Theoretical Approaches to Locative Inversion

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1 Introduction

The present study is devoted to the phenomenon of locative inversion. As suggested by its name, locative inversion involves the reversing of a locative argument with the subject argument of a sentence, as e.g. represented by the following example from the Bantu language Chichewa:

(i) a) Chi-tsîme chi-li ku-mu-dzi.
    7-well 7-be 17-3-village
    'The well is in the village.'

    b) Ku-mu-dzi ku-li chi-tsîme.
       17-3-village 17-be 7-well
       'In the village is a well.'

In addition to the linear reversal, locative inversion is often thought of as a process that reverses the grammatical relations of the participants. Evidence for this comes from agreement, as shown by the example above: After reversal, the theme tsîme no longer triggers subject agreement. It is now the preverbal locative the verb agrees with. The question of whether locative inversion involves a reversal of grammatical functions has attracted the interest of theoretical linguists for quite some time. Various proposals have been advanced, some supporting, some rejecting the reversal analysis. What makes locative inversion particularly interesting is that it (putatively) is a relation-changing operation that does not involve any additional morphology (as opposed to passive, applicative etc.). The fact that the non-inverted and the inverted structure have distinct (if not even complementary) uses in discourse also makes locative inversion an interesting object of information structural research. Any account of this phenomena is thus faced with the complexity of role-function mismatches (locative inversion allows atypical subjects) interacting with the discourse factors that govern its distribution.

This study is organized as follows: In a first part (chapter 2) I will first present from a theory-neutral perspective a wide range of data from various Bantu languages. There, I mainly focus on the properties of the participants and the discourse function of the construction as a whole. Additionally, I will deal with further aspects of locative inversion that are of great significance for theoretical reasoning. As a contrast, I will also present data from locative inversion in English which raise intriguing questions about crosslinguistic variation.

The second part (chapter 3) is devoted to the theoretical analysis of locative inversion. I will present and review approaches from three of the most important contemporary syntactic theories: Principles and Parameters, Lexical-Functional Grammar and Optimality Theory. I will examine how these frameworks account for the properties of this construction as well as the crosslinguistic variation and will use the results from this inquiry to draw conclusions for the optimal architecture of a theory of grammar.

In chapter 4, I will examine whether there is locative inversion in German. This question is closely tied to the question of configurationality of a free word order language as well as to the different means such a language has to accommodate the needs of information structure.

In chapter 5, I will briefly discuss existential and possessive constructions which in many languages of the world show striking similarities to locative inversion constructions.

In the final chapter, I will try to formulate some hypotheses about the design features a language needs to have in order to exhibit locative inversion.
2 Data

In this section, I will present data on locative inversion from various Bantu languages and from English. I will also list examples from the related subject-object reversal construction. The data are organized as follows: I will discuss one language after the other with the types of data always appearing in the same order. Apart from the properties of the inverted locative and the (postposed) logical subject, I will cover aspects of locative morphology, the types of verbs permitting locative inversion as well as the discourse function of this construction.

2.1 Chichewa

2.1.1 Inventory of Locative Morphology

Chichewa features rich locative morphology, both in nominal and verbal agreement preserving the 3 Proto-Bantu classes 16 pa- for specific, 17 ku- for general and 18 mu-/m- for interior location.1

2.1.2 Properties of the Inverted Locative

In many respects, the preposed locative phrases exhibit the usual subject properties:

2.1.2.1 Subject-Verb Agreement

The verb displays subject-verb agreement with the preposed locative (Bresnan/Kanerva 1989: 2):

(1) a) Chì-tsìme  chì-li  ku-mu-dzi.
   7-well   7-be   17-3-village
   'The well is in the village.'

   b) Ku-mu-dzi  ku-li  chì-tsìme.
      17-3-village  17-be   7-well
      'In the village is a well.'

2.1.2.2 Raising to Subject

Compelling evidence for the locative’s subject status comes from raising: Like the subject in the uninverted construction (2a), the locative can equally be raised to the subject position of the matrix clause (2b), (Bresnan 1994: 94f.):

(2) a) Mvùla  y-a-yamba  ku-gwá  ku-mu-dzi.
    9:rain  9-PRF-start  INF-fall  17-3-village
    'It has started to rain at the village.' (lit. 'Rain has started to fall at the village.')

---

1 As will be shown in 2.1.7 below, the noun class markers are actually not prefixes but syntactically independent particles
As there are no expletive subjects in Chichewa, I cannot present an example where the subject of the complement of the raising verb occurs in the dependent nonfinite clause. For further examples see Bresnan/Kanerva (1989: 14).

2.1.2.3 Relativization

Preposed locatives can be relativized (Bresnan/Mchombo 1989: 36):

(3)  a) Pa-m-chenga p-a-im-a nkhandwe.
    16-3-sand 16-PRF-stand-IND 9:fox
    ‘On the sand is standing a fox.’

    b) N’ pâ-ti [pa-méné p-á-ím-á nkhandwe]? 
    Lit.: ‘It is where that is standing the fox?’

2.1.2.4 Attributive VPs

Like any ordinary subject in Chichewa, inverted locatives can also take nonfinite VP as modifiers (4a) or as predicative complements (4b), thereby functioning as the external argument of the nonfinite verb (Bresnan/Kanerva 1989: 14):

(4)  a) M-nkhalangó [m-ó-khál-á mi-kângo] 
    18-9:forest 18-ASC_INF-live-IND 4-lion
    ‘In the forest where there live lions.’

    b) M-nyumbá ndi [m-ó-gón-á nkûkû]. 
    18-9:house COP 18-ASC_INF-sleep-IND 10:chicken
    ‘In the house is where chickens sleep.

2.1.2.5 Structural Position

According to Bresnan/Mchombo (1986/1987), the subject in Chichewa is unordered with respect to the VP. Therefore, it may precede or follow the verb and its internal arguments (5). Postposed subjects are therefore not to be interpreted as afterthought phenomena and the like; see Bresnan/Mchombo (1986: 287ff.) for discussion. The same regularities apply to locative subjects (6), (Bresnan/Kanerva 1989: 3):

(5)  a) A-nya & ni [a-ku-ímb-á nyîmbo]. 
    2-baboon 2-PRG-sing-IND 10:song
    ‘The baboons are singing songs.’

2  The associate prefix is often realized as ó-; it is the result of underlying á+ku (infinitive). The associative is generally used for attribution with genitive-like meaning (possession, part-whole etc.).

3  Here and below, I will often use phrase structural categories that are familiar from contemporary Generative Grammar in order to describe word order facts. This is not to mean that constituency cannot be expressed otherwise or that the Generative notation is necessarily superior to that of alternative frameworks. The use of these categories is – at this point – merely descriptive.
b) [vr A-ku-imb-á nyimbo] a-nyâni.  
   2-PRG-sing-IND  10:song  2-baboon  
   'The baboons are singing songs.'

c) *[vr A-ku-imb-á a-nyâni nyimbo].  
   2-PRG-sing-IND  2-baboon 10:song  
   'The baboons are singing songs.'

(6) a) M-mi-têngo [vr mw-a-khal-a a-nyâni].  
   18-4-tree  18-PRF-sit-IND  2-baboon.  
   'In the trees are sitting baboons.'

b) [vr Mw-a-khal-a a-nyâni] m-mi-têngo.  
   18-PRF-sit-IND  2-baboon  18-4-tree  
   'In the trees are sitting baboons.'

c) *[vr Mw-a-khal-a m-mi-têngo a-nyâni].  
   18-PRF-sit-IND  18-4-tree  2-baboon  
   'In the trees are sitting baboons.'

2.1.3 Properties of the Inverted Logical Subject

The grammatical function of the postposed subject is less clear: While there is some 
structural evidence for an object function, the logical subject does not satisfy most of the 
criteria for direct objecthood:

2.1.3.1 Non-Object Properties

The inverted subject fails the typical tests for objecthood in Bantu languages: It does not 
passivize (7b), cannot be expressed through an incorporated pronoun (8) and cannot be 
extracted by relativization (9), (Bresnan/Kanerva 1989: 15):

(7) a) Ku-mu-dzi ku-na-bwér-á a-lendô-wo.  
   17-3-village 17-RECPST-come-IND 2-visitor-2:those  
   'To the village came those visitors.'

b) *A-lendô-wo a-na-bwér-édw-á ndî ku-mu-dzi.  
   2-visitor-2:those 2-RECPST-come-PAS-IND by 17-3-village  
   Lit.: 'The visitors were come by to the village.'

(8) *Ku-mu-dzi ku-na-wá-bwér-a a-lendô-wo.  
   17-3-village 17-RECPST-2:OBJ-come-IND 2-visitor-2:those  
   Lit.: 'To the village came them, those visitors.'

(9) a) Pa-m-chenga p-á-im-a nkhandwe.  
   16-3-sand 16-PRF-stand-IND 9:fox  
   'On the sand is standing the fox.'

b) *N' chi-yâni chi-méné pa-m-chenga p-á-im-a?  
   COP 7-Q 7-REL 16-3-sand 16:REL-PRF-stand-IND  
   Lit.: 'What is it that on the sand is standing?'
The logical subject may, however, be questioned in place (Bresnan/Kanerva 1989: 36):\(^4\)

(10)  
Kodi pá-m-chenga p-a-im-a chi-yâni?  
\(Q\) 16-3-beach 16-PRF-stand-IND 7-what  
'What is standing on the beach?'

2.1.3.2 Structural Position

Like canonical objects, however, the inverted subject cannot be separated from the verb whereas the locative subject may precede or follow the VP (Bresnan/Kanerva 1989: 3f.):

(11) a) M-mi-têngo [\(\text{VP}\) mw-a-khal-a a-nyâni.]  
18-4-tree 18-PRF-sit-IND 2-baboon.  
'In the trees are sitting baboons.'

\(\text{b) [}\text{VP}\text{ Mw-a-khal-a a-nyâni] m-mi-têngo.}\)  
18-PRF-sit-IND 2-baboon 18-4-tree  
'In the trees are sitting baboons.'

\(\text{c) *[}\text{VP}\text{ Mw-a-khal-a m-mi-têngo a-nyâni.]}\)  
18-PRF-sit-IND 18-4-tree 2-baboon  
'In the trees are sitting baboons.'

VP-adjuncts follow the logical subject but precede the postposed locative subject (Bresnan/Kanerva 1989: 5):

(12) a) [\(\text{VP}\) Ku-na-bwér-á a-lêndo pa-njingga\)] ku-mu-dzi.  
17-RECPST-come-IND 2-visitor 16-10:bicycle 17-3-village  
'To the village came visitors on bicycles.'

\(\text{b) *Ku-mu-dzi [}\text{VP}\text{ Ku-na-bwér-á pa-njingga a-lêndo.]}\)  
17-3-village 17SM-RECPST-come-IND 16-10:bicycle 2-visitor

\(\text{c) *[}\text{VP}\text{ Ku-na-bwér-á a-lêndo] ku-mu-dzi pa-njingga.}\)  
17SM-RECPST-come-IND 2-visitor 17-3-village 16-10:bicycle

\(\text{d) *Pa-njingga ku-mu-dzi [}\text{VP}\text{ Ku-na-bwér-á a-lêndo.]}\)  
16-10:bicycle 17-3-village 17SM-RECPST-come-IND 2-visitor

These examples suggest that the logical subject occupies the same position as a canonical direct object. The word order regularities are paralleled by facts from phrasal phonology showing that the verb and the postponed subject form a prosodic unit just like any verb and its direct object; see Bresnan/Mchombo (1989: 5ff.) for details.

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\(^4\) Such constructions are true questions, not just echo questions. According to Thomas Bearth (p.c.), there is still no general agreement on how to state the distribution of the two wh strategies in the Bantu languages. Most likely, discourse functional principles will be the key to an explanation.
There is, however, one piece of evidence neglected by Bresnan/Kanerva (1989) that sets inverted subjects apart from ordinary direct objects: Only the latter may be separated from the verb by a manner particle, see Polinsky (1993: 350):5

(13) a) A-nyaîni [vp a-ku-imb-á bwíno nyîmo] 2-baboons 2-PRG-sing-IND PRT songs
    ‘The baboons are singing songs well.’

   b)*M-miténgolo [vp mw-a-khal-a bwíno a-nyaîni].
      18-trees 18-PRF-sit-IND PRT 2-baboons
      Lit.: In the trees are sitting well baboons.’

   c) M-miténgolo [vp mw-a-khal-a a-nyaîni bwíno].
      18-trees 18-PRF-sit-IND 2-baboons PRT

The consequences for phrase structure are not at all clear; Polinsky’s (1993) approach analyzing the postponed subject as derived by noun incorporation seems very original and promising, a detailed discussion of this proposal is, however, well beyond the scope of this paper.

2.1.4 Status of the Locative Subject Prefix

Bresnan/Kanerva (1989: 11ff.) present persuasive evidence against analyzing the locative subject prefixes as expletives: First, Chichewa lacks impersonal passives and does not have impersonal uses of locative subjects. Second and more telling is the fact that the locative subject prefixes have semantic content as evidenced by the following examples where the prefixes either refer to a discourse (14) or a sentence topic (15):

(14) a) Ku-na-bwér-á a-lêndo.
    17-RECPST-come-IND 2-visitor
    ‘There (in/to some place) came visitors.’

   b) Mw-a-khal-á mi-kângo.
      18-PRF-remain-IND 4-lion
      ‘There (inside some place) have remained lions.’

(15) Ku-mu-dzi mu-ku-gáníz-a kuti ku-na-bwér-á a-lêndo.
    17-3-village 2p-PRG-think-IND COMP 17-RECPST-come-IND 2-visitor
    Lit.: ‘To the village, you think that there came visitors.’

5 The relevance of these examples is called into question by the fact that Polinsky herself translates the verb incorrectly (‘sing’ instead of ‘sit’). As a consequence, the meaning of the sentence involving the manner particle becomes unclear.
2.1.5 Argument Structure

Locative inversion in Chichewa is an unaccusative phenomenon, restricted to unaccusative and passivized transitive verbs that take an optional locative argument. For a list of unaccusative verbs see Bresnan/Kanerva (1989: 17).

2.1.5.1 Unaccusatives

(16) a) A-lendô-wo a-na-bwér-á ku-mu-dzi.
     2-visitor-2:those 2-RECPST-come-IND 17-3-village
     ‘Those visitors came to the village.’

b) Ku-mu-dzi ku-na-bwér-á a-lendô-wo.
     17-3-village 17-RECPST-come-IND 2-visitor-2:those
     ‘To the village came those visitors.’ Bresnan/Kanerva (1989: 2)

2.1.5.2 Transitive Verbs

Only the passivized variants undergo locative inversion; interestingly, the by-phrases become unacceptable in the inverted construction (18b), (Bresnan/Kanerva 1989: 16ff.):

(17) a) Máyï a-na-péz-á mw-aná kú-dámbo.
     1A:mother 1-RECPST-find-IND 1-child 17-5:swamp
     ‘The mother found the child in the swamp.’

b) Ku-dámbo ku-na-péz-á máyï mw-ána.
     17-5:swamp 17-RECPST-find-IND 1A:mother 1-child
     Lit.: ‘In the swamp found the mother the child.’

(18) a) Mw-ána a-na-péz-édw-á kú-dámbo (ndí máyï).
     1-child 1-RECPST-find-PAS-IND 17-5:swamp by 1A:mother
     ‘The child was found in the swamp (by the mother).’

b) Ku-dámbo ku-na-péz-édw-á mw-ána (?? ndimâyi).
     17-5:swamp 17-RECPST-find-PAS-IND 1-child by mother
     ‘In the swamp was found the child (?? by the mother).’

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6 Some authors like Kamwangamalu (1985) interpret such examples as being derived through promotion of a direct object locative to subject. Here and below, I will follow Bresnan/Kanerva’s (1989) analysis which in derivational terms would involve the following steps: First, the argument is promoted to subject by passivization, the locative remaining an oblique complement., the locative subsequently acquires subject status through inversion, the theme thereby being demoted. I consider this analysis superior to Kamwangamalu’s in that it dispenses with an additional promotional rule for locatives (Loc > 1) but relies on the rule of inversion which is independently needed. I will apply the same analysis to passivized intransitive and ditransitive verbs.
2.1.5.3 Unergatives

Unergative verbs do not undergo locative inversion; there are no passivized equivalents since Chichewa has no impersonal passive (Bresnan/Kanerva 1989: 16):

(19) a) A-nyãni a-ku-imb-á m-mi-têngo.
   2-baboon 2-PRG-sing-IND 18-4-tree
   'The baboons are singing in the trees.'

b) *M-mi-têngo mu-ku-imb-á a-nyãni.
   18-4-tree 18-PRG-sing-IND 2-baboon
   Lit.: 'In the trees are singing the baboons.'

2.1.5.4 Some Exceptions

There are some exceptions to the statements made above: First, passivized applied verbs fail to undergo locative inversion (Bresnan/Kanerva 1989: 19):

(20) a) A-ku-yénd-ér-a ndodo pa-m-sewu.
   1-PRG-walk-APL-IND 9:stick 16-3-road
   'He is walking with a stick in the road.'

b) Ndodo i-ku-yénd-ér-edw-á pa-m-sewu.
   9:stick 9-PRG-walk-APL-PAS-IND 16-3-road
   Lit.: 'A stick is being walked with in the road.'

c) *Pa-m-sewu pa-ku-yénd-ér-edw-á ndodo
   16-3-road 16-PRG-walk-APL-PAS-IND 9:stick
   Lit.: 'In the road is being walked with a stick.'

Second, intransitivized active object-drop verbs do not undergo locative inversion (as opposed to their passivized transitive variants), (Bresnan/Kanerva 1989: 18f.):

(21) a) A-nthu a-kúdy-a m-chi-pinda-mu
   2-person 2-PRG-eat-IND 18-7-room-18:this
   'People are eating in the room.'

b) *M-chi-pinda-mu mu-kú-dy-á a-nthu
   18-7-room-18:this 18-PRG-eat-IND 2-person
   Lit.: 'In the room are eating people.'

c) M-chi-pinda-mu mu-kú-dy-édw-á nsômba
   18-7-room-18:this 18-PRG-eat-PAS-IND 10:fish
   'In this room is being eaten fish.'

2.1.5.5 Generalization

From the data presented above, the following generalization can be formulated: Locative inversion applies only if the verb's argument structure contains both a theme and a locative argument and the theme argument is the most prominent argument of that verb.7

7 The data presented in Trithart (1975: 618; 1979: 16) suggests, however, that inversion might also apply to passivized intransitives and passivized ditransitives.
2.1.5.6 Theme Inversion

In some dialects of Chichewa, another kind of inversion can be observed. In this type of construction which is limited to relative clauses, the subject is postposed and the theme occupies the preverbal position triggering subject agreement, see Bresnan/Kanerva (1989: 33, fn. 41):

(22)  Njūči zi-mênē zi-nā-bwēr-ēts-a mfūmu
     ’The bees which the chief bought.’

Further examples involving locatives suggest that these dialects can only relativize on subjects. Bresnan/Kanerva (1989) state that this type of inversion is to be distinguished from locative inversion since it shares none of the information structural properties. See below for some discussion of the subject-object reversal construction in other languages.

2.1.6 Information Structure

As is the case with most morphosyntactic alternations, the inverted and uninverted constructions are not used in free variation; their distribution is tightly regulated by the discourse context: Locative inversion serves a special function in discourse, commonly referred to as presentational focus “in which the referent of the inverted subject is introduced or reintroduced on the (part of the) scene referred to by the preposed locative” (Bresnan 1994: 85).

In discourse-pragmatic terms, the preposed locative is topical, representing old information whereas the inverted logical subject is focal, introducing new information. Conversely, in the uninverted construction, it is the theme-subject that is topical and the oblique locative that is focal. In a discourse context like (23a) where the place of arrival is questioned, only the uninverted construction with a focal (though preposed) locative is felicitous (23b). Locative inversion, however, proves unacceptable because the locative is realized as subject – and by default as the most topical element of the sentence – while the logical subject is focussed though it has already been introduced (23c), (Bresnan/Kanerva 1989: 33):

(23) a) Ndi-ku-fūn-ā ku-dźíw-ā kuti n’ ku-ti a-lendō á-nā-fīk-a.
     1s-PRG-want-IND INF-know-IND COMP COP 17-Q 2-visitor 2REL-RECPST-arrive-IND
     ’I want to know where it was that the visitors arrived.’

b) Ndi ku-mu-dźi a-lendō-wo á-nā-fīk-a.
    COP 17-3-village 2-visitor-2:those 2:REL-RECPST-arrive-IND
    ’It’s at the village that those visitors arrived

c) *Ndi ku-mu-dźi kū-nā-fīk-ā a-lendō-wo.
   COP 17-3-village 17:REL-RECPST-arrive-IND 2-visitor-2:those
   Lit.: ’It’s at the village that arrived those visitors.’

In addition to its presentative function, the inversion construction is also used for contrastive focus. Whereas the uninverted construction allows focussing of either

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8 To be precise, it is not the logical subject that represents necessarily new information; it is rather the relation established between it and the rest of the predicate that is new or assumed not to be known to the hearer. Single referents are better understood as elements of information. See Lambrecht (1994) and 2.9.4 below for a more comprehensive discussion of information structure.
participant (24), only the theme may receive contrastive focus in the inverted structure (25),

(Bresnan/Kanerva 1989: 35):

(24) a) Mi-kângo i-na-bwér-á ku-mu-dzi ósatí njovu.
   4-lion 4-RECPST-come-IND 17-3-village not 10:elephant
   ‘LIONS came to the village, not elephants.’

   b) Mi-kângo i-na-bwér-á ku-mu-dzi ósatí kú-chi-tsîme.
   4-lion 4-RECPST-come-IND 17-3-village not 17-7-well
   ‘Lions came to the VILLAGE, not to the well.’

(25) a) Ku-mu-dzi ku-na-bwér-á mi-kângo ósatí njovu.
   17-3-village 17-RECPST-come-IND 4-lion not 10:elephant
   ‘To the village came LIONS, not elephants.’

   b)*Ku-mu-dzi ku-na-bwér-á mi-kângo ósatí kú-chi-tsîme.
   17-3-village 17-RECPST-come-IND 4-lion not 17-7-well
   Lit.: ‘TO THE VILLAGE came lions, not to the well.’

2.1.7 Locative Noun Class Markers – Syntax or Morphology?

The Bantu noun class markers have a mixed inflectional and derivational nature: They mark nominals for number and gender, determining the agreement forms of determiners, modifiers and predicates. This basically inflectional property is simultaneously associated with semantic properties such as animacy, configuration, location, size, plurality or quality. Prefixation of a given noun class marker thus simultaneously determines the syntactic agreement properties of the resulting form (inflectional) and changes the semantic class of the stem (derivational).

It is an undisputed fact that class markers form a phonological word with the stem (Bresnan/Mchombo 1995: 184). However, it is less uncontroversial whether the noun class markers are morphologically bound prefixes or syntactically independent elements, i.e. instances of an X°-category.

Certain class markers can appear with already class-marked nouns (Bresnan/Mchombo 1995: 198f.), in Chichewa including the diminutive ka-, ti-, augmentative chi-, zi-, pluralizing ma- and the locative classes pa, ku, mu.

Bresnan/Mchombo (1995) convincingly demonstrate that not all class markers behave identically in Chichewa. While the noun class markers directly prefixed to the stem and the majority of markers that can appear with already prefixed nouns respect lexical integrity, i.e. are morphologically bound prefixes, the locative class markers are syntactically independent. They differ on the relevant tests for lexical integrity:

First, the locative class markers allow phrasal recursivity, i.e. they allow agreement either in noun class or in the class of the localized noun while the others do not (Bresnan/Mchombo 1995: 198f.):

(26) a) pa-nyanjá p-ânga vs. pa-nyanjá y-ánga
   16-9:lake 16-my 16-9:lake 9-my
   ‘on my lake’

   b) ka-mu-ndá k-ânga vs. *ka-mu-ndá w-ânga
   12-3-field 12-my 12-3-field 3-my
   ‘my small field’
Second, locative phrases may include deictic or anaphoric pronouns while phrases with other class markers do not (= the inbound anaphoric islands test, cf. Bresnan/Mchombo 1995: 201f.):

(27) a) mu iyi pa icho ku iwo
   18 9: this 16 7: that 17 6: them
   ‘in this (e.g. house)’ ‘on that (e.g. hat)’ ‘to them (e.g. pumpkins)’

   b) *chi iyi *ka icho *ti iwo
   7 9: this 12 7: that 13 6: them
   ‘this large one’ ‘that small one’ ‘these small ones’

Third, locative class markers can have scope over two conjoined NPs while e.g. the diminutive prefixes do not (Bresnan/Mchombo 1995: 205f.):

(28) a) Mu-ku-pít-á ku [m-sika kapéná m-zinda]?
   2p:HON-PRG-go-IND 17 3: market or 3: city
   ‘Are you going to the market or the city?’

   b) *A-na-b-á ka-[m-pando kapéná m-tóndo]?
   1-RECPST-steal-IND 12-3: chair or 3: mortar
   ‘Did he steal a little chair or a little mortar?’

Similarly, two locative class markers of the same noun can be conjoined while other class markers cannot (Bresnan/Mchombo 1995: 206):

   1s-RECPST-draw-IND 8: picture 18 and 16 6: basket
   ‘I drew pictures in and on baskets.’

   b) *Ndi-na-gúl-á [ka- ndí chi-] gálímoto.
   1s-RECPST-buy-IND 12 and 7 5: car
   ‘I bought a little and a big car.’

Fourth, nouns classified by locative markers are NP-complements and therefore allow gapping while nouns classified by other markers are N categories combined with their prefixes in the lexicon and therefore cannot be gapped (Bresnan/Mchombo 1995: 207f.):

(30) a) Kodi á-na-kânkh-ír-a m-pando ku chi-pinda chá ána
   Q 2-RECPST-push-APL-IND 3: chair 17 7: room 7: ASC 2: child
   kapéna ku (chi-pinda) chá á-tsíkana?
   or 17 7: room 7: ASC 2: girl
   ‘Did they push the chair to the children’s room or to the girls’ (room)?’

   b) A-nyamát a-na-lámbúl-a chi°-bwaló chá mfúmú Kapanga
   2-boy 1-RECPST-sweep-IND 7-5: courtyard 7: ASC 9: chief K.
   ndí chi *(bwaló) chá mfúmú Kapatuka.
   and 7 (5: courtyard) 7: ASC 9: chief K.

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9 The prefixes of class are augmentatives
'The boys swept Chief Kapanga’s huge courtyard and chief Kapatuka’s huge courtyard.'

Since the locative class markers are syntactically independent while all the other noun class markers are morphological prefixes, one might want to try to reduce this distinction to a categorical distinction in assuming that locatives belong to a distinct syntactic category of prepositional phrases. The following section will show, however, that such an approach fails.10

### 2.1.8 Categorical Status of Locatives

There is a large body of evidence in favor of analyzing locatives as NPs: First, locatives freely occur in subject and object positions (31), second, locatives in object position pass the classical object tests for Bantu like object marking on the verb and passivization (32), while PPs fail all of these tests (Bresnan 1994: 111f.; Bresnan/Mchombo 1995: 211):

(31) a) Ku-San José kù-ma-ndi-sangalâts-a.11
17-San José 17-PRS.HAB-1s:OBJ-please-FV
Lit.: ‘In San Jose pleases me.’

b) Ndi-ma-kónd-á ku-San José.
1s-PRS.HAB-love-FV 17-San José
‘I like it in San José.’

2-visitor 2-PRS.HAB-16:OBJ-love-IND 16-3-village
‘Visitors love it, (in) the village.’

b) Pa-mu-dzi pá-ma-kond-édw-á ndí á-lëndo.
16-3-village 16-PRS.HAB-love-PAS-IND by 2-visitor
‘The village is loved by visitors.’

Furthermore, modifiers of locatives agree with them in noun class, as illustrated by the following examples, (Bresnan 1991: 59; 1994: 112):

(33) a) ku-mu-dzi kw-âthu
18-3-village 18-our
‘at our village.’

2-visitor 2-PRS.HAB-16:OBJ-love-FV 16-3-village 16-our 16-ASC.INF-attract 7-interest
‘Visitors love it, our interesting village.’

---

10 Except in this section, the locative markers of Chichewa are glossed as prefixes in accord with the sources that appeared before Bresnan/Mchombo (1995).

11 Place names are inherently locative. Therefore, there is only one gender prefix.
In contrast with PPs, locative phrases can be complements to nouns (with insertion of the associative marker (“of-insertion”)), cf. Bresnan/Mchombo (1995: 211f.):

\[(34) \text{a) mw-aná w-á kú mu-dzi kw-áthu} \]
\[1\text{-child} \quad 1\text{-asc} \quad 18 \quad 3\text{-village} \quad 18\text{-our} \]
\[\text{‘a child from our village’} \]

\[b) *mw-aná (w-á) ndí mí-peni \]
\[1\text{-child} \quad 1\text{-asc} \quad \text{with} \quad 3\text{-knife} \]
\[\text{‘a child with a knife’} \]

Locatives in Chichewa can also serve as obliques (as locative complements of intransitive verbs) and adjuncts. In both cases, they do not have any object properties, (Bresnan 1994: 113f.):

\[(35) \text{a) Ndi-na-(*kú)-siy-á gálimoto y-ânga ku-mu-dzi kw-áthu.} \]
\[1\text{-REC.PST-(*17:OBJ)-leave-FV} \quad 9\text{-car} \quad 9\text{-1s:POS} \quad 17\text{-3-village} \quad 17\text{-our} \]
\[\text{‘I left my car in our village.’} \]

\[b) A-lendô a-na-(*kú)-bwér-á ku-mu-dzi uku. \]
\[2\text{-visitor} \quad 2\text{-REC.PST-(*17:OBJ)-come-FV} \quad 17\text{-3-village} \quad 17\text{-this} \]
\[\text{‘Those visitors came to this village.’} \]

At first sight, it may be somewhat puzzling that locatives may function as subjects, objects or oblique complements; but this is probably mostly a terminological problem: Locative is an ambiguous term referring both to a (formal) gender category as well as to a semantic category, the semantic role of locative. Locative nouns do not always carry the semantic role of locative, they may also carry roles like theme, source etc. It is exactly in these instances that locative NPs behave like direct objects as shown in (32) above.

I am unaware of any explicit statement on this distribution in the literature. I therefore do not know whether these facts represent instances of a Bantu-wide generalization or rather language-particular regularities. At least for Chishona and Tshiluba, the same distribution seems to hold, see 2.3.7 and 2.5.6 below.

In sum, there is clear evidence that locative class markers in Chichewa are syntactically independent elements of the category N°. The most likely explanation for why they differ from the other class markers is historical: On most accounts (cf. e.g. Bresnan/Mchombo 1995: 212), the class markers are assumed to have evolved historically from syntactic elements of NPs, namely classifying determiners or articles which became morphologically bound as prefixes or suffixes. The deviant behavior of the locative class markers can be explained on the basis of this hypothesis by simply assuming that they are the only class markers that have not completed this historical process: They have been phonologically reduced but not morphologized.\(^{12}\)

\[^{12}\text{It is quite likely that similar splits can be found in the other Bantu languages discussed in the following chapters. But since there are no data available, I will provisionally refer to locative class markers in these languages as prefixes.}\]
2.2 Sesotho

2.2.1 Inventory of Locative Morphology

Sesotho has lost the locative noun class prefixes. Instead, it uses the prefix ho- ‘to’ or the suffix –eng to derive locatives. In addition, inherently locative nouns are used without any change of form. As to verbal morphology, only the subject prefix of class 17 ho- is retained while the other classes (16: fa; 18: mo) have lost their subject prefix.

2.2.2 Properties of the Inverted Locative

Like in Chichewa, there is ample evidence that the preposed locatives in Sesotho are grammatical subjects:

2.2.2.1 Subject-Verb Agreement

Inverted locatives show no real grammatical agreement with the verb differing in this regard from regular subjects in Sesotho. In the inverted construction, the verb takes the invariant subject marker ho- irrespective of which type of locative appears preverbally (Machobane 1995: 120):

\[(36)\]
\begin{align*}
  a) & \text{Thab-eng ho-a-chés-a.} \\
  & 9:\text{mountain-LOC} 17:\text{PRS-burn-IND} \\
  & \text{‘On the mountain it is hot.’}
\end{align*}

\begin{align*}
  b) & \text{Fátse hó-móngobo.} \\
  & \text{ground:LOC} 17:\text{-3:damp} \\
  & \text{‘The ground is damp.’}
\end{align*}

The same type of agreement is used in impersonal constructions, see 2.2.4.

2.2.2.2 Raising to Subject

Preposed locatives undergo raising to subject just like ordinary subjects (Machobane 1995: 121):

\[(37)\]
\begin{align*}
  a) & \text{Thab-eng hó-bonáhal-a ho-kúbélla haholo.} \\
  & 9:\text{mountain-LOC} 17:\text{-seem-IND INF-smoke more} \\
  & \text{‘In the mountain it seems to be smoking more.’}
\end{align*}

\begin{align*}
  b) & \text{Thab-eng hó-lébélérts-o-é ho-báta.} \\
  & 9:\text{mountain-LOC} 17:\text{-expect-PAS-PRF INF-cold} \\
  & \text{‘In the mountain it is expected to be cold.’}
\end{align*}

2.2.2.3 Raising to Object

Locatives can also undergo raising to object (Machobane 1995: 125):

\[(38)\]
\begin{align*}
  a) & \text{Banána bá-tseb-á hore thab-eng hó-mél-a lifátê.} \\
  & 2:\text{girls 2-know-IND that 9:\text{mountain-LOC} 17\text{-grow-IND} 8:\text{trees}} \\
  & \text{‘The girls know that in the mountain grow trees.’}
\end{align*}
b) Banána bà-tseb-á thab-eng hó-mél-a ifáte.
2:girls 2-know-IND 9:mountain-LOC 17-grow-IND 8:trees
Lit.: ‘The girls know on the mountain to grow trees.’

Raised locatives do not trigger object agreement, though.\textsuperscript{13}

2.2.2.4 Relativization

Inverted locatives can be relativized (Machobane 1995: 119):

\begin{align*}
(39) & \text{Thab-eng kóo hó-kollá-ng metsi \ldots} \\
& 9:mountain-LOC 17:REL 17-spring-REL 4:water \\
& \text{‘On the mountain where water springs \ldots’}
\end{align*}

2.2.2.5 Wh in situ

It is a characteristic feature of subjects in many Bantu languages that they cannot be questioned in situ.\textsuperscript{14} Inverted locatives in Sesotho display the same behavior (Machobane 1995: 120):

\begin{align*}
(40) & \text{a) Thab-eng hó-fúl-a likhomó.} \\
& 9:mountain-LOC 17-graze-IND 10:cattle \\
& \text{Lit.: ‘On the mountain graze cattle.’} \\
& \text{b) *Hokae ho-ful-a likhomo?} \\
& 17:where 17-graze-IND 10:cattle \\
& \text{‘Where do cattle graze?’}
\end{align*}

The locative can only be questioned by clefting (Sesotho uses the same strategy as Chichewa, see (3)) and relativization (Machobane 1995: 121):

\begin{align*}
(41) & \text{Ké-hokáe móó hó-fúl-á ng likhomó?} \\
& \text{it_is-where 18:REL 17-graze-REL 10:cattle} \\
& \text{Lit.: ‘It is where that graze cattle?’}
\end{align*}

2.2.2.6 Reflexivization

Although one might believe the binding of reflexives by locatives to be ruled out on semantic grounds Machobane (1995: 122) presents a grammatical example:

\begin{align*}
(42) & \text{Táfol-éng hó-i-pény-ets-a fééla.} \\
& 9:table-LOC 17:REFL-shine-APL16-IND only \\
& \text{Lit.: ‘On the table shines on its own.’}
\end{align*}

\textsuperscript{13} Admittedly, this seems to be a rather strange case of raising to object as the only difference between the two sentence is the presence/absence of the complementizer. Furthermore, the subordinate verb seems to be finite. So are we perhaps rather dealing with locative fronting? There are two arguments against such an analysis: First, while locatives may (probably for independent reasons, see 2.2.7) never trigger subjects of other gender classes do (Machobane 1995: 125). Second, completely parallel examples from Kichaga (see Moshi 1995: 138), which generally allows object agreement with locatives do show object agreement.

\textsuperscript{14} See Bresnan/Mchombo (1986: 294) and 3.1.5.1 for an explanation within the framework of LFG.

\textsuperscript{15} On the use of class 18-concord see Machobane (1995: 118, fn. 4).
However, as I do not know how to interpret this example (the translation is that given by Machobane), its validity remains questionable.

2.2.2.7 Structural Position

Word order facts clearly show that the locative subject is VP-external: It may not intervene between the postponed subject and the verb (Machobane 1995: 130):

(43) a) [IP Sekólo-ng [VP hó-fiets-é [NP banána]].
    7:school-LOC 17-sweep-PRF 2:girls
    Lit.: ‘At school have swept girls.’

    b)*Ho-fiets-e sekolo-ng banana.
    17-sweep-PRF 7:school-LOC 2:girls
    Lit.: ‘At school have swept girls.’

Since in embedded sentences, the locative-XP appears after the complementizer, it occupies either an IP-adjoined position or, according to Machobane, the Spec-of-IP position (Machobane 1995: 130):

(44) Re-hlálos-ítsé [CP hore [IP sekólo-ng hó-fiilit-é banna fééla.
    we-explain-PRF that 7:school-LOC 17-arrive-PRF 2:men only
    ‘We explained that at school only men have arrived.’

Which position the locatives occupy is, of course, largely a theory-internal question. See the discussion in 3.2.2 below.

2.2.3 Properties of the Inverted Logical Subject

Like in Chichewa, the logical subject’s behavior is atypical of a Bantu object:

2.2.3.1 Object Agreement and Passivization

Like in Chichewa, the postponed logical subject can neither be expressed by an object marker (45b)17 nor be promoted to subject through passivization (45c), (adapted from Machobane 1995: 130):

(45) a) Sekólo-ng ho-fiets-e banana.
    7:school-LOC 17-sweep-PRF 2:girls
    Lit.: ‘At school have swept girls.’

    b)*Sekólo-ng ho-ba-fiets-e.
    7:school-LOC 17-2:OBJ-sweep-PRF
    Lit.: ‘At school have swept they.’

    c)*Banana ba-fiets-o-e ke-sekólo-ng.
    2:girls 2-sweep-PAS-PRF by-7:school-LOC
    Lit.: ‘The girls have been swept by (at) the school.’

16 On the use of the applicative suffix in this construction, see Machobane (1995: 122, fn. 7).

17 There is clear evidence from word order that at least the object marker is best analyzed as an incorporated pronominal while the object-NP is actually a topic – exactly like in Chichewa. See Demuth/Harford (1999: 43) for discussion.
2.2.3.2 Relativization

The logical subject cannot be extracted by relativization as shown by the following question that also involves clefting (Demuth 1990: 241f.):

    17-graze-MOD 10-horses 6-field-LOC  
    ‘There are horses grazing in the fields.’

   b) *Ke  eng eo1 ho-e1-ful-a-ng ma-simo-ng  
      Lit.: ‘What is it that is grazing in the fields.’

This ungrammaticality is however not very surprising since relativization of objects always involves a resumptive object marker on the verb; as already shown above, the basic subject can generally not be expressed by an object marker.

2.2.3.3 Wh in situ

As opposed to the inverted locative, the postponed subject can be questioned in situ (Machobane 1995: 119):

(47) Thab-eng koá hó-fúl-a eng?  
    9:mountain-LOC 17:DEM 17-graze-IND what  
    ‘What grazes on the mountain?’

2.2.3.4 Definiteness

There is no definiteness effect, the logical subject may be expressed by a proper name or a free (contrastive) pronoun (Demuth 1990: 244):

(48) a) Hó-rob-éts-é  Mphó.  
    17-sleep-PRF-MOD Mpho.  
    ‘There is sleeping Mpho.’

   b) Hó-ken-á  bo-na.  
      17-enter-MOD 2-PRO  
      Lit.: ‘There is entering them.’

2.2.3.5 Structural Position

With regard to the structural position, however, there is clear evidence from both word order and phrasal phonology that the inverted subject patterns with ordinary objects:
Like canonical objects in Sesotho (49) the postponed subject may not be separated from the verb (50), (Demuth 1990: 240):

(49) a) [ip  Li-péré  [vp  li-j-á  jwańg]].  
    10-horses 10-eat-MOD 14-grass  
    ‘The horses are eating grass.’

   b) [ip  [vp  Li-j-á  jwańg]  li-pére].  
      10-eat-MOD 14-grass 10-horses  
      ‘They are eating grass, the horses.’
c) *Li-ja li-pere jwaŋ. 
10-eat-MOD 10-horses 14:grass

(50) a) Hó-fihl-il-é li-pére. 
17-arrive-PRF-MOD 10-horses 
‘There arrived horses.’

b) Hó-fihl-il-é li-péré bo-síu. 
17-arrive-PRF-MOD 10-horses 14:night. 
‘There arrived horses at night.’

c) *Ho-fihl-il-e bo-siu li-pere. 
17-arrive 14:night 10-horses

There is compelling evidence from phrasal phonology showing that the inverted subject indeed occupies the canonical object position: the rule of phrase penultimate lengthening in the VP applies equally to canonical objects and postponed subjects in the locative inversion construction (Demuth 1990: 240f.):

(51) a) Ba-shányáná [VP bá-fep-á li-pé:re]. 
2-boys 2-feed-MOD 10-horse 
‘The boys are feeding horses.’

2-feed-MOD 10-horse 2-boys 
‘They are feeding horses, the boys.’

b) Hó-jes-w-á li-pé:re. 
17-feed-PAS-MOD 10-horses 
‘There are horses being fed.’

2.2.4 Status of the Locative Subject Prefix

Whereas inverted locatives display a number of subject properties comparable to the equivalent constructions in Chichewa, the subject prefix ho- patterns like an expletive in that it is used in impersonal constructions, cf. Demuth (1990: 242f.):

(52) a) Hó-a-bát-a+ ká-ntlé 
17-PRS-cold-MOD PP-outside 
‘It’s cold outside.’

b) Hó-náhan-w-a hore malómé ó-bohlále 
17-believe-PAS-MOD COMP 1:uncle 1:COP-wise 
‘It is believed that (my) uncle is wise.’

Diverging even more from Chichewa (see (14)–(15) above), the prefix ho- is semantically empty and never carries any pronominal reference. That’s why it cannot anaphorically refer to a dislocated locative topic (Demuth 1990: 242f.):

(53) a) Hó-fihl-il-é ntaté 
17-arrive-PRF-MOD father 
‘There arrived father.’
b) *Ma-simo-ng o-nahan-a hore ho-il-e ba-eti teng?
6-fields-LOC 2s-believe-MOD COMP 17-go:PRF-MOD 2-visitors there
'To the fields, do you think that the visitors went there?'

What conclusion is to be drawn from these facts? Although inverted locatives are best analyzed as subjects, the agreement properties of the verb in these constructions are confusing. The use of the locative prefix ho- in impersonal constructions suggests that its occurrence depends on the availability of a subject it may agree with.

2.2.5 Argument Structure

Sesotho permits inversion constructions18 with a far wider range of verb types than Chichewa:

2.2.5.1 Unaccusatives

(54) a) Ba-eti bá-tl-il-é mo-tsé-ng
2-travelers 2-come-PRF-MOD 3-village-LOC
The visitors came to the village.’

b) Mo-tsé-ng hó-tl-il-é ba-eti.
3-village-LOC 17-come-PRF 2-travelers
'To the village came the travelers.’

Demuth (1990: 235)

2.2.5.2 Passivized Transitives

(55) Nokáné-ng hó-fúmán-w-é li-pólí ké molísána
9:river-LOC 17-find-PAS-PRF 10-goats by 1:herder
'At the river were found goats by the herder.’

Demuth (1990: 237)

As opposed to Chichewa, the agent-phrase is permitted.

2.2.5.3 Passivized Applicatives

(56) Peísó-ng hó-math-el-éts-w-é mo-rena.
9:race-LOC 17-run-APL-PRF-PAS-MOD 1-chief
Lit.: 'In the race has been run for the chief.’

Demuth (1990: 238)

2.2.5.4 Ditransitives

As for ditransitives, only the passivized verbs undergo locative inversion (Machobane 1995: 131, fn. 11):

(57) a) Ntató ó-f-á bana lijó.
1:father 1-give-IND 2:children 8:food
'My father gives food to the children.'

b) *Lape-ng ho-f-a ntate bana lijó.
5:home-LOC 17-give-IND 1:father 2:children 8:food
Lit.: 'At home gives father the children food.'

18 The statements made below pertain to both locative inversion and expletive constructions. I will assume their comparability without argument.
Inversion constructions occurring with other types of verbs, i.e. passivized unaccusatives or unergatives, all seem to be impersonal:19

2.2.5.5 Passivized Unaccusatives

(58) a) Hó-ém-é pére.
    17-stand-PRF  9:horse
    ‘There is standing a horse.’

b) Hó-a-éng-w-a+.
    17-stand-PAS-MOD
    Lit.: ‘There is being stood.’
    Demuth (1990: 237f.)

2.2.5.6 Passivized Unergatives

(59) a) Hó-bin-á ba-sáli+.
    17-sing-MOD  2:woman
    ‘There are women singing.’

b) Hó-a-bin-w-a+
    17-PRS-sing-PAS-MOD
    Lit.: ‘There is being sung.’
    Demuth (1990: 237f.)

2.2.5.7 Object-Drop Verbs

Passivized object-drop verbs undergo locative inversion; there is no data on the active equivalents available (Demuth 1990: 238):

(60)  Hó-a-j-éw-a+.
    17-PRS-PAS-eat-MOD
    ‘There is being eaten.’

2.2.5.8 Summary

Sesotho allows locative inversion in most cases, except when both an agent and a theme are present.

2.2.6 Information Structure

The information structural conditions for the occurrence of the two inversion constructions are apparently similar to those in Chichewa, see Demuth (1990: 245). Unfortunately, the author makes no explicit statement as to whether impersonal constructions and locative inversion are information structurally equivalent or not. At any rate, the passivized

19 Since the authors do not indicate on what grounds they distinguish unaccusatives from unergatives, it is problematic to find further examples in their text. One would have to rely on some semantic intuition, most likely biased by the English translation... Possible examples for locative inversion with unergatives can be found in Demuth (1990: 241) ‘herd’ and Machobane (1995: 132) ‘spit’.
intransitives surely cannot function as a presentational focus construction as there is no NP that could be used to introduce a new referent.

### 2.2.7 Categorical Status of Locatives

Several analyses for the categorical status of locatives in Sesotho have been proposed. Demuth (1990), basing herself on word order facts, concludes that locatives are adverbs since they pattern together with temporal adverbs. She is however neglectful of several facts which suggest a different analysis:

First, locatives may take modifiers (possessors, quantors, demonstratives etc.) agreeing with them in noun class (Machobane 1995: 118):

(61) a) Motse-ng *há-Masúpha* hó-na-lé-libetsa.
   3:village-LOC 17:POSS-name 17-be-with-8:firearms
   ‘At Masupha’s village there are firearms.’

   b) Motse-ng hó-hle hó-tlets-é lipampíri.
   3:village-LOC 17:all 17-full-PRF 10:papers
   ‘All over the village it is full of papers.’

Though allowing locatives in subject position (see above), Sesotho differs from Chichewa in apparently disallowing locatives in object position. Locatives may of course follow the verb but even if they carry a non-locative semantic role, they may not trigger object agreement (Machobane 1995: 122):

(62) a) Banna bá-rat-á motse-ng.
   2:men 2-like-IND 3:village-LOC
   ‘Men like it in the village.’

   b)*Banna ba-*hó-rat-a motse-ng.
   2:men 2-17:OBJ-like-IND 3:village-LOC
   ‘Men like it in the village.’

However, as was mentioned above, locative subjects that are raised to object do not trigger object agreement either; consequently, the lack of agreement may be due to some independent reason and not to a lack of objecthood.

Like locatives in Chichewa, they may also occupy oblique and adjunct positions (Machobane 1995: 126):

(63) Basáli bá-pheh-ilé nama setófó-ng.
   2:women 2-cook-PRF 9:meat 7:stove-LOC
   ‘The women have cooked meat on the stove.’

See 3.2.2 for the theoretical implications of this issue.
2.3  Chishona

2.3.1  Inventory of Locative Morphology

Chishona has retained all three locative classes, both in nominal and verbal morphology; 16 \textit{pa}-, 17 \textit{ku}-, 18 \textit{mu}-.

2.3.2  Properties of the Inverted Locative

The properties of the preposed locatives are clearly indicative of its subject status:

2.3.2.1  Subject-Verb Agreement

The verb agrees with the preposed locative in noun class (Harford 1983: 142):

\[(64)\]  
\begin{align*}
\text{a) } & \text{Mombe } \text{dz-áka-vát-á } \text{mú-mu-nda.} \\
& \text{10:cattle 10-PST-sleep-IND 18-3-field} \\
& \text{‘Cattle slept in the field.’}
\end{align*}

\begin{align*}
\text{b) } & \text{Mu-mu-nda } \text{m-áka-vát-á } \text{mómbe.} \\
& \text{18-3-field 18-PST-sleep-IND 10:cattle} \\
& \text{‘In the field there slept cattle.’}
\end{align*}

2.3.2.2  Raising to Subject

Like ordinary subjects, locative subjects can also be subject-raised:

\[(65)\]  
\begin{align*}
\text{a) } & \text{Va-nhu } \text{va-zhinji } \text{va-no-ziva } \text{kuti } \text{mu-mu-nda } \text{m-a-gara } \text{ma-kudo.} \\
& \text{2-people 2-many 2-HAB-know that 18-3-field 18-PST-live 6-baboons} \\
& \text{Lit.: ‘Many people know that in the field live baboons.’}
\end{align*}

\begin{align*}
\text{b) } & \text{Va-nhu } \text{va-zhinji } \text{va-no-ziva } \text{mu-mu-nda } \text{kuti } \text{m-a-gara } \text{ma-kudo.} \\
& \text{2-people 2-many 2-HAB-know that 18-3-field that 18-PST-live 2-baboons} \\
& \text{Lit.: ‘Many people know in the field that live baboons.’}
\end{align*}

2.3.2.3  Raising to Object

Locatives can be raised to become objects of matrix clauses:\footnote{As in the data on Sesotho (2.2.2.3), this example rather looks like topicalization. Since I do not know if object agreement is possible here, I have to leave this question unresolved.}

\[(66)\]  
\begin{align*}
\text{a) } & \text{Va-nhu } \text{va-zhinji } \text{va-no-ziva } \text{kuti } \text{mu-mu-nda } \text{m-a-gara } \text{ma-kudo.} \\
& \text{2-people 2-many 2-HAB-know that 18-3-field 18-PST-live 6-baboons} \\
& \text{Lit.: ‘Many people know that in the field live baboons.’}
\end{align*}

\begin{align*}
\text{b) } & \text{Va-nhu } \text{va-zhinji } \text{va-no-ziva } \text{mu-mu-nda } \text{kuti } \text{m-a-gara } \text{ma-kudo.} \\
& \text{2-people 2-many 2-HAB-know 18-3-field that 18-PST-live 2-baboons} \\
& \text{Lit.: ‘Many people know in the field that live baboons.’}
\end{align*}

\footnote{I gratefully acknowledge the help of Carolyn Harford and Callisto Mudzingwa. All the examples without explicit reference were generously provided by them.}
2.3.2.4 Relativization

The locative can be extracted by relativization (Harford 1983: 135; 141):

(67) a) Ku-mu-shá u-ko kú-no-gar-a va-nhu a-vo.
   17-3-village that-17 17:PRS-live-IND 2-people those-2
   ‘At that village live those people.’

   17-3-village that-17 17:REL-PRS-live-IND 2-people 2many 17-have 3-market
   ‘At the village, where many people live, there is a market.’

2.3.2.5 Reflexivization

Locatives cannot function as antecedents of reflexives (Harford 1983: 134).

2.3.2.6 Wh in situ

According to Carolyn Harford (p.c.), preverbal locatives do not permit questioning in situ, thus patterning with ordinary subjects in Chishona.

2.3.2.7 Structural Position

The scarce data available suggests that like in the languages discussed so far, the locative XP may precede or follow the VP, in the latter case appearing after VP-adjoined passive agents (Harford 1983: 142; 149)

(68) a) Ku-dangá [VP kw-áká-svik-a va-nhu].
   17-5:cattle-pen 17-PST-arrive-IND 2-people
   ‘People arrived at the cattle-pen.’

   b) [VP Kw-áká-svik-a va-nhu] ku-dangá.
   17-PST-arrive-IND 2-people 17-5:cattle_pen
   ‘There arrived people at the cattle-pen.’

   c) [VP Kw-á-uray-iw-a mu-rúmé né-shumba] ku-ru-kova.
   17-PST-kill-PAS-IND 1-man by-9:lion 17-11-river
   ‘At the river was killed a man.’

Demuth/Harford (1999), working in the government-binding framework, argue that locative subjects occupy either the regular subject position (Spec-of IP) or are extraposed from there to the right. This account differs from the abovementioned by Bresnan/Mchombo (1987) on Chichewa where it is maintained that postverbal subjects are not extraposed.

2.3.3 Properties of the Inverted Logical Subject

Like the logical subjects in the languages discussed so far, the postverbal NP in Chishona behaves not like a typical object; the data is however not sufficient to reach a conclusive result.

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22 This translation might not be accurate as it suggests an expletive construction with a postposed subject. The correct translation depends on how to interpret the locative verbal agreement – is it just a dummy used in impersonal (i.e. subjectless) sentences or is it a true referential pronominal argument? See 2.3.4 for further discussion.
2.3.3.1 Object Agreement

Contrary to what one would expect from a canonical object, the postverbal subject may not be represented by an object marker, regardless of its position relative to the other constituents (Harford 1983: 140f.):

(69) a) Ku-mu-shá u-ko kú-no-támb-á v-aná.
   17-3-home that-17 17-PRS-play-IND 2-children
   'At home there are children playing.'

   b)*Ku-mu-shá u-ko kú-no-vá-támb-á.
   17-3-village that-17 17-PRS-2:OBJ-play-IND
   Lit.: 'At the village play they.'

   c)*Ku-mu-shá u-ko kú-no-vá-támb-á v-aná
   17-3-village that-17 17-PRS-2:OBJ-play-IND 2-children
   Lit.: 'At the village play they, the children.'

   d)*V-aná ku-mu-shá u-ko kú-no-vá-támb-á
   2-children 17-3-village that-17 17-PRS-2:OBJ-play-IND
   Lit.: 'The children, at the village play they.'

2.3.3.2 Passivization

The postverbal theme cannot be promoted to subject by passivization:

(70) a) Mu-mu-nda m-a-gara ma-kudo.
   18-3-field 18-PST-live 6-baboons
   'There are baboons living in the field.'

   b)*Ma-kudo m-a-gar-w-a no-mu-mu-nda.
   6-baboons 6-PST-live-PAS-FV by-18-3-field
   Lit.: 'Baboons are lived by in the field.'

2.3.3.3 Relativization

Inverted themes cannot be extracted by relativization. This entails that they also cannot be wh-extracted because wh-extraction involves clefting and relativization:

(71) a)*Ma-kudo a-m-a-gara mu-mu-nda ...
   6-baboons REL-18-PST-live 18-3-field
   Lit.: 'The baboons that in the field live ...'

   b)*Chii cha-m-a-gara mu-mu-nda?
   (it is) what REL-18-PST-live 18-3-field
   Lit.: 'It is what that in the field there lives?'

2.3.3.4 Definiteness

There is no definiteness effect (Harford 1983: 141):

(72) Ku-mu-shá u-ko kú-no-gar-a va-nhu a-vo.
   17-3-village that-17 17-PRS-live-IND 2-people those-2
   Lit.: 'At that village live those people.'
2.3.3.5 Structural Position

There is no specific data available concerning the position of the logical subject. In all the examples cited by Harford (1983/1990), however, the logical subject immediately follows the verb but precedes VP-adjuncts as well as possibly postposed locative subjects (Harford 1983: 149):

(73)  \[ vp  \ Kw-á-ury-iw-a  \ mu-rúmé  né-shumba  ku-ru-kova. \]
     \[ 17-\text{PST-kill-PAS-IND} \ 1\text{-man} \ \text{by-9:lion} \ 17-\text{11-river} \]
     'A man was killed by a lion at the river.'

See Demuth/Harford (1999) for further discussion.

2.3.4 Status of the Locative Subject Prefix

Harford (1983: 142f.) argues that locative verbal agreement is in fact impersonal concord. The following examples indeed show that locative agreement is used in impersonal constructions without locative-XPs. In this case, the subject prefix is semantically empty, i.e. there is no implication of locality as in Chichewa (Harford 1983: 143):

(74)  Kú-no-fungir-w-a  kuti  Sekúru  vá-ngu  íbenzi.
     \[ 17-\text{PRS-suspect-PAS-IND} \ 1\text{A:uncle} \ 2\text{-my fool} \]
     'It is suspected that my uncle is a fool.'

Additionally, locative agreement is used in weather constructions which are usually regarded as impersonal (Harford 1983: 144):

(75)  Kw-áká-ngá  kw-á-nay-á  zvikúrú  usíkú.
     \[ 17-\text{PST-PRF} \ 17-\text{PST-rain-IND} \ \text{greatly} \ \text{night} \]
     'It had rained hard the night before.'

Regarding locative agreement as impersonal concord does, however, in no way account for the fact, that the verb usually agrees with preposed locatives in noun class. Concerning the factors which control locative agreement, Harford (1983: 150) says: “It appears that any locative NP appearing anywhere in the sentence or context may determine the locative class.” That a postverbal locative controls subject agreement is not very surprising considering the fact that given the appropriate pragmatic context, a subject may in many Bantu languages appear after the VP, cf. Beath (2000).

More revealing is Harford’s statement that a locative NP in the context may determine the locative class. This suggests of course that at least in some instances, the locative prefix is not just a (semantically empty) expletive but rather an incorporated anaphoric pronoun in the sense of Bresnan/Mchombo (1987). See the following convincing example from Harford (1983: 150).

(76)  \textit{Patáfura pákánga pákazára murivo wakáwanda wakásiyanasiyána. Pákánga pásíná húkú nokúti chimpúpuri chákánga cháúrayá húkú.}
     'On a table were many different kinds of vegetables. There were no chickens,
because the storm had killed them.'

Which agreement is chosen in clearly impersonal constructions, is, however, not clear. In their comparative article on locative inversion, Demuth/Mmusi (1997: 16) regard all three locative prefixes as true subject markers, the marker of class 17 having an additional use as

It is far from evident for me that only the class 17 marker has expletive uses since several examples can be found in Harford’s articles where class 16 or 18 markers are used apparently without any locative reference, see e.g. Harford (1983: 143):

(77) **Pa-né mū-nhu Ọ-akā-mirir-a ku-kū-ôn-ā.**

\[16\text{-have }1\text{-person }1\text{-PST-wait-IND INF-you-see-IND}\]

‘There is a person who has been waiting to see you.’

But since in all the putative impersonal examples no context is given, no conclusive statement can be made.

### 2.3.5 Argument Structure

The following data show that Chishona allows locative inversion with a wider range of verbs than Chichewa:

#### 2.3.5.1 Unaccusatives

Both active and passive unaccusatives allow inversion (Harford 1989: 137ff.; 141):

(78) a) **Mu-kádzí á-f-a ku-mu-shá**

\[1\text{-woman }1\text{: PST-die-IND }17-3\text{-home}\]

‘A woman died at home.’

b) **Ku-mu-shá kw-á-f-a mu-kádzi.**

\[17-3\text{-home }17\text{-PST-die-IND }1\text{-woman}\]

‘At home died a woman.’

c) **Ku-mu-shá kw-á-f-iw-a nó-mu-kádzí.**

\[17-3\text{-home }17\text{-PST-die-PAS-IND by-1\text{-woman}}\]

Lit.: ‘At home was died by a woman.’

#### 2.3.5.2 Unergatives

According to Harford (1989: 138), only passivized unergatives undergo locative inversion. There is however a large number of active verbs permitting locative inversion which Harford calls unaccusative but whose semantics are rather typical of unergatives, e.g. verbs like like ‘breathe’, ‘walk’, ‘grieve’ and ‘play’ (Harford 1990: 142):

(79) a) **Ku-mu-shá u-ko kū-no-támb-á v-aná.**

\[17-3\text{-home that-17 }17\text{-PRS-play-IND }2\text{-children}\]

‘There are children playing at home.’

b) **Ku-mu-shá u-ko kū-no-támb-w-a ná-v-aná**

\[17-3\text{-home that-17 }17\text{-PRS-play-PAS-IND by-2\text{-children}}\]

Lit.: ‘At home is being played by children.’

Interestingly, in their comparative article, Demuth/Mmusi (1997: 14) describe Chishona as a language permitting locative inversion only with passivized unergatives. I do however not know, on what basis this statement is made – they adduce no evidence. According to Carolyn Harford (p.c.), verbs like ‘walk’ or ‘play’ do indeed function as unaccusatives. Unfortu-
nately, I do not know what the syntactic correlates of the unergative/unaccusative distinc-
tion are; see also 3.2.4 on this issue.

2.3.5.3 Transitive Verbs

Only passivized transitives undergo locative inversion (Harford 1990: 137):

(80) a) Mi-chero i-no-téngés-éw-a mu-marikete.
   4-fruit 4-PRS-sell-PAS-IND 18-market
   'Fruit is sold in the market.'

   b) Mu-marikete mú-no-téngés-éw-a mi-chero.
   18-market 18-PRS-sell-PAS-IND 4-fruit
   'In the market is sold fruit.'

The passive agent may be expressed (Harford 1983: 138):

(81) Ku-ru-kova kw-áka-ón-ék-w-á shúmba né-mu-kómaná.
   17-11-river 17-PST-see-NEUT-PAS-IND 9:lion by-1-boy
   Lit.: 'At the river was seen a lion by the boy.'

2.3.5.4 Passivized Applicatives

(82) Ku-mu-shá kw-á-uray-ir-w-a babá n’ómbe.
   17-3-home 17-PST-kill-APL-PAS-IND 1A:father 9:cow
   Lit.: 'At home was killed a cow for father.'             (Harford 1990: 141)

2.3.5.5 Object-Drop Verbs

Only passivized object drop-verbs may undergo inversion (Harford 1990: 137, 141):

(83) a) *Mu-mu-nda m-aka-dy-a ma-kudo.
   18-3-field 18-PST-eat-IND 6-baboons
   Lit.: 'In the field ate baboons.'

   b) Mu-mu-nda m-áka-dy-íw-á
   18-3-field 18-PST-eat-PAS-IND
   'In the field was eaten (something).'</n
2.3.5.6 Generalization

Ignoring the uncertainty concerning the active unergatives, one can generalize that
Chishona permits locative inversion if no agent argument is present.

2.3.6 Information Structure

Harford is not very explicit about the discourse function of the inversion construction; she
merely notes that it is used in “presentatives, existentials and impersonal passives” (Harford
1983: 139) without further elaborating on this.
2.3.7 Categorical Status of Locatives

There are several facts suggesting that locatives are NPs in Chishona: First, modifiers agree with them in noun class (Harford 1983: 133):

(84)  a) pa-chi-kóró a-pa
       16-7-school this-16
       ‘at this school’

     b) mu-mu-nda u-mu
       18-3-field that-18
       ‘in that field’

Second, they may appear in subject (as already seen above) and object positions. A prerequisite for the locative’s functioning as object is a semantic role compatible with that function, usually theme and the like. In this case, a locative may trigger object agreement, (Harford 1983: 147):

(85)  Ndi-nó-fung-a kuti ku-mu-shá ha-ndi-chá-mbo-zo-kú-ón-i
       1-PRS-think-IND that 17-3-home NEG-1s-FUT-ever-then-17:OBJ-see-NEG

       mû-u-pényü hwá-ngu hw-ósé.
       18-4-life 14-many 14-whole
       ‘I think that home, I shall not see it again in my whole life.’

As in Chichewa, the locatives may also appear as oblique complements in non-object positions, thereby not displaying any object properties; they can, e.g. not be represented by an object marker (Harford 1983: 147):

(86)  a) Mu-kádzi á-(ku)-f-á ku-mu-shá.
       1-woman 1-(17:OBJ)-die-IND 17-3-village
       Lit.: ‘The woman died in it, in the village.’

     b) Ku-mu-shá mu-kádzi á-(ku)-f-á.
       17-3-village 1-woman 1-(17:OBJ)-die-IND
       ‘In the village, the woman died in it.’


2.4 Setswana

2.4.1 Inventory of Locative Morphology

Setswana exhibits productive use of locative noun class prefixes 16 fa-, 17 ko-/kwa- and 18 mo-. However, like the related Sesotho, locatives are also marked with an invariant locative suffix -ng, the verb taking the invariant class 17 subject agreement prefix go-. In other words, Setswana has rich nominal locative morphology like Chichewa but impoverished verbal agreement morphology like Sesotho.

2.4.2 Properties of the Inverted Locative

The available data suggest that inverted locatives are grammatical subjects:

2.4.2.1 Subject-Verb Agreement

Locatives trigger class-17-agreement when appearing preverbally (87b); however, locative agreement leads to ungrammaticality if the locative is only topicalized, i.e. moved before the subject (87c). In this case, the verb agrees with the logical subject (87d):

(87) a) Ba-símané bá-éme fá-se-tlharé-ng.
    2-boys 2-stand:PRF 16-7-tree-LOC
    'The boys are standing by the trees.'

b) Fá-se-tlharé-ng gó-émé ba-símané.
    16-7-tree-LOC 17-stand:PRF 2-boys
    'By the trees are standing boys.'

c) *Mó-le-fátshé-ng di-kgomó gó-á-fula.
    18-5-country-LOC 10-cattle 17-PRS-graze
    'In the country the cattle are grazing.'

d) Mó-le-fátshé-ng di-kgomó dí-á-fula.
    18-5-country-LOC 10-cattle 10-PRS-graze
    'In the country the cattle are grazing.'

    Demuth/Mmusi (1997: 4f.)

2.4.2.2 Raising to Subject

Like ordinary subjects, inverted locatives can undergo subject-to-subject raising (Demuth/Mmusi 1997: 6):

(88) Kwá-Gáúte-ng gó-lébélēts-w-é ___ go-na.
    17-G.-LOC 17-expect-PAS-PRF 15-rain
    'In Johannesburg it is expected to rain.'
2.4.2.3 Relativization

In relative clause formation, a relative complementizer agreeing in gender with the head noun and an invariant relative marker –ng suffixed to the embedded verb are employed. If inverted locatives are extracted, the verb takes class-17-agreement (Demuth/Mmusi 1997: 7):

(89)  Fá-se-tlharé-ng  fá    gó-émé-ng      ba-símané.
       16-7-tree-LOC   16:REL  17-stand:PRF-REL  2-boys
Lit.: ‘By the tree where there stand the boys.’

2.4.3 Properties of the Inverted Logical Subject

Unfortunately, there are almost no data whatsoever on the properties of the logical subject. Katherine Demuth (p.c.) has informed me, however, that Setswana patterns with closely related Sesotho in this respect.

2.4.3.1 Definiteness

The inverted subject may be a free pronoun thereby entailing that there is no definiteness effect (Demuth/Mmusi 1997: 11):

(90)  Gó-tlá-sálá   wená.
       17-fut-remain you
‘There will remain you.’

2.4.4 Properties of the Locative Subject Prefix

As opposed to Chichewa (and probably Chishona) but like Sesotho, the locative prefix does not retain locative reference if the locative subject is dropped, i.e. it does not function as an anaphoric incorporated pronoun but rather as an expletive. As the following examples show, no locative reading, but an impersonal reading results (Demuth/Mmusi 1997: 8f.):

(91)  a) Fá-se-tlharé-ng  gó-émé     ba-símané.
       16-7-tree-LOC   17-stand:PRF  2-boys
‘By the trees are standing boys.’

       b) Gó-émé     ba-símané.
       17-stand:PRF  2-boys
Lit.: ‘There stood up boys.’

The verbal agreement marker go- therefore seems to be functionally ambiguous serving either as a grammatical agreement marker with locative subjects or as a dummy expletive subject.

The locative prefix thus differs radically from the other verbal agreement markers in Setswana which according to Demuth/Johnson (1989) are best analyzed as incorporated anaphoric pronominals. This in turn might have crucial consequences for the analysis of phrase structural relations in locative inversion constructions: Whereas ordinary lexical NPs can never occupy the subject position but function exclusively as dislocated topics – see Demuth/Johnson (1989) – locative subjects are perhaps not to be analyzed this way, but rather as real subjects occupying the canonical subject position. This in turn might entail that locative subjects (but not ordinary subjects, see Demuth/Johnson (1989: 26f.) can be
questioned in situ. More data on word order and extraction is needed, however, in order to confirm this hypothesis.

2.4.5 Argument Structure

Setswana allows locative inversion with a far larger range of verb types, excluding only active transitives and ditransitives, i.e. argument structures containing both an agent and a theme (Demuth/Mmusi 1997: 11ff.):

2.4.5.1 Unaccusatives

(92) a) Gó-fitlh-ilé rré.  
17-arrive-PRF 1A:father  
‘There arrived father.’

b) Gó-fitlh-ilwe.  
17-arrive-PRF:PAS  
‘There has been arrived.’

2.4.5.2 Unergatives

(93) a) Gó-biná ba-sádi  
17-sing 2-women  
Lit.: ‘There are women singing.’

b) Gó-a-bin-wa.  
17-PRS-sing-PAS  
Lit.: ‘There is being sung.’

2.4.5.3 Transitives

(94) a) *Gó-ét-ela ba-símané kokó.  
17-visit-APL 2-boys 1A:grandmother  
‘There are boys visiting the grandmother.’

b) Gó-tlháb-ilwé pódi.  
17-slaughter-PRF:PAS 9:goat  
‘There has been slaughtered a goat.’

2.4.5.4 Passivized Applicatives

(95) Kó-di-kgáisano-ng gó-tábóg-étswé kgósi.  
17-10-race-LOC 17-run-APL:PRF:PAS 9:chief  
‘In the race there has been run for the chief.’

2.4.5.5 Ditransitives

(96) Gó-róm-él-éts-wé ba-sádi nama ké kgósi.  
17-send-APL-PRF-PAS 2-woman 9:meat by chief  
‘There was sent some meat to the woman by the chief.’

As the last example shows, passive agents are permitted. There remains a problem, however:
The authors (like those on Sesotho) assume that locative inversion constructions show the same behavior as the impersonal constructions. However, this tacit assumption ought to be empirically tested. Interestingly, when discussing verb types, the authors present only examples of impersonal constructions. At least in Kinyarwanda, the two constructions do not pattern identically, see 2.7.4.

2.4.6 Information Structure

The discourse context in which locative inversion or the impersonal construction are used seem to be the same as in Chichewa, see Demuth/Mmusi (1997: 8). But again, as I have already mentioned in 2.2.6, the passivized intransitives surely must be of a different type.

2.4.7 Categorical Status of Locatives

The only data available concerns agreement with modifiers: Apart from concord with the nominal stem (alternative concord), adjectives, demonstratives etc. may agree with a locative XP in noun class, see Demuth/Mmusi (1997: 4):

(97) kó-mo-tse-ng kwá
    17-3-village-LOC 17:DEM
    ‘at that village’
2.5 Tshiluba

2.5.1 Inventory of Locative Morphology

Of the proto-Bantu locative classes, Tshiluba has retained all three in both verbal and nominal morphology; 16 \textit{pa}-, 17 \textit{ku}- and 18: \textit{mu}-. 

2.5.2 Properties of the Inverted Locative

The data are rather scarce but generally indicative of the inverted locatives’ subject status:

2.5.2.1 Subject-Verb Agreement

Preposed locatives trigger subject-verb-agreement like any other subject (Stucky 1978: 111):

(98) \textit{pa}-mesa a-\textit{pa} \textit{pa}-di pa-bole.
    16-table this-16 16-be 16-wet
    ‘On this table it is wet.’

2.5.2.2 Raising to Subject

Like ordinary subjects in Tshiluba, inverted locatives may be raised from an embedded clause to the subject position of the superordinate clause (Kamwangamalu 1985: 130):

(99) a) Bi\textsuperscript{23}-di bi-mwenek-a ne mu-mulangi mu-di mayi.
    it-is it-seem-FV that 18-bottle 18-is water
    ‘It seems that in the bottle is water.’

    b) Mu-mulangi mu-di mu-mwenek-a ne mu-di maayi.
    18-bottle 18-is 18-seem-FV that 18-is water
    ‘In the the bottle seems to be water.’

2.5.2.3 Reflexivization

Like in Sesotho, inverted locatives can bind reflexives (Stucky 1978: 112):

(100) Mu-tshi-bunda e-mu mu-di-shimbula
    18-7-garden this-18 18-REFL-collapse
    Lit.: ‘Inside this garden fell in itself.’

Here, the same criticism applies as in the example from Sesotho 2.2.2.6: As the author does not indicate how this sentence is to be interpreted, its significance remains dubious.

\textsuperscript{23} \textit{bi} is a prefix used for unspecified subjects, i.e. in impersonal constructions.
2.5.3 Properties of the Inverted Logical Subject

The logical subject fails the usual tests for objecthood in Bantu: It can neither be passivized (101b) nor pronominalized (102b), see Stucky (1976: 183f.)

18-4-ground 18-ground 18-be 18-grow 7-manioc
'In the cultivated ground is growing manioc.'

b)*Tshi-ombe tshi-di tshi-menibue kudi mu-bu-loba mu-fuke.
7-manioc 7-be 7-be_grown by 18-4-ground 18-cultivated
'Lit.: Manioc is being grown by in the cultivated ground.'

(102) a) Mu-tshi-salu e-mu mu-enda ba-kaji.
18-7-market this-18 18-walked 2-women
'Into the market walked two women.'

b)*Mu-tshi-salu e-mu mu-ba-enda.
18-7-market this-18 18-2:obj-walked
Lit.: 'Into the market walked them.'

2.5.4 Properties of the Locative Subject Prefixes

There is no discussion of this aspect in the literature, but see ex. 9-11 in Kamwangamalu (1985: 115) which might indicate that the locative prefixes are in fact pronominal arguments.

2.5.5 Argument Structure

According to Stucky (1978: 110), locative subjects appear only in existential sentences with the verb di 'be'. In the subsequent discussion, she does however list quite a number of examples with passivized verbs involving locative inversion which suggests that the distribution is not nearly as limited as she claims. Instead, the range of types of verbs permitting the inversion construction seems to be similar to that of other Bantu languages:

2.5.5.1 Intransitives

Stucky does not make the split intransitivity distinction; judging by the semantics, it seems certain that unaccusatives undergo locative inversion (Stucky 1978: 111):

(103) a) Mi-kanda i-di pa-mesa a-pa.
4-book 4-be 16-table this-16
'Books are on this table.'

b) pa-mesa a-pa pa-di mi-kanda.
16-table this-16 16-be 4-books
'On this table are books.'
As to other intransitives, the only examples which can be found involve the passivized verbs *iman* ‘stand’ and *ay* ‘get rancid’, cf. Kamwangamalu (1985: 127) and Stucky (1978: 117):

(104) a) Mwana u-du u-iman-a pa-mesa
    1:child 1-is 1-stand-FV 16-table
    ‘The child is standing on the table.’

b) Pa-mesa pa-di pa-iman-ibw-a kudi mwana
    16-table 16-is 16-stand-PAS-FV by 1:child
    ‘On the table is stood by the child.’

c) *Mu-lisho LOWA mu-nene mu-ay-ibue kudi ma-futa
    18-7-calabash 18-big 18-get-rancid-PAS by 6-oil
    ‘In the calabash was gotten rancid by the oil.’

Suppose *iman* is an unergative and *ay* an unaccusative verb, one could derive the generalization that passivized unergatives but not passivized unaccusatives permit locative inversion. Yet considering the scarcity of data, this is very speculative.

2.5.5.2 Transitives

Passivized transitive verbs undergo inversion,\(^{24}\) the passive agent may surface (Kamwangamalu 1985: 125):

(105) a) Mwivi u-aku-kum-a baana mu-nzubu.
    1:thief 1-TAM-beat-FV 2:children 18-house
    ‘The thief beat the children in the house.’

b) Baana ba-aku-kum-ibw-a mu-nzubu kudi mwivi
    2:children 2-TAM-beat-PAS-FV 18-house by 1:thief
    ‘The children were beaten in the house by the thief.’

c) Mu-nzubu mu-aku-kum-ibw-a baana kudi mwivi
    18-house 18-TAM-beat-PAS-FV 2:children by 1:thief
    ‘In the house were beaten the children by the thief.’

2.5.5.3 Ditransitives

As in some of the languages discussed so far, passivized ditransitive verbs allow locative inversion, see Kamwangamalu (1985: 126)

(106) a) Mu-longeshi u-aku-p-a baana bibota ku-kalasa
    1-teacher 1-TAM-give-FV 2:children bananas 17-school
    ‘The teacher gives the children bananas at school.’

b) ku-kalasa ku-aku-p-ibw-a baana bibota kudi mu-longeshi
    17-school 17-TAM-give-PST-FV 2:children bananas by 1-teacher
    Lit.: At school were given the children bananas by the teacher.'
2.5.5.4 Object-Drop Verbs

Passivized object-drop verbs undergo inversion (Stucky 1978: 117):

(107) Mutilongelu mu-nene mu-bad-ibue kudi mu-kaji.
18-7-school 18-big 18-read-PAS by 1-woman
‘In the big school was read by the woman.’

2.5.6 Categorical Status of Locatives

There is ample evidence showing that locatives function as NPs in Tshiluba. First, they agree in noun class with their modifiers (Stucky 1978: 108):

(108) pa-mesa pa-nene
16-table 16-big
‘on the big table’

Second, they may freely appear in subject (see above) and object position. In the following examples, the locative phrase shows direct object properties in triggering object agreement and in passivizing (Stucky 1978: 114ff.):

(109) a) mu-kaji u-nanga ku-n-zubu ku-nene.
1-woman 1-like 17-10-house 17-big
‘The woman likes it at the big house.’

b) ku-n-zubu ku-nene mu-kaji u-ku-nanga/*u-nanga-ku
17-10-house 17-big 1-woman 1-17:OBJ-like 1-like-17
‘At this big house, the woman likes it there.’

c) ku-n-zubu e-ku ku-nang-ibue kudi mu-kaji
17-10-house this-17 17-like-PAS by 1-woman
‘The atmosphere at this house is liked by the woman.’

In these examples – as in comparable examples from Chichewa and Chishona – the locative-NP carries a semantic role that can be mapped onto the object function. Locatives may also surface as oblique complements or adjuncts. In this case, object agreement is impossible; instead, a resumptive pronoun suffixed/cliticized to the verb must be used (this in turn is impossible with direct objects, see the previous example). If such locatives appear as subjects after passivization, it is not the passive rule but the inversion rule that has promoted the locative (Stucky 1978: 114ff.):

(110) a) mu-kaji u-di u-bala mu-tshi-longelu mu-nene
1-woman 1-be 1-read 18-7-school 18-big
‘The woman is reading in the big school.’

b) Mu-tshi-longelu mu-nene mu-kaji u-di u-bala-mu/*u-mu-bala
‘In the big school, the woman is reading in it.’

25 For another example involving topicalization, see Kamwangamalu (1985: 131). Additional evidence for the locatives object status comes from object-to-subject raising (tough movement), see Kamwangamalu (1985: 129). However, Stucky (1976: 193) cites an example with an intransitive verb taking an locative object marker.
c) Mu-tshi-longelu mu-nene mu-bad-ibue kudi mu-kaji.26
18-7-school 18-big 18-read-PAS by 1-woman

'In the big school was read by the woman.'

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26 Such an example raises the question whether locative inversion is restricted to locative arguments since a verb like read usually does not take a locative argument. See 3.1.3 for some discussion.
2.6 Kichaga

2.6.1 Inventory of Locative Morphology

Kichaga preserves two of the three proto-Bantu locative subject prefixes: ha- (16: specific location) and ku- (17: general or interior location). As for the nominal morphology, there is basically only one noun that takes locative gender prefixes: -ndu ‘place’. Other locatives are derived by suffixation of -nyi while some nouns are inherently locative.

2.6.2 Properties of the Inverted Locative

The preposed locatives display a number of subject properties:

2.6.2.1 Subject-Verb Agreement

As there is only one noun that takes gender prefixes, subject-verb agreement is very limited (Moshi 1995: 131):

\[(111)\]  
\[\text{Ha-ndu ha ha-wozre kando.}\]  
16-place here 16-have food  
‘The place here has food.’

The choice of subject prefix with other nouns depends on their semantics: Nouns like mesa-nyi ‘on the table’ whose meaning includes surface areas tend to be associated with ha- (specific) while nouns like mlri-nyi ‘in the city’ that denote interior locations tend to cooccur with ku-.

2.6.2.2 Raising to Subject

Locatives undergo raising to subject (Moshi 1995: 135):

\[(112)\]  
\[\text{a) Ki-keri ruko-nyi ku-aka mozro.}\]  
it-seem 9:kitchen-LOC 17-light fire  
Lit.: ‘It seems that in the kitchen burns a fire.’

\[\text{b) Ruko-nyi ku-keri i-aka mozro.}\]  
9:kitchen-LOC 17-seem INF-light fire  
Lit.: ‘In the kitchen seems to burn a fire.’

2.6.2.3 Raising to Object

Kichaga exhibits the clearest instances of raising to object as the raised locative triggers object agreement on the matrix verb (Moshi 1995: 138):

\[(113)\]  
\[\text{a) Wafee we-chi (kye) kayi ku-kye-lrika shifoi.}\]  
2:parent 2-know that attic 17-hab-hide 7:much  
‘The parents know that (in) the attic hides a lot of things.’

\[\text{b) Wafee wa-ku-ichi ku-kye-lrika shifoi.}\]  
2:parent 2-17O-know 17-hab-hide 7:much  
‘The parents know there to hide a lot of things.’
2.6.2.4 Reflexivization

According to Moshi (1995: 135): locative subjects may control a reflexive:

(114) Numbe-nyi ku-ku-wozre tse.
9:house-LOC 17-REFL-hold tight
‘On the house is tight (the roof of the house if tightly held)’

As in previous instances of reflexivization, the meaning of such sentences is rather obscure.

2.6.2.5 Wh in situ

Like other subjects in Kichaga, inverted locatives allow wh in situ (Moshi 1995: 134):

(115) Ku-i ku-le-ca ma-lruwu
17-q 17-pst-come 6-banana
‘From where came bananas?’

2.6.3 Categorical Status of Locatives

Locatives are NPs in Kichaga. First, they take modifiers (Moshi 1995: 133):

(116) Numbe-nyi ko Ohanyi ku-wozre singi ya kileghe.
9:house-LOC 17:POS John 17-have 9:nest 9:POS 7:bird
‘On John’s house is a bird nest.’

Second, locatives may occur in object position: they can be referenced on the verb even if
the carry the semantic role LOCATIVE (Moshi 1995: 136):27

(117) a) Mana n-a-le-zrica mlr-nyi.
1:child FOC-1-PST-run 3:city-LOC
‘The child ran into the city.’

b) Mana n-a-le-ku-zrica.
1:child FOC-1-PST-17O-run
‘The child ran into it.’

