properties of the language involved. So, we could conceive of a language in which the PF-component requires a minimal amount of material for convergence. In this extreme case, it should be possible for features to be checked overtly without pied-piping by analogy with weak features at LF.

Imagine now the situation in which a particular strong feature can be checked by two possible checkers. This is exactly the situation discussed above for the structure in (8). Suppose, however, that the two potential checkers have different phonological properties. The effect of these properties is that in one case the corresponding feature is attracted along with the overt constituent on which it resides; in the other case there is no pied-piping and the feature raises alone. 5

At this point we may ask whether considerations of economy can unambiguously determine the choice of the optimal checker. Below we will discuss a concrete example taken from Italian, which seems to show that, other things being equal, the most economical option could be evaluated in terms of phonological heaviness.

Yet, this issue remains rather obscure. On the assumption that phonological heaviness is a criterion for economy, there remains the question of whether (9) is a global condition that applies to the whole derivation, or rather a local condition comparing just the possible alternatives of a single

---

5 This could be the case of a head bearing just the relevant feature. Or, possibly, the case of a language in which the morphological component does not force pied-piping.
step in the derivation. These questions and the issue of phonological heaviness will be discussed below in greater depth.

1.5 Summary
This section has presented a brief overview of Chomsky (1995), which forms the theoretical framework of this study. The most distinguishing trait of this approach is the organization of grammar as consisting of a mechanical procedure, generating structures, and of two levels of representations: LF and PF. This system knows only interface conditions that interact with local conditions of economy. In the next section I will show that Chomsky’s basic insights, combined with some additional refinements of the theory, will provide an interesting account of the behaviour of subjects in Italian.

2 Preverbal and Postverbal Subjects
Chapter 1 started with the following empirical question: how free is subject inversion in Italian? The set of data we examined provided an answer which was somehow expected: strictly speaking, inversion in Italian is always possible, as, for every choice of the relevant verb, it is possible to find a context in which the sentence with the subject in postverbal position is perfectly felicitous. However, closer inspection of the data also revealed that the grammaticality and the felicity of each construction depends on a series of factors of a different nature. The goal of this section is to shed light on these still obscure aspects of the supposedly well-known phenomenon of subject inversion.

2.1 Facts to Be Explained
The empirical generalizations formulated in Chapter 1 put notions like focus and argument structure and their role in subject inversion in a new perspective. At the same time, empirical evidence showed that unaccusativity seems to be neither a sufficient nor a necessary property for verbs to allow inversion. Here I will briefly report the major findings of chapter 1. Let us first start by focus and argument structure.
Unlike the standard analysis of subject inversion (Rizzi 1982, Burzio 1986, Belletti 1988), we considered the effects of different focus patterns on clauses with postverbal subjects. Interestingly, all verbs allow subject inversion if the subject carries narrow focus, i.e. if the subject is the only constituent marked with focus. Conversely, if the whole clause is in focus (wide focus), subject inversion appears to be restricted to verbs with certain specific characteristics. The examples in (10) and (11) illustrate the two cases by means of question-answer pairs:

10  a  Chi è arrivato?
   *who arrived*
   E’ arrivato Timman.
   *arrived Timman*

   b  Chi ha vinto il torneo?
   *who won the tournament*
   Ha vinto il torneo Loek.
   *won the tournament Loek*

11  a  Che cosa è successo?
   *what happened*
   b  E’ arrivato Timman.
   *arrived Timman*

   c  #Ha vinto il torneo Loek.
   *won the tournament Loek*

   d  Loek ha vinto il torneo.
   *Loek won the tournament*

(10) and (11) show that verbs like *arrivare* ‘arrive’ allow subject inversion with both the wide and the narrow focus patterns, whereas verbs like *vincere* ‘win’ allow inversion only with narrow focus on the subject. Recall that, for ease of exposition, I called the former type of verbs *inversion* verbs, and the latter type *non-inversion* verbs. These observations are summarized in (12), repeated from chapter 1:
(12) shows that the effect of focus on subject inversion calls for an explanation. Below I will try to explain how focus interacts with syntax and why inversion with a wide focus interpretation of the clause is limited to a certain class of verbs.

The second point of discussion concerns the effects of argument structure on subject inversion. Verbs allowing a postverbal subject with a wide focus interpretation of the clause appear to select a loco/temporal

---

6 Transitive verbs allow subject inversion with wide focus only in very few cases:

1 In questa stanza hanno dato le dimissioni molti ministri.
   in this room gave the resignations many ministers
   ‘in this room resigned many ministers’

Interestingly, in this type of sentences the verb and the object seem to act together as one predicate with an idiomatic reading. This suggests that together they behave as one intransitive verb, perhaps as the consequence of incorporation of the (light) direct object into the V.
argument. This argument can either remain covert, as in (13a), or be lexically realized as an overt PP (with certain deictic properties), as in (13b).

13  

\[13\]  

\[a\] E’ arrivato Karpov.  
\((here/to this place) arrived Karpov\)

\[b\] In questo palazzo ha vissuto il Leopardi  
\(in this palace lived Leopardi\)

The observed correlation between subject inversion and the presence of this additional argument seems to be significantly consistent across verb classes. These observations are summarized in (14), again, from chapter 1:

14  

\[14\]  

GENERALIZATION  
Verbs with wide focus inversion:  
a) select an extra internal argument  
b) this argument can be either locative or temporal  
c) it can be covert or overtly realized  
d) it must be deictic.

The analysis I will offer below will revolve around these peculiar properties of inversion verbs.

Finally, let us turn to the issue of unaccusativity. It is generally assumed and, has partly, been shown empirically that unaccusative verbs quite naturally allow subject inversion, also in languages where this phenomenon is not supported by additional pro-drop properties (see Coopmans 1989, Hoekstra & Mulder 1990, Levin & Rappaport 1995). However, the data examined in chapter 1 revealed that the correlation between unaccusativity and inversion does not always hold. As illustrated in (15), there are unaccusative verbs that do not allow free subject inversion:

---

7 Particularly in the case of verbs like *arrivare* ‘arrive’ or *telefonare* ‘call’, the loco/temporal argument appears to be subcategorized by the verb. For the time being we will assume that this is indeed the case. In section 4, however, a more precise formulation of the properties of this element will be required. As we will see, the ‘selected’ loco/temporal element is not necessarily a subcategorized argument. It is sufficient for it to be somehow thematically (or maybe, aspectually) linked to the verb.
15 Che cosa è successo?
what happened
a E’ morto Fellini.
died Fellini
b #E’ impallidito Berlusconi.
turned pale Berlusconi

On the other hand, inversion seems to be possible with certain unergative and transitive verbs as well, as illustrated in (16):

16 Che cosa è successo?
what happened
a Ha telefonato Kasparov.
called Kasparov
b In questa stanza hanno dato le dimissioni molti ministri.
in this room resigned many ministers

Therefore, the supposed correlation between inversion and unaccusativity cannot be the correct generalization. However, the fact that inversion and unaccusativity do show some mutual connection could be captured by an analysis that capitalizes on the role of additional arguments in the thematic structure of the relevant verbs.

Summarizing, the examination of Italian data on inversion raises the following questions: a) why is inversion with wide focus limited to a certain class of verbs? b) What is the role of the loco/temporal argument? c) What is the relationship between inversion and unaccusativity? Section 3 and 4 will provide a possible answer to these questions. First, however, the notion of focus deserves some attention. Section 2.2. will introduce the technical apparatus for the analysis of focus which is assumed throughout this study.

2.2 The Hypothesis
As will be clear by now, the hypothesis I want to defend is that the distribution of subjects in Italian is largely determined by syntactic properties. At first sight, this claim might seem to contradict the evidence of the facts discussed in chapter 1 and summarized in generalization (12). In other words,
focus appears to interfere with syntax and to block the occurrence of subject inversion in certain cases. However, the particular approach of focus I will adopt will permit us to maintain the autonomy of syntax and, at the same time, it will provide an adequate account for the empirical data observed. More specifically, I will make the following claims:

a) (Neutral) focus structure is the indirect product of neutral stress assignment to convergent derivations;

b) A subject can occur in postverbal position only if the EPP is satisfied by some alternative element in the clause: one such candidate is the loco/temporal argument selected by certain verbs.

2.3 Focus

Let me repeat once again the issue of discussion: all verbs allow subject inversion with the narrow focus reading of the subject. However, when focus involves the whole clause (wide focus reading), only certain verbs allow inversion.

The explanation of these facts is based on the assumption that the rule that derives the neutral focus structure is a mechanical procedure applying at PF to convergent derivations. In other words, the input to this procedure consists of grammatical structures i.e. of structures that have met the well-formedness conditions of the computational system. If the ‘focus rule’ is a mechanical procedure, we do not expect it to have any effect on the word order of the input clauses. Therefore, it follows that the SV or VS word orders of a wide focus clause are indirectly determined by syntax. The analysis of focus I will propose in this study is based on Cinque (1993) and Reinhart (1995).

Cinque (1993) makes the observation that since focus is normally identified by main sentence stress, the rule for stress assignment may indirectly determine which constituent can carry focus. Cinque’s Nuclear Stress Rule is essentially Halle & Vergnaud’s (1987) metrical rule applying cyclically to syntactic trees. Notice that parametric variation is derived without unnecessary enrichment of the mechanism by exploiting the language-specific direction of recursion: starting from the most embedded node, the rule will apply to the remaining cycles of the relevant clause without further stipulations. (17) illustrates assignment of neutral stress to an English sentence:
17 Loek won the tournament.

\[
[\text{IP} \quad \text{Loek} \quad [\text{VP} \quad \text{won} \quad [\text{NP} \quad \text{the tournament}]]]
\]

NP cycle: \[ [\quad * \quad ] \]
VP cycle: \[ [\quad * \quad ] \]
IP cycle: \[ [\quad * \quad ] \]

Starting from the first cycle, in this case the NP-cycle, the NSR assigns an asterisk to the most deeply embedded word. This operation proceeds cyclically, until the whole clause has been processed. Main prominence is then localized on the word carrying the greatest number of asterisks, i.e. on the most deeply embedded word. Given the observed correlation between stress and focus, the focus of a sentence is then identified as any constituent containing the word with main stress.

We will refer to the result of the NSR as the neutral focus pattern of a sentence. Notice that the wide focus reading of a clause can only be derived by the NSR, as a consequence of the cyclic nature of this rule. Wide focus is then normally associated to the neutral focus interpretation. However, the NSR also derives the narrow focus reading of the most deeply embedded constituent. Contrary to what is sometimes assumed in the literature, I will consider both options instances of neutral focus, since they are both derived by the same mechanical procedure. I will then speak of non-neutral focus only when the required focus option must be derived by an additional (marked) operation.

Reinhart (1995) emphasizes the fact that, as a result of the NSR, each cycle contains the word carrying main stress. Therefore, if focus is identified with main stress, Cinque’s procedure determines for every sentence not just one focus but a set of possible focus options, consisting of all the cycles that contain the word with the accent. In light of what we have just said about focus and markedness, the options contained in the focus set must be viewed as neutral focus options. Reinhart’s point is illustrated in (18), which repeats (17):

18 a Loek won the tournament.

\[ [\text{F} \quad \text{Loek} \quad [\text{F} \quad \text{won} \quad [\text{F} \quad \text{the tournament}]]] \]

F-set: \[ [\text{F} \quad \text{the tournament}] \]
The focus set of (18a) contains three focus options, each corresponding with a cycle containing the word with the main accent, i.e. ‘tournament’. More specifically, the narrow focus of (18a) corresponds to the direct object \([_F \text{ the tournament}]\), whereas the wide focus option corresponds to the whole clause. Notice that it is only at the interface with the system of use that the ‘meaning’ of each focus option plays a role. At this level, pragmatic considerations will determine the choice of the most adequate focus option. All operations previous to this point are strictly mechanical and do not consider possible interpretive properties of the elements involved. In other words, focus is not driven by meaning. It is only at the interface that these notions are brought together.

We turn now to Italian and try to explain why the wide focus reading with the subject in postverbal position is possible only with certain types (inversion type) of verbs. Consider (19):

19  a  Kasparov ha telefonato a Campomanes.  
     \[Kasparov \text{ called Campomanes}\]

b  Ha telefonato Kasparov.  
   \*[called Kasparov]

\textit{Telefonare} ‘call’ is an inversion verb: its subject can occur both in preverbal and in postverbal position. Both sentences are felicitous answers to an out-of-the-blue question like ‘what happened?’. These intuitions can now be verified by calculating the respective focus-sets. Let us first determine the focus-set of (19a). This is illustrated in (20):

\[\begin{align*}
\text{F-set:} & \quad [_F \text{ Kasparov ha telefonato a Campomanes}] \\
& \quad [_F \text{ a Campomanes}] \\
& \quad [_F \text{ ha telefonato a Campomanes}] \\
& \quad [_F \text{ Kasparov ha telefonato a Campomanes}] 
\end{align*}\]

The focus-set in (20) contains three options. Each option is a felicitous answer to a specific question:
(21a) represents the narrow focus option: the indirect object is the only constituent marked with focus. Notice that (21b) is infelicitous. The context requires an answer with the narrow focus reading of the subject, which is impossible with this word order since this DP is not a member of the focus set given this word order and focus structure. In (21c) focus marks the predicate (an intermediate option between narrow and wide focus). Finally, in (21d) the whole sentence is marked with focus. This is the wide focus interpretation we are interested in.