If the locative is not subcategorized, it does not possess any object properties and therefore
should be analyzed as an oblique adjunct: It cannot occur immediately after the verb nor
does it trigger object agreement if left-dislocated (Moshi 1995: 140f.):

(118) a) N-a-le-zrema memba nuka.
FOC-1-PST-cultivate 6:maize 9:farm_land
*S/ he cultivated maize on the farm.’

b)*Sangazra, mka n-a-le-ku-ulr-i-a mana malruwu.
‘At the market, the woman bought there bananas for the child.’

27 Alleged cases of passivization of direct object locatives (Moshi 1995: 139) are probably better explained as locative inversion involving a passivized transitive verb.
2.7 Kinyarwanda

2.7.1 Inventory of Locative Morphology

According to Kimenyi (1980: 32ff.), there is no nominal locative morphology in Kinyarwanda anymore; locatives are instead marked by the prepositions *i*, *ku*, *mu*. The latter two are, of course, very similar to classes 17 and 18. Yet the fact that these elements mark the whole noun phrase and not every constituent in it (i.e., demonstratives for instance do not agree with the head noun), suggests, that we are indeed dealing with prepositions. Concerning verbal morphology, the only subject marker used in locative inversion constructions is that of class 16: *ha-*. 

2.7.2 Properties of the Inverted Locative

According to Polinsky (1993: 345), the preposed locatives do not possess any subject properties whatsoever:

2.7.2.1 Subject-Verb Agreement

The locatives trigger class 16 agreement (Polinsky 1993: 346):28

(119) a) Aba-shiytsi ba-ra-siinižir-a muri iyi inzu.
   2-guest 2-PRG-sleep-IPFV in this house
   ‘The guests are sleeping in this house.’

   b) Muri iyi inzu ha-ra-siinižir-a aba-shiytsi.
   in this house 16-PRG-sleep-IPFV 2-guest
   ‘In this house are sleeping guests.’

It is questionable, however, if this kind of agreement is to be referred to as subject-verb agreement: First, as will be shown in 2.7.4 below, the same type of agreement is used in impersonal constructions. Second, since Kinyarwanda has lost its noun classes, there is no real agreement in noun class, the verb taking the invariant class 16 agreement.

2.7.2.2 Relativization

The locatives resist extraction by relativization, see Polinsky (1992: 296):

(120) *Muri wáa muryaango [haa-vütuts-e umukoöbwa]…
   in that familiy 16:REL-be_born-PRF girl
   ‘In that familiy in which a girl was born…’

---

28 The prepositions *ku* and *mu* are regularly realized as *muri/kuri* if they precede demonstratives, see Kimenyi (1980: 35).
2.7.2.3 Focus Marking

As opposed to regular subjects in Kinyarwanda, preposed locatives do not take the focus particle *nyine* ‘only’, see Polinsky (1992: 295):

(121) *ejo mu muryaango waa-njyé wó-nyine ha-Ø-vûuts-e umukoôbwa.
    yesterday in 3:family 3-poss 3-only 16-PST-be_born-PRF girl
    ‘Yesterday only in our family a girl was born.’

2.7.2.4 Structural Position

The locative phrase may appear either preverbally or after the VP but not immediately after the verb, suggesting that the verb forms a unit with the postponed logical subject:

(122) a) ab-shyitsi ba-ra-riiriimbir-a mu gisagâra
    2-guest 2-PRS-sing-IPFV in 7:village
    ‘The guests are singing in the village.’

    b) mu gisagâra [ha-ra-riiriimbir-a aba-shyitsi].
    in 7:village 16-PRS-sing-IPFV 2-guest
    Lit.: ‘In the village there are singing guests.’

    c) [ha-ra-riiriimbir-a aba-shyitsi] mu gisagâra
    16-PRS-sing-IPFV 2-guest in 7:village
    Lit.: ‘There are singing guests in the village.’

    d) *ha-ra-riiriimbir-a mu gisagâra aba-shyitsi
    16-PRS-sing-IPFV in 7:village 2-guest
    ‘There are guests singing in the village.’

2.7.3 Properties of the Inverted Logical Subject

There is clear evidence that the inverted subject is not a subject; conversely, with regard to most syntactic tests, the inverted subject does not behave like an ordinary object:

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29 The fact that preposed locatives do not even take the focus particle *gusa* ‘only’, which is generally used for non-subjects, suggests that the ungrammaticality might be due to information structure and not to the grammatical relation borne by the locative, see Polinsky (1992: 304, fn. 8).

30 The translations of the following examples are in accordance with the conclusion reached further below that locative inversion constructions are all impersonal in Kinyarwanda. The structure of the examples is therefore understood as being similar to their English equivalents (there-constructions with pre- or postposed locatives).
2.7.3.1 No Subject Properties:

The inverted subject lacks all subject properties whatsoever: It cannot be modified by the (focus-) particle nyiné but only by gusa which is generally used for objects and non-terms, it cannot control the zero subject (PRO) of an infinitival purpose clause and lastly cannot be deleted in conjunction reduction (Polinsky 1993: 344f.):

\[(123)\]
\[
a) \text{Muri iyi inzu ha-ra-siinziir-a aba-shyitsi gusa/*bóo-nyiné.} \\
\hspace{1cm} \text{in this house 16-PRG-sleep-IPFV 2-guest only 2-only} \\
\hspace{1cm} \text{‘In this house are sleeping only guests.’} \\
b) *Muri iyi inzu ha-ra-siinziir-a aba-shyitsi [Ø ku-guma]. \\
\hspace{1cm} \text{in this house 16-PRG-sleep-IPFV 2-guest INF-rest} \\
\hspace{1cm} \text{‘In this house are sleeping guests to get some rest.’} \\
c) *Muri iyi inzu ha-ra-siinziir-a aba-shyitsi ha-ra-na-hiigiz-a [Ø] \\
\hspace{1cm} \text{in this house 16-PRG-sleep-IPFV 2-guest 16-PRG-seq-snore-IPFV} \\
\hspace{1cm} \text{‘In this house are sleeping the guests and are snoring.’}
\]

2.7.3.2 Relativization

The inverted subject cannot be extracted by relativization (Polinsky 1993: 347):

\[(124)\]
\[
*aba-shyitsi [mu gisagára haa-ra-riiimbir-a] \\
\hspace{1cm} \text{2-guest in 7:village 16:REL-PRS-sing-IPFV} \\
\hspace{1cm} \text{‘The guests that in the village are singing.’}
\]

2.7.3.3 Questionability

The inverted subject may be questioned in situ but not wh-extracted (Polinsky 1993: 355):

\[(125)\]
\[
a) \text{kw’ iishuûri ha-Ø-boón-w-e iki?} \\
\hspace{1cm} \text{in school 16-PST-see-PAS-PRF what} \\
\hspace{1cm} \text{‘At school was found what?’} \\
b) *iki kw’ iishuûri ha-Ø-boón-w-e? \\
\hspace{1cm} \text{what in school 16-PST-see-PAS-PRF}
\]

2.7.3.4 Structural Position

In addition to the facts shown in (122), there is corroborating evidence from phrasal phonology showing that the verb and the inverted subject form a single tonal phrase, patterning in this respect with the sequence verb-direct object, see Polinsky (1993: 348f.; 1995: 366f.) for details.

Interestingly, constituency tests reveal a structural property of the inverted subject mentioned nowhere else in the literature: It seems to be bound even more tightly to the verb

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31 Another subject property the inverted logical subjects do not possess is the control of reflexives, see Polinsky (1995: 365).

32 Unrestrictive relative clauses, however, are possible, see Polinsky (1995: 369) for an explanation with reference to information structure.
than a direct object: as opposed to the latter, the postponed subject may not be separated from the verb by manner particles, see Polinsky (1993: 348):

(126) a) Umukoôbwa ya-Ø-mesh-e cyaane imyéenda  
1:girl 1-PST-wash-PRF PRT clothes  
'The girl washed the clothes hard/well.'

b) Mu máazi h-Ø-oog-a (*cyaane) aba-húungu cyaane.  
in water 16-PRS-swim-IPFV PRT 2-boy PRT  
Lit.: 'In the water swim boys a lot.'

2.7.4 Properties of the Locative Subject Prefix

As is to be expected from a language with impoverished verbal locative morphology, the locative subject prefix can function as an expletive in impersonal constructions (Kimenyi 1980: 187ff.):

(127) a) Ha-rá-shyúushy-e.  
16-PRS-be_warm-ASP  
'It is warm.'

b) Ha-ra-som-a úmw-áana.  
16-PRS-read-ASP 1-child  
Lit.: 'There is reading the child.'

This construction is limited to intransitive and passivized transitive verbs, see Kimenyi (1980: 188) and Polinsky (1993: 354) for further examples. According to Polinsky (1992: 296), the locative prefix never has any locative reference; it is therefore best analyzed as an expletive subject.

2.7.5 Argument Structure

According to Polinsky (1993: 344), Kinyarwanda seems to allow locative inversion in exactly the same cases as Sesotho and Setswana, i.e. with intransitive and passivized transitive verbs. I do not know, if inversion applies to passivized intransitives.

2.7.5.1 Unaccusatives

(128) a) Ubu-ríri bu-biiri bu-Ø-ri muri iyi inzu.  
14-bed 14-two 14-PRS-be in this house  
'Two beds are in this house.'

---


34 Kimenyi translates these examples as clefts without further commenting on his choice. The examples suggest, that the postverbal NPs are always definite in this construction differing in this regard from similar existential constructions.

In this house are two beds.\(^{36}\)

**2.7.5.2 Unergatives**

(129) a) ab-shyitsi ba-ra-ririimbir-a mu gisagára

2-guest 2-PRS-sing-ipfv  in 7:village

The guests are singing in the village.'

b) mu gisagára ha-ra-ririimbir-a aba-shyitsi.

in 7:village 16-PRS-sing-ipfv 2-guest

Lit.: 'In the village are singing guests.'

**2.7.5.3 Object-Drop Verbs**

(130) a) Umwáana ya-Ø-ríi-r-iye    mu cyumba.

1:child 1 - PST-eat-apl-prf  in room

'The child ate in the room.'

b) Mu cyûmba ha-Ø-ríi-r-iye     umwáana.

in room 16-PST-eat-apl-prf 1:child

'In the room, there ate a child.'

**2.7.5.4 Passivized Transitives**

(131) kw’ íisôko ha-Ø-guz-w-e      ibi-íntu  bi-taandátu

in market 16-PST-buy-pas-prf 8-thing 8-six

'At the market were bought six things.'

**2.7.5.5 Ditransitives,**

(132) a) Umugabo y-ooherej-e íbárúwa kw’ iipósita

man he-send-asp letter to post_office

'The man sent a letter to the post office.'

b) Kw’ iipósita h-ooherej-w-e íbárúwa n’ úmugabo.

to post_office 16-send-pas-asp letter by man

'To the post office was sent a letter by the man.'

**2.7.6 Subject-Object Reversal**

In addition to locative inversion, Kinyarwanda features a construction where subject and object are reversed:

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\(^{36}\) Here again, I analyze preposed locatives of passivized verbs as being derived through inversion and not passivization, see fn. 6 for arguments. Kimenyi (1980:129), like Kamwangamalu (1985), assumes a promotional rule loc >1. His approach would only then have to be considered superior if it turned out that these locatives behave differently from those used with intransitive verbs.
2.7.6.1 Argument Structure

Subject-object inversion applies to transitive verbs with the preposed theme triggering subject agreement (Kimenyi 1980: 141):

(133) a) Umuhuûmgu a-ra-som-a igitabo.
   boy 1-PRS-read-ASP book
   ‘The boy is reading the book.’

   b) Igi-tabo cyi-ra-som-a umuhuûngu.
   7-book 7-PRS-read-ASP boy
   ‘The book, the boy is reading.’

Reversing does not apply if the verb is ditransitive (Kimenyi 1980: 145):

(134) a) Umu-huûngu y-a-haa-ye umu-koôbwa igi-tabo
   1-boy 1-PST-give-ASP 1-girl 7-book
   ‘The boy gave the girl a book.’

   b) *Igi-tabo cy-a-haa-ye umu-huûngu umu-koôbwa.
   7-book 7-PST-give-ASP 1-boy 1-girl
   ‘The book, the boy gave to the girl.’

According to Kimenyi (1980: 141), only direct objects may undergo this rule, but not oblique NPs such as instruments; they first have to be promoted to direct object:

(135) a) Úmw-áalímu a-ra-andik-a n’ iikárámu.
   1-teacher 1-PRS-write-ASP with pen
   ‘The teacher is writing with a pen.’

   b) *Íkárámu i-ra-andik-a n’ úúmwáalímu.
   pen it-PRS-write-ASP with teacher

c) Íkárámu i-ra-andik-iish-a umwáalímu.
   pen it-PRS-write-APL-ASP teacher
   Lit.: ‘The pen the teacher is writing with.’

---

37 I do not translate these examples as a passive as does Kimenyi since the Kinyarwanda construction bears little resemblance to an English passive as shown subsequently in the text.

38 One may ask whether reversal is ungrammatical because the agent still precedes the recipient. As reversal in Kirundi involves adjunction of the agent to VP, one could expect the example to become grammatical if the agent follows the recipient. However, data in Morimoto (2000c: 215f.) where the postponed agent follows the recipient show that this does not lead to an improvement. In Kirundi, however, some ditransitives do allow reversal, see 2.8.1.4.
Locatives are an exception to this which leads Kimenyi to regard locatives as direct objects. I do, however, analyze the reversal of locatives as locative inversion. Though locatives do possess some properties of direct objects (see 2.7.8), I do not think that they are best analyzed as direct objects since they may undergo promotion to direct object through applicative just like other obliques. Then, they do of course undergo subject-object reversal, (Kimenyi 1980: 142):

(136) Ishuûri ry-a-gii-yé-ho umûnyëeshuûri.

5:school 5-PST-go-ASP-APL student
'To school went the student.'

Formally, locative inversion and subject-object reversal involving promoted locatives are clearly distinct, i.e. they differ with regard to agreement. I do, however, not know if they differ in other respects such as grammatical or discourse function.39

2.7.6.2 Grammatical Function

The term subject-object reversal is probably not fully adequate considering the fact that the grammatical relations of the arguments in this construction are not simply reversed; instead, both arguments are to a large degree syntactically inert, that is neither does the preposed theme display any subject properties nor does the inverted agent behave like an object, see Kimenyi (1980: 142ff.) and Morimoto (2000c: 150–165) for a more detailed presentation.

2.7.6.3 Properties of the preposed Theme

First, the preposed theme may not function as antecedent of a reflexive:

(137) a) Umugabo y-ii-haa-ye igitabo.

man he-REFL-give-ASP book
'The man gave a book to himself.'

b) *Igitabo cy-ii-haa-ye umugabo.

book it-REFL-give-ASP man
*The book gave itself to the man.'

Since reflexivization is in most cases agent-oriented and probably more adequately described in terms of semantic roles instead of grammatical relations (i.e. the higher role binds the lower role, see Manning 1996), the above example might be immaterial to the discussion. But since we have already encountered grammatical examples where an inverted locative binds a reflexive (see above on Tshiluba and Sesotho), the ungrammaticality of the Kinyarwanda examples is still noteworthy.

39 Reversal is possible also with VP and sentential complements, see Morimoto (2000c: 183f.).
Second, the inverted theme cannot be extracted by relativization\(^{40}\) (Morimoto 2000c: 218).\(^{41}\)

(138) *N-kuund-a  igi-tabo gi-som-a  úmw-áana.
I-like-asp  7-book  7-read-asp  1-child
'I like the book that is being read by the child.'

Clefting, which is restricted to core arguments results in ungrammaticality if applied to a
the preverbal patient of a reversal structure, see Morimoto (2000c: 220)

(139) a) Áb-áani  ní  bo   b-a-cii-ye  igi-tabo.
2-child  cop  2:pron  2-PST-tear-asp  7-book
'It is the children that tore up the book.'

7-book  cop  7:pron  7-PST-tear-asp children
'It is the book that was torn by the children.'

As for wh-questioning, a similar situation can be observed: None of the three types of
questions, wh-cleft, pseudo-cleft and wh in situ can be applied to the patient in reversal
constructions (Morimoto 2000c: 220f.):

(140) a) *Ni  iki   cy-aa-som-ye   ab-aana?
cop  what  7-PST-read-asp  2-child
'It is what that the children read?'

b) *Icyo  cy-aa-som-ye   ab-aana  ní  iki?
pro  7-PST-read-asp  2-child  cop  what
Lit.: 'That which read the children is what?'

c) *Iki   cy-aa-som-ye   ab-aana?
7:what  7-PST-read-asp  2-child
'What did the children read?'

The fact that wh-clefting and pseudo-clefting is ungrammatical is little surprising
considering the fact that clefting of the preverbal patient is generally excluded as it involves
relativization (see (138)).\(^{42}\) The restriction against wh-subjects, on the other hand, is a
general property of this language: It only allows topical subjects (Morimoto 2000c: 222):

(141) *Nde  y-a-som-ye   igi-tabo?
who  1-PST-read-asp  7-book
'Who read the book?'

---

\(^{40}\) Relative clauses in Kinyarwanda are marked by a high tone on the verb. Unfortunately, Morimoto (2000c) does not mark the tones in many of her examples. A assume, however, that these verbs do bear a high tone.

**\(^{41}\)** However, free relatives permit reversal, see Morimoto (2000c: 219). Interestingly, Swahili permits relativization of both arguments in a reversal construction, see Morimoto (2000c: 196ff.).

\(^{42}\) An additional cleft-like construction that is not applicable to the reversal construction is the so-called existential construction. See Morimoto (2000c: 223).
Reversed themes may however undergo subject-raising, see Kimenyi (1980: 151f.):

(142) a) Bí-rá-kwii-ye ko ábáana bá-nyw-a amáta.  
   it-PRS/AF-must-ASP that 2:children 2-drink-ASP milk  
   'It is necessary that the children drink milk.'

   b) Bí-rá-kwii-ye ko amáta á-nyw-a ábáana.  
   it-PRS/AF-must-ASP that milk 6-drink-ASP 2:child  
   'It is necessary that milk, the children drink.'

   c) Amáta a-kwii-ye kú-nywa ábáana.  
   milk 6-must-ASP INF-drink 2:child  
   Lit.: 'Milk is necessary that children drink.'

Subject-to-object raising, on the other hand, cannot apply to inverted themes, see Kimenyi (1980: 157).

Reversal is not applicable if the object is represented by an object marker:

(143) a) Abaantu ba-rá-ki-bon-a.  
   2:people 2-PRS-see-7:OBJ-ASP  
   'People see it.'

   b) *Ki-rá-bon-a abaantu.  
   7-PRS-see-ASP people  
   Lit.: 'It see the people.'

2.7.6.4 Properties of the inverted logical Subject

According to Kimenyi (1980: 145), the inverted agent cannot undergo any kind of transformation; for instance, it may not be expressed by an object marker (thus patterning in this respect with the inverted subject in locative inversion of most of the languages already discussed):

(144) a) Ba-ra-som-a igitabo  
   2-PRS-read-ASP 7:book  
   'They are reading the book.'

   b) *Igitabo cyi-ra-ba-som-a  
   7:book 7-PRS-2:OBJ-read-ASP  
   Lit.: 'The book read they.'

Furthermore, as opposed to core arguments, the logical subject cannot be extracted by relativization (Morimoto 2000c: 163):

(145) *N-kuund-a úmw-áana igitabo gi-som-a.  
   'I like the child by whom the book is being read.'

---

43 Morimoto (2000c: 158ff.) questions this analysis since the alleged raising construction has some peculiar properties like being bi-clausal (both verbs can be negated). Her alternative proposal involving topicalization of the theme and topic agreement is, however, not very convincing either.
Like the preverbal patient, it cannot be clefted, see Morimoto (2000c: 220):

(146) *Ab-áana ni bo igi-tabo gi-aa-cii-ye.
    2-child cop 2:pron 7-book 7-PST-tear-asp
    'It is the children by whom the book was torn.'

As for wh-questioning, only in situ questions are acceptable (Morimoto 2000c: 221f):

(147) a) *Ni nde igi-tabo cy-aa-som-ye.
    cop who 7-book 7-PST-read-asp
    'It was who by whom the book was read?'

b) *Uwo igi-tabo cy-aa-som-ye ni nde?
    pro 7-book 7-PST-read-asp cop who
    Lit.: 'The one that the book was read by is who?'

c) Igi-tabo cy-aa-som-ye nde?
    7-book 7-PST-read-asp who
    'By whom was the book read?'

2.7.6.5 Animacy Restrictions

There is also an animacy constraint permitting reversal only if the agent outranks the patient/theme with regard to animacy (Morimoto 2000b: 14ff.):

(148) a) Uwo mu-hungu a-a-ra-gaburiye ubuyabu.
    that 1-boy 1-PST-AF-feed:ASP 14:cats
    'That boy fed the cats.'

b) Ubu-yabu bu-a-gaburiye uwo mu-hungu.
    14-cats 14-PST-feed:ASP that 1-boy
    'The cats the boy fed.'

If the patient/theme is higher in animacy than the agent, reversal results in ungrammaticality:

(149) a) Uru-shiinge ru-ra-joomba-a umw-aana
    11-needle 11-AF-pierce-ASP 1-child
    'The needle will pierce the child.'

b) *Umw-aana a-joomb-a uru-shiinge.
    1-child 1-pierce-ASP 11-needle
    'The child the needle will pierce.'

If both arguments are of equal animacy, reversal does not apply unless the semantic properties of the noun phrases and the verb allow no ambiguous assignment of semantic roles, i.e. if a verb like ‘cut’ takes ‘bread’ and ‘knife’ as its arguments, ‘knife’ will be unambiguously interpreted as agent and ‘bread’ as theme; consequently, reversal is possible; see Kimenyi (1980: 144) and Morimoto (2000b: 14f.) for details.

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44 The same holds for the cleft-like existential construction, see Morimoto (2000c: 222)
2.7.7 Information Structure

Locative inversion seems to have the same discourse function as in other languages; Polinsky (1993: 343) calls it ‘existential’.\textsuperscript{45} The construction also seems to have a contrastive function (Polinsky 1993: 355):

\begin{equation}
\text{kw’ iishuûri h-Ø-igiishiiriz-a umwálimu, ntaa babyéyi}
\end{equation}

in school 16-PRS-teach:APL-IPPV teacher not parents

Lit.: ‘At school teaches the teacher, not the parents.’

The impersonal construction is said to have a cleft meaning, i.e. the postverbal NP is contrastively focused, see Kimenyi (1980: 56). Polinsky (1992: 302) however claims that the subject inversion constructions have the same discourse functions as the locative inversion constructions.

As to the reversal construction, however, Kimenyi (1980: 146) notes that it “has the same functional role as the regular passive rule. That is, it puts the object in the topic position and the former subject in the unmarked focus position.”\textsuperscript{46}

It would, however, be interesting to know, if passive and reversal really occur in free variation. Another unsolved question concerns the common basis of locative und theme inversion.

2.7.8 Categorical Status of Locatives

Locatives may appear in object position and trigger object agreement even if they carry the semantic role LOCATIVE, differing in this regard from most of the languages discussed so far, which allow object marking only if locatives carry a role like theme (Kimenyi 1980: 193):

\begin{equation}
a) \text{Abaantu ba-ri muu nzu.}
\end{equation}

people 2-be in house

‘People are in the house.’

\begin{equation}
b) \text{Abaantu ba-rá-ha-ri, muu nzu.}
\end{equation}

people 2-AP-16:OBJ-be in house

‘People are in it, the house.’

For the use of the suffixed (clitic) pronouns -\textit{mo}/-\textit{ho} see Kimenyi (1980: 192). Other oblique arguments do not allow an object marker in topicalization, instead, a resumptive free pronoun governed by a preposition is required, see Kimenyi (1980: 195).

\footnote{\textsuperscript{45} The assumption that locative inversion is used in the context of presentational focus is further corroborated by the fact that individual-level predicates do not undergo locative inversion: predicates denoting permanent qualities are incompatible with presentation, see Polinsky (1995: 380) and Diesing (1992: Chapter 2).

\textsuperscript{46} According to Yukiko Morimoto (p.c.), the agent in reversal constructions is always contrastively focused while the oblique agent in passive constructions only optionally.}
Another property that sets locatives apart from other obliques is that they are the only ones that can be relativized, see Kimenyi (1980: 67).

Locatives also appear as oblique complements (152a) and adjuncts (152b), (Kimenyi (1980: 89; 96):

(152) a) Umugóre  y-oohere-je  umubooyi kw’ iisóko.
    woman she-send-ASP cook to market
    ‘The woman sent the cook to the market.’

        b) Umu-góre  a-rá-hé-er-a  umu-huûngu  ib-itabo mw’ iishuûri.
        1-woman 1-AF-give-APL-ASP 1-boy 8-book in school
     ‘The woman is giving the books to the boy in the school.’
2.8 Kirundi

Since Kirundi closely resembles Kinyrwanda, I will keep the discussion of locative inversion short while presenting more data on subject-object reversal.

2.8.1 Locative Inversion

2.8.1.1 Properties of the Locatives

The preposed Locatives behave exactly like those in Kinyarwanda in not exhibiting any subject properties; the verb carries the invariant class-16 agreement marker (153a), cannot be relativized and does not take the focus marker for subjects; see Polinsky (1992: 295f.) for the relevant examples:

(153) a) Aba-shyitsi ba-ra-riiimbir-a mu gisagára.
   2-guest 2-PRS-sing-IPFV in village
   'The guests are singing in the village.'

   a) Mu gisagára ha-ra-riiimbir-a aba-shyitsi.
      In 7:village 16-PRS-sing-IPFV 2:guest
      'In the village there are only guests singing.'

2.8.1.2 Properties of the Logical Inverted Subject

Like in Kinyarwanda, the inverted logical subject displays neither subject nor object properties: As to subject properties, it does not take the focus marker for subjects (154a), cannot control into a nonfinite clause (154b), and cannot be deleted in conjunction reduction (154c), see Polinsky (1992: 294):

(154) a)*Mu gisagára ha-ra-riiimbir-a aba-shyitsi bóo-nyine.
    In 7:village 16-PRS-sing-IPFV 2:guest 2:only
    'In the village there are only guests singing.'

    b)*Mu gisagára ha-Ø-j-ye aba-shyitsi, [PRO ku-riiimbira]
    In 7:village 16-PST-come-PRF 2:guest INF-sing
    'To the village, there came guests to sing.'

    c)*Mu gisagára ha-ra-riiimbir-a aba-shyitsi ha-ra-na-sakuz-a Ø,
    In 7:village 16-PRS-sing-IPFV 2:guest 16-PRS-SEQ-cry-IPFV
    'In the village there are guests singing and crying.'

As for object properties, one can observe that the inverted subject cannot be relativized (155a) and that it seems to be equally tightly bound to the verb like in Kinyarwanda as shown by the fact that it cannot be separated from the verb by a particle (155b), (Polinsky 1992: 294f.):

(155) a)*Aba-shyitsi [mu gisagára ha-ra-riiimbir-a]...
    2-guest in village 16-PRS-sing-IPFV
    Lit.: ‘The guests that in the village are singing.’
b) *Mu gisagára ha-ra-riimbir-a nóone aba-shyitsi.
   Lit.: 'In the village, there are guests singing today.'

2.8.1.3 Properties of the Locative Subject Prefix

According to Polinsky (1992: 296), the locative subject prefix is always semantically empty, i.e. there remains no locative reference when the locative XP is dropped. Like in the other languages discussed so far that feature expletive subjects, Kirundi also has impersonal constructions with an expletive subject and inverted subjects. It differs from Kinyarwanda and the other languages in allowing such constructions with transitive verbs. In these constructions, the theme stays in object position, the subject position remains unfilled, the agent follows the direct object and the verb takes the impersonal agreement marker ha- (Ndayiragije 1999: 435f.):

(156) proexp ha-á-(*ra)-tweenze abagoré batatu.
   16-PST-(AF)-smile:PRF women three
   Lit.: 'There smiled three women.'

(157) a) Abâna bá-á-ra-nyôye amatá.
   children they-PST-AF-drink:PRF milk
   'Children drank milk.'

   b) proexp ha-á-nyoye amatá abâna.
      16-PST-drink:PRF milk children
      'Children (not parents) drank milk.'

   c) *proexp ha-á-(*ra)-nyoye abâna amatá.
      16-PST-(AF)-drink:PRF children milk

Like in the reversal constructions to be discussed below, the expletive construction does not permit the wh-extraction of the logical subject (Ndayiragije 1999: 436): 48

(158) a) proexp ha-á-somye ivyo bitabo abantu benshi.
      16-PST-read those books people many
      'Many people read those books.'

   b) *[CP [Abantu bangahe]i [v proexp ha-á-somye ivyo bitabo tij]]?
      people how_many LOC-PST-read those books
      Lit.: 'How many people there read those books?'

47 I adopt the author’s examples with all their phrase structural annotations without necessarily subscribing to this particular view of grammar.

48 For a revealing binding asymmetry differentiating the two constructions, see Ndayiragije (1999: 437ff.).
2.8.1.4 Argument Structure

Locative Inversion differs from the expletive constructions in disallowing inversion with active transitive verbs (159b). Only intransitives or passivized transitives (159c) permit inversion. There is no unaccusativity restriction as shown by the grammaticality of the examples involving unergative (160) or object-drop verbs (161), see Polinsky (1992: 297):

(159) a) Umugóre ya-guz-e ibi-intu by-íinshi kw’ iisôko.
woman 3-buy-PRF 8-thing 8-many in market
'The woman bought a lot of things at the market.'

b) *Kw’ iisôko ha-guz-e umugóre ibi-intu by-íinshi.
In market 16-buy-PRF woman 8-thing 8-many
'At the market, the woman bought a lot of things.'\(^{49}\)

c) Kw’ iisôko ha-Ø-guz-w-e ibi-intu by-íinshi n’ umugóre.
In market 16-PST-buy-PAS-PRF 8-thing 8-many by woman
'At the market, there were bought a lot of tings by the woman.'

(160) a) Umwáalimu a-Ø-vugir-a kw’ iishuûri.
teacher 1-PRS-speak-IPFV in school
'The teacher speaks at school.'

b) Kw’ iishuûri ha-Ø-vugir-a umwáalimu.
In school 16-PST-speak-IPFV teacher
Lit.: In school there speaks a teacher.'

(161) a) Umugabu a-Ø-gur-ir-a kw’ iisôko.
man 1-PRS-sell-APL-IPFV in market
'The man sells at the market.'

b) Kw’ iisôko ha-Ø-gur-ir-a umugabu, ntaa báana.
In market 16-PRS-sell-APL-IPFV man not children
Lit.: ‘At the market, there sells the man, not the children.’

In addition to the locative inversion and the impersonal construction, Kirundi also features subject-object reversal constructions where theme and agent exchange their positions:\(^{50}\)

(162) a) Petero a-á-ra-guze ibi-tabo.
Peter 1-PST-AF-buy:PRF 8-books
‘Peter bought books.’

b) Ibi-tabo bi-á-(*ra)-guze Petero.
8-books 8-PST-(AF)-buy:PRF Peter
‘Peter (not John) bought books.’ Ndayiragije (1999: 412)

The properties of this construction are analyzed in detail in the following sections.

\(^{49}\) It would be interesting to know if the example could be rendered grammatical by placing the agent after the theme – just like in the impersonal construction in (157).

\(^{50}\) Reversal is also possible with certain ditransitive verbs, see Morimoto (2000c: 216f.).
2.8.2 **Properties of the Preposed Theme in S/O-Reversal**

As opposed to Kinyarwanda, the inverted theme in Kirundi exhibits a number of subject properties:

2.8.2.1 Subject-Verb Agreement

The verb agrees with the preposed theme in noun class (Ndayiragije 1999: 400):

(163) a) Ábâna ba-á-ra-nyôye amatá.
2:children 2-PST-AF-drink:PRF milk
‘Children drank milk.’

b) Amatá y-á-nyôye abâna.
milk it-PST-drink:PRF children
‘Children (not parents) drank milk.’

2.8.2.2 Relativization

Kirundi permits (long-distance) relativization of the fronted theme (Ndayiragije 1999: 429):

(164) a) Petero a-á-anse kó [i ni-tabo bi-Øsoma Yohani].
PETER he-PST-refuse:PRF that 8-book 8-PRS-read John
Lit.: ‘Peter refused that John (not Paul) read books.’

b) Ibi-tabo i [CP OP i [IP Petero a-á-anse kó [i t t bi-Øsoma Yohani]]] …
8-book Peter he-PST-refuse:PRF that 8-PRS-read John
Lit.: ‘The books that Peter refused that John (not Paul) read …’

2.8.2.3 Object Marker

Kirundi differs from Kinyarwanda in allowing the theme to be represented by a bound pronominal (Ndayiragije 1999: 418):

(165) pro bi-á-somye Yohani.
8-PST-read:PRF John
‘John (not Peter) has read them.’

2.8.2.4 Control

Inverted themes retain their ability to control a PRO (Ndayiragije 1999: 426f.):

(166) a) Yohani a-á-ra-zanye in-ka, [CP PROi ku-risha].
John 1-PST-AF-bring:PRF 10-cow INF-graze
‘John brought cows to graze.’

b) In-ka, zi-á-zanye tₙ tₙ [CP PROi ku-risha] Yohani, 10-cow 10-PST-bring:PRF INF-graze John
‘John (not Peter) brought cows to graze.’

51 According to Morimoto (2000c: 224f.), we are not dealing with relativization but topicalization of the reversed theme instead.
2.8.2.5 Right Dislocation

Inverted themes behave like ordinary subjects with regard to Right-dislocation, including a definitness effect (Ndayiragije 1999: 422):

(167) a) pro₁ ba-á-ra-somye igi-tabo, [abo bâna]. 2-PST-AF-read:IPFV 7-book DEM children
   ‘They read a book, those children.’

   b) pro₁ ki-á-somye abâna, [ico igitabo]. 7-PST-read:PRF children DEM book
   ‘That book, children (not parents) read.’

2.8.2.6 Theme as External Topic

The theme-subject may be long-distance left-dislocated, acting as an external topic (in the sense of Morimoto (2000), see 3.3.3), (Ndayiragije 1999: 422, fn. 22):

(168) [ico gi-tabo], Petero a-razi igituma [v pro₁ ki-á-somye abâna].
   DEM book Peter 1-knows reason 7-PST-read:PRF children
   ‘That book, Peter knows why children (not parents) read it.’

2.8.2.7 Structural Position

Object-Subject reversal is also allowed in embedded CPs, with the theme following the complementizer, an indication that the theme occupies either the subject position (Spec-of IP) or a IP-adjoined position, see Ndayiragije (1999: 420):

(169) a) Petero a-á-anse kó [v abâna ba-Ø-soma ibi-tabo].
   Peter 3s-PST-refuse:PRF COMP children 2-PRS-read:IPFV 8-books
   ‘Peter refused the children to read books.’

   b) Petero a-á-anse kó [v ibi-tabo bi-Ø-soma abâna].
   Peter 1-PST-refuse:PRF COMP 8-book 8-PRS-read:IPFV children
   ‘Peter refused the children (not the adults) to read books.’

See 3.2.5 for the theoretical discussion.

2.8.3 Properties of the Inverted Logical Subject in S/O-Reversal

The postverbal agent lacks most object properties:

52 See Morimoto (2000c: 189–203) for detailed argumentation that includes similar data from Swahili. Interestingly, the reversed theme may also undergo topicalization and move to SpecCP (or a CP-adjoined position, see Morimoto (2000c: 202). It is quite likely that such a topicalized structure is akin to the structure in 2.8.2.2 where the theme is topicalized to the front of the matrix clause. This would be an argument against an analysis in terms of relativization.
2.8.3.1 Object Agreement

The Agent may not be represented by an object marker prefixed to the verb, see Ndayiragije (1999: 424):

\[(170) \quad \*\text{Uwo mw-arinu a-á-\textbf{mu}-bonye } \quad \text{(abanyéshule).} \\
\quad \text{that 1-teacher 1-PST-\textbf{OBJ}-see:PRF} \quad \text{(students).} \\
\text{Lit.: 'That teacher, they (not the dean) saw, the students.'}
\]

2.8.3.2 Relativization

Reversal constructions do not allow wh-extraction of the logical subject

\[(171) \quad \*\text{Umuntu i } [\text{CP OP i } [\text{IP ivyo bi-tabo bi-á-somye t]}] \ldots . \\
\text{person those 8-book 8-PST-read:PRF 'The person who read those books ...'} \quad \text{Ndayiragije (1999: 428)}
\]

2.8.3.3 Questioning in situ

The agent an be questioned in situ (Ndayiragije 1999: 425):

\[(172) \quad \text{Ivyo bi-tabo bi-á-somye ndé?} \\
\text{those 8-book 8-read:PRF who 'Who read those books?'}
\]

2.8.3.4 Control

The logical subject is syntactically still quite active: it can control a PRO:

\[(173) \quad \text{a) Yohani i a-á-ra-emeye } [\text{CP PRO i ku-gura iyo mo-doka}.] \\
\quad \text{John 1-PST-AF-accept:PRF INF-buy that 3-car 'John agreed to buy that car.'} \\
\quad \text{b) [Iyo mo-doka] j i-á-emeye [\text{CP PRO i ku-gura t] Yohani,}^{53} \\
\quad \text{that 3-car 3-PST-accept:PRF INF-buy John 'John (not Peter) agreed to buy that car.'} \quad \text{Ndayiragije (1999: 417f.)}
\]

2.8.3.5 Definiteness

The fact that the inverted agent may be a proper name shows that there is no definitness effect in reversal constructions:

\[(174) \quad \text{Ivyo bi-tabo bi-á-somye Yohani.} \\
\text{those 8-books 8-PST-read:PRF John 'John (not Peter) read those books.'} \quad \text{Ndayiragije (1999: 424)}
\]

2.8.3.6 Structural Position

Ndayiragije (1999: 406-412) argues that the inverted subject occupies a focus position after the VP (the Spec of a focus projection between IP and VP in his terminology). See 2.8.4 where I will show that the inverted agent – like other focussed material – follows VP-

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^{53} Note that this example involves object-subject raising of the theme. This is only possible if the subordinate verb is nonfinite, see Morimoto (2000c: 188).
adverbials. The position of the inverted subject is thus markedly different from that of most of the inverted subjects in the languages analyzed so far, including even inverted subjects in locative inversion in this very language! This might be evidence that the two constructions are (at least syntactically) more dissimilar than one would assume.

### 2.8.4 Information Structure

The probably most intriguing question as to information structure concerns the similarities and differences between the three types of construction. Since none of the authors working on this language has investigated this question, only tentative conclusions are possible. As for the locative inversion construction, Polinsky (1992: 298ff.) describes it as having a presentative function. Relying on rather unsophisticated notions of topic and focus, the author notes that the construction can also have a contrastive function, as replacing or parallel focus in the terminology of Dik (1997: 333):

(175) a) Kw’ iishuûri ha-Ø-vûgir-a umwåalimu, ntaa babyéyi.
In school 16-speak-IPFV teacher not parents
‘At school, there speaks the teacher, not the parents.’

b) Kw’ iishuûri h-Ø-igišhiiriz-a umwáalimu, i muhíra h-Ø-igišhiiriz-a
At school 16-PRS-teach-IPFV teacher at home 16-PRS-teach-IPFV
u-shaaka wée-se.
1-willing 1-all
Lit.: ‘At school, there teaches the teacher, at home (teaches) whoever wants to.’

Next, I will reproduce Ndayiragije’s comments on information structure in the reversal construction:

Convincing evidence for the reversal construction to contain a focussed constituent comes from the distribution of the antifocus marker ra-: This marker is permitted only in declarative sentences (176a) but not if the direct object is focussed (176b) or if the sentence contains a wh-word (176c) or a wh-operator (176d):

(176) a) Abâna ba-á-ra-nyôye amatá.
children 2-PST-AF-drink:PRF milk
‘Children drank milk.’

b) Abâna ba-á-(*ra)-nyôye amatá.
children 2-PST-(AF)-drink:PRF milk
‘Children drank milk (not water).’

c) Abâna ba-á-(*ra)-nyôye iki?
children 2-PST-(AF)-drink:PRF what
‘What did (the) children drink?’

d) Ni abâna, [OP, ti, ba-á-(*ra)-nyôye amatá].
be children 2-PST-(AF)-drink:PRF milk
‘It was the children who drank milk.’

Ndayiragije (1999: 406ff.)
Additionally, the anti-focus marker is obligatory if the object is expressed by an incorporated pronoun; this is in accordance with the common assumption that such incorporated pronouns are anaphoric in nature and therefore cannot be focussed:\(^{54}\)

(177) Abâna ba-á-*(ra)-ya-nyôye.
children 2-PST-(AF)-it-drink:PRF
‘Children drank it.’

Interestingly, the antifocus-marker is also excluded from reversal constructions, suggesting this construction to contain a focussed element, see Ndayiragije (1999: 412):

(178) Ibi-tabo bi-á-(*ra)-guze Petero.
8-books 8-PST-(AF)-buy:PRF Peter
‘Peter (not John) bought books.’

There is also evidence from word order in favor of the assumption that inverted subjects are focussed: While appearing strictly adjacent to the verb in neutral sentences (179a/b), direct objects are separated from the verb by manner adverbs when focussed (179c); conversely, the absence of the anti-focus marker with a direct object adjacent to the verb implies focussing of the adverbial (179d):

(179) a) Yohani a-á-ra-oógeje imi-duga néezá.
John 1-PST-AF-wash:PRF 4-car well
‘John washed cars well.’

b) *Yohani a-á-ra-oógeje néezá imi-duga.
John 1-PST-AF-wash:PRF well 4-car
‘John washed cars well.’

c) Yohani a-á-oógeje néezá imi-duga.
John 1-PST-wash well 4-car
‘John washed cars well (not trucks).’

d) Yohani a-á-oógeje imi-duga néezá.
John 1-PST-wash 4-cars well
‘John washed cars well (not badly).’

The same applies to inverted agents, see

(180) a) Imi-duga yi-á-oógeje néezá Yohani.
4-car 4-PST-wash:PRF well John
‘John (not Peter) washed cars well.’

b) *Imi-duga yi-á-oógeje Yohani néezá.
4-car 4-PST-wash:PRF John well
‘John (not Peter) washed cars well.’

\(^{54}\) Inversely, as already pointed out, the reversal construction does not allow the inverted subject to be expressed by an object marker, since the latter anaphorically refer to a topic and are therefore incompatible with focusing. To put it differently, bound object pronominals are only licensed by the presence of the anti-focus marker.
The expletive constructions show the same regularities: The agent occupies the focus position after the VP and consequently, the verb may not carry the anti-focus marker:

(181) a) Abâna bâ-â-\textbf{ra}nyôye amatá.
children 2-PST-AF-drink:PRF milk
‘Children drank milk.’

b) pro exp ha-â-(\textbf{ra})-nyoye amatá abâna.
16-PST-(AF)-drink:PRF milk children
‘Children (not parents) drank milk.’ Ndayiragije (1999: 435f.)

Unfortunately, Ndayiragije does not indicate, in what exact sense the inverted subjects are focussed. He translates all examples as clefts, therefore suggesting a contrastive reading; the contexts of the occurrence of inversion he describes, are, however, more typical for completive focus, see Ndayiragije (1999: 406). In addition, the attentive reader would be interested to know how the two constructions (inversion and expletive) are distributed (if at all). Ndayiragije’s (1999: 400) statement “… they have the same meaning. They both imply a contrastive focus reading on the postposed logical subject” is not very revealing in this regard.55 Unfortunately, the author does not compare the constructions with locative inversion. It seems, however, that there is a difference as to the presentative function: At least the reversal construction does not seem to be used in the context of presentational focus. One therefore has to look for a more general principle to account for the fact that inversion applies in both cases. See Morimoto (2000c: 138ff.) for further discussion of focus in Kirundi.

\footnotesize
\begin{itemize}
\item \textsuperscript{55} The passive construction differs from the inversion construction in allowing the anti-focus marker, see Ndayiragije (1999: 412).
\end{itemize}
2.9 English

The last language to be discussed is English. Locative inversion in this language is remarkably similar to that in the Bantu languages while still differing in minor but systematic ways.

2.9.1 Properties of the Inverted Locative

Applying the usual subject tests to locative inversion in English, one finds mixed evidence for the subject status of the inverted locative (Bresnan 1994: 95ff.):

2.9.1.1 Subject-Verb Agreement

While the Bantu languages show either subject agreement with the inverted locative or some kind of impersonal agreement, it is the theme that the English verb agrees with:

(182) a) In the swamps was/*were found a child.
    b) In the swamp were/*was found two children.

2.9.1.2 Raising

While the behavior of the locatives in the examples considered above suggests that they are not subjects, the fact that locative phrases undergo subject raising like any other subject in English is strong evidence in favor of their subject status:

(183) a) Over my windowsill seems to have crawled an entire army of ants.
    b) On that hill appears to be located a cathedral.
    c) In these villages are likely to be found the best examples of this cuisine.

Interestingly, raising to object results in ungrammaticality (183a). This is remarkable in so far as canonical subjects undergo both types of raising (183a/b):

(184) a)*I expect on this wall to be hung a portrait of our founder.
    b) I expect him to come.
    c) I expect that he will come.                     Bresnan (1994: 109)

2.9.1.3 Relativization

Like in all the languages considered up to now, the locative can be extracted by relativization (Bresnan 1994: 87):

(185) a) I expect that on these trails can be found many kinds of mushrooms.
    b) ... these trails, on which I expect can be found many kinds of mushrooms.

2.9.1.4 Questioning and That-Trace Effects

Like ordinary subjects, the preposed locatives can be extracted by questioning; remarkably, they also show the constraints on subject extraction adjacent to complementizers (that-trace effects):

(186) a) In which villages do you believe [can be found examples of this cuisine]?
    b)*It’s in these villages that we believe [that can be found examples of this cuisine].
Nonsubject participants are unaffected by this restriction as shown by the following example where uninverted locatives can be freely extracted:

(187) a) It’s in these villages that we believe [examples of this cuisine can be found].
    b) It’s in these villages that we believe [that examples of this cuisine can be found].

2.9.1.5 Extraction from Co-ordinate Constituents

Another property indicative of an argument’s subject status is the parallelism constraint on extractions from co-ordinate constituents; i.e. the extracted constituent must bear the subject function in each conjunct:

(188) That is the old graveyard, in which ___ is buried a pirate and ___ is likely to be buried a treasure.

2.9.1.6 Control of Attributive VPs

In contrast to Chichewa (4), attributive VPs headed by a participle cannot be inverted:

(189) a) She stood on the corner [on which was standing another woman].
    b) *She stood [on the corner] [VP standing another women]

2.9.1.7 Definiteness

There is a very strong definiteness restriction on the inverted locative: Whereas an indefinite locative adverb like someone can occur in uninverted constructions (190a), it is not permitted in an inverted one like (190b):

(190) a) A child was found somewhere
    b) *Somewhere was found a child. Schachter (1992: 107f.)

2.9.1.8 Structural Position

The fact that locative inversion can occur in complements is evidence that the locative does not occupy the Spec-of CP position (Bresnan 1994: 102):

(191) We all witnessed [CP how [IP down the hill came rolling a huge baby carriage]].

The behavior of locatives in question formation sheds additional light on its structural position: As the following examples show, questioning the inverted locative fails to trigger auxiliary inversion (192a/b), which is obligatory in the presence of a subject (192c/d) but impossible if the subject itself has been extracted (192e/f), see

(192) a) On which wall [on hung a portrait of the artist]?
    b) *On which wall did [IP t[VP hang a portrait of the artist]]?
    c) Whom did you see?
    d) *Whom saw you?
    e) Who came to the town?

56 See Schachter (1992: 110, fn. 2) and Bresnan/Kanerva (1992: 121) for an interesting discussion of these facts.
The fact that the auxiliaries do not invert is, of course, indicative of the locative’s subject status. Interestingly, auxiliary inversion is obligatory if the subject position is occupied by an expletive subject:

(193) a) *On which wall [IP there hung a portrait of the artist]?  
   b) On which wall did [IP there hang a portrait of the artist]?  

Inverted locatives do, however, differ from ordinary subjects with regard to yes-no questions in not undergoing subject-auxiliary inversion (Bresnan 1994: 108):

(194) a) Do [IP you t [VP remember]]?  
   b) *Did, on the wall [IP t [VP hang a mexican serape]]?  

Given that the subject position must be filled for auxiliary inversion to occur, the example above suggests that inverted locatives do not occupy the subject position, but perhaps an IP-adjoined position.

We thus have a somewhat puzzling picture: There is no auxiliary inversion in wh-extraction because the locative is the subject but no auxiliary inversion in yes-no questions because the locative probably does not occupy the subject position. The functional facts somehow do not pattern with the structural facts.

### 2.9.2 Properties of the Inverted Logical Subject

It is quite difficult to determine the syntactic status of the inverted theme. Apart from subject-verb agreement, there is no evidence in favor of the theme’s subject status. Conversely, the theme’s behavior is also not strongly indicative of an object relation.

#### 2.9.2.1 Pronominal Restriction

As already observed in a number of languages, the inverted subject cannot be an anaphoric pronoun (Bresnan 1994: 86):

(195) *Rose,? Among the guests of honor was sitting she, /her,.

There is no restriction on definitness, however. See Bresnan (1994: 99f.) for further details.

#### 2.9.2.2 Extractability

With regard to the extraction asymmetry, English patterns with most of the languages discussed here in not permitting the relativization of the inverted theme (197c). In uninverted sentences, however, either participant can be relativized (196a/b).

(196) a) I expect that many kinds of mushrooms can be found on these trails.  
   b) ... these trails, on which I expect many kinds of mushrooms can be found.  
   c) ... many kinds of mushrooms, which I expect can be found on these trails.

(197) a) I expect that on these trails can be found many kinds of mushrooms.  
   b) ... these trails, on which I expect can be found many kinds of mushrooms.  
   c) *... many kinds of mushrooms, which I expect on these trails can be found.

As opposed to some of the languages under discussion, English does not permit wh-extraction of the inverted theme either (Bresnan 1994: 87):

(198) *What kind of mushrooms do you think on these trails can be found?
2.9.2.3 Control

The inverted theme cannot control into a nonfinite adjunct clause, differing thus from its noninverted counterpart:

(199) a) Two sheiks lay near the oasis [without PRO talking].
    b) *Near the oasis lay two sheiks [without PRO talking].

    Coopmans (1989: 732)

2.9.2.4 Tag Questions

The pronoun following the auxiliary in tags usually matches the features of the syntactic subject of the preceding assertion. However, it is difficult to combine tags with presentational constructions in general and locative inversion in particular. Yet, there are grammatical examples such as (200) which suggest that whatever the subject is, it is not the theme argument:

(200) In the garden is a beautiful statue, isn’t there? /*it?

2.9.2.5 Structural Position

The only criterion by which the inverted themes can be judged an object is their structural position: Heavy-NP-Shift, a general diagnostic for objects in English, can apply to inverted themes as well (Bresnan/Kanerva 1992: 120):

(201) a) In this village was located for many years after the war [a church which the Germans had bombed],
    b) Over my windowsill crawled every day [an entire army of ants].

Another argument comes from verbs taking sentential complements: Assuming the object position in English to ban non-NP arguments, the ungrammaticality of the following inversion automatically falls into place (Levin/Rappaport-Hovav 1995: 267):

(202) *In this very room was discovered that cancer is caused by eating to many tomatoes.

2.9.3 Argument Structure

As in the languages discussed so far, not all verbs undergo locative inversion. Interestingly, the same constraints on inverting verbs as in Chichewa can be observed: Locative inversion is restricted to unaccusative, (204a) and passivized transitive (205) verbs; inversion with active transitive and unergative verbs results in ungrammaticality (203) und (204b); additionally, the same by-phrase restriction (205c) holds as in Chichewa:

(203) a) My friend Rose seated my mother among the guests of honor.
    b)*Among the guests of honor seated my mother my friend Rose.
    c)*Among the guests of honor seated my friend Rose my mother.

(204) a) Among the guests was sitting my friend Rose.
    b)*Among the guests was knitting my friend Rose.

(205) a) My mother was seated [among the guests of honor].
    b) Among the guests of honor was seated my mother.
    c) ??Among the guests of honor was seated my mother by my friend Rose.

    Bresnan (1994: 77)
Although English lacks direct analogues to the passivized applied verbs found in Bantu languages, it shows a restriction comparable to that of Chichewa by not permitting inversion of prepositional passives:

(206) a) We fought for these rights in these very halls.
b) These rights were fought for in these very halls.
c) *In these halls were fought for these rights. Bresnan (1994: 78ff.)

There are, however some deviating examples – unaccusatives that do not undergo locative inversion and unergatives that do:57

(207) a)*On the top floor of the skyscraper broke many windows.
b)*On the streets of Chicago melted a lot of snow.

(208) a) Through the window on the second story was shooting a sniper.
b) Behind the wheel lounged a man uniformed with distinct nautical flavor.
c) Above them pranced the horses on the Parthenon frieze. Bresnan (1994: 84);
Levin/Rappaport (1995:224)

Apart from the last examples, the following generalization emerges: Locative inversion occurs only if the verb contains both a theme and a locative argument and if the theme is the most prominent argument of the verb’s argument structure. It will be shown below in the analysis part how the exceptions are dealt with.58

2.9.4 Information Structure

Locative inversion in English seems to serve a similar discourse function as the corresponding construction of the Bantu languages. The discussion will, however, be more detailed than was possible for the Bantu languages – for the simple reason that far more studies have been conducted on the information structural aspects of this construction in English. I will first present the functions English shares with the Bantu languages and then proceed to a discussion of problematic cases which suggest a more general function of locative inversion.

2.9.4.1 Presentational Focus

First, the construction is used in the context of presentational focus. In the following example, the topical (already introduced) theme Rose cannot be focussed by postposing (209b); only the uninverted construction with Rose in the sentence-initial topic position (209c) proves felicitous in this context, see

(209) a) I’m looking for my friend Rose.
b)# Among the guests of honor was sitting Rose.
c) Rose was sitting among the guests of honor. Bresnan (1994: 85f.)

57 Some unergatives, especially verbs of manner of motion, become unaccusative when they take directional phrase complements. In that case, they undergo locative inversion, see Levin/Rappaport-Hovav (1995: 221).

58 See Levin (1993: 92ff.) for a comprehensive lists of verbs permitting locative inversion.
In nearly all instances, the focussed logical subject constitutes the topic of the next sentence (210a), while the locative never does (210b). Interestingly, the noninverted structure allows both to provide the topic of the next clause (210c), (Birner 1994: 240):

(210) a) In a little house lived two rabbits. #It/#The house was the oldest one in the forest. 
   b) In a little house lived two rabbits. They/The rabbits were named Flopsy and Mopsy. 
   c) Two rabbits lieved in a little white house. 
      i) It/The house was the oldest one in the forest 
      ii) They/The rabbits were named Flopsy and Mopsy.

One can conclude from this that inversion has an obligatory topic-changing effect.

2.9.4.2 Contrastive Focus

The following examples show that the theme is obligatorily focussed relative to the locative: In uninverted sentences – as in Chichewa – both participants can be contrastively focussed (211a/b), whereas the inverted sentences only permit the focussing of the theme (211c):

(211) a) A child was found in the swamp, but not an adult. 
   b) A child was found in the swamp, but not in the forest. 
   c) In the swamp was found a child, but not an adult. 
   d) *In the swamp was found a child, but not in the forest. Schachter (1992: 107)

2.9.4.3 Some Complications

The postverbal logical subject is often said to be presentationally focussed. What this is supposed to mean is not always very clear. At any rate, it cannot mean that the focussed referent is necessarily newly introduced. In many instances, the logical subject’s referent is already under discussion (Birner 1994: 238):

(212) As the skipping rope hit the pavement, so did the ball. As the rope curved over the head of the jumping child, the child with the ball caught the ball. Down came the ropes. Down came the balls.

Both boldfaced constituents are not introduced for the first time, in fact, they are not introduced at all. Therefore, it would be misleading to speak of presentational focus in this context. In other instances, already evoked referents are reintroduced (Bresnan 1994: 86: fn. 21):

(213) McPherson proffered the cigar and a fat hand reached forward and accepted it. The round face was expanded in a grin of anticipated pleasure, and into the mouth went half the cigar, to be masticated by strong but tobacco-stained teeth.

59 The conventional formulation that the inverted subject represents new information is equally wrong. As has been convincingly demonstrated by Lambrecht (1994: 46ff.), one cannot know a constituent. Therefore, a newly introduced referent does not represent new information as such. It is the proposition which results from instantiating the new element for a variable in the presupposition that must be considered new: One can only know propositions. Applying this to the example under discussion, one could say that new information is generated although an already introduced element is used. New is the relation established between the presupposition and an already known referent.
This example is clearly not intended to introduce the cigar on the scene, given that it has been evoked in the prior context. The cigar might be considered to be reintroduced into a zoomed part of the initially sketched scene. Therefore, it still seems legitimate to regard these examples as instances of presentational focus.\(^60\)

Regarding preposed locatives as representing information already under discussion in the discourse is also problematic: There are a few instances where they represent totally new referents (Birner 1994: 243, fn. 12):\(^61\)

(214)  I gotta tell you something. Right now we have a very special treat for you, because \textbf{on the phone with me} is one of the hottest young stars in town.

In some cases, the preposed constituent is in a set relation to a topical referent (Birner 1994: 237, fn. 5):

(215)  By the time he got to Kendall’s Lobster Pound, Ray was home. He was making tea and warming his deeply lined, cracked hands on the pot – \textbf{under his ragged nails} was the mechanic’s permanent, oil-black grime.

There is however a very clear tendency for there to be a difference in activation status (see Lambrecht 1994) between the two participants, the preposed locative nearly always being of higher activation status.\(^62\) In Birner’s (1994) corpus, there is not one single instance where the logical subject is more highly activated than the locative.

In cases where both participants are discourse-old, i.e. are under discussion, inversion applies if the locative is more salient (= more highly activated, more recently mentioned) than the logical subject’s referent, see Birner (1994: 246f.).

Locative inversion is thus an information-packaging device that consistently places the referents in order of decreasing activation status with more specific functions like presentational focus.\(^63\)

2.9.4.4 Intonation

An interesting fact noted by Green (1980: 582) is that inverted structures differ intonationally from their noninverted counterparts in having two peaks instead of just one.

\(^{60}\) The reintroduction function partially explains the numerous occurrences of definite themes. Additionally, Birner (1994: 253) shows that inversion is predominantly sensitive to discourse familiarity, being unaffected by hearer familiarity. Since it is well known that definiteness is hearer-sensitive, the many instances of a definite logical subject do not come as a surprise. This reintroduction function sets locative inversion aside from the presentational there-construction, see Birner (1994: 236, fn. 3).

\(^{61}\) See also Green (1980: 589ff.) on the scene setting function of inversion.

\(^{62}\) In most cases, it is not the location that is highly activated but rather the NP within the PP of which a location is predicated, see Birner (1994: 242).

\(^{63}\) Inferrables behave like evoked elements, see Birner (1994: 248).
2.9.5 **Categorical Status of Locatives**

It is beyond doubt that English locatives are PPs. They differ distributionally from NPs in that they cannot appear in subject or object positions:

(216) a) (*In) San Jose makes me happy.
    b) I like (*in) San Jose.
    c) I expect (*in) San Jose to please me.
    d) I’m pleased by (*in) San Jose.  

Bresnan (1994: 106)

Instead, locatives are restricted to appear in non-subject and non-object positions:

(217) a) I left my car *(in) San Jose.
    b) *(In) San Jose, I keep my car in the garage.

The fact that locatives are PPs and therefore do not carry the nominal features of person, number and gender explains that they do neither agree with modifiers or subjects.
## 2.10 Overview

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The table above provides an overview of various linguistic properties across different languages, including locative morphology, properties of inverted subject, and structural position. Each entry indicates whether a particular property is present (+) or absent (–) in the respective language.
## Argument Structure

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### Information Structure

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*only in relative clauses
3 Analysis

This section is devoted to theoretical approaches to locative inversion. I will limit the discussion to three frameworks: Lexical-Functional Grammar (LFG), Principles and Parameters (P&P) and Optimality Theory (OT). This is not to say that there are no other relevant frameworks, but since locative inversion has been analyzed almost exclusively in these theoretical paradigms, and few other approaches attain the degree of precision and coverage of these three theories, I consider this limitation to be justified. As will be shown, however, numerous ideas from functional approaches have recently been integrated into the more formal theories. Therefore, the distinction between formalist and functionalist frameworks is not so much the principles or constraints but rather their formalization and application.

Apart from presenting and reviewing previous analyses, I will often suggest alternative ways of treating the phenomena or propose entirely new analyses. The central goal of this chapter is not simply to show which framework offers the best explanation for the data but also to point out what conclusions for the architecture of a theory of grammar can be drawn from the analysis of locative inversion.

3.1 Lexical-Functional Grammar

3.1.1 Introduction to the Theory

In this section, I will outline some of the aspects of the architecture of LFG that will be of importance further on.

Developed in the early 80s, LFG has become one of the most successful formal alternatives to the Chomskyan variant of Generative Grammar, putting more emphasis on typological variation and implementability than the predominant Principles and Parameters framework (Chomsky 1995). Its main features are most adequately summarized in a quote by the founder Joan Bresnan (Bresnan/Kanerva 1989: 1):

There has been a predominant tendency in generative grammar to syntacticize grammatical phenomena. Thematic structure (lexical role structure) is represented by syntactic sentence structure, syntactic functions are represented by syntactic sentence structure of the same character, and discourse functions (to the small extent that they are recognized) are replaced by configurations of the same kind of syntactic sentence structure ... The organization of grammatical structure that has emerged from our research departs from the conventional view. Thematic structure, constituent structure and functional structure are parallel information structures of very different formal character. They are related not by proof-theoretic derivation but by local structural correspondences, as a melody is related to the words of a song.

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64 This particularly applies to Optimality Theory, where functional generalizations (markedness statements, preference laws) are the substance of a formal grammar. It is largely the formalization of the interaction of these generalizations (= constraints) that distinguish OT from real functional approaches.

65 See Bresnan (2000) and Falk (2000) for recent introductions to this framework.
Perhaps the most striking difference to the more familiar Generative is LFG’s monostratal nature: There is only one syntactic level of representation. Instead, three formally very different levels of representation are postulated, each modeling a different dimension of grammatical structure: role, function and category:

- argument (a-)structure: the predicate and its arguments
- functional (f-)structure: grammatical functions
- categorical (c-)structure: the categorical phrase structure

Each level features its own distinctive prominence relations:

- a-structure: logical subject
- f-structure: functional subject
- c-structure: structural subject

Mapping (or linking) principles preserve these prominence relations in the unmarked case while still allowing (within constraints) mismatches between the different levels. Locative inversion is a phenomenon involving substantial mismatches between role, subject and function. As will be shown below, the flexible architecture of LFG is very well suited to deal with such a phenomenon, while the only way to deal with mismatches within movement theories is to relate different syntactic levels of representation (of the same formal kind) via movement rules.

In this theory, similarities between languages and possible universals are not represented by universally identical D-structures as in P&P\(^{66}\) but instead on the more abstract levels of a- or f-structure, thus abstracting away from the categories of formal expression.

### 3.1.2 Mapping from A- to F-Structure: The Lexical Mapping Theory (LMT)

In what follows, I will focus mainly on the mapping from a- to f-structure. This is handled by a subtheory called “lexical mapping theory”, see Bresnan/Kanerva (1989: 22ff.), Bresnan (2000: 357-380), Falk (2000: Chapter 4.3.); Butt et al. (1997) propose an alternative conception.

Argument Structure is the interface between lexical semantics and functional structure, containing the predicate with the thematic roles it selects, a hierarchy of those thematic roles as well as a syntactic classification of each role by means of functional features. In short, a-structure is an abstraction from the semantic structure of verbs with syntactically relevant features.\(^{67}\)

The following sections introduce the four components of the theory.

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\(^{66}\) Bresnan (1994: 72) describes this approach as the *categorical uniformity thesis*.

\(^{67}\) Adjuncts are, of course, not listed in the argument structure. However, like other syntactic functions, they have to be properly integrated into the f-structure. Like the two other non-argument functions (TOP, FOC, see 3.1.5.1), it has to satisfy completeness and coherence. This is possible if it occurs in the same f-structure as the predicate it modifies. So while the discourse function top/foc are bound by an argument function, the adjunct function is bound by the predicate, see Bresnan (2001: 63; 97).
3.1.2.1 The Thematic Hierarchy

The theory hypothesizes the following universal hierarchy of thematic roles, see Bresnan/Kanerva (1989: 23):

\[(218) \; ag > ben > recip/exp > inst > th/pt > loc\]

Arguments in favor of this version of the hierarchy include (Bresnan/Kanerva 1989: 23f.):

- theoretical order of composition of arguments with a predicator
- idioms: lower semantic roles are more easily lexicalized (cf. Bresnan 2001: 10ff.).
- noun incorporation favors lower roles
- sequence of grammaticalization of verb-agreement markers (cf. Givon 1976) etc.

The more prominent argument of a verb is referred to as logical (or: thematic) subject and will be symbolized as \(\text{TÈ}\).

There has been a longstanding controversy about the correct order of the roles, see e.g. Schachter (1992: 103-106) with criticism of this version, the reply by Bresnan/Kanerva (1992: 112-119) and the overview article by Baker (1997). Instead of insisting on universality, one also has to consider language particular parameterization of the hierarchy.

3.1.2.2 Classification of Syntactic Functions

Grammatical Functions are primitives in LFG and not configurationally defined like in other generative theories. They are further decomposed according to the features \([± r]\) (thematically restricted or not) and \([± o]\) (objective or not):

\[(219) \; \text{SUBJ} = [–r, –o] \quad \text{OBJ} = [–r, +o] \quad \text{OBL} = [+r, –o] \quad \text{OBJ}^T = [+r, +o] \]

The function labels are to be understood as follows:

- OBJ: corresponds to „primary objects“ in the terminology of Dryer (1986); those objects which are syntactically fully active.
- OBJ^T: corresponds to Dryer’s (1986) “secondary object”; objects that are syntactically inert (Including indirect objects).
- OBL: obliquely realized arguments (like \(\text{to John}\) in: \(\text{I gave a book to John}\)).

This classification gives the following natural classes of syntactic functions:

- \([–r]\): functions that may carry various semantic roles: SUBJ, OBJ
- \([+r]\): functions with fixed semantic roles: OBJ^T, OBL
- \([–o]\): functions without any object properties: SUBJ, OBL
- \([+o]\): functions exhibiting typical object-like behavior

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68 The hierarchy can also be understood as a hierarchy of discourse topicality.


70 These functions (as opposed to non-argument functions) are basically unique, i.e. there may be only one subject, one object etc. per f-structure, see Bresnan (2001: 69). However, some languages like Kichaga allow multiple objects; this entails that these languages allow two arguments to be classified with \([–r]\), see Bresnan/Moshi (1990).
3.1.2.3 Lexical Mapping Principles

Specific principles associate the thematic roles with syntactic functions. These principles are constrained by monotonicity: They can only add syntactic features, but not change or delete them.

3.1.2.4 a) Intrinsic Role Classification

The intrinsic classification associates arguments with those functions that are crosslinguistically unmarked encodings of their semantic roles:

(220)  \( \text{agent: [-o]} \quad \text{theme/patient: [-r]} \quad \text{locative: [-o]} \)

A central aspect of the LMT is the underspecification of arguments with respect to syntactic function. Underspecification is used to model alternative realizations of semantic roles. Thus, an agent cannot be realized as object but will alternate between subject and oblique.\(^{71}\) A theme will alternate between subject and object, and a locative is nonobjective and can alternate between subject and oblique. The intrinsic classification can be affected by morpholexical processes (applicative, causative), see Bresnan/Moshi (1990).

3.1.2.5 b) Morpholexical Operations

These Operations affect the argument structures by adding (applicative) or suppressing (passive, object-drop) thematic roles.

3.1.2.6 c) Default-Classification

The last principles to apply assign default values (only for \([r]\)) to the functionally underspecified arguments. The subject default captures the generalization that the highest thematic role will be the subject:

(221)  \( \emptyset \)
        \[ [-r] \]

Atypical subjects are possible in certain contexts, one being locative inversion which is a special (and more specific) default which – by the elsewhere condition – has precedence over the general default. It assigns the locative argument an unrestricted feature only in case there is also a theme present which additionally has to be the most prominent argument of the verb:

(222)  \(< \text{th ... loc} > \)
        \[ [-r] \]

All other roles are restricted:

(223)  \( \emptyset \)
        \[ [+r] \]

---

\(^{71}\) The phenomenon of subject-object reversal represents a problem for this assumption, see 3.1.8 for discussion.
Defaults apply only if a role is not already specified for an incompatible value.

### 3.1.2.7 Well-Formedness Conditions

Lastly, there are two constraints on lexical forms (Bresnan/Kanerva 1989: 28):

(224) **Subject condition**: Every lexical form must have a subject

(225) **Function-argument biuniqueness**: In every lexical form, every expressed lexical role must have a unique syntactic function, and every syntactic function must have a unique lexical role.

### 3.1.3 Locative Arguments vs. Locative Adjuncts

Before applying the LMT to the data, an explanation for the exceptions (207), repeated here for convenience, is sought.

(226) a)*On the top floor of the skyscraper broke many windows.
   b)*On the streets of Chicago melted a lot of snow.

The examples in (226) instantiate a case not considered in the discussion of the Bantu languages. The reason why the verbs do not permit inversion is according to Bresnan (1994: 82) most likely a consequence of the argument/adjunct dichotomy: The locatives appearing in these examples do not predicate locations of their subjects (themes) but rather describe the location of the entire event. The adjunct status of the locatives can be proven by the following tests, adapted from Bresnan (1994: 82f.):

First, only adjuncts can be preposed before questioned subjects, while arguments cannot:

(227) a) On the top floor of the skyscraper, what broke?
    b)*On the top floor of the skyscraper, what lay?

Second, locative adjuncts can be optionally excluded from the interpretation of *so* anaphora, while locative arguments cannot:

(228) a) On the streets of Chicago melted a lot of snow, and so did loads of ice (on top of the skyscrapers).
    b)*On the streets of Chicago lay a lot of snow, and so did a lot of ice (*on top of the skyscrapers).

Consequently, only unaccusative verbs taking (optional) locative arguments permit inversion.

---

72 This condition is highly controversial. To apply to syntactically ergative languages, one has to assume that the category of subject is identical with the notion of pivot of Van Valin/La Polla (1997). Even more problematic for this assumption are passivized intransitives in German, see e.g. 5.4.6 and Berman (2000) for discussion.

73 I.e. *so* anaphora either applies only to the VP (including locative arguments) or the VP and VP-adjointed constituents (like locative adjuncts)
3.1.4 Application of the LMT

In this section, I will demonstrate how the LMT accounts for the argument structure restrictions on locative inversion in Chichewa (and English) as well as for the properties of the participants.

3.1.4.1 Invertible Intransitives (Unaccusatives)

The verb *khâla* ‘remain’ has two semantic roles, a theme and a location. They receive their default classification according to (220). Then, in the normal case, the default applies and makes the location argument restricted. Because of monotonicity, the theme remains underspecified. Its specification \([-r]\) is basically compatible with both the subject or the object function. But since according to (224) every f-structure must have a subject, the theme is mapped onto the subject function:

\[(229) \quad \text{khâla} \quad \text{th} \quad \text{loc} \quad \text{‘remain’} \]
\[
\text{intrinsic:} \quad [-r] \quad [-o] \\
\text{defaults:} \quad [+r] \\
\[
\text{S} \quad \text{OBL} \quad \text{LOC}
\]

The more specific default can apply as well since the theme is the most prominent argument, the locative thus becoming unrestricted. The general subject default is now “bled” because the features it can assign would violate monotonicity. Therefore, the theme remains underspecified again and therefore eligible for the subject or the object function; it is mapped onto the object function in this case because there is already a subject present:

\[(230) \quad \text{khâla} \quad \text{th} \quad \text{loc} \quad \text{‘remain’} \]
\[
\text{intrinsic:} \quad [-r] \quad [-o] \\
\text{defaults:} \quad [-r] \\
\[
\text{O} \quad \text{S} \quad \text{LOC}
\]

3.1.4.2 Uninvertible Transitives

A transitive verb like *peza* ‘find’ does not undergo locative inversion for the simple reason that the context required for the special subject default (222) to apply is absent: The theme is not the highest argument. By function-argument biuniqueness, the theme is mapped on the object function since the agent is already classified as subject:

\[(231) \quad \text{peza} \quad \text{ag} \quad \text{th} \quad \text{loc} \quad \text{‘find’} \]
\[
\text{intrinsic:} \quad [-o] \quad [-r] \quad [-o] \\
\text{defaults:} \quad [-r] \quad [+r] \\
\[
\text{S} \quad \text{O} \quad \text{OBL}_{\text{LOC}}
\]
3.1.4.3 Invertible Passivized Transitives

Passivized transitives, on the other hand do undergo locative inversion because the morpholexical operation of passive removes the agent making the theme the most prominent argument and thus providing the context for the special default:74

(232)  pêza  < ag  th  loc >  ‘find’
       |     |     |
| intrinsic:     [–o]  [–r]  [–o]  
passive: -édw   Ø
| defaults:     [–r]

| O    | S

3.1.4.4 The by-Phrase Restriction

The by-phrase restriction can be explained by assuming that the agent is still present by being bound to the adjunct agent, thus destroying the context for the special subject default; Consequently, only the normal subject default (221) applies (Bresnan 1994: 81):

(233)  peza  < ag  i  th  loc >  ‘be found by < T >
       |     |     |
| intrinsic:     [–o]  [–r]  [–o]  
passive: -édw   Ø
| defaults:     [+r]

| S    | OBL<loc>

3.1.4.5 Uninvertible Passivized Transitives

The fact that passivized ditransitives and applied verbs do not undergo locative inversion finds a simple explanation: Since there is no theme present at all, the context for the special default is not present:

(234)  thamangira  < ag  ben  loc >  ‘run for’
       |     |     |
| intrinsic:     [–o]  [–r] 75  [–o]  
passive: -édw   Ø
| defaults:     [–r]

| O    | S

74 The passive operation is (of course) analyzed as a morpho-lexical operation in LFG. It removes the agent argument from the core so that it cannot be mapped onto an argument function at f-structure. However, it may be linked to some kind of adjunct function, see Bresnan (2001: 310).

75 Arguments added through applicative are intrinsically specified as unrestricted, so that they are mapped onto the object function, see Bresnan/Moshi (1990). In primary object languages (cf. Dryer 1986), the recipient/goal of a ditransitive verb is usually mapped onto the object function while the theme is realized as a restricted object. Consequently, the recipient must be intrinsically specified as [–r]. In indo-european languages, however, where the recipient is mapped onto the OBJ
3.1.4.6 Uninvertible Intransitives (Unergatives)

The reason why unergatives do not undergo locative inversion is similar: Since they contain an agent argument, the special subject default (222) cannot apply. This analysis applies equally to object-drop verbs:

(235) kodz < ag loc > ‘urinate’

| intrinsic: [-o] [-o] |
| defaults: [-r] [+r] |

S OBL_{LOC}

3.1.4.7 Passivizability

Although the theme is assigned the object function in locative inversion constructions, it is a very atypical object: First, being the highest semantic role, it has the semantics of subjects and second, it does not passivize. This fact is easily accounted for by the LMT: Since the passive operation removes the theme argument, the context for locative inversion is no longer present; in this case, no grammatical form can result since the subject condition (224) is violated:

(236) khala < th loc > ‘remain’

| intrinsic: [-r] [-o] |
| passive: -édw Ø |
| defaults: [+r] |

OBL_{LOC}

The deviant properties of the theme object still to be accounted for are the absence of object agreement and its nonextractability. These are attributed to discourse factors to be presented in the next section.

3.1.5 Discourse Factors

3.1.5.1 The Theory of Discourse Functions

It has already been established that locative inversion occurs in the discourse context of presentational focus. Bresnan/Mchombo (1987) have developed a theory of discourse functions within LFG that is apt to account for the remaining questions. In addition to the grammatical functions SUB, OBJ, OBL, the two grammaticalized discourse functions TOP and FOC (and perhaps additional ones, see below) are postulated. These functions are not to be interpreted as a model of pragmatics or information structure; thus, many participants, which would information structurally be considered topics or foci

function an inverse specification must be assumed: the theme/patient is [-r] while the recipient is [+o]. Thus, intrinsic classification is subject to parametric variation.

An alternative way of excluding unergatives is to assume that they never take locative arguments.

Chichewa lacks expletive subjects that could satisfy this condition. That is why there is no impersonal passive in this language.
do not carry this function in LFG. It is rather constituents which are in some way grammatically marked (e.g. topic-/focus-marker, specialized positions) that bear those discourse functions. The functions must satisfy an extended coherence condition. This demands that it be linked to the semantic predicate-argument structure of the sentence in which they occur, either by functionally or anaphorically binding an argument.

(Bresnan/Mchombo 1987: 746)

This is exemplified in the following examples involving what confusingly has come to be called ‘topicalization’: The topocalized constituent can either carry the TOP or the FOC function which in both cases are functionally identified with the OBJ₀ (Bresnan 2001: 64ff.):

(237) a) Q: What did you name your cat?
   A: ROSIE I named her. (Rosie = FOC)

(238) b) Q: What did you name your pets?

Functional binding means that the value of the discourse function (including grammatical information like case, number etc. as well as the referent) is identified with the value for some subcategorized function. In a configurational language like English, the c-structure of a topicalization construction must contain a gap (i.e. an empty category) in the OBJ₀ position so that completeness and coherence are satisfied; i.e. a function is annotated to the c-structure; this function states that its value is identified with the value of a discourse function, i.e. the extracted element (Bresnan 2001: 67):

(239) e

\((\langle x \uparrow DF \rangle = \uparrow)\)

The position of the extracted constituent is derived by function annotation to c-structures as well:

(240) IP \rightarrow XP

\((\langle \uparrow DF \rangle = \downarrow)\)

\((\uparrow = \downarrow)\)

In a language like Russian, however, where grammatical functions are identified through case marking, no empty category is necessary (see Bresnan 2001: 180ff. for detailed discussion).

The following example is an instance of anaphoric linking:

(241) John, I don’t like him. (John = TOP)

Here, there is no empty category as the the object is represented in c-structure. The topic is linked to the object not through identification of the two f-structures (since that would violate functional uniqueness: the object function cannot be borne by both John and him

78 Additionally, the annotation may include information about the kind of argument function the discourse function may be identified with; see e.g. King (1997: 2f.) on topicalization in English.

79 By economy of expression, empty categories are a last resort. They only occur if there is no other means of function specification available.
simultaneously) but through identification of the referential index of the two functions (see Bresnan 2001: 68 for the details).

The discourse functions are of great importance with regard to extraction constructions like relative and interrogative clauses. It is assumed within LFG that relative pronouns universally carry the TOP function (242a) and interrogative pronouns the FOC function (242b) – wh-words are often analyzed as being inherently focussed – (Bresnan/Mchombo 1987: 757f.):

(242) a) The car [which you don’t want ___ ] is a Renault.
    \begin{align*}
    \text{TOP} & \quad \text{OBJ} \\
    | & \quad | \\
    \end{align*}

b) I know [what you want ___ ]
    \begin{align*}
    \text{FOC} & \quad \text{OBJ} \\
    | & \quad | \\
    \end{align*}

There is an important constraint on discourse functions stating that a constituent cannot be both topic and focus of the same level of functional structure. This constraint can be seen at work in the interaction between relativization and the presentational construction: The latter, introducing a new referent into discourse, does not allow the focal participant to be relativized since a function clash would result: The relative pronoun carrying the topic function would be functionally identified with the subject function which is simultaneously the focus:

(243)  *The book [which there is ___ on the table.
    \begin{align*}
    \text{TOP} & \quad \text{FOC/ SUB} \\
    | & \quad | \\
    \end{align*}

A constituent may however be both topic and focus if it belongs to different levels, e.g. in cleft sentences. In the following example, car in (244) is the focus of the matrix clause and the topic of the embedded sentence (Bresnan/Mchombo 1987: 758):

(244)  It is my car [that you don’t want ___ ].
    \begin{align*}
    \text{FOC} & \quad \text{TOP} \quad \text{OBJ} \\
    | & \quad | \quad | \\
    \end{align*}

For additional details on relative clauses in LFG, Bresnan/Mchombo (1987: 758f.) and Falk (2000: chapter 6.4.).

Some languages require their subjects to be topical. This requirement is ad odds with wh-constructions. Thus, such languages do not allow their subject to be questioned (many use clefts instead), see the following example from Sesotho (repeated from 2.2.2.5):

(245)  *Hokae ho-ful-a likhomo?
    17:where 17-graze-IND 10:cattle
    ‘Where do cattle graze?’

If every subject is obligatorily assigned the topic function in such a language, the impossibility of wh in situ directly follows from a function clash: the subject cannot be both topic and focus simultaneously.
It should have become clear that the discourse functions are basically a means to model non-local dependencies. On the other hand, discourse functions also play a prominent role in so-called discourse-configurational languages, i.e. languages where discourse functions are encoded by phrase structure positions (e.g. Turkish, Hindi etc.), see Halloway King/Butt (1996). There, the discourse functions are annotated to the phrase structure rules, e.g.:

\[(246) \quad \text{VP} \rightarrow \text{XP} \quad \text{V}'
\]
\[
\uparrow \text{FOC} = \downarrow \uparrow = \downarrow
\]

Thus, the VP expands into a focus position and V'. This is basically the same thing as with English topicalization, the difference being that only discourse functions are annotated to the phrase structure since grammatical functions are identified through case marking in such languages. From a different point of view, one could say that LFG takes a discourse configurational approach to extraction in English.

In an important article, Butt/Halloway King (1996) have shown that two discourse functions are not sufficient to describe discourse-configurational languages. They propose a new classification of discourse functions partly based on Choi (1996): Employing the two features \([+/- \text{ new}]\) and \([+/- \text{ prominent}]\) they arrive at a four-way distinction:

\[(247) \quad [+ \text{ new}] \quad [+] \text{ prom} = \text{focus}
\]
\[[- \text{ new}] \quad [+] \text{ prom} = \text{topic}
\]
\[[- \text{ new}] \quad [-] \text{ prom} = \text{tail}
\]
\[[+] \text{ new} \quad [-] \text{ prom} = \text{completive information}
\]

In addition to (246), the following annotated phrase structures are necessary:

\[(248) \quad \text{a)} \quad \text{IP} \rightarrow \text{IP} \quad \text{XP}
\]
\[
\text{a)} \quad \uparrow = \downarrow \quad \downarrow \in (\uparrow \text{BACKGROUND})
\]
\[\text{b)} \quad \text{IP} \rightarrow \text{XP} \quad \text{I}'
\]
\[
\text{b)} \quad (\uparrow \text{TOP}) = \downarrow \quad \uparrow = \downarrow
\]
\[\text{c)} \quad \text{I'} \rightarrow \text{S} \quad \text{I}
\]
\[
\text{c)} \quad \uparrow = \downarrow \quad \uparrow = \downarrow
\]
\[\text{d)} \quad \text{S} \rightarrow \text{XP} \quad \text{VP}
\]
\[
\text{d)} \quad \downarrow \in (\uparrow \text{COMPL}) \quad \uparrow = \downarrow
\]

The following examples illustrate the different categories (Butt/Halloway King 1996):

1. What happened to this book? To whom was it given?
2. 'This book Hasan gave to me.'

---

80 The up and down arrows are to be read as follows: The equation under XP means something like: the f-structure of my mother node contains a FOC function whose value is identified with my f-structure. The equation under V' means that its f-structure is identified with the f-structure of its mother. This operation is called unification. See Bresnan (2001: 50ff.) for more introduction.

81 The set notation expresses the fact that these functions allow multiple instances, see Bresnan (2001: 69).
Zeynep asked me where you took the children...

b) Zeynep [[çocuk-lar-i]_{TOP} [okul-a]_{LOC} götür-duğ-üm-ū [ben-im]_{REL} bil-iyor.
  Zeynep child-pl-ACC school-DAT take-NOM-1s.POS-ACC 1-GEN know-prg:3s
  'Zeynep knows that the children I took to school.'

vs. Zeynep asked me what happened to the children

C) Zeynep [[çocuk-lar-i]_{TOP} [ben-im]_{COMP} [okul-a]_{LOC} götür-duğ-üm-ū bil-iyor.
  Zeynep child-pl-ACC 1-GEN school-DAT take-NOM-1s.POS-ACC know-prg:3s
  'Zeynep knows that the children I took to school.'

With these additional categories, the coverage of the discourse function approach can be extended considerably.

3.1.5.2 Discourse Properties of the Object Marker

At least for Chichewa, there is good reason to assume that the object markers are incorporated pronouns with an anaphoric function, see Bresnan/Mchombo (1987: 746ff.): First, the presence of the object marker allows many more word order variants than when it is absent. Facts from phrasal phonology point in the same direction (749ff.): The object is within the VP if the object marker is absent but outside the VP in the presence of the object marker; it is then, of course, a topic bound to the pronominal, and not longer an object. Second, an important typological difference between a language like Chichewa and English is that free pronouns are not used for anaphoric reference but instead to introduce new topics. It is the bound pronouns that serve as anaphoric pronouns, see Bresnan/Mchombo (1987: 768ff.):

(250) a) Fisi anadyá mkângo. Â-tá-ú-dya, a-napítá ku San Francisco.
  hyena ate 3:lion he-SEQ-3:OBJ-eat he-went to S.F.
  'The hyena ate the lion. Having eaten it, he went to San Francisco.'

  b) Fisi anadyá mkângo. Â-tá-dya íwo, a-napítá ku San Francisco.
  hyena ate 3:lion he-SEQ-eat 3:it he-went to S.F.
  'The hyena ate the lion. Having eaten it (something other than the lion), he went to S.F.'

(251) a) Mkángó uwu fisi a-ná-ú-dy-a.
  3:lion this hyena he-PST-3:OBJ-eat-IND
  'This lion, the hyena ate it.'

  b)*Mkángó uwu fisi a-ná-dy-á íwo.
  3:lion this hyena he-PST-eat-IND 3:it
  'This lion, the hyena ate it.'

In (250), only the bound pronoun can refer to the discourse topic; the free contrastive pronoun, however, refers to a changed topic. The same difference surfaces in (251), where anaphoric reference to a sentence-internal topic is required. Only the bound form is
adequate.\textsuperscript{82} The same distribution of the to types of pronominals can be found in relative clause and cleft constructions.\textsuperscript{83}

Third, constituents that agree with the object marker do not violate island constraints (such as wh-islands as in the following example). This is clearly a property of pronominal relations and not agreement (Bresnan/Mchombo 1987: 755):

(252) Chigawénga ichi ndi-ku-fúná ku-dziwá ngati asilikáli ämléné á-kú-bá
7:terrorist this 1-PRS-want INF-know whether soldiers who 1-PRS-steal
nkúkú záthu á-nga-fúné ku-chí-gwir-lits-á ntchîto.
chickens our 1-may-want INF-7O-grab-CST-IND work

‘This terrorist, I want to know whether the soldiers who are stealing our chickens may want to make use of him.’

Fourth, an object marker cannot refer to a question word (Bresnan/Mchombo 1987: 760):

(253) *Kodi mu-ku-chí-fún-á chiyâni?
Q you-PRS-7OM-want-IND 7:what
‘What do you want (*it)?’

Under the assumption that the bound pronoun is used for topic anaphoricity, the ungrammaticality of this example follows directly from the theory of discourse functions: The wh-word carries the focus function but since the pronoun requires it to be a topic, a function clash results, cf. (243) and (245).

Fifth, the bound pronoun cannot refer to idiomatic objects. This is to be expected if the pronoun only agrees with topics (Bresnan/Mchombo 1987: 763):

(254) *Chifukwá chá mwáno wâke Mavútó tsópáno a-ku-\textbf{li}-nông’onez-a bôndo.
because of rudeness his Mavuto now 1-PRS-5O-whisper_to-IND 5:knee
‘Because of his rudeness Mavuto is now whispering to it, his knee (i.e. feeling remorse).’

All these examples have demonstrated that the constituents that agree with the object marker are not governed by the verb. Instead, it is the pronoun that satisfies the argument slot while the NP is a dislocated topic. In languages like Arabic or spoken French that have morphological case or use prepositions to differentiate grammatical functions, topics can be detected in yet another way: As they are not governed by the verb, they often appear in an invariant (e.g. nominative) case and not the case that the verb assigns, see Hanson (1987: 108):

(255) a) Il faut aller à la plage quand il fait chaud.
it must go to the beach when it makes hot
‘You have to go to the beach when it’s hot.’

\textsuperscript{82} While the object marker is exclusively used for anaphoric agreement, the subject marker is ambiguous in this respect, see Bresnan/Mchombo (1987: 755).

\textsuperscript{83} See Bresnan (1997) for an analysis of the Chichewa pronominals within the framework of Optimality Theory. The two-way contrast between bound and free pronouns corresponds to the contrast between weak (anaphoric) and strong (emphatic, contrastive) pronouns in languages like English that only exhibit free pronouns.
b) La plage, il faut y aller quand il fait chaud.
The beach, you have to go there when it makes hot.

'The beach, you have to go there when it’s hot.'

In (255a), the directional complement is governed by the verb and therefore marked with a preposition. In (255b), however, where it functions as a dislocated topic, no preposition is necessary.

The properties of the object marker together with the theory of discourse functions will be used in the following section to explain some of the non-object properties of the inverted theme.

3.1.5.3 Discourse Functions in Locative Inversion

As has already been established in (23) above, locative inversion serves a special function in discourse. Its distribution and properties all fall into place if the theme is analyzed as carrying the FOC function, while the locative subject, though being topical, only bears the SUB but not the TOP function.84

First, it has already been stated above that the theme may be expressed neither by a bound nor by a free pronominal:

(256) a) *Ku-mu-dzi ku-na-bwér-á
    17-3-village 17SM-RECPST-come-IND 3p_pron
    Lit.: 'To the village came they/them.'

    17-3-village 17SM-RECPST-2:OBJ-come-IND
    Lit.: 'To the village came them.'

Since the theme carries the focus function, it cannot be expressed by elements which anaphorically refer to a topic: Focus is incompatible with thematicity.85 This automatically explains the impossibility of object marking. Interestingly, languages like Makua, where object markers are not incorporated pronouns but mere markers or grammatical agreement allow agreement with the unaccusative object, see Bresnan (1994: 122):

(257) Va-tthoko-ni va-ha-a-w-a  a-thu.
    16-house-LOC 16-PRF-2OBJ-come-IND 2-person
    'Home came people.'

84 If it were a grammaticized topic, it would not allow questioning in situ; subjects do however quite generally allow questioning in place in Chichewa, see Bresnan/Mchombo (1987: 760). Other Bantu languages like e.g. Dzamba are different in this regard; there, subjects cannot be questioned in situ, see Bresnan/Mchombo (1987: 778).

As will be shown below, the preposed locatives in English will be analyzed as topics and not as subjects. It may seem confusing to assign different discourse functions to the languages in question although their use in discourse is identical. But a sound understanding of the LFG discourse functions quickly does away with this confusion: the discourse functions are understood as grammaticized discourse functions, i.e. they are grammatical functions. Therefore, only arguments with discourse properties immediately relevant for syntax carry those functions. In English, for instance, the special position of the locatives is one of the reasons why it carries the TOP function. In Chichewa however, the locative occupies the normal subject position, see Bresnan/Mchombo (1987: 755ff) and 3.1.8.

85 The independent pronouns of Chichewa are also excluded because they refer to new topics.
This is strongly supports the view that the theme is an object.

Second, if we adopt the view that relative pronouns carry the topic function, the extraction facts are easily explained: Uninverted Constructions differ from their inverted counterparts in freely allowing extraction of either participant. This follows from the fact that none of them carries a discourse function so that – interrogative and relative pronoun belonging to different levels – no function clash can result (Bresnan/Kanerva 1989: 36):

(258) a) Nkhandwe y-a-im-a pa-m-chenga.
   9:fox 9-PRF-stand-IND 16-3-sand
   ‘The fox is standing on the sand.’

   b) N’ pâ-ti [pa-méné nkhandwe y-a-im-a ___ ] ?
   COP 16-Q 16-REL 9:fox 9:REL-PRF-stand-IND
   FOC TOP SUB
   ‘Where is the fox standing?’

   c) N’ chi-yâni [chi-méné ___ ch-á-im-á pa-m-chenga] ?
   COP-7-Q 7-REL 7:REL-PRF-stand-IND 16-3-stand
   FOC TOP SUB
   ‘What is standing on the sand?’

In the inverted construction, however, there is an asymmetry (already noted above): as opposed to the locative (259b), the theme resists extraction by relativization (259c), but can be questioned in situ (259d). This follows directly from the assumption that the theme carries the focus function which is incompatible with the topic function of the relative pronoun that is functionally identified with it. As to the locative, there is no incompatibility, since it does not carry a discourse function. Wh in situ of the theme is possible because no relative pronoun is involved and no function clash can result:

(259) a) Pa-m-chenga p-a-im-a nkhandwe.
   16-3-sand 16-SM-PRF-stand-IND 9:fox
   ‘On the sand is standing a fox.’

   b) N’ pâ-ti [pa-méné ___ p-a-im-á nkhandwe] ?
   COP 16-Q 16-REL 16SM_Rel-PRF-stand-IND 9:fox
   FOC TOP SUB
   ‘In which place is standing the fox?’

   c) *N’ chi-yâni [chi-méné pa-m-chenga p-a-im-a ___ ] ?
   COP 7-Q 7-REL 16-3-sand 16SM_Rel-PRF-stand-IND
   FOC TOP
   Lit.: ‘What is it that on the sand is standing?’

   d) Kodi pâ-m-chenga p-a-im-a chi-yâni?
   Q 16-3-beach 16-PRF-stand-IND 7-what
   SUB/FOC
   ‘On the beach is standing what?’
Lastly, the asymmetric distribution of contrastive focus (see (25) above) is also captured by the present theory. In uninverted sentences, none of the participants carries a discourse function. Therefore, either can be contrastively focussed. In the case of locative inversion, however, the theme is obligatorily focussed and cannot function as presupposed material, thus allowing the locative to be contrastively focussed.

Still to be accounted for are the apparently unergative verbs that undergo locative inversion, (208), repeated here for convenience:86

(260) a) Through the window on the second story was shooting a sniper.  
    b) Behind the wheel lounged a man uniformed with distinct nautical flavor.  
    c) Above them pranced the horses on the Parthenon frieze.

Bresnan (1994: 84) explains these seemingly deviating examples as follows:

The example (260a) can be used in the context of describing a scene in which a sniper is shooting from the second story window. ... Inversion is possible just when the shooting through the window serves to locate the sniper, ... just when location is predicated of the subject and the situation can be assimilated to the core theme-locative generalization isolated above. In such examples a theme-locative predication appears to be overlaid on the basic predication of the verb.

The mapping of an unergative verb involving presentational overlay is schematized below, see Bresnan (1994: 91):

(261) argument structure: $<\text{ag}>$
     \[
     \begin{array}{c}
     \text{presentational overlay} \quad <\text{th} \ \text{loc}> \\
     \text{intrinsic:} \quad \llbracket -r \rrbracket \ \llbracket -o \rrbracket \\
     \text{defaults:} \quad \llbracket -r \rrbracket \\
     \end{array}
     \]

O    S

Presentational overlay can only apply to unergatives since in transitives, the theme would be overlaid by the presentational structure and the mapping would proceed like in (231).

3.1.5.4 The Occurrence of Locative Inversion

We are now in a position to reformulate the special default (222) in order to express the intrinsic relationship between locative inversion and presentational focus: The following default means that in the context of presentational focus (the feature $[f]$), a locative argument can be intrinsically classified as unrestricted, thus allowing it to become a subject:

(262) $[f] \quad \text{loc}$
     \[
     \begin{array}{c}
     \text{loc} \\
     \text{[-r]} \\
     \end{array}
     \]

---

86 Comparable examples have been observed in Chichewa as well, see Bresnan (1994: 85).
For Chichewa, the presentational focus feature is restricted to theme arguments being the highest thematic role: This is expressed by the following constraint, see Bresnan/Kanerva (1989: 38):

\[(263) \ < \ \text{th} \ \mid \ [f]\]

The defaults and constraints above, together with the mapping principles and the theory of discourse functions account nicely for the cluster of properties of the locative inversion construction in Chichewa. The following section presents an account of crosslinguistic variation in locative inversion.

### 3.1.6 Deriving Crosslinguistic Variation (1): The Bantu Languages

Although much data is missing to get a Bantu-wide view of the features of the locative inversion construction, it seems that the main areas of variation to be accounted for are argument structure and subject choice while there is more or less convergence in the domains of information structure, the categorical status of locatives as well as the properties of the participants.

The only Bantu languages in the sample that do not feature locative subjects seem to be Kinyarwanda and Kirundi. There, the locative subject prefix ha- serves as an expletive subject, while the logical subject is realized as an unaccusative object and the locative as an oblique object. An account within the LMT might look as follows:

\[(264) \ \text{gii} \ < \ \text{th} \ \text{loc} > \ 'go'\]

intrinsic: \([-o] \ [-r] \ [-o]\)

defaults: \([-r] \ [+r]\)

\[\text{expl OBJ OBL}_{\text{LOC}}\]

A central part of the analysis is that the nonthematic argument must be given priority in the mapping to functions, see Falk (2000: 5.3.3.). For a somewhat different analysis, see Bresnan (2000: 366-369).

---

87 A similar analysis applies in the case of English presentational there-constructions, see below.
In order to restrict such a mapping to the presentational focus construction, we need a constraint that allows expletive subjects in exactly this context.\(^{88}\) This can be expressed by the following revised subject default that is meant to cover presentational constructions in all of the languages under discussion: In context of presentational focus, an atypical subject emerges, either the locative or an expletive (Bresnan/Kanerva 1989: 37):\(^{89}\)

\[(265) \quad \begin{array}{c}
\{ f \} \\
\text{loc/expl}
\end{array} \]

As to argument structure variation, Chichewa proves to be the most restricted type, allowing locative inversion only if a theme is present that is the most prominent argument, while Sesotho and Setswana exclude locative inversion only if both an agent and a theme (or a goal/benefactive) are present. The following table (adapted from Demuth/Mmusi 1997: 114) summarizes these results: \(^{90}\)

<table>
<thead>
<tr>
<th>verb type</th>
<th>Chichewa</th>
<th>Chishona</th>
<th>Sesotho</th>
<th>Setswana</th>
<th>Kinyarwanda</th>
<th>Kirundi</th>
</tr>
</thead>
<tbody>
<tr>
<td>unaccusative</td>
<td>act. +</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>pass. -</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>unergative</td>
<td>act. -</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>pass. -</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>transitive</td>
<td>act. -</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+(^{91})</td>
</tr>
<tr>
<td></td>
<td>pass. +</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>ditransitive</td>
<td>act. -</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>pass. -</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>agent phrase</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Demuth/Mmusi (1997: 16) note that there seems to be a correlation between locative verb morphology and the type of structures permitted in presentational focus constructions: Languages featuring a subject marker without locative reference permit locative inversion in more cases than those without.

In Chishona, the constraint (263) is not operative, instead, the less restrictive constraint (266) is needed: \(^{92}\)

\[(266) \quad *\{ f \} \prec ag\]

---

88 Expletive subjects are also licensed in impersonal constructions, where the postposed subjects are said to have a cleft meaning, see 2.7.4 above. A more sophisticated theory of the information structure – syntax interaction would be needed to derive the desired results in each case. If, however, they too have a presentential function, this constraint therefore covers the impersonal cases as well.

89 A more elaborate formulation is needed for languages like Sesotho, see below.

90 I exclude Tshiluba from this overview since there is not sufficient data available to give a clear picture. Another language patterning like Chichewa seems to be Comorian, see Picabia (1994). Swahili, on the other hand, patterns with Sesotho and Setswana, see Abdulaziz (1996: 39), Krifka (1995: 1408) and Shepardson (1982: 114) for examples. Subject-Object-Reversal will be dealt with below.

91 Only in expletive constructions.

92 The account presented here differs from Harford’s (1990) who applies the LMT in a somewhat different fashion.
This constraint states that presentational focus constructions are incompatible with verbs having an agent argument. Perhaps, a more precise formulation would be necessary to allow the expression of passive agents.

I will now show how the LMT, together with the newly introduced constraint, derives the desired results:

First, passivized intransitive verbs undergo locative inversion, the filter (266) does not apply (additionally, the constraint (263) does not hold in this language):

\[(267)\]
\[
\begin{array}{c}
\text{a)} < \text{th loc}> \\
\text{intrinsic:} \quad [-r] \quad [-o] \\
\text{passive:} \quad \emptyset \\
\text{loc-inv:} \quad [-r] \\
\hline
\text{O} & \text{S}
\end{array}
\]
\[
\begin{array}{c}
\text{b)} < \text{ag loc}> \\
\text{intrinsic:} \quad [-o] \quad [-o] \\
\text{passive:} \quad \emptyset \\
\text{loc-inv:} \quad [-r] \\
\hline
\text{O} & \text{S}
\end{array}
\]

Passivized ditransitives or applicatives also permit inversion because the highest argument left after the agent has been removed carries a Benefactive/Goal role; therefore, the special default (265) can apply:

\[(268)\]
\[
\begin{array}{c}
\text{a)} < \text{ag ben loc}> \\
\text{intrinsic:} \quad [-o] \quad [-r] \quad [-o] \\
\text{passive:} \quad \emptyset \\
\text{loc-inv:} \quad [-r] \\
\hline
\text{O} & \text{S}
\end{array}
\]

The only difference between Chishona and the other languages (apart from Chichewa) is that the former does not allow locative inversion with unergatives. The following mapping shows that (266) prohibits the application of the special locative-subject default (263), consequently, the agent has to be mapped onto the subject function:

\[(269)\]
\[
\begin{array}{c}
\text{a)} < \text{ag loc}> \\
\text{intrinsic:} \quad [-o] \quad [-o] \\
\text{loc-inv:} \quad \text{n.a.} \\
\text{defaults:} \quad [-r] \quad [+r] \\
\hline
\text{S} & \text{O}
\end{array}
\]

For the remaining languages, a few additional modifications are necessary: First, we need a means to exclude locative inversion with transitive verbs. This is done by the following constraint stating that the presentational focus construction is impossible if the verb has an agent role and another argument with a role higher than locative:

\[(270)\]  
\[
* [f] < \text{ag, ben/th}
\]
Additionally, to allow the agent to be mapped onto the object function in the case of unergatives, we are forced to assume that the agent is intrinsically unspecified and receives the classification [+o] in the context of presentational focus. The last condition is expressed by a revised version of (265): \[ \text{(271) } \begin{array}{c|c|c} \hline f & \text{loc/expl} & \text{ag} \\ \hline -r & +o \\ \hline \end{array} \]

The mapping in unergatives is shown below, in (272a) the normal case and in (272b) the context of locative inversion:

\[ \text{(272) } \begin{array}{c|c|c|c} \hline a) & \text{ag} & \text{loc} & > \\ \hline \text{intrinsic:} & [ ] & -o \\ \text{defaults:} & [-r] & [+r] \\ \hline b) & \text{ag} & \text{loc} & > \\ \hline \text{intrinsic:} & [ ] & -o \\ \text{loc-inv:} & [+o] & -r \\ \text{defaults} & [-r] \\ \hline \end{array} \]

The assumption that the agent is intrinsically unspecified runs into severe problems, however, in the simple case of transitive verbs: Since the agent is underspecified, both the agent and the theme are [-r] after the application of the defaults; therefore, the object could become the subject and the agent the object. We therefore would need a further constraint prohibiting agentive objects by default while still allowing them in the context of presentational focus.\[ \text{94} \]

Another possibility is to assume that in the case of locative inversion, the agents intrinsic value [-o] may exceptionally be altered to [+o]. This would derive the correct result in all cases but violates the LFG principle of monotonicity by which no features may be altered or deleted (see 3.1.2.3).

The approach taken by Demuth/Mmusi (1997) who leave both the agent and the theme intrinsically unspecified does not help either: With this assumption, the mapping of an ordinary transitive fails to derive the correct result: The theme is mapped on the restrictive instead of the unrestricted object function.

\[ \text{(273) } \begin{array}{c|c|c} \hline a) & \text{ag} & \text{th} \\ \hline \text{intrinsic:} & [ ] & [ ] \\ \text{defaults:} & [-r] & [+r] \\ \hline \end{array} \]

---

93 There is one remaining problem with this analysis: Kirundi permits impersonal constructions (158) in this context but not locative inversion (159b). I will not attempt to find a solution for this.

94 As the analysis proceeds, more and more constraints seem to be needed. This indirectly lends support to a framework like OT that involves conflicting but hierarchically ordered constraints. See 3.3.3 below for its application to the phenomenon of locative inversion.
3.1.7 Deriving Crosslinguistic Variation (2): English and Chichewa

3.1.7.1 The Factorization of Grammar

Comparing English with a Bantu language like Chichewa results in a puzzling picture at first sight: While there are many similarities like the argument structure restrictions and the discourse function, there are substantial differences with regard to the properties of the locatives: While in Chichewa, they show consistent subject-like behavior, they display some, but by no means all the properties on would expect from a subject. Thus, they can be raised to subject and relativized, show that-trace effects and can be questioned without auxiliary inversion. But on the other hand they do not trigger subject-verb agreement, cannot be raised objects and do not take nonfinite attributive VP-complements. How is this mixed behavior to be accounted for?95

The architecture of LFG explains these facts very elegantly by allowing what Bresnan/Kanerva (1989) refer to as “the factorization of grammar”, i.e. by modeling different types of grammatical information on different levels of representation. The similarities with regard to argument structure and grammatical relation are captured by identical a-structure and f-structure representations, i.e. levels of representation that abstract away from the categorical differences in surface expression.96

The subject properties that locatives in English possess are modeled by f-structure in LFG, the level on which functional relations like control, raising, binding and extraction are defined. See Falk (2000: chapter 5.2. on control; 5.3. on raising, 6 on extraction).

All the differences between the two languages are supposed to be rooted in the categorical expression, i.e. in the categorization of locatives as NPs in Chichewa (see 2.1.8) and PPs in English (see 2.9.5).97 This difference in categorization has immediate consequences for the c-structure expression:

A principle regulating the associations between f- and c-structure excludes PPs from subject and object positions (in English), cf. Bresnan (1994: 104):

(274) If C is a c-structure position restricted to subjects or objects, then C is nominal.

Consequently, the locative subjects cannot occupy the syntactic subject position (Spec-of IP) but are instead adjoined to IP, the topicalization position in English. Thus, locative-PPs can be functional but not structural subjects in English.98 They carry the discourse function TOP which by the extended coherence condition: (see 3.1.5.1) has to be functionally identified with the subject function in the verb’s functional structure. The subject position is not projected in the c-structure expression, see Bresnan (1994: 105).

95 This has led some investigators (e.g. Coopmans (1989), see below) to posit an empty expletive subject. C.f. Bresnan (1994: 99ff.) for counterarguments.

96 LFG thus differs from Chomskyan varieties of Generative Grammar which exclusively use phrase structure representation to model similarities between languages.

97 See Bresnan (1995) for a more detailed account of the differences in categorization and their consequences.

98 See however Levine (1989) and Bresnan (1994: 100ff.; 1995: 14ff.) for PPs in English that do occur in subject position and differ in crucial properties from the locative subjects discussed here.
The c-structures of locative inversion constructions in English (275a) and Chichewa (275b) are reproduced below:

(275) a) [\[IP \[to the village\] \[IP \_ \[VP came \[NP the visitors]]]]

b) [\[IP to the village \[VP came \[NP the visitors]]]]

The non-subject properties of English locatives directly follow from their structural non-subject position:

3.1.7.2 Agreement

Since the features of subject-verb agreement are inherently associated with nominal categories, the nonnominal locatives cannot determine the number and person features of the verb. They show the same agreement pattern as the expletive subject there which also lacks nominal features. The NP/PP-distinction can be thought of as a caselike opposition of direct vs. oblique (or indirect) arguments. Indirect arguments – e.g. the so-called “dative subjects” in languages like German, Icelandic or Hindi – usually do not trigger subject-verb agreement; it is always the direct case argument, the verb agrees with, i.e. the nominative object, see Bresnan (1994: 117f.).

3.1.7.3 No auxiliary inversion

The absence of auxiliary inversion in yes-no questions (cf. (194)) is a direct consequence of an empty subject position. Interestingly, locative subjects pattern with topicalized subject clauses in this respect (Bresnan 1995: 6):

(276) a) That he’ll be late is quite likely.

b) *Is that he’ll be late likely?

The IP-adjoined position of sentential subjects is, of course, also a consequence of the restriction of the subject position to nominal categories.

---

99 The underline in the English example represents a gap, the unfilled subject position to which the locatives can be said to be indirectly related by topicalization. As described in 3.1.5.1, topicalization is not analyzed as a movement operation but as the identification of two f-structure functions, the grammaticalized discourse function and a syntactic function. An advantage of this account is that movement paradoxes are avoided, i.e. categorical differences of the respective positions are abstracted away from, see Bresnan (1994: 106; 1995; 2001: 16ff.):

a) [That he might be wrong] he didn’t think of _ .

b) *He didn’t think of that he might be wrong.

100 Actually, Bresnan/Mchombo (1987) and Bresnan (1994) assume that there is no IP in Chichewa (as in many Bantu languages). Consequently, the sentence is most adequately described by the following phrase structure rule: S → NP VP. However, Krifka (1995) argues that at least for Swahili, there seem to be good reasons to postulate an IP. I will come back to this issue in the discussion of P&P approaches in 3.1.8.
3.1.7.4 Prosodic Evidence

Locative subjects also differ from ordinary subjects with regard to phonological processes that are sensitive to the structural subject position: They do not allow the reduced clitic form of the auxiliary. Consider the following contrast (Bresnan 1994: 111):

(277) a) Any place in San Jose /z/ a great place to live.
   b) In San Jose */z/ a great restaurant.

3.1.7.5 Control of Attributive VPs and Raising to Object

The failure of locatives to control nonfinite attributive VPs is easily accounted for once one realizes that nonfinite phrases generally prohibit topicalization, i.e. there is no topic position, see BRESNAN (1994: 107):

(278) a) I expect that John, you won’t like __.
    b)*I expect for John, you not to like __.
    c)*I expect John, you not to like __.
    d)*I anticipated John, your not liking __.

From this follows immediately that locative inversion is impossible in nonfinite clauses, see BRESNAN (1994: 108):

(279) a) I expect that [ip on this wall [ip __ will be hung a picture of Leonard Pabbs]].
    b)*I expect for [ip on this wall [ip __ to be hung a picture of Leonard Pabbs]].
    c)*I expect [ip on this wall [ip __ to be hung a picture of Leonard Pabbs]].
    d)*I anticipated [ip on this wall [ip __ being a picture]].

Therefore, there can be no locative inversion in attributive VPs. It is for the same reason that raising to object is impossible with inverted locatives: Although this operation is handled at the level of f-structure, there is no structural position for the locative (280a). If the locative is topicalized to the front of the matrix clause, the ungrammaticality disappears (280b). Subject-raised locatives also occupy the topic position in the matrix clause (280c), cf. Bresnan (1994: 108f.):

(280) a)*I expect [ip on this wall [ip __ to be hung a picture of Leonard Pabbs]].
    b) [ip [On this wall] [ip I [vp expect [ip __ to be hung a picture of Leonard Pabbs]]]]
    c) [ip [On this wall] [ip __ is likely [ip to be hung a picture of Leonard Pabbs]]]

3.1.7.6 Properties of the Theme

Most of the properties of the theme can be accounted for by means of the principles introduced so far. The pronominal restriction and its resistance to relativization follow from the theme’s discourse function. That the theme does not passivize is a direct consequence of its status as an unaccusative object: There is no intransitive passive in English.

---

101 As shown above, this raising asymmetry is not found in Sesotho, Chishona and Kichaga, perhaps because the complements are finite and therefore allow the NPs to remain in the subject position. It is however not very clear if such constructions really represent instances of Raising-to Object.

102 The locative’s status as topic cannot account for its ‘raisability’, see Bresnan (1994: 96):

   a) It seems that [ip John [vp you dislike __]]
   b)*John seems [vp __ [vp you to dislike __]]
English most strikingly deviates from the Bantu languages in disallowing wh-extraction of the theme (Bresnan 1994: 88):

(281) a) *[What kind of mushrooms] do you think on these trails can be found t_1?

Bresnan explains this with reference to the theme’s structural position: As opposed to Chichewa, where the theme occupies the canonical object position, English theme objects are VP-adjoined, thus occupying the same position as ordinary heavy-NP-shifted constituents. Evidence for this hypothesis comes from the fact that extraction from the VP-adjoined position is generally disallowed, see see Bresnan (1994: 87):

(282) a) Guess who [IP I [VP located a picture of t_1 in the police files]?
   b) *Guess who [IP I [VP [VP located t_1 in the police files] [a picture of t_1] ]? 103

The last remarkable feature of the theme to be explained is its inability to control into a nonfinite adjunct clause (199), repeated here for convenience:

(283) a) [Two sheiks] lay near the oasis [without PRO talking].
   b) *Near the oasis lay [two sheiks] [without PRO talking].

Since c-structure facts are not involved in the explanation of control within LFG, one cannot resort to the widely used notion of constituent-command as a prerequisite for (anaphoric) control. Instead, an explanation has to make use of functional relations. The asymmetry above is easily accounted for if the control of such adjunct clauses is limited to subjects. Since the theme carries the object function in the b)-clause, it cannot control into the without-clause. This hypothesis is corroborated by the fact that ordinary objects fail to control the PRO as well:

(284) a) John married a woman [without PRO loving her]
   b) *John married a woman [without PRO loving him].

To conclude, the LFG-model elegantly explains nearly all the differences between English and the Bantu languages.

3.1.8 Review

The LFG-approach is quite impressive: It is capable of deriving most of the properties of the participants as well as the argument structure restrictions. Additionally, the information structural properties of locative inversion are well integrated into the model and allow a clear statement of the trigger: The morphosyntactically marked construction (inversion) is only available in the information structurally marked context of presentational focus. Morphosyntactic and discourse functional markedness nicely correlate on this analysis.

The treatment of locative inversion in English clearly shows the advantages of the LFG-architecture: With the abstract level of f-structure, it permits a very elegant formulation of the similarities between English and the Bantu languages, while accounting for the differences by means of the more idiosyncratic surface structures.

There are, however, a number of shortcomings of this approach that need to be mentioned: First, as has already been noted, the underspecification analysis does not work very well for a number of Bantu languages. Moreover, the theory fails to capture the implicational

103 I have added a trace-notation for expository purposes.
relationship between the different argument structure types: Languages that allow inversion with unergative verbs also allow inversion with unaccusative verbs, but not vice versa. Thus, inversion with unergatives is more marked. In the present system, there is no way to express this markedness relation.

As to argument structure, another problem emerges: the phenomenon of subject-object reversal. As has been shown for Sesotho and Setswana, allowing an agent to be mapped onto the object function necessitates that the agent be intrinsically unspecified. This, however, has been shown to derive undesired results with transitive verbs. Consequently, a revision of the LMT seems to be inevitable.

A further problem is represented by the device of presentational overlay. Although it is very attractive in that it allows the preservation of the unaccusative analysis for English and Chichewa, I do not see how this deus ex machina can be restricted in its application.

One somewhat dissatisfying aspect of Bresnan’s (1994) comparative analysis of English and Chichewa is that only English locatives are topics while Chichewa locatives are mere subjects – this, although locatives are topical in both languages. Thus, there is no way to capture the information structural similarities between the two languages.

There has been some discussion in the last years on how to handle information structure as a whole in LFG. One of the major shortcomings of the discourse-configurational approach to information structure is that while it can give a fairly accurate account of information structure in discourse-configurational languages, it captures only a tiny part of it in languages like English where discourse functions are for the most part not associated with special structural positions but instead encoded by prosodic means. To resolve this dissatisfying situation, Choi (1996) and King (1997) proposed that an additional level of representation, i-structure should be integrated into the LFG model. This level would map between c-structure and semantic structure (and surely also prosodic structure). An advantage of this approach is that it allows a crosslinguistically consistent description of information structure. Moreover, it is the only means to capture mismatches between information structure and constituent structure. Consider the following examples from King (1997: 8) and Choi (1997: 7f.):

(285) a) Was it the man with the green SHIRT that was climbing the tree?
    b) No, It was the man with the green [TIE]_loc that was climbing the tree.

(286) What did you put in the top drawer?
    I put [a knife]_loc in it.

In (285), the entire NP the man with the green tie is clefted and forms a constituent. However, only the head noun tie is focused. So while the entire NP is a constituent at c-structure, it is not at i-structure, instead, tie belongs to the focus part and the rest of the NP to the background part. The same holds for (286): while knife is both a c-structure and a i-structure constituent, I + put + in is only a constituent at i-structure.

With this additional level, the similarity between locative inversion in English and in Chichewa can be captured: In both languages, the locative is a topic at i-structure. The difference is still expressed at f- and at c-structure (see below). A further advantage of such an addition to the LFG model is that we can now explain where the focus feature that was postulated in 3.1.5.4 comes from: On the previous account, it remained mysterious how a linking process could make reference to a feature that was not represented at a-structure but instead at f-structure. Assuming that there is a mapping between i-structure and a-structure, this shortcoming can be eliminated.
Discourse functions (i.e. a representation of information structure at f-structure) are still necessary where syntactic operations are sensitive to these categories, e.g. topic agreement or the function clashes discussed in 3.1.5.1. Consequently, all f-structure grammaticalized discourse functions will have a corresponding i-structure role (e.g. the locative-topic in English), but most i-structure roles will not be grammaticalized into the f-structure (e.g. the locative subject in Chichewa).

The last problematic issue concerns the structural position of the inverted theme in English: Bresnan traces the extraction restriction of the theme back to its VP-adjoined position. At first sight, this analysis is very attractive as it draws a parallel to the two types of there-constructions in English: existential vs. presentational there. While the theme remains inside the VP in the former, it is VP-adjoined in the latter (Bresnan 1994: 99,fn. 39):

(287) a) There remain a few crates of beer in the cellar
   b) There lurched into the room an old man.

This difference in position can be correlated with differences in extraction: only the existential construction allows extraction of the theme:

(288) a) What did he say there remained in the cellar?
       b) *Who did he say there lurched into the room?

However, it is questionable why a VP-adjoined position should disallow extraction as adverbials (which in most accounts are outside the VP) can be freely wh-moved. Second, Bresnan contradicts herself by presenting examples where the inverted theme itself undergoes heavy-NP-shift – as evidence in favor of its object status, see (201) above, (repeated here for convinience):

(289) a) In this village was [VP [VP located ti for many years after the war] [a church which the Germans had bombed]]
   b) Over my windowsill [VP [VP crawled ti every day] [an entire army of ants]]

From these example, it would seem that the themes occupy the canonical object position. The two analyses contradict each other: If the first assumption (VP-adjoined) is correct, heavy-NP shift cannot serve as diagnostic for structural objects (because the inverted theme should occupy a VP-adjoined position in the first place) although elsewhere in the grammar of English, only objects can be heavy-NP shifted, see Bresnan/Kanerva (1992: 120). If the first assumption (object position) is correct, we have no explanation for the extraction restriction (objects can usually be freely extracted).

Additionally, there are examples where the inverted theme clearly occupies a VP-internal position, see (316) below.

Another indirect argument comes from the impossibility of inverting verbs with sentential complements (202) from above):

(290) *In this very room was discovered that cancer is caused by eating to many tomatoes.

This ungrammaticality can be explained if one assumes that inverted themes occupy the object position and if one further follows the common assumption that the object position is an NP position. If, however, inverted themes occupy the VP-adjoined position, the ungrammaticality of inverted sentential complements remains unaccounted for. See 3.2.4 for some further discussion of this issue.
As for the extraction restriction, there is probably a simpler solution: Topicalization always creates island effects with regard to extraction:

(291)  *I wonder [CP [what]i [VP on the table]] [VP John put t1 t2]]

If the locative subject is indeed adjoined to IP, the extraction restriction is directly accounted for, regardless of whether the theme occupies a VP-internal or a VP-adjointed position.
3.2 Principles and Parameters

This chapter is devoted to the Chomskyan theory of Principles and Parameters.

3.2.1 Introduction to the Theory

This section presents basic aspects of the Principles and Parameters theory and discusses how information structure can be handled within this framework.

3.2.1.1 GB and Minimalism

The Chomskyian variant of Generative Grammar, in the 80s known as Government-Binding Theory (GB, Chomsky 1981) and recently revised in form of the Minimalist Program (MP, Chomsky 1995), is still the predominant framework in formal syntax. Its basic architecture has remained largely unchanged since the earliest days of transformational grammar. Until recently, the Chomskyian view of the organization of grammar was best represented by what came to be called the ‘T-Modell’ (Haegeman 1997: 3):

This model representing the Government-Binding Theory is to be understood as follows: Lexical items project into D-Structure which is a syntactic representation of argument structure. This level is mapped onto another syntactic level, S-Structure via movement operations (raising, wh, extraposition etc.) in order to achieve the surface constituent order. It is still an unsettled question whether movement is to be understood derivationally or representationally. At this point, the derivation splits in two interpretive modules. In the left branch, the phonetic form, traces are deleted and certain phrasal phonological processes apply in order to achieve a form that can be processed by the articulatory-perceptive modules. The level of logical form is the interface for semantic interpretation. It represents (among others) the scope of quantifiers (quantifier-raising) and forms a syntactic input to semantic interpretation in the conceptual systems.

Movement operations are often triggered by the need to evade the violation of some principle of grammar. For instance, the subject in a nonfinite complement has to raise to the subject position of the matrix sentence in order to get case, thus obeying the case filter. In some cases, e.g. topicalization, it is not clear what triggers the movement operation. In the work of many authors, movement is also triggered by morphology: There is a large number of proponents of syntactic derivation of inflectional morphology: Verbs are assumed to get their
inflectional morphemes in the syntax by incorporating into affixes which are base generated in functional heads such as I, ASP, T or AgrS.

All movement operations are constrained by several principles such as Binding Theory regulating the dependency between a moved constituent and the gap it leaves behind, Subjacency which limits the distance a constituent may move or X-bar Theory. Some of these principles hold at S-structure, some hold at LF.

The advent of the Minimalist Program\(^\text{104}\) has changed some of the above assumptions in a radical manner. First, the static multi-level approach with D- and S-Structure has been replaced by a more dynamic conception: Fully-fledged lexical items are taken from the lexicon and combined step by step by the Merge operation. Consequently, there is no D-structure anymore.

Since the lexical items are already inflected, there is no morphological trigger anymore. Instead, the so-called checking theory does the work: verbal categories such as tense, aspect or agr have to be licensed by the verb. It therefore has to move to the respective functional categories to have its features checked. The same applies to NPs: Their case feature is checked via a Specifier-head relation with either AgrS/Infl (nominative) or AgrO (accusative).

There is thus a uniform trigger for movement operations. Languages differ as to the strength of their features: Only so-called strong features trigger overt movement. Weak features (e.g. tense in English) are checked by covert movement. A consequence of the checking theory is that there can be no optional movements.

At some point in the derivation, the structure is submitted to Spell-Out which evaluates the structure. If it obeys the principles of grammar (e.g. has all its strong features checked) Spell-Out then passes it to PF and LF. If not all strong features are checked at Spell-Out, the derivation is said to crash.

The submodules of the GB-model like Case and Binding Theory have all been dispensed with. Instead, derivations are constrained by a very general principle of economy. Since there have been very few explicit statements on how this concept is to be understood i.e. what is to be considered ‘economical’, the economy principle has largely remained fuzzy. It is mostly by stipulation that something is considered ‘economical’. It is, for instance, not necessarily self-evident why covert movement should be more economical than overt movement or why shorter (but more) movements should be preferred to longer (but fewer) movements (MLC, the minimal link condition). Perhaps, future research will transform the rather sketchy MP into a fully articulated theory, perhaps not. The following model tentatively represents the MP architecture:

\(^\text{104}\) See Haegeman (1997: 12ff.) for a very brief introduction and Radford (1997) for an elementary textbook introducing the new framework.
3.2.1.2 The Place of Information Structure in Grammar.

This view of grammar necessarily entails the complete syntacticization of grammatical information. Semantic roles, grammatical relations and pragmatic relations have to be coded in some syntactic way, i.e. by phrase structure positions and relations. Mismatches between role and form, for instance, are handled via movement operations. If, for instance, a theme becomes the subject of a sentence through passivization, it is moved from its D-structure object position to the subject position at S-structure. Pragmatic relations like topic and focus are usually represented as syntactic features: An argument can e.g. be assumed to carry a feature [+ foc] at S-structure which is translated by PF into stress and interpreted semantically by LF, see Lambrecht (1994: 27) for discussion.

Because LF, the syntactic level of logico-semantic representation, is generally viewed as crosslinguistically uniform, differences in surface structure resulting e.g. from language particular ways of expressing quantificational relations (wh-movement vs. wh in situ) must somehow be eliminated. It is exactly in instances such as this, that the deus ex machina “covert movement” (i.e. movement between S-structure and LF) is evoked, i.e. movement operations that do not change the surface configuration which is (more or less) determined by S-structure.

Since information structural differences were for a long time viewed as being truth-conditionally irrelevant, the domain of information structure together with the surface phenomena associated with particular constructions (movement operations that seemed to differ from the canonical ones), were relegated to the PF-component under the heading of stylistic rules. A further reason for this move was the fact that such constructions (like heavy-NP-shift, extraposition, presentational there) are absolutely frozen with respect to further transformational operation (Culicover/Rochemont 1990: 27). Upon closer inspection, however, such stylistic rules were often found to obey S-structure and LF-principles in the same way as other constructions so that they were given a syntactic characterization, see Coopmans (1989: 728).

Furthermore, it is now generally accepted that topic and focus can be truth conditionally relevant. Therefore, differences in surface structure that are due to language particular ways of expressing information structural categories now have to be handled by LF as well, entailing massive covert movement to derive uniform representations.

Of particular importance in this respect have become the so-called functional projections (projections with a non-lexical head). Some authors (see Kiss 1995: 21) posit a universal focus projection into whose specifier a focused constituent moves.105 Languages vary with respect to the level at which this movement takes place (i.e. at which level the focus principle holds): Focus-prominent languages with a designated focus position exhibit overt movement while in languages with focus in situ, the focused constituent moves covertly.106

This view of information structure has not remained unchallenged. Researchers like Vallduvi (1995) and Erteshik-Shir (1998) propose somewhat different architectures that are supposed to more adequately take into account the domain of information structure. Both approaches are, however, still very much in the tradition of syntacticizing grammatical in-

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105 See Ndayiragije (1999) for an implementation of this assumption as well as the discussion below.

106 This approach is problematic for several reasons. First, it assumes that only constituents can be focused, a fact that is clearly untrue, see Lambrecht (1994:47ff.). Second, not all constituents are consistent with respect to when focus-movement takes place. In English, for instance, focus is regularly marked by stress, but in some cases, focusing may also entail movement as in heavy-NP-shift, extraposition and, as will be shown below: locative inversion.
formation: They still rely on syntactic representations to handle information structure and only allow syntactic structure to be the input to the interpretive modules. Vallduvi posits an additional abstract syntactic level called information structure mediating between surface syntax and an additional non-truth conditional interpretive component of information packaging. IS is thus an interface parallel to LF, allowing informational interpretive rules to remain constant across languages (exactly like logico-semantic rules). His view of the architecture of grammar can be represented as follows:

\[ (294) \]

A major advance of this approach is that it is now possible to represent sentences that differ information structurally but not truth conditionally by positing identical LF-representations but distinct IS-representations, see Vallduvi (1995: 145f.). It is questionable, though, whether information structure is generally without truth-conditional relevance. Languages differ now with respect to when information structural movement takes place. In a language like English where information structure is mainly marked by intonation, extensive movement takes place between the two levels. In a language like Catalan, however, whose S-structure already closely reflects information structural relations, very little changes between S-structure and IS. This approach thus more or less incorporates the view of parameterized focus movement (overtly or covertly) with the only substantial difference that this movement takes place not between SS and LF but between SS and IS.

A more radical approach is taken by Erteshik-Shir (1998). Her view of the architecture of grammar departs substantially from conventional assumptions. She posits a syntactic level of focus structure functioning as an interface between S-structure and PF/semantics respectively. She completely dispenses with LF, trying to handle the LF-syntax phenomena with F-structure principles. Since F-structure also determines intonation, it feeds PF. From the perspective of economy, this view is quite attractive. Whether it proves empirically adequate will have to be shown by future research.\(^{107}\)

In the next sections, I will review different accounts of locative inversion within the P&P framework. Since most of them deal with the syntactic properties of this construction, I will have little to say about semantic interpretation and the interface levels involved in it.\(^{108}\)

\(^{107}\) It should be noted, that the importance of focus for phenomena like binding of anaphora and the like has also been recognized within other frameworks such as Role and Reference Grammar, see Van Valin/La Polla (1997) for discussion.

\(^{108}\) See Kratzer (1991) and von Stechow (1991) for surveys of current P&P approaches to focus.
3.2.2 Machobane (1995)

Machobane analyzes locative inversion in Chichewa and Sesotho. Interestingly, the two accounts differ substantially, while still being in accordance with the locative-subject hypothesis. I will first present his analyses and subsequently review his proposals.

3.2.2.1 Chichewa

Since Machobane’s article focuses on Sesotho, his account of locative inversion in Chichewa is rather sketchy.

Assuming locatives to be NPs, he derives their subject properties from their moving from an VP-adjoined position (sic) to SpecIP where they trigger subject-verb agreement and display the properties that are usually associated with the subject position (raising, extraction). The postverbal themes, on the other hand, are assumed to remain within VP, receiving an oblique case from the verb (perhaps partitive case in the sense of Belletti 1988). This oblique case (which is limited to unaccusative verbs) is supposed to explain the inertness of the theme object. As is commonly assumed, object properties are associated with structural accusative case, a case that only transitive verbs assign.

The restriction of this construction to unaccusative verbs is supposed to follow from the fact that locative subjects are base generated in VP-adjoined position. The derivation can be represented as follows, (295a) for the inverted, (295b) for the uninverted construction:

(295) a) \[ \text{IP } \text{NP}, \text{-loc} \left[ \text{VP } \text{t}, \left[ \text{VP } \text{V NP-th} \right] \right] \]
   b) \[ \text{IP } \text{NP}, \text{-th} \left[ \text{VP } \left[ \text{VP } \text{t} \right] \text{NP-loc} \right] \]

3.2.2.2 Sesotho

Machobane’s account of locative inversion in Sesotho is considerably different from his account of the same construction in Chichewa. This is a consequence of his assumption that locatives are PPs in Sesotho but NPs in Chichewa. The only arguments he offers in favor of his analysis are the following: First, locatives cannot trigger object agreement (see 2.2.7).

Given the fact that locatives exhibit subject properties, the PP has to occupy the Spec-of IP position (Recall that in this framework, grammatical relations are configurationally defined). A PP in the subject position would however violate the Case Resistance Principle (CRP) by Stowell (1981) according to which case may not be assigned to a category bearing a case assigning feature. Machobane’s way out of the dilemma involves the stipulation that when locatives move into Spec-of IP, I assigns its case VP-internally to the logical subject \(^{109}\) thus evading the violation of the Case Resistance Principle. This approach closely resembles analyses proposed for dative subjects in Germanic languages.

The locatives are assumed to be base generated in Spec-of VP and subsequently moved to the subject position to be associated with agreement features while the logical subjects remain in their base-generated object position. Since they are assigned nominative case, their syntactic inertness comes as no surprise.

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\(^{109}\) See Machobane (1995: 131) for the technical details underlying this rather exceptional case assignment.
Unfortunately, the author does not attempt to account for the constraint against locative inversion with transitive verbs. The following structural descriptions represent the derivation of an inverted and an uninverted structure:

\[(296)\]
\[
\text{a)} \quad [v \ PP_1 [v_0 t_i V NP]] \\
\text{b)} \quad [v_0 NP_1 [v_0 t_i V PP]]^{110}
\]

3.2.2.3 Review

Several objections can be raised against Machobane’s analyses. First some remarks on his account of the Chichewa data:

First some notes on the locatives: The assumption that locatives originate in adjunct position is baffling since the locatives are usually regarded as arguments and should therefore be within the VP-projection. Moreover, it is entirely unclear to me why the argument structure restrictions should derive from the locative’s being VP-adjoined. Additionally, it is by no means evident, why the locative and not the theme moves to the subject position. Apparently, the structure allows both but blatantly neglects the clear information structurally governed distribution.

Turning to the theme left behind in the VP, the question of how it evades the case filter emerges. Since unaccusative verbs do not assign accusative case, it is generally assumed that the theme must either move to the subject position or be coindexed with a dummy subject to receive nominative case. Since both options are not available in Chichewa, different options have to be taken into account. Belletti’s (1988) partitive case which is supposed to account for the licensing of unaccusative objects that remain in object position seems a viable solution at first sight. In the following examples, the themes remain in object position where they are licenced by inherent partitive case assigned by the verb:

\[(297)\]
\[
\text{a)} \quad \text{There arose a storm here.} \\
\text{b)} \quad \text{There arose the storm here. (Belletti 1988: 9)}
\]

The examples show that the unaccusative objects exhibit a definiteness effect and a partitive reading. These are hallmarks of inherent case which is commonly assumed to add semantic content to an argument. Being an inherent case, it is not absorbed by passivization. It is problematic, though, to apply this approach to the Chichewa data because no added semantic case relation can be detected and there is no definitness effect. See Bresnan/Kanerva (1989: 21) for further criticism. Even if some oblique case were available, the extraction restriction is still not accounted for.

As to Sesotho, things get even worse. First, there is little reason to regard Sesotho locatives as PPs. The fact that locative never trigger object agreement might be explained by the simple fact that the language does not possess agreement morphemes for the locative class. Furthermore, the inability to appear postverbally is by no means exotic: It is a well known fact that in many Bantu languages, it is not necessarily the applied object that immediately follows the verb but the argument highest with respect to animacy. Taking this into account together with the evidence presented in 2.2.7, there remain no arguments in favor of the PP analysis. Pursuing the PP analysis, further problems emerge:

\[110\] The representation is somewhat imprecise: It suggests that the locatives occupy the object position. This is, of course, ruled out by the CRP. In a more detailed representation the PP would perhaps be projected as a sister of V'
It is not evident, why the locative should be an external argument and consequently occupy the VP-internal subject position. Especially as arguments of unergative verbs, they are clearly less prominent than the agent argument which should occupy the subject position instead. No problem arises with unaccusative verbs whose theme argument is projected into object position. But now locatives would have different structural positions in each case – without any motivation. Additionally, projecting the locatives differently in inverted and un-inverted constructions, (see (296)) makes little sense.

Second, the movement of the locative into a case-marked position is by no means motivated. It is conceptually very unattractive to move a constituent that does not need case into a case position so that it threatens to violate a principle of grammar which subsequently has to be adjusted by stipulation to allow just this one exception. Again, information structural aspects are completely ignored.

The inertness of the logical subject that remains inside VP is accounted for by the fact that it is assigned nominative case. Why it cannot be relativized remains a mystery, however. Moreover, since it is assigned nominative case, one would expect it to trigger subject-verb-agreement. A PP triggering subject-agreement, though, seems quite unusual to me.

Lastly, the argument structure restrictions still remain to be accounted for.

To summarize, Machobane’s analysis proves fully inadequate. It fails to derive a substantial number of the properties characteristic of locative inversion and capture the similarities between the two closely related languages: Although the participants show almost identical behavior in both languages, the respective accounts are very different.

3.2.3 Coopmans (1989)

Coopmans only analyzes locative inversion in English. I will first present his analysis and will subsequently point out the weaknesses of this approach.

3.2.3.1 Analysis

Coopmans regards locative inversion as an unaccusativity phenomenon: Deviating verbs are unaccusatives with locative adjuncts (see below) and motion intransitives that behave like unaccusatives when a directional PP is added, see Coopmans (1989: 740ff.).\textsuperscript{111} He does however not deal with unergative verbs like those in (208).

Taking the unaccusativity analysis for given for the moment, there are essentially two possible derivations: One where the theme is moved to the subject position and then subsequently postposed (IP-adjoined), while the locatives are topicalized and moved to comp. Alternatively, the theme remains VP-internally (for VP-adjunction see below) and the topicalized locatives somehow licence an empty subject (Coopmans 1989: 731):

(298) a) \[ s' \ PP \ [s \ VP \ t_i \ [VP \ V \ t_i \ t_j] \] NP_i \]

b) \[ s' \ PP \ [s \ pro_{exp} \ [VP \ V \ NP \ t_j]]\]

It is not very easy to choose between these derivations since there is little empirical evidence favoring one over the other. Probably only the control-data, mentioned in (199), repeated here for convenience, is crucial in this respect:

(299) a) Two sheiks lay near the oasis [without PRO talking].

\textsuperscript{111} The directional PPs have a telicizing function. This proves the importance of the concept of ‘Aktionssart’ for the unaccusativity/unergativity distinction. See 5.8.1 for some discussion.
b) *Near the oasis lay two sheiks [without PRO talking].

Assuming the theme to stay inside of the VP (or VP-adjoined, see below) in the inverted structure, there is no way for it to c-command the VP-adjoined nonfinite adjunct clause and consequently control the PRO. Therefore, (298b) is to be preferred.

The argument structure restriction is supposed to follow from the Extended Projection Principle (see Chomsky 1981) which states that every clause must have a subject, i.e. the subject position must be filled (by an overt or an empty subject). Contrary to common assumptions, Coopmans speculatively proposes that English exhibits semi-pro-drop in the presence of a topicalized locative. The phenomenon of semi pro-drop is a restricted version of the more general property of pro-drop. Languages that display semi-pro-drop allow empty subjects, but not in as many cases as e.g. Italian, normally only if no external theta-role is assigned to the subject position, e.g. in unaccusative or impersonal passive constructions as in the following German example:112

(300) \[
\begin{array}{l}
  \text{[CP Gestern wurde, \text{IP pro [VP getanzt] t]]} \\
  \text{Yesterday was danced}
\end{array}
\]

‘Yesterday, there was dancing.’

Coopmans hypothesizes that English does allow empty expletive subjects, although in an even more restricted environment than German or Dutch: Only if no external theta-role is assigned and if a subcategorized locative PP is topicalized (moved to Comp), see Coopmans (1989: 736). This automatically rules out transitive and unergative verbs as well as unaccusatives without topicalized PPs (Coopmans 1989: 730):

(301) a)*Rolled the baby carriage down the hill.
    b)*Ran the little rat through the hole.

There is an interesting asymmetry between topicalized adjuncts and arguments: Only topicalized arguments allow inversion (Coopmans 1989: 730, 737):

(302) a) Down the hill rolled the baby carriage.
    b) Down the hill the baby carriage rolled.

(303) a)*With great care walked John into the room.
    b) With great care John walked into the room.

Starting from the following preliminary representation which is the same for all of the four examples, several options are possible:113

(304) \[
\begin{array}{l}
  \text{[S PP, \text{IP e [VP V NP t]]}]
\end{array}
\]

In the case of subcategorized locatives, the theme-NP can move to the subject position and receives case, thus deriving (302b). Alternatively, the topicalized locatives can license an empty expletive subject while Infl assigns nominative to the postverbal theme (see below for a more precise statement), deriving (302a). The trace of the topicalized locatives is properly (lexically) governed.

112 See 5.4.6 for some discussion of such constructions.

113 A more precise representation would probably distinguish PP argument and adjuncts phrase structurally.
As for topicalized adjuncts, only the first option, NP-movement, is permitted (303b). The inverted structure is supposed to be ruled out by the ECP because of the requirement that traces of adjuncts have to be antecedent-governed: Coopmans (1989: 738) speculates that the topicalized adjunct either antecedent-governs its trace but cannot licence the expletive pro, or identifies the empty subject but is then no longer available as a legitimate binder. At any rate, topicalized adjuncts, by hypothesis, cannot do both. Since a subcategorized PP is required for the identification of the expletive pro, the unaccusative verbs without locative adjuncts in (207) above, though satisfying the argument structure condition for semi-pro-drop, are ruled out.

As for the postverbal theme, Coopmans proposes two mechanisms by which it is assigned case. Following Belleti (1988) on Italian, he assumes that indefinite arguments of unaccusative verbs occupy the object position and are assigned partitive case. Definite arguments, however, are forced to move away to the VP-adjoined focus position where they are assigned nominative by infl. The following examples present an instance of each case, associated with the corresponding structural descriptions, see Coopmans (1989: 743):

(305) a) On the stage appeared a man.
   \[ [S' PP_i [IP pro_{exp} [VP V NP t_i]]] \]
   b) On the stage appeared your friend.
   \[ [S' PP_i [IP pro_{exp} [VP V t_i t_i NP_j]]] \]

Coopmans further hypothesizes that indefinite themes are also adjoined to the VP - albeit at LF - in order to get a uniform interpretation. This hypothesis finds support in that heavy indefinite themes indeed undergo this movement, see (201) above. The fact that the theme is assigned an inherent case accounts for its unobjectlike behavior and the fact that the verb agrees with the postverbal theme. Coopmans can therefore be regarded as a proponent of the so-called theme-subject hypothesis.

The extraction restriction of the theme is a result of the phrase structural configuration in locative inversion: Coopmans assumes a somewhat outdated clause structure with only one position available above S (IP), namely Comp. In this position the locatives move. This is supposed to explain the ungrammaticality of inversion in subordinate clauses (Coopmans 1989: 730):

(306) a)*He denied that down the hill rolled the baby carriage.
   b)*It is possible that out of the house strolled my mother’s best friend.

Comp already being filled by the complementizer, the locatives cannot move. From this automatically follows the following asymmetry (Coopmans 1989: 732):

(307) a)*Which horse out of the barn ran.
   b) Out of which barn ran which horse?

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114 See Coopmans (1989: 743ff.) for an interesting comparison with there-presentatives that lend further support to the VP-adjunction analysis.
This asymmetry is quite puzzling at first sight since the theory would assume the same LF-representation for both examples, given that the same kind of movement of the theme is involved, once overtly from D- to S-structure (307a), once covertly from S-structure to LF (307b) – the quantified theme adjoines to the quantified locative in order to be in a scope position deriving an LF-representation like the following:

\[(308) \ [S' [\text{which horse}]_{t} [S' \text{out of which barn}] [\text{VP ran t}]]\]

Consequently, (307a) cannot be ruled out because of an ECP-violation, i.e. because the trace of the moved constituent is not properly governed. Instead, Coopmans resorts to the doubly-filled comp filter: Since Comp is already filled by the topicalized locative, the wh-word cannot move into that position.

Concerning the remarkable subject properties of the locatives, Coopmans (1989: 738) only deals with the that-trace effect (186). He accounts for this by assuming that the complementizer blocks the identification of the expletive pro by the intermediate trace:\footnote{The aforementioned doubly-filled comp filter rules out only comps with two lexical elements, i.e. elements with phonetic content but not comps with one lexical and one empty element.}

\[(309) \ [\text{Into which room}]_{t} \text{did you say} [\text{COMP t} (\text{*that}) [\text{IP proexp} [\text{VP walked the children t}]]]?\]

3.2.3.2 Review

Various objections can be raised against Coopmans analysis. First, the locatives. Movement to Comp (or, in more current terminology, Spec-of CP), is not very well motivated since inversion does occur in subordinate clauses like (191).\footnote{Cases like (306) are more likely excluded on semantic/pragmatic than just syntactic grounds.} Furthermore: Raising-to-Subject (183) requires the locative to be in the Spec-of IP position – at least at some point in the derivation. The account of the extraction restriction of the theme in (307) is thus inadequate.

The weakest aspect of Coopmans analysis is clearly the empty-subject hypothesis. Positing an expletive pro exclusively for locative inversion amounts to acknowledging that the construction cannot be handled within this framework since a deus ex machina has to be evoked for one single construction. Considering the lack of semi-pro-drop elsewhere in the grammar of English, Coopmans’ assumption appears entirely ad hoc. Furthermore, the expletive-subject analysis predicts that locative inversion should be grammatical in all cases where no external theta-role is assigned. This is clearly not the case: The passivized preposition-incorporated verbs (206) do not assign an external theta role anymore but still do not permit inversion. Similarly, by allowing for the possibility of empty subjects in English, one can no longer rule out locative inversion with impersonal passives like the following:

\[(310) \ a)*\text{To the village was come.}\n\ b)*\text{Into the hole was urinated.}\]

Moreover, there is empirical evidence arguing against an expletive subject in locative inversion (see Bresnan 1994: 99ff.): If there is an empty expletive subject in locative inversion, it should exhibit the same behavior like presentational there constructions. However, it doesn’t: First, questioning the preposed locative fails to trigger auxiliary inversion (repeated from (192) above):
(311) a) On which wall [w, hung a portrait of the artist]?
   b) On which wall did [w, t, [w, hang a portrait of the artist]]?

Conversely, if an overt expletive subject like *there is present, auxiliary inversion is obligatory (example from (193) above):

(312) a) On which wall [w, *there hung a portrait of the artist]?
   b) On which wall did [w, *there hang a portrait of the artist]?

If there were an empty subject in examples like (311a), it should pattern with (312b) – which it does not. Second, if there were an expletive subject, no that-trace effects should occur since extracting the locative with overt *there is completely acceptable:

(313) In which of these towns do you believe that *(there) can be found a museum of art?

Third, certain types of locative inversion (particularly directionals) cannot occur at all with overt expletive subjects:

(314) a) Into the room *(there) ran Mother.
   b) Leaning against the wall *(there) stood a/the raggedy old man.

Fourth, although presentational *there can occur with definite themes, it is totally incompatible with proper names while locative inversion is not:

(315) a) *In the closet there still sat Fido.
   b) In the closet sat Fido.

To conclude, the empty subject hypothesis is to be rejected – and with it Coopmans’ account of the that-trace effect.117

It is not very astonishing that in this approach, the trigger – PP-movement to Comp and the licencing of an empty subject – is purely syntactic – although, as should have become clear by now, it is clearly information structure that governs the distribution of inverted and noninverted structures. Coopmans’ optional syntactic trigger is totally ad hoc in this regard and fails to account for the fact that locative inversion (at least in the opinion of linguists who regard information structure as part of sentence grammar) is not an optional process but regularly distributed.

To sum up, Coopmans’ approach not only fails to account for many of the properties of the participants but also has no explanation for the argument structure restrictions and for what triggers locative inversion.

3.2.4 Levin/Rapaport-Hovav (1995)

3.2.4.1 Analysis

The main feature of Levin/Rappaport-Hovav’s approach is that they do not regard locative inversion as an un accusative diagnostic. They take the fact that not all unaccusative verbs

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117 For further argument against expletive subjects in English, see Bresnan (1994: 99).
undergo locative inversion and some unergatives do (see (207) - (208))\(^{118}\) to point to a different solution. The distributional properties have to be described some other way.

The authors argue against a multiple meaning approach that posits several meanings for unergative verbs in order to preserve the diagnostic status of the construction because it is not easy to identify semantically coherent subclasses of the unergative verbs that map onto a single subclass of unaccusative verbs, allowing a simple statement of the meaning shift that might underlie the locative inversion data. Levin/Rappaport-Hovav (1995: 217)

Instead, they suggest that it is the discourse function of locative inversion that favors certain types of verbs. They argue that the discourse function of presentational focus constrains the verb to be informationally light – thus adopting a term by Birner (1994): If a verb did contribute a substantial amount of new information, the newness of the postverbal NP would be decreased and the construction would fail to be presentative. The condition of informational lightness is supposed to rule out transitive verbs, the unaccusatives in (207) and unergatives that fail to undergo locative inversion. Conversely, verbs compatible with informational lightness – no matter whether they be unaccusative or unergative like those in (208) - do undergo locative inversion. See the detailed discussion (233-260).

Since presentational focus naturally picks out a theme-locative argument structure (a scene into which a referent is introduced by change of state or position), the unaccusative-like distribution falls into place.

Another argument against locative inversion as an unaccusative phenomenon is syntactic: There is no evidence that the postverbal NP occupies the direct object position. Assuming the VP-internal subject hypothesis, there is now another possibility for the postposed argument to remain within VP.

In the case of unergatives, the discourse function or the case filter force the logical subject to move out of the Spec-of VP position, presumably to the VP-adjoined position. Concerning unaccusatives, the same derivation is possible, especially where the theme appears to the right of a (VP-internal?) PP. There are examples, though, where the theme must occupy the object position because it precedes a VP-internal PP as the constituency tests (316b/c) show:\(^{119}\)

\[
\begin{align*}
(316) \quad \text{a)} & \quad \text{From one cottage emerged [\text{Ian with a spade, rubber boots and an enthusiastic expression}].} \\
\text{b)} & \quad \text{??Ian emerged from the cottage with a spade and Phil did so with a rake.} \\
\text{c)} & \quad \text{Ian emerged from the cottage with a spade and Phil did so too (emerge with a sp.).}
\end{align*}
\]

The authors do not spell out, how a violation of the case filter is prevented in this case. Interestingly, unergatives never appear before a VP-internal PP, lending further support to the adjunction analysis.

The fact that sentential arguments cannot be inverted (see (202)) seems to argue against the VP-adjoined position, which is usually not regarded as a case position. The authors observe, however, that the position of the postverbal logical subject might qualify as an NP position.

\(^{118}\) Of the unaccusatives, the authors (223-228) mention verbs of change of state; among the unergatives can be found activity verbs, agentive verbs of manner of motion, verbs of emission and verbs of body-internal motion.

\(^{119}\) Recall from 3.1.3 that only VP-external material may optionally be excluded from so-anaphora.
because it patterns with the subject position (an undisputed NP-position) in that it allows
wh-complements but not that-complements (268):

(317) a) Does Pat’s arrival continue to surprise you?
   b) *Does why Pat came continue to surprise you?
   c) *Does that Pat came continue to surprise you?

(318) a) In this very room was discovered the cure for cancer.
   b) In this very room was discovered why smoking causes cancer.
   c) *In this very room was discovered that smoking causes cancer.

As to the locatives, Levin/Rappaport-Hovav assume that they originate VP-internally and
move to the subject position. This accounts for the subject properties of the preposed con-
stituents. They no not elaborate on whether the PPs remain there or topicalize subsequently.
The derivations for unergative (319a) and unaccusative (319b) verbs are the following:

(319) a) [IP PPi [VP [VP tj [V’ V ti] NPj]]]
   b) [IP PPi [VP [VP tj ti] NPj]]

3.2.4.2 Review

Levin/Rappaport-Hovav’s analysis has several weaknesses:

First, the argument structure restriction seems a little fuzzy when stated in terms of verbs
compatible with presentational focus. The unaccusatives that do not permit locative
inversion (207) happen to be those that do not take locative arguments but locative
adjuncts. This fact could be stated more precisely in terms of argument structure. The lack
of syntactic means to exclude transitive verbs is unsatisfying. Furthermore, the notion of
informational lightness runs into problems as it predicts inversion in many more cases, e.g.
with copular verbs that do not subcategorize for a locative PP, see Bresnan (1994: 123ff:):

(320) a) Around the fire danced the women.
   b) *Around the fire danced dances the women.

As Bresnan notes, it is difficult to see why a cognate object should lessen the informational
lightness to a degree as to prohibit locative inversion.

As to the locatives, most of their subject properties are accounted for by the present
approach. It remains unsolved, though, why they undergo raising to subject but not raising
to object – subject properties that are usually tied together.

As to the logical subject, the extraction restriction noted in 2.9.2.2 still remains to be
explained. Moreover, Levin/Rappaport-Hovav’s arguments that the VP-adjointed position is a
case position is inconclusive: Although the position of the postverbal theme patterns with
the subject position, one could easily argue that it is the object position that (marginally)
allows wh-complements. The data they present only show that the position of the postverbal
theme can be considered an NP position, but not which position it is. I believe, in fact, that
they are wrong, because the following example where the that-complement is moved over an
temporal PP to the VP-adjointed position seems much more acceptable to me:120

(321) In this room was [VP [VP discovered tj many years ago] [that smoking causes cancer]]

120 This has been confirmed by Philippa Cook in personal communication.
In summary, the authors account for a majority (but by no means all) of the properties of the participants while still failing to explain conclusively the distribution of locative inversion.

### 3.2.5 Ndayiragije (1999)

Ndayiragije’s Paper is exclusively devoted to subject-object reversal. After presenting his analysis and reviewing it, I will try to apply some of his ideas to other languages and constructions.

#### 3.2.5.1 Analysis

Working within the Minimalist framework, Ndayiragije (1999: 415-425 for details) attempts to reduce the amount of economy calculations drastically by means of a revised version of the checking theory according to which only formal features of functional categories rather than formal features of lexical categories must be checked. Rendered in GB-terms, this amounts to dispensing with the case filter, i.e. NPs no longer have to move to some specifier position to have their case features checked. Movement can only be triggered by the features of functional heads such as foc and Infl (T in his system) as well as by the Extended Projection Principle (EPP) according to which every clause must have a (structural) subject.

The following examples (322) with their structural description (323) represent the possible derivations of a transitive verb within this system (from (157) and (163 above):

\[(322)\]

a) Ábâna \(\text{ba-á-ra-nyôye} \ amatá.\)

\(2:\text{children} \ 2\text{-PST-AF-drink:PRF milk}\)

‘Children drank milk.’

b) Amatá \(\text{y-á-nyôye} \ \ abâna.\)

\(\text{milk} \ \ \text{it-PST-drink:PRF} \ \ \text{children}\)

‘Children (not parents) drank milk.’

c) pro exp \(\text{ha-á-nyoye} \ amatá \ \ abâna.\)

\(1\text{6-PST-drink:PRF milk \ children}\)

‘Children (not parents) drank milk.’

\[(323)\]

a) \([v\ NP, \ T+V_j [FocP t_j'] [v_r \ t_i \ [v' \ t_j \ NP]]]\)

b) \([v\ NP, \ T+V_k [FocP t_k'] [v_r \ t_i \ [v' \ t_k \ t_j \ NP_1]]]\)

c) \([v\ pro_{exp} \ T+V_k [FocP t_k'] [v_r \ t_i \ [v' \ t_k \ NP \ ] \ NP_1]]\)

In (322a), the agent moves from the VP-internal subject position to SpecIP in order to check the nominative features of the functional head I. The verb moves to T via foc to check the tense feature of I. But why is it the agent and not the theme that moves to SpecIP? Since movement is a costly operation, shorter movements are preferred to longer movements. Applied to this case, movement of the theme from the object position to SpecIP is ruled out because a longer movement would result than if the agent moves. The focus projection does not matter in this construction since no argument carries a focus feature.

(322b), the strong focus feature of the agent forces it to move to SpecFoc in order to check its feature. Because of the EPP and the nominative features of I, the theme moves to SpecIP. Alternatively, as in (322c), the EPP is satisfied by an empty expletive subject which is also assumed to check the nominative feature of I.
With these derivations, Ndayiragije directly accounts for the properties of the two arguments. The theme’s subject properties follow from its occupying the subject position. As to the postposed agent, the lack of object agreement \(^{121}\) (170) follows from the fact that it is not assigned accusative case. Its nonextractability (171) follows from checking theory: Since the agent has already checked its focus feature in SpecFoc, there is no foc/wh-feature left that could trigger the movement to SpecCP.

### 3.2.5.2 Review

Although Ndayiragije’s account is quite convincing for subject-object reversal in Kirundi, it is difficult to imagine how his system could work elsewhere. That is, his assumptions are so revolutionary that completely new analyses of well-known phenomena would be necessary. At this point, it is impossible to assess, if this revised framework would have more empirical coverage than present versions of the theory. At any rate, some revisions would have to be necessary even for subject-object reversal in closely related Kinyarwanda where, as shown above, the arguments behave differently.

Another drawback of his approach is that it cannot be used to explain the properties of locative inversion – not even in Kirundi: Since the focussed logical subjects there occupy the direct object position, movement to a SpecFoc is impossible.

An important advantage of the strong focus feature is that the rightward movement of the logical subject is motivated – more or less information structurally, i.e. the author (at least implicitly) makes the correct assumption that inverted and noninverted constructions are not optional variants but distributed according to information structural requirements. His analysis is thus the only P&P analysis that features an adequate trigger. Of further interest in this respect would be the difference between the inversion and the expletive construction. If there is an (information structural?) difference, the choice between the two would no longer be free, instead, some feature would have to govern their distribution.

Several facts remain unexplained within his approach, though: First, Although the inverted logical subjects resists wh-extraction (171), it can nevertheless be questioned in situ (172). This is surprising since one would assume identical LF-representations for both sentences. Second, as noted in Morimoto (2000c) and discussed in 2.7.6.3 and 2.8.2, it is not entirely clear whether a change in grammatical function has taken place in subject-object reversal – there is surely considerably less evidence than with locative inversion. Third, Ndayiragije’s approach fails to account for the animacy restrictions mentioned in 2.7.6.5: While it would be possible to make S/O reversal dependent on some semantic feature, there is no way in the P&P framework to express a trigger that is based on the relative animacy of the arguments (cf. Morimoto 2000c: 133).

### 3.2.6 Salzmann (2001)

In this section, I will try to sketch a further proposal within this framework. It will turn out, however, that even if some of the shortcomings of the previous approaches can be avoided, there still remain severe problems.

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\(^{121}\) As Ndayiragije (1995: 422, fn. 23) shows, the object markers are incorporated pronouns.
3.2.6.1 A Small Clause Analysis

Following den Dikken (1998) and Hoekstra/Mulder (1990) I assume that the basis for locative inversion (or, as in den Dikken’s paper: predicate inversion) is a small clause structure, i.e. verbs that allow locative inversion are analyzed as copular verbs. On this analysis, the theme is predicated of a location while the verb does not assign a theta-role to it. Copular verbs are unaccusative, therefore, the small clause is the complement of the copular verb:

\[(324) \quad [\text{IP} \quad \text{I} \quad [\text{VP} \quad V \quad [\text{sc} \quad \text{Theme-NP} \quad \text{Loc-XP}]]] \]

3.2.6.2 English

A consequence of this approach is that the theme is not theta-marked by the verb. There are a few examples – admittedly all cases of metaphor – where the verb does not seem to impose selectional restrictions on the theme (Hoekstra/Mulder 1990: 10f.):

\[(325) \quad \begin{align*}
\text{a)} & \quad \text{John flew into a rage.} \\
\text{b)} & \quad \text{They fell in love.}
\end{align*} \]

What is the precise structure of the small clause? It is generally assumed that it is the maximal projection of the head of the predicate. In this case, this would be P. The preposition would then assign its internal theta-role to the location and its external one (the locatum) to the theme (which actually is no longer a theme). The major problem of this approach is that the constituent that appears in the subject position, i.e. P and the location, is not a maximal projection. Consequently, such a movement would violate structure preservation. Therefore, P cannot be the head of the small clause. Instead, one must posit some empty head that takes the PP as its complement and the locatum as its specifier:

\[(326) \quad [\text{IP} \quad \text{I} \quad [\text{VP} \quad V \quad [\text{xp} \quad \text{locatum (theme)-NP} \quad [\text{x'} \quad X \quad \text{Loc-XP}]]]] \]

The English structures are now derived as follows: X (or: V2) incorporates into V so that the verb governs the entire small clause complement. I take inversion to be dependent on some information structural feature, i.e. either a topic feature that triggers movement of the locative or a focus feature that drives the theme out of the VP (on the assumption that it really leaves the VP) or both. If locatives are adjoined to IP or moved into the Spec of some functional category like Foc (cf. Rizzi 1997) to check its feature. The locative has to move through the subject position in order to save the EPP. As for the case filter: If the theme remains within VP it somehow has to receive nominative case from infl. Since there is no overt V-to-I movement in English, one cannot appeal to incorporation of V into I so that the entire complex governs the small clause.

An alternative way to achieve this is to assume that I and V are somehow coindexed or that only the features of V move to I without pied-piping its phonetic content. Whatever the exact
nature of this movement process, it should be possible under current assumptions to derive an I + V + X complex that governs the entire small clause and can thus assign nominative case to the theme/locatum. If the theme moves to the spec of some functional head above VP, e.g. SpecFocP (a right-branching specifier), one has to assume that the head Foc somehow becomes part of the verbal complex so that the theme can be assigned case in SpecFocP. The following structure represents the two possible derivations:

\[
(328) \text{a)} [\text{IP } \text{Loc-PP}_l \text{I+Foc}_k \text{V}_j \text{X}_i \text{IP}_c \text{t}_k \text{VP}_c \text{t}_j \text{XP}_c \text{t}_m [\text{XP'}_c \text{t}_i \text{t}_l ]] \text{locatum(theme)-NP}_m \\
\text{b)} [\text{IP } \text{locatum(theme)-NP}_m \text{I+Foc}_k \text{V}_j \text{X}_i \text{IP}_c \text{t}_k \text{VP}_c \text{t}_j \text{XP}_c \text{t}_m [\text{XP'}_c \text{t}_i \text{Loc-PP}_l ]]
\]

How does this approach account for some of the peculiarities of locative inversion? The subject properties of the locative follow from its moving through the subject position. Therefore, raising to subject, that-trace effects and the lack of auxiliary inversion (i.e. I-to-C movement of did) if the locative is questioned can be accounted for. The impossibility of attributive VPs and raising to object follows from the adjunction analysis. As for the theme, the fact that the verb agrees with it follows from nominative case assignment by infl. The pronominal restriction is due to the movement to SpecFocP. Weak pronouns may not move to this spec (just like they cannot be topicalized to a Foc position in the left periphery: him I don’t like can only have a topic interpretation). The ban against extraction follows from the adjunction analysis of the locative: Like other instances of topicalization, topicalized locatives are barriers for extraction:

\[
(329) \text{*I wonder [CP [what]i [IP [on the table]j [IP John put ti tj]]]
\]

The argument structure restrictions are difficult to derive. Locative inversion with unergative verbs could be excluded if they all do not take locative arguments: An adjunct may not move to the subject position as this would create an illicit chain: the subject position is an A-position, the adjunct would then have to undergo A-movement which it can’t. However, transitive verbs like put that take locative arguments can’t be ruled out like this.

3.2.6.3 Bantu

Although I do not have any positive evidence, I will assume a small clause analysis as well. the major problem for the analysis of locative inversion in the Bantu languages is the fact that there is only one case assigner (Infl) but two NPs that need case. Instead of stipulating

122 Hoekstra/Mulder (1990: 32) take a different approach: They assume that the theme remains inside the small clause and is assigned nominative case by the trace of the locative PP. This solution seems quite ad hoc to me.

123 Alternatively, one could follow Collins (1997: 14) in assuming that nominative features are weak and the EPP feature is strong in English. Consequently, it does not necessarily have to be the subject that satisfies the EPP; instead, a PP or an expletive like there are possible candidates as well. However, on then has to stipulate at least two different agreement projections/specs: one for the PP where it checks the EPP feature of T and one for the subject to check its nominative feature after spell out or as in Collins (1997: 22; 29) that the formal features of the nominative DP raise and adjoin to T/infl at LF. Furthermore, under current definitions (cf. Collins 1997: 23), the theme and the PP are equidistant from SpecIP/TP since they are in the minimal domain of the same head (i.e. the verb). With these assumptions, locative inversion satisfies both the minimality condition as well as last resort: Movement of the PP checks the EPP feature of T and involves the closest XP. However, such derivations crucially depend on the concept of local economy (Collins 1997). Global economy will prevent the inverted structure. See the next section for some discussion.
the assignment of partitive case to the theme, I argue that a second case is available from an empty preposition that governs the locative NP and is incorporated into the verb which inherits its case index. The D-structure for a language like Chichewa will then look as follows:

\[(330) \quad [\text{IP} \quad I \quad [\text{VP} \quad V \quad [ X' \quad X \quad [ PP \quad P \quad \text{Loc-NP} \; ]]]]]\]

Assuming the P to be affixal, it has to be incorporated to evade the stray affix filter (Baker 1988). After subsequent incorporation of X and V into I, an I+V+X+P complex results that governs the entire small clause complement. In the non-inverted case, the theme moves to the subject position and receives nominative case while the locative NP remains in its base position. As it is governed by the verbal complex, it can be assigned an inherent case that has been inherited from the preposition.

The inverted structure is more difficult to derive. The only possibility is to resort to some topic feature that drives the locative out of the small clause. As opposed to English, the topic feature can be checked in the subject position. This move is not quite as ad hoc as it may sound as several Bantu languages require their subjects to be topical (cf. Morimoto 2000b). If the locative moves to the subject position, it receives nominative case and triggers subject-verb agreement. However, locative fronting must be restricted to contexts where the theme is (presentationally) focused, else, this approach would overgenerate. Therefore, I will assume that the theme must remain inside the small clause to check its foc feature (unless it moves covertly to SpecFocP). The locative may then move the subject position to check its topic feature (and perhaps the nominative feature of infl/T) and will satisfy the EPP. As for the theme, I assume that it is governed by the verbal complex and receives the inherent case that was inherited from the preposition. The two derivations can be represented as follows:124

\[(331) \quad (a) \quad [\text{IP} \quad \text{theme/locatum} \quad I+V_k+X_j+P_i \quad [\text{VP} \quad t_k \quad [ X' \quad t_j \quad [ PP \quad t_i \quad \text{Loc-NP} \; ]]]] \]

\[(b) \quad [\text{IP} \quad \text{Loc-NP} \quad I+V_k+X_j+P_i \quad [\text{VP} \quad t_k \quad [ X' \quad \text{theme/locatum} \quad [ PP \quad t_i \quad t_j \; ]]]] \]

This approach can account for most of the properties of locative inversion constructions in the Bantu languages: The subject properties of the locative follow from its structural position and nominative case assignment while the inertness of the theme is a consequence of the inherent case that is assigned to it. As for the restriction against relativization, I suggest that the foc feature of the theme is incompatible with some [+ rel] feature in C.

What still needs to be accounted for is the variation concerning the type of verb that allows locative inversion. At this point, all I can suggest is that some languages will allow unergative verbs to take a small clause complement while some do not.