Let us turn now to (19b) and concentrate on its underlying syntactic representation.

(22) represents the structure I will propose below. The verb has raised for feature checking. However, the subject occupies just its base position as the
EPP is satisfied by raising of the loco/temporal argument LOC. The NSR applies starting from the most embedded element in the clause which appears to be the subject. Consider now (23), which shows the focus-set of (19b).

\[ \text{F-set: } [\text{F Kasparov}] \]

The focus-set in (23) contains only two options: one gives the narrow focus reading of the subject, the other gives the wide focus reading of the sentence. In this case too, each focus option contained in the set represents a felicitous answer to a specific question:

24 a Chi ha telefonato?
who called
Ha telefonato [F Kasparov].

b Che cosa è successo?
what happened
[F Ha telefonato Kasparov]

c Che cosa ha fatto Kasparov?
what did Kasparov do
[#[F Ha telefonato] Kasparov

Notice that the narrow focus option of (23) differs from that of (20). In the former the smallest constituent in focus is the subject. In the latter it is the indirect object, which is the Goal of the action of calling. The infelicity of (24c) thus derives from the fact that the narrow focus reading of the predicate is not a focus option in this set. But what interests us most is the wide focus reading. As expected, the verb \textit{telefonare} allows a wide focus reading of the clause both with the preverbal and the postverbal subject. This is confirmed by the felicity of both (21c) and (24b).

Let us turn now to verbs that do not always allow subject inversion (i.e. the non-inversion verbs). Consider the following question-answer pairs:

25 Che cosa è successo?
what happened
(25a) is perfectly felicitous with a wide focus reading, (25b) with the narrow focus reading of the predicate. The missing option is (25c), with the narrow focus reading of the subject, as is illustrated in the focus-set below:

Consider now (27):

The infelicity of (27) indicates that this verb does not allow subject inversion with a wide focus interpretation of the clause. In this respect, the verb *impallidire* ‘turn pale’ differs from the verb *telefonare* ‘call’ which allows a wide focus reading of the clause with both SV and VS word orders. Consider the syntactic structure underlying (25a):
For reasons that we will discuss below, the subject in (0) cannot remain in its base position and has to raise to Spec of IP. Hence, by the time the NSR applies, this clause has a SV word order. Then we expect a wide focus reading of the clause with the subject in preverbal position and a narrow focus interpretation of the verb, which is the most deeply embedded element of (0) (on the assumption that traces are not visible for the NSR). These are indeed the focus options contained in the focus set of *impallidire*. Below I will propose that the reason for subject raising in (0) is satisfaction of the EPP, and that the difference between verbs like *impallidire* and verbs like *telefonare* is that the former can satisfy the EPP only by moving the subject to a preverbal position, whereas the latter can exploit an alternative strategy which leaves the subject in its base position. In other words, the infelicity of (0) in the neutral case does not depend on focus, but on syntax. A clause containing a non-inversion verb like *impallidire* will (in this unmarked situation) never show up with a postverbal subject, because this derivation will be filtered out before reaching the level at which stress applies, i.e. before Spell-Out. The exact role of syntax will be extensively discussed in the next two subsections.

As observed at the beginning of this section, all verbs allow subject inversion with the narrow focus reading of the subject. So, (0) is infelicitous with a wide focus reading. However, with a narrow focus reading like in (0), the same sentence is perfectly correct:

29 a Chi è impallidito?
   *who turned pale*

   b E’ impallidito Berlusconi.
Similarly in sentences with a transitive verb:

30  a  Chi ha scritto questo libro?
    *who wrote this book*
   
   b  Ha scritto questo libro Dante.
    *wrote this book Dante*

If we explain the infelicity of (27) by claiming that it can never be one of the options of the neutral focus set, then how can we account for the existence of these sentences at all? Notice that these data are not only problematic from an interpretive point of view. The occurrence of the subject in postverbal position is a challenge for the hypothesis advocated so far.

This and similar cases will be dealt with in chapter 4 in greater detail. Elaborating on Reinhart’s (1995) account of markedness in language, I will argue that constructions like (29b) and (30b) can only be the result of a marked stylistic rule triggered by interpretive needs. The proposed solution will integrate these and similar facts into the general account advocated here.

3  Syntactic Constraints on Inversion

The examination of the wide focus pattern of sentences in Italian has so far revealed unexpected asymmetries in the occurrence of postverbal subjects. As reported in chapter 1, not all verbs allow subject inversion with the wide focus reading of the clause. (31) summarizes the relevant facts:

31  Che cosa è successo?
    *what happened*
   
   a  E’ arrivato Kasparov.
    *arrived Kasparov*
   
   b  Ha telefonato Timman.
    *called Timman*
   
   c  #E’ impallidito Berlusconi.
    *turned pale Berlusconi*
   
   d  #Ha scritto questo libro la Fallaci.
In the previous section I stipulated that since focus is the result of a mechanical procedure of stress assignment, it cannot be held responsible for the asymmetric distribution of postverbal subjects in (31). Rather, the constraining factor must be located at a previous stage of the derivation, i.e. in the syntactic component. I will now develop the hypothesis that the occurrence of subjects in postverbal position is determined by the EPP: the subject can occur in postverbal position if there is another element in the clause that can satisfy the EPP. I will argue that the loco/temporal argument selected by the verb in inversion contexts is a possible candidate for satisfaction of the EPP.

3.1 Evidence for a Covert Argument

In chapter 1 we concluded that the distinction between inversion versus non-inversion verbs involved certain differences at the level of lexical structure. The data examined provided evidence for the existence of an additional argument in the thematic structure of those verbs that allow subject inversion with wide focus interpretation. Let us briefly review the main properties of these predicates. Consider (32) and (33):

32

   a  Irene è arrivata a Milano.
       Irene arrived at Milan

   b  Irene è arrivata.
       Irene arrived (somewhere)

   c  LOC è arrivata Irene.
       (here/at this place) arrived Irene

33

   a  Dante ha telefonato a Beatrice.
       Dante called Beatrice

   b  Dante ha telefonato.
       Dante called (made some telephone calls)

   c  LOC ha telefonato Dante.
       (us/to this place) called Dante
The verbs *arrivare* ‘arrive’ and *telefonare* ‘call/phone’ are representative of what I called inversion verbs. As is illustrated in (32) and (33), these verbs normally take an additional internal argument which indicates the goal of the event.\(^8\) We distinguish three cases: a) the argument is overtly realized, like in the (a)-sentences, b) the argument is implicit, like in the (b)-sentences, and c) the argument is covert, but ‘present’ in syntax, like in the (c)-sentences. Below I will argue that the (b)-sentences must be analyzed as having a different numeration than the (a)- and (c)-sentences. The latter type of sentences contain an additional argument that may be either overt or covert. In the (b)-sentences the argument is only ‘lexically’ present but not syntactically. The interpretation of this argument is thus dependent on the specific context in which the sentence is embedded. Let us concentrate on the inversion sentences (32c) and (33c). Notice that I illustrated the presence of the covert argument by means of LOC.\(^9\)

Evidence for the existence of LOC and for its peculiar properties is provided by a collection of empirical facts that I will briefly recapitulate here. First, as is shown by the glosses, the meanings of both (32c) and (33c) involve a complement indicating the goal of the event of arriving and of calling, respectively.

LOC appears to have just one possible interpretation, i.e. that of a deictic locative (or temporal) referring to a speaker-oriented ‘here and now’. The covert argument in (32c) and (33c) can never refer to a location or a time different than those relative to the speaker.

The presence of LOC can explain the ungrammaticality of sentences like (34b) and (34c). If it is true that inversion constructions select a covert argument, it follows that (34b) and (34c) violate a form of the Theta Criterion by realizing the argument both overtly, as a PP, and covertly, with

\(^8\) Calabrese (1991) claims that all unaccusatives subcategorize for a loco/temporal argument. Although I agree that this is the case for a certain group of unaccusatives (those expressing a goal in the abstract sense), I will show that this generalization cannot be extended to the whole class. In addition, certain unergatives that show interesting similarities with the unaccusative verbs appear to select the loco/temporal argument as well.

\(^9\) In this specific case the argument is a locative PP. However, certain inversion verbs like, for instance, *morire* ‘die’ may prefer a temporal argument. In addition, both the locative and the temporal argument subsume a notion of space and time in broad sense, including some abstract domains as well.
deictic interpretation. Notice that the position in which the overt PP occurs does not affect the acceptability of these clauses.

34  a  Irene è arrivata a casa.
    *E’ arrivata Irene a casa.
    *A casa è arrivata Irene.

Alternatively, if we assume that the argument is projected only once (as an overt PP), the ungrammaticality of (34b) and (34c) follows from a violation of the EPP, since the subject does not raise. (34a) is fine because subject raising takes place and satisfies the EPP.

Consider now (35):

35  a  E’ arrivata Irene dal Messico.
    *E’ arrivata Irene con una valigia piena di libri.

The wellformedness of these sentences can be explained by the fact that the overt PP is an adjunct, so that the EPP must necessarily be satisfied by LOC. In other words, the verb *arrivare, ‘arrive’ selects an ‘in/at’ argument. Hence, the PP’s in (35) are both adjuncts and do not violate the Theta-criterion. The data we have examined so far suggest that the occurrence of subject inversion may be determined by syntactic principles in the first place.

Finally, let me mention a point to which we will return in the next section. There appears to be only one case in which inversion tolerates an overtly realized PP:

36  a  Da questo porto è partito Marco Polo.
    *Dal porto è partita la nave.
Notice, however, that not every overt PP will do. The contrast in (36) shows that the PP occurring in clause-initial position must have certain properties. The minimal pair in (36) differ only in the type of DP selected by the preposition: in (36a) the determiner contains the demonstrative *questo* ‘this’, whereas in (36b) the determiner contains the definite article *il* ‘the’. The consistency of this pattern across a large set of data (see chapter 1) seems to indicate that the properties of the PP-internal DP may determine the occurrence of a PP in clause-initial position. One of the properties distinguishing *questo* from *il* is its deictic interpretation. This fact may indicate that deixis plays a role in the licensing of these constructions. In section 4.3 we will examine the nature of this role in more detail.

So far we have examined some facts that seem to support the hypothesis that inversion with the wide focus interpretation correlates with the presence of a covert argument. Generalization (37) summarizes the conclusions:

\[
\begin{align*}
\text{Generalization} \\
\text{Verbs with wide focus inversion:} \\
a) & \text{select an extra internal argument} \\
b) & \text{this argument can be either locative or temporal} \\
c) & \text{it can be either covert or overtly realized}^{10} \\
d) & \text{it must be deictic (when it occupies the EPP position).}
\end{align*}
\]

### 3.2 The Role of the Covert Argument

The correlation between subject inversion and the presence of an additional loco/temporal argument appears to be consistent across different verb classes. Whereas, for instance, unaccusativity is neither a necessary nor a sufficient property for subject inversion, the presence of a loco/temporal argument (either overt or covert) appears to be an essential ingredient of inversion contexts. Recall some of the examples we discussed in chapter 1:

\[
\begin{align*}
38 \quad & \text{a E’ morto Fellini.} \\
& \text{died Fellini (just now/I have just heard it)}
\end{align*}
\]

\[^{10}\text{The role of overt PPs will be explored and discussed in section 4 of this chapter.}\]
b  Ha telefonato Beatrice.
   called Beatrice (us/this place)

c  In questo palazzo ha vissuto il Leopardi.
   in this building lived Leopardi

d  In questo albergo hanno lavorato molte donne straniere.
   in this hotel worked many foreign women

The glosses show that, either implicitly, like in (38a) and (38b), or explicitly, like in (38c) and (38d), a locative or a temporal argument is always involved in an inversion context. As discussed in chapter 1, when this argument is not available, subject inversion is not possible.\footnote{The only exception to this general rule is the case of inversion with an indefinite subject. Even if no locative is available, the indefinite subject can show up in postverbal position. For more discussion of this point see section 5.2 of chapter 3.}

The line of research I will develop in this section is centered around the following hypothesis:

39  Hypothesis
   In inversion constructions the EPP is satisfied by the loco/temporal argument (LOC).

Given (39), the subject does not need to raise in order to satisfy the EPP. There could be another reason for raising, namely checking of Nominative Case and phi-features. However, recall that I assume that EPP is disjunct from Case and phi-feature checking (see Chomsky’s (1995, Ch.4). This opens up the possibility for the latter forms of checking to take place covertly at LF, so that in overt syntax the so-called inverted subject could just occupy its base position.

However, before discussing (39) something must be said about the position of the subject.