Alternatively, one could dispense with the small clause structure for the Bantu languages and propose a more articulated VP-structure instead, e.g. two VP-shells or some functional projection taking a VP-complement (cf. e.g. Collins 1997: 17f.). External arguments would be base-generated in the specifier of the higher VP functional projection while unaccusative

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124 Admittedly, my approach is conceptually inelegant as it combines minimalist-style feature-driven movement with rather traditional assumptions about case assignment. In some regard, this makes it very similar to that of Ndayiragije. That is, I do not assume that arguments bear a case feature that has to be checked. Instead, functional heads with case features attract an NP. Things are different with information structural features: Here, it is probably only the feature of the NP that has to be checked since if a functional head like Foc would always have to have its feature checked, it would cause far to many focalizations.
subjects would be base-generated in the Spec of the lower VP (and indirect objects and locative arguments as complements of the lover V):

\[(332) \quad [v_1 \quad \text{agent} \quad [v_1' \quad V \quad 1 \quad [v_2' \quad \text{theme} \quad [v_2' \quad V \quad 2 \quad \text{PP}]]]]\]

One could then assume that some languages feature unergative verbs with locative arguments while some do not. Locative inversion with locative adjuncts would be prohibited (as in Chichewa) because the empty P would not be governed by V2 and therefore could not be incorporated. Consequently, the verb could not inherit its case index and one of the two NPs would violate the case filter. Furthermore, as I have already mentioned in the previous section, adjuncts may not move to an A-position anyway. However, one would still have to find a way to rule out locative inversion with transitive verbs that take locative arguments, i.e. with verbs like ‘put’. One possibility would be to appeal to some version of the minimality condition: The agent argument and the locative are not in the minimal domain of the same head, therefore, the agents counts as closer and is therefore they only eligible candidate to move. However, if the verb moves to the functional head that selects the VP, the agent and the locative would again be in the minimal domain of the same head (-chain).

At this point, I do not know how to solve this problem.

3.2.7 General Remarks on the P&P Approaches

As the reviews of the most recent P&P approaches have shown, the theory has severe problems to deal with the mismatch between role and function (and category) that characterizes locative inversion and subject-object reversal.

First, the locative’s movement to the subject position that is absolutely necessary to capture the raising facts in all of the languages, is difficult to motivate. A possible candidate is the EPP. One would however still expect the logical subject to move in such a situation because it is structurally higher, thus resulting in a shorter movement, and generally more likely to be associated with nominative case than a locative argument. Locatives, on the other hand, though being NPs in probably all of the Bantu languages surveyed in this study, are more likely to appear in oblique or adjunct positions. It is thus a very marked configuration if locatives become subjects and themes oblique objects. It is typical for most of the GB approaches that they allow both derivations but cannot express the fact that the one with the locative subject is far more marked. The case is even more dramatic in English: There, a PP moves to the subject position although it does not need case while the theme remains within VP although it needs case.

This morphosyntactic markedness corresponds to an information structural markedness: Locative inversion is restricted to the context of presentational focus while noninverted sentences appear in many more discourse contexts. A natural consequence of this observation would be to relate morphosyntactic and information structural markedness by allowing marked syntactic configurations only in the case of marked discourse contexts. In other words: The only adequate trigger is an information structural one. Within the present P&P

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125 However, this depends on the definition of equidistance; if, as suggested for the Bantu languages, all heads are incorporated into I, the theme and the locative are equidistant from the subject position under current assumptions, see Webelhuth (1994: 369), den Dikken (1998: 181) and Collins (1997: 22f.). There is a problem, however, if one relies of global economy (cf. Collins 1997: 4f.) since the inverted structure involves more steps than the uninverted one (Collins 1997: 29f.) since the movement of the locative only checks the EPP feature of T while movement of the theme additionally checks the case feature of T. In a framework that adopts a concept of local economy like that in Collins (1997), however, the inverted structure is not blocked
framework, the only option is a syntactic topic/focus feature borne by an argument that triggers movement to a noncanonical position.

For instance, one could follow Ndayiragije in assuming a strong focus feature for the logical subject that triggers rightward movement. In order to satisfy the EPP, the locative (or: in subject-object reversal the theme) moves to SpecIP. The focus feature accounts for the rightward movement of the logical subject in locative inversion in English and subject inversion in Italian (as described in Belletti) and in S-O reversal in Kirundi but not for the other Bantu languages where the logical subject has been shown to occupy consistently the direct object position. A possible way out of this impasse would be to resort to covert movement, i.e. the foc feature would be weak in the Bantu languages so that the focused subject moves after spell-out. But this creates another problem: If the focus feature is strong in Kirundi, one would assume the logical subjects in locative inversions to move as well. Yet they do not. One therefore needs a different analysis for locative inversion and subject-object reversal within the same language. Such an account would probably have to be based on the information structural differences (presentational vs. contrastive focus). I will not pursue this issue any further.

But even in English and Italian, the foc feature analysis encounters severe problems: In Italian, indefinite logical subjects remain in object position (333a) while only definite inverted subjects move to the VP-adjoined focus position (333b), see Belletti (1988: 9):

(333) a) E stato messo un/*il libro sul tavolo.

has been put a the book on the table

‘There has been put a/*the book on the table.’

b) Spinse sua sorella Gianni.

pushed his sister Gianni

‘GIANNI pushed his sister.’

Coopmans (1989: 733)

One could derive this difference by assuming that only definite focussed arguments move overtly. This proposal seems attractive in the light of the following data from English threepresentatives where the extraposed (and presumably VP-adjoined) logical subject displays no definiteness effect while the one in object position does, see Belletti (1988: 9):

(334) a) There hung t_i on the wall [the flag of the country that John had fled].

b) *There hung the coat on the wall.

There is, however, a lot of counterevidence: First, indefinite themes in there-presentational may undergo this extraposition rule as well, second, and more importantly, logical subjects in English locative inversion can remain in object position or be extraposed, regardless of their definiteness ((201) and (316) from above):^{126}

(335) a) Over my windowsill [VP [VP crawled t_i every day] [an entire army of ants]_{i} ]

b) From one cottage emerged [VP Ian with a spade, rubber boots and a sullen expre].

The conclusion to be drawn from these facts is that rightward movement is not solely driven by a focus feature but also by the heaviness of the theme (or, as in (335), blocked by a heavy VP-adverb) . We thus have two competing constraints, the winner most often being heaviness. We thus cannot resort to a syntactic information structural feature to derive the desired results. The (only apparent?) optionality of most of these movements poses an

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^{126} See Culicover/Rochemont (1990: 29) for further discussion of the definiteness effect.
unsolvable problem to a feature driven theory. It could only be made to work if those ‘optional’ movements could too be shown to be governed by discourse considerations. Then, a feature-driven analysis with a more finegrained inventory of information structural categories might derive the correct results. I will leave this to further research. Positing features for heavyness is a possible way as well. But then, one would still end up with two conflicting features which, by definition, must both be checked – an impossibility, of course.\textsuperscript{127}

Another problem arises if the the focused argument is an agent in a language like Sesotho that allows locative inversion with unergative verbs. If the the focus position in the Bantu languages is within the VP, these agents must be in the Spec of VP since movement from there to the object position would lead to a trace that does not c-command its antecedent. However, it is very difficult to motivate a VP-internal subject position in the Bantu languages in general. In fact, it is next to impossible to find independent evidence for an IP projection as there is only one position for the verb. Consequently, the clause structure of Bantu languages can be described very simply as follows: $S \rightarrow NP \ VP$. The only position for an agent would then be the VP-external subject position. Depending on one’s theoretical assumptions, one might want to use some of the facts on Swahili discussed in Krifka (1995: 1412ff.) as arguments for an infl node. He shows that at least morphologically, the verb acts as if it consisted of two parts, the subject and the tense prefix on the one hand and the object prefix and the root on the other. If one subscribes to inflection in syntax, one might consider this evidence sufficient to posit an infl node. However, even if there really is an infl node, one still has to find evidence for a VP-internal subject position. To my knowledge, no such evidence exists.

Since the preposed constituents (locative or theme) is topical, one could motivate their non-canonical movement information structurally as well – by positing some strong top feature that somehow has to be checked in the subject position (as I have done in my own approach). Such a move is not completely nonsensical since many Bantu languages like Sesotho, Kirundi and Dzamba are known to prohibit non-topical subjects, see Bresnan/Mchombo (1986) and Morimoto (2000) for discussion. For English, where the locatives may also topicalize out of the subject position, one could assume that the locatives check their top feature in some functional projection above IP. This would be an elegant way of driving the PP out of the subject position without having to resort to the Case Resistance Principle which cannot be invoked since nominative is assigned VP-internally or to the VP-joined focus position.

A general problem with respect to the relation between information structural and case features: In marked syntactic configurations which are the result of information structural driven movements, case features do not seem to be important. One might therefore consider extending Ndayiragije’s approach to English. Since the consequences for other phenomena cannot be assessed at this point, I will not go into this any further. But see below for a discussion of a possible hierarchical relationship between information structural and morphosyntactic features.

Another striking weakness of the P&P framework is its inability to code adequately the similarities between the Bantu languages and English. Since it lacks a more abstract level of

\textsuperscript{127} The phenomenon of competing (and in some constellations necessarily violable) constraints is, as the attentive reader may have noticed, highly reminiscent of an optimality theoretic point of view. See the next chapter for such an approach.
representation like LFG’s f-structure, similarities have to be expressed phrase structurally. This runs into difficulties considering the differing categorization of locatives. Furthermore, there is simply no identity with respect to the structural positions occupied by the locative and the logical subject in Bantu and English. The highest degree of similarity results if one resorts to topic and focus features that drive the movements. But since these features sort of override ordinary syntactic features like case (along the lines proposed by Ndayiragije 1999), we arrive at the conclusion that what is needed to capture adequately the similarities between Bantu and English is some level of representation which abstracts away from the morphosyntactic expression – some level of functional or discourse structure – perhaps like LFG’s f-structure.\textsuperscript{128}

A further problem for the P&P framework arises from the phenomenon of subject-object reversal which represents a very unusual alignment of semantic roles with syntactic functions – just like the passive. But while in the passive this marked association corresponds to a marked morphological form, no such thing can be observed in S/O-reversal. While the passive can be easily derived by the assumption that the agent argument is somehow suppressed or demoted to adjunct status by the passive morphology, this analysis does not work for the reversal construction where both participants clearly bear argument status as evidenced by their obligatoriness.\textsuperscript{129} A similar configuration arises in syntactically ergative languages. There too, we have a theme-subject and an agent-object. Standard analyses where verbs are assumed to be unable to assign accusative case, thus forcing the theme to move to the subject position to receive case, while the agent receives its case some other way, cannot be extended to reversal constructions since they represent only an ergative ‘particle’ of an otherwise fully accusative language. Since the case approach does not work, Ndayiragije’s approach using syntactic ‘discourse’ features seems to be the only option. But here again, the same questions as to its empirical coverage arise.

The last problematic aspect to be discussed concerns the argument structure restrictions that the languages are subject to as well as the crosslinguistic variation that is found between the languages surveyed.

First of all, there are languages such as English and Chichewa that restrict locative inversion to unaccusative verbs, i.e. verbs that do not assign an external theta-role. One could then assume that locatives cannot move into the subject position if this position is assigned the subject theta role because this would result in a violation of the theta-criterion accord-

\textsuperscript{128} An alternative within the present state of the theory would be to capture the similarities by means of a category-neutral X’ theory, while explaining the differences in terms of differing case-assignment mechanisms, the CRP in particular. See Bresnan (1994: 119-125) for convincing counter-arguments (Such a move would only work if locatives in Bantu did occupy NP positions only – which they do not).

\textsuperscript{129} Some suggestions for a more sophisticated terminology are in order here: One should distinguish between obligatory and non-obligatory participants on the one hand and participants of high or low syntactic activity, (i.e. whether a participant is sensitive to certain grammatical processes like relativization, questioning, agreement or not) on the other hand. A cross-classification then derives four types of participants:

\[ (+\text{obligatory}, +\text{central}] = \text{core arguments} \\
\[ (+\text{obligatory}, -\text{central}] = \text{peripheral arguments} \\
\[ -\text{obligatory}, -\text{central}] = \text{adjuncts} \\
\[ -\text{obligatory}, +\text{central}] = \text{only hypothetically, perhaps expletive elements like it and there.} \\

The feature [+/- optional] further derives optional and nonoptional (obligatory) arguments.
Principles and Parameters

ing to which an argument may be assigned exactly one theta role. This analysis only works if the external theta role is assigned to SpecIP; if, however, one accepts the VP-internal subject hypothesis, this account can no longer be maintained because the external theta role is now assigned VP-internally. The locative would therefore not violate the theta criterion by moving into SpecIP. Even if this problem could somehow be taken care of, one still has to exclude locative adjuncts moving into the subject position. Coopmans (1989) derives this restriction by the stipulation that locative adjuncts somehow cannot antecedent-govern their trace. I do not see why this should be so. Since the main difference between arguments and adjuncts are indeed the binding conditions they are subject to, I cannot think of another syntactic means to block inversion with locative adjuncts. Levin/Rappaport-Hovav (1995) derive all the restrictions for English from the discourse function of the construction that requires the verb to be informationally light. There are several problems with this approach: First, the concept of informational lightness is rather fuzzy; in many cases, this will lead to considering those verbs informationally light that permit locative inversion, an undesirable result. Second, considering the substantial crosslinguistic variation with regard to the types of verbs undergoing locative inversion, Levin/Rappaport-Hovav would either have to restrict their information structural account to English or allow the concept of informational lightness to differ from one language to another, i.e. verbs that in English clearly cannot be considered informationally light would have to be categorized as such in languages allowing locative inversion with a wider range of verb types. My own approach sketched in the previous section does not fare any better since small clause complements also occur with transitive verbs. Furthermore, one could extend the small clause analysis to verbs like put. It remains absolutely misterious why inversion should be excluded in this case. Consequently, all three solutions are far from adequate.

Capturing the crosslinguistic variation is very generally difficult to account for since syntactic operations can not access semantic information such as semantic roles directly. I.e. there is no possiblity for a movement operation (like inversion) to check a verb’s argument structure before applying. Moreover, there is no natural expression within this framework, that inversion with e.g. unergatives is crosslinguistically more marked than with unaccusatives. In the next chapter, it will be shown that some of these problems can be overcome if the P&P principles are no longer viewed as inviolable but instead as hierarchically ordered violable constraints.

One last note seems to be in order: Like other grammatical function changing processes, locative inversion could, of course, be handled in the lexicon as well, i.e. one could posit a lexical rule (perhaps involving zero derivation) applying only to a specified class of argument structures altering this structure to the extent that the locative argument would become the external and the theme the internal argument. Crosslinguistic variation could easily be captured by formulating different rules for different languages. Such an approach would resemble that of lexicalist theories like LFG to a large extent, though, thereby questioning the need for syntactic transformations.

To conclude, the P&P model proves to be uncapable of handling important aspects of locative inversion. This is mostly a result from the fact that crosslinguistic similarities and differences can only be stated phrase structurally.

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130 See the next chapter for a tentative explanation.
3.3 Optimality Theory

The last approaches to locative inversion and reversal constructions to be reviewed are cast within the framework of Optimality Theory. See Kager (1999) and Archangeli/Langendoen (1996) for introduction.

3.3.1 Introduction to the Theory

Optimality Theory (OT) is the most recent development within theoretical linguistics, first proposed by Prince/Smolensky (1993). While still devoted to the Chomskyian goal of determining the principles and parameters of some innate Universal Grammar (UG), OT crucially differs from preceding work in rejecting the concept of inviolable principles. Instead, the relative concept of markedness now plays a key role. In OT, it is markedness statements that make up the substance of UG. Thus, every language is assumed to have constraints, e.g. against codas, which are crosslinguistically more marked. The fact that there are marked structures in languages is reconciled with violability: Constraints are universal, but violable. A violation of a constraint does not necessarily result in ungrammaticality while its satisfaction does not a guarantee for a structure’s wellformedness. Instead, the central idea of OT is that constraints are in competition with each other, i.e. one constraint may have to be violated in order to satisfy another (such as: *INSERTION is violated to satisfy NOCODA). The grammatical output is determined by constraint ranking: One constraint may be violated in order to satisfy a higher ranking one. The candidate with the least costly violation, i.e. that violates the lowest ranked constraint wins and is called optimal or most harmonic. Crosslinguistic variation is no longer determined by binary choices of parameter setting but instead by language particular constraint rankings. To put it differently: The constraints are the ‘principles’ while the rankings are the ‘parameters’.

The basic architecture of an OT grammar is as follows: It is basically an input output mechanism pairing an output form to an input form. The input is morphonological structure containing only contrastive properties of phonemes and morphemes (for the input in OT syntax, see below). A component called Generator (GEN) then generates from the input an infinite set of output candidates which is submitted to the Evaluator (EVAL), the set of ranked constraints which evaluates the output candidates and selects as the optimal the one that incurs the least costly violations. The following definitions state the exact conditions for optimality (Müller/Sternefeld 2001: 35):

A candidate $C_i$ is optimal (= grammatical) iff there is no candidate $C_j$ in the same candidate set that has a better constraint profile.

The notion of constraint profile is defined as follows (Müller/Sternefeld 2001: 35):

A candidate $C_j$ has a better constraint profile than a candidate $C_i$ iff there is a constraint Con such that (a) and (b) hold:

a. $C_j$ satisfies Con better than $C_i$; i.e., $C_j$ satisfies Con and $C_i$ violates Con, or $C_j$ violates Con less often than $C_i$.

b. There is no constraint Con’ ranked higher than Con on which $C_i$ and $C_j$ differ.

An essential property of GEN is freedom of analysis, i.e. any kind of structure may be generated from a given input. For instance, for an input /dog/ it can derive among others
[so], [brschz] etc. Even if one of these candidates that substantially differ from their input should be less marked than the output dog, it is the latter that will be selected as optimal: Counterbalancing the force of markedness constraints are the so-called faithfulness constraints which penalize outputs that differ from their inputs, thereby preserving lexical contrast. Faithfulness constraints further ensure the learnability of an OT grammar: In order to set up the correct constraint ranking, the input must be recoverable from the output.

### 3.3.2 OT-Syntax

In its beginnings, OT was mainly applied to phonological phenomena. It was rather recently, that the OT architecture has been extended to the entire domain of grammar, in particular to syntax. There are essentially two competing approaches to syntax, one using the P&P vocabulary, the other one that of LFG. I will briefly introduce the two approaches before discussing specific analyses of locative inversion carried out within the respective frameworks.

#### 3.3.2.1 P&P-OT

The features of the P&P-approach to syntax presented here are mainly based on the assumptions made in Grimshaw’s (1997).

The input contains the following elements:

- A lexical head plus its argument structure
- An assignment of lexical heads to its arguments
- A specification of tense and aspect

No semantically empty elements are contained in the input.

As to GEN, it may generate all possible analyses of an input with the only provision that they conform to X’ Theory and be semantically equivalent, i.e. have identical LF representations. The X’ requirement thus amounts to an inviolable constraint.

The syntactic operations that GEN may perform include the following:

- Introduce functional heads and their projections (e.g. the complementizer that)
- Moving lexical elements
- Introduce empty elements (traces, operators), as well as their co-indexations with other elements

The last component, Eval, contains violable constraints on S-structure representations.

As in phonology, there are markedness (wellformedness) constraints such as obligatory HEAD requiring every projection to have a head. Defining faithfulness constraints in syntax,

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131 I will argue below that ‘syntactic’ information structural features are needed as well.

132 See Müller/Sternefeld (2001: 45ff.) for some discussion about the nature of the input. The even claim that this concept could be dispensed with.

133 Such a move is not absolutely necessary: One could instead use a violable X’ constraint do allow for nonconfigurational languages. See Müller/Sternefeld (2001: 48) on how to handle absolute ungrammaticality.

134 There is no inherent reason why candidates should be surface structure representations. As Müller/Sternefeld (2001: 37) argue, more complex syntactic objects like <D-structure, S-structure, LF> tuples are basically possible as well.
Optimality Theory

however, proves difficult since the input is not a syntactic representation. Constraints militating against movements (\textsc{stay}) or insertion therefore cannot be stated in terms of correspondence. The condition of semantic equivalence mentioned above probably comes closest to a faithfulness constraint. However, it is not syntactic. Although there is basically only one syntactic level that the constraints refer to, P&P-OT is no monostratal theory. The level of D-structure is still present, although in rather indirect form: Like the X’ condition on all outputs, the theta criterion is also assumed to be inviolable (or: is a constraint referring to a different syntactic level). This entails that the arguments somehow have to be in a local relationship to the verb. This is achieved by positing traces in these positions with which the constituents of surface structure are coindexed. Thus, ‘movements’ still exist, though in a representational sense. Base-generating an object \textsc{wh}-word in SpecCP is ruled out on these grounds. For a critical and insightful review of this approach to OT-Syntax, see Bresnan (1998). See Müller (2000) for an introduction to OT-syntax from a P&P perspective.

3.3.2.2 LFG-OT

Doing OT with the vocabulary of LFG was first introduced by Bresnan (1998). The following remarks are partly drawn from this paper.

There are different proposals as to what the input should be like in LFG-OT. While some make more or less the same assumptions made in Grimshaw (1997), Bresnan (1998: 8f.) uses f-structures that represent morphosyntactic content independently of its forms of expression. Morimoto (2000c: 300ff.) includes argument structure as part of the f-structure. Furthermore, she includes information structural information.

LFG-OT radically differs from P&P-OT in defining GEN as an LFG. Consequently, a candidate is a pair of an f- and a c-structure (and possibly information-structure). X’ theory is not viewed as inviolable, but as typological, allowing non-endocentric categories like S, and nonconfigurational structures in general. In recent approaches by Kuhn (2000a/b) the candidate set is assumed to be constrained in the following way: Any candidate f-structure must be subsumed by the input f-structure, that is, all candidates will share the same interpretation. More precisely, the candidates must be faithful to the so-called f-structure nucleus which includes the verb (and its features) and its arguments. Non-semantic information, however, may be monotonically added to the f-structure by the candidates (Kuhn 2000a: 166). This approach facilitates computation. Other kinds of information like information structural features may not always faithfully represented by the optimal output, however.

\textsc{Eval} contains both wellformedness and faithfulness constraints. Markedness constraints (cf. e.g. Bresnan 1998b) may refer to linking processes from role to function (e.g. avoid agentic objects), to specific levels like the Subject Principle that requires every f-structure to have a subject) or to c-structure (e.g. alignment constraints like \textsc{align topic left}, various word order constraints that may lead to different basic orders or different focus positions, cf. Morimoto 2000c: 83ff.). Faithfulness constraints, on the other hand, may apply to information structural features (these are I-O constraints) and to the f-structure c-structure mapping: the c-structure may contain elements not present in the f-structure (like expletives), cf. Kuhn (2000a: 168).
3.3.3  LFG-OT: Morimoto (1999/2000)

3.3.3.1 Analysis

The data used in Morimotos paper is partly identical with that used in this study. She notes that existing underspecification accounts within the LFG framework fail to capture the fact that certain inversion have to be considered more marked than others. For instance, all languages that allow inversion with an unergative verb also allow inversion with an unaccusative one, but not vice versa. From this perspective, subject-object reversal is the most marked type of inversion.

Morimoto (1999) derives these markedness relations by harmonic alignment of universal scales, see Prince/Smolensky (1993: 136):

Alignment. Suppose given a binary dimension $D_1$ with a scale $X > Y$ on its elements $\{X, Y\}$, and another dimension $D_2$ with a scale $a > b \ldots > z$ on its elements. The harmonic alignment of $D_1$ and $D_2$ is the pair of Harmony scales:

$$H_x: X/a > X/b > \ldots > X/z$$
$$H_y: Y/z > \ldots > Y/b > Y/a$$

The constraint alignment is the pair of constraint hierarchies:

$$C_x: *X/z > > \ldots > *X/b > > *X/a$$
$$C_y: *Y/a >> *Y/b >> \ldots >> *Y/z$$

There are several scales of different types of information: thematic, functional, discourse functional, person or animacy-based. A selection partly based on Aissen (1999) is listed below:

(336)  Universal Scales

Person Scale:    $1^{st} > 2^{nd} > 3^{rd}$
Animacy Scale:  Human > Animate > Inanimate
Role Scale       Agent > Patient
Relational Scale Subject > Nonsubject
Topicality Scale - new > + new

Harmonic alignment then derives the following harmony scales:

(337)  Harmonic Alignment

Subject/Agent ➢ Subject/Patient
Non-Subject/Patient ➢ Non-Subject/Agent
Subject/- new ➢ Subject/+ new

However, if configurational structures are generated, they must obey X-bar; consequently, the real difference lies in whether a language allows chooses X-bar or exocentric structures, see Morimoto (2000c: 76ff.)

In the original example, the authors use dimensions of phonological prominence.

I list only those alignments that are relevant for the present discussion. See Aissen (1999) for an application of this device to inverse and ergative systems where person and animacy are of higher importance. The connective ‘➢’ is read as ‘more harmonic than’.
From this are derived the following (universally fixed) subhierarchies:

(338) Constraint Hierarchies

C1 : *SU/PAT >> *SU/AG
C2 : *NON-SU/AG >> *NON-SU/PAT
C3: *SU/+ NEW >> *SU/- NEW

For languages like English and Chichewa that permit locative inversion only with unaccusative verbs, the constraint *NON-SU/AG which penalizes agentive objects is crucial. In languages like Sesotho or Setswana, this constraint may be violated, only the cooccurrence of an patient subject and an agent object is penalized. This case which represents the worst of the worst can be expressed by local conjunction, first proposed by Smolensky (1995:4):

The local conjunction of C1 and C2 in domain D, C1&C2, is violated when there is some domain of type D in which both C1 and C2 are violated.
Universally, C1&C2 dominates C1, C2.

By conjoining the topmost constraints of the subhierarchies C1 and C2 above, Morimoto derives the following constraint: *SU/PAT & *NON-SU/AG. Since locally conjoined constraints universally outrank single constraints, this analysis (correctly) predicts that if a language allows subject-object reversal, it will also allow reversal with unergative predicates, but not vice versa.

Such marked configurations are, however, rather common in the case of passive, therefore, Morimoto further conjoins these constraints with a constraint against zero marking, first proposed by Aissen (1999: 697): [ *SU/PAT & *NON-SU/AG] & *Ø. This expresses the idea that marked linkings may be tolerated in the presence of additional morphology but not if the verb is left unmarked.

As constraints deriving the basic clause structure, Morimoto uses the following:

(339) TOPIC-LEFT: Topic aligns left in the clause (count from left for number of violation)  
SUBJECT: Every predicate must have a (structural) subject  
*EXPLETIVE: Avoid expletive subjects

Lastly, two faithfulness constraints ensuring that the optimal candidate faithfully represent the information of the input are needed:

(340) FAITH (PROM)  
FAITH (ROLE)

The crosslinguistic variation is a result of the variable ranking of the discourse constraint *SU/[+NEW] that penalizes focal subjects with respect to the linking constraints. In English, where agentive objects are not allowed, *NON-SU/AG must be ranked higher than the discourse constraint, while in Sesotho and Setswana which allow inversion with unergative predicates it is lower-ranked. The difference between Kinyarwanda and Sesotho/Setswana derives from the fact that Kinyarwanda ranks the discourse constraint above all linking constraints while Sesotho/Setswana rank it between [ *SU/PAT & *NON-SU/AG] & *Ø and *NON-SU/AG thus ensuring that reversal with unergative, but not transitive predicates is possible. The individual rankings are represented below:

138 This constraint runs into problems if passive is considered, see the remarks in the review section.

139 In other words, this constraint requires the Spec-of IP position to be filled.
(341) a) English:
\[\text{[*SU/PAT & *NON-SU/AG] & *Ø} \gg \text{*NON-SU/AG} \gg \text{[*SU/ [+NEW], TOPIC-LEFT]}\]

b) Sesotho/Setswana
\[\text{[*SU/PAT & *NON-SU/AG] & *Ø} \gg \text{[*SU/ [+NEW], TOPIC-LEFT]} \gg \text{*NON-SU/AG}\]

c) Kinyarwanda
\[\text{*SU/ [+NEW], TOPIC-LEFT]} \gg \text{[*SU/PAT & *NON-SU/AG] & *Ø} \gg \text{*NON-SU/AG}\]

The tableaux below from Morimoto (2000a:9ff.) determine the optimal candidates:

(342) No agent-patient reversal in Chichewa/English 140

<table>
<thead>
<tr>
<th>Input:</th>
<th>Agent = Focus, Patient = Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>[w S-ag [vp V O-pt]]</td>
</tr>
<tr>
<td>b.</td>
<td>[w S-ag-foc [vp V O-pt-top]]</td>
</tr>
<tr>
<td>c.</td>
<td>[w S-pt-top [vp V O-ag-foc]]</td>
</tr>
<tr>
<td>d.</td>
<td>[w O-pt-top [w S-ag [vp V]]]</td>
</tr>
<tr>
<td>e.</td>
<td>[w O-pt-top [w S-ag-foc [vp V]]]</td>
</tr>
<tr>
<td>f.</td>
<td>[w expl [vp V O-ag-foc O-pt-top]]</td>
</tr>
</tbody>
</table>

The high-ranking constraint *NON-SU/AG prefers the agent to be realized as subject, although without being focal: The violation of FAITH (PROM) is less costly than that of *SU/ [+NEW]. Subject-object reversal is ruled out, the optimal output is object topicalization.

(343) No agent-patient reversal in Sesotho/Setswana

<table>
<thead>
<tr>
<th>Input:</th>
<th>Agent = Focus, Patient = Topic</th>
</tr>
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<tbody>
<tr>
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</tr>
<tr>
<td>e.</td>
<td>[w O-pt-top [w S-ag-foc [vp V]]]</td>
</tr>
<tr>
<td>f.</td>
<td>[w expl [vp V O-ag-foc O-pt-top]]</td>
</tr>
</tbody>
</table>

Although these languages allow agentive objects, the same candidate as in English/Chichewa wins because of the higher ranking [*SU/PAT & *NON-SU/AG] & *Ø.

---

140 I omit the SUBJECT constraint since I assume it to be inviolable in the examples at hand. The absolute position of *EXPLETIVE is unclear. Morimoto uses the constraint only in her 1999 paper where it is ranked below TOPIC-LEFT. This is surely incorrect.
Agent-patient reversal in Kinyarwanda

**Input:**
Agent = Focus, Patient = Topic

<table>
<thead>
<tr>
<th></th>
<th>*SU/*NEW</th>
<th>FAITH (PROM)</th>
<th>TOPIC-LEFT</th>
<th>*EXPLETIVE</th>
<th>*SU/*NEW &amp; *NON-SU/*Ag</th>
<th>*Ø</th>
<th>*NON-SU/*Ag</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>[IP S-ag [vp V O-pt]]</td>
<td>**!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>[IP S-ag-foc [vp V O-pt-top]]</td>
<td>!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>[IP S-pt-top [vp V O-ag-foc]]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>[IP O-pt-top [vp S-ag [vp V]]]</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>[IP O-pt-top [vp S-ag-foc [vp V]]]</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td>[IP expl [vp V O-ag-foc O-pt-top]]</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

Here, the high-ranked discourse constraint favors the reversal construction. *EXPLETIVE must be higher ranked than [*SU/PAT & *NON-SU/*Ag] & *Ø because otherwise, a candidate like [IP O-pt-top [vp expl [vp V O-ag-foc]]] would be optimal, which it is not.

Note that if the input contains no specification of discourse prominence, candidate a) will win in all of the languages.

As to locative inversion with unergative predicates, a somewhat different picture emerges:

**Input:**
Agent = Focus, Locative = Topic

<table>
<thead>
<tr>
<th></th>
<th>*SU/*NEW &amp; *NON-SU/*Ag</th>
<th>*Ø</th>
<th>*EXPLETIVE</th>
<th>*SU/*NEW</th>
<th>FAITH (PROM)</th>
<th>TOPIC-LEFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>[S-ag [vp V Obl-loc]]</td>
<td>**!</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>[S-ag-foc [vp V Obl-loc-top]]</td>
<td>!</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>[S-loc-top [vp V O-ag-foc]]</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>[Obl-loc-top [S-ag [vp V]]]</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>[Obl-loc [S-ag-foc [vp V]]]</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td>[expl [vp V O-ag-foc Obl-loc-top]]</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Because of high-ranked *NON-SU/*Ag, the same candidate as in transitive predicates wins: the oblique locative is topicalized.
Agent-locative reversal in Sesotho/Setswana

Input: 
Agent = Focus, Locative = Topic

<table>
<thead>
<tr>
<th></th>
<th>[*SU/PAT &amp; *NON-SU/AG]</th>
<th>*Ø</th>
<th>*NEW</th>
<th>*EXPLETIVE</th>
<th>FAITH (PROM)</th>
<th>TOPIC-LEFT</th>
<th>*NON-SU/AG</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>[s ag [v V Obl-loc]]</td>
<td></td>
<td>**!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>[s ag-foc [v V Obl-loc-top]]</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>[s loc-top [v V O-ag-foc]]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>[Obl-loc-top [s ag [v V]]]</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>[Obl-loc [s ag-foc [v V]]]</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td>[expl [v V O-ag-foc Obl-loc-top]]</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since [*SU/PAT & *NON-SU/AG] & *Ø does not apply here, the discourse constraint causes the reversal candidate to win.

Agent-locative reversal in Kinyarwanda

Input: 
Agent = Focus, Locative = Topic

<table>
<thead>
<tr>
<th></th>
<th>[*SU/PAT &amp; *NON-SU/AG]</th>
<th>*Ø</th>
<th>*NEW</th>
<th>*EXPLETIVE</th>
<th>FAITH (PROM)</th>
<th>TOPIC-LEFT</th>
<th>*NON-SU/AG</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>[s ag [v V Obl-loc]]</td>
<td></td>
<td>**!</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>[s ag-foc [v V Obl-loc-top]]</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>[s loc-top [v V O-ag-foc]]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>[Obl-loc-top [s ag [v V]]]</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>[Obl-loc [s ag-foc [v V]]]</td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td>[expl [v V O-ag-foc Obl-loc-top]]</td>
<td>*!</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Like in the case of transitive predicates, the discourse constraints favor the reversal candidate.

As for theme-locative predicates, the optimal form in all three language types is reversal since the linking constraints only penalize agentive objects and patientive subjects but not locative subjects.
(348) Theme-locative reversal in Chichewa/English

<table>
<thead>
<tr>
<th>Input: Theme = Focus, Patient = Topic</th>
<th>*SU/PAT &amp; *NON-SU/Ag &amp; *Ø</th>
<th>*EXPLETIVE</th>
<th>*SU/\ [+NEW ]</th>
<th>\FAITH (PROM) \</th>
<th>TOPIC-LEFT</th>
<th>*!</th>
<th>*</th>
<th>no reversal</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [\text{S-pt} ,[\text{vV Obl-loc}]]</td>
<td>*SU/PAT &amp; *NON-SU/Ag &amp; *Ø</td>
<td>*EXPLETIVE</td>
<td>*SU/[+NEW]</td>
<td>\FAITH (PROM)</td>
<td>TOPIC-LEFT</td>
<td>*!</td>
<td>*</td>
<td>no reversal</td>
</tr>
<tr>
<td>b. [\text{S-pt-foc} ,[\text{vV Obl-loc-top}]]</td>
<td>*SU/PAT</td>
<td>*NON-SU/Ag &amp; *Ø</td>
<td>*EXPLETIVE</td>
<td>*SU/[+NEW]</td>
<td>\FAITH (PROM)</td>
<td>TOPIC-LEFT</td>
<td>*</td>
<td>reversal</td>
</tr>
<tr>
<td>c. [\text{Obl-loc-top} ,[\text{S-pt} ,[\text{vV}]]]</td>
<td>*SU/PAT</td>
<td>*NON-SU/Ag &amp; *Ø</td>
<td>*EXPLETIVE</td>
<td>*SU/[+NEW]</td>
<td>\FAITH (PROM)</td>
<td>TOPIC-LEFT</td>
<td>*</td>
<td>topicalization</td>
</tr>
<tr>
<td>d. [\text{Obl-loc-top} ,[\text{S-pt} ,[\text{vV}]]]</td>
<td>*SU/PAT</td>
<td>*NON-SU/Ag &amp; *Ø</td>
<td>*EXPLETIVE</td>
<td>*SU/[+NEW]</td>
<td>\FAITH (PROM)</td>
<td>TOPIC-LEFT</td>
<td>*</td>
<td>topicalization</td>
</tr>
<tr>
<td>e. [\text{Obl-loc-top} ,[\text{S-pt} ,[\text{vV}]]]</td>
<td>*SU/PAT</td>
<td>*NON-SU/Ag &amp; *Ø</td>
<td>*EXPLETIVE</td>
<td>*SU/[+NEW]</td>
<td>\FAITH (PROM)</td>
<td>TOPIC-LEFT</td>
<td>*</td>
<td>no reversal</td>
</tr>
<tr>
<td>f. [\text{expl} ,[\text{vV Obl-loc-top}]]</td>
<td>*SU/PAT &amp; *NON-SU/Ag &amp; *Ø</td>
<td>*EXPLETIVE</td>
<td>*SU/[+NEW]</td>
<td>\FAITH (PROM)</td>
<td>TOPIC-LEFT</td>
<td>*</td>
<td>*</td>
<td>no reversal</td>
</tr>
</tbody>
</table>

(349) Theme-locative reversal in Sesotho/Setswana

| Input: Theme = Focus, Locative = Topic | *SU/PAT & *NON-SU/Ag & *Ø | *EXPLETIVE | *SU/[+NEW] | \FAITH (PROM) \ | TOPIC-LEFT | *NON-SU/Ag | \*! | \* | no reversal |
|--------------------------------------|---------------------------|------------|--------------|--------------|-----------|-----------|----------------|-------------------------------------------------|
| a. \[\text{S-pt} \,[\text{vV Obl-loc}]\] | *SU/PAT & *NON-SU/Ag & *Ø | *EXPLETIVE | *SU/[+NEW] | \FAITH (PROM) | TOPIC-LEFT | *NON-SU/Ag | \*! | \* | no reversal |
| b. \[\text{S-pt-foc} \,[\text{vV Obl-loc-top}]\] | *SU/PAT | *NON-SU/Ag & *Ø | *EXPLETIVE | *SU/[+NEW] | \FAITH (PROM) | TOPIC-LEFT | * | reversal |
| c. \[\text{S-loc-top} \,[\text{vV Obl-loc-top}]\] | *SU/PAT | *NON-SU/Ag & *Ø | *EXPLETIVE | *SU/[+NEW] | \FAITH (PROM) | TOPIC-LEFT | * | topicalization |
| d. \[\text{Obl-loc-top} \,[\text{S-pt} \,[\text{vV}]]\] | *SU/PAT | *NON-SU/Ag & *Ø | *EXPLETIVE | *SU/[+NEW] | \FAITH (PROM) | TOPIC-LEFT | * | topicalization |
| e. \[\text{Obl-loc-top} \,[\text{S-pt} \,[\text{vV}]]\] | *SU/PAT | *NON-SU/Ag & *Ø | *EXPLETIVE | *SU/[+NEW] | \FAITH (PROM) | TOPIC-LEFT | * | no reversal |
| f. \[\text{expl} \,[\text{vV Obl-loc-top}]\] | *SU/PAT & *NON-SU/Ag & *Ø | *EXPLETIVE | *SU/[+NEW] | \FAITH (PROM) | TOPIC-LEFT | *NON-SU/Ag | *! | * | no reversal |

(350) Theme-locative reversal in Kinyarwanda

| Input: Theme = Focus, Locative = Topic | *SU/[+NEW] | \FAITH (PROM) \ | TOPIC-LEFT | *EXPLETIVE | *SU/PAT & *NON-SU/Ag & *Ø | *NON-SU/Ag | \*! | \* | no reversal |
|--------------------------------------|------------|----------------|-----------|--------------|----------------|-----------|----------------|-------------------------------------------------|
| a. \[\text{S-pt} \,[\text{vV Obl-loc}]\] | *SU/[+NEW] | \FAITH (PROM) | TOPIC-LEFT | *EXPLETIVE | *SU/PAT & *NON-SU/Ag & *Ø | *NON-SU/Ag | \*! | \* | no reversal |
| b. \[\text{S-pt-foc} \,[\text{vV Obl-loc-top}]\] | *SU/[+NEW] | \FAITH (PROM) | TOPIC-LEFT | *EXPLETIVE | *SU/PAT & *NON-SU/Ag & *Ø | *NON-SU/Ag | *! | | reversal |
| c. \[\text{S-loc-top} \,[\text{vV Obl-loc-top}]\] | *SU/[+NEW] | \FAITH (PROM) | TOPIC-LEFT | *EXPLETIVE | *SU/PAT & *NON-SU/Ag & *Ø | *NON-SU/Ag | *! | | topicalization |
| d. \[\text{Obl-loc-top} \,[\text{S-pt} \,[\text{vV}]]\] | *SU/[+NEW] | \FAITH (PROM) | TOPIC-LEFT | *EXPLETIVE | *SU/PAT & *NON-SU/Ag & *Ø | *NON-SU/Ag | *! | | topicalization |
| e. \[\text{Obl-loc-top} \,[\text{S-pt} \,[\text{vV}]]\] | *SU/[+NEW] | \FAITH (PROM) | TOPIC-LEFT | *EXPLETIVE | *SU/PAT & *NON-SU/Ag & *Ø | *NON-SU/Ag | *! | | no reversal |
| f. \[\text{expl} \,[\text{vV Obl-loc-top}]\] | *SU/[+NEW] | \FAITH (PROM) | TOPIC-LEFT | *EXPLETIVE | *SU/PAT & *NON-SU/Ag & *Ø | *NON-SU/Ag | *! | | no reversal |

Morimoto (2000a: 8) also suggests a way of deriving the different focus positions: The relative ranking of *ADJOIN with respect to *SU/[+NEW] favors VP-adjoined or V-sister positions respectively.
3.3.3.2 Subject-Object Reversal as Topic Agreement

Morimoto (2000b/c) elaborates on her previous work by reanalyzing the subject-object reversal construction. She notes a frequent property of Bantu languages to prohibit non-topical subjects. Among the languages under discussion, Kinyarwanda, Kirundi, Sesotho and Setswana surely belong to this group. As has been shown above, these languages do not allow wh-subjects in situ, negative quantifiers or idiomatic subjects. See also fn. 84. She therefore concludes that subject agreement is in fact topic agreement.\(^\text{141}\)

What is peculiar about her analysis is that she analyzes the theme as a topic which is functionally identified with the object function while the agent is focussed and identified with the subject function. The derives this result from a parallel to regular object topicalization, i.e. left dislocation with the verb carrying an incorporated object pronoun correferential with the preposed topic (Morimoto 2000b: 9):

\[
(351) \quad \text{Bi-no bitabo, úmwaálimu a-ra-shaak-a ko tu-*(bi)-sóm-a.} \\
\quad 8: \text{this 8:books teacher he-PRS-want-ASP that } \text{we-8:OM-read-ASP} \\
\quad \text{Lit.: These books, the teacher wants that we read them.}'
\]

Morimoto now basically assumes that reversal constructions represent more or less the same structure with the only difference that the topic is clause internal (what she calls an ‘internal topic’). This entails, that the verb cannot take an object marker correferent with the theme because the object function would be filled twice within a clause, thus violating the uniqueness requirement on grammatical functions. The verb then agrees with the internal topic, the theme, and not the focal agent. The subject marker in these languages is instead to be considered a topic agreement marker or an incorporated topic pronoun. This role-function assignement is supposed to explain the fact that the theme does not exhibit any subject properties. The non-object properties of the agent follow from its being a subject. In other words, there is no reversal of grammatical functions but only of pragmatic roles (topic, focus). Whether a language allows subject-object reversal or not depends on the relative ranking of agrTop and agrSub, see Morimoto (2000c: 305ff.) for the details.

3.3.3.3 Animacy Restrictions

Morimoto (2000b/c: 209ff.) also includes an analysis of the animacy restrictions on reversal, already noted above in (148f.). The generalization to be captured is that reversal is only permitted if the agent outranks the theme with regard to animacy. The markedness generalization that Morimoto derives, is “that the marked animacy relations cannot be expressed in the marked syntactic construction (reversal)”.

To derive the desired constraints, she uses harmonic alignment of the relational and the animacy hierarchy, see Morimoto (2000b: 16f.):

\[
(352) \quad \text{Harmonic Alignment} \\
\quad \text{Su/hum} \triangleright \text{Su/anim} \triangleright \text{Su/inan} \\
\quad \text{Obj/inan} \triangleright \text{Obj/anim} \triangleright \text{Obj/hum}
\]

\[
(353) \quad \text{Constraints on function-animacy association} \\
\quad C_1: \ast \text{SU/INAN} \Rightarrow \ast \text{SU/ANIM} \Rightarrow \ast \text{SU/HUM} \\
\quad C_2: \ast \text{OBJ/HUM} \Rightarrow \ast \text{OBJ/ANIM} \Rightarrow \ast \text{OBJ/INAN}
\]

\(^\text{141}\) See Bearth (2000) for a similar suggestion.
Since reversal does not prohibit inanimate subjects or human objects generally but only the
two marked associations at the same time, Morimoto locally conjoins the constraints:

\[(354) \quad \ast SU/INAN \& \ast OBJ/HUM \gg [\ast SU/ANIM \& \ast OBJ/HUM] \;
[\ast SU/INAN \& \ast OBJ/ANIM] \gg
[\ast SU/HUM \& \ast OBJ/HUM] ; [\ast SU/ANIM \& \ast OBJ/ANIM] ; [\ast SU/INAN \& \ast OBJ/INAN] \gg \ast SU/HUM \& \ast OBJ/INAN \]

This ranking expresses the fact that the most marked configuration results if the object is
maximally higher than the subject. An also very marked association is that where an object
outranks the subject by one degree. Next are constraints penalizing combinations of partici-
pants of equal animacy, then follow less marked constraints with the subject outranking the
object.

Since the plethora of constraints is somewhat confusing, Morimoto elegantly groups these
constraints together in the following constraint subhierarchy:

\[(355) \quad \ast SU < OBJ [ANIM] \gg \ast SU \geq OBJ [ANIM] \]

This hierarchy finally expresses the generalization that it is more marked for a subject to be
outranked by an object in animacy than vice versa or if they are of equal animacy.

This worst of the worst case is, however, not generally disallowed but only in the marked
syntactic construction as the following example ((149) from above) shows:

\[(356) \begin{align*}
\text{a)} & \quad \text{Uru-shiinge ru-ra-joomba-a umw-aana} \\
& \quad 11-\text{needle} \quad 11-\text{AF-pierce-ASP} \quad 1-\text{child} \\
& \quad \text{‘The needle will pierce the child.’} \\
\text{b)} & \quad \ast \text{Umw-aana a-joomb-a uru-shiinge.} \\
& \quad 1-\text{child} \quad 1-\text{pierce-ASP} \quad 11-\text{needle} \\
& \quad \text{‘The child the needle will pierce.’}
\end{align*} \]

Morimoto (2000b: 19) proposes a solution that again relies on harmonic alignment, this time
of a scale of (linear) syntactic position with the relational hierarchy:

\[(357) \begin{align*}
\text{Universal Scales} \\
\text{Syntactic Position:} & \quad \text{Initial} \succ \text{Non-Initial} \\
\text{Relational Hierarchy:} & \quad \text{Subject} \succ \text{Object}
\end{align*} \]

\[(358) \quad \text{Harmonic Alignment} \\
\quad \text{Su/Initial} \succ \text{Su/Non-Initial}
\]

\[(359) \quad \text{Constraint Hierarchy} \\
\quad \ast \text{SU/\text{NON-INITIAL}} \gg \ast \text{SU/INITIAL}
\]

This hierarchy expresses the generalization that subjects tend to be sentence initial. The
maximally marked case (356b) can be excluded by locally conjoining the higher ranking
constraint with the top part of the generalized constraint subhierarchy (355) to derive the
final animacy constraint that penalizes non-initial subjects that are lower in animacy than
the object:

\[(360) \quad \ast SU > OBJ [ANIM] \quad \& \quad \ast SU/\text{NON-INITIAL} \]

\[142\] Recall that in the reversal construction, the theme is still the object and the agent the subject.
Morimoto’s move to analyze the theme in reversal constructions as object and the agent as focus receives support from this analysis: If instead the theme would be analyzed as the subject and the agent as the object, one could no longer use the animacy constraint (360) to rule out (356b). The same generalization could be derived by

Reversal has been said to be primarily discourse driven. This is why the discourse constraint outranks the linking constraints. Since reversal is blocked in the marked animacy configuration, the animacy constraint must be ranked above the discourse constraints:

(361) Constraint Hierarchy in Kinyarwanda/Kirundi

\[
*SU > OBJ \text{[ANIM]} \quad \& \quad *SU/\text{NON-INITIAL} \quad > \quad *\text{SU/\{+NEW}, \text{TOPIC-LEFT}} \quad > \\
*\text{SU/PAT} \quad \& \quad *\text{NON-SU/AG} \quad \& \quad *\emptyset \quad > \quad *\text{NON-SU/AG}
\]

This final ranking allows subject-object reversal only if the agent/subject is focal and the patient/object is topical and if the agent outranks the patient in animacy. In the marked animacy configuration, only the canonical SVO word order is possible, i.e. the discourse constraints are violated.

The following tableau determine the optimal candidates for each input:143

(362) Agent-patient reversal in Kinyarwanda

<table>
<thead>
<tr>
<th>Input: Agent = Focus, Patient = Topic</th>
<th>ANIMACY</th>
<th>*SU/{+NEW}</th>
<th>FAITH (PROM)</th>
<th>TOPIC-LEFT</th>
<th>*EXPLETIVE</th>
<th>*\text{SU/PAT} &amp; \text{NON-SU/AG} &amp; \emptyset</th>
<th>*\text{NON-SU/AG}</th>
<th>no reversal</th>
<th>no reversal</th>
<th>reversal</th>
<th>topicalization</th>
<th>topicalization</th>
<th>no reversal</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [\text{IP S-ag [vp V O-pt]}]</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>b. [\text{IP S-ag-foc [vp V O-pt-top]}]</td>
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</tr>
<tr>
<td>c. [\text{IP O-pt-top [vp V S-ag-foc]}]</td>
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<tr>
<td>d. [\text{IP O-pt-top [vp S-ag [vp V]]}]</td>
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</tr>
<tr>
<td>e. [\text{IP O-pt-top [vp S-ag-foc [vp V]]}]</td>
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<tr>
<td>f. [\text{IP expl [vp V S-ag-foc O-pt-top]}]</td>
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</tr>
</tbody>
</table>

(363) No Agent-patient reversal in Kinyarwanda

<table>
<thead>
<tr>
<th>Input: Agent = Focus, Patient = Topic</th>
<th>ANIMACY</th>
<th>*SU/{+NEW}</th>
<th>FAITH (PROM)</th>
<th>TOPIC-LEFT</th>
<th>*EXPLETIVE</th>
<th>*\text{SU/PAT} &amp; \text{NON-SU/AG} &amp; \emptyset</th>
<th>*\text{NON-SU/AG}</th>
<th>no reversal</th>
<th>no reversal</th>
<th>reversal</th>
<th>topicalization</th>
<th>topicalization</th>
<th>no reversal</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [\text{IP S-ag [vp V O-pt]}]</td>
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<tr>
<td>b. [\text{IP S-ag-foc [vp V O-pt-top]}]</td>
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<tr>
<td>c. [\text{IP O-pt-top [vp V S-ag-foc]}]</td>
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<tr>
<td>d. [\text{IP O-pt-top [vp S-ag [vp V]]}]</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>e. [\text{IP O-pt-top [vp S-ag-foc [vp V]]}]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>f. [\text{IP expl [vp V S-ag-foc O-pt-top]}]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

143 I now use Morimoto’s revised analysis with the theme-topic as object and the focal agent as subject in the c)-examples.
3.3.3.4 Review

Morimoto’s approach is probably the most attractive of the one surveyed so far since it not only correctly derives most of the properties of the participants but also captures the degrees of markedness to be observed in crosslinguistic variation.

However, there is still a number of points on which her analysis fails: First is argument structure. The present analysis fails to derive the restriction against goal objects in Chichewa and English: Both languages do not allow locative inversion with passivized transitive/applied verbs, see (20) and (206) above. One might propose a rather ad hoc constraint like *OBJ/GOAL, but since both languages basically allow goal objects, a more precise statement is needed. One possibility would be to add information structural information in order to exclude non-topical goal objects. This would suffice for the dative shift construction in English and the applicative construction in Chichewa as well since both devices are only possible with a topical goal. Abstracting away from the precise form of this constraint, it is clear that it has to rank above the discourse constraints in both languages, thus producing the following ranking:

(364) English and Chichewa

[*SU/PAT & *NON-SU/AG] & *Ø >> *NON-SU/AG >> *OBJ/GOAL >>

{*SU/ [+NEW], TOPIC-LEFT]

In Chishona, a language that allows the goal to be realized as object in locative inversion, this constraint is ranked above the discourse constraints but below *NON-SU/AG since agentive objects are excluded:

(365) Chishona

[*SU/PAT & *NON-SU/AG] & *Ø >> *NON-SU/AG >> {*SU/ [+NEW], TOPIC-LEFT} >>

*OBJ/GOAL

Another type of language that Morimoto does not deal with is represented by Dzamba which allows reversal with ditransitive predicates:

(366) a) ó-Petélo  a-kpét-él-ékí  bázi  nzeté wáàbo.

DEF-Peter  1-cut-APL-PST  women  trees  here

‘Peter chopped down some trees here for the women.’

b) Bá-bázi  ngó  ba-kpét-él-ékí  ó-Petélo  nzeté  wáàbo.

DEF-2:women  TOP  2-cut-APL-PST  DEF-Peter  trees  here

‘For the women, Peter cut some trees here.’

c) í-nzeté  ngó  i-kpét-él-êki  ó-Petelo  bázi  wáàbo.

DEF-trees  TOP  they-cut-APL-PST  DEF-Peter  2:women  here

‘The trees, Peter cut for some women here.’

Bokamba (1979: 11)
Assuming that languages like Kinyarwanda (or Kirundi) do not allow such inversions, one would have to distinguish the two with a constraint against the simultaneous presence of an agentive and a patiensive object, i.e. something like [*OBJ/AG & *OBJ/PAT]. In Kinyarwanda (and of course the languages that do not even permit subject-object reversal), this constraint would be ranked above and in Dzamba below the discourse constraints:

(367) Kinyarwanda

[*OBJ/AG & *OBJ/PAT] >> {*SU/ [+NEW], TOPIC-LEFT} >>
[*SU/PAT & *NON-SU/AG] & ∅ >> *NON-SU/AG

(368) Dzamba

{*SU/ [+NEW], TOPIC-LEFT} >> [*OBJ/AG & *OBJ/PAT] >>
[*SU/PAT & *NON-SU/AG] & ∅ >> *NON-SU/AG

Another, probably more severe problem is represented by locative adjuncts like those in (207) and other types of adjuncts: Since in this framework, one can no longer resort to specific subject defaults, one needs a way to prevent adjuncts from becoming subjects. A high-ranked constraint against non-thematic subjects, *NON-THEM/SU, along the lines proposed by Loedrup (1999: 216), should take care of this. There still remains a problem, however: Such a constraint would simultaneously exclude expletive subjects, a wrong prediction for some languages, unless expletive subjects surface only in case of a different input. See below for some discussion of this issue.

Concerning locative inversion in English, Morimoto fails to derive the IP-adjoined position of the locative. A possible solution would be to adopt a categorization constraint *PP-SUB (or, more general: a constraint against non-NPs in both subject and object position), which penalizes PPs in subject position. This constraint would have to be relatively high-ranked in English, i.e. the highest-ranking constraint on which the new candidate g) differs from candidate c). Its exact position cannot be determined with the data at hand. In Chichewa, however, this constraint is not violated by locative subjects because they are NPs. The additional candidate d) could be ruled out by a constraint against empty projections/Specifiers. Perhaps the SUBJECT constraint requiring a c-structure subject would do. The ranking for Chichewa cannot be determined on the basis of the phenomena under discussion. I will provisionally rank it rather low. In English, however, it would have to be ranked below *PP-SUB. I am not sure about the consequences of such an approach and list the provisional tableaux for expository reasons only:

(369) Theme-locative reversal in English

<table>
<thead>
<tr>
<th>Input: Theme = Focus, Locative = Topic</th>
<th>[SU/PAT &amp; *NON-SU/AG] &amp; ∅</th>
<th>*EXPLETIVE</th>
<th>*SU/ [+NEW]</th>
<th>FAITH (PROM)</th>
<th>TOPIC-LEFT</th>
<th>PP-SUB</th>
<th>SUBJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [[S-pt [[V V Obl-loc]]]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no reversal</td>
</tr>
<tr>
<td>b. [[S-pt-foc [[V V Obl-loc-top]]]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no reversal</td>
</tr>
<tr>
<td>c. [[S-loc-top [[V V O-pt-foc]]]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>no reversal</td>
</tr>
<tr>
<td>d. [[Obl-loc-top [[S-pt [[V V]]]]]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>reversal</td>
</tr>
<tr>
<td>e. [[Obl-loc [[S-pt-foc [[V V]]]]]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>reversal</td>
</tr>
<tr>
<td>f. [[expl [[V O-pt-foc Obl-loc-top]]]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>reversal</td>
</tr>
<tr>
<td>g. [[S-loc-top [[V V O-pt-foc]]]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>reversal</td>
</tr>
</tbody>
</table>
When considering argument structure, another problematic issue emerges: Morimoto does not deal with inversion constructions with an expletive subject and locative inversion with passivized intransitive verbs. As for the expletive subjects, one probably has to assume a different input (without locative argument) so that a different type of candidate set would be evaluated and no further problems result. However, expletive constructions are possible with theme-locative verbs as well, i.e. a sentence like There came a man to the village. In such cases, one would either have to assume different inputs or derive the two as optional variants, i.e. as two optimal candidates. Since Birner/Ward (1993) show that the expletive and inversion constructions are functionally not identical, the first solution seems preferable. More sophisticated constraint systems would further have to derive language types where expletive constructions are allowed with the same argument structures like inversion constructions (such as English) and those where the two constructions differ with regard to argument structure (such as Kinyarwanda).

As for passivized verbs, Morimoto (1999: 17) also assumes a different input with the agent marked as non-prominent causing it to be suppressed or realized as an oblique. With these assumptions, she fails (as she notes herself) to rule out passive agents in locative inversion of passivized transitive verbs in English. One therefore needs another constraint whose ranking leads to in-/acceptability of passive agents in the various languages.

In this analysis, which is inspired by Aissen’s influential (1999) paper, active and passive variants are derived from different prominence specifications of the arguments in the input (while the argument structure is the same). This necessarily entails a different input for passive and object topicalization (as illustrated in (342)) in English, for the active and passive variants of intransitive verbs in languages like Chishona, Sesotho or Setswana or for passive and subject-object reversal in Kinyarwanda. Such an approach is highly attractive, but I am not sure if information structural features suffice to derive the desired results. If one follows Morimoto in assuming that oblique agents are the result of a non-prominent specification in the input, one is confronted with the fact that such oblique agents are not always low in prominence, instead, they are often focal. As was noted above in 2.7.7 on the information structural properties of subject-object reversal in Kinyarwanda, reversal and passive constructions are sometimes said to have the same discourse function. If this should be the case, one would either have to try to derive two optimal outputs (perhaps by assuming tied-constraints) from the same input or assume two different inputs. Since no reliable data on this topic is available, I have to leave the issue to further research.
A few remarks on the use of the constraint $^*$Ø against zero marking: First, I believe that the constraint $^*$NON-SU/AG should also be locally conjoined with it since agentive non-subjects are only marked if no extra morphology is present (on the verb, the agent).

Secondly, as admitted in Aissen (1999: 703), this system cannot prevent the local conjunction of $^*$Ø with unmarked associations like $^*$Ø & $^*$SU/Ag. This constraint would universally outrank $^*$SU/Ag which derives undesired results, i.e. candidates with this linking would have to be morphologically marked in order to be evaluated as optimal.

Moreover, I do not find Morimoto’s (updated) analysis of reversal in Kinyarwanda convincing. Why should the theme that triggers agreement be the object and the agent still the subject? Such an analysis is possible, and is meant to derive the lack of subject/object properties of the participants. But at least the agent’s non-object properties could be derived from its focal nature as well. Additionally, as has been shown in (142) above, the theme is (probably) not completely inert, it can undergo subject raising, for instance. However, one still has to account why the theme is so inert with respect to other operations.

An interesting aspect of Morimoto’s analysis is, however, that she points out that Kinyarwanda shows properties of discourse configurational, or, more precisely: topic-prominent languages. This entails, that the major bulk of syntactic processes is sensitive to grammaticalized discourse functions like topic and focus and not grammatical functions like subject and object. ‘Subject agreement’, for instance, is always with the topic, object agreement is with so-called external, i.e. dislocated topics. It remains to be shown, if more processes of the grammar can be reduced to this. Additionally, it would be interesting to know what (discourse functionally) differentiates a reversal construction from one with an external theme topic.\(^{144}\) She is definitely wrong in one respect: the subject pronoun in reversal constructions is not an incorporated topic pronoun because the theme-NP cannot be dropped, see (143) above; as for the discourse configurationality issue, cf. also 7.3.

One not very conclusive part of Morimoto’s analysis concerns her suggestion on deriving the different focus positions by the relative ranking of $^*$ADJOIN with respect to $^*$SU/[+NEW]. I do not see how exactly this is supposed to work.

In Chichewa, this constraint should be ranked at least as high as to be the deciding constraint between a candidate with adjunction and one without. Ranking it above TOPIC-LEFT would still suffice, though. I therefore do not see its connection to $^*$SU/[+NEW]:

(371) Theme-locative reversal in Chichewa

<table>
<thead>
<tr>
<th>Input: Theme = Focus, Locative = Topic</th>
<th>$^<em>$SU/PAT &amp; $^</em>$NON-SU/Ag</th>
<th>$^*$Ø</th>
<th>$^*$NON-SU/Ag</th>
<th>$^*$EXPLETIVE</th>
<th>$^*$ADJOIN</th>
<th>$^*$SU/[+NEW]</th>
<th>FAITH (PROM)</th>
<th>TOPIC-LEFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. [ S-pt-foc [vp V Obl-loc-top] ]</td>
<td>*</td>
<td>*</td>
<td>!</td>
<td>!</td>
<td>*</td>
<td>!</td>
<td></td>
<td>no reversal</td>
</tr>
<tr>
<td>g. [ S-loc-top [vp V Obl-loc-top] ]</td>
<td>!</td>
<td>*</td>
<td>!</td>
<td>!</td>
<td>!</td>
<td>!</td>
<td></td>
<td>reversal</td>
</tr>
</tbody>
</table>

\(^{144}\) It is probably the difference between contrastive and non-contrastive topics.
The additional candidate (371g) with the theme VP-adjoined is ruled out by *ADJOIN. In English, however, the constraint must be ranked quite low so as to become indecisive, i.e. far below *ADJOIN. But again, I do not see a connection to *SU/*NEW:

(372) Theme-locative reversal in English

<table>
<thead>
<tr>
<th>Input: Theme = Focus, Patient = Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [IP S-pt [vp V Obl-loc]]</td>
</tr>
<tr>
<td>b. [IP S-pt-foc [vp V Obl-loc-top]]</td>
</tr>
<tr>
<td>c. [vp S-loc-top [vp V O-pt-foc]]</td>
</tr>
<tr>
<td>d. [vp Obl-loc-top [vp S-pt [vp V]]]</td>
</tr>
<tr>
<td>e. [vp Obl-loc [vp S-pt-foc [vp V]]]</td>
</tr>
<tr>
<td>f. [vp expl [vp V O-pt-foc Obl-loc-top]]</td>
</tr>
<tr>
<td>g. [vp S-loc-top [vp V O-pt-foc]]</td>
</tr>
</tbody>
</table>

Here, the wrong candidate wins. The supposed winner (372g) is optimal only if it better satisfies some constraint that is higher-ranked than *ADJOIN.

Therefore, a different approach has to be taken: In addition to *ADJOIN I propose a constraint ALIGN PRESFOC that is satisfied if a focussed constituent is VP-adjoined as in English. Its relative ranking to *ADJOIN derives the different focus positions in English and Chichewa: ALIGN PRESFOC >> *ADJOIN derives the VP-adjoined position, *ADJOIN >> ALIGN PRESFOC the VP-internal focus position. I have additionally included a constraint against category mismatches, *CAT MISSMATCH, that penalizes PPs or CPs in subject/object position. It is vacuously satisfied in Chichewa while deriving the correct candidate for English:

(373) Theme-locative reversal in Chichewa

<table>
<thead>
<tr>
<th>Input: Theme = Focus, Locative = Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. [vp S-pt [vp V Obl-loc]]</td>
</tr>
<tr>
<td>b. [vp S-pt-foc [vp V Obl-loc-top]]</td>
</tr>
<tr>
<td>c. [vp S-loc-top [vp V O-pt-foc]]</td>
</tr>
<tr>
<td>d. [vp Obl-loc-top [vp S-pt [vp V]]]</td>
</tr>
<tr>
<td>e. [vp Obl-loc [vp S-pt-foc [vp V]]]</td>
</tr>
<tr>
<td>f. [vp expl [vp V O-pt-foc Obl-loc-top]]</td>
</tr>
</tbody>
</table>

145 See Morimoto (2000c: 70) for problems with this approach.
146 Its relative position to the other constraints needs further study.
### Theme-locative reversal in /English

**Input:**
Theme = Focus, Patient = Topic

<table>
<thead>
<tr>
<th></th>
<th>[SU/PAT &amp; NON-SU/AG] &amp; [+O]</th>
<th><em>EXPLETIVE</em></th>
<th><em>SU/+NEW</em></th>
<th><em>FAITH (PROM)</em></th>
<th>TOPIC-LEFT</th>
<th><em>CAT MISSMATCH</em></th>
<th>ALIGN_PRESCFOC</th>
<th><em>ADJOIN</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td><em>SU/PAT &amp; NON-SU/AG</em></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td><em>SU/PAT &amp; NON-SU/AG</em></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td><em>SU/PAT &amp; NON-SU/AG</em></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c'.</td>
<td><em>SU/PAT &amp; NON-SU/AG</em></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c''.</td>
<td><em>SU/PAT &amp; NON-SU/AG</em></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c'''.</td>
<td><em>SU/PAT &amp; NON-SU/AG</em></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td><em>SU/PAT &amp; NON-SU/AG</em></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td><em>SU/PAT &amp; NON-SU/AG</em></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td><em>SU/PAT &amp; NON-SU/AG</em></td>
<td>*!</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Even if such an analysis seems promising, we are still confronted with the problem of Kirundi where locative inversion and subject-object reversal do not have the same focus position: the V-sister position in locative inversion, but a VP-adjointed position in the reversal construction. If the respective foci are – as suggested by the authors comments – indeed information structurally different (presentational vs. contrastive focus), we could derive the different positions by the following ranking: ALIGN CONTRASTFOC >> *ADJOIN >> ALIGN PRESCFOC. This allows VP-adjunction only in the case of subject-object reversal where the agent is contrastively focused. See Morimoto (2000c: 102) for a much improved analysis of the different object positions that is not faced with the problems discussed here. A discussion of it is, unfortunately, beyond the scope of this paper.

Lastly, it needs to be mentioned that the information structural assumptions made by Morimoto are somewhat coarse. She still uses the old/new information terminology and works only with the two categories topic and focus. Since the constructions have different uses and since there generally exist different focus types within a single language, a more sophisticated system of information structural specifications in the input is necessary to derive the whole range of constructions together with their interpretation.

In summary, Morimoto’s approach is surely the most promising considered so far. It remains to be seen if it is possible to attain such a broad coverage as with the LFG approach using the OT-model. For example, there is no explicit proposal of how to explain the extraction, passivization and pronominalization restriction of the inverted theme, or the differences between English and Chichewa (such as the raising asymmetry). In the next section, I will tentatively try to reformulate some of the explanations used in Bresnan’s LFG account in terms of violable constraints.

### 3.3.3.5 The Inertness of the Theme

To conclude this section, I will propose solutions for the recurrent fact that the presentationally focussed argument does not display the usual object properties. Most of these ideas could be integrated into a P&P-OT approach as well:
Assuming pronominalization and extraction to be ruled out on discourse grounds, some constraint sensitive to discourse features suggests itself. There have been some proposals in the literature, notably those by Bresnan (1997; 1998a). I will not review these for reasons of space but will instead propose a somewhat different solution based on the iconic relationship between discourse status and morphological form.

Here again, one could use harmonic alignment of universal Scales to derive the harmonic alignment of discourse function and morphological exponence:

(375) Universal Scales
Discourse Scale: Topic > Focus
Expression Scale: Zero > Bound Pro > Free Pronoun > Def NP > Indef NP

(376) Harmonic Alignment
Top/Zero ➔ Top/Bound ➔ Top/Free ➔ Top/Def NP ➔ Top/Indef NP
Foc/Indef NP ➔ Foc/Def NP ➔ Foc/Free ➔ Foc/Bound ➔ Foc/Zero

(377) Constraint Hierarchies
C1: *TOP/DEF NP >> *TOP/DEF NP >> *TOP/FREE >> *TOP/BOUND >> *TOP/ZERO
C2: *FOC/ZERO >> *FOC/BOUND >> *FOC/FREE >> *FOC/DEF NP >> *FOC/INDEF NP

These constraints express the well-known functional generalization stating that topical elements need less coding than non-topical elements. One could further align a scale of mental representations of referents in discourse (Lambrecht (1994: 109) with the topic/focus scale to derive Lambrecht’s (1994: 165) Topic Acceptability Scale:

(378) Universal Scales
Discourse Scale: Topic > Focus
Cognitive States: Act > Access > Inact > Brand-new anch > Brand-new unanch

(379) Harmonic Alignment
Top/Act ➔ Top/Access ➔ Top/Inact ➔ Top/new anch ➔ Top/new unanch
Foc/new unanch ➔ Foc/new anch ➔ Foc/Inact ➔ Foc/Access ➔ Foc/Act

(380) Constraint Hierarchies
C1: *TOP/UNANCH >> *TOP/ANCH >> *TOP/INACT >> *TOP/ACCESS >> *TOP/ACT
C2: *FOC/ACT >> *FOC/ACCESS >> *FOC/INACT >> *FOC/ANCH >> *FOC/UNANCH

One could now try to dispense with the topic/focus specifications and use features of cognitive states instead to derive the correct outputs, i.e. topic and focus would then have to be represented on their own level of representation — just like f- and c-structure categories. One could then, however, no longer state faithfulness constraints on the topic/focus specification. Further research will have to show if such a move is fruitful.

At any rate, the iconicity constraints in (377) above can be used to rule out the coding of presentationally focussed participants as bound or unstressed free pronouns in the Bantu languages and as unstressed free pronouns in English. In both languages, stressed (mostly deictic) free pronominals are acceptable.

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147 A more elaborate scale would further distinguish between strong and weak (free) pronouns and clitic vs. bound pronouns.

As to the extraction (relativization) restriction, one could use an LFG-style constraint against the association of an argument with more than one function or with an incompatible discourse function as shown in (243) above, i.e. something like *FOC+Top. The same constraint penalizes wh in situ of topical subjects. Or in P&P terms, a constraint against filling an argument position specified for some discourse feature with lexical item that inherently bears an incompatible feature.

The passive restriction is more difficult to derive. Since the LMT no longer plays a role, another solution has to be found. Assuming an input where the locative is specified as non-prominent and the theme as prominent or neutral does not work since this would most likely generate undesired candidates with the locative as oblique agent, i.e. something like *A man is lived by in the house. What is needed instead is a constraint against non-agentive by-phrases. To my knowledge, only agents (in a broad sense, however, including experiencer and the like) can surface in this way. Such a constraint would have to be as finegrained as to apply only to arguments but not adjuncts which, of course, usually have an oblique form.

### 3.3.4 P&P-OT

This section presents some rather sketchy ideas on how to explain the properties of inversion constructions within OT by using the P&P principles. Admittedly, many of the suggestions in this section could be applied to LFG-OT as well.

#### 3.3.4.1 Some notes on the Constraints

Since grammatical functions are not primitive in this framework but instead configurationally defined, linking constraints like *Su/Pat are to be read differently than in LFG-OT: Here, it means that a patient argument should not occupy the subject position. The marked linkings in inversion constructions are derived by movement in this framework. Consequently, the constraint ranking must trigger movement. The constraint STAY which penalizes movement is violated in order to satisfy some higher-ranking discourse constraint. Another possibility is to trigger the movement by the SUBJECT constraint that requires the Spec-of IP position to be filled (= EPP).

Parallel to the LFG-approach, it is desirable to state a constraint against agentive objects, i.e. something like *Obj/Ag. However, this is problematic, since it is commonly assumed that agent arguments are base-generated in the VP-internal subject position. A movement from there to the object position is ruled out on principled grounds because it goes downwards. But since everything is violable in OT, one could formulate a violable constraint against downward movement. Alternatively, one could assume the UTAH (Baker 1988, 1997) to be violable as well, i.e. allowing the projection of agents into the object position in order to satisfy some higher-ranking constraint. Another option is to interpret this as a constraint against VP-adjunction of agents. This presupposes, however, that the focal agents indeed occupy this position. There is clear evidence for this in Kirundi, but not necessarily in Kinyarwanda or Sesotho/Setswana where the available data suggest that agents do occupy a VP-internal position.\(^{149}\) I will provisionally interpret the constraint *Obj/Ag as a constraint against agentive objects (i.e. downward movement) and VP-adjointed agents. The intuitive notion behind this constraint is that agents tend to occur clause

\(^{149}\) Still another option would be to assume that the agent remains in Spec-of VP. See 3.2.7 for some discussion of this issue. At any rate, this account would cause severe problems for the present systems as the subsequent discussion will show.
Initially, even when focused. Future research will have to find a more sophisticated solution to this problem.\textsuperscript{150}

Some comments on the other constraints: \textsc{subject} penalizes structures with no element (trace or overt element) in SpecIP.\textsuperscript{151} \textsc{stay} assigns a violation mark for every trace that a candidate exhibits. \textsc{case} penalizes chains where no element (overt XP or trace) occupies a case position, i.e. the subject or the object position. I assume that I only assign case to the subject position and \textsc{v} to the object position. I further posit that NPs may not receive case otherwise (e.g. from \textsc{infl} when VP-internal). Additionally, intransitive verbs do not assign case at all (not even partitive case). Therefore, their NP-argument incurs a violation of \textsc{case} if it does not move to the subject position. Covert movement of (the features of) the theme-NP to T or to some agreement projection is no longer necessary under these assumptions.

Difficult to define are the constraints that regulate the position of arguments with a special discourse function (i.e. topic/focus). One either could assume that it is the relative position that counts. Some of the examples below suggest however, that they are only satisfied if such arguments occupy specialized positions, i.e. the subject position which is the default topic position or the IP-adjoined position. I tentatively assume that \textsc{top-left} is satisfied if the topic occupies the Spec-of IP and the IP-adjoined position, i.e. if it occurs in the background part of the sentence. Furthermore, for some examples, a constraint \textsc{top> foc} that prefers topical elements to precede focal elements is necessary. The constraint \textsc{*su/foc} penalizes focal elements in subject position. \textsc{align prs foc} is satisfied if the focal element is VP-adjoined. The relative ranking of \textsc{*adjoin} and \textsc{align prs foc} is supposed to derive different focus positions: If \textsc{*adjoin} is ranked above \textsc{align prs foc}, the focus position is VP-internally as in the Bantu languages, with reverse order, the focus position is VP-adjoined as in English.

3.3.4.2 Chichewa

I will first present the ranking for Chichewa-type languages where the linking constraints outrank the discourse constraints:\textsuperscript{152}

\textsuperscript{150} As mentioned in the previous section, a constraint penalizing (focused) goal objects is needed to differentiate Chichewa and English from Chishona

\textsuperscript{151} Another line of reasoning might be to assume – as in Grimshaw (1997: 390) – that the Subject constraint is \textbf{not} violated if the SpecIP-position is not filled as long as the highest A-specifier position of the clause is filled. One could imagine a candidate with the PP moving to the specifier of VP emerging as optimal under these assumptions. However, such a move would first require a comprehensive theory of A-positions which is not available at the moment. Since unaccusatives do not assign a theta-role to SpecVP, it might not count as an A-position, though. At any rate, the consequences of such a proposal are too drastic to be discussed in this study.

\textsuperscript{152} For simplicity, I assume that all candidates are maximally faithful to the input regarding semantic role and discourse prominence. Furthermore, I omit candidates with expletive subjects to restrict the data to a manageable size.
(381) Chichewa: theme-locative inversion

<table>
<thead>
<tr>
<th>Theme = Focus; Locative = Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>*PAT/SU &amp; *OBJ/Ag, *Ø</td>
</tr>
<tr>
<td>a. $\not\Gamma [\nu \text{NP}_1 -\text{loc} [\nu V \text{NP}-\text{th} t_i]]$</td>
</tr>
<tr>
<td>b. $[\nu \text{NP}_1 -\text{loc} [\nu V t_j t_i] \text{NP-th}_j]$</td>
</tr>
<tr>
<td>c. $[\nu \text{NP}_1 -\text{th} [\nu V t_j \text{NP-loc}]]$</td>
</tr>
<tr>
<td>d. $[\nu \text{NP}_1 -\text{loc} [\nu \text{NP}_2 -\text{th} [\nu V t_j t_i]]]$</td>
</tr>
<tr>
<td>e. $[\nu V \text{NP}-\text{th} \text{NP-loc}]$</td>
</tr>
</tbody>
</table>

It is primarily the constraint *SU/Foc that motivates the movement of the locative and prevents the theme from leaving the VP. With focused agents, however, the results are different:

(382) Chichewa: No agent-locative inversion

<table>
<thead>
<tr>
<th>Agent = Focus, Locative = Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>*PAT/SU &amp; *OBJ/Ag, *Ø</td>
</tr>
<tr>
<td>a. $[\nu \text{NP}_1 -\text{loc} [\nu V \text{NP}_2 -\text{ag} t_i]]$</td>
</tr>
<tr>
<td>b. $[\nu \text{NP}_1 -\text{loc} [\nu V t_j t_i] \text{NP}_2 -\text{ag}]$</td>
</tr>
<tr>
<td>c. $[\nu \text{NP}_1 -\text{ag} [\nu t_j [\nu V \text{NP}-\text{loc}]]$</td>
</tr>
<tr>
<td>d. $[\nu \text{NP}_1 -\text{ag} [\nu \text{NP}_2 -\text{ag} [\nu V t_j]]]$</td>
</tr>
<tr>
<td>e. $[\nu \text{NP}_1 -\text{ag} [\nu \text{NP}_1 -\text{loc} [\nu V t_j]]]$</td>
</tr>
<tr>
<td>f. $[\nu V \text{NP}-\text{ag} [\nu V \text{NP-loc}]]$</td>
</tr>
</tbody>
</table>

Here, the optimal candidate incurs a violation of *SU/Foc in order to satisfy the higher ranking constraint *OBJ/Ag that penalizes agentive objects. Here, the importance of TOP>FOC becomes obvious: It is indispensable to rule out candidate c’ that under current assumptions does not violate the otherwise crucial constraint *SU/Foc.

---

153 I have not listed a candidate where the agent remains in Spec-of VP and the locative moves to the subject position. A candidate like: $[\nu \text{NP}_1 -\text{loc} [\nu V \text{NP}_2 -\text{ag} t_i]]$ would emerge as optimal under the current ranking even if one assumes that it violates FOC-RIGHT since it does not violate *ADJOIN. Clearly, some more sophisticated constraint interaction has to be sought in order to rule out this candidate.
(383) Chichewa: No agent-theme inversion

Agent = Focus, Theme = Topic

<table>
<thead>
<tr>
<th>Case</th>
<th>*PAT/SU &amp; *OBJ/Ag &amp; *FOC</th>
<th>SUBJECT</th>
<th>TOP&gt;FOC</th>
<th>*SU/FOC</th>
<th>TOP-LEFT</th>
<th>*ADJOIN</th>
<th>ALIGN PRSFOC</th>
<th>STAY</th>
<th>CASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td><img src="image1.png" alt="image" /></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>**</td>
</tr>
<tr>
<td>b.</td>
<td><img src="image2.png" alt="image" /></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>**</td>
</tr>
<tr>
<td>c.</td>
<td><img src="image3.png" alt="image" /></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>d.</td>
<td><img src="image4.png" alt="image" /></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>e.</td>
<td><img src="image5.png" alt="image" /></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>f.</td>
<td><img src="image6.png" alt="image" /></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

Here again, the agent is moved to the subject position to satisfy the higher-ranking discourse constraint *OBJ/AG. TOP>FOC further prefers the topicalization of the theme.

Before continuing with English, I will first discuss Sesotho and Kirundi because they do not present as many problems as English.

3.3.4.3 Sesotho/Kirundi

For the remaining languages, I will limit the discussion to agent-locative reversal in Sesotho/Setswana and agent-theme reversal in Kirundi/Kinyarwanda since these are the constructions where these languages differ from English and Chichewa.

In Sesotho and Setswana, which allow inversion with unergatives, the linking constraint *OBJ/AG is outranked by the discourse constraints:

(384) Sesotho: Agent-locative inversion

Agent = Focus, Locative = Topic

<table>
<thead>
<tr>
<th>Case</th>
<th>*PAT/SU &amp; *OBJ/Ag &amp; *ZERO</th>
<th>SUBJECT</th>
<th>TOP&gt;FOC</th>
<th>*SU/FOC</th>
<th>TOP-LEFT</th>
<th>*ADJOIN</th>
<th>ALIGN PRSFOC</th>
<th>STAY</th>
<th>CASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td><img src="image7.png" alt="image" /></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>**</td>
</tr>
<tr>
<td>b.</td>
<td><img src="image8.png" alt="image" /></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td>*</td>
<td>**</td>
</tr>
<tr>
<td>c.</td>
<td><img src="image9.png" alt="image" /></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>d.</td>
<td><img src="image10.png" alt="image" /></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>e.</td>
<td><img src="image11.png" alt="image" /></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>f.</td>
<td><img src="image12.png" alt="image" /></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
</tbody>
</table>

In Kirundi, the discourse constraints outrank all linking constraints, thus permitting subject-object reversal:154

154 In the following tableau, I abstract away from possible differences in focus position. The optimal candidate under this ranking is VP-internal, which is incorrect for Kirundi. Re-ranking *ADJOIN and ALIGN PRSFOC will derive the correct result.
(385) Kirundi/Kinyarwanda: Agent-theme inversion

<table>
<thead>
<tr>
<th>Agent = Focus, Locative = Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT</td>
</tr>
<tr>
<td>a. [ip NP{-th [vp tj [V NP{-ag tj]]]]]</td>
</tr>
<tr>
<td>b. [ip NP{-th [vp tj [V NP{th}]]}]</td>
</tr>
<tr>
<td>c. [ip NP{-ag [vp tj [V NP-th]]}]</td>
</tr>
<tr>
<td>d. [ip NP{-th [vp NP{-ag [vp tj [V NP-th]]]]}]</td>
</tr>
<tr>
<td>e. [ip NP{-ag [vp NP{-th [vp tj [V NP-th]]]]}]</td>
</tr>
<tr>
<td>f. [ip NP{-ag [vp V NP-th]]]</td>
</tr>
</tbody>
</table>

3.3.4.4 English

So far, our constraints have done quite well. English, however, presents us with an intricate problem: One has to find a way to trigger the movement of the locative to the subject position to capture the subject properties. Then, a further trigger is necessary to drive it out of this position to the IP-adjoined position (or to the Spec of some functional Top head). The trigger for the first movement must be the EPP (SUBJECT). But how can the second movement be justified? One has to find a way to make a discourse constraint like Top-left sensitive to the language specific topic position which in turn has to follow from the interaction of phrase structure constraint. For reasons of space, I will not try to formalize a solution but will instead assume a constraint CHECK(TOP), which is only satisfied in English if the topic occupies the specialized topic position. The following tableau derives the correct results:

(386) English: Theme-locative inversion:

<table>
<thead>
<tr>
<th>Theme = Focus, Locative = Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUBJECT</td>
</tr>
<tr>
<td>a. [ip PP{-loc [vp tj [V NP-th tj]]}]</td>
</tr>
<tr>
<td>b. [ip PP{-loc [vp tj [V NP-th]]}]</td>
</tr>
<tr>
<td>c. [ip PP{-loc [vp V NP-th]]]</td>
</tr>
<tr>
<td>d. [ip PP{-loc [vp V NP-th]]]</td>
</tr>
<tr>
<td>e. [ip PP{-loc [vp V tj NP-th]]]</td>
</tr>
<tr>
<td>f. [ip NP{-th [vp V tj PP-loc]]]</td>
</tr>
<tr>
<td>g. [ip NP{-th [vp NP{-th [vp V tj]]]}]</td>
</tr>
</tbody>
</table>

155 This procedure would have to be carried over to the Bantu languages; there, this constraint would be satisfied if the topics occupy some different topic position, which would also be the result of constraint interaction.
This tableau once more expresses the fact that discourse constraints are more important than case features. In what follows, I will discuss some of the additional constraints that will be needed to account for further properties of locative inversion in English:

As to the fact that locative subjects do not undergo raising to object (or, in P&P terminology: cannot be ECM-subjects), a constraint banning projections above IP in nonfinite clauses would certainly do: *IP-ADJ/NON-FIN. Since the locative subject then cannot move into this top position, it violates CHECK(TOP). This can be avoided, however, by further movement to the topic position of the matrix clause, see 3.1.7.5 above. Since CHECK(TOP) is higher ranked than STAY, its satisfaction by an additional movement is less costly.

A further constraint is needed to explain the agreement facts. I propose a constraint requiring agreement with the thematically highest argument NP that bears a direct case (see 3.1.7.2): AGR/HIGHEST-NP. This constraint will also account for the agreement rules in languages like Hindi or Icelandic that allow dative subjects. Moreover, expletive NP-subjects like English there cannot govern agreement either. I will not discuss its ranking with regard to the other constraints. I am not even sure if there are languages where it is violated; therefore, this constraint might have to be built into GEN.157

As for the position of the focused theme, I will provisionally assume that it moves to the VP-adjoined position. This result can be obtained by ranking ALIGN PRSFOC above *ADJOIN. A more sophisticated account would have to consider several aspects like the heaviness of the theme and further material inside or outside the VP, the value for definiteness and its category (CP-themes have to be extraposed, cf. (321)).

The ban against inversion with locative adjuncts can be explained as follows: The most obvious reason is that adjuncts – which may only form A-bar-chains – may not occupy an A-position like the subject position. An inviolable constraint built into GEN would take care of this. Applying this to the English examples from (303) above, a candidate where the theme moves to the subject position in order to satisfy the subject constraint will then be preferred to one where the subject position remains empty:

(387) a) *[v [With great care]i [v Ø [v walked John into the room t_i]]].
   b) *[v [With great care]i [v Johnj [v walked t_j into the room t_i]].

Assuming John to be focal, candidate b) incurs a violation of *SU/FOC but still emerges as optimal since it satisfies the higher-ranking SUBJECT constraint.158

As for the presentational construction with there, and presentational constructions with expletive subjects in general, the same applies as in the previous section: These are derived from different inputs: Both arguments have different information structural specifications than in inversion constructions, based on the study by Birner/Ward (1993). One has to ensure the correct ranking of *EXPLETIVE since languages like Chichewa generally disallow expletive subjects, while others like Sesotho or English make frequent use it.

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156 In a more elaborate account, this prohibition would be the result of the interaction of phrase structural constraints.

157 Languages without morphological case require a more sophisticated solution. S/O reversal in Kinyarwanda/Kirundi might be a problem for this analysis if one follows Morimoto (2000c) in assuming that it is not the subject but the topic that triggers agreement.

158 Perhaps, there is no *SU/FOC violation because the subject is not focused at all.
3.3.4.5 Conclusion

To summarize, the constraint-based approach proves to be a more adequate way of applying P&P principles than GB or Minimalism. It is basically the notion of violability that makes this analysis work. We now have a formal means to express the intuitive idea that in constructions such as locative inversion, it is largely information structural features (and the EPP) that determine the structural position of arguments and not just case features. In this way, one can also derive a trigger for the locative’s movement to the subject position and capture its subject properties. Additionally, with the necessary linking constraints and the correct language particular rankings, the argument structure restrictions and the crosslinguistic variation fall out nicely. However, as this section should have shown, there is little reason to prefer the P&P-OT framework since it merely duplicates the analysis to the LFG-OT model. All this section has shown is that the peculiar properties of locative inversion do find an explanation within the P&P-OT framework, but not necessarily the better one.
4 Preliminary Conclusion

The study of locative inversion proves very revealing about the architecture of a theory of grammar: Function-role mismatches and the syntax-information structure relationship call for a flexible architecture that takes into account the interaction of various components of grammar.

The present study has shown so far that a multidimensional architecture of parallel grammatical information structures like that of LFG is better suited to handle mismatches in prominence than a framework that exclusively relies on phrase structure representations to code non-phrase structural information. Furthermore, the OT perspective of hierarchically ordered violable constraints has turned out to be superior to the other frameworks with regard to the representation of markedness relations.

The strategy to syntactically any kind of grammatical information within the P&P framework is often justified by reference to reductionism, in other words: economy. While from a conceptual perspective, reductionism is quite attractive (Occam’s razor), it looses much of its fascination if it fails to attain the empirical coverage of other frameworks. Moreover, although perhaps well-suited to describe grammatical regularities, a reductionist framework is not a priori optimal to provide insight into the architecture of the language faculty. Future research will have to show if frameworks that rely on the interaction of different types of information instead improve our understanding of grammatical competence.
5  Locative Inversion in German?

In this chapter, I will try to determine whether locative inversion exists in German as well. Since nobody has ever argued for this, the reader might be surprised by this endeavor. However, at first glance, examples like the following seem to suggest that there is some kind of locative inversion in German:

(388) a) Ein Mann kam in die Stadt
   a:NOM man came:3s in the town
   'A man came to the town.'

b) In die Stadt kam ein Mann.
   in the town came:3s a:NOM man
   'To the town came a man.'

Like in English, the locative phrase may appear sentence initially, the unaccusative subject (kommen ‘come’ is an unaccusative verb) following the verb. However, as we will see shortly, this can by no means be considered evidence for a reversal of grammatical functions as the preverbal position in German is not the subject position.

On the other hand, it proves equally difficult to show that there is no locative inversion in German as it is of rather low subject prominence. Additionally, this investigation discusses the fundamental structural differences between German on the one hand and English and the Bantu languages on the other that might explain the presence/absence of locative inversion in the respective language: German is a free word order language (an attribute to be discussed further below) on the verge of non-configurationality while English and the Bantu languages are strictly configurational.

\[159\] The glosses include information about case only where it is used to discriminate grammatical functions. For reasons of simplicity, I indicate case only on the determiner.
5.1 What is a Subject in German?

Before we can determine whether locative arguments can be subjects, we first have to establish reliable tests for subjecthood.

5.1.1 Reis (1982): Subject = Nominative NP

The following tests are drawn from Reis (1982) who applies the tests proposed in Keenan (1976) for a universal definition of subjects to German. I will only be concerned with syntactic properties since research in the last 20 or 30 years has clearly shown that while there seems to be a tendency for subjects to be topical, referential, agentive and animate, such pragmatic/semantic properties are surely not shared by all subjects in a language like German, see Reis (1982: 175–185).

Reis tries to show that the notion of subject in German can be reduced to case marking: The set of NPs exhibiting subject properties is coextensive with that of nominative case NPs:

5.1.1.1 Agreement

The verb agrees with the nominative NP in person and number, irrespective of its agentivity (389b) or animacy (389c):

(389) a) \textbf{Der Mann} tötete den \textbf{Jungen}.

\begin{tabular}{ll}
\text{the:NOM} & \text{man} & \text{杀了} & \text{the:ACC} & \text{boy}
\end{tabular}

\textit{‘The man killed the boy.’}

b) \textbf{Der Junge} wurde von dem \textbf{Mann} getötet.

\begin{tabular}{ll}
\text{the:NOM} & \text{boy} & \text{was} & \text{by} & \text{the man} & \text{killed}
\end{tabular}

\textit{‘The boy was killed by the man.’}

c) \textbf{Der Stein} zerstörte die \textbf{Vase}.

\begin{tabular}{ll}
\text{the:NOM} & \text{stone} & \text{destroyed} & \text{the:ACC} & \text{vase}
\end{tabular}

\textit{‘The stone destroyed the vase.’}

5.1.1.2 Imperative

Only nominative NPs can be (optionally) deleted if the verb is in the imperative form (the bare stem); again, there is no restriction concerning agentivity (390a/b), even subjects of passive sentences can be used as addressee (390c):

(390) a) \textbf{Fürchte dich nicht!} \textbf{Du fürchte-st dich}

\begin{tabular}{ll}
\text{be_afraid:IMP} & \text{yourself not} & \text{you:NOM} & \text{be_afraid-2s} & \text{yourself}
\end{tabular}

\textit{‘Don’t be afraid!’ ‘You are afraid.’}

b) \textbf{Stirb und werde!} \textbf{Du stirb-st und wir-st}

\begin{tabular}{ll}
\text{die:IMP} & \text{and become:IMP} & \text{you:NOM} & \text{die-2s} & \text{and grow-2s}
\end{tabular}

\textit{‘Die and grow!’ ‘You die and grow.’}

c) \textbf{Werd einmal unterstützt und schon gilt-st du als Schmarotzer.}

\begin{tabular}{ll}
\text{be:IMP} & \text{once supported and already count-as-2s you as sponger}
\end{tabular}

\textit{‘Even if you are supported only once, you will readily count as a sponger.’}
5.1.1.3 Antecedent of Reflexives and Reciprocals

According to Reis (1982: 186f.), only nominative NPs function as antecedents of reflexives. The choice of antecedent is not restricted by animacy or agentivity. The reflexive may bear any kind of syntactic function:

(391) a) Peter hat sich getötet.
   Peter has self:ACC killed
   ‘Peter has killed himself.’

b) Peter gefällt sich.
   Peter please self:DAT
   ‘Peter likes himself.’

c) Peter spricht über sich.
   Peter talks about self:ACC
   ‘Peter talks about himself.’

d) Peter sah eine Schlange neben sich.
   Peter saw a snake near self:DAT
   ‘Peter saw a snake near him.’

e) Gute und schlechte Zeiten wechseln sich ab.
   good and bad times change self:ACC PRT.
   ‘Good and bad times alternate.’

Reflexivization is impossible in passivized sentences and in subjectless sentences. There is an independent explanation of this property, see Reis (1982: 187).

5.1.1.4 Equi-NP-Deletion/Control-Constructions

The arguments deleted/omitted in control constructions are all potential nominative NPs. As before, neither animacy nor agentivity seem to play a role:

(392) a) Der Mann glaubt, ___ das Spiel gewonnen zu haben.
   the:NOM man believes the game won to have
   ‘The man believes to have won the game.’

   ➔ Der Mann hat das Spiel gewonnen.
   the:NOM man has the:ACC game won
   ‘The man won the game.’

d) Der Mann glaubt, ___ unterstützt zu werden.
   the:NOM man believes supported to become
   ‘The man believes to be supported.’

   ➔ Der Mann wird unterstützt.
   the:NOM man gets supported
   ‘The man is supported.’
c) Der Plan gefällt mir, ohne mich zu überzeugen.
   'The plan pleases me without convincing me.'

⇒ Der Plan überzeugt mich.
   'The plan convinces me.'

As in many other languages, the controlling NP does not have to be a nominative NP/a subject NP; instances of object control are frequent, see Reis (1982: 189).

5.1.1.5 Other Kinds of Ellipsis

In telegram style, only nominative NPs are omitted:

(393) a) Fürchte mich vor der Prüfung. ⇒ Ich fürchte mich...
   'I am afraid of the exam.'

b) Bin von dem Projekt begeistert. ⇒ Ich bin von dem ...
   'I am thrilled by this project.'

Another type of ellipsis that is restricted to nominative NPs is Conjunction reduction:

(394) a) Der Mann kam nach Hause und schlug das Kind.
   'The man came home and hit the child.'

b) Der Junge wurde geschlagen und ging aus dem Haus.
   'The boy was hit and left the house.'

5.1.1.6 Unmarked Word Order

It is a well-known fact about German syntax that word order is very free. However, there is a clear tendency for nominative NPs to precede non-nominative NPs in the unmarked order:

(395) a) Peter gab der Mutter das Buch.
   'Peter gave the mother the book.'

b) #Der Mutter gab Peter das Buch.
   'Mother gave Peter the book.'

c) ?Der Mutter gab das Buch Peter.
   'Mother gave the book to Peter.'

Yet, this is just a tendency. Moreover, there are several verbs where the nominative NP tends to follow the other arguments:

(396) a) Die Petra interessieren nur starke Männer.
   'Only strong men are of interest to Petra.'
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b) Mir fehlt Geld.
   I:DAT lack money: NOM
   'I lack money.'

Consequently, word order is no categorical test for subjecthood. Things are different for personal pronouns. There, the sequence is fixed: NOM>AKK>DAT:

(397) a) Hat er es ihm gegeben?
   has he: NOM it: ACC him: DAT given
   'Has he given it to him?'

   b) *es er ihm / *es ihm er / *ihm es er / *er ihm es etc.

Thus, one fragment of German word order can be described with reference to case marking while in the remaining part other factors interfere.\(^{160}\)

5.1.1.7 Further Subject Properties?

None of the processes like relativization, questioning and clefting is restricted to nominative NPs in German, see Reis (1982: 193). As for subject raising, it is not clear whether it exists as such in German. Current analyses assume that raising verbs form a complex verb with the infinitive (at some point in the derivation, e.g. after a restructuring process (e.g. Grewendorf 1988) or base-generated as such (Haider 1993: 259ff.) resulting in a monosentential structure. On such an analysis, there is no subject-raising in German. The major advantage of the assumption of a monoclau sal structure is that it correctly predicts that any constituent can occupy the preverbal position – just like in ordinary matrix clauses:

(398) a) Der Mann tötete das Kind gestern mit dem Hammer.
   the: NOM man killed the: ACC child yesterday with the hammer
   'The man killed the child with the hammer yesterday.'

   b) Das Kind tötete der Mann gestern mit dem Hammer.
   the: ACC child killed the: NOM man yesterday with the hammer

   c) Gestern tötete der Mann das Kind mit dem Hammer.
   yesterday killed the: NOM man the: ACC child with the hammer

   d) Mit dem Hammer tötete gestern der Mann das Kind gestern.
      with the hammer killed yesterday the: NOM man the: ACC child yesterday

(399) a) Peter schien das Kind gestern mit dem Hammer getötet zu haben.
   Peter: NOM seemed the: ACC child yesterday with the hammer killed to have
   'Peter seemed to have killed the child with the hammer.'

   b) Das Kind schien Peter gestern mit dem Hammer getötet zu haben.
      the: ACC child seemed Peter: NOM yesterday with the hammer killed to have

   c) Gestern schien Peter das Kind mit dem Hammer getötet zu haben.
      yesterday seemed the: NOM the: ACC child with the hammer killed to have

\(^{160}\) See 5.7 for a discussion of the factors determining word order in German.
d) **Mit dem Hammer** schien Peter das Kind gestern getötet zu haben.

with the hammer seemed Peter: NOM the: ACC child yesterday killed to have

Therefore, there is no reason to assume a process like subject-to-subject raising in German.

5.1.1.8 Conclusion

Reis’ approach predicts that there are no non-nominative subjects in German, i.e. no non-canonical subjects like quirky-case subjects or clausal subjects which can be found in other languages. The following section discusses potential cases of such subjects.

5.1.2 Non-canonical Subjects

In this section, I discuss two types of potential non-canonical subjects, which in many languages of the world are classified as subjects although they do not bear the standard subject case (nominative/absolutive): the first type, clausal arguments, fail the case-criterion because they cannot be case-marked\(^{161}\) at all while the other involves so-called quirky-case subjects, NPs with subject properties but some non-nominative case that is often associated with a particular semantic role (typically experiencer or instrument).

5.1.2.1 Clausal Subjects

One often assumes a category of subject clauses for German, i.e. clauses that may be used instead of a nominative NP:

(400) a) Deine Faulheit ärgert mich sehr.

your laziness: NOM annoys me: ACC very much

‘Your lazyness annoyes me very much.’

b) Dass du faul bist, ärgert mich.

that you lazy are annoys me: ACC

‘It annoys me that you are lazy.’

Reis (1982), discussing sentential subjects, argues that it is unnecessary to appeal to a category like subject that would include NP- and non-NP-subjects as there do not seem to be any processes that apply to both types of arguments: Sentential subjects never trigger subject verb agreement, the verb invariably being specified for 3\(^{rd}\) person singular. Furthermore, sentential subjects cannot be involved in imperatives, cannot be dropped in telegram style, do not bind free reflexives\(^{162}\) and do not show any similarities with NP-subjects with regard to word order (they are usually left-dislocated or extraposed). Consequently, it is quite difficult to determine the grammatical function of sentential arguments. As far as their syntax is concerned, they do not seem to pattern with NP-arguments.\(^{163}\)

\(^{161}\) This does not hold universally. In languages like Turkish, complement clauses are nominalized nature and therefore allow case-marking.

\(^{162}\) All alleged cases of reflexivization involve obligatorily reflexive predicates, i.e. predicates that select a reflexive argument, see Reis (1982: 194).

\(^{163}\) See Berman (2000: 127–169) for a recent discussion of sentential arguments in German.
5.1.2.2 Dative Subjects

I will now examine whether there are quirky-case subjects in German like e.g. in Icelandic or Hindi. Consider the following examples from Icelandic (Van Valin/La Polla 1997: 358; 398):

(401) a) Þeir* sjá stúlk-un-a og __i finnst hún álitleg.
   3p:NOM see:PRS.3p girl-DEF-ACC.SG.f and find:PRS.3s 3s.f.NOM attractive:f
   ‘They see the girl and find her attractive.’

b) Þeim* lik-ar matur-in-n og __i borð-a mikið.
   3p:DAT like:PRS.3s food:DEF-NOM.SG.msc and eat:PRS.3p much
   ‘They like the food and eat much.’

c) Harald*-i vor-u sýn-d fót á sig.
   Harold-DAT be-PST.3p shown-NOM.PL.NTR clothes:ACC.PL.NTR for self
   ‘Harold was shown clothes for himself.’

d) Ég* vonast til __i að vera hjálpað.
   I:NOM hope towards to be helped me:DAT was helped
   ‘I hope to be helped.’

In (401a), a nominative subject and a potential dative subject (‘find’ selects dative subjects) are coreferential, in (401b) the controller is a dative subject and the gap a potential nominative subject, in (401c) a dative subject binds a reflexive pronoun, and in (401d) a nominative subject controls a potential dative subject of an infinitival complement. These properties are clearly indicative of subjecthood. However, as the examples show, dative subjects in Icelandic differ from ordinary subjects in not triggering subject-verb agreement.

What about dative subjects in German?

There are several verbs that take dative and nominative or dative and oblique arguments. With most of them, the unmarked order tends to be DAT > NOM/OBL:

(402) a) dass Peter die Bücher gefallen vs. dass die Bücher Peter gefallen.
   that Peter:DAT the: NOM books please:3p
   ‘The book pleases the boy.’

b) dass Peter viele Fehler unterlaufen.#dass viele Fehler Peter unterlaufen.
   that Peter:DAT many error: NOM happened
   ‘Peter has made a mistake.’

c) dass Peter vor den Prüfungen graut. vs. #dass vor den Prüfungen Peter graut.
   Peter:DAT before the exams:DAT dread:3s
   ‘Peter dreads the exam.’

d) dass Peter von der Mutter Bücher geschenkt wurden.
   Peter:DAT by the mother books: NOM given were
   ‘Peter was given books by his mother.’
   vs. ?dass von der Mutter Bücher Peter geschenkt wurden.

164 The issue of unmarked order is a difficult one. See 5.7 for detailed discussion.
As in Icelandic, these dative arguments do not agree with the verb. But as opposed to the Icelandic datives, they do not exhibit any subject properties:

(403) a) *Grauen nicht.
   dread:IMP not
   ‘Do not dread.’

   b) *Werde ein Buch geschenkt.
   get a:NOM book given
   Lit.: Be given a book.’

(404) a) *dass der Junge glaubt, ___ vor Heinrich zu grauen.
   that the:NOM boy believes before Heinrich to dread
   ‘that the boy believes to dread Heinrich.’

   b) *dass der Junge hofft, ___ Bücher geschenkt zu werden.
   that the:NOM boy hopes books:ACC given to get
   ‘that the boy hopes to be given books.’

(405) a) *dass der Junge krank war und ___ vor der Prüfung graute.
   that the:NOM boy ill was and before the exam dread:PST.3s
   ‘that the boy was ill and dreaded the exam.

   b) *dass Peter Weihnachten genoss und ___ Bücher geschenkt wurde.
   that Peter christmas enjoyed and books:ACC given was
   ‘that Peter was looking forward to Christmas and was given books.

These dative phrases thus neither allow imperatives, they cannot be controlled in infinitival subordinate clauses and are not deleted in conjunction reduction. Consequently, the second type of exceptional subject is not found in German either.

5.1.2.3 Conclusion

It seems indeed that reference to nominative case is sufficient to state regularities about the syntactic behaviour of subjects in German. If Reis’ approach is correct, we can safely conclude that there cannot be locative subjects in German. If, however, not all syntactic phenomena sensitive to grammatical relations can be explained with reference to case-marking, the possibility of locative subjects still exists. The next section presents arguments to that effect.

5.1.3 Sternefeld (1985): Subject = External Argument

Sternefeld (1985) discusses Reis’ (1982) approach in some detail and shows that her conclusions are flawed for two reasons, one conceptual, one empirical.

5.1.3.1 Conceptual Shortcomings of Reis’ approach

First, Reis refers to a concept of being “potentially nominative” to explain the omissibility of certain arguments in imperatives and Control constructions. Sternefeld (1985: 397) correctly points out that this concept is problematic as it is abstract and dependent on certain theoretical assumptions not spelled out in Reis (1982).

For example, in order to capture the regularity that only external arguments can be ECM-subjects, Reis would have to state that only potentially nominative NPs can be assigned
accusative by an ECM-verb. The concept of “potentially nominative” is surely no longer a morphological one in this case. For the same reason, Reis’ account of reflexivization must also appeal to potentially nominative NPs in order to capture the fact that ECM-subjects can be reflexives:

(406)  Er  liess  [den  Patienten]  i  sich  i  betrachten.  
  he  let  the:ACC  patient  self:ACC  look_at  
  ‘He let the patient look at himself.’

5.1.3.2 Empirical counterevidence

In this section, I will discuss data that seem to contradict Reis’ reductionist approach. Several phenomena seem to call for an explanation in terms of grammatical relations. First, Sternefeld (1985: 407) points out that topic drop is not restricted to nominative arguments. Certain direct objects may undergo this process as well, but not all of them.:165

    know I  already  have  not_until yesterday  seen  
    ‘I already know it, I’ve just seen it yesterday.’

    b) *Hat die Sache nicht interessiert.  
    has  the  issue  not  interested  
    ‘The issue was of no interest to me/you/him/us/you/them.’

The accusative objects of verbs like that in (407b) are usually not considered true direct objects as they resist passivization. It seems therefore, that one cannot simply state the topic-drop rule in terms of case-marking; instead, one has to distinguish two types of arguments taking accusative case: direct and indirect objects. Consequently, it seems absolutely justified to appeal to grammatical relations.

Morever, Sternefeld (1985: 401) shows that Reis’ generalization that only (potentially) nominative arguments is incorrect as well. The following examples drawn from Grewendorf (1988: 57f.) and Sternefeld (1985: 398) illustrate various instances of non-nominative NP antecedents:

(408)  a)  Ich überliess den Jungen i  sich i.  
    I  leave  the:ACC  boy  self:DAT  
    ‘I left the boy to his own devices.’

    b)  Der Arzt zeigte [den Patienten]i  sich i  im Spiegel.  
    the:NOM  doctor  showed  the:ACC  patient  self:DAT  in_the  mirror  
    Lit.: ‘The doctor showed the patient to himself in the mirror.’

(409)  a)  Ich öffnete ihr die Augen über sich.  
    I  opened  her:DAT  the:ACC  eyes  about  self:ACC  
    ‘I opened her eyes to herself.’

    b)  Der Doktor klärt [den Patienten]i  über  sich  i  auf.  
    the:NOM  doctor  informs  the:ACC  patient  about  himself  PRT  
    ‘The doctor informs the patient about himself.’

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165 See Berman (2000: 140) for similar arguments.
In (408), an accusative object binds a dative reflexive. In (409), a dative or accusative object binds a reflexive embedded within a PP. Interestingly, a dative object cannot bind an accusative anaphor:


\[\text{the:NOM doctor showed the:DAT patient self:ACC in the mirror}\]

Lit.: 'The doctor showed the patient to himself in the mirror.'

In order to account for the distribution, one could make reference to a hierarchy of grammatical relations like SU > DO > IO > OBL and restrict reflexivization to constellations where the antecedent is higher on the hierarchy than the anaphor. Again, this might be an argument for an analysis in terms of grammatical relations.

The most problematic consequence of Reis' approach is that it does not distinguish between unergative and unaccusative subjects. Although both bear nominative case, they often differ with regard to certain syntactic processes. For instance, only unaccusative subjects do not bar reflexivization, only unaccusative subjects undergo VP-topicalization and allow extraction from NP.\textsuperscript{166}

\begin{align*}
(411) \text{a)} & \text{Frieda liess sich Peter tanzen.} \\
& \text{Frieda let self:DAT Peter:ACC dance} \\
& \text{‘Frieda let Peter dance for her.’} \\

\text{b)} & \text{Frieda liess sich die Suppe kommen.} \\
& \text{Frieda let self:DAT the:ACC soup come} \\
& \text{‘Frieda had some soup delivered for herself.’} \\

(412) \text{a)} & \text{Männer gearbeitet haben hier noch nie.} \\
& \text{men:NOM worked have here still never} \\
& \text{‘Men have never worked here.’} \\

\text{b)} & \text{Schiffe versunken sind hier noch nie.} \\
& \text{shipds:NOM sunk are here still never} \\
& \text{‘Ships have never sunk here.’} \\

(413) \text{a)} & \text{Was haben [ti für Leute] gearbeitet.} \\
& \text{what have for people worked} \\
& \text{‘what kind of people worked?’} \\

\text{b)} & \text{Was sind [für Leute] angekommen?} \\
& \text{what are for people arrived} \\
& \text{‘What kind of people have arrived?’}
\end{align*}

It is well-known that unaccusatives pattern with objects with regard to a large number of syntactic processes. Consequently, it seems natural to explain the difference between unergative and unaccusative ‘subjects’ in germs of grammatical relations: Unaccusative subjects would be objects at some level of description.

Lastly, Reis is wrong in assuming that clausal arguments never pattern with NP-arguments. For instance, the same subject-object asymmetry with regard to VP-topicalization can also

\textsuperscript{166} See Grewendorf (1989) for detailed discussion. Unfortunately, things are more complex than these data suggest. See 5.5.2 for some discussion.
be found with extraposed clausal arguments: Only object clauses allow topicalization (Berman 2000:147):

(414) a) Beweisen, dass er unschuldig ist, könnte, dass er hier war.  
proove that he innocent is could that he here was  
The fact that he was here could proove that he is innocent.’

b) *beweisen, dass er hier war, könnte, dass er unschuldig ist.  
proove that he here was could that he innocent is

So here again, it is insufficient to state rules only in terms of case marking. Reference to grammatical relations seems basically justified.

We have now identified a number of phenomena involving grammatical relations which resist a reductionist approach in terms of cases-marking. In the following section, I examine whether grammatical relations can be replaced in some other way, i.e. structural configurations.

5.1.3.3 An Explanation without Grammatical Functions

Sternefeld’s main purpose is to show that all cases that seem to suggest an analysis in terms of grammatical relations can also be explained structurally. Such an account would probably be preferable as it reduces the number of primitives necessary for the description of German by one.

As for topic drop, a natural suggestion is that it may only apply to arguments with structural case. This excludes genitive and dative objects as well as those accusative objects that resist passivization. Reference to grammatical relations is thus unnecessary.

As for the unergative/unaccusative dichotomy, the classical Chomskian way to approach this issue to assume that unaccusatives are base-generated in object position. This explains why they often pattern with objects. Again, structural relations are sufficient to state the distribution.

The binding facts are more difficult to explain in purely structural terms. The usual c-command condition on binding explains those cases where the antecedent is a (structural) subject as well as those where the anaphor is embedded within a PP. PPs are assumed to be the most deeply embedded constituents within the VP and therefore are c-commanded by the other arguments. But why can an accusative object bind a dative anaphor while the reverse is impossible? One might suggest that the accusative precedes the dative in the D-structure and that binding is not possible after permutation of the objects. However, for the majority of ditransitive verbs, the unmarked order is DAT > AKK. Furthermore, not all verbs allow their accusative object to bind a dative anaphor (Sternefeld 1985: 412):

(415) Sie schlug [den Fragenden], ihm /sich, als Leiter vor.  
She proposed the:AKK questioner him:DAT self:DAT as leader PRT.  
‘She proposed the questioner as leader to himself.’

This cases might be attributed to the fact that their unmarked order is DAT > AKK. Consequently, one might follow from this that only verbs with the unmarked order AKK >

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167 A further challenging problem are predicative NPs, see Reis (1982: 195ff.) and Sternefeld (1985: 406f.) for discussion.

168 This only holds for subcategorized PPs, see Sternefeld (1985: 416).
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DAT allow coreference with the accusative object\textsuperscript{169} and that binding after permutation is impossible.\textsuperscript{170} Furthermore, one has to stipulate that the dative never functions as a binder for accusative objects. This could be explained with reference to structural case: object coreference is only possible if the binder is assigned structural case. Dative and genitive objects receive inherent/lexical case and therefore cannot function as antecedents for an object anaphor. However, if one adopts such a solution, one then has to account for why a dative object may bind an anaphor within a PP (409a). For reasons of space, I cannot pursue this intricate matter any further.

It should have become clear, though, that binding-relationships present a challenging problem for attempts to reduce grammatical relations to case-marking or structural configurations.\textsuperscript{171}

5.1.3.4 Conclusion

In this section, I discussed a proposal that aims at eliminating grammatical functions in the description of German. While for most phenomena, such an approach is highly successful, it is not yet sufficient to account for the intricacies of anaphoric binding. At any rate, as we are now in a position to conclude that the category of subject cannot be reduced to nominative case. Therefore, locative subjects cannot be ruled out a priori. In a next step, I will examine whether locatives exhibit any subject properties in German.

5.1.4 Application to Locative Phrases

When trying to apply the tests introduced above to locative arguments of unaccusative verbs\textsuperscript{172} in German, one is confronted with a total failure: Imperatives and telegram-style omissions are ruled out on independent grounds because they are usually addressed towards animate entities but not locations. Assuming reflexivity to be an inadequate test, we are left with agreement and deletion processes. Locative arguments never agree with the verb – like in English:\textsuperscript{173}

(416) a) Ein Mann/drei Männer kam/kamen in die Stadt
   a:NOM man three men came:3s/3p in the town
   ‘A man/three men came to the town.’

   b) In die Stadt kam/kamen ein Mann/drei Männer.
   in the town came:3s/came:3p a:NOM man three men:NOM
   ‘To the town came a man/three men.’

\textsuperscript{169} This is not correct, though. See Müller (1999) for discussion.

\textsuperscript{170} This would entail that the movement process resulting in a permutated order is an instance of A’-movement. See 5.6 for extensive discussion of scrambling.

\textsuperscript{171} For further discussion, see Sternefeld (1985: 410ff.) and von Stechow/Sternefeld (1988: 455ff.). An important point often ignored is the fact that in case of coreference with the object, the examples are much improved if in addition to the reflexive the intensifier selbst ‘self’ is used, see Reis (1982: 206, fn. 44) and Sternefeld (1985: 401f.).

\textsuperscript{172} See 5.8.2 for a discussion of the types of verbs taking locative arguments in German.

\textsuperscript{173} Notice that there is no default agreement as with sentential subjects. Instead, the verb agrees with the nominative argument.
As for control constructions, it is always the theme argument that controls the empty subject of the subordinate clause, irrespective of word order:

(417) a) In die Stadt kam ein Mann, ohne ___ sauber zu sein.
    into the town came a:NOM man without clean to be
    ‘A man came to the town without being clean.’

    b) Ein Mann kam in die Stadt, ohne ___ sauber zu sein.
    a:NOM man came into the town without clean to be
    ‘A man came to the town without being clean.’

This cannot be attributed to the fact that control constructions do not allow the controlling participant to be embedded within a PP as such structures exist:

(418) Von allen wurde hart gearbeitet, um ___ den Termin einzuhalten.
    by all was hard worked to the date meet
    Lit.: ‘By all was worked very hard to meet the deadline.’

More importantly, if the deleted element is a locative phrase, the resulting structure is ungrammatical:

(419) a)*[In die Stadt] ging ein Mann, um ___ er zu schlafen.
    in the town went a:NOM man to he: NOM to sleep.
    intended: ‘To the town went a men in order to sleep *(there).’

    b)*Ein Mann ging [in die Stadt], um ___ er zu schlafen.
    a:NOM man went in the town to he: NOM to sleep
    intended: ‘A man went to the town in order to sleep (there).’

The only way to express this notion grammatically is to drop the theme-argument and resume the locative with an adverbial in the subordinate clause:

(420) In die Stadt ging ein Mann, um ___ dort zu schlafen.
    in the town went a:NOM man to there to sleep.
    intended: ‘To the town went a men in order to sleep *(there).’

Conjunction reduction, however, seems to be applicable to sentences with preposed locative arguments. In my opinion, the following sentence is quite acceptable:

(421) *[In den Brunnen] fiel ein Mann und ___ stürzten viele Frauen.
    into the well fell a:NOM man and plunged many:NOM women
    Lit.: ‘Into the well fell a man and plunged many women.’

However, locative adjuncts show the same behavior:

(422) *[Unter freiem Himmel] tanzen Männer und ___ singen viele Frauen.
    under clear sky dance:3p men:NOM and sing:3p many women
    Lit.: ‘In the open air are dancing men and singing women.’

Furthermore, the same holds for all sentences involving topicalized constituents:

(423) a) *[Die Schocolade] kaufte Peter und ___ ass Maria.
    the:ACC chocolate bought Peter:NOM and ate Maria
    ‘Peter bought the chocolate and Mary ate it.’
b) [Dem Vater] i zeigte er das Bild und ___ i gab sie das Buch.
   'He showed a picture to his father and she gave him a book.'

c) Gestern i kaufte er ein Auto und ___ i stahl sie ein Buch.
   'Yesterday, he bought a car and she stole a book.'

Thus, the correct analysis for conjunction reduction in German seems to be that it is not sensitive to grammatical relations but rather to pure structure: It is always the topicalized constituent that is dropped in the second conjunct, irrespective of its grammatical function. In addition, the two conjuncts must have the same structure, i.e. they must have the same word order and the preverbal position must be empty in the second clause:

(424) *[Dem Vater] i zeigte er das Bild und sie gab ___ i das Buch.
   'He showed a picture to his father and she gave him a book.'

Interestingly, a similar rule holds for embedded clauses: Fronted (i.e. scrambled, see 5.6) constituents can be dropped:

(425) a) dass Peter i jeder Geld schenkte aber ___ i keiner Witze erzählte.
   'that everyone gave Peter money but nobody told *(him) jokes.'

Consequently, conjunction reduction is no subject test in German but rather a topic test. The ungrammaticality of examples like the following is simply due to the fact that an element in a non-topic position has been dropped:

(426) *Peter kaufte ein Buch i und Maria las ___ i.
   'Peter bought a book and Mary read *(it).'

To conclude, locative arguments fail all tests for subjecthood. We have seen, however, that some of these tests are not easily applicable due to animacy restrictions (imperative, telegram style). Furthermore, one could argue that agreement is ruled out on independent grounds as PPs do not have nominal features a verb could agree with. Accepting this line of reasoning, we are left with control constructions. Here again, it seems that independent principles of grammar exclude locatives from this construction: In (419), the theme argument is resumed by a nominative personal pronoun in the subordinate clause. According to standard assumptions, (non-predicative) nominative case-marked elements are disallowed in subordinate clauses, because they are not licensed by finite INFL. Consequently, there are no definitive arguments against the subjecthood of locatives while admittedly, there are hardly any arguments in favor of their subjecthood either. So if locative arguments can indeed be subjects, we are dealing with a very exceptional type of subject.

174 As the following chapter will show, the preverbal position in German is not the subject position.
5.1.5 Conclusion

In this section, I showed that grammatical Relations in German cannot be reduced to case-marking: there is a number of phenomena that require reference to some other level of description. An important consequence of this is that locative subjects cannot be ruled out a priori. One could, following Sternefeld (1985), take a configurational approach to German and try to reduce GFs to structural relations. This is the solution generally adopted in the P&P framework. It entails that locatives would have to be able to occupy the subject position in order to become subjects. On the other hand, if German can be shown to be non-configurational, direct reference to argument structure and grammatical relations will be necessary. This last approach would rule out locative subjects as there are no subject rules that also apply to locative phrases. Consequently, locative subjects are only possible on the configurational analysis. However, if locatives should indeed be able to occupy the subject position, we would still have to explain why they do not exhibit any subject properties. But first, we have to take a closer look at the German sentence structure.
5.2 German Clause Structure

The basic clause structure of Standard German can be represented as follows:175

\[(427) \text{prefield} \quad \text{[left bracket]} \quad \text{middle field} \quad \text{[right bracket]} \quad \text{postfield} \]

\[
\begin{align*}
\text{XP} & \quad \text{V/AUX/C} & \quad \text{XP, XP, XP} & \quad \text{V, I} & \quad \text{XP} \\
\end{align*}
\]

From a descriptive point of view, German exhibits two different kinds of word order, depending on whether we are dealing with an independent or an embedded (subordinate) clause: independent clauses are SVO while subordinate clauses show SOV order:

\[(428) \text{a) Peter hat Maria geküsst.} \]

\[
\begin{align*}
\text{Peter}:\text{NOM} & \quad \text{has} & \quad \text{Mary}:\text{ACC} & \quad \text{kissed} \\
\text{Peter kissed Mary.} \\
\end{align*}
\]

\[
\begin{align*}
\text{b) Peter küsste Maria} \\
\text{Peter}:\text{NOM} & \quad \text{kissed} & \quad \text{Mary}:\text{ACC} \\
\text{Peter kissed Mary.} \\
\end{align*}
\]

\[(429) \text{a) Ich weiss, dass Peter Maria geküsst hat.} \]

\[
\begin{align*}
\text{I} & \quad \text{know} & \quad \text{that} & \quad \text{Peter}:\text{NOM} & \quad \text{Mary}:\text{ACC} & \quad \text{kissed} & \quad \text{has} \\
\text{I know that Peter kissed Mary.} \\
\end{align*}
\]

\[
\begin{align*}
\text{b)*Ich weiss, dass Peter hat Maria geküsst.} \\
\text{I} & \quad \text{know} & \quad \text{that} & \quad \text{Peter}:\text{NOM} & \quad \text{has} & \quad \text{Mary}:\text{ACC} & \quad \text{kissed} \\
\text{I know that Peter kissed Mary.} \\
\end{align*}
\]

\[
\begin{align*}
\text{c) Ich weiss, dass Peter Maria küsste.} \\
\text{I} & \quad \text{know} & \quad \text{that} & \quad \text{Peter}:\text{NOM} & \quad \text{Mary}:\text{ACC} & \quad \text{kissed} \\
\text{I know that Peter kissed Mary.} \\
\end{align*}
\]

\[
\begin{align*}
\text{d)*Ich weiss, dass Peter küsste Maria.} \\
\text{I} & \quad \text{know} & \quad \text{that} & \quad \text{Peter}:\text{NOM} & \quad \text{kissed} & \quad \text{Mary}:\text{ACC} \\
\text{I know that Peter kissed Mary.} \\
\end{align*}
\]

In matrix clauses, finite verbs and auxiliaries appear in the left bracket, i.e. immediately after the first XP while nonfinite verb forms constitute the right bracket. In subordinate clauses, both finite (lexical verbs and auxiliaries) and nonfinite verb forms appear in the right bracket, nonfinite elements preceding the finite ones. As Complementizers and finite verbs are in complementary distribution, they must occupy the same structural position. While verbs and complementizers have fixed positions in the sentence structure, XPs can essentially be ordered freely.176 Consider first the various ordering possibilities in the middle field:

\[(430) \text{a) dass [gestern der Felix dem Opa den Ball] gezeigt hat.} \]

\[
\begin{align*}
\text{that yesterday the}:\text{NOM} & \quad \text{Felix the}:\text{DAT} & \quad \text{grandpa the}:\text{ACC} & \quad \text{ball shown has} \\
\text{That Felix showed grandpa the ball yesterday.} \\
\end{align*}
\]

---

175 See 5.6.1 and 5.7.4 for more detailed accounts of the middle field.

176 This statement is to be understood from a purely syntactic point of view. Sentences with different XP-sequences always differ in markedness, i.e. the degree to which they are adequate utterances in a certain context; see 5.7 for extensive discussion.
b) dass [der Felix dem Opa gestern den Ball] gezeigt hat. 
that the:NOM Felix the:DAT grandpa yesterday the:ACC ball shown has

c) dass [dem Opa gestern der Felix den Ball] gezeigt hat. 
that the:DAT grandpa yesterday the:NOM Felix the:ACC ball shown has

d) dass [den Ball dem Opa gestern der Felix] gezeigt hat. 
that the:ACC ball:ACC the:DAT grandpa yesterday the:NOM Felix shown has

e) dass [den Ball der Felix dem Opa gestern] gezeigt hat. 
that the:ACC ball the:NOM Felix the:DAT grandpa yesterday shown has

The prefield is not a subject position but rather a topic/focus position that can be occupied by any kind of phrase, i.e. arguments, adjuncts, and even VPs:

(431) a) [Der Hans] hat die Maria leidenschaftlich geküsst. 
the:NOM John has the:ACC Mary passionately kissed
‘John kissed Mary passionately.’

b) [Die Maria] hat der Hans leidenschaftlich geküsst. 
the:ACC mary has the:NOM John passionately kissed

c) [Leidenschaftlich] hat der Hans die Maria geküsst. 
passionately has the:NOM John the:ACC Mary kissed

d) [geküsst] hat der Hans die Maria leidenschaftlich. 
kissed has the:NOM John the:ACC Mary passionately

e) [die Maria geküsst] hat der Hans leidenschaftlich. 
the:ACC Mary kissed has the:NOM John passionately

The postfield is occupied by (obligatorily) extraposed clauses (argument clauses as well as adjunct clauses):

(432) a) Maria hat die Bücher, __i bestellt, [die, __i sie interessieren].
Mary has the:ACC books ordered which her:ACC interest:3p
‘Mary ordered the books that interested her.’

b) Peter hat __i geglaubt, [dass Schweine fliegen können].
Peter has thought that pigs fly can
‘Peter thought that pigs can fly.’

All these data suggest that grammatical relations in German are not identified through structural positions as in English but by some other means, e.g. case-marking or argument structure. On this view, German would be non-configurational.

Consequently, this would mean that there are definitely no locative subjects in German. However, the issue is not all that clear as the following sections will show.
The issue of (Non-)Configurationality

There are several aspects that have to be taken into account when talking about non-configurationality: An important distinction has to be made between empirical and theory-internal arguments. It is of questionable heuristic value to assume that German is configurational just because the theoretical framework most linguists are working in (P&P) relies on structure-sensitive principles. Instead, only viable empirical arguments can decide this question – for every language separately. Another important aspect is cross-linguistic comparison: the term ‘non-configurational’ has been applied to a large number of rather diverse languages and therefore is not always used in the same sense. I will try to clarify the different notions, present data from other languages to illustrate some types of non-configurationality, and will finally apply these newly gained criteria to German.

5.3.1 Configurationality

The configurational – non-configurational dichotomy is meant to express the fact that while some languages like English allow the identification of grammatical functions by structural means, others like Warlpiri rely on case marking or cross-referencing on the verb instead. In English the verb and the object form a phrasal unit to the exclusion of the subject. This can be exemplified by VP-pronominalization and VP-fronting:

(433) a) Susan [VP hit the table] and Bill did [VP (so)] too.
   b) Susan said that she would hit the table, and [VP hit the table] I guess she did.

The correspondence between grammatical function and phrase structure position opens up the possibility of eliminating terms like “subject” or “object” from grammatical theory. Additionally, the notion of constituency has been used to express the prominence of the subject by stating principles of phenomena involving coreference, anaphora and quantification in structural terms (i.e. c-command). Consequently, the following subject-object asymmetries are the result of the fact that the subject asymmetrically c-commands the object:

(434) a) John washed himself.
   b) Every man washed his car.
   c) John’s friends like him.

(435) a) *Heself washed John
   b) *He washed John’s car.
   c) *His friends washed every man.

(435a) is out due to violations of Principles A and C of the binding theory (anaphors must have a local c-commanding antecedent; referring expressions may not be c-commanded by a coreferent pronoun/anaphor); (435b) violates Principle C and (435c) is out because of weak crossover: a variable (i.e. the wh-trace) is coindexed with a pronoun to its left.\(^{177}\)

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177 Quantifiers, wh-words and focused phrases are all assumed to be wh-moved (overtly or covertly) and therefore trigger weak crossover effects if they are direct objects. Weak crossover cannot be ruled out as a violation of the binding theory. The descriptive statement in the text is to be understood as provisional. An often cited explanation is the so-called “Bijection Principle” according to which a quantifier may only bind one variable (either a pronoun with a bound variable reading or the wh-trace). See Haider (1993: 166) for a critical evaluation of this solution.
5.3.2 Surface Non-Configurationality

Non-configurational languages differ from English in many respects: Since a language like Warlpiri allows surface structures where any order of subject, verb and object is possible (as long as the auxiliary is in second position), it seems inevitable to conclude that there is no VP (Baker 2001: 409):

(436) a) Kurdu-ngku ka-ju nya-nyi ngaju.
    child-ERG AUX:PRS-1sO see-NPT I:ABS
    ‘The child sees me.’

b) Kurdu-ngku ka-ju ngaju nya-nyi.

c) Nya-nyi ka-ju kurdu-ngku ngaju.

d) Ngaju ka-ju nya-nyi kurdu-ngku. etc.

In addition, there are no constituency tests that would provide evidence for a unit that includes the object and the verb but not the subject. Furthermore, non-configurationality in the narrow sense as used in Hale (1983) involves features like discontinuous constituents and the free omission of arguments (pro-drop):178

(437) Panti-rni ka.
    spear-NPT AUX:PRS
    ‘He is spearing it.’

(438) wita-jarra-rlu ka-pala wajili-pi-nyi yalumpu kurdu-jarra-rlu maliki.
    small-DU-ERG AUX:PRS-3DUS chase-NPT that:ABS child-DU-ERG dog:ABS
    ‘The two small children are chasing that dog.’

Given these facts, it seems natural to suggest that a language like Warlpiri has a flat constituent structure.

In a broad sense, however, the term has also been used for languages with a reasonable number of similar properties or even any language in which it seems difficult to use phrase structure to distinguish grammatical functions. But does this imply that these languages have a flat constituent structure as well? I will come back to this later. For the moment, suffice it to state that at the surface level – at least as far as word order is concerned –, quite a lot of languages show some degree of non-configurationality. I will refer to this rather vague notion of non-configurationality as surface non-configurationality. It is not clear at this point whether these properties can be derived from one general property (i.e. the configurationality parameter) or whether they just accidentally co-occur in Warlpiri. Additionally, it remains to be proven that these properties are linked to the deeper non-configurational properties (see below).

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178 Further properties include: i) no NP-movement, ii) no expletive elements and iii) a rich case system.
5.3.3 Similarities between English and Warlpiri type Languages

Even in languages like Warlpiri, there are English-like subject-object asymmetries: First, the subject may bind an object reflexive but not vice versa (Baker 2001: 411):

(439) a) Kurdu-jarra-rlu ka-pala-nyanu paka-rni.
    child-DU-ERG AUX:PRS-3dS-REFLO strike-NPT
    ‘The two children are striking themselves/each other.’

b) *Ngarrka ka-nyanu-(Ø) nya-nyi.
    man-ABS AUX:PRS-REFL(-3sO) see-NPT
    ‘*Heself sees the man.’

Secondly, only subjects may control the non-overt subject of a non-finite adjunct clause (Baker 2001: 412):

(440)  Ngarrka-ngku ka purlapa yunpa-rni [PRO karli jarnti-ninja-karra-rlu].
    man-ERG AUX corrob. sing-NPT boomer. trim-INF-COMP-ERG
    ‘The man is singing a corroboree song while trimming the boomerang.’

Consequently, in many non-configurational languages “we find a partial dissociation between direct phrase structure evidence and the kinds of syntactic principle that are held to be defined over phrase structure” (Baker 2001: 412).

There are basically two ways to solve this paradox: The P&P approach has been to assume that at the syntactic level (S, LF) where principles regulating phenomena like anaphora apply, the subject asymmetrically c-commands the object in this languages as well. It is only for some strange reason that this configurational structure is disrupted by movements in the PF component.

Within monostratal theories like LFG or HPSG anaphora and control are not sensitive to phrase structure but rather to grammatical functions or thematic roles. Consequently, there is no need to posit some abstract configurational structure.

Irrespective of which approach will turn out to be superior, it should have become clear that phenomena whose configurational explanation presupposes a certain theoretical framework do not necessarily make a language configurational. Fortunately, there are properties at a deeper level that might help to establish a more objective notion of non-configurationality.

5.3.4 Deep Non-Configurationality

As Baker (2001: 414) rightly points out, the view taken for granted in some of the literature “that con-configurational languages are approximately the same as configurational languages at an abstract, functional level of representation, and differ only at the most concrete level of representation (c-structure/PF)” can be shown to be an untrue idealization: There are “deep properties” involving anaphora and weak crossover that set some non-configurational languages apart from languages like English. For instance, Mohawk shows no asymmetry w.r.t. Principle C (Baker 2001: 414):

(441) a) Wa’-t-há-ya’k-e’ [NP ne thik√ Sak raó-a’share’].
    fact-DUP-MSC.s.S-break-PUNC PRT that Sak MSC.s.P-knife
    ‘He, broke that knife of Sak’si.’
b) Ro-ya'takéhn-√[NP thík√ne Sak raó-a'share'].
MSC.s.O-help-STAT that PRT Sak MSC.SG.P-knife
'That knife of Sak's is helping him.'

(441a) should be ruled out: a referring expression may not be c-commanded by a coreferent constituent. A similar subject-object non-asymmetry can be found with weak crossover (Baker 1991: 55).

(442) a) *Uhka wa'-te-shako-noru'kwanyu-' raö-skare'? who FACT-DUP-MSC.SG.S>F.SGO-kiss-PUNC M.SG.P-friend
'Who kissed his girlfriend?'

b) *Uhka wa'-te-shako-noru'kwanyu-' ako-skare'?
who FACT-DUP-MSC.SG.S>F.SG.O-kiss-PUNC F.SG.P-friend
'Whomi did her boyfriend kiss?'

(442a) would be expected to be grammatical, yet it is not. For the P&P framework, the only conclusion that can be drawn from these non-asymmetries is that neither the subject c-commands the object nor does the object c-command the subject.179

As for Warlpiri, the English subject-object asymmetries are not found in this language either, however, the grammaticality patterns are the opposite of those in Mohawk: a wh-object coreferent with a pronoun in the subject constituent is grammatical (Baker 2001: 415):180

(443) Ngana ka nyanungu-nyangu maliki-rli wajili-pi-nyi.
who AUX:PRS he-POS dog-ERG chase-NPT
'Whomi is his dog chasing?'

Furthermore, coreference between a referring expression and an attributive possessive pronoun is ruled out irrespective of the grammatical function of the binder/bindee (Baker 2001: 415):

(444) a) *Jakamarra-kurlangui maliki ka nyanungu-rlu wajili-pi-nyi.
Jakamarra-POS dog-ABS AUX:PRS he-ERG chase-NPT
'He, chases Jakamarra's dog.'

b) *Jakamarra-kurlangui maliki-rli ka nyanungu wajili-pi-nyi.
Jakamarra-POS dog-ERG AUX:PRS he:ABS chase-NPT
'Jakamarra (own) dog chases him.'

To account for the Warlpiri facts, one has to assume that subject and object c-command each other.181

179 Baker accounts for these facts by assuming that all overt NPs are dislocated adjuncts in Mohawk (comparable to clitic left dislocation in the Romance languages) the argument slots being filled by pros. He thus adheres to a configurational design. This is not all that unreasonable as there is some evidence for principle C as well as some clear subject-object asymmetries (e.g. incorporation) in Mohawk, see Baker (1991).

180 According to Baker, the English type is grammatical as well. Unfortunately, he does not give an example.

181 See Baker (2001: 423ff.) for a detailed analysis of the Warlpiri data. The core of his analysis is the assumption that overt NPs are (adjectival) secondary predicates.
A third pattern is represented by languages like Japanese, Malayalam and Hindi. In these languages, anaphoric conditions like Condition C and weak crossover seem to be crucially interrelated with word order: If the subject precedes the object, the subject acts as though it c-commands the object (Baker 2001: 416):

(445) a) *Soitu-gai  Taroo-no hon-o mituke-ta.
    he-NOM  Taro-GEN book-ACC found
    ‘He found Taro’s book.’

b) Soitu-no i hahaoya-ga  Taroo-o i sikat-ta.
    he-GEN mother-NOM Taro-ACC scold-PST
    ‘His mother scolded Taro.’

(445a) is ruled out by Condition C. However, if the object precedes the verb, it acts as though it c-commands the subject and makes coreference possible:

(446) Taroo-no hon-o situ-ga mituke-ta.
    Taro-GEN book-ACC he-NOM found-PST
    ‘Taro’s book hei found.’

In Hindi, weak crossover effects disappear if the object quantifier is scrambled over the subject (Webelhuth 1995: 80):

(447) a) *uskii bahin kis-ko pyaar kartii thii
    his sister: NOM who-ACC love do:IPFV:f be:PST:f
    ‘Whom did his sister love?’

b) kis-ko uskii bahin tii pyaar kartii thii
    who-ACC his sister:NOM love do:IPFV:f be:PST:f
    ‘Whom did his sister love?’

The standard analysis of these phenomena involves movement of the object out of the c-command domain of the subject to a position where it asymmetrically c-commands it. As this movement gives rise to new binding possibilities it has to be regarded as an instance of A-movement and as a consequence, the landing site must be classified as an A-position.

These deep non-configurational properties show that regardless of which abstract representations binding principles apply at, there are phenomena whose explanation requires modification of these abstract levels, be they D-structures or LF (P&P) or f-structures (LFG).

5.3.5 Conclusion

What conclusions can be drawn from these facts? It should have become clear that non-configurationality is not a uniform phenomenon, ranging from rather superficial to deep non-asymmetries between subject and object. It would therefore be desirable to establish a more detailed typology of non-configurational properties and try to relate some of the deep properties with further properties of the respective language. For instance, the neutralization of certain principles in Mohawk and Warlpiri could be related to the adjunct status of overt NPs, possibly to head-marking and a ban against referentially dependent NPs.

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(quantifiers, reflexives). In other areas, it might be that the Japanese type patterns with the Mohawk type (unboundedness of free word order/scrambling). For further discussion, see Baker (2001). In the next section, I will try to determine the position of German in the typology of non-configurationality sketched above.
5.4 \textbf{Surface Non-Configurationality in German}

5.4.1 Introduction

We have seen in 5.2 above that word order in German is very free. Consequently, at least at a superficial level, German displays some degree of non-configurationality. Of the more superficial properties like those listed in Hale (1983), German qualifies for quite a lot of them: it has a relatively rich case system (nominative, dative, accusative, genitive), allows free word order and even discontinuous constituents:

\begin{enumerate}
\item[(448)] a) Peter hat \textit{viele Bücher} gelesen. \hfill \textit{Peter has many books:ACC read} \\
\hspace*{1cm} \textit{‘Peter read many books.’} \\
\item[(448)] b) \textit{Bücher} hat Peter \textit{viele} gelesen. \hfill \textit{books:ACC has Peter read many} \\
\end{enumerate}

Furthermore, it could be argued (Grewendorf 1988), von Stechow/Sternefeld (1988) and den Besten (1985) that German does not have NP-movement either: subjects (arguments bearing nominative) of unaccusative and passivized verbs may stay adjacent to the verb which is their unmarked position:183

\begin{enumerate}
\item[(449)] a) dass dem Mann \textit{das Laufen} schwergefallen ist. \hfill \textit{that the:DAT man the: NOM walking caused_trouble is} \\
\hspace*{1cm} \textit{‘That the man had troubles with walking.’} \\
\item[(449)] b) dass dem Mann \textit{das Buch} gegeben wurde. \hfill \textit{that the:DAT man the: NOM book given was} \\
\hspace*{1cm} \textit{‘That the book was given to the man.’} \\
\end{enumerate}

In addition, as already mentioned in 5.1.1.7, there is no raising-to-subject in German as raising verbs and the embedded verb act as a complex allowing any kind of argument to be “raised”. This movement is an instance of A’-movement:

\begin{enumerate}
\item[(450)] a) Peter scheint seinen Sohn zu schätzen. \hfill \textit{peter:NOM seems his:ACC son to appreciate} \\
\hspace*{1cm} \textit{‘Peter seems to appreciate his son.’} \\
\item[(450)] b) Seinen Sohn scheint Peter zu schätzen. \hfill \textit{his:ACC son seems Peter to appreciate} \\
\hspace*{1cm} \textit{‘It is his son that Peter seems to appreciate.’} \\
\end{enumerate}

There are two properties Hale associates with non-configurationality that German does not have: free pro-drop184 and head-marking. However, as many dependent marking languages (Japanese, Jiwarli) show non-configurational properties as well, head marking does not seem to be too strong a criterion.

\begin{enumerate}
\item[183] See 5.4.7 for further discussion of NP-movement.
\item[184] Recall that German allows topic-drop (5.1.1.5). Furthermore, passivized intransitive verbs are sometimes said to have an empty expletive subject, see 5.4.6.
\end{enumerate}
Lastly, the existence of expletive elements in German is controversial, an issue I will discuss in 5.4.6 below.

However, these surface phenomena seem to be rather gradual, as Webelhuth (1985) justly notes: The notions of “rich case system” or “free” word order are never defined. For instance, German has four cases while Finnish has 15. How many cases must a language have in order to count as a language with a “rich” case system? What does “free” mean? Even English does allow some word order variation (e.g. topicalization, dative-shift and heavy NP-shift) but less than German which in turn is more restricted than Malayalam. The same holds for discontinuous constituents: German allows only indefinite NPs to be split up while languages like Warlpiri lack this restriction.\textsuperscript{185}

In sum, we arrive at a mixed picture: On the surface, German is non-configurational to a certain degree. If we still want to uphold the claim that non-configurationality is a categorical phenomenon, we either have to restrict ourselves to the deep properties or concede that not all the surface effects of non-configurationality mentioned by Hale (1983) can be reduced to the different setting of one parameter. A more sophisticated theory is necessary to explain the different degrees of surface non-configurationality.\textsuperscript{186} The next section discusses the degree of surface non-configurationality in German with respect to word order and the question of whether there is a distinct subject position in German.

5.4.2 The Middle Field

As shown in (430) above, the constituents of the middle field can be freely ordered from a purely syntactic point of view. Disregarding the various factors that govern the actual distribution (i.e. animacy, grammatical function, information structure etc.) for the moment (but see 5.7 below), I will concentrate on the question whether there are reasons to assume a structural position that is restricted to subjects. As will be seen shortly, it is quite intricate to find theory-neutral evidence for a distinct subject position. Many of the arguments that have dominated the discussion in the last two decades are purely theory-internal, i.e. dependent on the architecture of a particular framework, the P&P framework by Chomsky (1981, 1995) in this case, whose contributions to the issue overwhelmingly predominate so far.

In what follows, I will try to clearly distinguish between theory-neutral and theory-dependent arguments bearing in mind that hardly any argument can be said to be theory-free. What I will refer to as ‘empirical’ or ‘theory-neutral’ arguments can be conceived as arguments that do not entail different analyses in the respective theories.

If this section fails to provide evidence for a structural subject position, there is no further reason to assume that there might be locative subjects and consequently locative inversion in German. If, however, the assumption of a subject position is justified, we will have to verify whether locative arguments may appear in this position and then go on to explain why locatives do not possess any subject properties.

\textsuperscript{185} Furthermore, the head of the split-NPs must be in the prefield.

\textsuperscript{186} Different conditions on movement (e.g. adjunction sites) would be a way to derive varying flexibility in word order, see Müller/Sternefeld (1994).
5.4.3 The Category of the Complement of C°

It is generally assumed that the German clause is a CP with either the complementizer or the finite verb in C° and prefield elements in SpecCP. But to which category does the complement of C° belong? Current assumptions about the nature of phrase structure entail that it must be a maximal category. But what might this maximal projection be? From a theory-neutral point of view, it could be either an endocentric category like IP which in turn embeds a VP and thus provides a distinct subject position (SpecIP) or an exocentric category like S which could be expanded in basically two ways:

\[(451)\]
\[
\begin{align*}
\text{a)} & \quad S \rightarrow \text{NP} \quad \text{VP} \\
\text{b)} & \quad S \rightarrow C^* 
\end{align*}
\]

(451a) results in a configurational structure with a distinct subject position while (451b) entails a totally flat structure. Note that the rules above do not obey current versions of the X-bar theory.

Within the P&P framework, there is a tendency to rule out such structures altogether by positing endocentric structures for all languages at least underlyingly despite the differences at surface structure; see 5.3.3 above for discussion. This axiomatic methodology thus removes the necessity to motivate the different kinds of categories and projection language-internally. Consequently, in most current analyses of German syntax carried out within this framework, the complement of C° is an IP (or a more articulated structure involving AgrP and TP); see however the counter-arguments by Haider (1993) in the following sections.

Things are different in a theory like LFG. While endocentricity is a typological option for the c-structure of a language it is not the only one. Both (451a/b) are available as well. Relying on the principle of “Economy of expression” (Bresnan 2000), no more structure is posited than necessary. I.e. if there is no evidence for I in a language no IP will be projected. The next section adresses the issue of whether there are theory-neutral reasons to posit an IP in German. Thereafter, I will investigate whether there are subject-object asymmetries that might justify a subject position like those generated by (451a/b).

5.4.4 Is there evidence for I?

The question of whether the assumption of an IP in German is justified will be based on structural facts alone. General subject-object asymmetries which might also be captured by a rule like (451) will be discussed in the subsequent section.

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187 Other proposals include SpecIP or a matching projection CP/IP, see Haider (1993: 132).

188 Neutral in the sense that various frameworks may assume this category, e.g. P&P but also LFG.

189 Compare the notion of “projecting economy” in Haider (1997: 85).
There is basically only one way to structurally motivate an additional functional projection: If it is possible to show that in addition to C° and V°, the verb may also appear in a third position, the assumption of a further head position seems reasonable. Languages like Yiddish and Icelandic indeed present such evidence: Yiddish, for example, is an SVO language that features V2 in both matrix and subordinate clauses. Nonfinite verb forms remain in the base position (452b) whereas finite verbs are raised to the V2 position (452a/c). Separable verb prefixes remain in the base position if the verb raises (Diesing 1990: 41f.):

\[(452)\]
\[\begin{align*}
\text{(a) Ikh shik, avek-ti dos bukh.} & \quad \text{I send away the book} \\
& \quad \text{‘I am sending away the book.’}
\end{align*}\]
\[\begin{align*}
\text{(b) Ikh vel avek-shikn dos bukh.} & \quad \text{I will away-send the book} \\
& \quad \text{‘I will send away the book.’}
\end{align*}\]
\[\begin{align*}
\text{(c) Avrom gloybt as Max shikt, avek-ti dos bukh.} & \quad \text{Avrom believes that Max sends away the book} \\
& \quad \text{‘Avrom believes that Max sends away the book.’}
\end{align*}\]

While matrix clauses can be analyzed as IPs, embedded clauses are best analyzed as CPs with two different positions for the verb. As shown in (429) above, such structures are unacceptable in German. One could still posit an IP assuming it to be head-final, i.e. to follow the sentence final VP: \(\text{[IP [VP V]]}\). However, the two head positions are empirically undistinguishable since nothing may intervene between the two heads:

\[(453)\]
\[\begin{align*}
\text{(a) weil Peter gestern ein Buch gelesen hat.} & \quad \text{because Peter yesterday a:ACC book:ACC read has} \\
& \quad \text{‘because Peter read a book yesterday.’}
\end{align*}\]
\[\begin{align*}
\text{(b) *weil Peter ein Buch gelesen gestern hat.} & \quad \text{because Peter a:ACC book:ACC read yesterday has}
\end{align*}\]

Within the P&P framework, it is standardly assumed (cf. von Stechow/Sternefeld 1988) that there is an INFL head following the VP. To derive V2-clauses, the finite verb is said to move from V° via I° to C° forming a complex head:

\[(454)\]
\[\text{[CP C+I_j+V_{t_j} [IP [VP t_j]]]}\]

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190 This analysis is not without its problems. Diesing assumes that the SpecIP position has a dual function (like SpecCP in German) as both subjects and non-subjects can be raised to this position, i.e. as a landing site for both A- and A’-movement. This in turn necessitates that the subject is base-generated within VP. One could alternatively speculate that the subject position is invariably within VP and that the preverbal position is only a topic position. But even on this analysis, a distinct functional layer must be posited.

191 This analysis, usually termed the “uniformity approach” thus tries to derive all possible sentence types from one underlying structure. This view has not gone unchallenged, see von Stechow/Sternefeld (1988), Grewendorf (1988) and Haider (1993) for some discussion.
This assumption is based on theory-internal grounds only: the movement is obligatory in order for the verb to check/be associated with agreement features/affixes in I°. For the same reason, the position of the finite verb is supposed to be I° in embedded clauses as well. However, there is a number of empirical arguments against this analysis, most of them put forth by Haider (1993: 60ff., 1997: 85ff.). German allows topicalization of VPs with extraposition:

(455) a) [(einem Kind tₘ assisten) [das nach Hilfe ruft]]ₙ wirktₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚportion0

As this example shows, extraposed constituents are adjoined to VP. Interestingly, if the VP is not topicalized, the extraposed constituent may not appear between the infinitive and the auxiliary:

(456) a) *dass wohl jeder [(einem Kind tₘ assisten) [das nach Hilfe ruft]], wirktₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚₚportion0

b) dass wohl jeder einem Kind tₘ assisten wirktₚₚₚₚₚₚₚₚₚₚₚₚportion0

c) dass wohl jeder einem Kind das nach Hilfe ruft assisten wirktₚₚₚₚportion0

If the finite verb had moved to I° the structure in (456a) should be expected to be grammatical. However, it is not. Instead, the extraposed constituent must follow the verbal elements. (456b). One might object at this point and argue that the ungrammaticality of (456a) is due to the fact that both verbs are in I° so that the extraposed clause may not intervene between the nonfinite verb and the auxiliary. Therefore, two variants would be possible: VP-adjunction (456c) or IP-adjunction in (456b). The latter, however, is incompatible with the topicalization facts. Furthermore, the assumption that both verbal elements move to I° can be falsified: (456c) should not be analyzed as involving extraposition of the relative clause, it is simply adjoined to the head noun (Kind ‘child’). This can be shown quite easily if the head noun of the relative clause is not VP-final as in the following example:

(457) a) dass er nur dem Mann tₘ etwas gezeigt hat, [der darum bat],

b) *dass er nur dem Mann tₘ etwas gezeigt hat, [der darum bat],

Here, the head noun is followed by the direct object. Consequently, adjunction to the VP should be visible (as opposed to (456c)). Under the assumption, that both verbal elements move to I°, (457b) should be grammatical. The fact that it is not, proves that both verbs do not move. Extraposition can be analyzed as uniformly involving VP-adjunction (457a).

These examples clearly show that there is no possibility to adjoin before the verbal complex. An analysis that assumes movement of the verbal complex to I° makes the wrong prediction.
Another argument against I° comes from denominal verbs derived from complex nouns: Verbs like *ur-auf-führen* ‘premiere’ have a morphological structure with contradicting wellformedness conditions: While the prefix *auf* ‘on’ is separable and should be left in the base position when the verb moves to C°, the prefix *ur* ‘for the first time’ is inseparable. Consequently, the word should be separated while it simultaneously has to remain unseparable. As the following examples show, these competing conditions are only satisfied if the verb remains in its base position:

(458) a) wenn die das Stück nicht auf-führen.
    if they the play not prf-perform
    ‘If they do not perform the play...’

    b) Führen die das Stück nicht auf t? 
    perform they the play not prf
    ‘Don’t they perform the play?’

    c) wenn die das Stück nicht ur-auf-führen. 
    if they the play not premiere
    ‘If the do not premiere the play.’

    d) wenn die das Stück nicht ur-auf-führen wollen. 
    if they the play not premiere want
    ‘If they don’t want to premiere the play.’

    e) *Führen die das Stück nicht ur-auf? 
    perform they the play not prf-prf
    ‘Don’t they premiere the play?’

    f) *Ur-auf-führen die das Stück nicht? 
    premiere they the play not

As (458e/f) show, the contradicting requirements of the prefixes cannot be satisfied if the verb moves to C°. If there were V-to-I movement, (458c) should be ungrammatical for the same reasons like (458e), (458f). This is not the case, however. If the entire verb were assumed to move to I°, there would be no way to block further movement to C° which results in ungrammaticality (458f). It seems rather unattractive to stipulate different conditions for V-to-I and I-to-C movement respectively, i.e. that the entire verb moves to I° but only the root to C°. In fact, there is clear counterevidence: extraposed clauses again follow the finite verb:

(459) a)*dass sie das Stück t_i nicht [das ich geschrieben hatte], uraufführten. 
    that they:ACC play not that I written had premiered
    ‘that they did not premiere the play I had written’

    b) dass sie das Stück t_i nicht uraufführten, [das ich geschrieben hatte].
    that they:ACC play not premiered that I written had

Verbs with separable prefixes provide a further argument against I°: We have seen above that extraposed constituents are adjoined to VP. Consequently, if the complement of a verb with a separable prefix is extraposed and the verb strands the prefix by V-to-I-movement,

\[\text{Note that if the topicalized version is to be derived syntactically, the verbal elements must not form a complex. Alternatively, such topicalized structures could be base-generated, see Haider (1990).}\]
the extraposed constituent should end up between the verb and the prefix. This prediction is incorrect as the following examples show:

(460) a) Er **fing**, t, an- t, [mit dem Rauchen].
   he caught on with the smoking
   ‘He started smoking.’

   b) dass er t, an-**fing** [mit dem Rauchen].
   that he started with the smoking
   ‘That he started smoking.’

   c) *dass er t, an- t, [mit dem Rauchen] **fing**.
   that he on- with the smoking caught

Again, the extraposed constituent has to follow all verbal elements. To conclude, there are strong empirical reasons against the assumption of V-to-I-movement. If one were still to posit an IP the head position I° would always be empty in embedded clauses. A mechanism like covert movement (due to Infl’s weak agr features) would be needed to ensure convergence. In V2 structures, on the other hand, the verb could be assumed to move through I° (and further to C°) due to locality: head movement may not skip heads. The movement to C° could be triggered by some strong feature of C° that attracts the verb (Chomsky 1995). While ensuring compatibility with a certain framework, such an analysis is devoid of any empirical justification within the language and therefore inconclusive.

In sum, there is next to no empirical evidence in favor of a separate I-projection. So, if there is a distinct subject position, it must be of a different kind, e.g. NP in S → NP, VP. Consequently, the next step is to test whether there are constituency tests that reveal a structural difference between subjects and objects.

5.4.5 Subject-Object Asymmetries w.r.t. Constituency

This section is devoted to a first type of subject-object asymmetries, viz. asymmetries involving constituency. The following discussion is independent of the existence of IP. I will be merely concerned with the question of whether there are good reasons to assume a distinct subject position. Whether this be SpecIP or the daughter of S (as in Choi 1996) does not matter here. The following discussion is largely based on Grewendorf (1988: 293–306).

5.4.5.1 Pronominalization and Coordination

Classical constituency tests seem to provide evidence for a VP: VP (i.e. the verb and the object) can be pronominalized by es ‘it’ while the complex comprising verb and subject cannot:

(461) a) Peter konnte [die Aufgabe lösen] und Hans konnte es auch.
   Peter could the problem solve and Hans could it too.
   ‘Peter could solve the problem and so could Hans.’

---

193 This equally applies to the proposal that the infl head precedes the VP (as in Yiddish).
194 See Haider (1993: 63f.) for further evidence against IP, and Haider (1997: 87f.) for arguments against a minimalist approach like the one sketched above.
b) *weil sie die Leute sehen wollten und es auch Peter wollten.
   since they the:ACC people see wanted:3p and it also Peter:ACC wanted:3p
   Lit: ‘Since they wanted to see the people and did so too Peter.’

Furthermore, free relatives may apply to the VP:

(462)   Die Mutter schlug das Kind, was ich nie gewagt hätte.
   the mother hit the child what I never dared had:SUB
   ‘the mother hit the child – something I would have never dared to do.’

Finally, VPs can be coordinated:

   since John the asparagus eaten but the potato dumped has
   ‘Because John ate the asparagus but dumped the potato.’

Thus, it seems that there is a constituent including verb and object.

5.4.5.2 Prefield and Constituency

At first glance it seems that there are subject-object asymmetries with regard to topicalization: Only the verb and its object can be topicalized but not the verb and its subject – regardless of the fact that the respective order of the two constituents in the middle field is free, i.e. either constituent can be adjacent to the verb, (Webelhuth 1985: 210):

(464) a) weil der Junge dem Mann geholfen hatte.
   because the:NOM boy:DAT man:DAT helped had
   ‘Because the boy had helped the man.’

   b) weil dem Mann der Junge geholfen hatte.
   because the:DAT man:DAT the:NOM boy:DAT helped had

   c) [dem Mann geholfen] hat der Junge.
   the:DAT man:DAT helped has the:NOM boy:DAT

   d) *[der Junge geholfen] hat dem Mann.
   the::NOM boy:DAT helped has the:DAT man:DAT

As Webelhuth points out, this cannot be explained by a prohibition against the topicalization of subjects together with the verb since the subjects of passive and unaccusative verbs may be topicalized with the verb:

(465) a) [Ein Buch geschenkt] wurde Peter noch nie.
   a:NOM book given became peter:DAT still never
   ‘Peter has never been given a book.’

   b) [ein Unfall passiert] ist hier schon lange nicht mehr.
   a:NOM accident:NOM happened is here already long_time not anymore
   ‘There has not been an accident here for a long time.’

As these subjects are generally assumed to be base-generated in object position, it is obvious why the pattern with objects. Therefore, this is no argument for a subject-object non-asymmetry.
However, even the subjects of unergative verbs allow topicalization with the verb (Haider 1990: 94):

\[(466) \quad [\text{Ein Aussenseiter gewonnen}] \text{ hat hier noch nie.}\]
\[
\begin{align*}
\text{a:NOM outsider won has here still never} \\
\text{‘No outsider has ever won here.’}
\end{align*}
\]

This can be explained on the basis of the VP-internal subject hypothesis (see Radford 1997: 315ff.): As subjects of unergative verbs are base-generated in SpecVP, they allow topicalization. Consequently, the topicalization of a transitive verb with both subject and object should be possible as well. I believe that this is indeed the case:

\[(467) \]
\[
\begin{align*}
\text{a) ?[\text{ein Mann einer Frau geholfen}] hat hier noch nie.} \\
\text{a:NOM man a:DAT woman:DAT helped has here still never} \\
\text{‘A man has never helped a woman here.’}
\end{align*}
\]
\[
\begin{align*}
\text{b) ?[\text{Ein Mann eine Frau vergewaltigen] wird hier hoffentlich nie.}} \\
\text{a:NOM man a:ACC woman rape will:3s here hopefully never} \\
\text{‘Hopefully, no man will ever rape a woman here.’}
\end{align*}
\]

Even if these examples are judged somewhat marginal, it is important to note that topicalizing all arguments of an unaccusative verb leads to the same effect (Haider 1993: 151):

\[(468) \quad [\text{Einem Aussenseiter ein Zufallstreffer geglückt}] \text{ ist hier schon oft.}\]
\[
\begin{align*}
\text{a:DAT outsider a:NOM fluke succeeded is here already often} \\
\text{‘An outsider has often scored by pure fluke here.’}
\end{align*}
\]

Consequently, topicalizing all arguments is generally deviant. I believe, however, that this is rather an information structural effect than a violation of some structural principle.

Even more spectacular seems to me that even the topicalization of a transitive verb only with its subject is sometimes acceptable:\footnote{See also Grewendorf (1988: 298), Uszkoreit (1987: 415) for similar examples. See Haider (1990: 97) and Haider (1993: 151ff.; 207ff.) for additional restrictions for the topicalization of unergative/transitive subjects: The argument left behind must immediately follow the finite verb. This does not hold for subjects of unaccusative verbs.}

\[(469) \]
\[
\begin{align*}
\text{a) ?[\text{Ein Kind geholfen}] hat meiner Mutter noch nie.} \\
\text{a:NOM child:nom helped has my:DAT mother:DAT still never} \\
\text{‘No child has ever helped my mother.’}
\end{align*}
\]
\[
\begin{align*}
\text{b) ?[\text{Ein Mann geküsst}] hat meinen Sohn noch nie.} \\
\text{a:NOM man:nom kissed has my son still never} \\
\text{‘No man has ever kissed my son.’}
\end{align*}
\]

While these judgements may be controversial, I strongly believe that these examples are far better than e.g. (464d). But why? there is interesting restriction on topicalized subjects: they must be indefinites with an existential reading. All the putatively ungrammatical examples
cited in the literature involve definite subjects. But note that topicalization of definite subjects of passive/unaccusative verbs is awkward if not even unacceptable as well:\textsuperscript{196}

(470) a) \*[Die Schiffe versunken] sind gestern ganz plötzlich. 
   the: NOM ships sunk are yesterday very suddenly  
   ’The ships sank very suddenly yesterday.’

   b) ?[Das Buch geschenkt] wurde Peter von seiner Mutter. 
   the: NOM book given became:3s Peter:DAT by his mother 
   ’It was by his mother that Peter was given a book.’

There is a simple explanation for the indefiniteness restriction: According to Diesing (1992), indefinite subjects in German may appear in two positions: If within the VP, they have an existential reading, if outside the VP, they are interpreted generically. Definite subjects are assumed to move out of the VP as well.\textsuperscript{197} This automatically restricts the set of subjects available for topicalization.\textsuperscript{198}

The examples we have seen so far have not provided any evidence for a constituent that includes the verb and the object but not the subject. On the contrary, the examples in (466)–(469) are explicit counter-evidence. We now have contradicting requirements on the D-structure: the verb must form a constituent with the object excluding the subject but simultaneously must form a unit with the subject excluding the object. One could follow from this that the two types of topicalization cannot be derived from the same base structure. On such an approach, German would allow the generation of various D-structures with different orders of the arguments, including cases where the subject is within the VP and the object outside, the reverse case and instances with all arguments within VP. In other words: German would be non-configurational.

This problem has been noted earlier in the literature in the context of the following examples (Uszkoreit: 1987: 414f.)

(471) a) dass der Kurier nachher einem Spion den Brief zustecken sollte. 
   that the: NOM courier later a:DAT spy the:ACC letter slip should  
   ’The courier was later supposed to slip a spy the note.’

\textsuperscript{196} See Haider (1990: 96) for further examples.

\textsuperscript{197} Diesing’s assumption that they move to SpecIP is not absolutely necessary. The fact that the subject may appear in two different positions does not by itself justify a separate subject position. In 5.7.4.1, I will discuss this issue in more detail.

\textsuperscript{198} Admittedly topicalizing a ditransitive verb with its subject alone is far from acceptable:

i) *[ein Mann erklärt] hat meiner Mutter die Liebe noch nie 
   a: NOM man explained has my:DAT mother the:ACC love still never 
   ’Never has a man explained to my mother what love is.’

If, however, the stranded objects are realized as (weak) pronouns, the example improves drastically:

i) ?[ein Mann erklärt] hat ihr das noch nie 
   a: NOM man explained has her:DAT this:ACC still never 
   ’Never has a man explained this to her.’

At the present moment, I have no explanation for this. It should have become clear, though, that the principles regulating topicalization are much more complex than just a simple subject-object asymmetry.
These examples illustrate topicalization of various elements of the middle field, in this case always excluding the subject. If there is a VP in German, topicalization can apply to parts of it, in the last example fronting only the nonfinite verb. This evidence together with the examples discussed above seems to suggest that topicalization is not sensitive to constituents. However, as Uszkoreit (1987: 415) points out, topicalizations like the following involving parts of the middle field but not the nonfinite verb are ruled out:

(472) a) *[Den Brief nachher] sollte der Kurier einem Spion zustecken.
   the:ACC letter later should the:NOM courier a:DAT spy slip
   b) *[Den Brief einem Spion] sollte der Kurier nachher zustecken.
   the:ACC letter a:DAT spy should the:NOM courier later slip
   c) *[Nachher einem Spion] sollte der Kurier den Brief zustecken.
   later a:DAT spy slip should the:NOM courier the:ACC letter

Clearly, topicalization is not an “everything goes” operation. There is one influential approach that makes it possible to derive all these partial topicalizations from one single D-structure while simultaneously considering topicalization a constituent sensitive process: den Besten/Webelhuth (1987) assume that partial topicalization is the fronting of a VP that has been emptied from some of its constituents via scrambling (see 5.6 for a discussion of this movement type). I.e. first, elements of the VP are moved out and adjoined to it and then the entire VP is topicalized with what remains in it. This approach has come to be called remnant topicalization. If one assumes – contra den Besten/Webelhuth (1987) - that subjects are base-generated within VP and move/scramble out of it only if they are definite/indefinite with an existential reading the deviant cases in (469) are explained as well.199 That scrambling seems to take place is suggested by the different degrees of acceptability that result from the different placement of a stranded object (Haider 1990: 97):

(473) a) *[Ein Aussenseiter gewonnen] hat hier noch nie das Derby.
   a:NOM outsider won has here still never the:ACC derby
   ‘Never has an outsider won the derby here.’
   b) [Ein Aussenseiter gewonnen] hat das Derby hier noch nie.
   a:NOM outsider won has the:ACC derby here still never

---

199 The traces of the scrambled elements within the topicalized VP can only be properly governed if a process like reconstruction is available. See Haider (1993: 154) for some of the problematic consequences of such an approach.
Assuming adverbials to mark the left edge of the VP, we see that leaving the object in the VP results in ungrammaticality while scrambling it to a VP-adjoined position leads to a striking improvement.200

However, we still do not have evidence for a separate subject position. The data discussed so far only require the VP-internal subject hypothesis and the scrambling operation.