3.3  The Position of the Subject
I will assume that subjects of transitive and unergative verbs are uniformly generated in the highest specifier of the verbal projection (see Koopman &
Chapter 3  A Minimalist View of the Syntax of Inversion

Sportiche 1989, Kayne 1994, Chomsky 1995). (40) illustrates the relevant structure:

```
40
   VP
  /   \                  
SUBJ  V'
      /   \              
   V     OBJ
```

Subjects of unaccusative verbs are then generated in the complement position, as in (41):

```
41
   VP
  /   \          
 V   SUBJ
```

From its initial position, the subject is supposed to raise to the Spec of INFL in order to satisfy the EPP. In Chomsky's (1995) formulation the EPP corresponds with checking of the strong D-features of INFL against the D-features of the closest relevant element in the clause. As (42) shows, this element is normally the subject.

```
42
   IP
  / |  
Spec I'      
 /   \     
I[D]  VP
     /   \   
SUBJ[D] V'
      /     \ 
   V       OBJ[D]
```

---

12 Chomsky (1995) adopts a Larsonian VP-internal structure, where the lexical verb is in the complement of a light verb v to which it has to raise before Spell-Out. For the moment I will ignore this articulated structure since it is not relevant for the purposes of this section.
The operation that checks the D-feature of INFL must take place before Spell-Out. This triggers overt movement of the subject to the Spec of IP creating the specifier-head configuration required for feature checking. In this case there is no doubt about the choice of the most adequate checker. The object cannot satisfy the EPP since it is not the closest element containing D-features. Conversely, when the sentence contains an unaccusative verb, it is the DP in object position, i.e. the only argument, which raises for feature checking, since there is no other closer DP.

Let us turn now to contexts of subject inversion. The subject always occurs in postverbal, sentence final position.\textsuperscript{13} Since we assumed that subjects are generated on the lefthand side of VP (cf. 40), the VOS order can be obtained either by adjoining the subject to the right of VP or of some functional projection dominating it, or by moving all the VP-internal material leftward, past the subject. The first type of approach is along the lines of Rizzi (1982), Burzio (1986), and Roberts (1987). The second type of approach, the one I will follow here, is that proposed by Kayne (1994) and Chomsky (1995).

This line of reasoning is not without consequences. More specifically, we have to provide an account for the following questions: a) how can the EPP be satisfied if the subject does not raise? b) what is the trigger for movement of the verb to a position past the subject? c) does the object raise in Italian? d) how can the subject DP check its Case feature and phi-features?

The first question is crucial for the analysis defended in this study and will be discussed in great detail in section 3.4. About V-raising and object raising I will briefly refer to Belletti (1990), who adduces empirical and theoretical evidence for the existence of the former and the absence of the latter in Italian. As for the last question, I hypothesize that Case features are weak in Italian.\textsuperscript{14} This means that the Case feature on INFL is not sufficient to trigger raising of the subject in overt syntax. Case checking can then be delayed until LF, where it takes place covertly. I will assume the same for phi-features. Feature checking will be discussed in more detail in section 3.5.

\textsuperscript{13} The VSO order, available in Spanish and Portuguese, is not present in Italian.

\textsuperscript{14} This assumption is perfectly in line with Chomsky’s (1995, Ch.4) hypothesis that only categorial features are strong.
3.3.1 V-raising and Object Raising in Italian

According to Belletti (1990), in Italian the inflected verb moves to the highest inflectional projection (AGRs, in her framework) in order to pick up tense and phi-features. The analysis of verb movement she proposes draws on Pollock (1989) and essentially relies on the relative position of the finite verb (and of the past participle) with respect to different types of adverbs which are taken to determine the relevant phrase boundaries.\(^{15}\) For instance, evidence for V-raising is provided by negative constructions like (43):

\[
\begin{align*}
43 & \quad \text{Gianni non parla mai.} \\
& \quad \text{Gianni never talks} \\
\end{align*}
\]

On the hypothesis that the adverb *mai* ‘never’ fills a position to the right of AGRs and that the negation *non* is a clitic on the V in AGRs, the inflected verb must necessarily occupy the AGRs-head.

Object clitics in Italian are assumed to raise overtly to the Spec of AGRoP and trigger object agreement on the past participle (Kayne 1989):

\[
\begin{align*}
44 & \quad \text{a Dante la ha amata.} \\
& \quad \text{Dante her-Fem-Sing-has loved-Fem-Sing} \\
& \quad \text{b Beatrice le ha lette.} \\
& \quad \text{Beatrice them-Fem-Plur-has read-Fem-Plur} \\
& \quad \text{c *Beatrice ha lette le.} \\
& \quad \text{*Beatrice has read-Fem-Plur them-Fem-Plur} \\
& \quad \text{d *Beatrice le ha letto.} \\
& \quad \text{*Beatrice them-Fem-Plur has read-0} \\
\end{align*}
\]

The ungrammatical (44c) and (44d) show, respectively, that the object clitic is not allowed to remain in its base position and that the past participle must agree with the clitic in gender and number.

However, when the object is not a clitic, there seems to be no evidence that this operation takes place overtly. Let us examine this point in more detail. If negative polarity adverbs like *mai* ‘never’ or *più* ‘more’ occur both

---

\(^{15}\) Crucial for Belletti’s analysis is the assumption that there is no specific process of adverb movement (cf. Pollock, 1989).
to the right of AGRs and in VP-initial position, the direct object can then show up in the following positions:

\begin{align*}
45 \quad &a \quad \text{Dante non ha mai baciato Beatrice.} \\
&\text{\textit{Dante not-has ever kissed Beatrice}} \\
&b \quad \text{Dante non ha baciato mai Beatrice.} \\
&\text{\textit{Dante not-has kissed ever Beatrice}} \\
&c \quad *\text{Dante non ha baciato Beatrice mai.} \\
&\text{\textit{Dante not-has kissed Beatrice ever}}
\end{align*}

(45a) is perfectly correct. The negative adverb sits on the right of AGRs, the past participle in AGRo and the direct object still fills its base position inside the VP. (45b) is slightly more marked, yet acceptable. If the adverb fills a VP-initial position, the direct object must necessarily be inside the VP. Consider now (45c). Here the direct object precedes the negative adverb. If the latter marks the VP-boundary, then the object must have moved out of the VP. However, (45c) is not fine. If Belletti’s assumptions on adverbs as markers of projection boundaries are correct, the ungrammaticality of (45c) provides evidence against overt object raising in Italian.

The analysis I will present below is based on the hypothesis that Italian does not have object shift, in agreement with Belletti (1990). However, both the object shift and the non-movement analysis will be briefly compared, for sake of clarity.

\section*{3.4 Checking of the Strong D-feature of Infl in Inversion Contexts}

Let us now turn to the most intriguing question: what satisfies the EPP if the subject does not raise? Consider again the inverted sentences in (38), repeated below:

\begin{align*}
46 \quad &a \quad \text{E’ morto Fellini.} \\
&\text{\textit{died Fellini (just now/I have just heard it)}} \\
&b \quad \text{Ha telefonato Beatrice.} \\
&\text{\textit{called Beatrice (us/this place)}} \\
&c \quad \text{In questo palazzo ha vissuto il Leopardi.}
\end{align*}
Chapter 3  A Minimalist View of the Syntax of Inversion

in this building lived Leopardi
d In questo albergo hanno lavorato molte donne straniere.
in this hotel worked many foreign women

On the assumption that the subject remains in its base position and given the fact that these sentences are perfectly correct, we conclude that there must be some other element that can take over the role of the subject in satisfying the EPP. As discussed above, the examination of the empirical data reveals a correlation between inverted context and the presence of an additional loco/temporal argument (LOC). This argument seems to be able to substitute for the subject in its task of checking the strong D-features of INFL. If this is indeed the case, it follows that there is no trigger for the subject to raise overtly, since, as we assumed, its Case and phi-features can wait until LF. Let us see how this could work.

We consider first instances of inversion where the locative remains covert. Inversion with overt locatives will be discussed in the next section.

The claim that LOC in sentences like (46a-b) satisfies the EPP instead of the subject is in fact based on the non-trivial assumptions that a) LOC bears D-features and that b) satisfaction of the EPP by this argument is cheaper than by raising the subject. These two issues will be examined in section 3.4.1 and 3.4.2, respectively.

3.4.1 The Status of LOC and its Features
We consider first the status of LOC. Although in the sentences we examined this element is not overtly realized, there are good reasons to assume that it is thematically related to the relevant verb and that it is present in syntax in an abstract form. With loco/motional verbs of the arrivare ‘arrive’-type we can indeed assume that the covert argument is subcategorized by the relevant verb. However, this assumption appears less natural with other types of verbs like, for instance, mangiare ‘eat’ or studiare ‘study’. Perhaps, instead of subcategorization, it is more precise to speak of a thematic relation between the covert argument and the verb that selects it.
like a subject DP, it may be plausible to assume that LOC is a pro carrying a D-feature.\(^{17}^{18}\)

Alternatively, LOC shows a structural ambiguity which is typical of clitic-like elements (Chomsky, 1995). As an argument of the lexical verb, LOC is projected in syntax as a maximal projection X\(^{\text{max}}\). On the other hand, LOC appears to behave like the expletive clitic\(ci\) in copula constructions like in (47):

\begin{align*}
number{47} & \quad a \quad \text{C’è Beatrice.} \\
& \quad \text{there is Beatrice} \\
& \quad \text{‘Beatrice is here’} \\
& \quad b \quad \text{Ci sono molti linguisti in questo istituto.} \\
& \quad \text{there are many linguists in this institute}\(^{19}\)
\end{align*}

Since clitics adjoin to verbal heads, at this stage of the derivation the clitic is analyzed as an X\(^{\circ}\). LOC is thus ambiguous between an X\(^{\text{max}}\) and an X\(^{\circ}\). This suggests that LOC may be a clitic as well. The data we will discuss below appear to corroborate the latter hypothesis.

An element endowed with a D-feature is a potential checker of the strong D-feature of INFL. So, on either analysis of LOC, the result is that the EPP is satisfied by LOC, instead of by the subject DP. The fact that LOC stands for a loco/temporal argument and that, as such, may satisfy the EPP is not necessarily problematic. The hypothesis that a covert argument is realized

\(^{17}\) Although a loco/temporal argument in Italian is normally realized as a PP, it does not necessarily need to be so. Nominals like \textit{questa settimana} ‘this week’ or adverbials like \textit{qui} ‘here’ are possible as well.

\(^{18}\) As we will see below, LOC gets a deictic interpretation whenever it occurs in preverbal subject position. Then, it is not clear whether we should assume that LOC contains more than just a D-feature. The presence of additional features may render our hypothesis of LOC as the optimal checker of [+D] less straightforward. On the other hand, the deictic interpretation of LOC clearly is a default option which makes plausible the hypothesis that LOC does not have phi-features of its own (see also section 4.3).

\(^{19}\) Observe that when no overt PP is present, like in (47a), the clitic\(ci\) gets a deictic (speaker-oriented) interpretation. This exactly parallels the interpretation of LOC in sentences like (?). There is, however, a crucial difference between LOC, on the one hand, and the clitic\(ci\), on the other. In (47b)\(ci\) is an expletive base generated in INFL and not an argument (see Burzio 1986).
in syntax as a pro or as a null clitic endowed with D-features shows that the
categorial distinction between DPs and PPs is blurred when these have a
covert status. The variations in categorization of arguments may depend on
the richness of the morphological system of the relevant language. A langua-
ge with rich morphology categorizes the different theta roles in DPs bearing
different affixes. A language with a more limited morphology instead relies
on an alternative option by exploiting the availability of prepositions.

That the categorial status of an argument does not reflect deeper
thematic differences was already shown by Bresnan (1994). Bresnan observes
a discrepancy between locative arguments in English and their counterparts in
a language like Chichewa: in English the locative is categorized as a PP, in
Chichewa as a DP. Bresnan suggests that this difference may derive from a
typological difference in the grammatical systems of Case and Gender,
whereby Gender must be understood as ‘kind’, not necessarily as ‘sex’. In
Chichewa locatives are gender classes, i.e. "...they are part of a system that
signals contrasts between grammatical categorizations of people, things,
locations, qualities, and the like- kinds of things (genera), designated by NPs
..." (Bresnan 1994:116-117). In English locatives do not indicate a gender,
but a Case opposition, which can be expressed by categorizing them as PPs,
(i.e. the oblique case of PPs versus the direct case of DPs). Evidence for this
idea is provided by the fact that Chichewa has eighteen different gender
classes, involving determiners, pronouns, adjectives, modifiers, among others.
Clearly, in languages where gender is extremely reduced, such as in English
and, to a certain extent, in Italian, the function of the gender classes is taken
over by the preposition.

Let us put aside for the moment the issue of the status of LOC and
assume that the general lines of the analysis suggested so far are correct.
Then the constructions in (46a-b) should be accounted in the following way.
The verb morire and the verb telefonare obligatorily select a loco/temporal
argument (LOC). This argument can either be explicitly realized as an overt
PP or remain covert. In the latter case, LOC checks the strong D-feature of
INFL instead of the subject which can thus remain in its base position. (46a-
b) are thus represented as in (48):

48  a      LOC è morto Fellini.
               (just now/I have just heard it) died Fellini
b  LOC ha telefonato Beatrice.
    *(us/this place) called Beatrice*

### 3.4.2 The EPP and Economy

We discuss now the second assumption, which holds that satisfaction of the EPP by means of LOC is less costly than by raising of the subject. In the minimalist framework, every operation is evaluated in terms of economy. Yet, by hypothesis, strong features have to be checked before Spell-Out, even if covert checking represented the cheaper option (see Chomsky 1995, Ch.4).

Consider (46a-b). The strong D-feature of INFL must be checked before Spell-Out by a category bearing the same feature. In constructions like (46), two options are evaluated. One is represented by raising of the subject to Spec of INFL, the other by raising of LOC. Let us examine these two options in depth.20

We start by considering a sentence like (49), but with an overt PP.21 We know, by now, that when the locative argument is overt and non-deictic, the wide focus interpretation is possible only if the subject occurs in preverbal position.

49  Beatrice ha telefonato a Dante.
    *Beatrice called Dante*

Suppose (49) has a numeration containing the following relevant items22:

---

20 For ease of exposition, I will abstract away from additional functional projections like Aspect phrase and Auxiliary phrase that may be present in a clause with a complex tense. I will assume that the past participle raises to AGRo and then to INFL for checking of some strong V-features and that the auxiliary is generated in AGRs. Notice, however, that if the past participle raises to INFL, object shift in in (45b) and (45c) cannot be excluded. The adverb *mai* may be adjoined to the right of AGRs or to VP, respectively, and the object may occupy the scrambled position, Spec of AGRo.

21 In Italian the verb *telefonare* ‘call’ selects an indirect object which we considered as an abstract locative argument.

22 Again, for ease of exposition, I will leave out those features that are not strictly relevant for the present discussion.
These items are now inserted into the structure by Merger (the structure-building operation). (51) represents the structure after merging of all the items of (50), except for INFL, and checking of the V-feature of AGRo.

Now we proceed with merge and add INFL to the structure. The verbal complex in AGRo is attracted by the strong V-feature of INFL. At this point the EPP has to be satisfied. The strong D-feature on INFL attracts the closest element bearing a D-feature. Consider the new structure:
Clearly, (52) shows that the subject is the only possible checker as, in accordance with the Minimal Link Condition, it is the closest element bearing the relevant feature.

Consider now (46b), repeated in (53):

53 Ha telefonato Beatrice.

*called Beatrice (here/to this place)*

The hypothesis is that the subject occurs in postverbal position because it does not need to raise. In sentences like (53) the EPP is satisfied by the covert argument LOC. Let us see whether the theoretical framework we adopt supports this analysis.

The numeration of (53) contains the following items:

54 D V D INFL AGR
   /Beatrice/ /ha tel./ /el/ [+D] [V-]
   [+human] [tense] LOC NOM
   NOM [V-] [tense]
Recall that LOC only bears a D-feature. Consider (55) which gives the structure of (53) after merger of all the items of the numeration and after raising of the verb to the higher head INFL:

The system always chooses the optimal checker (cf. Chomsky 1995). In other words, if it is correct to assume that the covert argument in (55) satisfies the EPP, then we must show that this option is cheaper than subject raising. There are two cases in which checking by LOC may be less costly than checking by the subject: a) when AGRo has a strong D-feature and b) when LOC is a clitic. These two options are examined in section 3.4.2.1 and 3.4.2.2, respectively.

3.4.2.1 Option 1: LOC is a pro

Assume that LOC is a pro. This is equivalent to saying that LOC is an empty DP. If this hypothesis is correct, then pro carries a D-feature. At the stage where the EPP has to be satisfied the derivation has a structure like in (56):
The strong D-feature of INFL attracts the closest category carrying a D-feature. In this case only the overt subject is eligible for checking since the other potential checker, \textit{pro}, is too far embedded inside the VP. The conclusion seems to be that satisfaction of the EPP by \textit{pro} is ruled out by the system as too costly an operation. This would imply that subject inversion can only be derived by assuming an additional rule that moves the subject rightward and adjoins it to the right of the VP. Clearly, an account that dispenses with such a construction-specific rule is preferable. Therefore, let us explore an alternative solution.

Let us assume then that AGRo bears a strong D-feature. Although, to my knowledge, there is no clear evidence for overt object movement in Italian (see Belletti 1990), the discussion of this option will provide us with a better understanding of the interaction between the underlying structure of a clause in this language and the considerations of economy that govern syntactic operations in general.

Consider (57). The verb has raised to AGRo. At this point of the derivation the strong D-feature of AGRo must be checked.
The structure contains two possible checkers for the strong D-feature of AGRo: pro and the overt subject. We start by examining the option with pro. Raising of the verb to AGRo has made Spec of VP and Spec of AGRoP equidistant from pro, hence pro may skip a possible landing position (Spec of VP) and raise directly to Spec of AGRoP. Case-mismatch is excluded as, by assumption, pro carries only a D-feature. The next step consists in checking of the strong D-feature of INFL. The verbal complex has moved further to INFL. At this stage the structure looks like (58):

---

23 If pro bears only a D-feature, satisfaction of the EPP could involve feature attraction without pied-piping of lexical material.
Both the overt subject and pro are eligible for feature checking in INFL, as V-raising has made Spec of AGRoP and Spec of IP equidistant from the subject. Is this a case of true optionality? Recall that the notion of optionality is not compatible with the minimalist perspective we adopt in this study. What we have to show is that the preference for pro as the optimal checker is determined by considerations of economy.

A possible explanation takes into consideration the properties of the Attraction operation and exploits the phonological status of the two arguments. Strictly speaking, checking only involves attraction of the relevant features. Yet, conditions on phonological convergence require that the lexical material present on the node move along with the features.

Consider now (58). A first possibility is that the EPP is satisfied by the subject. Then, for phonological convergence, the whole DP raises along with the D-feature. This operation has an interesting consequence. If the entire DP raises, Case features and phi-features are taken along as `free riders' and are checked overtly as well.

The alternative option is that the EPP is satisfied by pro. Since this pro really is only a D-feature, no overt material needs to be moved. However, at
LF we still need an operation of covert movement for checking of the Case and phi-features of the subject DP.

As briefly discussed in section 1.5.1, Chomsky (1995) seems to suggest that, other things being equal, phonological ‘lightness’ may be an economy criterion for the choice of the optimal checker. In other words, a checker that carries along only features should be preferred above one that involves pied piping of lexical material. If it is correct to assume that there is a phonological notion of economy, it follows that in constructions like (58) the EPP must be satisfied by \textit{pro}, as this is the more economical option. This analysis correctly predicts that when LOC is covert, subject inversion is obligatory.

However, there remains an obscure point. If the EPP is satisfied by subject raising, the D-feature is checked along with Case and phi-features. Conversely, if the EPP is satisfied by LOC, only the D-feature is checked. Then the features present on the head of the subject (Case and phi-features) have to be checked at LF. In other words, the first option requires just one ‘heavy’ operation before Spell-Out. The second option requires two operations: one ‘light’ before Spell-Out, plus one ‘light’ at LF. Which of the two options is the more economical one? A possible answer is provided by Chomsky (1995) himself. In Chapter 4 he explicitly claims that economy conditions have to be evaluated in local terms. This means that each step in the derivation must be compared with its possible alternatives, disregarding previous or subsequent stages of the derivation. On this view of economy, it is conceivable that phonological heaviness may play a role and that checking by means of \textit{pro} is preferred.

Let us turn briefly to the structure we started with, in (57). Our original question was: in which sense is LOC the optimal checker of the strong D-feature of INFL? What we have been discussing so far is the case that the strong D-feature of AGRo is checked by \textit{pro}. However, the clause contains another potential D-feature checker: the subject. Let us also examine this option.

The subject raises to Spec of AGRoP in order to check the strong D-feature of AGRo. If AGRo has Accusative case, the derivation crashes as the consequence of Case mismatch between the subject and AGRo. On the other hand, if AGRo does not bear Case the subject will retain the Nominative
Case feature and check it later at INFL.\textsuperscript{24} At this point the strong D-feature of INFL has to be checked. Consider the structure in (59):

\begin{center}
\begin{tikzpicture}
  \node (IP) {IP} [grow=up,anchor=north]
    child {node (Spec) {Spec} [grow=down,anchor=south]
      child {node (INFL) {INFL\textsubscript{[D-]}} [grow=left,anchor=east]
        child {node (Spec) {Spec} [grow=down,anchor=south]
          child {node (AGRoP) {AGRoP} [grow=right,anchor=east]
            child {node (Spec) {Spec} [grow=down,anchor=south]
              child {node (AGRo') {AGRo'} [grow=left,anchor=east]
                child {node (Spec) {Spec} [grow=down,anchor=south]
                  child {node (AGRo) {AGRo} [grow=right,anchor=east]
                    child {node (Spec) {Spec} [grow=down,anchor=south]
                      child {node (VP) {VP} [grow=right,anchor=west]
                        child {node (V) {V} [grow=right,anchor=west]
                          child {node (VP) {VP} [grow=right,anchor=west]
                            child {node (V) {V} [grow=right,anchor=west]
                              child {node (PP) {PP} [grow=right,anchor=west]}}}}}}}}}}}\
        }\
      }\
  }\
  child {node (I') {I'} [grow=right,anchor=west]
    child {node (Spec) {Spec} [grow=down,anchor=south]
      child {node (AGRo) {AGRo} [grow=right,anchor=east]
        child {node (Spec) {Spec} [grow=down,anchor=south]
          child {node (VP) {VP} [grow=right,anchor=west]
            child {node (V) {V} [grow=right,anchor=west]
              child {node (VP) {VP} [grow=right,anchor=west]
                child {node (V) {V} [grow=right,anchor=west]
                  child {node (PP) {PP} [grow=right,anchor=west]}}}}}}}}\
  }\
\end{tikzpicture}
\end{center}

At this stage of the derivation, the strong D-feature of INFL can only be checked by the subject. \textit{Pro} is too deeply embedded and its movement to Spec of IP would violate the MLC. So, subject raising is the only possible option. The Case and phi-features of the subject are checked ‘for free’ in the same position. The resulting word order is S V LOC.

Recapitulating. Given the hypothesis that AGRo bears a strong D-feature, we explored two checking alternatives: the D-features of AGRo and of INFL are either checked by \textit{pro} or by the overt subject. After a few calculations we concluded that checking by \textit{pro} requires three operations: overt raising of \textit{pro} first to AGRo and then to INFL, plus covert raising of the subject at LF for checking of Case and phi-features. On the other hand, checking by subject raising seems to require only two operations: subject movement to Spec of AGRoP and then to Spec of IP. No covert raising is

\textsuperscript{24} The derivation would crash also in the case that AGRo bears phi-features as these are probably not compatible with the phi-features of the subject.
required in this case, as the D-feature of *pro* is interpretable and need not be checked.

Above we saw that, according to Chomsky’s Chapter 4, economy conditions apply locally, so, the number of steps necessary for checking of a certain feature does not play a role in this perspective. On the other hand, if economy is locally evaluated, we face again an instance of optionality, as *pro* and the subject are equidistant from the target node. This is problematic in two ways. As already discussed above, optionality is unacceptable in a minimalist framework like the one assumed in this study. In addition, the conclusion that both options are allowed cannot explain the fact that the most natural word order of the sentence has the subject in postverbal position. Therefore, in this case, too, the only way to account for this intuition is by relying on a variant of economy based on the phonological heaviness of the relevant constituents.

Summing up. In this section we evaluated the hypothesis that LOC is a *pro* carrying just a D-feature and that, as such, it represents the optimal choice for satisfaction of the EPP. This analysis encounters a series of problems. We briefly recapitulate them.

If we follow the standard assumption that AGRo in Italian does not have a strong D-feature, the inverted word order (LOC V S) cannot be derived. Raising of *pro* to INFL would violate the MLC, hence, the EPP can only be satisfied by subject raising. This analysis thus leaves the availability of the inverted word order unexplained.

Let us then hypothesize that AGRo in Italian does bear a strong D-feature. An immediate consequence of this assumption is the presence of an additional specifier (Spec of AGRoP) for the checker on its way to Spec of IP. Then, if *pro* moves to this position, both *pro* and the subject are equidistant from the target node Spec of IP. However, equidistance implies optionality, as either the subject or *pro* are possible options for satisfaction of the EPP. Since our theoretical framework does not allow optionality, we can rescue this analysis only by assuming that the conditions of economy are sensitive to a phonological notion of heaviness.