Up to this point, I have assumed that topicalization is the result of movement of a constituent. However, this approach can be questioned on the basis of structures which cannot be related to grammatical D-structures, i.e. we are dealing with movement paradoxes (Haider 1990: 95):

(474) a) [t j Fragen, [ob wir einverstanden sind]]_i, wird_k er wohl t_i müssen t_k.
    ask if we agreed are will:3s he PRT must:INF
    ‘He will have to ask if we agree.’

   b) weil er wohl [ob wir einverstanden sind fragen] müssen wird.
    since he PRT if we agreed are ask must:INF will:3s
    ‘that he will have to ask if we agree.’

   c) *weil er wohl t_i fragen, [ob wir einverstanden sind],_i müssen wird.
    since he PRT ask if we agreed are must:INF will:3s

The phenomenon discussed here is similar to (456): the topicalized structure cannot be related to a non-topicalized structure with extraposition (474c). One might suggest that extraposition takes place in the prefield after topicalization. However, this requires extrinsic rule ordering, clearly an undesirable result.

Another problematic case are topicalizations that cannot have the same D-structure and – contrary to the examples discussed in the context of remnant topicalization – cannot be saved by scrambling (Grewendorf 1988: 300):

(475) a) [Seinen Argumenten] wirst du wohl noch folgen können.
    his:ACC arguments will:2s you PRT still follow can
    ‘You will surely be able to follow his arguments.’

   b) [Seinen Argumenten folgen] wirst du wohl noch können.
    his:ACC arguments follow will:2s you PRT still can

   c) [Folgen können] wirst du seinen Argumenten wohl noch.
    follow can will:2s you his:ACC arguments PRT still

To derive (475b), the two verbal elements may not form a constituent while to derive (475c) they must. Grewendorf (1988: 301ff.) tries to account for these examples by assuming that the verbal complex allows various forms of restructuring:201 the sequence [folgen können werden] allows the following restructured versions: i) [folgen können] [werden] and ii) [folgen] [können werden]. The derivation of (475b) would then be as follows: the verbal complex is restructured according to ii), [können werden] is moved out of the VP and adjoines to I and the VP is topicalized with [folgen] and its complement. (475c) presupposes

200 See 5.7.4.2 for a detailed discussion of the positions of adverbials.
201 See Grewendorf (chapter 12) and von Stechow/Sternefeld (1988) for elementary introductions to the complex issue of the verbal complex. See also Haider (1993).
the restructuring variant i): [werden] moves out to I, the complement of *folgen* is scrambled out of the VP which in turn is topicalized with the two verbal elements. Without trying to delve into the complex issue of the verbal complex, I will just note that an analysis like Grewendorf’s presupposes an IP which we have seen to be empirically unjustified. Additionally, a restructuring process is perhaps only a metaphorical way of saying that topicalization is not derived by movement.\(^{202}\)  \(^{203}\)

While there can be no doubt that topicalizing an unergative/transitive subject is more marked and subject to more restrictions than topicalizing an object, the difference is by no means categorical. Furthermore, the data involving topicalization of subjects require the VP-internal subject hypothesis. Consequently, there is probably no maximal projection separating subject and object in German. At any rate, the uncertainties surrounding topicalization are so severe that I believe that it is not suitable to subject-object asymmetries.

### 5.4.6 Sentences Without a Nominative Argument

Another problem for the assumption that German has a distinct subject position comes from sentences that lack an overt nominative argument.

(476) a) weil *(es) getanzt wird.  
because danced is  
‘because there is some dancing going on.’

b) weil *(es) mich friert.  
because me:ACC freeze  
‘because I’m cold.’

(476a) is a passivized unergative verb, (476b) a psych-verb whose only argument is an experiencer with lexical (accusative) case. The expletive pronoun *es* (3\(^{rd}\) sg. NTR.) is ruled out with the first while optional with the second type of verb. If there were an obligatory subject position in German, one would expect such an expletive pronoun to be obligatory to satisfy the extended projection principle (EPP) – as in other Germanic languages (Berman 2000: 53; 63):

(477) a) Maske bliver *(der) danset.  
perhaps is there danced  
Danish\(^{204}\)

b) Kanskje blir *(det) danset  
perhaps is it danced  
Norwegian

c) Kanske dansas *(det)  
perhaps danced_is it  
Swedish

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\(^{202}\) Webelhuth (1985: 213f.) derives these contradicting examples by base generation of the topicalized constituent in a CP-adjoined position and subsequent deletion of a resumptive pronoun in SpecCP. See Haider (1990: 100ff.) for objections to such an analysis.

\(^{203}\) See Haider (1990: 101ff.) who argues that scrambling is both too strong and too weak: On the one hand, it leads to overgeneration, on the other hand, there are topicalization structures which cannot be derived by means of scrambling.

\(^{204}\) According to Berman (2000: 62, fn. 9), all these languages allow the expletive to be dropped if there is a sentence-initial locative PP or locative adverb.
Misschien word *(er) edanst. Dutch perhaps is there danced

This leaves us with two options for German: either there is no subject position so that the absence of an expletive subject is entirely predicted or German is a semi-pro-drop-language that allows empty expletive subjects. The first position is adopted by Haider (1993), the second by the large majority of linguists working in the P&P framework, including e.g. von Stechow/Sternefeld (1988), Grewendorf (1988; 1989, 1990), Vikner (1995) etc. Proponents of the second approach usually posit an empty category not just for the cases listed above but also when the subject position remains empty if unaccusative subjects remain in their base position (recall that NP-movement is either optional or does not exist in German; cf. the following section):  

(478) a) dass [IP pro, [VP dem Hans ein Fehler, unterlaufen ist]].
that the:DAT John a:NOM mistake happened is
‘that John made a mistake.’

b) dass [IP pro, [VP dem Hans ein Buch, gegeben wurde]].
that the:DAT John a:NOM book given was
‘that John was given a book.’

The first approach predicts that whenever there is such a seemingly expletive es it is in fact a quasi-argument, i.e. a semantically unspecified argument in the verb’s argument structure, that has to be projected, see Haider (1993: 133ff.):

(479) a) weil (*es) regnet.
because it rains
‘because it rains’

b) weil (*es) keine Hoffnung gibt.
because it no hope gives
‘because there is no hope’

c) weil (*es) überall gut duftet.
because it everywhere good smell
‘because it smells good everywhere’

d) Hier lebt (*es) sich nicht unangenehm.
here lives it self not unpleasant
‘It’s not unpleasant to live here.’

e) weil (es) mir vor der Prüfung graut.
because it me:DAT before the exam dread:3s
‘because I dread the exam’

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205 Similarly, Berman (2000: 59ff.; 65) working in the LFG-framework assumes an empty expletive subject at f-structure but none at c-structure (due to economy of expression).

206 The same assumption must be made if one assumes (following Bühring 1994) that indefinite subjects generally remain within VP. See 5.7.4.1 for discussion.
There is a number of arguments in favor of such a position: Subjects of weather verbs like in (479a) exhibit some subject properties like control (Berman 2000: 69):

(480)  gestern hat es geblitzt, ohne zu donnern.
       yesterday has it flashed without to thunder
       ‘Yesterday there was lightning without thundering.’

Furthermore, some of these verbs allow es to be replaced by a referential NP (Berman 2000: 70):

(481) a) weil Zeus regnet.
       because Zeus rains
       ‘because Zeus rains’

   b) weil die Blumen duften.
       because the NOM flowers smell
       ‘because the flowers smell good.’

However, these properties are by no means shared by all verbs taking es (Bermann 2000: 70):

(482) a)*Es gibt hier viele Tümpel, ohne jemals richtig zu regnen.
       it gives here many: NOM ponds without ever really to rain
       Lit.: ‘There are lots of ponds here without ever really raining.’

   b)*weil die Kälte mich friert.
       because the NOM cold me:ACC freeze
       ‘because the cold freezes me.’

Furthermore, extraposed subject clauses require es in their base position:

(483) weil (*es) stimmt, dass es keine Subjektsposition im Deutschen gibt.
       because it is_correct that it no subject_position in German gives
       ‘because it is correct that there is no subject position in German.’

Consequently, applying the argument-approach to all es elements – though deriving the correct results – seems somewhat ad hoc.

On the other hand, the pro-drop analysis is even more ad hoc as it cannot explain why an empty subject cannot be used in most of these instances but instead the formal subject es is needed. There does not seem to be any independent evidence. In fact, as Haider (1993: 136) argues, there are two good arguments against it:

First, in the other Germanic languages, there is a well-known correlation between the presence of an expletive subject and the definiteness of a VP-internal subject (Haider 1993: 136):

(484) a) that there has suddenly arrived {a man/*this man} from L.A.

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207 This example is actually a problem for both approaches as the trace of the extraposed clause should suffice to satisfy the EPP.

208 This does not apply to es in the prefield where it functions as an expletive – due to a constraint that requires the prefield to be occupied in declarative sentences.
b) Dat er plots {een man/ *deze man} uit L.A. kwam.
that there suddenly a man this man from L.A. came

Assuming the overt expletive to be coindexed with the subject, there is no reason why one should not expect the same coindexation mechanism to apply in German as well – the only difference being that the subject is covert. However, there is no definiteness effect in German:

(485) a) dass damals dem Mann das Messer aus der Hand fiel.
that at that time the:DAT man the: NOM knife out of the hand fell
‘that at that time the knife fell out of the man’s hand’

b) dass gestern der hiesigen Polizei dieser Fall anvertraut wurde.
that yesterday the:DAT local police this:ACC case entrust was
‘that yesterday this case was placed in the hands of the local police.’

Secondly, the concept of semi-pro-drop implies that real pro-drop languages should feature this kind of empty category as well. Yet they don’t, see Haider (1993: 141ff.; 179ff.) and Grewendorf (1989, 1990) for discussion.

To conclude, expletive elements do not provide much evidence for a subject position in German. Although probably not all instances of es can be explained as quasi-arguments, again the data do not provide categorical evidence for a distinct subject position.

5.4.7 No Case-driven NP-Movement

An argument briefly touched above concerns NP-movement in German: The fact that subjects (both unaccusative and unergative) may be topicalized together with the VP suggests that they do not have to raise out of the VP for reasons of case assignment.

(486) [Fehler unterlaufen] sind ihm noch nie.
mistakes:NOM made are him:DAT still never
‘He has never made mistakes.’

Instead, nominative case must be available VP-internally, see den Besten (1985), Grewendorf (1989), Bayer/Kornfilt (1994: 36f.). Consequently, one is forced to assume that subjects are at least base generated within VP, thus adopting the VP-internal subject hypothesis for German. But since subjects may remain inside the VP, the Case-filter (or case-checking) may no longer act as a trigger for NP-movement.

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209 As noted above, a definiteness effect occurs if the subject is topicalized. One could derive the generalization that Germanic languages exhibit a definiteness effect on their subject if it appears in a non-canonical position. In most languages, this position would be VP-internal as they have a structural subject position. In German, however, where there is arguably no subject position outside the VP, the equivalent non-canonical position would be the prefield.

Haider’s account is diametrically opposed to those approaches which consider the VP to be the domain of existential closure (Diesing 1992, Bühring 1994). As definites are supposed to move out of the VP in order to evade existential closure, these approaches would have to assume string vacuous scrambling of the definites in these examples. Alternatively, if the subjects could be shown to have a contrastive focus interpretation which would entail LF-raising, their account could be upheld as well. See 5.7.4.1 for some discussion.
Consequently, if there is raising to SpecIP in German it must have a different trigger. As mentioned in the context of topicalization, a popular proposal involves semantic features (cf. Diesing 1992; Bühring 1994): definites raise out of the VP to evade existential closure. Indefinites receive an existential interpretation when left in the VP (and may therefore be topicalized) while receiving a generic reading when moved to the subject position. Though very attractive, this approach may face difficulties if the different interpretations cannot always be linked to the VP-internal/VP-external dichotomy. Furthermore, the diagnostics to determine the VP-boundary are somewhat controversial. I will come back to the issue of semantically driven movement in 5.7.4.1 below. A third possibility is to assume that NP-movement is simply optional, see e.g. Müller (1999).

Whatever will ultimately turn out to be the correct solution, another argument usually adduced to justify subject positions does not work for German.

5.4.8 Conclusion

“Surface” evidence for a subject-object asymmetry is scarce and often inconclusive. Only the data in 5.4.5.1 show a categorical asymmetry. In all the other cases, the distinction is largely blurred. While it is not justified to derive from these data the claim that German is fully non-configurational, it is equally wrong to use them in favor of the configurationality hypothesis. Consequently, we now have to examine the deep properties of German to solve the issue of configurationality.

210 See e.g. examples (591f.).
5.5 Deep Non-Configurationality in German?

While on the surface there is little evidence for a subject-object asymmetry in structural terms, German behaves more or less like English with regard to phenomena like anaphora, coreference and quantification, i.e. phenomena regulated by the binding theory. On the other hand, phenomena regulated by the ECP, i.e. extraction configurations, display only a weak contrast between subjects and objects.211

5.5.1 Binding Theory

Starting with reflexives, German patterns with English and Warlpiri in showing the classical subject/object asymmetry:

(487) a) Der Junge liebt sich.
the:NOM boy loves himself
'The boy loves himself.'

b) *Sich liebt den Jungen.
self loves the:ACC boy

Within the middle field, reflexives but not reciprocals may precede the binder:212

(488) a) weil sich Peter liebt.
because himself Peter loves
'Because Peter loves himself.'

b) *weil einander die Leute helfen.
because each_other the:NOM people help
'Because the people help each other.'

As for principle C, the same asymmetries as in English can be observed: a pronominal subject may not bind a referring expression functioning as object and – as opposed to Japanese – this holds irrespective of word order:

(489) a) Er küsste Peters Mutter.
he kissed Peter's mother.
'He kissed Peter's mother.'

b) Peters Mutter küsste er
Peter's mother:ACC kissed he
'Peter's mother he kissed.'

211 Fanselow (1987) is a detailed study of these phenomena. Unfortunately, as the discussion is largely based on idiosyncratic judgments of grammaticality, his conclusions must be taken with caution.

212 This asymmetry poses a problem for accounts involving reconstruction. I assume that the difference in grammaticality is due to a difference in phonological structure: the reflexive is a clitic. If, however, the clitic is embedded within a PP, it may no longer precede its binder:

i) *weil für sich, Peter ein Buch gekauft hat.
because for himself Peter a:ACC book bought has
'Because Peter bought a book for himself.'

See Haider (1993: 167) for a somewhat different account. See also the discussion in 5.6.3.2.
Deep Non-Configurationality in German?

It clearly seems that the subject c-commands the object at the level where binding relations are checked.\textsuperscript{213}

Similar asymmetries are shown by the following examples involving coreference of an R-expression in an adjunct clause with pronouns in the matrix clause: As the adjunct clause is adjoined to a projection in the c-command domain of the matrix subject, coreference is possible only with the pronominal object (Grewendorf 1988: 316):

\begin{enumerate}
\item\textsuperscript{213} Consequently, reconstruction must be assumed for (489b).
\item\textsuperscript{214} See 5.6.4.1 for a more detailed discussion of Principle C-effects.
\end{enumerate}
b) weil jeden i seine i Mutter liebt.

because everyone:ACC his:NOM mother loves

If these judgments are correct, the generalization can be stated as follows: a quantified argument may bind a pronominal if it precedes it and/or if it bears a higher grammatical function (SU > DO); see Bresnan (1996: 21ff.; 2000: 198ff.) for an LFG analysis involving exactly these two levels of prominence.215

Consequently, German seems to be somewhat like Japanese but not fully: While in Japanese, it is entirely the linear sequence that determines the binding possibilities, in German, a hierarchy of grammatical function seems to be at work as well. Whatever the correct analysis, it seems that we have found some degree of deep non-configurationality in German.216

On the whole, apart from the weak crossover data, these binding facts argue rather in favor of a subject-object asymmetry. However, as there are non-structural ways to explain this asymmetry (as in lexicalist frameworks like LFG), it cannot be taken as conclusive evidence for a phrase structural asymmetry. Such a view is only justified if one presupposes that these asymmetries are phrase structurally encoded. This is exactly the line of reasoning within the P&P framework.

5.5.2 Empty Category Principle

Within the P&P framework, the structural asymmetry between subject and object entails a difference in government: only the object is governed by the verb, the subject therefore depends on antecedent government. This asymmetry is often reflected in extraction asymmetries: the object whose trace is lexically governed by the verb can more easily be extracted than the subject. The most famous instance of extraction asymmetry is the that trace effect:

(494) a) *Who did John think [CP ti that [IP ti left]]?
       b) Who did John think [CP ti that [IP Bill saw ti]]?

These examples cannot be carried over to German, however, as extractions involving complementizers are generally ungrammatical in the standard language while showing no asymmetry in the dialectal variants where they are possible (Haider 1993: 157):217

(495) a) Wer wohl, meint er, dass ti ihm seine Arbeit hier bezahlen wird?
      who PRT think he that he:DAT his:ACC work here pay will
      Lit. ‘Who does he think that will pay him for his work here?’

215 Things are more complicated with objects: They never allow backward binding. According to Bresnan (1996), if the quantifier precedes the pronominal, coreference is possible irrespective of the grammatical functions of binder and bindee. See Müller/Sternefeld (1994: 369ff.) for a somewhat different statement.

216 However, the judgments presented above are by no means universally accepted. Deviating judgments can be found in e.g. Müller/Sternefeld (1994: 368). See 5.6.3.2 for a discussion of weak crossover in the context of scrambling.

217 See Haider (1993: 147; 157f.) for a critical assessment of some of the data often discussed in this context.
b) Was, wohl, meint er, dass Peter ihm hier bezahlen wird?
   *Who think he that Peter here pay will
   ‘What does he think that Peter will pay him here?’

As for extraction from subject clauses, German differs from English in allowing extraction in
some cases yet not in all:

(496) a) *[Which of these pianos] is [to play] more fun?
   b) [Welches dieser Klavier] hat [to spielen] mehr Spass gemacht?
   c) *Was gehört [zu beanstanden] sich nicht?
       what be fitting to complain self not
       Lit.: ‘What is to complain not fitting?’

As the data are very delicate and no account is available that explains the distribution of
grammaticality, I do not think that such examples provide compelling evidence for a subject-
Haider (1993: 158) for some discussion.

Another ECP-asymmetry often discussed are superiority effects: If there are several wh-
elements, one may remain in situ but not in subject or adjunct position:

(497) a) Who said what?
   b) *What did who say?

(498) a) Why did he say what?
   b) *What did he say why?

This difference is again attributed to the fact that the trace of the object can more easily be
governed as it is in the governing domain of the verb. Therefore, the lack of antecedent
government in the a)-examples poses no problems. In German, such asymmetries are not
found:

(499) a) Wer hat was behauptet?
   *Who has what claimed
   ‘Who claimed what?’
   b) Was hat wer behauptet?
   what has who claimed?
   Lit.: ‘What claimed who?’

However, as discussed in Grewendorf (1988: 312), this is not to be taken as evidence against
a VP in German as the classical ECP-account even fails in some domains of English (e.g.
who came when?). Consequently, the difference between German and English might have to
be attributed to other independent properties. See Haider (1993: 162ff.) for counter
arguments.

Further arguments in favor of an ECP-asymmetry come from reanalysis (or incorporation)
processes which are involved in certain movement processes: was-für split, NP-split and
extraction from NPs. Asymmetries like the following are supposed to follow from the ECP:
the NP and the part that is extracted from it (PP/NP) are supposed to reanalyze into two
constituents within the VP. Thereafter, extraction is possible only if the NP is within the VP
(Grewendorf 1989: 26ff.; Haider 1993: 169ff.):

(500) a) *Wasi haben [t_i für Leute] gearbeitet?
    what have for people worked
    ‘what kind of people worked?’

b) Was, sind t_i [für Leute] angekommen?
    what are for people arrived
    ‘What kind of people have arrived?’

(501) a) *Studenten, haben [fleissige t_i] das Seminar besucht.
    students have hard_working the seminar attended
    ‘Hard working students attended the seminar.’

b) Wein, habe ich [drei Kisten] t_i gekauft.
    wine have I three cases bought
    ‘As for wine, I bought three cases of it.’

(502) a) *[Zum ECP] hat eine [Frage t_i] den Professor verärgert.
    on ECP has a question the professor annoyed
    ‘A question concerning the ECP annoyed the professor.’

b) [Zum ECP] hat der Student [eine Frage] t_i gestellt.
    on ECP has the student a question asked
    ‘The student asked a question concerning the ECP.’

As these examples show, extraction is only possible if the source NP is an object or an
unaccusative subject (b-examples). Reanalysis is assumed to be impossible outside the VP.
Therefore, an element (NP/PP) is extracted out of an NP which results in an ECP-violation
(and probably a Subjacency violation).

However, there are at least two objections that can be raised against these analyses (see
Haider 1993: 170ff.): One is of conceptual nature: The fact that reanalysis is supposed to be
restricted to the VP does not follow from anything: It is not clear why such an idiosyncratic
process like reanalysis should only apply within the VP.218 Second, the following data show
that the above generalization is simply incorrect: Extraction from transitive subjects is fully
grammatical in some instances while extraction from unaccusative subjects or objects
sometimes leads to strong degradation:

(503) a) Was, hat denn da [t_i für ein Mann] auf dich gelauert?
    what has PRT there for a man on you lie_in_wait
    ‘What kind of man did lie in wait for you there?’

b) *Was, verblühte [t_i für eine Blume]?
    what wither for a flower
    ‘What kind of flower withered?’

(504) a) Linguisten, haben hier nur [bedeutende t_i] gelehrt.
    linguists have:3p here only famous taught
    ‘Only famous linguists have taught here.’

218 An account in terms of incorporation does not suffer from this conceptual problem.
b)*Frauen, begeistert hat er nur [intellektuelle t i].
  women enthuse has he only intellectual
  ‘He only enthused intellectual women.’

(505) a) [Von den Studenten], haben [viele t i] die Prüfung nicht geschafft.
  of the students have many the exam not passed
  ‘Many of the students did not pass the exam.’

b)*[Von wem], hast du [ein Bild t i ] zerstört?
  of whom:DAT have you a picture destroyed
  ‘Who did you destroy a picture of?’

The grammaticality of these examples is inverse to those above. It seems that there is still
no good understanding of the principles and constraints that regulate these types of
extraction. There seem to be several interfering factors involved that cannot be correlated
with the IP/VP dichotomy: As for the was-für split, Haider/Rosengren (1998: 33ff.) note that
extraction is generally bad if the NP precedes a modal particle or directly follows the verb in
C°.\(^{219}\) Similarly, for the NP-split construction, some adjacency requirement at the level of D-
structure seems to hold. Lastly, it is a well-known fact that extractions from NPs are subject
to yet poorly understood non-structural factors. Consequently, it is not justified to use these
types of extractions as arguments in favor of a VP that excludes the subject. Quite the
opposite is true: The fact that some unergative/transitive subjects do not resist extraction
from them necessitates the adoption of the VP-internal subject hypothesis. Therefore, these
examples rather turn out to be arguments against a separate VP-constituent in German.\(^{220}\)

To summarize this section, there is rather little evidence for a subject-object asymmetry.
Instead, the data rather suggest that there is no separate VP-constituent that excludes the
subject. Moreover, there are also independent not yet understood properties of German that
further obscure the situation.\(^{221}\)

5.5.3 Further Subject-Object (Non-)Asymmetries

Webelhuth (1990: 42ff.) notes an interesting subject-object asymmetry: It is a well-known
fact that verbs may determine the categorical status of their arguments, i.e. they can c-
select their complements. Some c-select both an NP and a CP while some allow only one
type of complement:

(506) a) Er bedauert [o die Zerstörung der Stadt].
  he regrets the destruction of the city
  ‘He regrets the destruction of the city.’

b) Er bedauert [c dass die Stadt zerstört wurde].
  he regrets that the city destroyed was
  ‘He regrets that the city was destroyed.’

\(^{219}\) A further interfering factor concerns the elements in C°: Extraction is generally better with
auxiliaries. Interestingly, the same holds for extraction from subject clauses, see Haider (1993:
159).

\(^{220}\) Moreover, Haider (1993: 173) argues that the lack of a VP may explain why there are subject-
idioms in German; see also the next section.
(507) a) Er drohte [VP die Ermordung der Geisel].
    he threatened the murder of the hostage
Lit.: ‘He threatened the murder of the hostage.’

b) Er drohte [CP die Geisel zu ermorden].
    he threatened the hostage to kill
    ‘He threatened to kill the hostage.’

However, this does not hold for external arguments: while imposing semantic restrictions on it, a verb cannot determine its category. This is supposed to follow from the fact that the verb does not structurally govern its subject.222

Consider first active sentences with a verb c-selecting an NP:

(508) a) Wir messen [NP der Wiederwahl Reagans] grosse Bedeutung bei.
    we measure the:DAT reelection of_Reagan great importance to
    ‘We attribute great importance to Reagan’s reelection.’

b) *Wir messen grosse Bedeutung bei [CP dass Reagan wiedergewählt wird].
    we measure great importance to    that Reagan reelected    is
    ‘We attribute great significance to *(the fact) that Reagan is reelected.’

If the argument bearing dative case is externalized by a lexical passive and thus becomes the external argument of the verb, it is no longer subject to c-selection by the verb, i.e. it may be realized by both an NP and a CP:

(509) a) [NP Die Wiederwahl Reagans] bekam grosse Bedeutung beigemessen.
    the reelection of_Reagan got great importance attributed
    ‘Reagan’s reelection got attributed a lot of significance.’

b) [CP dass Reagan wiedergewählt wurde] bekam grosse Bedeutung beigemessen
    that Reagan reelected    was   got    great  importance attributed
    ‘That Reagan was reelected got attributed great significance.’

One cannot appeal to grammatical relations to state the c-selection generalization: The subjects of syntactic passives still count as internal arguments and are therefore subject to the same c-selection restrictions as objects. Compare the following examples with (507), see Webelhuth (1990: 71, fn. 7):

(510) a) Es wurde gedroht [CP die Geiseln zu ermorden].
    it was threatened the hostages to kill
    Lit.: ‘There was threatened to kill the hostages.’

b) *Es wurde [NP die Ermordung der Geiseln] gedroht.
    it was the: NOM murder of_the hostages threatened
    Lit.: ‘There was threatened the killing of the hostages.’

Second, a well-known argument to establish a structural distinction between subject and object are idioms: Interpolating the English case, it is usually assumed that idioms are universally restricted to verb-object complexes. This is clearly wrong as demonstrated in

221 See Webelhuth (1990: 65ff.) for further supposed asymmetries and Haider (1993: 142-176) for an extensive discussion of all these phenomena.

222 This assumption is problematic in the light of the VP-internal subject hypothesis.
Bresnan (2000: 10ff.). Even more telling is the fact that German has a large number of subject-verb idioms (Haider 1993: 173):

\[(511) \text{a) } \text{den Vater reitet der Teufel.} \]
\[\text{the:ACC father rides the: NOM devil} \]
\[\text{Lit.: ‘The devil rides the father.’} \rightarrow \text{the father is mad} \]

\[\text{b) Wo drückt dich der Schuh?} \]
\[\text{where pinches you:ACC the:NOM shoe} \]
\[\text{Lit.: ‘Where does the shoe pinch you?’} \rightarrow \text{what’s eating you?} \]

These phenomena are readily explainable under the hypothesis that German does not have a distinct subject position and that subject and verb are always included in the VP.

5.5.4 Conclusion

So is German configurational? Clearly, German is somewhere between English and Warlpiri. As for the deep properties, it partly patterns with English with regard to the binding theory (apart from weak crossover), and partly it does not (ECP). As for surface asymmetries, there seems to be a certain tendency for the verb and the object to form a unit; however, this is just a tendency and clearly no categorical property, as there are so many counterexamples. Therefore, the surface facts remain controversial.

Despite these uncertainties, the P&P theory still relies on a configurational structure at some level of representation. The disrupted surface structure is then explained as a consequence of scrambling. This approach is taken by the majority of linguists in the field, the most notable exception being Haider (1993) who assumes that the middle field is identical with the maximal verb projection.\(^{223}\)

Even in theories which do not depend on structural configurations to regulate the deep properties, German has been analyzed as both configurational and non-configurational, cf. the analyses carried out within LFG by Choi (1996) vs. Berman (2000).

For present purposes, I will assume that German has a structural subject-asymmetry which may be disrupted by movement. This is not to say that I am fully convinced of this fact; I will simply use this hypothesis to determine the structural position of locatives. It is only on this premise that we can reach a definitive answer to the question of the subjecthood of locatives. If even on the controversial assumption that there is a subject position in German no evidence for the subjecthood of locatives can be found, it will be safe to say that there are no locative subjects and consequently, that there is no locative inversion in German.

The next section presents a short introduction to the concepts of scrambling, which is a prerequisite to explain the freedom in word order.

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\(^{223}\) This is not to say that the VP is flat in German. Haider does assume a hierarchical structure within VP. Consequently, if German is called non-configurational in such an approach, it is surely to be understood in a different way than e.g. Warlpiri which probably does not have any endocentric projections at all.
5.6 Scrambling

5.6.1 Clause Structure

The basic German clause structure presupposed in many contemporary accounts\textsuperscript{224} is more or less as follows:

\[(512) \ [ cp \ C \ [ ip \ [ vp \ \Pi \ P \ [ vp \ \text{ADV} \ [ vp \ \text{SU} \ [ v' \ \text{DO/IO} \ [ v' \ \text{DO/IO} \ [ v' \ \text{OBL} \ V ] ] ] ] ] ] I ] \]

SpecCP is the landing site for wh-movement, SpecIP the is the landing site for optional subject raising from the VP-internal subject position. SpecnP, the so-called “Wackernagel-Position” hosts weak pronouns fronted from their VP-internal position. Adverbials are adjoined to the VP.\textsuperscript{225} As for the order within the VP, it is uncontested that the subject precedes all other arguments. Similarly, oblique arguments (bearing genitive case or governed by a P) are assumed to be closest to the verb. There is a great deal of controversy about the sequence of direct and indirect object. As this issue is closely tied to the discussion of what movement type scrambling belongs to, I will come back to this question below. As for the structure of the VP, numerous proposals have been made. Instead of X’-recursion as above, one could assume Larsonian shells (two VP shells and two head positions) or something along the lines of the proposal by Rosengren (1993: 255f.; 1994: 177f.) where some oblique arguments (like selected adverbials of manner and directionals) are sisters of V° and others (prepositional and genitival objects) are sisters of V’ while core arguments are all adjoined to VP.

This order can be changed by movement to a specifier position (SpecCP, SpecIP and SpecnP) or by scrambling, i.e. movement to a middle field internal position.

In the following section, I will discuss the properties of scrambling and its relation to other types of movement.

5.6.2 Properties of Scrambling

Before discussing what movement type (if at all) is involved in this operation, I will first list some of the less controversial properties of scrambling. The following is a condensed version of von Stechow/Sternefeld (1988), Grewendorf/Sternefeld (1990), Corver/van Riemsdijk (1994) and Haider/Rosengren (1998).

First, scrambling is clause-bound in German:\textsuperscript{226}

\[(513) a) \text{ dass den Max jeder ___ kennt } \]
\[\text{ that the:ACC Max everyone knows } \]

\[\text{'That everyone knows Max.'} \]


\textsuperscript{225} This statement will be qualified in 5.7.4.2 below.

\textsuperscript{226} But not in Russian or Japanese, see Müller/Sternefeld (1994) and Grewendorf/Sabel (1999) for discussion. Haider/Rosengren (1998) restrict the term \textit{scrambling} to the German type. The clause-boundness of the scrambling in German can serve as a diagnostic for the coherence of infinitival complements, see e.g. Grewendorf/Sternefeld (1990: 9). See also the discussion of T-scrambling in 5.7.4.4.
Second, scrambling is movement to a landing site between SpecIP and the VP. However, there is no general consensus on what kind of position this might be as the answer to this question is closely tied to the type of movement scrambling belongs to. If scrambling is A'-movement, the moved constituent will be adjoined to a maximal projection. Among the proponents of such an approach, there is a general consensus that the VP is a possible adjunction site.\footnote{Depending on the structure of the VP (see above), several adjunction sites may be possible.} More controversial is IP: While e.g. Grewendorf/Sternefeld (1990), Webelhuth (1990) and Bühring (1994) assume that adjunction to IP is possible, it is ruled out e.g. by Rosengren (1993: 182f.), Müller (1999: 792).\footnote{This is supposed to explain the fact that scrambling across a (definite) subject results in a very high degree of markedness. See 5.7.4.1 for discussion.} On the other hand, if scrambling is conceived of as A-movement, then the landing site must be an A-position. This can either be a functional Spec position (substitution) or – as in Haider/Rosengren (1998: 50ff.) – a position adjoined to V' if one allows X'-recursion, see 5.6.3.4 below.

Third, the moved item is an (argumental)\footnote{It is somewhat controversial whether adjuncts scramble, see Rosengren (1994: 184f.), Haider/Rosengren (1998: 23ff.), Frey/Pittner (1998) as well as 5.7.4.2 for discussion.} NP, a PP, a nonfinite CP and marginally an AP, or an AdvP (Grewendorf/Sternefeld 1990: 12f.):\footnote{Oblique arguments (genitival and prepositional objects, selected adverbials) often resist scrambling; this is sometimes correlated with their being very deeply embedded, see Rosengren (1993: 266ff.; 1994: 183ff.), Haider/Rosengren (1998: 23ff.) and Frey/Pittner (1998: 498f.).}

\begin{itemize}
\item[(514)] a) weil [\text{VP ohne Liebe}] niemand t glücklich wird.
\begin{itemize}
\item because without love nobody happy gets
\item ‘Because nobody gets happy without love.’
\end{itemize}
\item b) die Ratten [\text{VP welche}] [\text{PRO zu fangen}] [\text{VP Hubert t versuchte}]]].
\begin{itemize}
\item the rats that to catch Hubert tried
\item ‘The rats Hubert tried to catch.’
\end{itemize}
\item c) weil [\text{AP betrunken}] [\text{VP niemand t hineinkommt}].
\begin{itemize}
\item because drunk nobody get_it
\item ‘Because nobody gets in drunk.’
\end{itemize}
\end{itemize}

A controversial yet decisive issue concerns the scrambling of adjuncts. If they do scramble, scrambling cannot be described in terms of A-movement; see 5.7.4.2 for discussion.
Fourth, scrambling does not apply to wh-phrases (wh-, quantified and focused\textsuperscript{231} phrases):\textsuperscript{232}

\begin{itemize}
  \item[(515)] a) Wem hat der Student \{welche Frage\} beantwortet?
    \begin{quote}
      who:DAT has the: NOM student which: ACC question answered
      \textit{To whom did the student answer which question?}
    \end{quote}
  
  b)\textsuperscript{*} Wem hat [welche Frage], der Student ti beantwortet?
    \begin{quote}
      who:DAT has which: ACC question the student answered?
    \end{quote}

  \item[(516)] a) Warum hat jeder \{welches Buch\} gekauft?
    \begin{quote}
      why has everyone: NOM which: ACC book bought?
      \textit{‘why did everyone buy which book?’}
    \end{quote}

  b)\textsuperscript{*} Warum hat [welches Buch], jeder ti gekauft?
    \begin{quote}
      why has which: ACC book everyone: NOM bought
    \end{quote}

  \item[(517)] a) weil der Professor dem Studenten DAS BUCH ausgeliehen hat.
    \begin{quote}
      since the: NOM professor the: DAT student the: ACC book lent has
      \textit{‘Because it was the book that the professor lent to the student.’}
    \end{quote}

  \item[(518)] a)\textsuperscript{*} dass \{die Bücher\} er ihr gegeben hat.
    \begin{quote}
      that the: ACC books he her: DAT given has
      \textit{‘That he gave her the books.’}
    \end{quote}

    b)\textsuperscript{*} dass \{die Bücher\} ihr Peter gegeben hat.
    \begin{quote}
      that the: ACC books her: DAT Peter: NOM given has
    \end{quote}

    c) dass ihr Peter \{die Bücher\} gegeben hat.
    \begin{quote}
      that her: DAT Peter: NOM the: ACC books given has
    \end{quote}

Fifth, Scrambling non-subjects over a weak pronoun is illicit:\textsuperscript{233}

\begin{itemize}
  \item[(519)] a) \textsuperscript{*} weil \{meines Bruders\} gestern \{t: Auto\} gestohlen wurde.
    \begin{quote}
      because my:GEN brother yesterday car: NOM stolen was
      \textit{‘Because yesterday my brother’s car was stolen.’}
    \end{quote}

\end{itemize}

\textsuperscript{231} Note that the correctness of this statement depends on the kind of focus one has in mind. As far
as I can see, “focus” is usually to be understood as completive/information focus.

\textsuperscript{232} See Rosengren (1993: 267f.; 1994: 185f.) for counterexamples. Indefinite w-phrases, however,
uncontroversially resist scrambling and therefore serve as an indicator whether scrambling has

\textsuperscript{233} This does not hold for T-scrambling, see 5.7.4.4. Furthermore, it is an unsettled issue whether
subjects scramble at all.

\textsuperscript{234} See Webelhuth (1990: 58–63) for further data.
b)*weil Hans jemand [ti und Maria] angemeldet hat
because Hans:ACC somebody:NOM and Mary:ACC registered has
‘Because somebody registered John and Mary.’

b)*weil [ihre Freiheit], die Leute lange [für ti] gekämpft haben.
because their freedom the:NOM people long for fought have
‘Because the people have fought for their freedom for a long time.’

5.6.3 Scrambling as A- or A’-Movement or Base-Generation?

There has been a lot of discussion on the movement type scrambling belongs to. There have
been proponents for all types of movement, i.e. A- (e.g. Fanselow 1990) or A’-movement
(Müller/Sternefeld 1994, Webelhuth 1990). Some have claimed that scrambling is a
mixed/third type of movement (Webelhuth 1993, Rosengren 1993/1994, Haider 1993,
Haider/Rosengren 1998). Still others claim that scrambling involves no movement at all but
will briefly discuss the various proposals.

5.6.3.1 Properties of NP- and wh-movement.

Let’s first take a look at the properties of NP- and wh-movement respectively. The following
table summarizes the main properties (Corver/van Riemsdijk 1994: 5):

<table>
<thead>
<tr>
<th>Category of the target landing site</th>
<th>NP-movement</th>
<th>wh-movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category of the target landing site</td>
<td>NP</td>
<td>XP (NP, PP, etc.)</td>
</tr>
<tr>
<td>A-position by substitution</td>
<td>A'-position by substitution or adjunction</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Properties of the antecedent</th>
<th>NP-movement</th>
<th>wh-movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Chain</td>
<td>A-chain</td>
<td>A'-chain</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Properties of the trace</th>
<th>NP-movement</th>
<th>wh-movement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binding Theory</td>
<td>Principle A yes</td>
<td>Principle C yes (when target = NP)</td>
</tr>
<tr>
<td>Theta Role</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>CASE</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following diagnostics further help to distinguish the two types of movement: First, a wh-
trace but not an NP-trace can licence a parasitic gap (521). Secondly, wh-movement triggers
weak crossover effects (522a) while NP-movement does not (522b) and additionally yields
anti-WCO-effects, i.e. repairs potential WCO configurations (522b). Third, wh-movement
exhibits reconstruction effects (523a) while NP-movement does not, instead, it creates new
binding possibilities (523b), see Corver/van Riemsdijk (1994: 6):

(521) a) Which article did you file [without reading each]?  
   b) *The article was filed [without reading each].

(522) a) *Who does it seem to his father [that Mary likes ti]  
   b) John seems to his father [ti to be intelligent].  
   c) Who seems to his father [ti to be intelligent]?
5.6.3.2 Scrambling as NP-Movement?

On the basis of the above-mentioned properties and diagnostics, one might expect to find out which movement type scrambling belongs to. However, as we will see shortly, scrambling differs from both movement types in several regards. Proponents of the NP-movement approach – e.g. Fanselow (1990) – usually adduce the following arguments: First, scrambling is clause bound (in German) and thus could be explained in terms of Principle A. Consequently, the landing site must be classified as an A-position. Furthermore, scrambling gives rise to new A-binding possibilities (524a), it does not exhibit Weak Crossover Effects (524b) and does not allow for reconstruction, be it a reciprocal (525a), a bound variable pronoun (525b) or a deictic possessive pronoun (525c), see Corver/van Riemsdijk (1994: 7) and Bayer/Kornfilt (1994: 18f):

\[(524)\]
\[a) \text{ weil } \text{ wir } [\text{die Frauen}]_{1} \text{ einander }_{1} \text{ vorgestellt }_{1} \text{ haben.} \quad \rightarrow \text{Because we introduced the women to each other.} \]
\[b) \text{ weil } [\text{jeden}]_{1} \text{ seine }_{1} \text{ Mutter }_{1} \text{ mag.} \quad \rightarrow \text{Because his mother likes everyone.}\]

\[(525)\]
\[a) \text{ weil } [\text{einander}]_{1} \text{ die Frauen }_{1} \text{ nicht mögen.} \quad \rightarrow \text{Because the women don't like each other.}\]
\[b) \text{ dass wir } [\text{seine }_{1} \text{ Sekretärin}]_{1} \text{ jedem Professor }_{1} \text{ vorstellten.} \quad \rightarrow \text{that we introduced to each professor his secretary}\]
\[c) \text{ dass wir } [\text{seine }_{1} \text{ Sekretärin}]_{1} \text{ dem Professor }_{1} \text{ vorstellten.} \quad \rightarrow \text{that we introduced to the professor his secretary}\]

Admittedly, these examples are somewhat problematic: First, (524a) presupposes that the indirect object precedes the direct object at D-structure, an assumption questioned by e.g. Müller/Sternefeld (1994), Müller (1999). Second, as noted in 5.5.1, the grammaticality of sentences with object quantifiers binding a pronominal inside the subject is somewhat disputed. Furthermore, wh-movement does not trigger weak crossover effects in German either, see Haider (1993: 204):

\[(526)\]
\[a) \text{ Wen, haben seine }_{1} \text{ Misserfolge }_{1} \text{ entmutigt?} \quad \rightarrow \text{Who, did his failures discourage?} \]
Consequently, the lack of WCO effects is no argument against an analysis in terms of wh-movement. However, there is a clear difference with regard to anaphors and bound pronouns: Reconstruction is possible with wh-movement (topicalization), compare with (525), see Bayer/Kornfilt (1994: 18ff.):

$$\text{(527) a) Einander, mögen die Familienmitglieder, bestimmt nicht.}$$

each other:ACC like:3p the: NOM family members surely not

'The members of the family surely don’t like each other.'

$$\text{b) \{Seine, Sekretärin\} wollten wir jedem Professor, vorstellen.}$$

his: ACC secretary wanted: 3p we every: DAT professor introduce

'We wanted to introduce to each professor his secretary.'

$$\text{c) \{Seine, Sekretärin\} wollten wir dem Professor, vorstellen.}$$

his: ACC secretary wanted:3p we the: DAT professor introduce

'We wanted to introduce to the professor his secretary.'

Another challenging fact are the following examples where scrambling does seem to exhibit reconstruction effects with reflexives and object pronouns preceding a quantified subject (Müller/Sternefeld 1994: 371f.):235

$$\text{(528) a) dass sich der Fritz schlau vorkommt.}$$

that himself the: NOM Fritz sly considers

'That Fritz considers himself sly.'

$$\text{b) dass seine Mutter jeder mag.}$$

that his: ACC mother everyone: NOM likes

'That everyone likes his mother.'

However, these reconstruction effects only occur if the binder is the subject. Things are inverse with dative reflexives: they may not preceed an accusative binder and consequently may not be reconstructed. Therefore, a different explanation is possible: Haider (1993: 167) argues that backward binding by the subject is possible because the nominative NP is in a special relationship to the finite verb. He assumes that binding is possible because the finite verb c-commands the entire middle field.236 The absence of weak crossover effects of wh-movement can be explained in similar terms (see Haider 1993: 168). Consequently, scrambling can be described uniformly as showing no reconstruction effects.

However, there is a number or arguments against an analysis in terms of NP-movement (see e.g. Rosengren 1994: 179, Bayer/Kornfilt 1994: 27ff.):

First, scrambling moves non-NPs; second, scrambling is not case-driven; third, scrambling of adjuncts categorically excludes NP-movement. See 5.7.4.2 for some discussion of this controversial issue. Fourth, NP-movement is movement to a Spec-position. Adjunction is generally ruled out. Fanselow’s (1990) stipulation that positions created by scrambling are A-positions is totally ad hoc. So if scrambling cannot be adjunction it must be movement to some Spec-position. However, it is absolutely unclear what this position might be.

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235 Interestingly, if the object contains a deictic pronoun, it cannot be bound if it precedes the subject, see Bayer/Kornfilt (1994: 20).

236 Recall that in his approach, the entire middle field is the maximal projection of the verb. Backward binding could be regarded as a further subject property in German.
Haider/Rosengren (1998: 32ff.) present a number of convincing arguments against such a position. To name just a few:

i) scrambling does not create opaque domains for extraction:

(529) a) Wen hat : |t \ damit zu überzeugen,| denn schon mal wer t versucht?
whom has with that to convince PRT already PRT someb. tried
‘Whom did someone try to convince with this?’

b) Was hat denn damals |t \ für Witze,| jeder von euch t erzählt?
what has PRT then for jokes everyone of you told
‘What kind of jokes did at that time everyone of you tell?’

ii) If scrambling is movement to a functional projection, topicalizing scrambled constituents means topicalizing a functional projection. This should result in an unbound verb trace in the prefield; however, such examples are completely grammatical.

iii) An F-spec analysis predicts a strictly fixed sequence of scrambled XPs. This is clearly not the case.
Finally, one cannot identify a (uniform) trigger for scrambling. Scrambling is surely neither case- nor interpretation-driven as it also applies to non-NPs. Rather, it is optional.

To conclude: Although the landing site of scrambling is probably best analyzed as an A-position, it is unjustified to analyze scrambling in terms of NP-movement.

5.6.3.3 Scrambling as wh-Movement?

Arguments in favor of scrambling as wh-movement are the following: First, scrambling is sensitive to island effects, see (519). Second, scrambling is directly compatible with the properties of a wh-chain without having to invoke some functional projection – i.e. adjunction is compatible with A'-movement. Third, scrambling may move non-NP categories. Fourth, scrambling perhaps involves adjuncts; fifth scrambling licences parasitic gaps:

(530) weil er [den Patienten], [ohne PRO vorher e, zu untersuchen] t, operierte
since he the patient without first to examine operated
‘Because he operated the patient without examining *(him) first.’

However, there are numerous counterarguments (Haider 1993, Rosengren 1994: 179, Bayer/Kornfilt 1994: 18ff.):

First, scrambling is clause-bound (513). Second, not everything that can be topicalized can also be scrambled, e.g. idiomatic (directional) complements (531), selected manner adverbials (532), participles (533), a nonfinite VP (534), see Rosengren (1993: 254; 1994: 175) and Haider (1993: 200ff.):

(531) a) [Zum Schweigen] wirst du Peter nie bringen.
to:the be_silent: NOM will:2s you: NOM Peter: ACC never bring:INF
‘You will never get Peter to be silent.’

b)*dass du [zum Schweigen] Peter nie bringen wirst.
that you: NOM to:the being_silent: NOM Peter: ACC never bring will:2s
‘That you will never get Peter to be silent.’
Third, while wh-movement creates islands, scrambling does not (Haider 1993: 199):

(535) a) *I wonder who [this book] I likes t_i.

b) Ich frage mich, was [meinem Onkel] die Nachbarin t_i t_i gegeben hat.
   I ask myself what my:DAT uncle the:nom neighbor given has
   ‘I ask myself what the neighbor gave to my uncle.’

Fourth, as shown above (524)/(525), scrambling creates new binding possibilities and does not allow for reconstruction. At least in the case of reflexives and reciprocals, this property clearly distinguishes it from wh-movement.

Fifth, the data involving parasitic gaps are very problematic. Bayer/Kornfilt (1994: 24f.) show that informants are usually reluctant to accept examples like (530), the acceptability depending on various factors like the complexity of the infinitival adjunct (present or perfect infinitive) and the type of the antecedent: weak pronouns and topicalized constituents provide better results. Furthermore, certain data discussed in Webelhuth (1992) have come to be called ‘Webelhuth’s paradox’: As the following examples show, a scrambled structure may at the same time exhibit A- and A’-properties: The scrambled constituent licences a parasitic gap while simultaneously binding an anaphor/a bound variable (Corver/van Riemsdijk 1994: 9):237

(536) a) Peter hat [jeden Gast] [ohne e,anzuschauen]seinem Nachbarn t_i vorgestellt.
   Peter has every:ACC guest without to look_at his:DAT neighbor introduced
   ‘Peter introduced every guest to his neighbor without looking at *(him).’

b) Peter hat [die Gäste] ohne anzuschauen einander vorgestellt.  
Peter has the guests without to look at each other introduced 'Peter introduced the guests to each other without looking at *(them).*'

Moreover, Haider/Rosengren (1998: 41ff.) show that the alleged parasitic gaps are better analyzed as the result of coordination ellipsis. This eliminates one piece of evidence against an A-movement analysis.

In sum, there seems to be rather little reason to assume that scrambling is an instance of wh-movement.

5.6.3.4 Scrambling as a third Type of Movement?

Apart from the fact that scrambling is neither fully compatible with an A- nor an A’-movement approach, there are additional properties that differentiate it from the other types of movement:

First, scrambling may apply twice in a sentence, i.e. to different elements while the other types of movement only involve one constituent (and one Spec position as a landing site), see Haider (1993: 200):

(537) dass [den Objekten] diese Reihenfolge niemand t. t. übelnehmen darf. 
that the objects this order nobody take amiss may 'that nobody should be offended by this sequence of the objects'

Second, as shown in (529), scrambling does not create opaque domains for extraction (contra Müller 1998: 3). This distinguishes it from the other types of movement (Haider/Rosengren 1998: 32f.):

(538) a)*Who has [a picture of t.j] been sold t.j?

b)*Who should [with t.j] I talk t.j at once?

Third, scrambling is optional. As already discussed above, one cannot identify a uniform trigger.

The most elaborate approach that attempts to overcome the shortcomings of an analysis in terms of NP- or wh-movement has been put forward by Haider (1993: 216ff.) and Haider/Rosengren (1998: 50ff.).

This approach can be summarized as follows: Assuming a representational framework, scrambling is analyzed as A-chain formation within the VP. Grammatical relations/case assignment are not restricted to certain structural positions within the VP as the verb governs all A-positions (non-positional identification). Arguments are projected according to their respective order in a verb’s argument structure: First the lowest argument as a sister to V, then the next on the hierarchy as a sister to V’ etc. Different unmarked base orders result from different argument structures. If a base position is not filled by an overt NP, the theta-criterion requires it to contain a trace/gap which in turn requires an antecedent. An antecedent is only licensed within the V-projection. Of course, this does not hold for wh-movement.
The head of a scrambling chain is assumed to be an adjoined position within the so-called extendable projection domain of $V'$. Due to X'-recursion no paradox results: adjunction is always to X' but never to XP. This proposal elegantly captures all the A-properties of the chain between the antecedent and the gap. It also explains the following properties: i) the restriction against scrambling a VP follows from the fact that it would have to be adjoined to itself and thus could not be licenced. ii) Optionality poses no problem for a representational framework. iii) That scrambling is not restricted to NPs is possible because the landing site is an adjoined position. Such positions do not discriminate between categories. iv) String-vacuous scrambling is ruled out for reasons of economy: there is always a simpler convergent structure. v) The fact that scrambling can apply to more than one phrase is due to the absence of substitution. vi) Transparency for extraction is to be expected from elements in A-positions within the VP.

However, one challenging fact is the scrambling of adverbials. Haider/Rosengren (1998: 55) simply deny the existence of scrambled non-selected adverbials. Alternative orders are attributed to the fact that adverbials do not have fixed base positions. This assumption is quite problematic in the view of the findings presented in Frey/Pittner (1998). See 5.7.4.2 for discussion. Apart from this problem, though, this approach fares substantially better than the previous ones.

5.6.3.5 Scrambling as Base-Generation?

Accounts in terms of base-generation are mostly motivated by the impossibility to subsume scrambling under one of the well-established types of movement, see e.g. Bayer/Kornfilt (1994), Fanselow (1998) and Heck (2001). For reasons of space, I will not discuss any of these approaches in detail. Instead, I will simply discuss some of the strongest counterevidence found in the literature, see Rosengren (1993: 254f.; 1994: 179), Haider/Rosengren (1998: 29ff.) and Müller (1999).

First, not all orders are equally unmarked. This fact cannot be expressed in a base-generation account. In an account involving antecedent-gap relationships, markedness can be analyzed as following from movement/chain-formation, see 5.7.1.1. Second, some orders block focus projection. A movement approach can account for this, see 5.7.1.1. Third, scrambling results in scope ambiguities, see 5.6.4.2 below. See Haider/Rosengren (1998: 29ff.) for a detailed discussion of the problems that these phenomena present for a base-generation approach. Fourth, the adjacency-requirement on case- and theta-role assignment has to be dropped. While a similar consequence for case-marking/-checking is also entailed by the approach described in the previous section, the variable projection of arguments makes such an account very similar to a lexicalist framework. Conceptually, it would probably be more attractive to dispense with movement altogether in favor of a fully lexicalist framework. A mixture between movement and non-movement accounts, however, seems rather unattractive. For reasons of space, I cannot discuss fully lexicalist accounts of scrambling here.

Furthermore, as Haider (1993: 219) notes: Raising a locative in an English locative-inversion construction shows that A-chains may involve non-NPs.
5.6.4 Further Properties of and Diagnostics for Scrambling

This section is devoted to additional properties of scrambling. While these properties suggest some resemblance to wh-movement, the data are quite complex and deserve special treatment. The most important consequence will be that scrambling requires a syntactic account.

5.6.4.1 Principle-C-Effects

It is often assumed that Principle C is checked at S-structure. Consider the following examples involving wh-movement (Huang 1995: 163):

(539) a) [Which picture that Johni took]j did hei like tj. ?

   b) *Hei; liked every picture that Johni took.

If Principle C were to apply at LF, (539b) should be grammatical as the pronoun would no longer c-command the R-expression within the quantifier phrase. However, topicalization, which is usually considered an instance of wh-movement in English exhibits reconstruction effects (Haider 1993: 203):

(540) Himi, John'si friends found fault with.

At S-structure, the pronoun c-commands the R-expression. We have two options to account for this: Either topicalization differs from wh-movement in relevant respects or the correct formulation for principle C is still to be found. For reasons of space, I cannot discuss this issue any further.

As for German, local wh-movement (topicalization) shows that Principle C is checked at S-structure (Haider 1993: 204):240

(541) a) *[Vor ihmij haben sich Petersi Kinder tj auf den Boden gesetzt.]

   ‘In front of him, Peter’s children sat down on the floor.’

   b) [Manche Behauptung, die Hansi gestern machteij wird eri tj zurücknehmen.]

   ‘John will take back some of the claims he made yesterday.’

In (541a) the pronoun is moved across a referential expression – but it is unclear why this results in a violation since being embedded within a PP the pronoun does not c-command the R-expression. At any rate, reconstruction is no option as this would lead to a perfectly grammatical reading. In (541b), however, there is no violation. This can be attributed to the fact that the R-expression is no longer c-commanded by the pronoun. Reconstruction would lead to a violation. Things become even more confusing if we consider a structurally identical example from Haider (1993: 176) and Haider/Rosengren (1998: 13):

(542) a) [In Petersi Wagenij hat sie ihnij tj geküsst.]

   ‘She kissed himi in Petersi car.’

240 There are no principles C-effects with long wh-movement, see Haider (1993: 204).
b) *[Aus Peters Wagen] hat man ihn gezerrt.

out_of Peter’s car has one him dragged

‘Peter was dragged out of his car.’

These examples would be expected to be identical in grammaticality to (541b) as the R-expression is not c-commanded by pronoun. But for some reason, we obtain a reconstruction effect in (542b).

Whatever the reason for this inconsistency may be, the following examples show that scrambling patterns with local wh-movement in German (Haider 1993: 203; Frey/Pittner 1998: 494):

(543) a) *dass man [vor ihm Peters Kinder] schützen muss.

that one before him Peter’s children protect must
‘that one must protect Peter’s children from him’

b) dass [die Behauptung, die Hans gestern machte] er zurücknehmen wird.

that the claim that Hans yesterd. made he take_back will:3s
‘that Hans will take back the claim he made yesterday’

In (543a), scrambling leads to new binding possibilities while in (543b), a potential bindee is scrambled across a binder which destroys binding relations. Clearly, reconstruction must be ruled out in this case.

Frey/Pittner (1998: 494) additionally show that principle C-violations also occur if the trace of an R-expression is c-commanded by a coreferential constituent. This provides another helpful diagnostic for the base order:

(544) a) *dass man [den Freund von Peter] dem Peter dafür empfohlen hat.

that one the:ACC friend of Peter the:DAT Peter for_this recommended has
Lit.: ‘that one recommended to Peter Peter’s friend for this’

b) dass man [dem Chef von Peter] dem Peter dafür empfohlen hat.

that one the:DAT boss of Peter the:ACC Peter for_this recommended has
‘that one recommended to Peter’s boss Peter for this’

The principle C-violation in (544a) indicates that the direct object has been scrambled over the indirect object: The R-expression is bound in its base position. In (544b), however, no violation occurs as the indirect object is base-generated above the direct object. Consequently, it cannot be bound. Unfortunately, this account fails to predict the grammaticality of (543b): The R-expression is scrambled across a binder so that the latter should bind the R-expression in its base position. Nevertheless, the example is grammatical. I will not try to solve the contradictions here; it is sufficient for our purposes that since wh-movement is also to some degree involved in creating new binding possibilities, principle C-effects are probably not to be taken as an argument in favor of A-movement. I will, however, employ the tests introduced by Frey/Pittner (1998) as a diagnostic for scrambling.
5.6.4.2 Scope and Scope Inversion

An important diagnostic for scrambling are scope ambiguities: Rosengren (1994: 192), Frey/Pittner (1998: 195f.) and Haider/Rosengren (1998: 13f.) have shown that a quantifier $X$ can get a wide scope reading with respect to a phrase $Y$ if at least one member of the chain of $Y$ is c-commanded by $X$. This means that if $Y$ is scrambled across $X$, $X$ may still get a wide scope reading because it c-commands the trace of $Y$:\footnote{Additionally, one should test these examples under VERUM-focus (focus on the truth value) to rule out interfering factors, see Rosengren (1994: 190).}

\[(545)\]
\begin{enumerate}
  \item a) dass man [fast jedes Bild], mindestens einem Experten t, zeigte. ($\exists \forall / \forall \exists$) \\
  \hspace{1em} that one almost every:ACC picture at least one:DAT expert showed:3s \\
  \hspace{1em} ‘that almost every picture was shown to at least one expert’
  \item b) dass man fast jedem Experten mindestens ein Bild zeigte. ($\forall \exists$) \\
  \hspace{1em} that one almost every:DAT expert at least one:ACC picture showed \\
  \hspace{1em} ‘that at least one picture was shown to almost every expert’
\end{enumerate}

\[(545a)\] is ambiguous because the the existential quantifier c-commands the trace of the scrambled other quantifier. In \[(545b)\], however, where no scrambling has taken place, only the quantifier which c-commands the other can get a wide scope reading.

There is an interesting interaction between scrambling, scope and intonation: scrambled quantifiers do not get a wide scope reading if a rise-fall contour is used: the rise accent on the scrambled quantifier results in the preferred reading in which it only gets narrow scope – as if it were reconstructed (Haider/Rosengren 1998: 19f.):

\[(546)\]
\begin{enumerate}
  \item a) dass [mehr als drei Fragen], die MEIsten t, beantworten konnten. $\exists \forall / \forall \exists$ \\
  \hspace{1em} that more than three questions the most answer could:3p \\
  \hspace{1em} ‘that most people could answer more than three questions/that more than three questions could be answered by most people’
  \item b) dass [/MEHR als drei Fragen], die MEI\sten t, beantworten konnten. $\forall \exists$ \\
  \hspace{1em} that more than three questions the most answer could \\
  \hspace{1em} ‘that most people could answer more than three questions’
\end{enumerate}

\[(545a)\] is ambiguous because of the reasons discussed above; \[(545b)\], however, exhibits scope inversion: the scrambled existential quantifier cannot get wide scope. These facts provide a very useful tool to detect scrambling.\footnote{See Rosengren (1994: 191) for a more detailed discussion. One of her important findings is that scope ambiguities do not only depend on whether scrambling has taken place but also on the type of quantifier.}

Scope ambiguities also result from local wh-movement of quantifiers (Haider 1993: 205):

\[(545)\] [Mindesten einen Trick], hat er fast jedem Lehrling t, beigebracht. \\
\hspace{1em} at least one:ACC trick has he almost every:DAT apprentice taught \\
\hspace{1em} ‘he taught almost every apprentice at least one trick/at least one trick was taught to every apprentice’

\footnote{No ambiguity results from long wh-movement, see Haider (1993: 205).}
Whatever the reason for this similarity, it is sufficient for my purposes to use scope ambiguities as a diagnostic for scrambling.

5.6.5 Conclusion

In this section, I discussed the various properties of scrambling and the most important approaches to analyze it in a coherent way. It seems that scrambling cannot be subsumed under one of the established movement types. However, there is a lot of evidence that scrambling is a syntactic phenomenon. In my investigation of locative inversion constructions in German, I will avail myself of the diagnostics for scrambling introduced in this chapter. I will, however, not try to present a new coherent account of scrambling as such. It will be sufficient for my purposes to determine whether or not scrambling has taken place.
5.7 Competing Forces determining Word Order: the Middle Field

In this section, I will briefly present the principles that have been claimed to determine word order in the German middle field. What follows is not intended to be yet another analysis of the German middle field. I merely purport to establish secure diagnostics for the finer structure of the middle field that will help us to analyze the structural position of locatives in the subsequent sections.

5.7.1 Basic Word Order – Markedness vs. Syntax?

5.7.1.1 Basic Word Order = Unmarked Order

According to a widely held view (e.g. Bühring 1994, Lenerz 2001, Rosengren 1994: 180, Haider/Rosengren 1998), basic clause structure, i.e. D-structure (or the initial VP-shell in a derivational Minimalist setting), represents the unmarked order. This order is the syntactic reflex of the hierarchically ordered argument structure of a verb: Argument structure prominence is mapped onto c-command relationships in syntax (see Rosengren 1994: 180ff.; Haider/Rosengren 1998: 14ff.). Scrambling operations disturb this sequence, thereby creating markedness. Markedness is usually defined as follows (see Höhle 1982): The more context types a given sentence can occur in, the less marked it is.244 It is usually assumed that the most unmarked order surfaces if the whole sentence is in focus. As for the intonational correlate, maximal focus projection (= sentence focus) requires the nuclear accent to fall on the structurally deepest non-verbal element, see Frey/Pittner (1998: 493), Rosengren (1993: 286), Haider (1993: 209ff.), Haider/Rosengren (1998: 15) von Stechow/Uhmann (1986:313ff.) as shown in (547a). If, however, the lowest argument is scrambled and the accent falls on the next argument preceding the verb, only narrow focus is possible (547b). The same holds if no scrambling takes place but a non-final argument receives the main accent (547c).

Applying this criterion to a sentence with a prototypical ditransitive verb, we can make the following observations:245

(547) What did you say had happened?
   a) dass man dem Fritz das Geld gegeben hat. (focus projection)
      that one the:DAT Fritz the:ACC money given has
      ‘that one has given Fritz the money.’
   b) #dass man das Geld dem FRITZ gegeben hat. (narrow focus)
      that one the:ACC money the:DAT Fritz given has
   c) #dass man dem FRITZ das Geld gegeben hat. (narrow focus)
      that one the:DAT Fritz the:ACC money given has

Thus, the sequence IO > DO seems to be unmarked and therefore reflects the order at D-structure. However, this approach entails that different D-structure orders must be assumed for different verbs as there are verbs whose arguments appear in a different unmarked sequence (Müller 1999: 783ff.):

(548) What did you say had happened?

245 Nuclear accent is represented by capital letters.
a) dass er der Großmutter die Kinder auslieferte
   that he the:DAT grandmother the:ACC children handed_over
   ‘that he handed the children over to the grandmother.’

b) dass er die Kinder der Grossmutter auslieferte.
   that he the:ACC children the:DAT grandmother handed_over

Here, the sequence DO>IO has to be considered unmarked. Consequently, these verbs project their arguments in a different order at D-structure.

Different base orders predict different behavior concerning principle C-effects and scope ambiguity. This is indeed the case: *empfehlen* ‘recommend’ is a verb with DAT>ACC order, *vorziehen* ‘prefer’ one with ACC>DAT order:

(549) a) dass ich dem Peter die Maria empfohlen habe. (wide)
   that I the:DAT Peter the:ACC Mary recommended have
   ‘that I recommended Peter Mary’

b) dass ich die Maria dem Peter empfohlen habe. (narrow)
   that I the:ACC Mary the:DAT Peter recommended have

(550) a) dass ich die Kluge der Schönheit vorgezogen habe.
   that I the:ACC intelligent: NOM the:DAT beautiful preferred have
   ‘that I preferred the intelligent one over the beautiful one’

b) dass ich der Schönheit die Kluge vorgezogen habe.
   that I the:DAT beautiful the:ACC intelligent preferred have

Consequently, principle C-effects are only observed if the lower argument is scrambled across the higher (Frey/Pittner 1998: 494):

(551) a) dass man [den Freund von Peter]j dem Peter, dafür empfohlen hat.
   that one the:ACC friend of Peter the:DAT Peter for this recommended has
   Lit. ‘that one recommended to Peter Peter’s friend for this’

b) dass man [dem Chef von Peter]j den Peter, dafür empfohlen hat.
   that one the:DAT boss of Peter the:ACC Peter for this recommended has
   ‘that one recommended to Peter’s boss Peter for this’

(552) a) dass sie [den Vater von Peter]j dem Peter, vorgezogen hat.
   that she the:ACC father of Peter the:DAT Peter preferred has
   ‘that she preferred Peter’s father over Peter.’

b) dass sie [dem Vater von Peter]j den Peter, vorgezogen hat.
   that she the:DAT father of Peter the:ACC Peter preferred has
   Lit: ‘that she preferred Peter over Peter’s father’
Another diagnostic to test different base orders is quantifier scope. For simplicity, I will use scope inversion data. Recall that scope inversion (under rise-fall intonation) is possible only with scrambled structures:246

(553) a) dass er /JEDem Boss mehr als /EINen Kandidaten empfahl. \(^\forall\exists\) that he every:DAT boss more than one:ACC candidate recommended ‘that he recommended every boss more than one candidate’

b) dass er /[JEDen Kandidaten], mehr als /EINem Boss t, empfahl. \(^\exists\forall\) that he every:ACC candidate more than one:DAT boss recommended

(554) a) dass er /[JEDer Frau], mehr als /EINen Mann t, vorzog. \(^\exists\forall\) that he every:DAT woman more than one:ACC man preferred ‘that he preferred more than one man over every woman’

b) dass er /JEDen Mann mehr als /EINer Frau vorzog. \(^\forall\exists\) that he every:ACC man more than one:DAT woman preferred

Again, the difference in scope inversion can be nicely correlated with different base orders. We thus have three very secure indicators for scrambling: Principle C-effects, scope ambiguities and focus potential.

In the following section, I will discuss some of the problems this approach to the syntactic implementation of markedness is faced with.

5.7.1.2 Basic Word Order follows from Syntax

While the approach outlined in the previous section offers a straightforward explanation of the markedness properties associated with the respective orders, there are good arguments not to take such an approach (see Müller 1999: 784 who the discussion in the following sections is based on):

First, one and the same verb can exhibit different unmarked orders depending on the animacy of its arguments:247

(555) a)#dass man diesem Einfluss die Kinder entzogen hat. IO>DO that one this:DAT influence the:ACC children taken_away_from has ‘that one took the children away from this influence.’

b) dass man die Kinder diesem Einfluss entzogen hat. DO>IO that one the:ACC children this:DAT influence taken_away_from has

(556) a) dass man der Maria die Kinder entzogen hat. IO>DO that one the:DAT Mary the:ACC children taken_away_from has ‘that one took the children away from Mary.’

b)#dass man die Kinder der Maria entzogen hat. DO>IO that one the:ACC children the:DAT Mary taken_away_from.


247 However, as Haider/Rosengren show (1998: 17f.), several verbs with basic ACC>DAT order do not exhibit such an animacy effect.
If one were to follow the above approach to markedness, the difference in animacy would have to be reflected in the D-structure order of arguments, with DO > IO if the IO is [-animate] but IO > DO if the IO is [+ animate]. This is clearly a very undesirable result.

Second, there is simply no logical reason to assume that relative degrees of markedness should reflect the degree of deviation from the D-structure order of arguments. Müller (1999: 781) convincingly shows that the order DO > IO is more compatible with the facts from anaphoric binding: As already discussed in 5.1.3.2, only the DO may bind an IO reflexive/reciprocal:

(557) a) dass der Arzt [den Patienten], sich, im Spiegel zeigte.
that the:NOM doctor the:ACC patient self:DAT in_the mirror showed
Lit.: ‘That the doctor showed the patient to himself in the mirror.

b) * dass der Arzt [dem Patienten], sich, ti im Spiegel zeigte.
that the:NOM the:DAT patient self:ACC in_the mirror showed

This generalization is independent of the unmarked order of the argument order a particular verb exhibits as well as of the relative animacy of the arguments, see Müller (1999: 781) and Grewendorf (1988: 57ff.). Furthermore, this approach also explains the relative order of DO, IO and oblique arguments:

(558) dass man [der Frau], die Augen ti [über sich] öffnete.
that one the:DAT woman the:ACC eyes about self:ACC opened
‘that one opened the woman the eyes about herself.’

This approach gains further support from the order of weak pronouns which is invariably SU > DO > IO (alternative orders being ungrammatical):

(559) dass man es ihr / * ihr es gegeben hat.
that one it her:DAT given has
‘that one has given it to her.’

So far, Müller’s approach fares quite well. However, the verb-dependent scope and binding data discussed above do not find a ready explanation within his approach, see Heck (2001: 458ff.). In addition, binding of reflexives can be explained in terms of A-movement if IO > DO sequences are base-generated. Consequently, Müller’s approach has rather few advantages.

5.7.1.3 The Alignment Approach

Choi (1996) develops an OT-LFG approach to scrambling in German. As there is no D-structure in this framework that could be used to implement markedness, Choi assumes that the unmarked sequence is context independent and determined purely by grammatical constraints she she subsumes under a cover constraint called CANON. This constraint is an alignment constraint that controls the mapping between f-structure and c-structure. Simply put, it requires the argument with the highest grammatical function to precede all other arguments linearly. The remaining arguments align reversely with the c-structure according to the functional hierarchy (SU > DO > IO > OBL). This generates the unmarked structure

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249 Note that the indirect object must have undergone A-movement in order to be able to bind the reflexive.
SU>IO>DO. As anaphoric binding is not regulated by c-structure but by f-structure, it is no problem that the IO precedes the DO. However, Choi’s approach makes the wrong prediction for obliques: according to CANON, they should precede the other objects, yet they appear VP-finally. Choi (1996: 41ff.) also incorporates a constraint that prefers the alignment of the arguments according to the thematic hierarchy. If this constraint is assumed to outrank the other alignment constraint, verbs with unmarked DO>IO order could be accounted for as well, making it very similar to the first approach. As there is no conflict between syntactic and pragmatic criteria in her syntactic implementation of markedness, it evades some of the problems that the D-structure approach is faced with.  

5.7.1.4 Conclusion

We are now equipped with a number of approaches that will help us to determine the unmarked order. Unfortunately, as the syntactic requirements may not always be isomorphic to the information structural conditions, we might arrive at different results depending on what we want D-structure to reflect.

5.7.2 Formal vs. functional Principles

After discussing arguments for what D-structure should represent, I will now present some of the principles that regulate to what degree sentences may deviate from the basic clause structure.

5.7.2.1 The two Kinds of Principles

The discussion about word order regularities is often based on functional principles, i.e. precedence principles that are not so much sensitive to the structural positions or grammatical relations but rather to the semantic/discourse functional properties of the referents of XPs. For instance (see e.g. Jacobs 1988: 19ff.), agentive arguments are said to precede non-agentive ones, recipients typically precede patients/themes, definites precede indefinites, animate precede inanimate arguments and thematic constituents precede focal constituents. The following examples illustrate most of these principles (Jacobs 1988: 19):

(560) a) dass Boris dem Fan einen SCHLÄger geliehen hat  
   that Boris the:DAT Fan a:ACC racket lent has  
   ‘that Boris lent the fan a racket.’

   b) dass dem Fan Boris einen SCHLÄger geliehen hat  
   that the:DAT fan Boris a:ACC racket lent has

(561) a) dass Boris einem Fan einen SCHLÄger geliehen hat  
   that Boris a:DAT fan a:ACC racket lent has

   b) dass Boris einen Schläger einem FAN geliehen hat  
   that Boris a:ACC racket a:DAT fan lent has

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250 I do not know how she would handle the interdependence of animacy and order for some verbs. Additionally, weak pronouns require a separate treatment.

251 In many current syntactic accounts, however, linear precedence is mostly the result of a structural asymmetry: if X c-commands Y, X will precede Y in linear order.
Each of the b)-sentences violates exactly one principle. In (560b), the agentive argument follows a non-agentive one; in (561b), the recipient follows the theme; in (562b), an indefinite argument precedes a definite argument and finally in (563b), a focal argument precedes a topical one. The b) sentences are all more marked than the a)-examples. But none of them is ungrammatical. So these violations do not lead to ungrammaticality but rather create markedness. Interestingly, not all violations seem to lead to the same degree of deviance: For instance, (560b) is probably more marked than (563b). This suggests that these principles are of different strength.

But now consider the following examples (Jacobs 1988: 20):

Here, the a)-examples both violate one of the principles: In (564a), the theme precedes the recipient. In (565b), a non-agentive constituent precedes an agentive oblique. Nevertheless, these examples are totally unmarked. On the other hand, the b)-examples which do not violate any of these principles are strongly deviant, they are clearly more marked than the b)-examples of the previous series. The inverse acceptability between these and the previous examples must be due to the fact that some arguments are realized with a different category: In (564), the direct object is a weak personal pronoun, in (565), the agent is realized as a PP-adjunct. We have already seen in 5.7.1.2 that weak pronouns invariably occur in the order NOM > ACC > DAT. As for the agentive PP, it patterns with other oblique constituents in that it tends to occur immediately before the verb, see 5.6.1. Consequently, we are dealing with purely formal principles in this case. They supersede the functional ones. Moreover, violations of formal principles lead to stronger degradation that violations of functional principles. This suggests (see e.g. Jacobs 1988: 21f.) that while formal principles
regulate the grammaticality of sentences, formal principles determine their markedness. In other words: formal principles are categorical while functional principles are gradient.\textsuperscript{252}

It is not always easy to determine the exact nature of both formal and functional principles. For instance, the order in (564) and (565) could be attributed to a grammatical constraint that aligns constituents according to their grammatical function: SU > DO > IO. One might further speculate whether the agentivity principle should not rather be replaced by this purely grammatical constraint at least as far as subject and object are concerned since subjects are usually agentive. However, the following examples shows that at least for full NPs, this does not work (Jacobs 1988: 21; 24):

(566) a) dass dieser Spieler dem Publikum gefiel.
    ‘that this player pleased the crowd’

b) dass dem Publikum dieser Spieler gefiel.

(567) a) dass dem Patienten das Medikament geholfen hat.
    ‘that the medicine helped the patient’

b) dass dem Patienten der Arzt geholfen hat.

  c) dass dem Publikum dieser Spieler gefallen wollte.
    ‘that this player wanted to please the crowd’

(566) involves a verb whose subject is an experiencer rather than an agent. Postponing the subject does not lead to degradation, in fact, this order is often regarded as the unmarked order (see 5.8.1)\textsuperscript{253}. If we were to rely on a formal principle in terms of grammatical relations, this would be unexpected. The agent principle, however, nicely accounts for these facts: it is simply not operative in this case. Therefore, the object > subject order is not expected to be deviant. (567) shows that the agentivity of an argument does not depend on the verb alone but also on the semantic-ontological type of the referent of the argument (567b) and the choice of auxiliary (567c): With these modifications, an agentive interpretation results that is absent in (567a). As the agentive interpretation in combination with subject postponing leads to degradation, the functional agentivity principle and not the formal subject principle must be at work. Consequently, the formal GF-principle seems to hold only for weak pronouns.

However, some non-agentive subjects cannot be postponed as easily as the source/theme subjects in (566) and (567), see Jacobs (1988: 21):

(568) a) dass Boris die Nachricht erhalten hat.
    ‘that Boris received the message’

\textsuperscript{252} Further examples for a formal principle are the scope-inclusion principle by Jacobs (1988: 20; 30) and more generally the principles of the binding theory, see 5.6.3.2.

\textsuperscript{253} One may still ask what causes the preference for DAT>NOM orders. See below
One could suggest that this is in fact the result of the force of the recipient > theme principle. While this principle accounts for the unmarked DAT > ACC order of many ditransitive verbs in German (see 5.7.1.1), this still leaves us with those ditransitive verbs that favor ACC > DAT orders. If they can be shown to differ from DAT > ACC verbs with regard to the semantic role of their arguments and if some precedence principle that refers exactly to these semantic roles can be found, this order would not longer have to be considered exceptional. I will leave this to further research.

If many of the unmarked orders are sensitive to semantic roles, one might try to reduce these precedence principles to the principles that govern the hierarchical order of arguments in the argument structure of verbs. The preferred order would then that specified in the verb’s argument structure. This is basically implied in the approaches by Haider/Rosengren (1998: 14ff.) mentioned in 5.7.1.1: semantic distance/closeness of an argument to its predicate is mapped onto structural distance/closeness of an XP to its head (see also Jacobs 1988: 25). This entails for verbs with preferred DAT > NOM or ACC > NOM order that the argument that is mapped onto the subject function is not the semantically most prominent one. Accordingly, these verbs must contain some extra specification that avoids the default linking process (through which the most prominent argument becomes the subject) and/or they must be treated as unaccusatives.

On this approach, a marked structure results, if the linear order (or: c-command relationships) does not reflect the argument hierarchy. However elegant this approach may be, there remain some fundamental problems: Not all violations are equally strong: If we compare (560) with (566), we notice that a marked degradation results in the first case while the second sentence remains perfectly acceptable if the argument hierarchy is not preserved in the linear order. Consequently, one still has to find a means to express the fact that postponing an agentive subject after one of its object leads to stronger deviance than postponing a non-agentive subject. I do not see how this can be done only with reference to the argument hierarchy. Therefore, one should be careful in attempting to eliminate the precedence principles which refer to semantic roles. Furthermore, the examples in (567) require the agentivity principle anyway as argument structure is usually thought not to be sensitive to the semantic-ontological properties of the referents of its arguments.

This rather complex excurses has clearly shown how difficult it can be to determine whether a principle is formal or functional and what kind of or which principle is at work in a given sentence. To summarize this section so far: We have established certain functional principles that somehow seem to be suspended by formal principles if the arguments are not realized as ordinary full NPs (i.e. either as weak pronouns or as PPs).

There is one thing we still need to take a closer look at: Is there a way to predict which violations lead only to markedness and which to ungrammaticality?

5.7.2.2 Grammaticality vs. Markedness

So far, I have been assuming that a violation of a formal principle is more severe than the violation of a functional principle. In fact, as (564) shows, the violation of a functional principle avoids the violation of a formal principle and thus leads to grammaticality. This

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254 Note that this provides an argument against interpreting the principle that favors recipient > theme orders as a formal constraint DAT > ACC as in Müller (1999).
suggests that these principles are hierarchically ordered with regard to each other and that only violations of the highest principle count. If we assume that the formal principles all outrank the functional principles, we could predict that ungrammaticality results only if a formal principle is violated while violation of functional principles only leads to markedness. However, this cannot be fully correct since an example like (565b) where a formal principle (PP before NP) is violated can be modified in a way that its acceptability improves very much although the formal principle is still violated:

(569)  dass  von Edberg bislang noch keiner geschlagen wurde.
     that  by Edberg so_far still nobody: NOM beaten was
‘that so far, nobody has been beaten by Edberg’

Here, the subject is indefinite and separated from the PP by adverbials. As this sentence is fully acceptable, one can no longer to strong degradation of (565b) to the formal principle alone. Instead, some sort of interaction between formal and functional principles seems to be at work: In (565b), both constituents are definite. Therefore, preposing the PP does not lead to the satisfaction of some other principle. In (569), however, preposing the PP leads to the satisfaction of the DEF>INDEF principle. Consequently, the violation of a formal principle does not necessarily lead to ungrammaticality. Instead, in some cases, functional principles still seem to be operative. So at least some formal principles do interact with functional principles. One cannot make the general claim that they always suspend them. This issue would require far more investigation than is possible in this study. For our purposes, however, it is sufficient to be aware of these complexities.

So what about the interaction of functional principles? In the previous section, I stated the widely held view that violation of functional principles does not lead to ungrammaticality but only to markedness.

It is uncontroversial that not all word orders in the middle field are equally (un-)marked. Some are more marked than others. However, it is less clear when a structure is so deviant as to become ungrammatical. Müller (1999: 796) claims that “it is indeed the exception rather than the rule for a VP-internal word order in German not to be grammatical at all.” In his OT approach, all orders in the middle field are predicted to be grammatical even if they violate all of his (functional) constraints in the subhierarchy.255 This is surely at odds with much of the literature where certain orders are ruled out categorically, e.g. scrambled indefinites or scrambled foci.256

While many of Müller’s examples are surely not downright ungrammatical, they are at least borderline. Furthermore, it is easily possible to construct examples that are completely ungrammatical; consider the following example which violates all of Müller’s constraints (NOM, DEF, AN, FOC, DAT, see the following section):

(570)  *dass ein BUCH dem Vater der Peter gegeben hat.
     that a:ACC book the:DAT father the: NOM Peter given has
‘That it was a book that Peter gave to the father’

Here, the subject follows the objects (NOM), the focus is not sentence final (FOC), an indefinite argument precedes a definite (DEF), and the indirect object follows the direct

255 The subhierarchy is a means to express markedness. A violation of constraints in the subhierarchy does not result in ungrammaticality. See Müller (1999: 795) for the precise framework.

Within Müller’s framework, this example would be very marked yet grammatical. This is clearly incorrect. The major difficulty lies in finding the cut-off point: where does markedness end and grammaticality begin? Consider the following example which is only a slightly modified version of the previous sentence:

(571) dass ein /SO teures Buch dem Vater ja nur der \PETer schenken würde.

that a:ACC so expens. book the father PRT only the Peter give would

‘that only Peter would give the father such an expensive book’

The arguments still appear in the same order, the definiteness values have not changed either. All that is different is focus assignment and intonation. Yet the example is fully grammatical. Therefore, it seems that we are dealing with an effect of cumulativity (contra Müller 1999: 813, fn. 22): the more constraints are violated, the more acceptability decreases. In many cases, the border between grammaticality and high markedness is not as categorical as in (570) vs. (571) but rather blurred. Yet at any rate, it is simply not correct that all orders in the middle field are grammatical. The difficult task, however, will consist in finding a way to predict how many principles need to be violated so that a structure becomes ungrammatical.