The problematic points we have just reviewed weaken the analysis of LOC as a *pro*. With one eye to the problems we have discussed so far, we now turn to examine the alternative option: LOC is a clitic.
3.4.2.2 Option 2: LOC is a Covert Clitic

In the previous section I argued that LOC may just be an empty D, as in (60):

\[ D_{\rightarrow D} \]

According to Chomsky (1995:242), "A category that does not project any further is a maximal projection XP, and one that is not a projection at all is a minimal projection \( X^{\text{min}} \). For certain elements the two properties can coincide so that we can speak of an \( X^{\text{max}} \) and an \( X^{\text{min}} \) at the same time. The classical example of elements of such a dual X'-nature are clitics.

The structure of LOC in (60) seems to fit this description. LOC is a D, as we assumed that it carries a D-feature. It is an \( X^{\text{max}} \) since it does not project. On the other hand, it is also an \( X^{\text{min}} \) since it is not projected, either. Hence, from a theoretical point of view, LOC may be analyzed as a clitic.\(^{25}\) Let us explore this option.

According to our initial hypothesis, LOC satisfies the EPP instead of the subject. What we have to show now is that LOC is the optimal checker of the strong D-feature of INFL.

LOC is generated VP-internally, but, being a clitic, it ends up as a head adjoined to INFL. LOC might first move to AGRo and from there to INFL where it adjoins to the finite verb. However, by hypothesis, LOC contains only a D-feature, hence its movement to AGRo is not independently motivated. I would rather suggest that LOC may incorporate into the lexical verb and raise with it to the target node INFL. Raising of LOC to INFL is thus justified by its clitic status. Since LOC bears a D-feature, it automatically becomes the closest, hence, the optimal checker for the strong D-feature of INFL. As expected, the subject remains in its base-position.

Let us go back to our initial example (53), repeated in (61):

\[ \text{Ha telefonato Beatrice.} \]

\( called \text{ Beatrice (here/to this place) } \)

\(^{25}\) An analysis of LOC as a clitic may be supported by its peculiar interpretive properties. Like clitics, LOC can only be assigned an interpretation which is somehow dependent on the context: the familiar interpretation in the case of clitics, and the deictic, speaker-oriented interpretation in the case of LOC.
(62) is the structure of (61) after satisfaction of the EPP by the clitic LOC:

Since the only reason for the subject to raise overtly was satisfaction of the EPP, the occurrence of LOC in INFL makes subject raising more costly, hence impossible.\(^{26}\) Observe as well that, if satisfaction of the EPP is parasitic on the cliticization of LOC on INFL, a further extension of the INFL-projection can be dispensed with, implying some additional `savings' on the constructional operations. The availability of subject inversion in sentences with the telefonare-type of verbs is thus derived from the syntactic properties of these constructions.

Summing up. In this section we have considered the hypothesis that the covert loco/temporal argument LOC may be a clitic. The analysis of LOC as a clitic has a number of theoretical advantages. It accounts for the \(X_{\text{min}}/X_{\text{max}}\) behaviour of this element, for its occurrence in a position higher than the subject and for the D-feature it carries. In the Appendix we will examine some properties of direct object and indirect object clitics in Italian that seem to provide some empirical support for the analysis proposed here.

\(^{26}\) Obviously, the Case and phi-features of the subject will have to be checked by covert movement at LF.
3.5 Case and Phi-features
Before concluding this section, let us briefly consider the consequences of my claim for the other features which are normally associated with subjects, i.e. Nominative Case and phi-features. Remember I assumed that the EPP involves only checking of a strong D-feature on INFL. In the case of subject raising, Case and phi-features are checked as a consequence of the fact that these features move together with the DP as free riders in overt syntax. However, if the EPP is satisfied by LOC, and the subject remains in its base position, Case and phi-features must be checked by an independent operation. Clearly, LOC cannot check these features. As illustrated in (63) the subject in postverbal position still carries Nominative Case and determines the agreement properties of the verb:

63  a  LOC ho chiamato io/*me
    LOC has called I\textsubscript{nom}/me\textsubscript{acc}
  b  LOC è arrivata/*sono arrivata Beatrice
    LOC is arrived-FEM/are arrived-FEM

This can easily be explained if we take the view that Case and phi-features of the subject are checked at LF.

3.6 Some Predictions
Consider again (48), repeated for convenience in (64):

64  a  LOC è morto Fellini.
    (just now/I have just heard it) died Fellini
  b  LOC ha telefonato Beatrice.
    (us/this place) called Beatrice

Considerations of economy predict that subject inversion is never optional. Since checking by means of LOC involves a cheaper operation, the system will have to choose this option, in compliance with the conditions on convergent derivations. Consider then the possible answers to an out-of-the-blue question in (65):
65  Che cosa è successo?  
what happened  
a  Dante ha telefonato a Beatrice.  
Dante called Beatrice  
b  *Ha telefonato a Beatrice Dante.  
called Beatrice Dante  
c  Ha telefonato Dante.  
called Dante  
d  Dante ha telefonato.  
Dante called  

The unwellformedness of (65b) with a wide focus reading is due to an EPP violation: the subject sits in its base position and the locative, being overt, cannot raise enough to check the strong D-feature of INFL. The only possible word order is thus S V LOC, like in (65a).

Consider now (65c) and (65d). The locative argument is not overtly realized, hence, by hypothesis, it should be the optimal candidate for satisfaction of the EPP. We would thus expect that only the inverted word order should be allowed. Yet, (65d) appears to be perfectly fine as well.

However, (65d) is not a counterexample to our analysis. It rather provides empirical support for the thesis that inversion is determined by syntactic conditions in the first place. As observed in chapter 1, the predicate in (65d) does not have the same meaning as the predicate in (65c). Whereas in the former telefonare has the indefinite interpretation of ‘making telephone calls’, in the latter it can only mean ‘call us/this place’. This interpretive difference explains why (65d) may sound rather odd in an out-of-the-blue context, where the clause gets an all-focus (hence, all-new) interpretation. On the other hand, (65d) is perfectly felicitous in a context like (66), where the meaning of the verb telefonare is determined by the actual situation:

66  Context: We have all been waiting for Dante’s telephone call, to tell us it was all over.  
A:  What happened?

27 The term indefinite interpretation implies that the meaning of the predicate is determined by the context. Hence, in a specific situation, (65d) allows the interpretation that Dante calls us/this place.
B: Dante ha telefonato.

*Dante called*

*Dante made the telephone-call we had been expecting*

Or in a sentence like (67), where the adverb emphasizes the indefinite interpretation of the predicate:

67 Dante ha telefonato tutta la mattina.

*Dante called (made telephone-calls) the whole morning*

These interpretive differences now have a syntactic explanation. In section 3.1 of this chapter I advanced the hypothesis that the numeration of (65c) may differ from that of (65d). Both instances of *telefonare* imply a goal-role. However, in the one case this role remains implicit (i.e. it is present only at a lexical level), in the other it is realized in syntax as a covert argument. From this distinction it follows that the two clauses have different numerations:

68  

a Dante ha telefonato.

S V

b Ha telefonato Dante.

S V LOC

This structural difference accounts for the different word orders in (68). In minimalist terms, the EPP is satisfied by the optimal checker (the cheapest option). In (68b) this is LOC, as raising of LOC is more economical than subject raising. However, in (68a) there is no choice: since the subject is the only constituent carrying the relevant feature, subject raising is obligatory and inversion cannot occur.

4 **Overt Arguments and Inversion**

So far we have discussed instances of subject inversion which reveal the presence of a covert loco/temporal argument selected by the verb. However, as was observed in chapter 1, there is another syntactic environment in Italian which allows subject inversion with wide focus. This is schematically represented in (69):
This type of inversion construction is characterized by the presence of an overt PP in clause-initial position. Like covert arguments, the overt PP can either be a locative or a temporal complement.28

70  

a  In questa università hanno studiato molti linguisti.  
*in this university studied many linguists*

b  Quest’anno si sono laureati molti studenti.  
*this year got their degree many students*

As we will see in more detail below, the PP is thematically related to the verb.29 When the clause-initial PP is missing, inversion with the wide focus reading is not possible. I will refer to this type of inversion by the term *locative inversion*, by analogy with similar constructions found in English or in totally unrelated languages such as Chichewa.

These facts point towards a correlation between covert or overt loco/temporal PPs and the occurrence of the subject in postverbal position. Covert loco/temporal arguments and their possible syntactic role were the topic of the previous section. Now we turn to the examination of their overt counterparts, in an attempt to understand what their relevance is to the syntax of inversion and whether it is possible to reduce the two phenomena to one and the same underlying mechanism.

Consider some more examples of what I call locative inversion in Italian:

71  

a  In questo palazzo ha vissuto il Leopardi.  
*in this building lived Leopardi*

b  In questo albergo hanno lavorato molte donne straniere.

---

28 Hence, also in the case of overt PPs the term ‘locative’ must also be understood as referring to an abstract notion of space and time.

29 However, it must be noted that the thematic link between the loco/temporal argument and the verb that selects it is not always very clear. For verbs that allow inversion with a covert argument, like the unaccusative *arrivare* ‘arrive’, we can speak of a real instance of subcategorization. Inversion with a clause-initial overt PP seems to involve a somehow looser thematic relation (see Calabrese 1991).
Notice that (71a) and (71b) are perfectly felicitous with a wide focus interpretation, i.e. they are adequate answers to out-of-the-blue questions of the type "what happened?" or "what’s the matter?". The availability of the wide focus reading in (71) tells us something about the underlying syntactic structure of the clause involved. Given the theoretical framework I assume in this study, the wide focus interpretation of a sentence is determined by the nuclear stress rule applying to convergent derivations. The inverted sentences in (71) have a wide focus reading. This means that they have undergone the nuclear stress rule. Since only convergent derivations can be input to this rule, we conclude that the VS word order in (71) must have been determined by syntactic factors and licensed by conditions of economy.

This section is thus devoted to a closer analysis of the syntax underlying locative inversion constructions in Italian. The account I will put forward revolves around the hypothesis that subject inversion is strictly related to requirements imposed by the EPP. More specifically, I will show that the occurrence of the subject in its base position is made possible by an alternative, more economical device for checking the strong D-feature of INFL. This additional possibility for satisfaction of the EPP is made available by the presence of the overt locative in clause initial position. Although superficially different, inversion with a covert argument and inversion with an overt locative will appear to be variations of the same basic pattern, which is based on the idea that the strong D-features of INFL do not necessarily have to be checked by the subject. When alternative and less costly options are available, the subject remains in its base position reflecting the word order typical of inversion constructions.

4.1 Locative Inversion in Italian
Let us now briefly summarize the main characteristics of subject inversion with overt PPs (cf. chapter 1). The following examples must be interpreted as out-of-the-blue.

The overt PP appears to have the following properties: it must occur in clause-initial position:
Chapter 3 A Minimalist View of the Syntax of Inversion

72 a In questo palazzo ha vissuto Dante.
   *In this palace lived Dante*

b #Ha vissuto in questo palazzo Dante.
   *lived in this place Dante*

c #Ha vissuto Dante in questo palazzo.
   *lived Dante in this place*

Unlike the constructions we discussed in the previous section, here the PP cannot be covert.\(^{30}\)

73 a *Ha vissuto Dante.
   *lived Dante*

b #Ha studiato Chomsky.
   *studied Chomsky\(^\text{31}\)*

The finite verb must agree with the postverbal subject:

74 a In questa università ha\*hanno studiato Chomsky.
   *in this university have-sg\*have-pl studied Chomsky*

b In questa università *ha\hanno studiato i miei cugini.
   *in this university *have-sg\have-pl studied my cousins*

The preposed PP must be compatible with a deictic interpretation:

75 a #In giardino ha lavorato Capability Brown.
   *in garden worked Capability Brown*

b In questo giardino ha lavorato Capability Brown.

---

\(^{30}\) The fact that the selected loco/temporal argument can sometimes remain implicit and sometimes has to be realized overtly may depend on the intrinsic semantics of the relevant verbs (cf. Jackendoff 1987). So, verbs like *arrivare* select a specific goal, a sort of endpoint of the event which, by default, gets the deictic interpretation; verbs like *studiare* do not select a specific goal/endpoint, hence the deictic interpretation would not give the correct meaning of the predicate.

\(^{31}\) The difference in acceptability between the two examples in (73) depends on the thematic structure of the predicate. Whereas *vivere* ‘live/reside’ requires the obligatory presence of an argument, the verb *studiare* ‘study’, does not. In this case (73b) becomes acceptable with a narrow focus reading of the subject.


in this garden workedCapability Brown

Finally, the locative PP must be an argument selected by the lexical verb:

76  a  Con questa donna ha vissuto Dante.
    with this woman lived Dante

76  b  In questo palazzo ha vissuto Dante.
    in this palace lived Dante

Therefore, if the lexical verb selects a loco/temporal argument, and if the selected PP shows the properties we have just listed, subject inversion with a wide focus reading of the clause becomes available. As stated before, the line of reasoning I will follow is based on the assumption that if the subject occurs postverbally, in reality, it occupies its base position. Given the EPP, this is possible only in one case, i.e. if there is another element in the clause that can raise instead of the subject and check the strong D-features of INFL. In the previous section we saw that the covert loco/temporal argument selected by the lexical verbs is such an element.

My explanation for the cases of locative inversion will essentially follow the same line. Although these constructions show an overt PP, I will argue that their VP-internal structure is identical to that of the arrivare-type verbs, i.e. that the thematic role of the PP is projected in syntax as a cluster of (D)-features (hence, as a covert argument) and that the overt PP is base generated in clause initial position, for reasons I will turn to in a moment. The EPP is then satisfied by attraction of the D-features of the covert argument, by analogy with what we proposed in the previous section.

This analysis is quite appealing since it unifies two different instances of inversion by capitalizing on a number of properties these constructions have in common. However, as we will see, this approach is not without problems.

4.2 The Syntax of Locative Inversion
The hypothesis is that, in inverted constructions, the loco/temporal argument satisfies the EPP instead of the subject. So, we have to show that this idea is conceptually and empirically adequate. In other words, the explanation of this
phenomenon should fit the minimalist background we are assuming and it should reflect the properties of the PPs involved in these specific contexts. More precisely, checking of the strong D-features of INFL implies that a) the PP itself carries D-features, b) that it occurs in a configuration suitable for checking and c) that this operation is less costly than actual subject raising. The three options we will discuss below will be evaluated in light of these three conditions.

In section 2.4 we observed that locative inversion constructions are perfectly felicitous with the wide focus reading. So, in an out-of-the-blue context, (77a) is fine. Notice, however, that (77b) too is felicitous with a wide focus interpretation.

77  a  In questo albergo ha vissuto Maria Callas.
    \textit{in this hotel lived Maria Callas}

   b  Maria Callas ha vissuto in questo albergo.
    \textit{Maria Callas lived in this hotel}

The cases in (77) may appear to be instances of genuine optionality. However, from a minimalist point of view, optionality should be excluded, as every operation inside the computational system is solely dictated by the necessity of morphological checking.

Therefore, an account in minimalist terms will have to show that this optionality is only apparent and that there is a distinction of some sort between a sentence like (77b) and its inverted counterpart (77a). There are two possibilities for the system to deal with the optionality problem. Either the relevant sentences have different numerations (they select different items from the lexicon), or they share the same numeration, but each clause gets a different interpretation (see Golan 1993, Reinhart 1993, 1995, Ruys 1992, Fox 1994). Below I will show that for empirical reasons and theory-internal considerations, the examples in (77) should be best analyzed as having different numerations. Before discussing both options in detail, a brief digression is needed in order to introduce Reinhart’s (1995) notion of interface economy.
4.2.1 Interface Economy

Suppose the sentences in (77) have the same numeration. Since every numeration fixes a reference set (i.e. a set containing all possible alternative derivations for the same collection of lexical items) both (77a) and (77b) are members of the same set. According to Chomsky (1995), derivations belonging to the same reference set are evaluated on the basis of considerations of economy. The goal of this procedure is the selection of just one optimal derivation: the cheaper one.

However, as pointed out by Golan (1993) and Reinhart (1993), this economy condition is too strong. Empirical evidence from multiple WH constructions shows that if derivations are evaluated only in terms of economy, certain constructions appear to be incorrectly ruled out (see also Fox 1994). Consider the following instance of multiple WH:

78  a  Who wonders [\_[CP who \_[IP t said what]]
   b  Who wonders [\_[CP what \_[IP who said t]]

The strong Q-feature of C must be checked against the Q-feature of a category bearing the same feature. Considerations of economy (i.e. the MLC) predict that only (78a) will be allowed by the system since raising of the subject who is a less costly operation than raising of the object what. However, (78b) is a perfectly felicitous sentence in English. In order to account for (78b), Golan argues that economy must be relative to interpretive needs. In other words, a more costly derivation is permitted by economy if it is needed to derive a required interpretation not available otherwise.

Reinhart (1995) elaborates on this idea and introduces a new notion of economy: interface economy. She points out that interface economy must be distinguished from derivational economy. Derivational economy is not violable. By contrast, interface economy is sensitive to interface needs. For the cases we are discussing here the interface need is a different interpretation.

This view of economy has important consequences for the treatment of markedness in a minimalist perspective. Satisfaction of an interface need requires the use of a more costly derivation, i.e. of a marked operation which is uneconomical by definition. Yet, no markedness is perceived when the used operation is the only possibility to derive a certain interpretation.
4.2.2 Same Numeration

Let us turn again to (77), repeated for convenience in (79):

79  a  In questo albergo ha vissuto Maria Callas.
    *in this hotel lived Maria Callas*

    b  Maria Callas ha vissuto in questo albergo.
    *Maria Callas lived in this hotel*

If these sentences share the same numeration, we predict that they will each have a different interpretation, since, if we follow Reinhart (1995), this is the only way to explain why economy tolerates a more costly derivation. The two examples do indeed differ in meaning; (79a) has the narrow focus on the subject *Maria Callas* whereas (79b) has the narrow focus on *questo albergo* ‘this hotel’. On the other hand, we just saw that both sentences are appropriate answers to an out-of-the-blue question, i.e. they can both have a wide focus interpretation. In section 2 we argued that the wide focus interpretation can only be the result of Cinque’s (1993) Nuclear Stress Rule to wellformed derivations. If this analysis is correct, it follows that not only (79b), but also (79a) with the PPVS word order is a wellformed sentence, i.e. a possible output of the computational system and not the result of a marked operation.\(^{32}\) Compare (79) with (80):

80  a  #In albergo ha vissuto Maria Callas.
    *in hotels lived Maria Callas*

    b  Maria Callas ha vissuto in albergo.
    *Maria Callas lived in hotels*

Notice that the only difference between (79) and (80) is the presence in the former and the absence in the latter of the deictic *questo*. (80a) is not an appropriate sentence in an out-of-the-blue context. Hence, the absence of the wide focus interpretation suggests that this word order can only be derived by a marked operation.

\(^{32}\) Recall that we hypothesized that certain word orders like, for instance, the narrow focus reading of the subject in non-inversion verb contexts can only be derived by a marked rule.
These facts show that the status of (79a) calls for a (syntactic) explanation. The hypothesis that (79a) has the same numeration as (79b) does not give a satisfactory answer to this problem and leaves unaccounted for how the EPP could be satisfied in (79a). Therefore, we turn now to the examination of the alternative hypothesis: (79a) and (79b) have different numerations.

4.2.3 Different Numerations
If the sentences in (79) have different numerations, they do not compete with each other in terms of economy since each of them is the optimal choice out of the reference set to which it belongs.

Let us concentrate on (79a), repeated below:

81 In questo albergo ha vissuto Maria Callas.
in this hotel lived Maria Callas

The preverbal PP in (81) can be either analyzed as the result of a movement operation or as an instance of base generation. These options will be discussed in the two following subsections.

4.2.3.1 PP-raising
The occurrence of the PP in clause-initial position may be the result of movement. Consider (82), which schematically represents the structure of the derivation after PP-raising. For the moment I leave the functional projection FP unspecified.
A raising analysis opens up two possibilities: a) the PP raises to Spec of IP, hence it must have a strong D-feature (EPP). Or b) the PP is endowed with some other feature (for instance a feature involving topichood) which triggers raising to a functional projection higher than Spec of IP. Let us discuss both options.

In order to satisfy the EPP, the clause-initial PP must be endowed with a D-feature itself. Chomsky (1995) observes that the D-feature is a categorial feature, either of the DP-type, of the NP-type or of both. A PP normally consists of a P-head selecting a DP or an NP, as represented in (0):

```
83  a    PP
     P  DP
  b    PP
     P  NP
```

Hence, the complement of the P is a category bearing a D-feature, as required. The question, however, is whether [+D] is still `visible' when the DP is embedded in the PP-complex. The PP might inherit the D-feature of its NP complement, but this would require the stipulation of a percolation mechanism for which there is no empirical evidence.

Yet, there are well-known cases in the literature which show that the PP can show up in subject position. The relevant examples are repeated from Stowell (1981) and Hoekstra (1984):

```
84  a  Under the stars is the ideal place to sleep.
     b  Over Groningen is korter.
       by way of Groningen it is shorter
```

Therefore, as concluded in section 3.4.1, the hypothesis that the PP bears a D-feature may not be an unreasonable one.

However, the most problematic aspect of this analysis is its cost. In the theoretical framework we adopt, the only justification for choosing feature checking by a PP rather than by the subject is economy. PP-raising must be a more economical operation than subject raising. Let us compute the cost of PP-raising in the structure in (85):
(0) represents the derivation after V-raising. At this point the strong D-feature of INFL must be checked (EPP). According to the MLC, the subject is the only possible candidate for feature checking, since it is the closest category carrying the relevant feature. Satisfaction of the EPP by PP-raising is therefore excluded by the MLC.

Alternatively, we could assume that the PP moves to a clause-initial position, not for EPP reasons, but for the checking of some other feature. Obviously, the EPP must then be satisfied by subject raising. Interestingly the PP Subj V word order is not appropriate with a wide focus interpretation:

86  a Che cosa è successo?
    what happened
  b #In questo albergo Maria Callas ha vissuto.33
    in this hotel Maria Callas has lived

33 Notice that the PPSV word order is possible only in contexts of contrastive focus on the predicate, like in (i):
  i La Callas, ha cantato in questo albergo?
    did Callas sing in this hotel
   In questo albergo la Callas ha vissuto, non cantato.
    in this hotel Callas lived she did not sing
The fact that (86) cannot be interpreted with a wide focus reading indicates that the PPSV word order cannot be derived by the computational system. As the reader will recall, word orders that are the output of the computational system undergo the Nuclear Stress Rule, hence can have the wide focus reading (cf. section 2.2). Hence, a VP-internal analysis of the overt PP may be problematic.

### 4.2.3.2 PP-merging

PP may be generated in clause-initial position, either on Spec of IP or on some other functional projection.

If PP is merged in Spec of IP, the Case and phi-features of INFL are checked covertly by the correspondent features on the subject DP. However, merging of a PP in subject position should be possible only with expletives as these do not violate the principle of Full Interpretation. Further the phi-features of the constituent occupying the subject position normally agree with the phi-features of the verb. This happens to be the case in a small number of constructions with a preposed PP, like those quoted in (84), but this is not the case of locative inversion constructions like (81). In addition, if a PP can be base generated in that position, why should this not hold for other categories as well? In fact, even PPs appear to be subject to quite restrive conditions, as they must be loco/temporal arguments and have a deictic interpretation.

As suggested by Bresnan (1994), the overt PP may be base generated (in minimalist terms, merged) in a position which is higher than the Spec of INFL. This could possibly be the projection in which topic-like elements show up. A base-generation analysis could thus account for the presence of the overt PP in clause-initial position, without violation of conditions of economy. Yet, it is not clear how the EPP should be satisfied in this case. If PP is merged in a higher functional projection, the subject should raise to Spec of IP for checking of the strong D-feature of INFL, so the obtained word order would be PPSV, which is not the one we are trying to explain.