There is little doubt that functional principles are of different strength: violation of a stronger principle leads to stronger deviation than violation of a weaker principle. Accordingly, these principles must be ranked. We already know that several violations may lead to ungrammaticality. What we do not know yet how many or what kind of violations a sentence has to incur in order to be ungrammatical. A promising account is sketched by Jacobs (1988: 27ff.): functional principles are assigned a number according to their strength, e.g. three for the agentivity principle, two for the definiteness principle and so on. Then, one examines a given sentence and determines how many times a precedence principle could possibly be violated. This number is multiplied with the number of the individual principle. After this has been done for every principle, the totals are added up to the total score. Then, one examines which and how many violations a given sentence occurs. For every violation, the number of a principle is deducted from the total score. This leads to the actual score. Then a scale has to set up with divisions for different degrees of acceptability. Let’s consider two examples:

(572) a) dass dem Vater der Peter das BUCH gegeben hat.

that the:DAT father the:Nom Peter the:ACC book given has

‘that Peter gave the book to the father’

b) dass der Peter ein BUCH dem Vater gegeben hat.

that the:Nom Peter a:ACC book the:DAT father given has

(572a) violates the agentivity principle while (572b) violates the Recipient principle, the definiteness principle and the focus principle. As the latter is more marked, its total score must be less than that of the former. This can be achieved if the agent principle is assigned 3 marks, the recipient principle and the definiteness principle 2 marks and the focus principle one mark. The a)-sentence would have 3 marks deducted from the total, the b)-sentence 5 marks. The marks assigned to each principle naturally have to be determined

257 Admittedly, we might be dealing with a different kind of word order variation, viz. T-scrambling, see 5.7.4.4.

258 Cumulativity is a severe problem for Müller’s approach. A way for him to save his approach would be to resort to local conjunction.
In the following sections, I will discuss the effect of the major functional constraints that have been identified for German. The discussion is based on the constraints employed by Müller (1999) in his OT approach to word order variation in German. They are conceived as syntactic, in order to avoid an unwanted mixture of pragmatic and syntactic conditions. I will more or less adapt his OT terminology without presenting an analysis in his terms. It is sufficient for my current purposes to arrive at a hierarchy of principles that will help us to determine the markedness of sentences with locatives and to calculate from there how much a sentence with locative inversion/fronting deviates from the unmarked order. I will not try to implement an approach along the lines of the competition model sketched by Jacobs (1988) although this would be very desirable since Müller’s approach ignores cumulativity effects. For our purposes, however, it is sufficient to arrive at a (partial) hierarchy of principles.

This endeavor is faced with a severe empirical problem: There are no secure criteria to determine degrees of grammaticality markedness. The focus potential criterion is basically very useful: acceptability correlates with the number of context types: if a sentence is only used in very restricted contexts, it is often on the border to ungrammaticality. However, this criterion fails if a sentence is not the optimal realization in any context while still being acceptable, see Müller (1999: 812, fn. 16; 813, fn. 24). A serious attempt to solve this problem is far beyond the scope of this paper. For my purposes, it will suffice to consider those examples ungrammatical which are never optimal realizations. Degrees of markedness will be indicated as follows: # is used for marked yet fully grammatical sentences, ? for sentences on the borderline and * for strongly deviant examples.

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259 See Müller (1999: 812, fn. 19) for discussion of this issue. In my opinion, it is rather the limitation of the model that leads to this necessity. Multi-dimensional models do not suffer from these shortcomings.

260 This is only a tendency, though. (571) for instance, has a very restricted distribution, yet is fully grammatical.

261 In addition to formal and functional principles, one would also have to take into account performance principles, i.e. principles that are sensitive to the conditions of generation/parsing. For instance, switching the order of subject and verb is more acceptable if the constituents clearly differ in morphological case. If they do not (e.g. because proper names do not inflect and some nouns do not distinguish between nominative and accusative), reversal leads to stronger deviation as the inanimate object tends to be interpreted as subject (agent):

i) ??dass das Racket Boris geküsst hat  
that the: NOM/ACC racket Boris kissed has  
'that Boris kissed the racket'

ii) ?weil den Jungen die Mutter geküsst hat.  
that the:acc boy the: NOM/ACC mother kissed has  
'that the mother kissed the boy'
5.7.3 **Functional Principles determining Markedness**

5.7.3.1 Definiteness

The basic word order is affected by the definiteness of the participants. The general tendency is for definite arguments to precede indefinite ones (DEF). This can be exemplified by the degrees of markedness shown by the following examples where definiteness interacts with DAT, a constraint favoring DAT>ACC orders (von Stechow/Sternefeld 1988: 453):

(573) a) dass der Verkäufer einem Kunden den Wein empfahl.  *DEF
that the salesman a:DAT client the:ACC wine recommended
Lit.: ‘that the salesman recommended to a client the wine.’

b) dass der Verkäufer den Wein einem Kunden empfahl.  *DAT
that the salesman the:ACC wine a:DAT client recommended
‘that the salesman recommended the wine to a client.’

c) dass der Verkäufer dem Kunden einen Wein empfahl.
that the salesman the:DAT client a:ACC wine recommended
‘that the salesman recommended the wine to a client.’

d) *dass der Verkäufer einen Wein dem Kunden empfahl.  *DAT, *DEF
that the salesman a:ACC wine the:DAT client recommended
‘that the salesman recommended the wine to a client.’

(573a) is marked although IO > DO which would be unmarked if both objects had the same value for definiteness. Additionally, the most natural reading of the definite object is probably that of contrastive focus. (573b/c) are both unmarked while (573d) is unacceptable: The violation of two principles leads to ungrammaticality. These examples also show how the two constraints we have come across so far (DAT, DEF) are ranked with regard to each other: while violation of DEF creates markedness, violation of IO>DO does not. Therefore, DEF must be ranked above DO>IO. Another reason for the ungrammaticality of (573d) is that the preverbal indirect object should receive a contrastive focus interpretation in this position (most definites do if they follow indefinites); however, this requires that the rest of the sentence belongs to the presupposition. But the direct object, being indefinite, cannot have such an interpretation.262

There is an exception to the definiteness tendency: the order SU > OBJ is always less marked than OBJ > SU, irrespective of the values for definiteness (Müller 1999: 797):

(574) a) dass eine Frau den Fritz geküsst hat.  *DEF
that a: NOM woman the: ACC Fritz kissed has
‘that a woman kissed Fritz’

b) #dass den Fritz eine Frau geküsst hat.  *NOM
that the: ACC Fritz a: NOM woman kissed has

Following Müller (1999: 797), I assume a constraint NOM which prefers structures where the nominative argument precedes non-nominative arguments.263

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262 See 5.7.4.1 for the interpretation of definites within the VP.

263 Of course, as shown in the previous section, the principle should rather be phrased in terms of semantic role (agentivity). I do not adjust Müller’s notation for ease of comparison.
5.7.3.2 Animacy

Animate arguments tend to precede inanimate ones. The constraint enforcing this order, say AN, is ranked below DEF but above DAT (Müller 1999: 798ff.):

(575) a) dass man diesem Einfluss die Kinder ausgesetzt hat. *AN
  that one this:DAT influence the:ACC children exposed has
  ‘that one exposed the children to this influence’

  b) dass man die Kinder diesem Einfluss ausgesetzt hat. *DAT
  that one the:ACC children this:DAT influence exposed has

(576) a) dass man diesem Einfluss ein Kind ausgesetzt hat. *AN
  that one this:DAT influence a:ACC child exposed has
  ‘that it was a child that one exposed to this influence’

  b) dass man ein Kind diesem Einfluss ausgesetzt hat. *AN, *DEF,
  that one a:ACC child this:DAT influence exposed has *DAT

(575b) shoes that AN>INAN is the preferred order if there is no difference in definiteness, thereby violating DAT. However, the unmarked candidate becomes marked if it violates DEF (576b).

5.7.3.3 Focus

It is often mentioned in the literature that focal arguments tend to follow non-focal arguments. Unfortunately, it is not always made explicit what kind of focus the authors have in mind. Furthermore, one never finds a discussion of whether different types of focus might entail different results. As far as the present discussion is concerned, it seems save to say that the focus principle (say FOC) holds for completive focus. Contrastive focus may increase the context types a sentence may appear in. I will disregard this additional factor. The following examples illustrate that FOC is ranked above DAT (Müller 1999: 803):

(577) a) dass man der Maria den FRITZ vorstellte.
  that one the:DAT Mary the:ACC Fritz introduced
  ‘that it was Fritz that one introduced to Mary’

  b) dass man den Fritz der MARIA vorstellte. *DAT
  that one the:ACC Fritz the:DAT Mary introduced
  ‘that one introduced Fritz to Mary’

  c) dass man der MARIA den Fritz vorstellte. *FOC
  that one the:DAT Mary the:ACC Fritz introduced

  d) dass man den FRITZ der Maria vorstellte *DAT, *FOC
  that one the:ACC Fritz the:DAT Mary introduced

264 There is no (obligatory) contrastive focus on the direct object; still, it is the best way to render it in English.
The violation of FOC is more severe than a violation of DAT. Violation of both leads to ungrammaticality. It is more difficult to determine the relative ranking of FOC and AN/DEF. Müller (1999: 802) claims that FOC is ranked below AN:

(578) a) dass man die Kinder diesem EINFLUSS ausgesetzt hat. *DAT that one the:ACC children this:DAT influence exposed has ‘that one exposed the children to this influence’

b) dass man die KINDER diesem Einfluss ausgesetzt hat. *FOC, *DAT that one the:ACC children this:DAT influence exposed has ‘that it was the children that one exposed to this influence’

c) dass man diesem Einfluss die KINDER ausgesetzt hat. *AN that one this:DAT influence the:ACC children exposed has

d) *dass man diesem EINFLUSS die Kinder ausgesetzt hat. *FOC, *AN that one this:DAT influence the:ACC children exposed has

While I agree that (578a) is the most unmarked and (578d) the most marked (if not even ungrammatical) version, I do not fully share Müller’s judgement according to which (578c) is more marked than (578b). But this very difference is necessary to establish the relative ranking between FOC and AN. The judgements of my informants point to a similar distribution. They all consider a) the most unmarked and d) the most marked variant. Very few rank b) and c). As it will not be of any concern to the analysis of verbs taking locative arguments, I will leave this issue unresolved.

More important in our context is the interaction between DEF and FOC. According to Müller, FOC must be ranked below DEF as FOC is ranked below AN which in turn is ranked below DEF so that by transitivity FOC must be ranked below DEF. If, however, the ranking between AN and FOC is unclear (one could even imagine that they are tied), it might be instructive to take a closer look at the relative ranking of these two constraints. Consider the following examples:

(579) a) dass man die Frau einem MANN vorstellte *DAT that one the:ACC woman a:DAT man introduced

b) dass man die FRAU einem Mann vorstellte *FOC, *DAT that one the:ACC woman a:DAT man introduced

c) *dass man einem MANN die Frau vorstellte *FOC, *DEF that one a:DAT man the:ACC woman introduced

d) #dass man einem Mann die FRAU vorstellte *DEF that one a:DAT man the:ACC woman introduced

e) *dass man eine Frau dem MANN vorstellte *DEF, *DAT that one a:ACC woman the:DAT man introduced

f) *dass man eine FRAU dem Mann vorstellte *DEF, *FOC, *DAT that one a:ACC woman the:DAT man introduced

265 Müller (1999: 803), however, claims that (577d) is very marked but still grammatical.
It is somewhat delicate to rank these examples with regard to markedness. It seems clear that h) is the most unmarked candidate as it violates no constraint at all, followed by a) which only violates low-ranked DAT. Similarly, c) and f) are clearly the worst examples. I consider them ungrammatical. Furthermore, d), g) seem to be less marked than b), e). But what is the ranking within these two pairs? They either have a violation of FOC or of DEF (and additionally DAT in the case of b), e) and are thus decisive for the relative ranking of FOC and DEF. I have not been able to determine a ranking – nor have my informants. They tend to consider a), h) unmarked and c), f) highly marked/ungrammatical, but as for the remaining examples, no pattern emerges. In my opinion, it is therefore unwarranted to establish a ranking. It is obvious that Müller had too much faith in the correctness of his ranking so that he thought it unnecessary to prove the ranking of non-adjacent constraints. My results even question the adequacy of the constraints: While DEF seems to outrank AN, FOC resists ranking with regard to DEF and AN. Consequently, I do not rank them and I arrive at the following (very provisional) hierarchy:

(580)  NOM  > >  FOC,  DEF,  AN  > >  DAT

A note on FOC is in order here: It is somewhat questionable whether FOC holds for subjects as well. The following examples show that the subject can only be focused if it precedes the object:

(581)  a) weil  PETER  das  Buch  gelesen  hat.        *FOC
because  Peter  the:ACC book  read  has
‘because it was Peter who read the book’

b) weil  Peter  das  BUCH  gelesen  hat.        *–
because  Peter  the:ACC book  read  has
‘because it was the book that Peter read’

c) weil  das  Buch  PETER  gelesen  hat        *NOM
because  the:ACC book  Peter  read  has

What do these data tell us? That FOC only holds for non-subjects? Or that the fact that NOM outranks FOC is sufficient to explain why (581a) is unmarked? At this point, I do not find it necessary to restrict FOC to non-subjects. Instead, it is very much in the spirit of competition-based approaches to word order that the violation of a constraint serves to satisfy a higher-ranking constraint.

5.7.3.4 Conclusion

In this section, I have tried to illustrate some of the competing principles which determine word order in German. The list of principles is by no means exhaustive but sufficient for my purposes. Further below, I will apply these principles in order to determine how locative arguments pattern.
5.7.4 Diagnostics for Structure

In this section, I present several diagnostics that have been suggested to determine the structural positions of XPs. The first two of these tests deal with the structure of the VP and the focus domain while the others examine the background part of the sentence.

5.7.4.1 The Position relative to VP and Interpretation

Some important diagnostics for German clause structure are presented in Bühring (1994) and Lenerz (2001). Following Diesing (1992), they assume that all arguments are base-generated within the VP which is understood as the domain of existential closure. That is, indefinite arguments within the VP at LF are existentially bound. Indefinites may move out of the VP to receive a generic reading (within the restrictive clause, i.e. the domain outside the VP). In other words: Movement is obligatory for an indefinite to receive such an interpretation. These two interpretations can be demonstrated as follows under the assumption that sentence adverbials are adjoined to the VP and thus mark its boundary:266

(582) a) weil Kinder schliesslich [VP t auf der Strasse spielen].
   because children ADV on the street play
   ‘because children play in the street’

   b) weil schliesslich [VP Kinder auf der Strasse spielen].
   because ADV children on the street play
   ‘because there are children playing in the street’

In (582a), the subject leaves its VP-internal position and moves to some higher position in the clause, arguably SpecIP, and receives a generic interpretation. In (582b), on the other hand, the subject remains within the VP and is existentially bound. The same holds for indefinite objects: Depending on the interpretation, they are either within the VP or have scrambled out of it and are adjoined to VP:267

(583) a) weil Peter schliesslich [VP ein Stück Kuchen gegessen hat].
   because Peter ADV a piece cake eaten has
   ‘because Peter ate a piece of cake’

   b) weil Peter ein Stück Kuchen sicher [VP nicht t verschmäht].
   because Peter a:ACC piece cake surely not spurns
   ‘because Peter surely does not spurn a piece of cake’

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266 In other words, sentence adverbials partition the clause into a topic and a comment or background/focus domain, see Frey/Pittner (1998: 517f) and Lenerz (2001: 256ff.). The latter additionally distinguishes between background-determined and immediate context dependent reference. Definites are always interpreted as background determined while indefinites depend on the immediate context (if within the focus part). For problems that seem to arise if an indefinite has already been mentioned (as in a question context like ‘who bought a book?’), see Lenerz (2001: 267).

267 As the adverb schliesslich does not allow generic readings for some idiosyncratic reason, a different adverb has to be used to get a generic interpretation. Furthermore, the tense has to be changed to present tense.
As the following examples show, structures with indefinites outside the VP are ungrammatical if a generic reading is not available, e.g. because of the choice of tense:

(584) a) weil Peter ein Stück Kuchen sicher [\textit{VP} ti] verschmäht hat.
because Peter a:ACC piece cake surely spurned has
‘because Peter surely spurned a piece of cake’

b) weil eine Frau schliesslich [\textit{VP} ti] gekommen ist.
because a:NOM woman ADV come is
‘because a woman has come’

We thus have a means to determine the position of indefinites.268 When turning to definites, it is widely agreed that they must not be existentially bound. In order to evade existential closure, definite arguments must raise out of the VP, either overtly or at LF: Definites that move at S-structure are the default case (585a); definites that superficially remain within the VP receive a contrastive focus interpretation and consequently undergo LF-raising (they are quantified expressions) – regardless of whether they are objects (585b) or subjects:

(585) a) weil Peter [\textit{VP} das Stück Kuchen] schliesslich [\textit{VP} ti] gegessen hat.
because Peter the:ACC piece cake ADV eaten has
‘because Peter ate the piece of cake’

b) weil Peter schliesslich [\textit{VP} das Stück Kuchen] gegessen hat.
because Peter ADV the:ACC piece cake eaten has
‘because Peter ate the piece of cake’

c) weil schliesslich [\textit{VP} Peter] gekommen ist.
because ADV Peter come is
‘because it was Peter who came’

As the last two examples show, contrastive focus requires a strong accent on the VP-internal definite.

Bühring (1994: 85) further suggests that the sentence negation is generated right above VP:269 It is therefore expected to follow sentence adverbials and scrambled definites:

(586) weil Peter, [\textit{VP} das Buch] schliesslich nicht [\textit{VP} ti] gelesen hat.
because Peter the:ACC book ADV not read has
‘because Peter has not read the book’

Instead of preceeding indefinites, the sentence negation is spelled out as \textit{kein}:270

(587) a) weil schliesslich [\textit{VP} kein Linguist reich wird].
because ADV no linguist rich becomes
‘because no linguist gets rich’

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268 Notice that this approach entails string vacuous scrambling if no sentence adverb is present, e.g. in a sentence like \textit{dass Peter Kindern Süssigkeiten schenken würde} ‘that Peter would give sweets to children’. Economy considerations may exclude such a move, see e.g. Haider/Rosengren (1998: 9).

269 This view is controversial; see Rosengren (1993: 259ff.) and Frey/Pittner (1998) for a different approach.

270 It is generally assumed that \textit{kein} is the result of some amalgamation process involving the sentence negation and the indefinite article, see Bühring (1994: 87):


b) weil Peter schliesslich [vp keine Frage beantworten konnte].
   because Peter ADV no question answer could
   ‘because Peter could answer no question’

Bühring’s analysis of the sentence negation fails in one important respect: Contrary to his prediction, the sentence negation may not precede definites with a contrastive focus interpretation – if it does, it only has scope over the NP:271

(588) a) weil schliesslich (*nicht) [vp PETER nicht gekommen ist].
   because ADV PETER not come is
   ‘because it was PEter who did not come’

   b) weil Peter schliesslich [vp (*nicht) das BUCH nicht gelesen hat].
   because Peter ADV the:ACC book not read has
   ‘because it was the BOOK that Peter did not read’

This suggests that there might be an additional position for focused NPs between sentence adverbials and the sentence negation.272

Bühring’s assumption that definite subjects move to SpecIP makes interesting predictions: Fronting non-subjects across a definite subject is very restricted: fronting indefinites is generally ruled out, definites are possible if either the subject remains in the VP and receives a contrastive focus reading273 or if it is outside the VP and the sentence is associated with a rise-fall contour which results in a contrastive topic reading274 (Bühring 1994: 94):

(589) a) weil ein Kind der Arzt behandelt hat.
   because a:ACC child the: NOM doctor treated has
   ‘because the doctor treated a child’

   b) weil das Kind schliesslich [vp der ARZT behandelt hat].
   because the:ACC child ADV the: NOM doctor treat has
   ‘because it was the doctor who treated the child’

   c) weil das /KIND [vp der Arzt schliesslich [vp behandelt hat]].
   because the:ACC child the: NOM doctor ADV treated has
   ‘because the child, the doctor treated’

In the last example, we see an instance of movement to a pre-SpecIP position. This option is very marked and only licenced by this special intonational contour.275 The fact that indefinites are ruled out before definite subjects is most likely due to the fact that they

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271 Irritatingly, Bühring (1994: 90) doesn’t notice this difference. On the contrary: he classifies the negation preceding the contrastive focus as sentence negation. This is clearly incorrect.

272 This is explicitly argued for in Hafka (1994: 145f.). Conversely, one might also argue that the sentence negation does not have a fixed position. See e.g. Rosengren (1993: 258ff.), Frey/Pittner (1998: 497ff.) and Haider/Rosengren (1998: 10) for some discussion.

273 Sentences where two objects are scrambled across a contrastive definite subject are very marginal. The present analysis does not offer an explanation for this.

274 The third reading is somewhat marginal in my opinion. See 5.7.4.4 below for a discussion of this type of movement.

275 We are dealing with T-scrambling here, see 5.7.4.4.
cannot receive an existential reading outside the VP. A generic reading is ruled out because of the perfect tense. If, however, we take a bare plural object and use the present tense, the examples improve so much as to being grammatical:

(590) weil kranke Kinder schliesslich der ARZT behandeln sollte.
    because sick:ACC children ADV the doctor treat should
    ‘because sick children should be treated by the doctor (and not by their mothers).’

We do not know, however, where the indefinite has moved. As the subject is within VP, there is no reason why the indefinite should adjoin to IP as VP-adjunction is still an option. This is in line with the observation that no rise-fall contour is necessary here.

While Bühring’s proposal covers a large set of data, it fails in some areas: As he notes himself (91), there are examples with non-contrastive definite objects within the VP that should be ruled out by his theory:276

(591) a) weil schliesslich [VP ein MANN dem Kind geholfen hat.
    because ADV a man the:DAT child helped has
    ‘because it was a man who helped the child’

    b) weil schliesslich [VP PEter das Buch gekauft hat.
    because ADV Peter the:ACC book bought has
    ‘because it was Peter who bought the book’

In addition, Haider (1993: 178) and Haider/Rosengren (1998: 9ff.) present examples where indefinites and defines get a generic reading within the VP:

(592) a) dass ja wer die Pockenviren ausrotten sollte.
    that PRT somebody the pockviruses exterminate should
    ‘that someone should exterminate the pockviruses’

    b) dass gestern wer Fisch bestellte, hat mich überrascht.
    that yesterday somebody fish ordered has me:ACC surprised
    ‘It surprised me that somebody ordered fish yesterday’

    c) dass ja schliesslich kein Mensch Kinder nicht mögen kann.
    that PRT ADV no man children not like can
    ‘that nobody can dislike children’

That the DPs are within the VP is guaranteed by the indefinite w-phrase which does not scramble and the sentence adverb. These examples clearly challenge the view that scrambling is semantically-driven. Haider/Rosengren argue that all interpretations are available in the base position; the loss of an existential reading if the indefinite is scrambled out of the VP is attributed to an interface effect (mapping from LF to the semantic form).277

At this point, I do not have an explanation for these facts; it seems to me, however, that it may be the type of adverb that favors certain readings. With schliesslich, for instance, Bühring’s predictions are mostly correct (but not for (592)), with other adverbs, however,

276 Lenerz (2001: 271ff.) attempts to explain this by distinguishing between the attributive and the referential part of NPs. Only the attributive part is said to be background determined.

277 Haider (1993: 176ff.; 229ff.) uses modal particles as signals of the boundary of the nuclear scope.
they are not. Clearly, closer inspection of the semantic effects of adverbs would be needed to arrive at a more satisfying account.

Despite these uncertainties, I will use the interpretation of DPs as a tool to find out more about the exact position of locative arguments.

5.7.4.2 Adverbials

Under the assumption that adverbials have a fixed basic structural position we have a means to determine the positions of arguments more precisely. Frey/Pittner (1998) have shown that the serialization of adverbials mirrors their respective semantic scope: The adverbials with the widest scope asymmetrically c-command those with narrower scope etc. The outermost adverbials are the so-called frame and domain adverbials. They differ from sentence adverbials in being of topical nature while sentence adverbials themselves mark the boundary between the topic and the comment domain. They both precede the VP (including VP-internal subjects):

\[(593) \text{ dass } \text{ im Mittelalter offenbar [vp niemand im Winter viel Bier trank].} \]

\[\text{that in_the middle_ages evidently nobody in winter much beer drank} \]

\[\text{‘that nobody drank much beer during winter in the middle ages’} \]

\[\text{Im Mittelalter is a frame-adverbial and offenbar a sentence adverbial. The different types of sentence adverbials occur in a fixed semantically determined sequence, see Frey/Pittner (1998: 519f.). Sentence adverbials relate to propositions and therefore presuppose a completely specified event. Complete specification includes temporal reference which is determined by the finite verb and temporal adverbials. Consequently, temporal (or more general: event-related) adverbials follow sentence adverbials but precede the VP-internal subject:} \]

\[(594) \text{ dass gestern [vp wer mit dem Knüppel eine Frau erschlagen hat].} \]

\[\text{that yesterday somebody with the club a woman strike_dead has} \]

\[\text{‘that somebody evidently stroke a woman dead with a club yesterday’} \]

The different kinds of event-related adverbials may occur in different sequences that result in different semantic interpretations; the respective orders are not derived by scrambling, see Frey/Pittner (1998: 514f.). The next type of adverbials include instrumental, comitative, local adverbials and adverbials of “subject-attitude”. They follow the VP-internal subject but precede objects. They will help us to distinguish unaccusative from unergative subjects. We have already seen two instances of this type of adverbial in the preceding

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278 This view has not gone unchallenged, see e.g. Haider/Rosengren (1998).

279 Adverbials of frequency are a special case; they may be base-generated in three different positions: apart from the position of event-related adverbials, they may also occur in the position of local/instrumental and process-related adverbials, see Frey/Pittner (1998: 515ff.).

280 w-indefinites do not scramble and therefore are a good indicator of structural positions.

281 I.e. the attitude of a subject referent towards an event.

282 According to Bühring’s (1994) theory, only indefinite or contrastive definite objects should appear in this position. As noted above, this is empirically incorrect. However, it is quite likely that definites within the VP do not get the same (information structural) interpretation as those outside.
examples: *im Winter* is a local adverb and *mit dem Knüppel* is an instrumental adverb. The following example contains comitative and subject-attitude adverbials:

(595) dass Peter gestern [mit seinem Bruder absichtlich eine Tür zerstöre].
that Peter yesterday with his brother deliberately a door destroyed
‘that Peter deliberately destroyed a door with his brother yesterday’

The innermost adverbials are process-related or manner adverbials. The follow the objects and immediately precede the verb:283

(596) a) dass Hans heute einige Artikel sorgfältig gelesen hat.
that Hans today some articles carefully read has
‘that Hans carefully read some articles today’

b) Er hat gestern eine Frau brutal niedergeschlagen.
he has yesterday a:ACC woman brutally struck down
‘Yesterday, he brutally struck down a woman’

We thus arrive at the following articulated structure of the focus part of the sentence:

(597) Frame > sentence > event > SU > inst/com/loc > OBJ > manner > V

Frey/Pittner (1998: 524) stress another important point: The assumption that adverbs have a fixed base position entails that adverbials may scramble as they sometimes appear in different orders:284

(598) a) dass Peter mit Inbrunst, seiner Freundin gestern ein Gedicht vortrug.
that Peter with fervor his girl-friend yesterday a poem recited
‘because Peter recited a poem for his girl-friend with fervor’

b) dass Peter morgen wahrscheinlich nicht kommen wird
that Peter tomorrow probably not come will
‘that Peter probably won’t come tomorrow’

5.7.4.3 Weak Pronouns

As observed in many accounts of word order in German,285 weak (i.e. unstressed) pronouns show up in the left periphery of the middle field, their order being fixed: SU>DO>IO:

(599) a) weil er es ihr wahrscheinlich gegeben hat.
because he: NOM it:ACC her: DAT probably given has
‘because he probably gave it to her’


283 This is not always true as some objects may appear in the minimal domain of the verb (those that are ‘integrated’), see Frey/Pittner (1993: 502f.) for discussion.

284 Principle C-effects and scope ambiguities corroborate this view. Things are different with adverbials that have the same base position. If they co-occur, it is usually their inherent semantics that determines their respective sequence.

Furthermore, they may not be split up by adverbs, obligatorily precede non-subject arguments and the only non-pronominal NP that may precede them is the subject NP:

(600) a) *weil er wahrscheinlich [vp es ihr gegeben hat].
    because he probably it:ACC her:DAT given has

    b) weil er ihr das Buch [vp gegeben hat].
    because he her:DAT the:ACC book given has
    ‘because he gave her the book’

    c) *weil er das Buch ihr wahrscheinlich [vp gegeben hat].
    because he:Nom the:ACC book her:DAT probably given has

    d) weil Peter es ihr wahrscheinlich [vp gegeben hat].
    because Peter:Nom it:ACC her:DAT probably given has
    ‘because Peter gave it to her’

    e) *weil das Buch er ihr wahrscheinlich [vp gegeben hat].
    because the:ACC book he:Nom her:DAT probably given has

This provides us with a very secure subject test: The clause structure sketched in 5.6.1 nicely accounts for this distribution: weak pronouns move to SpecnP and the only argument that may move across this node is the subject – as SpecIP is above the landing site for weak pronouns. The fact that non-subject NPs cannot appear before these pronouns follows from the assumption that adjunction to IP or nP is prohibited.

The clause-initial position of weak pronouns is surely to be related to their thematic nature: they represent background information. Accordingly, they always precede sentence adverbials which divide the sentence into a background and a focus part.

5.7.4.4 T-Scrambling

A further tool to determine the structure of the left periphery is an operation called T-scrambling (Haider/Rosengren 1998: 83ff.). It is a movement operation that differs from regular scrambling in a number of ways of which I will mention only those that are relevant to the present discussion.

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286 This does not hold for T-scrambling, see the next section.

287 The trigger for pronoun fronting is still an object of controversy. Müller (1999) e.g. assumes a pronoun-criterion (similar to the wh-criterion) according to which pronouns must check a feature in SpecnP; Haider/Rosengren (1998: 70ff.) regard pronoun fronting as a type of movement similar to scrambling (e.g. A-movement) as it is involved in binding relationships, but with certain idiosyncratic (ordering) properties. They also present an argument against their occupying a functional Spec-position: fronted pronouns do not create barriers for extraction.

288 The same holds more or less for modal particles that have a similar functions like sentence adverbials; however, there seem to be exceptions, see Haider/Rosengren (1998: 77)

289 “T” because movement is to a position near the T (= I) projection.

290 Further properties (see Haider/Rosengren 1998: 83ff.) include a) clause unboundness, b) applicability to constituents that do not scramble, c) opacity effects d) reconstruction effects. As for d), consider the b)-example above where the negation has scope over the topicalized quantifier (scope-inversion, see Krifka 1998) Certain binding facts also require reconstruction, see Bayer/Kornfilt (1994: 23ff.). These facts suggest that T-scrambling is an instance of A’-movement.
T-Scrambling is movement to a position before the VP-external subject and is always associated with a distinct intonational contour called I-topicalization. 291

(601) a) dass /SO ein Geschenk[\(\text{mein \; Mann \; mir \; leider \; NICHT machen \; würde}\)]

that such a present my man me unfort. not make would
‘that my husband unfortunately would not give me such a present’

b) dass/Al\_len schö\_nen Frauen [\(\text{er \; offenbar \; NICHT widerstehen \; kann}\)]

that all:DAT beautiful women he evidently not resist can
‘that he evidently cannot resist all beautiful women’

The topicalized constituents are usually interpreted as contrastive topics, the elements bearing the falling tone (often the sentence negation or quantifiers) as contrastive foci. 292 So apart from the fact that T-scrambling has an information structural function different from that of scrambling, it also targets a different landing site. Which position is this? Either an IP-adjoined position or following Rizzi (1997) the Spec of a functional head within the Split-CP. 293 Another issue concerns the obligatoriness of such a projection. Hafka (1994), obviously inspired by early work in the minimalist program, assumes that all topical constituents must move into this position to check their TOP feature, even subjects without a contrastive topic interpretation. However, as contrastive topics are always associated with the I-topicalization contour while non-contrastive subjects are not, I find it unnecessary to assume that all subjects undergo this movement.

One thing that in my opinion has gone unnoticed in the discussion of this particular construction is that there seem to be three additional landing sites for contrastive topics: One between the subject and the Wackernagel position (602a), 294 one after the Wackernagel position (602b) and one after the subject following the Wackernagel position (602c):

(602) a) dass [\(\text{mein \; Mann \; ein \; Geschenk \; mir \; leider \; \; NICHT \; machen \; wird}\)]

that my man such a present me unfort. not make will
‘that unfortunately my husband will not give me such a present’

b) dass [\(\text{er \; mir \; ein \; Geschenk \; wahrscheinlich \; NICHT \; machen \; wird}\)]

that he me such a present probably not make will
‘that he probably won’t give me such a present’

c) dass [\(\text{mir \; Peter \; ein \; Geschenk \; sicher \; NICHT \; machen \; wird}\)]

that me Peter such a present surely not make will
‘that Peter surely won’t give me such a present’

At least from an information structural perspective, these sentences serve the same purpose. As for the landing sites, one might want to posit another functional topic projection between the subject and the Wackernagel position to account for (602a). But what about (602b/c)? Instead of movement to a functional projection, one might as well assume adjunction to VP. The next section will provide some clues in this regard.

291 See Jacobs (1997). The contour consists of a rising tone on the topicalized element and a falling one on the focus. More accurately, the rise is actually slight fall followed by a rise.


293 A more thorough discussion of this issue is deferred to the following section.

294 Some of my informants find this example worse than the others.
As noted by Haider/Rosengren (1998: 23ff.), it is not only canonical arguments that undergo T-scrambling but also frame and manner adverbials, directionals, depictive and copular predicates as well as VPs:295

(603) a) dass unter/DIEsen Umständen [\textit{m} \textit{mein} \textit{Mann mir sicher/NICHTS schenken wird}] that under these circumstances my man me surely nothing give will ‘that my husband surely will not give me a present under these circumstances’

b) dass \textit{m} \textit{mein Mann in/DIEsem Fall [\textit{vp mir leider} [\textit{vP NICHTS schenken wird}]]] that my man in this case me unfor. nothing give will ‘that my husband unfortunately will not give me anything under these circums.’

c) weil er mir \textit{in/DIEsem Fall leider} [\textit{vp NICHTS schenken wird}] that he me in this case unfortunat. nothing give will ‘that he unfortunately won’t give me anything in this case’

Another issue is whether only contrastive to pics may occupy this position. Hafka (1994: 154) lists several examples with putative I-topicalized constituents; as she does not properly indicate the intonation, this is difficult to verify. Consequently, I do not know at this point if there are constituents that may occupy this position without bearing a special discourse function or being associated with I-topicalization. However, since I have neither been able to find nor construct acceptable examples without I-topicalization and a contrastive interpretation, I believe that this movement is restricted to this particular construction.

There is another question concerning the landing site: if contrastive topics have to undergo this movement obligatorily, we would expect weak pronouns to end up in this position too. This in turn might lead to a violation of the ordering restrictions governing weak pronouns if e.g. an accusative pronoun functions as contrastive topic and has to be moved accross a pronominal subject. The judgements are very delicate; I believe, however, that the examples are better if the contrastive pronoun follows the subject pronoun:

(604) a) dass /IHN sie wahrscheinlich [\textit{vp NICHT wählen würde}]. that him she probably not elect would ‘that HIM she would probably not elect’

b) dass sie /IHN wahrscheinlich [\textit{vp NICHT wählen würde}]. that she him probably not elect would ‘that HIM she probably would not elect’

This result is unproblematic, however, as we have already seen that contrastive topics may also follow the Wackernagel position. While one cannot generally rule out longer movement (as this is freely available for non-pronominal constituents), one could account for the preferred position in terms of the ordering restrictions that govern personal pronouns.

295 Interestingly, the set of elements that can be T-scrambled is identical to that undergoing topicalization, see Haider/Rosengren (1998:23f.). This is another argument in favor of an A'-analysis of T-scrambling. For reasons of space, I only illustrate I-topicalization involving frame adverbials.
There is one observation that leads us to a new problem: So far, we have assumed that the subject is either VP-internally or in SpecIP. However, some examples suggest that it may also occupy a VP-external position between the Wackernagel position and the sentential adverb. In fact, this seems to be its preferred position if there is a contrastive topic – regardless of whether it precedes or follows the subject-Wackernagel complex:

(605) a) dass unter /DIEsen Umständen mir mein Mann sicher NICHTS schenken wird

‘that my husband surely would not give me anything under these circumstances’

b) dass mir Peter /SO ein Geschenk sicher NICHT machen wird

‘that Peter surely won’t give me such a present’

The next section will shed some light on this issue.

5.7.4.5 A special VP-external Position for the Subject?

I noted in (602b/c) above that contrastive topics may also appear between the Wackernagel position and sentence adverbials. Are they simply adjoined to the VP? While this is surely the simplest solution, there are some examples that cast doubts about this assumption:

(606) dass mir /SO ein Geschenk mein Mann sicher NICHT machen wird

‘that my husband surely won’t give me such a present’

In this sentence, the subject is between the Wackernagel position and a sentence adverb. Additionally, we have a contrastive topic preceding such a VP-external subject. If the subject were adjoined to the VP, we would expect objects to scramble freely over it. However, as noted in Hafka (1994: 151), full NPs without a special discourse function may not appear before a subject in such a VP-external position:

(607) *dass ihr das Buch der Peter wahrscheinlich nicht geben wird

‘because Peter probably won’t give her the book’

It is in fact nearly impossible to find constituents apart from contrastive topics that may appear in this position. This suggests that it cannot simply be a VP-adjoined position. The fact that one cannot scramble definite objects across a subject in this VP-external position suggests that the subject itself is not adjoined to the VP but occupies some different position, e.g. the Spec of some functional head, see Hafka (1994: 150) for such a proposal. I will provisionally call this position SubP. Restricting scrambling to the VP and assuming that (definite) subjects do not scramble but A-move either to SpecSubP or SpecIP (and potentially SpecTopP) we can give a nice account of the different ordering relations. As for contrastive topics, one could assume that they undergo some different kind of movement process that allows adjunction to functional categories including SubP, nP and IP. We can then give a coherent account of the various landing sites for contrastive topics without having to stipulate several functional topic projections. However, adjunction to VP cannot be ruled out altogether in light of examples like (605b).
When postulating a functional head, one has to have good reasons for this, i.e. there has to be a feature that must be checked in this position. What feature could this be? I noted above that subjects tend to be placed after contrastive topics. The same holds for weak pronouns. This suggests an information structural account: Subjects remain in SpecSubP if there is another more prominent thematic element. This is self-evident in the case of contrastive topics. In the case of weak pronouns, it seems also reasonable to assume that those referents that can be referred to by pronouns are (in Lambrecht’s (1994) terms) the most highly activated and therefore are more likely to be the topic of a sentence than referents of full NPs. But what are definite subjects if they are not topics? Following e.g. Choi (1996; 1997) and Butt/King (1996), I tentatively suggest that the background of a clause can be further divided into topic and tail, the tail being the less prominent part. Consequently, if a subject is in the tail, it is moved to SpecSubP. Further movement to SpecIP must then be triggered by e.g. some further information structurally related feature.

We thus arrive at the following provisional structure for the background part of the sentence (the landing sites for contrastive topics are given in parentheses):

(608)  \[ CP \[IP (top) \[IP  \[IP P (top) \[P Π P \[SUBP (top) \[SUBP \[VP def Obj/ (top) \[VP senten.-adv \[vp SU]]])]]]]\]

5.7.4.6 Reduced Weak Pronouns

Following a suggestion by Peter Gallmann, clitics might serve as a further diagnostic for the subject position in German. The weak pronouns es ‘it’ (nom/acc) and ihn ‘him’ are often realized as clitic ‘s and ‘n. They may both precede and follow subjects that are arguably in the subject position (as they precede weak pronouns):

(609) a) weil=s Martin ihr gestern [vp gegeben hat].  
because=it:ACC Martin:NOM her:DAT yesterday given has  
‘Because Martin gave it to her yesterday.’

b) weil Martin’s ihr gestern [vp gegeben hat].
because Martin:NOM=it:ACC her:DAT yesterday given has

Such clitics are often assumed to be X°-categories (see Hafka 1994: 196). Consequently, they can only adjoin to heads. If they are cliticized onto the complementizer, the are most likely adjoined to C°. But what if they follow the subject? If there is indeed a subject position, we might speculate that the clitic is in fact adjoined to the empty Infl-head. This phenomenon could actually be regarded as evidence for I. In the absence of I, it would be difficult to find another head the clitic could adjoin to. But on the other hand, a totally different analysis for the clitics might have to be found (one based on phonology). Whatever the correct analysis, it is important to note that non-nominative arguments may not precede the clitic:

(610) a) weil=s Martin offenbar [vp gefällt].  
because=it:NOM Martin:DAT evidently pleases  
‘because it pleases Martin’

296 Furthermore, we have to make sure that the finite verb does not move into the Sub° position if the head is positioned to the left of the VP, see Haider/Rosengren (1998: 85).
Interestingly, if all other arguments are pronominal, the clitic must follow the pronominal subject; adjunction to C° results in ungrammaticality. In most instances, the accusative clitic may precede or follow the dative pronoun:\textsuperscript{298}

\begin{itemize}
  \item[(611) a)] weil er=s ihr gestern offenbar \[vp gesagt hat\].
    \begin{itemize}
    \item because he: NOM=it:ACC her: DAT yesterday evidently told has
    \end{itemize}
    'because he evidently told it to her yesterday'
  \item[(611) b)] weil er ihr=s gestern offenbar \[vp gesagt hat\].
    \begin{itemize}
    \item because he: NOM her: DAT=it:ACC yesterday evidently told has
    \end{itemize}
    'because he evidently told it to her yesterday'
  \item[(611) c)] *weil=s er ihr gestern offenbar \[vp gesagt hat\].
    \begin{itemize}
    \item because=it:ACC he: NOM her: DAT yesterday evidently told has
    \end{itemize}
\end{itemize}

Consequently, the preferred order of weak pronouns is disturbed if the the accusative object is a clitic. The fact that the object clitic may also appear in the Wackernagel position casts doubts about the assumption made for (609b) above that the clitic is in I° if it follows a non-pronominal subject. Apart from the head-adjunction stipulation for clitics, there is little reason why it should not be in the same position as in (611a). Furthermore, with a full-NP subject, the clitic may of course follow the dative clitic as well – just like in (611b).

\begin{itemize}
  \item[(612) a)] weil Martin \[\Pi P ihr=s gestern \[vP gegeben hat\]].
    \begin{itemize}
    \item because Martin: NOM her: DAT=it:ACC yesterday given has
    \end{itemize}
    'Because Martin gave it to her yesterday.'
\end{itemize}

Consequently, the clitic position is probably not such a strong argument for the existence of I. There is in fact a possibility to test whether the clitic is in Infl or in the Wackernagel position (or possibly in both): If the alleged subject position and and the weak pronouns are separated by a contrastive topic, the clitic should be able to follow the subject if it is in Infl but not if it is s somewhere in the Wackernagel position. The following data show that in such a configuration, the clitic is preferably placed in C°; it is also acceptable after the weak pronoun while leading to noticeable degradation if immediately after the subject:

\begin{itemize}
  \item[(613) a)] weil=s [Peter \[in /DIESem Fall \[mir sicher \[NICHT geben wird.]]]
    \begin{itemize}
    \item because=it:ACC Peter in this case me: DAT surely not give will
    \end{itemize}
    'because Peter surely won't give it to me in that case'
\end{itemize}

\textsuperscript{297} One of the unattractive aspects of this analysis is that a special provision must be made for a subject within the Tail while objects with the same information structural properties occupy the VP-adjoined position.

\textsuperscript{298} The preferred respective order seems to be fully dependent on the phonological structure of the pronouns: If the subject pronoun ends in a vowel (\textit{sie 'she, they'}, \textit{du 'you}), the clitic is preferably placed immediately after it, especially if the dative pronoun starts with a vowel. By inserting the clitic, a hiatus is avoided. Yet basically, both orders are acceptable. However, if the dative pronoun is in the plural, the clitic must precede it. If the dative pronoun begins with a consonant, both orders seem equally acceptable. With a nominative pronoun ending in a consonant/semi-vowel, no clear preference can be determined.
Consequently, the clitic does not seem to be in Infl. If the subject and the weak pronouns are adjacent (with the contrastive topic either preceding or following the whole complex), no such asymmetries seem to be obtained:

(614) a) weil [Peter [mir [in /DIESem Fall sicher \NICHT geben wird.]]]  
bec. Peter=it:ACC me:DAT in this case surely not give will  
  b) weil [Peter [mir=s [in /DIESem Fall sicher \NICHT geben wird.]]]  
bec. Peter=it:ACC me:DAT in this case surely not give will  
  c) weil [Peter=s [mir [in /DIESem Fall sicher \NICHT geben wird.]]]  
bec. Peter=it:ACC me:DAT in this case surely not give will

(615) a) weil [in /DIESem Fall [Peter [mir sicher \NICHT geben wird.]]]  
bec.=it:ACC in this case Peter me:DAT surely not give will  
  b) weil [in /DIESem Fall [Peter [mir=s sicher \NICHT geben wird.]]]  
bec. in this case Peter me:DAT=it:ACC surely not give will  
  c) weil [in /DIESem Fall [Peter=s [mir sicher \NICHT geben wird.]]]  
bec. in this case Peter=it:ACC me:DAT surely not give will

If both the subject and the contrastive topic follow the weak pronoun, we obtain an asymmetry similar to (613):

(616) a) weil [mir [in /DIESem Fall [sicher \NICHT geben wird.]]]  
bec. mir=it:ACC me:DAT Peter in this case surely not give will  
  b) weil [mir=s [in /DIESem Fall [sicher \NICHT geben wird.]]]  
bec. me:DAT=it:ACC Peter in this case surely not give will  
  c) weil [mir [Peter=s [in /DIESem Fall [sicher \NICHT geben wird.]]]  
bec. me:DAT Peter=it:ACC in this case surely not give will

Here, the subject is surely not in SpecIP. If it is in SpecSubP, we must conclude that Sub° may not host the clitic. As (613c) argues against Infl as the landing site, it is probably safe to say that the clitic is either in C° or somewhere in the Wackernagel position.

Nevertheless, the two positions of the clitic can still be considered a bracket that encloses the subject position as only full nominative NPs may both precede or follow it. The ungrammaticality of (610b) is simply due to the fact that non-subject NPs may not appear between the subject and the Wackernagel position. Thus, the position of clitics may serve as a diagnostic for the subject position in more or less the same way as weak pronouns in general.

\[299\] The reduced acceptability of this example might be due to processing problems.
5.8  **Locative Fronting and Argument Structure**

I showed in the first part of this study that locative inversion in Bantu and English is restricted to certain verb classes, depending on the language. One might therefore expect that similar constraints are operative with regard to locative fronting in German. This necessitates that we find verbs taking (optional) locative arguments and be able to distinguish between unaccusative and unergative verbs. I will begin with the second task.

5.8.1  **Unaccusative vs. Unergative Verbs**

There has been a considerable amount of discussion of this issue in German, the most prominent exponents being den Besten (1985), Wunderlich (1985) and Grewendorf (1989). There is a number of tests which are supposed to clearly distinguish the two types from each other (see Wunderlich 1985: 206, Grewendorf 1989: 8–26). First, they differ in auxiliary selection: unaccusatives form their perfect tense with *sein* while unergatives use *haben*:

(617) a) Der Mann  hat  gearbeitet.  
    the  man  has  worked  
    ‘The man has worked.’

    b) Die  Blume  ist  verblüht.  
    the  flower  is  withered  
    ‘The flower has withered.’

Second, participles of unergatives cannot be used attributively whereas those of unaccusatives can:

(618) a) *ein  gearbeiteter  Mann  
    the  worked  man  
    ‘A man who has worked’

    b) eine  verblühte  Blume  
    a  withered  flower  
    ‘A flower which has withered’

Third, unergatives allow the impersonal passive form, unaccusatives do not:

(619) a) Es  wurde  gearbeitet.  
    it  was  worked  
    ‘There was some working going on.’

    b) *Es  wurde  verblüht.  
    it  was  withered

Fourth, unergatives unlike unaccusatives allow the derivation of nouns with the agentive suffix –*er*:

(620) a) Ein  Arbeit-er  
    a  work-er

    b) *Ein  Verblüh-er  
    a  wither-er
These tests are probably the most secure ones. Passivized verbs pattern with unaccusatives with regard to auxiliary selection and attribution. As always, there are exceptions: Verbs like *gehen* ‘go’ or *laufen* ‘run’, for instance, take *sein* for the perfect but pattern like unergatives elsewhere. Clearly, there must be some independent reason why they deviate in auxiliary selection; see Grewendorf (1989: 10ff.) for a tentative explanation. Another interfering factor is aktionsart: There is a strong tendency for unaccusatives to be telic (terminative), i.e. accomplishment or achievement verbs, exceptions being *sein* ‘be’ and *bleiben* ‘remain’. An interesting effect can be observed: If activity verbs, i.e. prototypical unergatives are supplied with a directional phrase, the whole expression becomes telic, auxiliary selection changes and attribution becomes possible. Local adverbials, however, have no such telicizing effect:

(621) a) Peter *hat* im Zimmer getanzt.
    Peter has in the room danced
    ‘Peter was dancing in the room.’

    b) Peter *ist* durch das Zimmer getanzt.
    Peter is through the room danced
    ‘Peter danced through the room.’

(622) a)*ein im Zimmer getanzter Junge.
    a in the room danced boy
    ‘A boy who was dancing in the room’

    b) ein durchs Zimmer getanzter Junge.
    a through room danced boy
    ‘A boy who danced through the room’

There is no general agreement on how to exactly derive the differences between these two types of verbs. While Wunderlich takes a lexicalist approach by assuming that the two verb classes only differ in theta-role assignment to their subject but not in the position where the subject is base-generated, i.e. both unergative and unaccusative subjects are external and receive a theta-role. Den Besten and Grewendorf pursue the more traditional GB account according to which unaccusative subjects are base-generated in object position, the subject position being no theta-position. A full discussion of these different accounts is beyond the scope of this study; I will, however, briefly touch upon one important issue: According to Wunderlich, the class of unaccusative verbs is defined by the theta-role of the subject argument, viz. the theme-role. Apart from the fact that this presupposes a reliable but yet unavailable method to determine the exact extension of a semantic role, this view predicts the class of unaccusatives to be much larger than is usually assumed, including the following verbs which could also said to have a theme argument, i.e. verbs like *gefallen* ‘please’, *versagen* ‘fail’, *kochen* ‘boil’, *gehören* ‘belong’ and the transitive so-called flip-verbs (whose object is always an experiencer) like *stören* ‘disturb’, *ärgern* ‘annoy’, *interessieren* ‘interest’ etc. (see Grewendorf 1989: 179 for a short list). As for the tests introduced so far, they all form the perfect with *haben* and their participle cannot be attributed. Some do, however, allow for passivization and some for -*er* nominalization (e.g. *Versag-er* ‘person who fails’).

What consequences are to be drawn from this somewhat puzzling situation? First of all, none of the four tests introduced so far is purely syntactic. Most of them are probably not so much sensitive to structural configurations but rather to thematic role; this holds e.g. for the -*er* derivation and possibly passivization as many unquestionably transitive verbs with an external theme argument resist passivization, see Grewendorf (1989: 184f.). This
suggests that these tests will naturally favor an account in terms of thematic roles like that by Wunderlich. On the other hand, if there are also structural correlates to the difference in thematic role, a syntactic account seems to be called for. This is exactly the position taken by Grewendorf (1989). He introduces several additional tests that are only sensitive to structural configurations: topicalizability of subject and participle 2, NP-split, was-für split, extraction from NP subjects, extraction from subject sentences and extraction of subjects. According to Grewendorf, unaccusative verbs always pattern with objects in permitting all these kinds of extractions while unergatives do not. These differences are supposed to follow from the ECP: objects and unaccusative subjects are properly governed (as they are in the VP) while unergative and transitive subjects are not (they are outside the VP).

However, on a closer look, most of the tests employed in Grewendorf (1989) do not yield clear-cut results: As noted in 5.5.2, many of the alleged ECP tests for subject-object asymmetries are not very reliable: While it is undoubtedly true that unaccusatives pass these tests more easily, unergatives do not necessarily fail them either, they just seem to have to obey more restrictions. As the difference in acceptability may be due to an unknown interfering factor which is perhaps non-structural, I find it unwarranted to rely on these tests to distinguish verb classes. The control-test used by Grewendorf (1989: 94f.) is useless for my purposes as it requires verbs with an animate argument while the verbs I am interested in take a locative argument.

Are there no structural means at all to distinguish the two verb classes then? Depending on one's assumptions, there is indeed another criterion: focus projection. Von Stechow/Uhmann (1986) convincingly demonstrated that unaccusative subjects pattern with objects and subjects of passivized verbs (623) with regard to focus projection: Focus projection is possible if the nuclear accent falls on the unaccusative subject if it remains in its base position:

(623) a) dass dem Peter das BUCH geschenkt wurde (wide)
   ‘that Peter was given the book’
   b) dass das Buch dem VATer gegeben wurde. (narrow)
   ‘that the father was given the book’

(624) a) dass dem Peter ein FEHler unterlaufen ist. (wide)
   ‘that Peter made a mistake’
   b) dass der Fehler dem PEter unterlaufen ist. (narrow)
   ‘that the mistake the Peter occurred is’

(625) Hans hat gesagt, dass der POSTbote gekommen ist. (wide)
   ‘John said that the postman has come.’

I have already shown in 5.7.1.1 that focus projection requires the nuclear accent to fall on the structurally deepest argument, viz. unmarked word order. This entails that (624a) with the subject preceding the verb must represent the underived base order. This provides us with a valuable test for the structural position of the arguments we are interested in. Furthermore, different word order variants which involve these verbs resulting from scrambling are expected to exhibit scrambling effects (see below). This test also works if only
one argument is present: Focus on the unaccusative subject allows for focus projection (625).

Unaccusatives also pattern with passivized subjects and direct objects with regard to the influence of definiteness: The following examples show exactly the same pattern as those involving direct and indirect objects in 5.7.3.1:

(626) a)#dass einem Mann das Buch geschenkt wurde. *DEF
   that a:DAT man the:nom book given was
   Lit.: ‘that the book was given to a man’

   b) dass das Buch einem Mann geschenkt wurde. *DAT
   that the:nom book a:DAT man given was

   c) dass dem Mann ein Buch geschenkt wurde. *-
   that the:DAT man a:nom book given was
   ‘that the man was given a book’

   d)*dass ein Buch dem Mann geschenkt wurde. *DEF, DAT
   that a:nom book the:DAT man given was

(627) a)#dass einem Mann dieser Fehler unterlaufen ist. *DEF
   that a:DAT man this:nom mistake occurred is
   ‘that a man made this mistake’

   b) dass dieser Fehler einem Mann unterlaufen ist. *DAT
   that this:nom mistake a:DAT man occurred is

   c) dass dem Mann ein Fehler unterlaufen ist. *-
   that the:DAT man a:nom mistake occurred is
   ‘that the man made a mistake’

   d)*dass ein Fehler dem Mann unterlaufen ist. *DEF, *DAT
   that this:nom mistake the:DAT man occurred is

This is a very interesting result: unaccusative subjects pattern like direct objects and not like subjects: like direct objects, they prefer to follow the dative. If they would pattern with subjects, the d)-examples should be grammatical, see (574). Additionally, as in (573), there is a preference for a contrastive focus reading of the preverbal direct object in the (marked) a)-examples.

Unquestionably unergative/transitive subjects never allow focus projection if they bear the nuclear accent, von Stechow/Uhmann (1986):

(628) a) dass den Vater ein JUNGE getreten hat. (narrow)
   that the:acc father a:nom boy kicked has
   ‘that a boy kicked the father’

   b) Hans hat gesagt, dass der POSTbote getanzt hat. (narrow)
   John hat gesagt that the postman danced has
   ‘John said that the postman was dancing.’

In (628a), the lack of focus projection is surely due to the fact that the object has been scrambled over the subject so that the accent does not fall on the lowest argument. But what about (628b)? Although the subject is the only and consequently the lowest argument,
there is no focus projection if it bears the nuclear accent. According to von Stechow/Uhmann (1986: 315), this follows from a further condition for focus projection: the focus exponent must be in an F-position which corresponds to the VP (excluding unergative and transitive subjects) in their theory. Although this may sound ad hoc, the principle makes the correct predictions. I will therefore stick to it. Focus projection in the last example is possible if the accent falls on the participle.\textsuperscript{300}

When we now look at theme- and flip-verbs, we notice that here too, the subject follows the object in the unmarked order (von Stechow/Uhmann 1986: 317, Haider/Rosengren 1998: 16ff.):\textsuperscript{301}

\begin{itemize}
\item[(629)]
\begin{enumerate}
\item a) dass dem Vater ein TheATerstück gefallen würde. (wide)
\begin{itemize}
\item that the:DAT father a play please would
\item ‘that a play would please the father’
\end{itemize}
\item b) dass Linguisten BalLADen interessieren. (wide)
\begin{itemize}
\item that linguists:ACC ballads:NOM interest:3p
\item ‘that ballads are of interest to linguists’
\end{itemize}
\end{enumerate}
\end{itemize}

That this is indeed the unmarked order is confirmed by the following data involving scope-inversion under rise-fall intonation (Haider/Rosengren 1998: 21):

\begin{itemize}
\item[(630)]
\begin{enumerate}
\item a) dass /[JEde Ballade\]i mehr als EIN\en Linguisten t\i interessierte. \(\exists\)
\begin{itemize}
\item that every:NOM ballad more than one:ACC linguist interested
\item ‘that every ballad was of interest to more than one linguist’
\end{itemize}
\item b) dass /JEDen Linguisten mehr als EI\ne Ballade interessierte. \(\forall\)
\begin{itemize}
\item that every:ACC linguist more than one:NOM ballad interested
\item ‘that every linguist was interested in more than one ballad’
\end{itemize}
\end{enumerate}
\end{itemize}

Scope inversion in (630a) indicates that scrambling has taken place. In (630b) where no scope inversion occurs represents the unmarked order with the object preceding the subject.

We are now in a position to collect a number of unaccusatives that will serve us in the following chapters.\textsuperscript{302}

\textsuperscript{300} This view is questioned by Grewendorf (1989: 209ff.) who claims that embedded unergative verbs never allow focus projection over the entire sentence. I won’t solve this issue as it is not of immediate concern. It is sufficient to know that there is no focus projection if an unergative subject bears the nuclear accent.

\textsuperscript{301} Things are different if these theme subjects are definite: According to Frey/Pittner (1998: 529, fn. 3) and Grewendorf (1989: 212ff.), the accent then falls on the verb in the unmarked case. This is generally true for verbs with an experiencer argument. Accent on the subject would lead to narrow focus, see Grewendorf (1989: 214). As shown by the examples in (624), real unaccusatives always require the nuclear accent to fall on the subject – regardless of its value for definiteness. Consequently, these theme-verbs do differ from unaccusatives, but only in accent placement and not in their unmarked order.

\textsuperscript{302} Main clauses pattern differently: Unergatives and theme-verbs require focus on both the subject and the predicate, one-place unaccusatives do not, see Grewendorf (1989: 210, 215ff.).
5.8.2 Verbs with locative Arguments

We now have to determine if there are verbs that take locative arguments. There are very few that take obligatory locative arguments – from among the intransitive ones perhaps only *wohnen* 'dwell', *liegen* 'lie' and *bleiben* 'remain'.

The first two might be unergatives as they form their perfect with *haben* and do not allow their participle to be used attributively:

(631) a) er hat in Zürich gewohnt. – er hat im Bett gelegen.
   he has in Zurich dwelled  he has in bed lain
   'He lived in Zurich.'
   'He lay in bed'

   b) *der in Zürich gewohnte Mann*  * der im Bett gelegene Mann*
      the in Zurich dwelled man  the in bed lain man
      Lit.: 'the in Zurich dwelled man'  Lit.: 'the in bed lain man'

However, in the previous section, we saw several verbs which select *haben* in the perfect while still patterning with unaccusatives with regard to the unmarked order. However, a note of caution is in order here: The test cannot be immediately carried over to verbs taking locative arguments as we do not know yet where their base position is. If they follow objects, focus projection is always possible when they carry the nuclear accent – regardless of whether the subject is in object or in subject position. Consequently, this test will only be of avail to us if locatives normally appear between VP-internal subjects and objects:

(632) a) dass der Vater in Zürich gewohnt hat. (wide)
   that the father in Zurich dwelled has
   'that the father dwelled in Zurich'

   b) ? dass in Zürich der Vater gewohnt hat. (narrow)
      that in Zurich the father dwelled has

(633) a) dass ein Freund von mir in Zürich gewohnt hat. (wide)
    that a friend of mine in Zurich dwelled has
    'that a friend of mine dwelled in Zurich'

    c) dass in Zürich ein Freund von mir gewohnt hat. (narrow)
       that in Zurich a friend of mine dwelled has

Irrespective of the definiteness of the nominative-argument, it precedes the locative in the unmarked order. Consequently, we do not know if we are dealing with an unergative or an unaccusative verb. I will discuss this issue in more detail in the chapter on adverbials, see 5.9.3.2.

As for verbs taking optional locative complements, there are two that take local complements – *bleiben* 'remain' and *ankommen* 'arrive' – and at least three that take a directional complement: *kommen* 'come' *fallen* 'fall' and *stürzen* 'fall/dash'. They are all unquestionably unaccusative verbs according to both the morphological and the syntactic criteria discussed above. Therefore, they should appear in the object position (at least when indefinite). But again, because of the fact that we do not know the base position of local arguments, the results of the focus projection test will be preliminary. As for directional

303 On the other hand, these verbs do not allow for passivization and the -er derivation.

304 The same holds for *liegen* 'lie'.
complements, they are usually assumed to immediately precede the verb. Consequently, they will always follow unaccusative subjects. I begin with verbs taking local arguments:

(634) a) Dass der Junge in der SCHUle geblieben ist. (wide)
that the boy in the school stayed is
‘that the boy stayed at school’

b) Dass in der Schule der JUNge geblieben ist. (narrow)
that in the school the boy stayed is

(635) a) Dass ein Junge in der SCHUle geblieben ist. (wide)
that a boy in the school stayed is
‘that a boy stayed at school’

b) Dass in der Schule ein JUNge geblieben ist. (narrow)
that in the school a boy stayed is

They pattern exactly like the previous verbs: The local complement follows the subject in the unmarked order. Definiteness is of no influence. Now consider verbs with directional complements:

(636) a) dass der Junge in den BRUNnen gefallen ist. (wide)
that the boy into the well fallen is
‘that the boy fell into the well’

b) dass in den Brunnen der JUNge gefallen ist. (narrow)
that into the well the boy fallen is

(637) a) dass ein Junge in den BRUNnen gefallen ist. (wide)
that a boy into the well fallen is
‘that the boy fell into the well’

b) dass in den Brunnen ein JUNge gefallen ist. (narrow)
that into the well a boy fallen is

Again, the same result. All the examples in this section suggest that locative and directional complements always follow the subject.

Consequently, focus projection is possible only if the nuclear accent falls on the complement and not on the subject. Although all these verbs seem to pattern identically, I

305 A different consequence might have to be drawn if one closely adopts the view of von Stechow/Uhmann (1986: 315) who additionally use a rhematic hierarchy to predict the placement
will mostly use the same verb *kommen* 'come' to facilitate comparison. Moreover, potential interfering factors should be ruled out like this. A more detailed discussion of the structural position of these arguments follows in 5.9.3.2.

of the nuclear accent. According to them, focus projection additionally requires the focus exponent to fall on the most rhematic element in a clause, the hierarchy being predicative > objects > directional adverbs > instrumental/local adverbs > subject > predicate > sentence adverbials. Consequently, no focus projection should be possible in the above examples as objects are higher on the hierarchy than the directionals and the local adverbials. However, one might look at this issue from a different perspective and conclude that the subjects are not objects at the relevant level of grammatical description so that they cannot be the focus exponents for focus projection. Which view is to be preferred will be discussed in 5.9.3.2.
5.9 The structural Position of Locatives

In this chapter, I will try to determine the structural positions in which a locative PP may appear in German. I will first apply the markedness constraints introduced in 5.7.3 to determine the unmarked position of locatives. Thereafter, using finer diagnostics for structure and “deep properties”, I will try to give a (largely) descriptive account of the various positions a locative phrase may appear in. Lastly, this section will definitely answer the question of whether there is locative inversion in German.

5.9.1 Markedness of Word Order Variation involving Locatives

5.9.1.1 Basic Clause Structure

In the previous section, I established the unmarked order of verbs taking locative arguments: The nominative argument precedes the oblique argument. To exclude interfering factors, I present two further examples where both arguments share the same value for definiteness. But again, SU>OBL holds in every case:

\[(638)\]
\[a) dass ein \text{ Mann } in eine \text{ STADT gekommen ist.} \quad \text{(wide)}\]
\[b) dass in eine \text{ Stadt ein \text{ Mann gekommen ist.}} \quad \text{(narrow)}\]

\[(639)\]
\[a) dass der \text{ Mann in die \text{ STADT gekommen ist.} \quad \text{(wide)}}\]
\[b) dass in die \text{ Stadt der \text{ Mann gekommen ist.} \quad \text{(narrow)}}\]

\[(638b)\] is somewhat marginal. \[(639b)\] is grammatical only with contrastive focus on the nominative argument. Let’s assume a constraint NON-OBL\textsuperscript{306} that forces non-obliques to precede obliques. This constraint also accounts for the similar ordering preference for transitive verbs taking a directional complement:

\[(640)\]
\[a) weil \text{ Peter das Buch \{auf den Tisch\} gelegt hat.} \quad \text{(wide)}\]
\[b) weil \text{ Peter \{auf den Tisch\} das BUCH gelegt hat.} \quad \text{(narrow)}\]

What these examples show is that PPs do scramble – contra Bühring (1994: 86). Admittedly, locatives/directionals are probably the oblique complements that scramble most easily; others, e.g. genitive objects are somewhat marginal (see Rosengren 1993 for discussion). We clearly see that locative arguments preceding the unaccusative subject are marked.

\textsuperscript{306} This constraint could be interpreted as gradual: it is violated each time an oblique argument is scrambled across a non-oblique argument.
Therefore, if there is locative inversion, it is a marked phenomenon – just like in the Bantu languages.
In the following sections, I will illustrate how this unmarked order is affected by the factors introduced in 5.7.3.

5.9.1.2 Definiteness

The following examples illustrate the influence of varying values for definiteness:

(641) a) dass in die Stadt ein Mann gekommen ist. *NON-OBL
    that into the town a:NOM man come is
    ‘that to the town came a man.’

    b) dass ein Mann in die Stadt gekommen ist. *DEF
    that a:NOM man into the town come is

    c) dass der Mann in eine Stadt gekommen ist. *–
    that the:NOM man into a town come is
    ‘that the man came to a town’

    d) *dass in eine Stadt der Mann gekommen ist. *DEF, *NON-OBL
    that into a town the:NOM man come is

These examples allow us to rank the constraints that are operative in these examples: the violation of DEF does not create markedness while a violation of NON-OBL does. So NON-OBL outranks DEF – just like NOM outranks DEF. The situation is thus very similar to (574).

5.9.1.3 Focus

How does FOC rank relative to NON-OBL? If both arguments have the same value for definiteness, the order theme > PP is clearly preferred:

(642) a) weil der Mann in die STADT gekommen ist. *–
    because the:NOM man into the town come is
    ‘because the man came to the TOWN’

    b) weil der MANN in die Stadt gekommen ist. *FOC
    because the:NOM man into the town come is

    c) *weil in die Stadt der Mann gekommen ist *NON-OBL
    because into the town the:NOM man come is

    d) *weil in die STADT der Mann gekommen ist. *NON-OBL, *FOC
    because into the town the:NOM man come is

As in (581) above, the violation of FOC does not create a deviant structure (nevertheless, only narrow focus is possible). (642c) is close to a locative-inversion configuration. However, the fact that the theme is definite leads to a contrastive interpretation. (642d) is totally unacceptable as both constraints are violated.
But what if the values for definiteness are not the same?

(643) a) #dass der MANN in eine Stadt gekommen ist. *FOC
    that the:NOM man into a town come is
    ‘that it was the man who came to a town’

b) dass der Mann in eine STADT gekommen ist. *–
    that the:NOM man into a town come has

c) *dass in eine STADT der Mann gekommen ist. *NON-OBL,
    that into a town the:NOM man come is
    *DEF, *FOC

d) ?dass in eine Stadt der MANN gekommen ist. *NON-OBL, *DEF
    that into a town the:NOM man come is

e) dass ein MANN in die Stadt gekommen ist. *FOC, *DEF
    that a:NOM man into the town come is

f) dass ein Mann in die STADT gekommen ist *DEF
    that a man into the town come is

g) *dass in die STADT ein Mann gekommen ist. *NON-OBL, *FOC
    that into the town a:NOM man come is

h) #dass in die Stadt ein MANN gekommen ist. *NON-OBL
    that into the town a man come is

This is an interesting result: The fact that those candidates which violate both FOC and NON-OBL (643c/g) are totally unacceptable falls under the descriptive generalization ‘don’t scramble foci’. Examples like (643c/d) are traditionally accounted for by ‘don’t scramble (existential) indefinites.’ The remaining examples are rather unmarked as they only violate lower-ranking constraints. I am not going to try to rank FOC and DEF with respect to each other as this has already been shown to be too difficult to verify on a sound empirical basis. However, as for these examples, there seems to be a tendency for examples with violations of FOC to be more marked than those which violate DEF (cf. a vs. f; d vs. g).

The interesting example is (643h): It is perfectly grammatical although it violates NON-OBL. So far, all candidates that violate this constraint show strong degradation or ungrammaticality. It seems that we have identified the very context under which an unaccusative subject and and a locative PP can be inverted! I will try to give a more exact account of this further below.

5.9.1.4 Conclusion

This section has shown that locative arguments do not pattern like subjects with regard to markedness: Whenever they precede the theme, a marked structure arises. However, as locative subjects are generally assumed to be a very marked option, this is not very surprising. To get a better understanding of the exact structure of locative inversion-like structures in German, we need a more finegrained analysis which the following sections are supposed to provide.
5.9.2 Diagnostics involving deep Properties

We now have established the little surprising fact that locatives preceding a nominative NP are very marked. In this section, I will show that this change in word order calls for a syntactic account.

5.9.2.1 Principle C-Effects

According to the theory proposed in Frey/Pittner (1998), scrambling a name across a potential binder should not cancel principle C-effects. If this proves correct for fronted locatives, we have evidence that locatives are base-generated below the nominative argument. This is indeed the case:

(644) a) *dass [in PetersHeimatstadt der Peter t\_j gekommen ist. \\
that into Peter's home_town the: NOM Peter come is  \\
Lit.: ‘that Peteri came into Peter’si home town’

b) *dass [in Peters Badewanne der Peter t\_j gestürzt ist. \\
that into Peter's bath_tub the: NOM Peter fallen is  \\
Lit.: ‘that Peteri fell into Peter’si bathtub’

5.9.2.2 Scope and Scope Inversion under the rise-fall Contour

If fronted locatives are derived by scrambling over the nominative NP, there should be scope ambiguities. The following data show that this prediction is correct:

(645) a) DASS [in eine Stadt alle Männer t\_j gingen.       (\exists/\forall) \\
that in one city all men went  \\
‘that all men went to one town/into one town, all men went’

b) DASS ein Mann in alle Städte ging.              (\exists) \\
that a man in all cities went  \\
‘that one man went to all towns’

Scrambling the locative across the nominative-NP leads to scope ambiguity. (645a). No ambiguity results in the canonical order (645b).

If we apply the rise-fall contour, we expect scope inversion in the scrambled structure but not in the canonical structure. Again, the prediction turns out to be true:

(646) a) dass [in /EINe Stadt ALle Männer t\_j gingen   (\forall) \\
that in one town all men went  \\
‘that all men went to one town’

b) dass /EIN Mann in ALle Städte ging.              (\exists) \\
that one man in all towns went  \\
‘that one man went to all towns’
5.9.2.3 Weak Crossover

Concerning weak crossover, we expect a quantified nominative-NP to bind a pronoun inside the locative phrase regardless of whether it precedes or follows it. The following data confirm this prediction:

(647) a) dass jeder in seine Heimatstadt ging  
"that everyone went to his home town"

b) dass [in seine Heimatstadt] jeder ging.  
"that in his home town everyone went"

If the quantifier is contained within the locative phrase, we expect binding of the pronoun only if the locative A-moves across the nominative-NP. Again, this is correct:

(648) a)*dass ihr Gründer in jede Stadt ging.  
"that its founder went to every town"

b) dass [in jede Stadt] ihr Gründer ging.  
"that in every town its founder went"

(648a) is a classical instance of weak crossover. (648b) is grammatical because the quantifier A-moves across the subject; it repairs a weak crossover configuration.

5.9.2.4 Possessive Pronouns

Bayer/Kornfilt (1994: 22) note that argument PPs behave differently than adjunct PPs. Only the latter allow for reconstruction:

(649) a) dass [in seiner Wohnung] Maria den Professor schon oft besucht hat.  
"that in his apartment Mary the professor already often visited has"

b)*dass [in seine Wohnung] der Professor gekommen ist.  
"that in his apartment the professor came is"

Coreference is more acceptable if the binder is contrastively focused:

(650) ?dass [in seiner Wohnung] der Professor gekommen ist.  
"that in his apartment the professor who came to his apartment"

It seems that backwards binding requires a quantified subject (cf. weak crossover). Fronting locative arguments is clearly an instance of A-movement as there are no reconstruction effects. Topicalizing it, however, does show reconstruction effects:

(651) [in seine Wohnung] ist der Professor gekommen.  
"into his apartment is the professor come"
On the other hand, if the pronoun is contained within the subject, it can be bound if the locative phrase containing a possible binder is scrambled across it:

\[(652)\] dass [in die Stadt] ihr Gründer kam.

that in the town its founder came

Lit.: ‘that into the town its founder came’

This is compelling evidence for A-movement.

5.9.2.5 Conclusion

In this section, I presented a number phenomena that clearly point to the fact that fronting locatives is an instance of scrambling, i.e. A-movement. In the following discussion, I will attempt to determine the exact structural position of locatives.

5.9.3 Diagnostics for Structure

It should have become clear that “locative-inversion” in German is a syntactic phenomenon. We do not know yet, though, whether this linear inversion entails a change in grammatical relation. This would only be the case if some of the following diagnostics should provide evidence that fronted locatives move to the subject position.

5.9.3.1 The Position relative to VP and Interpretation

When applying the diagnostics proposed in Bühring (1994), we first notice that definite locative arguments do not seem to scramble out of the VP; instead they have to remain in situ:

\[(653)\]

(a) weil der Mann [in die Stadt] schliesslich [VP gekommen ist].

because the: man into the town PRT come is

‘because the man came to the town’

(b) weil der Mann [in die Stadt] nicht [VP gekommen ist].

because the: man into the town not come is

The examples improve strikingly if the verb is (contrastively) focused:

\[(654)\]

(a) weil der Mann [in die Stadt] schliesslich [VP geKOMMen ist].

because the: man into the town ADV come is

‘because the man came to the town’

(b) weil der Mann [in die Stadt] nicht [VP geKOMMen ist].

because the: man into the town not come is

Is this a peculiarity of locative arguments? I believe no. If the VP is emptied by scrambling of definite arguments, the most natural interpretation seems to be that of verb focus:

\[(655)\]

(a) weil Peter [das Buch] schliesslich [VP geKAUFT hat].

because Peter the: book ADV bought has

‘because Peter BOUGHT the book’

(b) weil Peter [das Buch] nicht [VP geKAUFT hat].

because Peter the: book not bought has

‘because Peter didn’t BUY the book’
Additionally, a heavy accent on the sentence negation leads to a focus on the truth value:

\[(656)\text{ weil Peter \{das Buch\} NICHT \{VP t, gekauft hat\}.} \]

because Peter the:ACC book not bought has

'because Peter did NOT buy the book'

This is not possible with locative arguments: they have to remain in their base-position if the truth value is focused:

\[(657)\text{ a) weil der Mann \{in die Stadt\} NICHT \{VP t, gekommen ist\}.} \]

because the:NOM man into the town not come is

\[(658)\text{ a) weil der Mann schliesslich \{VP in die Stadt gekommen ist\}.} \]

because the:NOM man ADV into the town come is

'I because the man CAME to the town'

Furthermore, verb focus seems to be possible as well if the PP remains within the VP:

\[(659)\text{ a) dass offenbar \{VP ein Mann in eine Stadt gekommen ist\}.} \]

that evidently a:NOM man in a town come is

'I that evidently a man came to the town'

\[(660)\text{ a) dass der Mann offenbar \{VP in die Stadt gekommen ist\}.} \]

that the:NOM man evidently in the town come is

'I that a man came to the town'

So far, Bühring's diagnostic fare quite well: \((659b)\) is strongly degraded because an indefinite is scrambled out of the VP without getting a generic interpretation. \((659a)\) is good as expected. \((660a)\) shows that definite PPs do not have to scramble. \((660b)\) shows that they

\[307\text{ I add sentence adverbials to ensure comparability.} \]
may scramble. The definite theme can only be interpreted as contrastive focus. This last example is the counterpart of (654). Consequently, we have two possible interpretations with fronted locatives so far: verb focus or contrastive focus on the VP-internal theme.

When turning to sentences where the arguments differ in definiteness, we get the following picture (=(641) above):

\[(661)\]

\[a) \text{#dass in die Stadt offenbar }[\text{VP ein Mann gekommen ist}]. \quad \text{*NON-OBL} \]
that in the town evidently a:NOM man come is

\[\text{‘that to the town came a man.’}\]

\[b) \text{dass offenbar }[\text{VP ein Mann in die Stadt gekommen ist}]. \quad \text{*DEF} \]
that evidently a:NOM man in the town come is

\[\text{‘that in the town evidently a man came is’}\]

\[c) \text{dass der Mann offenbar }[\text{VP in eine Stadt gekommen ist}]. \quad \text{*-} \]
that the:NOM man evidently in a town come is

\[\text{‘that the man came to a town’}\]

\[d)*dass in eine Stadt der Mann offenbar }[\text{VP gekommen ist}]. \quad \text{*NON-OBL} \]
that into a town the man evidently come is \quad \text{*DEF},

Again, Bühring’s diagnostics succeed: (661a) is the German equivalent of locative inversion and completely well-formed. (661b) shows again that definite locatives may remain in situ. (661c) is uncontroversial while (661d) is ungrammatical for the following reasons: If we place the adverb like that, this sentence would involve adjunction of an indefinite to IP which was shown to be unacceptable. However, if we use a definite locative and add the distinctive rise-fall contour, the example becomes grammatical:

\[(662)\]

\[\text{dass [in eine/SOLche Stadt]\_[IP der Peter wohl \NIEmals [VP t_i gehen würde]].}\]
that in a such town the Peter ADV never go would

\[\text{‘that Peter would never go to such a town’}\]

(661d) does not improve if we place the adverb elsewhere. Let’s turn to the examples involving different focus assignments (= (642)):

\[(663)\]

\[a) \text{weil der Mann offenbar }[\text{VP in die STADT gekommen ist}]. \quad \text{because the:NOM man evidently in the town come is}\]
‘because the man came to the TOWN’

\[b) \text{weil offenbar }[\text{VP der MANN in die Stadt gekommen ist}]. \quad \text{*FOC} \]
because evidently the man in the town come is

\[\text{‘because the man evidently in the town come is’}\]

\[c)#weil in die Stadt offenbar }[\text{VP der MANN gekommen ist}]. \quad \text{*NON-OBL} \]
because in the town evidently the man come is

\[d)*dass offenbar }[\text{VP in die STADT der Mann gekommen ist}]. \quad \text{*NON-OBL,}\]
that evidently in the town the man come is \quad \text{*FOC}

(663a) is well formed as definite locatives do not have to scramble. Furthermore, non-subjects receive their focus interpretation exclusively within the VP. In (663b) the theme receives a contrastive focus interpretation. If the adverb is placed after the theme, the subject may also receive a non-contrastive focus interpretation. This results in a decrease in markedness. (663c) is grammatical only with a contrastive focus interpretation – it is in fact
identical to (660b). (663d) is ungrammatical because the definite theme is within VP without receiving a contrastive focus interpretation.

In the following examples (643)), both focus and definiteness values vary:

(664) a) dass der MANN offenbar [vp in eine Stadt gekommen ist]. *FOC
    that the:MANN man evidently in a town come is
    ‘that it was the man who came to a town’

b) dass der Mann offenbar [vp in eine STADT gekommen ist]. *–
    that the:MANN man evidently in a town come has

c) *dass offenbar [vp in eine STADT der M. gekommen ist]. *N-OBL,
    that evidently in a town the man come is *DEF *FOC,

d)?dass offenbar [vp in eine Stadt der MANN gekommen ist]. *NON-OBL,
    that evidently in a town the man come is *DEF

e) dass offenbar [vp ein MANN in die Stadt gekommen ist]. *DEF
    that evidently a:Nom man in the town come is *FOC,

f) dass offenbar [vp ein Mann in die STADT gekommen ist]. *DEF
    that evidently a man in the town come is

g) *dass offenbar [vp in die STADT ein Mann gekommen ist.] *N-OBL,
    that evidently in the town a man come is *FOC

h) dass in die Stadt offenbar [vp ein MANN gekommen ist]. *N-OBL
    that in the town evidently a man come is

(664a) shows that subjects may receive (contrastive) focus outside the VP. In (664b), the focal locative (+/- contrastive) is within the VP. (664c) is ungrammatical because the non-contrastive theme has not left the VP. (664d) is marginal if not even ungrammatical. VP-internal scrambling is not allowed. The theme would have to precede the indefinite locative. (664e) is good with both a contrastive and a non-contrastive focus interpretation of the theme. In (664f), the locative is in its base position and receives either a contrastive or a non-contrastive focus interpretation. Additionally, focus projection is possible. (664g) is ungrammatical because the focal locative precedes the indefinite theme. (664h) illustrates scrambling of a definite locative, the theme remaining within the VP. However, according to my judgement, the adverbial could also be placed before the locative without rendering the example ungrammatical; it is worse than the example above, though. At this point, I cannot offer an explanation for this.

In sum, Bühring’s proposal can neatly be carried over to verbs taking locative arguments with the addition that locative PPs may scramble under the following conditions:
First, they must be definite. Then, there are basically three options:

(665) a) the verb is in focus or
    b) the theme is (contrastively/presentationally) focused or
    c) the locative is a contrastive topic.