### 4.2.3.3 Overt PP and LOC

We proceed now to examine a third option which is also based on the assumption that the two clauses have different numerations. Consider (79) (repeated below):

```plaintext
Chapter 3  A Minimalist View of the Syntax of Inversion
```

```plaintext
The fact that (86) cannot be interpreted with a wide focus reading indicates that the PPSV word order cannot be derived by the computational system. As the reader will recall, word orders that are the output of the computational system undergo the Nuclear Stress Rule, hence can have the wide focus reading (cf. section 2.2). Hence, a VP-internal analysis of the overt PP may be problematic.

### 4.2.3.2 PP-merging

PP may be generated in clause-initial position, either on Spec of IP or on some other functional projection.

If PP is merged in Spec of IP, the Case and phi-features of INFL are checked covertly by the correspondent features on the subject DP. However, merging of a PP in subject position should be possible only with expletives as these do not violate the principle of Full Interpretation. Further the phi-features of the constituent occupying the subject position normally agree with the phi-features of the verb. This happens to be the case in a small number of constructions with a preposed PP, like those quoted in (84), but this is not the case of locative inversion constructions like (81). In addition, if a PP can be base generated in that position, why should this not hold for other categories as well? In fact, even PPs appear to be subject to quite restrive conditions, as they must be loco/temporal arguments and have a deictic interpretation.

As suggested by Bresnan (1994), the overt PP may be base generated (in minimalist terms, merged) in a position which is higher than the Spec of INFL. This could possibly be the projection in which topic-like elements show up. A base-generation analysis could thus account for the presence of the overt PP in clause-initial position, without violation of conditions of economy. Yet, it is not clear how the EPP should be satisfied in this case. If PP is merged in a higher functional projection, the subject should raise to Spec of IP for checking of the strong D-feature of INFL, so the obtained word order would be PPSV, which is not the one we are trying to explain.

### 4.2.3.3 Overt PP and LOC

We proceed now to examine a third option which is also based on the assumption that the two clauses have different numerations. Consider (79) (repeated below):
Although, superficially, both clauses contain the same lexical items, I will suggest that the numeration of (87a) contains an additional element, a covert loco/temporal argument (LOC) bearing a D-feature. After merger of all the elements contained in the numeration and checking of the strong V- and D-features, the derivation of (87a) will look like (88):

\[88\]

\[
\begin{array}{c}
\text{XP} \\
\text{PP} \\
\text{in questo albergo} \\
\text{X'} \\
\text{X} \\
\text{INFL} \\
\text{AGR_o'} \\
\text{LOC}_{[+D]}^\text{ha vissuto} \\
\text{AGR_o} \\
\text{Spec} \\
\text{M. Callas} \\
\text{V'} \\
\text{V} \\
\text{VP} \\
\text{t_j} \\
\text{t_j} \\
\text{t_i} \\
\text{t_i}
\end{array}
\]

(87b) instead has a structure like (89):
The structure presented in (88) is based on the hypothesis that the overt PP is base-generated in clause-initial position (as suggested by Bresnan 1994). However, I will assume that the strong D-feature of INFL is checked by the covert argument LOC. Can this approach justify the absence of subject raising? In other words, in which way is satisfaction of the EPP by LOC in (88) the more economical option?

The hypothesis that PP is merged in a higher functional projection F is in accordance with economy. However, there remains the problem of how the EPP may be satisfied. The assumption that the numeration underlying (88) contains a covert LOC (a clitic) may provide an interesting solution to this problem. By analogy with the inverted structures we discussed in the previous section, LOC may cliticize onto the verb in INFL and satisfy the EPP. The clitic status of LOC (i.e. its raising to INFL for independent reasons) would make subject raising unnecessary (or better, too costly), thus deriving the PPVS word order.

There remain some obscure points. Is there any evidence for the presence of LOC in locative inversion constructions? Does the clause-initial PP play any syntactically relevant role? In section 4.1 we observed that the clause-initial PP in locative inversion constructions has some peculiar prop-
Licensing and Interpretation of Inverted Subjects

Properties: PP must be an argument selected by the lexical verb and it must be compatible with a deictic interpretation. I will take these observations seriously and suggest the following account. The properties we have just seen show that PP is thematically related to the verb. However, as PP occurs in a position to which no theta role can be assigned, I will assume that PP must be coindexed with some null element carrying the relevant theta-role, in accordance with some form of the Projection principle. LOC could possibly be this element. In the next section we will briefly return to the nature of this link.

Summarizing, I propose that instances of locative inversion in Italian must be analyzed as clauses containing a subject in base-position and an overt PP coindexed with a covert loco/temporal argument LOC. LOC is generated VP-internally (in the thematic position) and raises for checking of the strong D-feature of INFL.

As discussed in section 4.2.1, the hypothesis that a locative inversion clause belongs to the same reference set as its non-inverted counterpart encounters serious problems on the empirical and theoretical level. By contrast, the alternative hypothesis that a locative inversion construction may have a different numeration than its SVPP counterpart appears to provide the basis for a more satisfactory account. More specifically, the approach I suggested provides an explanation for the fact that both the inverted and the non-inverted locative constructions have a wide focus interpretation. Since the two sentences are convergent derivations, both word orders undergo the Nuclear Stress Rule which determines the wide focus reading (cf. section 2.2). In addition, the problems concerning the trigger for PP-preposing and the possible landing site for the moved category are now dispensed with under the assumption that the PP is base generated in clause-initial position.

Finally, along these lines, subject inversion (with a covert loco/temporal argument) and locative inversion (with an overt, clause-initial PP) can be given a unified account which is compatible with minimalist assumptions.
4.3 Deixis

In the previous section we established a correlation between subject inversion and locative inversion in Italian, by suggesting that in both cases the clause contains a covert loco/temporal argument (LOC) that satisfies the EPP instead of the subject. However, the presence of an overt locative in clause-initial position appears to be crucial for a wide focus reading of the postverbal subject of certain verbs. Verbs like vivere ‘live’, studiare ‘work’ etc. allow a postverbal subject with a wide focus interpretation only if there is an overt PP in clause-initial position. In this section we will speculate a little about the possible role of this PP.

As observed above, one of the distinguishing properties of PPs occurring in this type of construction is that they are thematically related to the lexical verb. According to the framework assumed in this study, arguments are projected in syntax inside the VP. This implies that although the overt PP shows up in clause-initial position, its theta role is projected into the VP-internal complement position. This was the reason for assuming that the PP is coindexed with LOC.

Another characteristic of locative inversion is that the DP-complement of the clause-initial PP must have a deictic interpretation. Consider the examples in (90):

90 a In questa fabbrica hanno lavorato molte donne straniere. 
*in this factory worked many foreign women*

b Qui ha vissuto mio nonno. 
*here lived my grandfather*

c #In Lussemburgo ha vissuto mio nonno. 
*in Luxembourg lived my grandfather*

Notice that the overt locative argument does not necessarily have to be realized as a PP. The overt adverb in (90b) is equally perfect. What is peculiar to these constructions is rather the fact that, both in (90a) and (90b) the locative has a deictic meaning and is interpreted as referring to a speaker-oriented location or time. The infelicity of (90c) shows that the availability of the deictic interpretation is crucial for the licensing of this word order. Inversion constructions with verbs like arrivare ‘arrive’ or telefonare ‘call’ do not require an overt locative. Yet, interestingly, deixis emerges again in
the interpretation of the covert loco/temporal argument selected by these verbs (cf. section 2.3.1). Hence, there seems to be a particular correlation between deixis and inversion constructions. More precisely, the deictic interpretation appears to correlate with the presence of a covert loco/temporal argument.

These observations could be explained in the following way. Since deixis is related to the presence of empty D's it may have the function of assigning a default interpretation to the spatial and temporal variables of the proposition, in our case, to LOC. If the overt complement is absent, the default interpretation may refer to the speaker’s domain.

Yet, if LOC gets a deictic interpretation by default, why is the presence of an overt PP obligatory in inversion contexts containing verbs like lavorare ‘work’ or vivere ‘live’? I believe that the explanation of this puzzle must be sought in certain lexical properties of the different verbs involved. Verbs like arrivare belong to a different aspectual class than verbs like vivere. We observe that stative verbs (like vivere) do not allow the deictic interpretation of the covert argument. However, the deictic interpretation becomes available if LOC is identified by a preposed overt PP.

The presence or absence of the overt PP seems to be related to the nature of the selected argument. Intuitively, verbs that inherently involve an endpoint of the action, a telos, may allow a default interpretation of their covert argument. Converely, verbs that do not express such a Goal role cannot be interpreted by default, hence they require a further specification of their complement that can only be achieved by the presence of an overt PP, either in argument position or somehow linked with it.

The role of deixis appears thus to be a pragmatic one. When the obligatory Goal argument of a verb is not lexically realized, its content is recovered by a pragmatic procedure that assigns a deictic interpretation to the covert LOC.

4.4 The Comparative Aspect

The phenomenon of locative inversion is common to many typologically different languages (see Bresnan & Kanerva 1989, Bresnan 1994, Freeze

---

34 See Calabrese (1991) for interesting observations about the role of telicity in subject inversion constructions.
1992). For more closely related languages, like English, Dutch and Italian, a syntactic account has been proposed which is based on a movement approach (see Coopmans 1989, Hoekstra & Mulder 1990, Freeze 1992, and references cited in these studies). As discussed in section 4.2.1, an analysis in terms of movement is unsatisfactory in light of minimalist theory since it raises additional problems concerning the nature of the trigger for movement and the possible landing site for the preposed PP.

However, interestingly for the present discussion, Coopmans’ analysis also emphasizes the correlation existing between the phenomenon of (locative) inversion and the presence in a language of special strategies for licensing and interpretation of an empty category (i.e. the pro-drop properties). Coopmans assumes that in locative inversion constructions in English the overt PP is moved into Spec of CP, from where it identifies the expletive pro in standard subject position. Since English is not a pro-drop language, the identification of the empty expletive requires government and feature percolation by a lexical category. Conversely, in a pro-drop language like Italian, the expletive pro in subject position is identified by the pronominal features of INFL. This analysis provides a unified account for the two phenomena of subject inversion and locative inversion and explains why the latter requires the presence of a locative whereas the former does not. However, this analysis also leads us to the conclusion that Italian either does not have locative inversion, or, if it does, it is a phenomenon of a different nature.

In the previous sections evidence was given for the existence in Italian of locative inversion, along with standard subject inversion. In fact, I suggested that both phenomena have the same underlying structure and that superficial differences, like the presence of the overt PP, could be ascribed to the thematic properties of the relevant verbs. Here I will show that this analysis can be extended to English.

Bresnan (1994) observes a number of restrictions applying to locative inversion in English and in Chichewa. Interestingly, some of these restrictions appear to hold for Italian locative inversion as well. They involve the prohibition of inversion with transitive verbs and with certain intransitives. In addition, the PP must be an argument selected by the verb and the subject must be interpreted as the argument of which the location is predicated. In chapter 1 and in the first part of this chapter we saw that the same is true for Italian. These similarities across different languages suggest that locative
inversion is a general phenomenon, not necessarily related to the pro-drop parameter.

The syntactic account Bresnan offers for locative inversion in English and in Chichewa is embedded in a multidimensional functional approach, the LFG framework, which is not immediately compatible with the minimalist perspective in which our study is placed. However, Bresnan’s insights are at the basis of a unified account of this phenomenon, independently of the specific theoretical background one chooses. This is the argumentation behind the analysis I proposed in section 4.2.2.

Notice that a minimalist account has the advantage of providing a formal explanation for certain restrictions which have been observed in locative inversion in Chichewa, in English and in Italian. Recall that these languages do not allow inversion with transitive verbs and with a certain group of intransitives. In addition, the clause-initial PP in locative inversion must be an argument. The explanation of these facts is based on the assumption that inversion constructions involve the presence of a covert argument, a LOC with D-features, which represents the most economical option for satisfaction of the EPP. If this line of reasoning is correct, part of the restrictions follow straightforwardly. Transitive and intransitive verbs do not select a loco/temporal argument and thus have no other alternative for satisfaction of the EPP but subject raising. A subclass of transitives apparently falsifies this generalization. Consider (91). Given an out-of-the-blue context, only (91) is appropriate. In other words, only (91) can have a wide focus interpretation.

91a Bruto ha messo il pugnale in questo cassotto.

*In questo cassotto ha messo il pugnale Bruto.

*In questo cassotto ha messo Bruto il pugnale.

The transitive verb *mettere* ‘put’ obligatorily selects a locative argument. So, what blocks locative inversion with a wide focus reading in these constructions? The word orders in (91b) and (91c) are not available as input to the Nuclear Stress Rule, as they cannot be derived by the computational system. Let us see why not. Consider the diagram in (92):
Notice that the PP must be overt and that it is the most embedded element in the structure. Despite verb raising, satisfaction of the EPP by movement of the overt PP to Spec of IP is blocked by the Minimal Link Condition. Recall that this problem did not arise for the cases of inversion we discussed above, where the analysis of the covert argument as a clitic on the verb provided an independent reason for LOC to move higher than the subject and check the strong D-feature of INFL.

Finally, locative inversion raises the question of why this construction should be possible in the first place. Bresnan claims that it is triggered by presentational focus on the subject. In other words, the PP V S word order is chosen whenever the subject must get a presentational interpretation. In the approach I suggested this problem does not arise, as I assumed that a sentence with locative inversion has a different numeration than a standard SVPP-clause, so that the existence of two word orders is justified by the fact that the two sentences do not belong to the same reference set.

### 4.5 Summary and a Few Conclusions

In section 3.4 I argued that subject inversion is the result of a more economical device for satisfaction of the EPP: checking of the strong D-feature of INFL by LOC. (0) illustrates the structural pattern underlying subject inversion constructions (previous V-raising and satisfaction of the EPP):
Licensing and Interpretation of Inverted Subjects

93 \[
[\text{IP} \ \text{LOC}_i^\text{-}V_j \ [\text{VP} \ \text{SUBJ} \ t_j \ t_i]]
\]

The discussion above seems to point to a similar conclusion for locative inversion. For this construction too I assume the existence of a covert argument which satisfies the EPP instead of the subject. The only difference is the presence of an overt PP in clause-initial position with which LOC appears to be (syntactically) linked. (94) represents the structure underlying locative inversion:

94 \[
P[\text{IP} \ \text{LOC}_i^\text{-}V_j \ [\text{VP} \ \text{SUBJ} \ t_j \ t_i]]
\]

Given the clear parallelism between locative inversion in Italian and locative inversion in English, I would like to suggest that (93) may be assumed to be the universal pattern underlying locative inversion constructions in general.\(^{35}\)

If this analysis is correct, the role of the Pro-Drop parameter in inversion constructions becomes less obvious. Rather, whether a language allows null-subjects or not seems to be irrelevant at this point. If (93) can be supported by crosslinguistic evidence, then only considerations of economy can determine whether the subject can remain in its base position or has to raise.

The basic typological distinction expressed by the Pro-Drop parameter seems to reappear in the cases we analyzed as instances of subject inversion with covert arguments. In the standard literature on the topic this construction is referred to as free subject inversion and it represents one of the main characteristics of null-subject languages. From the perspective of this study, however, the pro-drop character of this construction does not involve the subject, but the loco/temporal argument. In other words, the distinction between subject inversion in Italian and in English seems to consist in the possibility of having covert arguments without support of an overt preposition. Italian has this possibility. English does not. Since the presence of the overt PP is determined by how easily the content of LOC can be identified,

\(^{35}\) It is important to note that this generalization could hold only for languages in which the PP is not in standard subject position, i.e. for languages in which the EPP must be satisfied by attraction of the D-features of LOC. Clearly, Chichewa is not such a language, since the PP is the real grammatical subject and, as such it occupies the Spec of IP.
the relevance of Pro-Drop for inversion constructions may perhaps reduce to language specific thematic properties.

5 When the Loco/Temporal Argument Is Missing

So far the examination of subject inversion constructions in Italian has revealed an interesting correlation between the occurrence of the subject in postverbal position and the presence of a loco/temporal argument. The availability of such an argument was argued to provide an alternative option for satisfaction of the EPP. At this point, however, the question arises of how strict this correlation should be. In other words, is subject inversion possible only when the lexical verb selects a loco/temporal argument?

In this subsection we will examine Italian sentences containing verbs that do not select a loco/temporal argument. Indeed, these constructions seem to support the descriptive generalization noted above, as they do not allow subject inversion with a wide focus interpretation. Still, there appears to be an interesting exception: when the subject DP is indefinite, inversion with the wide focus reading is perfectly felicitous.

As we will see, this exception, at first sight rather surprising, turns out in the end not to be problematic for a unified account of subject inversion in Italian. Quite the opposite, these facts will shed more light on the ‘syntactic’ role of loco/temporal arguments in inversion constructions, and will support the hypothesis that inversion is primarily the result of an alternative strategy for satisfaction of the EPP.

5.1 Non-Inversion Verbs

In the previous chapters we used the term ‘non-inversion verbs’ to refer to those predicates that do not allow subject inversion with a wide focus interpretation, as illustrated in (95):

95	Che cosa è successo?
what happened
a	#Ha urlato Bossi.
shouted Bossi
b	#E’ impallidito Berlusconi.
turned pale Berlusconi
c   #Ha portato questo pacco tua sorella.
brought this parcel your sister

Inversion with the unergative *urlare* ‘shout’, the unaccusative *impallidire* ‘turn pale’ and the transitive *portare* ‘bring’ is felicitous only when the postverbal subject gets the narrow focus interpretation, as, for instance, in (96):

96   Chi ha urlato?
   who shouted
   Ha urlato Bossi.
   shouted Bossi

The group of non-inversion verbs consists mainly of transitives, but in chapter 1 we saw that certain unergatives and unaccusatives pattern in the same way. What blocks subject inversion in out-of-the-blue contexts like (95)? The data we have examined so far suggest that inversion with a wide focus interpretation is possible only when the lexical verb selects a loco/temporal argument. However, this condition is not sufficient. Only in the case where this argument is covert does inversion with wide focus become available. We explained this fact by arguing that a covert argument can satisfy the EPP in a fashion that is more economical than subject raising.

Can this explanation account for the infelicity of the sentences in (95)? Indeed, the verbs *urlare*, *impallidire*, and *portare* do not select a loco/temporal argument. Obviously, predicates are free to occur with a locative or a temporal PP, as illustrated in (97):

97   Domenica scorsa Bossi ha urlato per tre ore a Venezia.
   last Sunday Bossi shouted for three hours in Venice

The verb *urlare* is perfectly felicitous with the italicized temporal and locative PPs. Yet, there is no thematic link between these loco/temporal phrases and the verb that selects them. So, verbs like *urlare* seem to go together with any loco/temporal PP, but no thematic relation is involved. Consider the minimal pairs in (98):
We see that urlare is free to take different PPs. On the other hand, vivere ‘live’ can only take a locative phrase. Other types of PPs make this sentence ungrammatical. These facts seem to confirm the observation that in order to play a role in inversion, loco/temporal phrases must be somehow thematically related to the relevant verb.

The infelicity of the examples in (95) could thus derive from the fact that these verbs, lacking the loco/temporal argument, have just one possibility for checking of the strong D-features of INFL, i.e. overt raising of the lexical subject to its preverbal position, the Spec of IP. If correct, this analysis accounts for the fact that the wide focus interpretation is not available with the V(OS) word order of these verbs. Since subject raising is obligatory, at the stage where the Nuclear Stress Rule applies the subject has already left its base position (i.e. the postverbal subject position), hence, the derivation that forms the input to the NSR must necessarily have the SVO word order.

This account of the infelicity of (95) sounds reasonable for verbs that project just one argument in syntax, like unergatives and unaccusatives.\(^{36}\) As for the case of transitive verbs, the analysis is straightforward. The only possible alternative to subject raising would be raising of the object. However, this operation appears to be blocked by the Minimal Link Condition. Recall that the checking operation attracts the closest constituent carrying the relevant feature. In the case of a transitive clause there is just one element satisfying this condition, the subject. Despite its D-feature, the object is more deeply embedded in the clause than the subject. Object-raising would thus be a violation of the MLC.

\(^{36}\) Following Hale & Keyser (1993) I assume that intransitives too have to be analyzed as diadic predicates, where the second argument has been incorporated into the verb at the level of thematic structure.
5.2 Postverbal Indefinite Subjects
Consider the examples in (99), reported from chapter 2:

99 Che cosa è successo?
  what happened
  a Ha pianto un bambino.
    cried a child
  b E’ svenuto un uomo.
    fainted a man

In chapter 2 I presented these data as a problematic case. The hypothesis of a correlation between postverbal subjects and presence of a loco/temporal argument seems to be challenged by (99). These inverted structures appear to be perfectly felicitous in an out-of-the-blue (wide focus) context. Above we developed the hypothesis that inversion constructions are licensed by the presence of an additional argument that substitutes for the subject as a checker of the strong D-features of INFL (EPP). Given the fact that the verbs piangere ‘cry’ and abbaiaire ‘bark’ do not select a loco/temporal argument, subject raising should be the only possible way of satisfying the EPP.

Now compare (99) with (100) below:

100 Che cosa è successo?
  what happened
  a #Ha pianto il bambino.
    cried the child
  b #E’ svenuto l’uomo.
    fainted the man

The infelicity of the sentences in (100) shows that inversion imposes an indefiniteness requirement on the postverbal subjects of the verbs involved. Another interesting detail is the fact that only subjects with the indefinite article seem to be felicitous in postverbal position. Other weak determiners, such as cardinals or molti ‘many’ and alcuni ‘some’, appear rather to pattern like the definites in (100) and do not allow inversion with the wide focus reading. In chapter 2, this was the reason to suggest that the felicity of the sentences in (99) may be related to the position of the indefinite article inside
The subject DP. (101) illustrates the possible internal structure of the subject in (99a):

\[
101 \quad a \quad \text{Un bambino}
\]

\[
101 \quad b
\]