308 The example improves even more if the locative is indefinite and negated. This might be due to the fact that there is a landing site for negated indefinites somewhere between sentence adverbials and the VP, see Hafka (1994: 144). See also below for a more articulate analysis of the German clause.
I repeat the representative examples:

(666) a) weil der Mann [in die Stadt] schliesslich [VP t_i geKOMMen ist].

because the:NOM man in the town ADV come is

b) dass [in die Stadt] offenbar [VP der MANN t_i gekommen ist].

that in the town evidently the:NOM man come is

c) dass [in die Stadt] offenbar [VP ein MANN t_i gekommen ist].

that into the town evidently a:NOM man come is

d) dass [in die Stadt] offenbar [VP ein Mann t_i gekommen ist].

that in the town evidently a:NOM man come is

‘that to the town came a man’

e) dass in [eine/SOLche Stadt] [VP der Peter wohl \NIEmals [VP gehen würde]].

that in a such town the Peter ADV never go would

‘that Peter would never go to such a town’

(666a) is an instance of verb focus, (666b) is an instance of contrastive focus, (666c/d) show focus (contrastive (c) vs. completive (d)) on the theme and (666e) illustrates the contrastive topic construction.

For the types with focus on the verb or on the theme, there are alternatives with the locative in the base position:

(667) a) weil der Mann schliesslich [VP in die Stadt geKOMMen ist].

because the:NOM man ADV in the city come is

‘because the man CAME to the town’

b) dass offenbar [VP ein/der MANN in die Stadt gekommen ist].

that evidently a/der:NOM man in the town come is

c) dass offenbar [VP ein Mann in die Stadt gekommen ist].

that evidently a:NOM man in the town come is

Do these examples without movement have the same interpretation as those involving scrambling? If this is the case, we would be dealing with some optional feature or a constraint tie. I will not pursue this issue any further as it is of no immediate concern to my investigation. It is sufficient to note that locatives do scramble under certain (syntactic and information structural) conditions. What is of greatest interest to us is whether they move to the subject position. This will be discussed further below.

5.9.3.2 Adverbials

The different base positions of adverbials will now help us to give a more precise account of the VP-internal position of the participants of “locative-inversion” configurations. Of particular interest is the exact base position of the nominative argument as it will definitively tell us whether the verbs taking locative arguments are unergatives or unaccusatives.
We can rely on the following tests: If the nominative argument occupies the subject position, it will appear between temporal and e.g. instrumental adverbials, if it is base-generated in object position, it will follow all the adverbials just mentioned but will precede manner adverbials and directionals. This is illustrated by the following examples (Haider 1993: 210):

(668) a) dass Peter in dieser Ecke einige Hasen gejagt hat. (wide)
   that Peter in this corner some rabbits chased has
   ‘that Peter chased some rabbits in this corner’

   b) dass Peter einige Hasen in dieser Ecke gejagt hat. (narrow)
   that Peter some rabbits in this corner chased has

Consequently, the unmarked order is locative adverbial > object > directional adverbial. We have already seen in 5.8.2 that the subjects of verbs with locative arguments invariably precede the oblique argument. Consequently, we either have to assume that locative arguments do not behave like local adverbials – then the subjects could still be considered to be in object position or– if there is no difference between local arguments and local adjuncts we have to conclude that the subjects are not in object position. This would, of course, be a rather surprising conclusion.

As for the base position of directional complements, there is clear evidence that they follow manner adverbials and thus immediately precede the verb:

(670) a) weil gestern ein Mann schnell in die Stadt gekommen ist.
   because yesterday a man fast in the town come is
   ‘because yesterday a man came quickly to the town’

   a) *weil gestern ein Mann in die Stadt schnell gekommen ist.
   because yesterday a man in the town fast come is
   ‘because yesterday a man came quickly to the town’

As the reverse order is ungrammatical, there is no need to apply further tests to establish the base position.

To determine the position of the subjects relative to the adverbs, I will rely on the tests proposed by Frey/Pittner (1998: 492ff.) There are six of them:

a) They assume that the basic clause structure is also the unmarked one; consequently, the order with greater focus potential will be basic. b) Topicalization involves only adjacent elements.309 c) Indefinite w-phrases do not scramble and therefore always occupy the base position. d) Scrambling interacts with Principle C-effects and e) leads to scope ambiguities.

309 However, we know that scrambling may lead to remnant topicalization. Therefore, such data are probably indicative only of markedness rather than (un-)grammaticality.
So let’s apply these tests to the verb I have been using throughout this study:

(671) a) dass gestern ein Mann mit dem Auto in unsere STADT gekommen ist.
    that yesterday a man with the car in our town come is
    ‘that yesterday a man came to our town by car’

b) dass gestern ein Mann in die Stadt mit dem AUTO gekommen ist.
    that yesterday a man in the town with the car come is

c) dass gestern mit dem Auto ein Mann in unsere STADT gekommen ist.
    that yesterday with the car a man in our town come is

These first examples clearly show that directional complements follow comitative adverbials. Only the a)-example allows maximal focus projection. The other examples are very marked, perhaps even unacceptable. If they are grammatical at all, they certainly do not allow wide focus. Comparing a) and c) shows that the nominative argument precedes the comitative adverbial. This suggests that we are not dealing with an unaccusative verb! The following tests verify this surprising result:

Concerning topicalization, it seems far more acceptable to topicalize the comitative adverbial and together with the locative argument:

(672) a) [mit dem Auto] in unsere Stadt gekommen] ist gestern ein Mann.
    with the car in our town come is yesterday a man
    ‘It was a man who came to our town by car yesterday.’

b) [ein Mann in unsere Stadt gekommen] ist gestern mit dem Auto.
    a man in our town come is yesterday with the car

Using indefinite w-phrases, we obtain the same result:

(673) a) dass gestern wer mit dem Auto in unsere Stadt gekommen ist.
    that yesterday somebody with the car in our town come is
    ‘that yesterday somebody came to our town by car’

b) dass gestern mit dem Auto wer in unsere Stadt gekommen ist.
    that yesterday with the car somebody in our town come is

If the adverbial precedes the subject, we obtain principle C-effects (the trace of an R-expression is c-commanded by a coreferent expression):

(674) *dass mit [Petersi Auto]j gestern der Peteri tj in die Stadt gekommen ist.
    that with Peter’s car yesterday the Peter in the town come is
    ‘that Peter came with Peter’s car to the town’

310 There is one interfering factor for the markedness test: As the directional argument has to be final, the differences in focus are not so clear. If, however, we omit the optional directional, the sentence with the adverbial preceding the verb has wide scope while the reverse ordering allows only narrow focus:

 i) dass gestern ein Mann mit dem Auto gekommen ist. (wide)
    that yesterday a man with the car come is

 ii) dass gestern mit dem Auto ein MANN gekommen ist. (narrow)
    that yesterday with the car a man come is
As for scope ambiguities, the data above predict that while (674a) is unambiguous (∃∀) (674b) allows two readings (∃∀/∀∃):

(675) a) es IST mindestens ein Mann mit fast jedem Auto hierher gekommen
it is at_least one man with almost every car here come
‘at least one man came here with almost every car’

b) es IST mit mindestens einem Auto fast jeder Mann hierher gekommen
it is with at_least one car almost every man here come

As it generally seems to be difficult to construct examples that make sense, it is also difficult to assess these examples. Due to this uncertainty, I will not employ the scope test in the following discussion. At any rate, there is no doubt that the verb kommen ‘come’ projects its nominative argument in the subject position – despite exhibiting unaccusative properties elsewhere. This calls into question many of the allegedly reliable tests. In fact, the other verbs introduced in 5.8.2 which take directional complements behave in the same way. But what about verbs taking local complements? I will use wohnen ‘dwell’: as for the unmarked order, it patterns like kommen.311

(676) a) dass offenbar ein Mann mit einem Mädchen in der STADT gewohnt hat.
that evidently a man with a:DAT girl in the town dwelled has
‘that evidently a man lived with a girl in the city’

b) *dass offenbar mit einem Mädchen ein Mann in der STADT gewohnt hat.
‘that evidently with a:DAT girl a man in the town dwelled has
‘that evidently a man lived with a girl in the city’

Similar facts hold for topicalization (677) and the test with indefinite w-phrases (678):

(677) a) [mit einem Mädchen in der Stadt gewohnt] hat offenbar ein Mann.
with a:DAT girl in the town dwelled has evidently a man
‘it was evidently a man who lived with a girl in the town’

b) *[ein Mann in der Stadt gewohnt] hat offenbar mit einem Mädchen.
a man in the town dwelled has evidently with a:DAT girl

(678) a) dass offenbar wer mit einem Mädchen in der Stadt gewohnt hat.
that evidently somebody with a:DAT girl in the town dwelled has
‘that evidently somebody lived with a girl in the town’

b) ?? dass offenbar mit einem Mädchen wer in der Stadt gewohnt hat.
that evidently with a:DAT girl sbd in the town dwelled has

Lastly, fronting the comitative adjunct leads to principle C-effects:

that with Peter’s girl-friend the Peter in the town dwelled has
Lit.: ‘that Peteri lived with Peter’si girl-friend in the town’

Clearly, wohnen projects its nominative argument in the subject position. In fact, all the verbs taking local complements seem to pattern like this – irrespective of the auxiliary they

311 There is a clear preference for the local complement to follow the comitative adverbial.
select for the perfect. At least for a special set of otherwise uncontested unaccusatives, we have collected challenging evidence that points to the contrary. It seems that there are no real unaccusative verbs with locative complements (directional or local).\footnote{Recall that this is very much in line with the principles of focus projection by von Stechow/Uhmann (1986), see fn. 305.}

To conclude this section, I will apply the tests to unaccusative and unergative verbs with locative adjuncts. I'll start with the unaccusative *ertrinken* ‘drown’:

The markedness test reveals that a sentence with the adverbial preceding the nominative argument has wide focus while the reverse order allows only narrow focus:

\[
\text{(680) a) dass offenbar gestern im Meer ein MANN ertrunken ist. (wide)}
\]
\[
\text{that evidently yesterday in sea a man drowned is}
\]
\[
\text{that evidently a man drowned in the sea yesterday’}
\]

\[
\text{b) dass offenbar gestern ein Mann im MEER ertrunken ist. (narrow)}
\]
\[
\text{that evidently yesterday a man in sea drowned is}
\]

As for topicalization, the subject can be topicalized more easily together with the verb than the locative adverbial:\footnote{However, it is possible to construct nearly perfect examples if different adverbials are used. Consider the following example:}

\[
\text{(681) a) [ein Mann ertrunken] ist in diesem Meer noch nie.}
\]
\[
\text{a man drowned is in this sea still never}
\]
\[
\text{‘Never has a man drowned in this sea’}
\]

\[
\text{b) [in diesem Meer noch nie ertrunken] ist offenbar ein Mann.}
\]
\[
\text{in this sea still never drowned is evidently a man}
\]

Indefinite w-phrases produce the same result: the locative precedes the subject:

\[
\text{(682) a) dass gestern im Meer wer ertrunken ist.}
\]
\[
\text{that yesterday in sea somebody drowned is}
\]
\[
\text{‘that something sank in the sea yesterday’}
\]

\[
\text{b) dass gestern wer im Meer ertrunken ist.}
\]
\[
\text{that yesterday somebody in sea drowned is}
\]

Finally, there should be no principle C-effects according to Frey/Pittner (1998):

\[
\text{(683) dass in Petersi Swimmingpool der Peter ertrunken ist.}
\]
\[
\text{that in Peter’s swimming_pool the Peter drowned is}
\]

This example should be grammatical if the locative adverbial is base-generated above the subject. I am really not sure if it is. It is certainly much better than e.g. (674) or (679). But
despite this uncertainty, I believe that the other tests provide sufficient evidence that *errincken* is a real unaccusative.

The final verb I will discuss is *spielen* 'play' which is undoubtedly unergative. Therefore, our tests should prove that its subject is base-generated in the subject position. They do indeed. The subject precedes the adverbial in the unmarked order:

(684) a) *dass wahrscheinlich ein Kind auf der STRASse gespielt hat*. (wide)
   That probably a child on the street played has
   ‘that a child has probably played on the street’

   b) *dass wahrscheinlich auf der Strasse ein KIND gespielt hat*. (narrow)
   That probably on the street a child played has

Topicalization of the adverbial is more acceptable:

(685) a) *(auf der Strasse gespielt] hat gestern ein Kind.*
   on the street played has yesterday a child
   ‘it was a child who played in the street yesterday’

   b)?[ein Kind gespielt] hat gestern auf der Strasse
   a child played has yesterday on the street

Indefinite w-phrases appear before the adverbial:

(686) a) *dass wahrscheinlich wer auf der Strasse gespielt hat.*
   that probably somebody on the street played has
   ‘that somebody has probably played in the street’

   b)?*dass wahrscheinlich auf der Strasse wer gespielt hat.*
   that probably on the street somebody played has

As for principle C-effects, the following examples should be ungrammatical if the adverbial is base-generated below the subject:

(687) ?*dass auf Peters Tenniscourt der Peteri gespielt hat.*
   that on Peter’s tennis court the Peter played has
   Lit.: ‘that Peter played on Peter’s tennis court’

Again, I’m incapable of judging the acceptability of this example. Still, there seems to be sufficient evidence in favor of my assumptions.

In sum, I believe to have shown that all intransitive verbs which take locative arguments – including alleged unaccusatives – do **not** project their nominative argument in object position. They exhibit the same pattern as unergatives taking locative adjuncts.

Now that I have clarified the VP-internal structure, I will try to give a detailed description of the VP-external part of the sentence and the various positions inverted locative arguments may occupy.
5.9.3.3 Weak Pronouns

I mentioned in 5.7.4.3 above that only subjects may precede weak pronominals. Consequently, we are now in a position to test whether locative arguments may move to SpecIP and thus act as subjects. The following example shows that this is not the case:

(688) *weil [in die Stadt] [np er wahrscheinlich [vp gekommen ist]].

because in the town he:NOM probably come is

‘because he probably came to the town’

Are we to conclude from this that there are no locative subjects? There is no straightforward answer: one might object that locative subjects occur only in very restricted contexts, e.g. in the context of presentational focus where the theme must be focused. Such a context is not given above. All the Bantu languages (and even English) would never allow locative inversion in this context because the theme is a weak pronoun, which can only be interpreted as topical, cf. English *to the town came he. If we use the strong pronouns, the acceptability increases:

(689) weil [in die Stadt] wahrscheinlich [vp ER gekommen ist].

because in the town probably HE come is

‘because it was him who came into the town’

But in this case, the pronoun does not have to move to the Wackernagel position; instead, it remains within the VP and receives a contrastive interpretation (cf. Müller 1999: 81: fn. 11). Therefore, there is no evidence that the PP occupies SpecIP as it may adjoin to VP as well. We are thus faced with a hopeless situation: The only structural configuration that would allow us to test whether locatives may occupy the subject position (i.e. when the theme is represented by a weak pronoun) is incompatible with the information structural conditions that licence presentational focus and thus locative fronting.

5.9.3.4 Reduced Weak Pronouns

In 5.7.4.6, I established two possible positions for clitics: They either appear in C° or somewhere in the Wackernagel position. If locative arguments could be subjects, they should be able to appear either before or immediately after the subject clitic ‘it’. However, as the following data show, locative arguments may not precede it. Furthermore, if they follow the clitic, they are only acceptable within the VP:

(690) a) *weil [in die Stadt]=s wahrscheinlich gekommen ist.

because in the town=it:NOM probably come is

‘because it (e.g. the girl) probably came to the town’

b) *weil=s [in die Stadt] wahrscheinlich gekommen ist.

because=it:NOM in the town probably come is

c) weil=s wahrscheinlich [in die Stadt] gekommen ist.

because=it:NOM probably in the town come is

In evaluating these data, we are faced with the same problem as in the previous section: (690a) is not necessarily an argument against locative subjects since non-structural facts, i.e. information structure interfere: Locative inversion presupposes a focal theme but here, the theme is topical as well. Consequently, as long as there is no satisfying theory
integrating both purely formal and more functional constraints, these examples remain inconclusive.

5.9.3.5 T-Scrambling

The last diagnostic we have at our disposition is T-scrambling. This movement type can be used to account for the contrastive locative topics mentioned in (666e) above, repeated here for convenience:

(691) dass [in eine/SOLche Stadt] [vr  der Peter wohl \NEmals [vr gehen würde]].

‘that Peter would never go to such a town’

We now have a mechanism to derive these constructions. However, they provide no evidence for the subjecthood of locatives as contrastive topics occupy either some functional Spec-position or are adjoined to IP, nP or SubP. It seems to me, however, that adjunction to nP creates highly marked structures:

(692) ?dass [in eine/SOLche Stadt] [nP er wahrscheinlich [vp \NICHT gehen würde]].

‘that Peter would probably never go to such a town’

One could explain this deviance with some principle that prefers shorter movement, i.e. that movement to a SubP-adjoined position already satisfies the information structural requirements of contrastive topics so that further movement is ruled out by some economy principle. As such a principle does not seem to be at work in all the examples we discussed in 5.7.4.4, this cannot be the reason. I assume that once again, the intricacies of information structure might be at work here. But as an exact account of these structures does not help to determine whether there are locative subjects, I will not pursue this issue any further.

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314 I use a different verb to make the semantics more acceptable. From a syntactic point of view, nothing would change if kommen ‘come’ were used.
5.10 No locative Inversion in German

While the position of contrastive locative topics seems to be more or less clear, the landing site of scrambled locatives in the other types of construction remains unresolved. I repeat the relevant examples from (666) above:

(693) a) weil der Mann [in die Stadt] schliesslich [VP t geKOMMen ist].
   because the: NOM man into the town come is

   b) dass [in die Stadt] offenbar [VP ein Mann t gekommen ist].
   that into the town evidently a man come is

The simplest account would be to assume that scrambled locatives occupy the same position as scrambled definite objects like those in the following sentences:

(694) a) dass diesen Film wahrscheinlich [VP niemand mögen wird].
   that this:ACC movie probably nobody like will
   ‘that probably nobody is going to like this movie’

   b) dass dem Vater wahrscheinlich [VP ein Buch geschenkt wurde]
   that the:DAT father probably a: NOM book given was
   ‘that the father was probably given a book’

We have always assumed that definite non-subjects adjoin to the VP above the sentence adverbial. There is no reason not to adopt this analysis for fronted locatives. “Locative inversion” in German is thus nothing but the regular fronting of a topical non-subject argument out of the VP while the focal subject remains within the VP.

Additionally, this inversion process is not restricted to arguments but applies to any kind of adjuncts as well, i.e. all kinds adverbials:315

(695) a) weil auf der Strasse offenbar [VP ein Kind t spielt].
   because on the street evidently a: NOM child plays
   ‘because there is evidently a child playing in the street’

   b) weil mit dem Schraubenzieher offenbar [VP t die TÜR geöffnet wurde].
   because with the screwdriver evidently the door opened was
   ‘because the door was evidently opened with a screwdriver’

   c) dass Peter mit seinem Freund offenbar [VP t eine Wohnung mieten wird].
   that Peter with his friend evidently a apartment rent will
   ‘that Peter is probably going to rent an apartment with his friend’

While their base position may differ from that of locative arguments (at least from the directional complements) or canonical objects, they are subject to the same movement process like topical arguments.316

315 Except for sentence and subject-attitude adverbials. Scrambling of manner and temporal adverbials has already been illustrated in 5.7.4.2 above.
316 The fact that there is no restriction to arguments is further evidence that we are not dealing with a grammatical function changing process. Instead, a linear order that respects information structural relations (i.e. topic > focus) is possible because of the flexibility of word order in German.
So if all these inversions can be reduced to one single operation, viz. scrambling, it seems rather nonsensical to attribute a special status to linear inversion involving locatives. If there are locative subjects, there should also be instrumental, comitative, dative etc. subjects. For all these inversion types, it proves equally impossible to prove that the preposed element does not occupy the subject position. As in (688) above, the only structure that would show whether such topical elements may occupy the subject position is incompatible with the information structural requirements of inversion. Therefore, the ungrammaticality of the following examples cannot be taken as evidence against the subjecthood of the fronted elements:

(696) a) *dass diesen Film [IP er wahrscheinlich [VP mögen wird]].
that this:ACC movie he probably like will
‘that he is probably going to like this movie’

b) *dass dem Vater [IP es wahrscheinlich [VP geschenkt wurde]].
that the:DAT father it probably given was
‘that it was probably given to the father’

But the fact that we are incapable of structurally proving the subjecthood of any topical non-nominative NP is again very indicative of the unclear status of German with regard to the issue of configurationality. Again, nominative case and verb agreement turn out to be the safest (and in many constellations the only) indicators for subjecthood. But that’s where we started from.

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317 ECM-constructions require a qualification of this statement, see Sternefeld (1985).
5.11 **Excursus: Observations about the Prefield**

In this final section, I will discuss some interesting information structural similarities and differences between subjects and locatives in the prefield. I will show that while both are licensed in the prefield in the context of sentence focus, only subjects may occur in the prefield if they are completively focused.

5.11.1 **The Prefield as a Position for information structurally salient Elements**

We have seen in 5.2 that practically any kind of constituent can appear in the prefield. However, there are information structural/prosodic restrictions on the occurrence in the prefield: Constituents in the prefield must bear a special function in discourse, e.g. (+/- contrastive) topic or contrastive focus and be associated with a distinctive prosodic contour:

\[(697)\]

(a) [Shall I buy something sweet? What about strawberries?]]

Nein, Erdbeeren mag ich \ NICHT.

No strawberries. ACC like:1s I: NOM not

‘No, I don’t like strawberries.’

(b) [do you like all kinds of berries?]

/Alle Arten von Beeren mag ich \NICHT (aber Erdbeeren schon)

all kinds of berries like:1s I: NOM not but strawberries PRT

‘I don’t like like ALL kinds of berries, but strawberries I do.

(b) [I’m not going to buy strawberries because you always say you don’t like them]

Nein, \ ERDbeeren mag ich nicht (und nicht Himbeeren)

no strawberries:ACC like:1s I: NOM not and not raspberries

‘It’s strawberries that I don’t like (and not raspberries).’

(697a) represents an ordinary non-contrastive topic, the constituent in the prefield bearing neutral stress. In (697b), the preverbal constituent is a contrastive topic which is associated with a special intonational contour (I-topicalization, see 5.7.4.4). Finally, in (697c), the constituent in the prefield is a constrastive focus.

These examples show that movement to the prefield (topicalization) is less restricted than scrambling: While it has been shown to be next to impossible to scramble focused elements 5.7.3.3, this restriction holds for topicalization only in the case of completive focus (see the next section) but not in the case of contrastive foci.

However, there are two exceptions to this generalization. First, adverbials and in particular sentential adverbs can occur in the prefield without being of special prominence in the discourse and consequently without being accented:

\[(698)\]

Glücklicherweise hat er gelacht.

Fortunately has he: NOM laughed

‘Fortunately, he laughed.’

---

318 For completive focus see the next section.
The second exception, noted first bei Höhle (1982: 127) concerns subjects – or to be more careful: NPs bearing nominative case: They can appear in the prefield either with a special discourse function (and the associated intonational prominence) or without i.e. if the whole sentence is in focus (then lacking special prosodic marks of prominence):

(699) a) [what did Peter do?]
   Peter hat ein BUCH gelesen.
   Peter has a:ACC book read
   ‘Peter read a book.’ \( \Rightarrow \) topic

   b) [what about Peter and Olaf, what did they do?] /PEter hat ein BUCH gelesen (aber OLaf ist ins Kino gegangen).
   Peter has a:ACC book read but Olaf is into movies gone
   ‘As for Peter, he read a book but Olaf, he went to the movies.’ \( \Rightarrow \) contrastive topic

   b)\(\) /PEter hat ein Buch gelesen (und nicht Olaf.)
   Peter has a:ACC book read and not Olaf
   ‘It’s Peter who read a book.’ \( \Rightarrow \) contrastive focus

   c) [what happened?]
   Peter hat ein BUCH gelesen.
   Peter has a book read
   ‘Peter read a book.’ \( \Rightarrow \) sentence focus

Sentences with fronted non-subject constituents, however, cannot be used to express sentence focus – only the b)-answers are felicitous:

(700) a) #Die Wahl hat Bush gewonnen.
   the:ACC election has Bush: NOM won
   ‘Bush won the election.’

   b) Bush hat die Wahl gewonnen.
   Bush has the: ACC election won

(701) a) #einen Mann hab ich getötet.
   a:ACC man have: 1s I killed
   ‘I killed a man.’

   b) Ich habe einen Mann getötet.
   I have: 1s a:ACC man:ACC killed

(702) a) #deinem Bruder hat der Lehrer eine Ohrfeige gegeben.
   your:DAT brother: DAT has the: NOM teacher a:ACC box_on_the_ears given
   ‘The teacher gave your brother a box on the ears.’

   b) Der Lehrer hat deinem Bruder eine Ohrfeige gegeben.
   the: NOM teacher has your:DAT brother: DAT a:ACC box_on_the_ears given

(703) a) #Über Peter hat sich die Mutter aufgeregt.
   about Peter has self: ACC the: NOM mother got angry
   ‘The mother got angry about Peter.’
b) Die Mutter hat sich über Peter aufgeregt.
the:NOM mother has self:ACC about Peter got_angry

As with the middle field (see 5.7.1.1), focus projection is only possible with unmarked order which in this case means that the subject must occupy the prefield.319

In addition, there are prosodic constraints on the occurrence in the prefield as illustrated by the distribution of the pronoun es ‘it’ which realizes the third singular neuter in both the nominative and the accusative. One if its puzzling properties is that it can occur in the prefield as subject but not as object (Berman 2000: 26):

(704) a) Es (e.g. das Brot) ist gut.
   it:NOM the:NOM bread:NOM is good
   ‘It is good.’

b) *Es (e.g. das Brot) mag ich.
   it:ACC the bread like:1s I
   ‘I like it.’

This can be explained as follows: It is an indiosyncratic property of this pronoun (differing from all the other pronouns of German) that it cannot bear phonological accent. Clearly, accent is a prerequisite for bearing a special discourse function and consequently the appearance in the prefield. Therefore the exclusion of es from this context finds a ready explanation.

5.11.2 The Prefield as the default Position for the Subject: Completive Focus

Another property that sets subjects apart from other arguments is that they are the only constituents that may appear in the prefield with a completive focus interpretation. If the subject is questioned, it must be in the prefield for the answer to be acceptable:

(705) a) Wer hat dem Vater das Buch gegeben?
   who has the:DAT father the:ACC book given
   ‘To whom did the father give a book?’

b) *[dem Vater] hat PETER das Buch gegeben.
   the:DAT father has Peter the:ACC book given

c) *[das Buch] hat PETER dem Vater gegeben.
   the:ACC book has Peter the:DAT father given

d) [PETER] hat dem Vater das Buch gegeben.
   Peter has the:DAT father the:ACC book given

The infelicitous answers to (705a) would have the following interpretations: (705b/c) only allow a (+/-) contrastive topic/contrastive focus interpretation of the constituent in the prefield, depending on the intonation (see above). Only (705d) is a felicitous answer.320

319 Consequently, the A’-movement of the subject does not prevent focus projection. This is probably due to the fact that no change in c-command relationships results from this movement.

320 A contrastive focus interpretation of the subject is possible as well in this example.
With intransitive (possibly unaccusative) verbs and the appropriate context or with those verbs that have unmarked DAT/ACC > NOM order, the subject may also occupy its middle field-internal default position in order to receive completive focus:

(706) a) What did yesterday sink in the Atlantic Ocean?  
   Gestern ist im Atlantik ein Öltanker gesunken.  
   yesterday is in_the atlantic_ocean a:NOM oil-tanker sunk  
   ‘Yesterday, an oil-tanker sank in the Atlantic Ocean.’

(707) b) what is Peter interested in?  
   Den Peter interessieren nur Panzer.  
   the:ACC Peter interest:3p only tanks: NOM  
   ‘Peter is only interested in tanks.’

Consequently, the prefield principle only holds for unergative and transitive subjects and among these only for subjects whose base-position c-commands that of all other arguments.

Non-subject constituents, however, may not appear in the prefield in order to receive a completive focus interpretation; instead, they must be in their unmarked position in the middle field:

(708) a) Was hat Peter dem Vater gegeben?  
   what has Peter the:DAT father given  
   ‘What did Peter give his father?’

   b) ![Ein Buch] hat er ihm gegeben.  
      a:ACC book has he him:DAT given  
      ‘He gave him a book.’

   c) [Er] hat ihm ein BUCH gegeben.  
      he has him:DAT a:ACC book given

   d) [dem Vater] hat Peter/ er ein BUCH gegeben.  
      the:DAT father has Peter he a:ACC book given

(709) a) Wem hat Peter das Buch gegeben?  
   who:DAT has Peter the:ACC book given  
   ‘To whom did Peter give the book?’

   b) ![dem Vater] hat er es gegeben.  
      the:DAT father has he it:ACC given  
      ‘He gave it to the father.’

   c) [Er] hat es dem VATER gegeben.  
      he has it:ACC the:DAT father given

   d) [das Buch] hat Peter/ er dem VATER gegeben.  
      the:ACC book has Peter he the:DAT father given

---

I represent the topical referents by means of unstressed pronouns to render the answers more natural. Employing the full NPs would lead to the same result, though.
This analysis entails that if the surface order is not the unmarked, the non-focal object has been moved over the focus. This follows directly from the assumption that topical elements are generally definite and therefore have to leave the VP (see 5.7.4.1). This holds for unstressed pronouns like those in the previous examples (708c; (709c) as well as for the full NPs in the following examples:

(710) a) \textbf{Wem} hat Peter das Buch gegeben?
\textit{who:DAT} has Peter \textit{the:ACC} book \textit{given}
‘To whom did Peter give the book?’

\textit{Peter has the:ACC book the:DAT father given}
‘Peter gave the book to the father.’

b) Peter hat [das Buch], dem Vater \textit{t_1} gegeben.

(711) a) \textbf{Wen} hat Peter der Maria vorgezogen?
\textit{who:ACC} has Peter \textit{the:ACC} Mary preferred
‘To whom did Peter give the book?’

\textit{Peter has the:DAT Mary the:ACC susan preferred}
‘Peter preferred Susan to Mary.’

b) Peter hat [der Maria], die Susan \textit{t_1} vorgezogen.

(712) a) \textbf{Wann} hat Peter der Mutter das Buch gegeben?
\textit{when has Peter the:dat mother the:ACC book given}
‘When did Peter give the book to the mother?’

\textit{Peter has the:DAT mother the:ACC book yesterday given}
‘Peter gave the mother the book yesterday.’

\textit{Geben ‘give’ is a verb with unmarked DAT > ACC order. If the accusative precedes the dative, only narrow focus on the indirect object is possible (710). Vorziehen ‘prefer’, however, is a verb with unmarked ACC > DAT order. Here, the same effect results if the indirect object is scrambled over the direct object (711). If a temporal adjunct is questioned, both topical objects scramble over it (712). As discussed in 5.7.3.3, completive focus on a scrambled element leads to strong degradation. Such structures improve somewhat with a contrastive focus interpretation of the scrambled element, see Choi (1996).}

In the following section, I will investigate the behaviour of locatives with respect to the prefield restrictions discussed in the last two sections.
5.11.3 Locative Arguments in the Prefield

5.11.3.1 Sentence Focus

When we examine the distribution of locative arguments we make a surprising observation: It seems that they pattern exactly like subjects; they may appear in the prefield with a special discourse function but also in the context of sentence focus:\textsuperscript{322}

\begin{enumerate}
  \item \[\text{In meinem /BEtt} \text{ liegt ein \ MANn (aber in der /KÜche schwimmt eine \ENte.} \]
in my bed lies a man but in the kitchen swims a duck
  \begin{itemize}
    \item \text{As for my bed, there is a man lying in it, but in the kitchen, there is swimming a duck}
  \end{itemize}
  \item \[\text{In meinem /Bett liegen ein \ MANn (und nicht in meiner BAdewanne).} \]
in my bed lies a man and not in my bathtub
  \begin{itemize}
    \item \text{It is in my bed that a man is lying (and not in my bathtub).}
  \end{itemize}
  \item \[\text{In meinem Bett liegt ein \ MANN.} \]
in my bed lies a man
  \begin{itemize}
    \item \text{There is a man lying in my bed.}
  \end{itemize}
  \item \[\text{In meinem Bett liegt ein \ MANN.} \]
in my bed lies a man
  \begin{itemize}
    \item \text{There is a man lying in my bed.}
  \end{itemize}
\end{enumerate}

Interestingly, sentences with fronted locative arguments of transitive verbs cannot be used either in such a context:

\begin{enumerate}
  \item \[\text{In die Waschmaschine hat Peter das Baby gesteckt.} \]
into the washing machine has Peter the baby put
  \begin{itemize}
    \item \text{Peter put the baby into the washing machine.}
  \end{itemize}
  \item Peter hat das Baby in die Waschmaschine gesteckt.
  \begin{itemize}
    \item Peter has the baby into the washing machine put
  \end{itemize}
\end{enumerate}

On the other hand, with fronted locative adjuncts, inverted and uninverted structures seem to be equally acceptable in such contexts:

\begin{enumerate}
  \item \[\text{In der Wohung eines Polizisten hat man gestohlene Bilder entdeckt.} \]
in the appartment of a policeman has one stolen paintings discovered
  \begin{itemize}
    \item \text{In the appartment of a policeman stolen paintings have been discovered.}
  \end{itemize}
  \item Man hat in der Wohnung eines Polizisten gestohlene Bilder entdeckt.
  \begin{itemize}
    \item one has in the appartment of a policeman stolen paintings discovered
  \end{itemize}
\end{enumerate}

\textsuperscript{322} As all the verbs taking locative arguments seem to pattern identically (see 5.8.2 and 5.9.3.2), I arbitrarily choose \textit{liegen} 'lie'.
Temporal adverbials\textsuperscript{323} show the same behaviour while other types of adverbials (like manner and causal adverbials) do not:

(716) a) Vor einer Stunde wurde der Präsident ermordet.  
before one hour became the:NOM president assassinated  
‘An hour ago the president was assassinated.’

\hspace{1cm} b) Der Präsident wurde vor einer Stunde ermordet.  
the:NOM president became before an hour assassinated

(717) a) Schnell hat Peter die Arbeit beendet.  
quickly has Peter the work finished  
‘Peter finished his work quickly.’

\hspace{1cm} b) Peter hat seine Arbeit schnell beendet.  
Peter has his:ACC work quickly finished

(718) a) An Krebs ist Peter gestorben.  
of cancer is Peter died  
‘Peter has died of cancer.’

\hspace{1cm} b) Peter ist an Krebs gestorben.  
Peter is of cancer died

How is this distribution to be accounted for? I suggest that the principles determining the occurrence of elements in the prefield in sentence focus constructions are not sensitive to grammatical relations. Instead what governs the distribution is determined by the discourse function of such inverted constructions. Similarly to the presentational focus construction, only (non-subject) elements that have a scene-setting function may appear in the prefield. Locative phrases, temporal and sentential adjuncts all fulfill this function: they locate a scene in different dimensions: space, time and possible worlds. As for locative arguments in examples like (714) that cannot be used in such contexts, it seems reasonable to assume that the verbs they depend on cannot have a scene-setting function like intransitive verbs.

But why do these elements pattern like subjects? It seems to me that sentence focus constructions with subjects in the prefield are only possible if they are somehow activated in the speaker’s consciousness, i.e. if the speaker assumes that the hearer can identify the referent of the subject NP. This is surely the case if the conversation is about one of the interlocutors (701), about a person they both know by his first name (699) or about a famous person that everybody is talking about (700). If the referent of a subject-NP cannot be assumed to be identifiable, it is unlikely to appear in the prefield. More likely is a construction with a scene setting element in the prefield which allows the introduction of a new referent.

\textsuperscript{323} In fact, the inverted construction is more acceptable than the uninverted one here.
5.11.3.2 Completive Focus

As for completive focus, it seems to me that locatives (arguments and adjuncts) and temporal adverbials pattern with all non-subject constituents in that they may not appear in the prefield with such an interpretation:

(719) a) Wann hat Peter das Buch gekauft?
   When has Peter the:ACC book bought
   ‘When did Peter buy the book?’

   b) #[Gestern] hat er das Buch/ es gekauft.
      yesterday has he the:ACC book it:ACC bought.
      ‘He bought it yesterday.’

   c) [Er] hat das Buch/ es GESTERN gekauft.
      he has the:ACC book it:ACC yesterday bought

   d) [Das Buch] hat er GESTERN gekauft.
      the:ACC book has he yesterday bought.

(720) a) Wo ist Peter geblieben?
   where is Peter stayed
   ‘Where did Peter stay?’

   b) #[In Zürich] ist Peter geblieben.
      in Zuerich is Peter stayed
      ‘Peter stayed in Zuerich.’

   c) [Peter/er] ist in Zürich geblieben.
      Peter he is in Zuerich stayed

(721) a) Wo wurde der Präsident ermordet?
   Where was the president murdered
   ‘Where was the president murdered?’

   b) #[In Zürich] wurde der Präsident/er ermordet
      in Zuerich was the president he murdered
      ‘He was murdered in Zuerich.’

   c) [Der Präsident/ er] wurde in ZÜRich ermordet.
      the president he was in Zürich murdered

These data are actually not surprising considering the restriction that a constituent must be in its base position in order to receive completive focus. Subjects are the only exception to this generalization: In independent sentences, they receive completive focus in the prefield, which is their default position.

5.11.3.3 Conclusion

The asymmetry concerning the distribution of subjects and locatives in the prefield can be accounted for by the dual nature of the prefield: On the one hand, it is a position for constituents with a special discourse function, on the other, it is the default position for subjects. Like scrambling, the availability of a further position for topical elements removes the necessity for locative fronting to entail a change in grammatical relation.
6 Locative Inversion in Disguise: Possessives

6.1 Further Types of Locative Inversion?

So far, the discussion about locative subjects has been limited to certain presentational constructions in the Bantu languages and in English. Other languages have not been mentioned at all. To my knowledge, the constructions discussed so far cannot be found so easily in other languages. In fact, I have not been able to find comparable inversion constructions that ensue a change in grammatical functions in other languages. Linear inversion as in German is, of course, widespread, particularly in languages with flexible word order.

However, there seem to be two further types of constructions that could also be said to involve locative inversion: Existentials and Possessives. Such constructions are much more common crosslinguistically. Consider the following examples (Freeze 1992: 553f.; 556; 577):

**Russian**

(722) a) kni\v{g}a byla na stole.
   book:NOM.sg.FEM was:3SG.FEM on table:LOC.SG.MSC
   ‘The book was on the table.’

b) na stole byla kni\v{g}a.
   on table:LOC.SG.MSC was:3SG.FEM book:NOM.sg.FEM
   ‘There is a book on the table’

c) u menja byla sestra.
   at 1s.gen was:3s.FEM sister:NOM.SG.FEM
   ‘I had a sister.’

**Finnish**

(723) a) Mies on huonee-ssa.
   man:NOM is room-INESS
   ‘The man is in the room’

b) huonee-ssa on mies.
   room-INESS is man:NOM
   ‘There is a man in the room.’

c) Liissa-lla on mies.
   Lisa-ADESS is man:NOM
   ‘Lisa has a husband.’

**Twi**

(724) a) s/he-be school-in
   ‘S/he is in school.’

c) I-be house a
   ‘I have a house.’
In these three languages, we find a striking formal similarity in the expression of various concepts involving locatives: The a)-examples represent predicative locatives, the b) examples are existentials and the c) examples express possession. Existentials and Possessives seem to have a locative subject while in the predicative locative, the theme is the subject. The remarkable similarity of these constructions suggest, that they may be related to the same underlying structure. Freeze (1992) assumes that they all share the same D-structure which would be represented as follows:

(725) \[
[\text{IP} \ e \ I(\text{cop}) \ [\text{VP} \ \text{Theme}/\text{Possessum} \ P \ [\text{NP} \ \text{Location}/\text{Possessor}] ]]
\]

The copula is said to be in I. It takes a small-clause complement (represented as PP for simplicity) with the theme in the its specifier position. The Location and the Possessor are the complement of the head of the small clause. The different surface forms are derived as follows: In the predicative locative, the theme moves to the subject position where it is assigned case by Infl. The location receives oblique/inherent case from the preposition:

(726) \[
[\text{IP} \ Theme_1 \ I(\text{cop}) \ [\text{PP} \ t_1 \ P \ [\text{NP} \ \text{Location}] ]]
\]

The other two constructions are derived by movement of P and its complement to the subject position while the theme stays in situ. Freeze (1992: 561) thus assumes movement of an X’-category. As the small clause no longer has a phonetically overt head, I is assumed to govern into it and assign nominative case to the theme:

(727) \[
[\text{IP} \ [p' \ P \ [\text{NP} \ \text{Location}/\text{Possessor} ] ] \ i \ I(\text{cop}) \ [\text{XP} \ Theme \ [X' \ t_j \ t_i ] ]]
\]

This derivation violates structure preservation. Freeze (1992) does not seem to be much concerned about this. One could solve this problem along the lines proposed in Den Dikken (1998: 194f.) by positing an empty head for the small clause with the theme in its specifier and the PP as its complement. Inversion then involves the movement of the PP. No violation of structure preservation results:

(728) a) \[
[\text{IP} \ e \ I(\text{cop}) \ [\text{XP} \ Theme \ [X' \ X \ [\text{NP} \ \text{Location}/\text{Possessor}] ]]]
\]

b) \[
[\text{IP} \ [\text{NP} \ \text{Location}/\text{Possessor} ] \ i \ I(\text{cop})+X_j \ [\text{XP} \ Theme \ [X' \ t_j \ t_i ] ]]
\]

Furthermore, we get a more satisfying account of case assignment to the theme: as the head of XP (possible a small clause) has incorporated into I, I governs the Spec of XP and may assign case to the theme. Following the standard assumption that Infl carries the agreement features, it is little surprising that the theme agrees with the verb. For Finnish and Twi, a somewhat different account might be necessary: As for Finnish, it depends on how one analyses oblique cases. If they are assumed to be governed by an empty preposition, the same account as for Russian applies. If, however, one analyzes these forms as pure NPs, locative inversion would be an instance of NP movement. Such an analysis is anyway necessary for Twi where locatives are either pure NPs (as in the possessive construction) or complex NPs as in the predicative construction: the location argument is governed by a relational locative noun. For the NP-analysis, the following structures result:

(729) a) \[
[\text{IP} \ e \ I(\text{cop}) \ [\text{XP} \ Theme \ [X' \ X \ \text{NP}-\text{Location}/\text{Possessor}] ]]
\]

b) \[
[\text{IP} \ [\text{NP}-\text{Location}/\text{Possessor} ] \ i \ I(\text{cop})+X_j \ [\text{XP} \ Theme \ [X' \ t_j \ t_i ] ]]
\]

However, we are faced with the same problem as with locative inversion constructions in the Bantu languages: How can 2 NPs be licensed if there is only one possible case-assigner
Locative Inversion in Disguise: Possessives

There are basically two options: The first one would follow the account proposed for the Bantu languages (cf. 3.2.6): The NPs would be reanalyzed as PPs with an empty preposition that incorporates into X and then into I which thus inherits one case it can assign to the theme. As there is no subject-verbal agreement in Twi, there is no way to prove that the locative is assigned nominative case. The following structures illustrate the proposed derivations:

\[(730)\]

\[\begin{align*}
&\text{a) } [\text{IP } e \text{ I(cop)} \ [\text{XP Theme } [\text{X' } X \ [\text{PP P Location/Possessor}]]] \\
&\text{b) } [\text{IP } [\text{NP-Location/Possessor}i \text{ I(cop)+X} j \ +Pk \ [\text{XP Theme } [\text{X' } t_j \ t_k \ t_i]]]
\end{align*}\]

Alternatively, we could assume, that the copula is in fact X with some case-assigning capability. After X-to-I-movement, it would govern the Spec of VP and assign its case to it. If it is an inherent case, case-assignment would be possible prior to movement. However, stipulating that a copular verb (which is usually thought to be unaccusative) distinct from Infl has case-assigning potential is tantamount to saying that this construction is exceptional. Furthermore, on this analysis, the parallel to the Bantu examples breaks down where the unaccusative verbs – in line with current assumptions – are held to be incapable of assigning case. Consequently, it seems that the NP analysis remains a theoretical impossibility within this framework and that there is no alternative to the PP-analysis even for Twi. A possible advantage of this approach is that it nicely carries over to languages like English, see below.

An approach like the one I have just sketched is basically highly attractive as it provides a means to capture the high similarity between the three different constructions. In fact, in Scots Gaelic, the three locative constructions all show a structure that exactly corresponds to the D-structure we have been assuming so far (Freeze 1992: 581):324

\[(731)\]

\[\begin{align*}
&\text{a) Tha a' mhin anns a' phoit.} \\
&\text{cop the oatmeal in the pot} \\
&'The oatmeal is in the pot.' \\
&\text{b) Tha min anns a' phoit.} \\
&\text{cop oatmeal in the pot} \\
&'There is oatmeal in the pot.' \\
&\text{c) Tha peann aig Mairi.} \\
&\text{cop pen at Mary} \\
&'Mary has a pen.'
\end{align*}\]

Furthermore, many languages also use the same copula for all three constructions, see Freeze (1992: 580; 581, fn. 20)325

There are, however, a number of problems with this analysis: First: Freeze assumes without argument that the pre-copular position is the subject position. This is uncontroversial in a highly configurational language like Twi but questionable for Russian and Finnish, which

\[\text{324 However, these examples raise the question why there is no locative movement in b/c as Gaelic is VSO.}\]

\[\text{325 Some languages use proforms like English }there\text{ in the existential and in the have construction (Freeze 1992: 579). These proforms are usually not subjects (as opposed to English }there\text{) and may co-occur with locative subjects; On Freeze’s (1992: 563ff.) analysis, they are the spellout of Infl features.}\]
are often said to be non-configurational or discourse-configurational. At least for the existential constructions, Freeze’s approach is questionable.\textsuperscript{326} In fact, he does not present any evidence that would prove that these preverbal locatives are subjects. This holds for all the languages of his (fairly large) corpus. Interestingly, some of these languages allow very free word order (e.g. Hindi, Catalan) so that sentence initial position does not necessarily indicate a change in grammatical relations but perhaps only a change in pragmatic function (topic). Moreover, it is irresponsible to treat Austronesian languages like Tagalog, Palauan and Chamorro like simple subject prominent languages. As there is still no consensus on whether these languages feature grammatical relations at all (cf. e.g. Kroeger 1993), it is not justified in my view to extend the analysis theses languages.

Second, it is not that easy to identify a trigger. As for the existential/predicative distinction, Freeze (1992: 559) assumes that only definite themes undergo movement to the subject position; thus, the trigger is semantic. If the theme is indefinite, it remains in situ. Consequently, the locative must move in order to satisfy the EPP. One could assume that some locative feature in I attracts the locative. If it moves to SpecIP, it may check such a locative feature under spec-head agreement. However, this is rather redundant. One would rather prefer one binary feature. It would basically be sufficient to rely one the presence/absence of the locative feature: In its presence, the locative moves, in its absence the theme.

As for the trigger in the possessive construction, one could either rely on a feature [+human] to trigger movement of the locative as possessors are generally human. However, this cannot account for all the cases as [-human] possessors occur as well. Again, we might have to rely on some locative feature in I. The difference in interpretation between an existential and a possessive reading can be attributed to the [+/- human] feature of the locative subject.

The third, and most difficult problem concerns generalizability: How much deviation from the paradigm cases listed at the beginning of this section is tolerated or to put it differently: from what degree of deviation must a different analysis than that of a common D-structure be adopted? For instance, there is no existential counterpart in Twi, in Hindi, there is an additional relational locative noun in the possessive (see Freeze 1992: 576). According to Freeze, just about any deviance is possible. He even forces his analysis on languages where the three types of locative constructions do not bear any similarity at all, i.e. even for German and English. As for English, has often been discussed whether the predicative locative and the existential construction are derivationally related. But what about the possessive construction? First of all, a different auxiliary is used. Furthermore, there is no preposition. Consequently, some highly abstract analysis is necessary. The next section discusses this issue in detail.

6.2 The Subject of ‘have’ as a Locative Subject

Apart from crosslinguistic similarities, there are rather few arguments in favor of an analysis of the have construction in terms of locative inversion. Freeze (1992: 581ff.) presents the following examples:

\begin{itemize}
  \item (732) a) The tree has a nest \textbf{in it}.
  \item b) I have a needle \textbf{on me}.
\end{itemize}

\textsuperscript{326} According to Guido Seiler (p.c.), the Russian existential construction might rather be an instance of topicalization.
c) Hans hat ein Taschenmesser dabei.  
John has a:acc pocket_knife there_on 
‘John has a pocket knife on him.’

These prepositional phrases with the anaphoric pronouns in English and the adverbial pronominal in German suggest indeed, that the subject is some kind of location. Consequently, Freeze derives such possessive constructions from the same underlying structure as the more regular ones in other languages. He assumes that there is an empty preposition governing the possessor. This preposition is incorporated into I (or first into X) and the possessor is moved to SpecIP. This derivation is represented in the following structures:

\[(733) \text{a) } [\text{IP } \text{e I(cop)} [\text{XP Theme } [\text{X' X [PP P Location/Possessor]]}]]
\]

\[(733) \text{b) } [\text{IP [NP-Location/Possessor]}i I(cop)+X_j+P_k [\text{XP Theme } [\text{x' t_j [PP t_k t_i]}]]]
\]

The XP-projection is perhaps redundant. However, as it is necessary in the other languages, me might adopt it for English as well so that we have the same underlying structure for all languages.\(^{327}\) The copula have is assumed to be the spellout of the complex P + X + I, i.e. the result of some postsyntactic (morpho-)phonological process in PF.

As for case-assignment, Freeze (1992: 588) suggests that the possessor is assigned inherent locative case at D-structure by the empty preposition. However, one then has to ask why the locative moves at all. The EPP could be satisfied by the theme moving to the subject position, but such a structure does not occur. Perhaps, one has to stipulate again that I bears some loc-feature that must be checked and that the possessor is the only NP which could check this feature under spec-head agreement. But the assumption of locative case to the possessor is highly problematic: In languages like German, the possessor bears morphological nominative case. Furthermore, I do not see why abstract locative case should be realized as morphologically nominative in English. Clearly, an alternative solution must be adopted: Infl assigns nominative case to the possessor.

As for the theme, Freeze assumes that it may receive some default case, accusative. But why should accusative case be the default? At any rate, as objects of have do not passivize, it must be an inherent case, which cannot be assigned by Infl. Consequently, we must assume that the I+X+P complex has a further case to assign, inherited from the preposition. This case is then assigned to the theme in SpecXP.

While such an analysis of the have construction is a possible descriptive maneuver, it faces some serious problems, both empirically and conceptually: First, If there really is an empty local preposition underlingly, it would be expected to assign dative case in German. If this case is transmitted to and assigned by the I+X+P complex, it is surprising that it surfaces as accusative. The second objection concerns restrictedness. Such an analysis with a great deal of postsyntactic word formation is highly reminiscent of analyses carried out in the 1960ies in the framework of Generative Semantics. Consequently, an approach that is in line with this framework is faced with all the difficulties that eventually led to the decline of Generative Semantics. Instead of recapping this issue I will just make one short point: If such an analysis is adopted for ‘have’ with totally idiosyncratic (suppletive) postsyntactic word formation (be+with = have), just about anything is possible in this grammar: i.e. be + in will be realized as enthalten ‘contain’, X cause Y to start to have Z as give etc. In other

\[^{327}\] Den Dikken (1998: 194) actually assumes that the entire PP moves in the possessive construction. The trace of the P in SpecIP is governed as the P ends up in I which c-commands its specifier.
words: D-structure is identified with the conceptual structure. We may ask know, why, for instance, a sentence like *I'm in Zurich* is possible at all. If *be + in* is realized as contain, we should instead say: *Zurich contains me*. Yet we don't.

I won't pursue this issue any further. It should have become clear, though, that this analysis of the *have* construction might potentially lead back to many problems which much of the research of the past three decades has been devoted to avoiding.

However, there is a means to express the intuitive idea that verbs like *have, contain* take a rather unusual subject as far as its semantic role is concerned. The role of locative is usually attributed low prominence (see 3.1.2.1) and usually mapped onto oblique functions. But with these verbs, it is mapped onto the subject function – as if some kind of locative inversion had taken place. One would of course, represent such predicates as ordinary <th, loc> predicates at argument structure. This would nicely express the semantic similarity to regular verbs with this kind of argument structure. However, we would then have to stipulate some obligatory locative inversion process for verbs like *have*. This is clearly unsatisfactory as mapping from argument structure to syntax is usually regarded as regular. So the idiosyncrasies of these verbs must already be listed in their lexical entry, i.e. the locative must be specified as the most prominent (external) argument which by default is mapped onto the subject function. Consequently, argument structure cannot be the place to express this type of “locative inversion”. In my view, the similarity between verbs like *have* and ordinary locative verbs should be expressed at the level of conceptual structure (CS). On this level, notions like *I'm in Zurich* and *The bottle contains water* would probably have a very similar representation, e.g. *I be in Zurich* vs. *Water be in a bottle*. The difference between the two sentences is then regarded as the result of the mapping from CS to AS, i.e. the process of lexicalization. The idiosyncratic nature of *have* is then little surprising as lexicalization as such is to be considered a partially idiosyncratic process. While in many languages, the different notions of localization are lexicalized in the same way and thus lead to very similar argument structure and syntactic representations, in some like German and English they are not.328

328 To be more precise, lexicalization is the process that links conceptual structure with the lexical semantics of a verb, i.e. a link between a non-linguistic and a linguistic level. Consequently: While conceptual structure is putatively universal, the lexical semantics are language specific. Mapping from lexical semantics to argument structure is a purely linguistic operation that preserves prominence relations. Therefore, possessives and verbs with locative inversion then already differ at the semantic level and not just at the level of a-structure.

However, one can basically imagine cases where different mappings are possible from semantic structure to argument structure; cf. e.g. Mohanan’s (1996) account of locative inversion in Hindi that requires such a move.
7 Locative Inversion in a broader Perspective

In this final chapter, I will consider locative inversion from a broader perspective. I will try to formulate hypotheses about the structural features a language has to display in order to show locative inversion.

One of the interesting results of this study is that locative inversion seems to be a rather rare process crosslinguistically. In fact, the only languages which have been shown to exhibit locative inversion are several Bantu languages and English. While this limitation is probably due to gaps in the literature, the fact that no other languages are ever discussed in this context suggests that the phenomenon is rare. But why? I will now try to give some tentative answers for this question. I presume that the occurrence of locative inversion is somehow linked to or dependend on some particular design features that I endeavor to determine in this section.

7.1 Rigid Configurationality

One property which English and the Bantu languages share is their rigidly configurational structure. Therefore, one might argue that locative inversion is the only way to bring a locative phrase into topic position. However, this is clearly not true: Both types of languages feature topicalization. So if there is a strategy to modify word order according to the needs of discourse, why is there something like locative inversion? If one takes a closer look at these so-called topicalization constructions, one notices that they seem to have a somewhat different use: They are often called ‘contrastive’, ‘emphatic’, see e.g. Morimoto (2000c). One might conclude from this that they are not suited for the discourse function of presentational focus. Consequently, one has to distinguish two types of topics in these languages. Only one of them may serve as the subject of a sentence. And it is only this position that locative inversion targets.

Things are different in a language like German which features a special non-subject position for discourse prominent elements. There is less reason for a structural distinction of two types of topics as there are intonational means. Furthermore, word order is so free that no change in grammatical relation is necessary to bring a topical constituent into a topic position. So while in English one topic position (the inner topic) is restricted to the grammatical function of subject, there is no such restriction in German: just about any constituent can appear in the topic position.

Expressed from an LFG-perspective, we could say that information structure influences the linking between a- and f-structure in English and Bantu while in German, discourse factors come into play in the mapping from f- to c-structure.

7.2 Marked Linkings

Another property which these languages share is that they allow very marked linkings without any morphological mark: It is not the most prominent argument that is realized as subject. Instead, a lower role is chosen or an expletive subject occurs. Languages that leave the theme argument in its base-position are probably not so exotic as this can always be explained by reference to unaccusativity.

329 I disregard existential and possessive constructions like those discussed in 6 for the moment.
More problematic are those like Sesotho, Kinyarwanda etc., which also allow agentive objects, a very marked property crosslinguistically. 

To my knowledge, there are even very few languages that allow agents to be mapped onto the object function at all. Inverse languages might be a possible candidate; but there, explicit morphology is used to indicate this marked linking (see Aissen 1999). Syntactically ergative languages are another candidate if the argument bearing ergative case is analyzed as an object as e.g. in Manning (1996). But this is a controversial issue. Furthermore, on this analysis, agentive objects are not an option but the default. So what makes agentive objects so remarkable in some of the Bantu languages is that they only occur in a very restricted context. They are perhaps more similar to a language like Tagalog where agentive objects are the default if the agent is not the topic/subject, see Kroger (1993).

There are some still unsolved problems with the analysis of agentive objects in the Bantu languages. First, one has to show that these agents are really objects and not just subjects which have remained in SpecVP. The fact that such arguments usually do not display any object properties might as well be attributed to the fact that they are exceptional subjects. This issue never seems to be discussed in the literature. The main reason for this is that there is no language-internal evidence for a separate IP projection. So in these languages, the sentence expands into a subject NP and a VP that hosts the verb and its objects. A VP-internal subject position can only be justified on theoretical grounds; see e.g. Bresnan/Mchombo (1987) and Bresnan (2000) for some discussion of phrase structure in Chichewa.

Second, it is often claimed that these languages do indeed feature locative inversion. On the other hand, it is generally agreed that unergative verbs do not take locative arguments. Consequently, the so-called locative subjects in these languages would actually have to be analyzed as adjuncts that do not take part in the linking process. They would then be more or less on a par with expletive subjects. There is an interesting correlation between agentive objects and expletive subjects: Those which allow agentive objects also feature expletive subjects while languages like Chichewa that do not allow agentive objects also disallow expletive subjects. We could then basically distinguish between languages that require thematic subjects, i.e. arguments that are part of the verb’s argument structure and those which do not. Whether an unergative or a locative adjunct is chosen as subject will then probably have to depend on information structure, see e.g. Birner/Ward (1993). However, things are even more complicated: Some languages (e.g. Sesotho, English) allow expletive also if the locative is an argument, i.e. with unaccusative verbs. A fourth type is represented by languages like Norwegian which allow agentive objects but only with expletive subjects but not locative adjuncts/arguments, cf. Loedrup (1999: 205):

(734) Det arbeidet en mann i skogen.
    it worked a man in woods
   ‘A man worked in the woods.’

To derive the differences between English and Norwegian, one could appeal to a constraint against PP subjects which is operative (or high-ranked) in Norwegian but not in English.

To sum up, a necessary (but not sufficient) condition for agentive objects in these languages seems to be the availability of non-thematic subjects. To distinguish languages like English and e.g. Sesotho, some further property would have to be found. Surely, more research is necessary to give a more satisfying account of the distribution.
7.3 Topic Prominence/Discourse Configurationality

A further property that is often suggested to be an essential design feature of languages with locative inversion is topic prominence/discourse configurationality. Such proposals have been put forward by e.g. Schachter (1992), Bearth (2000) and Morimoto (2000c) for different languages.

Interestingly, the author’s never really make explicit in what sense they use terms like topic prominence. I will therefore look at two important approaches to/descriptions about topic prominence to see in what sense the Bantu languages could be said to be topic prominent. The first is the influential paper by Li/Thomson (1976), the second a recent survey by Kiss (1995).

7.3.1 Li/Thomson (1976)

In their classical paper, Li/Thomson (1976) describe some of the features that are characteristic of topic-prominent languages like Chinese or Lahu. Generally, the basic sentence structure of topic-prominent languages are said to be best described in terms of topic-comment structure, grammatical relations being rather marginal if not even redundant. Consider for instance the following example from Mandarin Chinese (Li/Thomson 1976: 462):

(735) Nei-xie shùmu, shù-shēn dà.
    those tree tree-trunks be_big
‘Those trees, the trunks are big.’

Thus, the sentence if partitioned into two parts: a topic and a comment. Li/Thomson (1976: 461ff.) mention the following properties of a topic: First, it is obligatorily definite. Second, it is not necessarily subcategorized by the verb and therefore not predictable from the argument structure of the verb but rather from the discourse. Third, it is always sentence-initial. Fourth, it usually does not trigger verb agreement (which in the languages examined by Li/Thomson is impossible anyway due to their isolating nature). Fifth, topics are usually not much involved in grammatical processes like reflexivization, passivization, control constructions, verb serialization.

As for general properties of topic-prominent languages, Li/Thomson (1976: 466ff.) note the following: First, there is usually surface coding for the topic but not necessarily for the subject, coding strategies being topic marker and/or sentence-initial position. Second, such languages usually lack a passive construction as there are other means available to bring a constituent into topic position. Third, such languages do not have expletive subjects. Fourth, topic prominent languages are famous for their so-called “double-subject” constructions like that in (735). Fifth, it is the topic (and not the subject) which controls coreferential deletion in conjunction reduction.

What about grammatical relations in these languages? Li/Thomson (1976: 472) present data from Lisu, a Lolo-Burmese language, that suggest that there are no grammatical relations. Who does what to whom is fully dependent on the (extra-)linguistic context, the animacy of the referents providing additional clues. However, this does not seem to be a property common to all topic-prominent languages (Li/Thomson 1976: 477ff.). Mandarin Chinese, for instance, does make use of grammatical relations in serial verb constructions and reflexivization: Only subjects can be shared by several verbs but not topics and only subjects can control reflexivization.
Li/Thomson (1976: 459f.) further present a prominence typology: Apart from subject-prominent and topic-prominent languages, they suggest two further types: First, languages where both the topic and the subject play a prominent role in the organization of sentences: Japanese and Korean. Second, languages, where topic and subject are no longer distinguishable: Tagalog, Illocano (both Philippine).

So how do the languages examined in this study compare to the types of languages described by Li/Thomson?

First, there seem to be noticeable differences between the languages discussed so far. While Chichewa and Sesotho allow non-topical subjects like wh-words, idiomatic subjects (and expletives in Sesotho), Kirundi/Kinyarwanda do not (c.f. Morimoto 2000b: 8f.). So the first are probably no good candidate for topic-prominence (see Bresnan/Kanerva 1992 for an explicit statement against such an assumption). But what about Kirundi/Kinyarwanda? The major proponent for an analysis in terms of topic-prominence is Morimoto (2000c). The major argument for an analysis in discourse-configurational terms comes from subject-object reversal: As Morimoto (2000c: 153ff.) shows, there is little reason to adopt an analysis in terms of grammatical function change. The topical theme does not possess any subject properties. So if one considers insensitivity to grammatical processes and semantic restrictions on the subject referent a sufficient criterion, these languages might have to be called topic-prominent.

However, there are major differences between Kinyarwanda/Kirundi on the one hand, and e.g. Chinese on the other. First, one has to distinguish two types of topics in these languages, external and internal topics. Consider the following sentence (Morimoto 2000c: 175):

(736)  Umu-koobwa, Sam y-a-mu-haa-ye  igi-tabo.
       1-girl       Sam 1S-PST-1O-give-PRF 7-book

'The girl, Sam gave her the book.'

The first, or left-dislocated topic 'girl' is referred to as external topic while the topic the verb agrees with 'Sam' is called an internal topic. One might want to equate the external topic with the Chinese-style topic introduced in (735). However, according to Morimoto (2000c: 185): external topics are contrastive while internal topics are not. So the basic bi-partition into topic-comment cannot be applied without difficulties. Chinese-style topics are usually not contrastive. On the other hand, internal topics are restricted to core arguments (including adjuncts promoted by applicative) while external topics are not. They do not even have to be subcategorized by the verb (e.g. temporal adjuncts). If they are, the verb obligatorily takes an agreeing object marker which in these languages is actually an incorporated anaphoric pronoun (see Bresnan/Mchombo 1987) which thus act like resumptive pronoun. So from this perspective, it is rather the dislocated topics that pattern with Chinese-style topics. Moreover, a sentences with two types topics is highly reminiscent of double-subject sentences.

Another problematic aspect is that, apart from subject-object-reversal, internal topics in Kinyarwanda/Kirundi are very much involved in grammatical processes, they do show all the properties usually attributed to subjects.

While there undoubtedly is a great deal of similarity between these two Bantu languages and Chinese, there are also crucial differences. Much of the basic organization of the clause in the Bantu languages still has to be accounted for in terms of subject-prominence. Subject-object reversal is probably rather a topic-prominent-like fragment of the language than an reflex of its basic architecture.
But what about languages like Japanese and Korean? They are usually said to be a mixture of topic-prominence and subject-prominence. They are also famous for their double-subject constructions (Korean from Li/Thomson 1976: 462):

(737) siban-in hakkjo-ga manso.
    now-TOP school-NOM many
‘Now, there are many schools.’

These languages differ from topic-prominent languages in that their basic organization depends to some degree on the grammatical relation of subject; furthermore, they feature grammatical processes like passive or causative. However, they exert similar constraints on their topics as Chinese does. But, and this sets these languages apart from the Bantu languages under discussion: Their subjects are not subject to these restrictions; they may be indefinite as in the example above. Furthermore, the Bantu languages are far more subject prominent like Japanese or Korean. So here again, the parallel breaks down.

A further candidate may be Tagalog (the following discussion is based on Kroeger 1993). It is famous for its elaborate voice system: It features up to seven different voices (depending on the verb). There is basically one prominent element in a clause, sometimes called topic, sometimes called subject. At any rate, the verb registers which argument bears this privileged function. There do not seem to be demotion processes at all: if the agent is not the subject/topic, it is still an obligatory element of the clause, i.e. an object (see Kroeger 1993: 40ff.). The following sentences are sentences with more or less the same participants but varying subjects/topics. The constituent marked with ang is the topic/subject (Kroeger 1993: 13f.):

(738) a) B-um\textsuperscript{330} ili ang=lalake ng=isda sa=tindahan.
    PRF:AV-buy NOM=man GEN=fish DAT=store
‘The man bought fish at the store.’

b) B-in-ili-Ø ng=lalake ang=isda sa=tindahan.
    PRF-buy-PV GEN=man NOM=fish DAT=store
‘The man bought the fish at the store.’

c) B-in-ilh-an ng=lalake ng=isda ang=tindahan.
    PRF-buy-DV GEN=man GEN=fish NOM=store
‘The man bought fish at the store.’

d) Ip-in-am-bili ng=lalake ng=isda ang=pera.
    IV-PRF-buy GEN=man GEN=fish NOM=money
‘The man bought fish with the money.’

e) I-b-in-ili ng=lalake ng=isda ang=bata.
    BV-PRF-buy GEN=man GEN=fish NOM=child
‘The man bought fish for the child.’

But what exactly is the status of the the argument marked with ang? The fact that it has sometimes been considered a topic, sometimes a subject is indicative of its exceptional status: On the one hand, it is like a topic in that it has to be definite or generic (cf. Kroeger

\textsuperscript{330} The marker for the perfective aspect is an infix, the verb stem being bili-. AV stands for actor subject, PV for patient subject, DV for dative/locative subject, IV for instrumental subject and BV for benefactive subject.
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1993: 14f.). Furthermore, Tagalog has another feature characteristic of topic-prominence (see Kiss 1995: 8f. and the next section): Thetic sentences have a totally different structure, lacking a nominative argument (Kroeger 1993: 48):

(739)  
\[
\text{May tao sa=bahay.} \\
\text{exist person DAT=house} \\
\text{‘There is someone in the house.’}
\]

On the other hand, it is the target of the following grammatical processes: Quantifier float, relativization, agreement, raising, control of secondary predicates, subject obviation and conjunction reduction (see Kroeger 1993: 19–35). Clearly, these are properties usually attributed to subjects. What should one make of these facts? It seems that the original characterization of Li/Thomson (1976) that in this language, topic and subject are no longer distinguishable is quite accurate. One of the main reasons why there has been a certain amount of reservation about adopting an analysis in terms of grammatical relation is the fact that the topic does not possess subject properties like reflexive binding and NP-NP. Instead, it is always the agent argument that controls these processes. Manning (1996), using data from various languages, shows convincingly that these properties are probably generally rather sensitive to semantic role than to grammatical function. Consequently, the fact that the Tagalog topic lacks these properties is no longer an argument against its being a subject.

Prototypical subject properties paired with restrictions on the referential status of its referent is exactly what we find in Kinyarwanda/Kirundi! Another similarity concerns topicalization: Tagalog also features a special fronting rule (Manning 1996: 18):

(740)  
\[
\text{Ito=ng tasa, B-in-ilii-Ø ko sa=pamilihan.} \\
\text{this=LNK cup PRF-buy-PV 1.S.GEN DAT=market} \\
\text{‘This cup, I bought at the market.’}
\]

Consequently, if the Tagalog subject is a topic, it is surely not the only type of topic found in the language – just like in Kinyarwanda/Kirundi.

However, this is where the similarities end. As (738c-e) show, Tagalog seems to allow adjunct-subjects. Moreover, Kroeger (1993: 56ff.) convincingly argues that Tagalog subjects do not exhibit the behavior one would expect from prototypical topics: First, topic continuity does not seem to be sensitive to topic/subjects but rather to semantic role: Agents are generally higher in topic continuity than patients, irrespective of whether it is a subject or not. Second, subjects/topics may get a completive (741b) or contrastive focus interpretation (742b), see Kroeger (1993: 62ff.):

(741)  
\[
\text{a) Ano ang kinain mo?} \\
\text{what NOM PRF.PV:eat 2s.GEN} \\
\text{‘What did you eat?}
\]

\[
\text{b) Kinain ko \textbf{ang=isda}} \\
\text{PRF.PF:eat 1s.GEN NOM=fish} \\
\text{‘I ate the fish.’}
\]

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331 I do not know, however, whether these topics are contrastive as in the Bantu languages. But note the term “contrastive inversion” used in Kroeger (1993: 123).
(742) a) Nakita mo ba $\text{si=Armand}\text{?}$
\text{PRF.PV:see 2s.GEN q NOM=Armand}

‘Did you find Armand?’

b) Hinahanap ko $\text{si=Bing, hindi si=Armand}$.
\text{IPFV:search:PV 1s.GEN NOM=Bing not NOM=Armand}

‘I am looking for Bing, not Armand.’

Kinyarwanda and Kirundi, however, never allow their in-situ subjects to be focal. That is, they do not allow wh-in situ (Morimoto 2000c: 222). Furthermore, clefting, which is applicable to subjects (Morimoto 2000c: 170) involves relativization so that the subject is actually topical.

In sum, while there are some striking similarities between Tagalog and Kinyarwanda/Kirundi, it is not justified to analyze them in identical terms. The Tagalog subject is probably best analyzed as a subject with certain semantic but not information structural restrictions. For the two Bantu languages, an account in terms of (some kind of) topic prominence seems to be preferable.

At any rate, the typology of Li/Thomson (1976) cannot be easily applied to the Bantu languages under discussion. A more sophisticated approach to topic prominence seems to be called for. The next section presents a recent survey that takes into account much of the work carried out on topic-prominent languages since the appearance of Li/Thomson (1976).

### 7.3.2 Kiss (1995)

Kiss (1995) is a survey devoted to a type of language described as discourse-configurational. It can be loosely described as follows (Kiss 1995: 3):

> languages in which the primary sentence articulation is motivated by discourse-semantic rather than theta-role or case considerations.

This includes both topic-prominent and focus-prominent languages. In these languages, discourse categories like topic and focus are associated with particular structural positions. Working in a generative framework, she assumes that all arguments are base-generated. However, topic-prominence and focus-prominence are not mutually exclusive: A language may have special structural positions for both categories. In fact, this seems to be the default. Some languages, however code only one of the categories with special structural means (e.g. Japanese which is only topic-prominent). Still others have special positions for contrastive elements, e.g. Finnish which has a position for contrastive topics and contrastive foci.

The difference between subject-prominent and discourse-configurational languages is derived as follows: All arguments are universally base-generated within VP. Subject-prominent and discourse-configurational languages differ in whether their sentence structure is derived by externalizing the subject or by externalizing an arbitrary argument due to its discourse status (topic/focus). This difference in movement is usually attributed to the nature/presence of certain functional heads and the respective features born by the lexical items: So while case features trigger movement to SpecIP in subject prominent languages, it is information structural features that cause arguments to move in discourse-configurational languages. Such features are then assumed to be checked in the specifier of

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332 The nominative case marker for proper names and pronouns is $\text{si}$. 
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some functional head (SpecTopP, SpecFocP). Hungarian, for instance, is claimed to lack a subject position. Instead, there is a topic position outside the VP.

Other accounts derive the differences in terms of feature strength (cf. Chomsky 1995): Case features are strong in subject-prominent languages while information structural features are not. Therefore, topics and foci move only covertly. The reverse holds for discourse-configurational languages: topic and focus movement is overt, subject-movement covert (if it exists at all). On these accounts, both types of languages possess the same array of functional projections.

Kiss (1995: 7–14) discusses some of the recurring features of topic-prominent languages. According to her, one of the most important properties of these languages is that they realize thetic and categorical judgements in different syntactic structures: Consider the following examples from Hungarian (Kiss 1995: 8f.):

(743) a) Fido szerintem [vp szereti a csontot]
   Fido according to me likes the bone
   ‘Fido, according to me, likes bones.’

   b) Szerintem [vp minden kutya szereti a csontot].
   according to me every dog likes the bone
   ‘According to me, all dogs like bones.’

(743a) is a categorical judgment. The topic, Fido, moves out of the VP and across a sentence adverbial. (743b), however, is a thetic judgment. As it is not the topic, the external argument remains within the VP.

The position of topics is generally somewhere outside the VP. Some accounts assume movement to the specifier position of some functional head Top, some assume adjunction to IP or to CP.

A controversial issue is whether topics are base-generated in their surface position and co-indexed with the VP-internal argument position or extracted by movement. Hanging topics (as in Chinese, cf. (735), also Tzotil, Somali) and clitic-left dislocated topics (where the argument slot is filled by the resumptive pronoun) are taken to be base-generated. The following example illustrates a clitic-left dislocated topic (Vallduví 1995: 136):³³³

(744) [vp el petit_x [vp [vp 1’h_z portat tx ty tz], ma mare_z al metge_y]]
   the small_one it there she:has taken my mother to the doctor
   ‘The youngest, she took to the doctor, my mother.’

In the other cases, the presence/absence of subjacency effects will argue for one or the other solution. In Hungarian, for instance, subjacency effects show that the topic undergoes movement. An important consequence of this approach is that Chinese is no longer the prototypical topic-prominent language and that so-called double-subject clauses are not found only in some languages of this type.

If a language has both topic-movement and left dislocation involving resumptive pronouns, it is often the case that only one of the prominent elements can function as a topic. This is the case in Hungarian where only the moved element functions can be interpreted as topic. On the other hand, Somali distinguishes two types of topics, hanging and clitic-left-dislocated topics.

³³³ The right-detached elements are not topics; they belong to the Tail.
Topic-prominent languages differ not only with regard to the way their basic structure is derived but also in the availability of multiple topics. Languages which allow multiple topics are for instance Hungarian, Somali, Catalan. This property is sometimes linked to recursion of functional projections (or multiple adjunction or even multiple specs, see Chomsky 1995). Another important parameter of variation is that the notion of discourse-configurationality is basically independent of the traditional configurationality issue. So while e.g. Hungarian is analyzed as having a flat VP, Catalan is assumed to show a structural subject-object asymmetry.

How do the Bantu languages compare to this notion of topic-prominence? Since Chinese is no longer the prototype, the Bantu languages Kinyarwanda/Kirundi seem to fit somewhat better into the category of topic-prominence than on Li/Thomson’s (1976) approach: Sentences like (736) are clearly instances of clitic-left dislocation and thus comparable to constructions in languages like e.g. Catalan. However, as has been already mentioned in the previous section, from a semantic/pragmatic point of view, it is rather the internal (non-dislocated) topic that corresponds to the topic of topic-prominent languages. The internal topic may be dislocated as well since the subject-agreement marker may also function as a marker of anaphoric agreement (cf. Bresnan/Mchombo 1987). Consider the the following example where both the internal and the external topic are adjoined to CP (Morimoto 2000c: 191):334

(745) Umw-aalimu a-ra-shaak-a Sam, abana, ko a-ba-ha igi-tabo.
    1-teacher 1-FOC-want-ASP Sam, children that 1-2O-give 7-books
Lit.: ‘The teacher wants Sam, to the children, that he gives them the books.’

On the other hand, the Bantu-subject/topic is somewhat more similar to the topic in Hungarian in being restricted to core arguments (see Morimoto 2000c: 177). However, there are still major objections against analyzing Kinyarwanda and Kirundi as topic-prominent languages in the sense of Kiss (1995):

First, there is very little evidence for topic-movement to SpecIP: It is usually the agent that moves to this position. Other semantic roles are eligible as subjects/internal topics only after passivization (patients) or applicative and passivization (peripheral roles), the only exception being S/O reversal. It is rather unusual for a topic-prominent language to use so much derivational machinery to place a topical argument into topic position.

Second, real topic prominent languages do not show overt evidence for an IP and a subject position. Consequently, they are fundamentally different from the Bantu languages under discussion where there is no difference between thetic and categorical statements. In the case of a thetic statement, the external argument moves by default to the subject position. The subject position thus seems to have a dual function just like the prefield in German: It is a position for (non-contrastive) topics but also the default position for the subject (c.f. 5.11.2). Similar observations can be made in Finnish, see Kiss (1995: 9) where the subject in thetic judgements undergoes default movement to the topic-position.

Consequently, it seems more promising to compare Kinyarwanda/Kirundi with partial topic-prominent languages like German (or Finnish). However, there is still the difference in agreement: topics do not trigger agreement in German. Furthermore, while being the default position for the subject in a matrix clause, the prefield is not the subject position. On the

334 In fact, the distinction between internal and external topic is quite problematic. Apart from the restriction to core arguments, there are many similarities. It is mainly the internal topic in S/O-reversal constructions which differs from dislocated topics in some regards.
other hand, German also has a passive construction. So German on the one hand and Kinyarwanda and Kirundi on the other are very similar in relying on two very different mechanisms to place a topical argument in topic/subject position at the same time: Verbal derivations (passive, applicative and combinations thereof) combined with NP-movement and inversion/topicalization. The only remaining difference would then be that the topic and subject position coincide in the Bantu languages but not in German.

7.4 Conclusion

In this section, I tried to formulate some tentative hypothesis about possible design features common to languages which exhibit locative inversion. The fact that even the Bantu languages examined in this study show a considerable amount of variation makes it difficult to isolate one particular property that could be said to underlie locative inversion. With the data available so far, it seems that a rigid configurational structure paired with the lack of special structural positions for salient elements of discourse is the most general description one can give. Further research will have to clarify the influence of mapping constraints and the degree of discourse-configurationality exhibited by some of these languages. At any rate, there seems to be a corelation between higly marked linkings and a relatively high degree of (some kind of) discourse-configurationality.
8 Conclusion

The study of locative inversion has shown that languages may rely on different strategies to accommodate information structural needs. While languages with a rather rigid configurational structure like the Bantu languages (have to) use grammatical function processes to place topical elements in a prominent syntactic position, languages with more freedom in word order like German achieve the same goal with mere linear inversion that does not affect the grammatical functions. Thus, discourse information seems to be more grammaticized in the former type. Still, both types of languages display a relatively high degree of discourse configurationality and therefore serve as fruitful field for the study of the syntax-information structure interface.

The basic similarity that underlies both languages are captured differently by different theories: In the P&P framework, topic prominence is uniformly analyzed as feature driven movement of the topical element – either to the subject position as in the Bantu languages or to some specialized discourse position as in German. That is, case features/constraints are probably less important than information structural features/constraints in the Bantu languages while in German, both types of features/constraints can be satisfied at the same type due to the presence of the prefied.

From an LFG perspective, information structure regulates may affect linking processes at different levels of grammar depending on the language. In the Bantu languages, information structure is crucial for the mapping from a-structure to f-structure while the c-structure merely represents functional relations. In German, however, the discourse constraints govern the mapping from f-structure to c-structure. The multidimensional architecture can thus give a very natural account of the intuitive differences between the two types of languages while in the P&P framework, these differences are essentially blurred as they are coded by the same kind of linking device: move α.

Possessive constructions are a further example for the different approach these two theories take to role-function mismatches: Recent work in the P&P framework tends to incorporate the rather idiosyncratic mismatches that occur with possessive verbs into the syntactic analysis, i.e. even lexically unpredictable mismatches are derived with the same kind of formal apparatus like the more regular mismatches such as locative inversion. In my opinion, this leads to a rebirth of Generative Semantics, which is known to be even more reductionist than current P&P: All differences in meaning-function association are a mere surface reflex; the differences in regularity and predictability can no longer be adequately expressed but are rather accidental.

It is very much in the spirit of a multidimensional framework like LFG to handle the more idiosyncratic instances of role-function mismatches at a different level, i.e. in the linking between conceptual structure and argument structure/lexical semantics. This explains why these mismatches are idiosyncratic – they are the result of lexicalization – and further gives a direct account of why they behave differently from regular cases of mismatches in prominence.

Again, as in the grammatical analysis of locative inversion, it seems to me that a multidimensional architecture is not only empirically but also conceptually superior to the purely syntactacist conception of P&P in that it can give a clear account of crosslinguistic differences in possible mismatches and further directly relates these differences to fundamental structural differences of the respective languages.
Abbreviations

TAM-Categories
ASP = aspect
FUT = future tense
PRS = present tense
PST = past tense
NPT = non-past
RECPST = recent past tense
PRF = perfect
PRG = progressive aspect
IPFV = imperfective aspect
HAB = habitual aspect
PUNC = punctual aspect
STAT = stative aspect
IND = indicative mood
MOD = unspecified mood category
INF = infinitive
TAM = unspecified tam category

Promotion/Demotion Devices
APL = applicative
CST = causative
PAS = passive
REFL = reflexive

Miscellaneous Categories
ABS = absolutive case
ACC = accusative case
ADV = adverb
ASC = associative
AF = anti-focus marker
AUX = auxiliary
COMP = complementizer
COP = copula
DAT = dative case
DU = dual
DUP = duplicative
DEM = demonstrative
ERG = ergative case
FV = final vowel
GEN = genitive case
HON = honorific
LNK = linker
LOC = locative
NEG = negative
NEUT = neuter
NOM = nominative case
OBJ = object marker
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRT</td>
<td>particle</td>
</tr>
<tr>
<td>PP</td>
<td>preposition</td>
</tr>
<tr>
<td>POSS</td>
<td>possessive</td>
</tr>
<tr>
<td>PRO</td>
<td>pronoun</td>
</tr>
<tr>
<td>Q</td>
<td>question particle</td>
</tr>
<tr>
<td>REL</td>
<td>relative marker</td>
</tr>
<tr>
<td>SEQ</td>
<td>sequential marker</td>
</tr>
<tr>
<td>TOP</td>
<td>topic marker</td>
</tr>
</tbody>
</table>

**Tones**

(´) = high tone  
(˘) = falling tone  
(˙) = rising tone  
unmarked = low tone

prefixes/suffixes with numbers = agreement markers  
+ etc. in section on Sesotho
References


Bresnan, Joan (1998a): *The Emergence of the Unmarked Pronoun II*. Stanford University: Manuscript.


References


References


References


References