```
DP
  Spec
  D'
  D
  e_{+D}
  Spec
  F'
  F
  NP
  un
  N
  bambino
```

Following Longobardi (1994), I analyze (101a) as a DP. The argument-status of this nominal expression, I will assume, requires the presence of a D-category. The DE, however, contains only a categorial feature (a D-feature). This assumption is in line with Zwarts (1992), who argues that existential indefinites are DPs with an empty DE. The indefinite article itself is thus either part of the NP or it occupies the head position of some intermediate functional projection. As we will see in a moment, this analysis of the internal structure of a subject like (101a) is crucial for an account of its role in the syntax of inversion. Consider now (102) which represents the structure of the clause in (99a):

\[
102 \quad a \quad \text{Ha pianto un bambino.}
\]

\[
102 \quad b
\]

```
 Ha
  pianto
  un
  bambino
```

\[
cried a child
\]
The verbal complex has moved to INFL for morphological checking and the strong D-feature of INFL has to be checked by a category bearing the same feature. In (102b) only the subject can meet this requirement, since the verb *piangere* `cry' does not select any additional argument. Therefore, the subject DP should raise to Spec of IP and the SV(O) word order would follow. Yet, (102a) appears to be perfectly correct with the inverted word order. Given the minimalist assumptions of this study, the felicity of (102a) implies that the strong D-features of INFL can be checked by an alternative mechanism, so that the subject can remain in its base position. The specific internal architecture proposed for subjects DP can account for these facts.

The analysis I would like to suggest crucially relies on the assumption that in (101b) the DE contains just the feature [+D]. The lexical material is located on nodes that are lower than the D-projection. If this hypothesis is correct, then checking of the strong D-feature of INFL may just require attraction of that one D-feature. In other words, satisfaction of the EPP by attraction of the D-feature and stranding of the subject in its base position may be the optimal option.

This idea finds some theoretical support in Chomsky (1995). In minimalist terms, the optimal option for feature checking is an operation that carries along just enough lexical material as necessary for phonological convergence (cf. Chomsky 1995). Pied piping of lexical material is thus required in language only in order to preserve the integrity of a constituent. If the DE contains just a feature (as we suggested for (102)), convergence may
Chapter 3 A Minimalist View of the Syntax of Inversion

not require pied piping of the whole DP. By Procastinate, checking of the remaining features on the NP would then be delayed until LF.

However, the account of the wellformedness of constructions like (102) encounters a serious problem, as it predicts that all indefinites would pattern like *un* in (102). As a matter of fact, the availability of subject inversion in non-inversion verb context strictly correlates with the presence of the indefinite article *un*. As observed in chapter 2, other weak determiners, such as *molti* ‘many’ or other cardinals do not seem to allow the postverbal subject option:

103 a #Hanno pianto molti bambini.
   *cried many children*

103 b #Hanno pianto due bambini.
   *cried two children*

Yet, this construction is even more puzzling in view of the following facts. Consider (104):

104 a ??Ha pianto un postino.
   *cried a postman*

104 b Ha abbaiato un cane.
   *barked a dog*

(103) and (104) together show that the presence of the indefinite article is not a sufficient condition for inversion to occur. In particular, the contrast between (104a), on the one hand, and (102) and (104b), on the other, suggests that the occurrence of the indefinite in postverbal position is somehow related to the type of verb. In the latter sentences, the indefinite subject forms a natural unity with the verb, in the sense that it does not refer to a particular child or a particular dog, but has the flavour of a ‘there was child crying/dog barking going on’. How do these intuitions translate into the formal analysis presented above?

The ‘weakly referential’ status of the subject in constructions like (102) and (104b) may reflect the absence of particular features in the internal structure of the DP. So, while it may be plausible that the indefinite article *un* may occur in a DP whose head only has a D-feature, weak determiners
such as *molti or *due at least require Number to be specified. This by itself may prevent the D-head from moving alone to satisfy EPP. More grammatical material is carried along and, correspondingly, more phonological material. Then, according to the analysis proposed above, the whole DP would raise for phonological convergence.37

5.3 Alternative Strategies for Satisfaction of the EPP

Let us draw some conclusions from the preceding discussion. The initial hypothesis that subject inversion in Italian is made possible by the existence of an alternative strategy for checking of the strong D-features of INFL, is supported by a substantial set of empirical data. In addition, this analysis appears to offer some conceptual and theoretical advantages. We proposed that the EPP in Italian can be satisfied in three different ways: a) by overt subject raising, b) by attraction of the D-feature of a covert loco/temporal argument, and c) by attraction of the D-feature of an existential indefinite subject.38 This conclusion supports the claim that subject inversion is determined by syntactic factors which obey conditions of economy. The availability of a different relative word order for subject and verb is thus the consequence of the interaction of morphological checking (EPP) and economy principles, in accordance with a minimalist perspective of grammar.

As briefly noted above, the availability of three different checking mechanisms sheds more light on the role of loco/temporal arguments in inversion constructions. Many of the accounts of locative inversion that are known in the literature capitalize on the intrinsic semantic properties of locative arguments as providing the necessary trigger for inversion (see Hoekstra & Mulder 1990, Levin & Rappaport 1995, a.o.). The analysis proposed here shows that locatives do not fulfill a privileged role in inversion

---

37 As it stands, this analysis incorrectly predicts that subject inversion should be available in all languages that have the indefinite article:

i  *Huilt een kind.  (Dutch)
*Cries a child.

The illformedness of (i) may simply follow from the fact that languages such as English and Dutch normally do not tolerate empty subject positions. Hence, the position must be filled by an empty expletive.

38 Remember that since the EPP has to be satisfied before Spell-Out, I assumed that D-feature attraction takes place overtly.
because of their inherent semantics. Interpretive properties at the level of thematic structure may indeed determine whether the argument must be covert or be overtly realized. However, it is the internal syntactic structure of these elements that makes them suitable for feature checking instead of the subject. To this extent, implicit loco/temporal arguments are not different from any other D-feature-carrying category. The choice of the optimal checker is solely based on economy conditions.