

NOUNS, VERBS AND PHI-FEATURES

by

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ABSTRACT

In this thesis, I propose that the distribution of nominal phrases is constrained by the relative positions of ϕ -features that nominal phrases contain. More specifically, I propose a condition according to which two syntactic nodes bearing visible ϕ -features cannot be directly merged. This constraint results in the well-described generalization according to which Agreement is severely limited in the Nominal Domain and complements to nominals may not bear direct case-marking, unlike the complements of verbs and prepositions. Next, I suggest that the propagation of ϕ -features can be blocked by a formal feature – ϵ – that is borne on such morphemes as prepositions and linkers, as well as oblique case markers. A nominal phrase merged with an ϵ may combine with another nominal phrase when a bare nominal phrase may not. Next, I argue that the syntactic identity of nouns can be fully reduced to ϕ -features. The proposed approach is shown to extend to adjectives – another category whose syntactic behavior is largely determined by the presence of ϕ -features. To that effect, I show that the ban on direct marking of the complements of both adjectives and nouns can be understood as a constraint on the merger of two ϕ -bearing structures. I show how the proposed theory can account for several well known syntactic phenomena, including the ban on double Absolutives in Ergative languages and the

lack of Structural Dative marking in the Nominal Domain. The empirical data is mainly drawn from Slavic, Romance, Germanic and Iranian languages of the Indo-European family and from Nakh-Dagestanian languages.

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LIST OF ABBREVIATIONS

ABL – ablative

ABS – absolutive

ACC – accusative

ADJ – adjective

AGR – agreement marker

ANIM – animate

ANTIC – anticausative

APP – augment permitting preposition

APPL – applicative

ARP – augment replacing preposition

ART – article

ASP – aspect

ASP – aspect, aspectual marker

ATTR – attributive

AUG – augment

AUX – auxiliary
CL – classifier
COM – comitative
D – determiner
DAT – dative
DEC – declarative
DEF – definite
DET – determiner
DIM – diminutive
DU – dual
ERG – ergative
EV – evidential marker
EZ – ezafe
F, FEM – feminine
FUT – future
FV - final vowel (Bantu)
GEN – genitive
HAB – habitual
IMPERF – imperfective
INANIM – inanimate
INDEF – indefinite

INE – inessive
INF – infinitive
INS – instrumental
LEX – lexical case
LF – long form
LNK – linker
LOC – locative
M, MASC – masculine
MOD– modifier
NEG – negation
NEUT – neutral
NMLZ – nominalizer
NOM – nominative
NUM – number
OBJ – object marker
OBL – oblique
PAR – partitive
PAS – passive
PERF – perfective
PERS – person
PL – plural

POSS – possessor

PREP – prepositional case

PRS – present

PRT – preterite

PST – past

PTCP – participle

REL – relativizer

RPST – remote past

SA - subject agreement

SF – short form

SG – singular

SUBJ – subject

1 | INTRODUCTION

1.1 NOUNS AND VERBS

This dissertation is about the difference between nouns and verbs. More specifically, it addresses the following question: what are the properties of nouns and verbs which account for the numerous differences in nominal and verbal syntax?

One prominent difference is the way of marking of direct objects of NPs and VPs. It is widely known that while direct (Accusative) object marking is available in English VPs, arguments inside noun phrases cannot get such marking; they must be embedded under the semantically vacuous morpheme *of*:

(1) Direct marking in English

- a. perform the songs
- b. *performance the songs
- c. performance of the songs

Importantly, while *of*-marking is not possible with the verb *perform*, it is quite common with

some other verbs (such as *dispose*, *consist*, *smack*, a.o.). In contrast, direct marking is impossible in any English NP, regardless of the predicate.

Similar patterns can be found in numerous languages. In Nominative-Accusative languages, Accusative marking is never¹ found in the nominal domain, as is shown in the following Russian example.

- (2) a. ispolnit' pesnju
perform song.ACC
'to perform the song'
- b. *ispolnenie pesnju
performance song.ACC
int. 'the performance of the song'
- c. ispolnenie pesni
performance song.GEN
'the performance of the song'

In Korean, direct objects of verbs are usually marked Accusative. Inside the Noun Phrase, direct objects, when they are not adjacent to the head noun, must be marked Genitive:

- (3) a. Jiho-*(ka) cikwen-*(ul) chayyong-hay-ess-ta
Jiho-NOM employee-ACC employ-do-PST-DEC
'Jiho hired an employee.'

¹See Baker (2015) for a discussion of some very rare apparent exceptions.

- b. cikwen-*(uy) kapcaksulewun chayyong
 employee-GEN unexpected employment

‘unexpected hiring of an employee.’ (Kim 2018)

In Ergative languages, where the default marking of direct objects in VPs is typically Absolutive, such marking is usually not possible in Noun Phrases. Thus, in Basque, direct objects in VPs are marked Absolutive, while marking of analogous arguments in nominalizations is Genitive, as the following examples show:

- (4) a. Goenaga-k bere azken artelan-ak erakutsi ditu
 Goenaga-ERG his last artwork-PL.ABS exhibit AUX

‘Goenaga exhibited his last artworks’

- b. Goenaga-ren bere azken artelan-en erakusketa
 Goenaga-GEN his last artwork-PL.GEN exhibition

‘Goenaga’s exhibition of his last artworks’ (Artiagoitia 2010)

This pattern can also be replicated in languages without overt case marking. Thus, in Mandarin Chinese, while predicates like *bangzhu* ‘help’ or *boadao* ‘report’ can merge internal arguments directly (5a), this option is unavailable in NPs (5b): nominal arguments must be introduced by additional morphemes, such as *dui* or *de*, as the following examples show:

(5) a. Zhangsan bangzhu-(le) Lisi

Zhangsan help-ASP Lisi

‘Zhangsan helped Lisi.’

b. *Zhangsan (de) bangzhu Lisi

Zhangsan DE help Lisi

int. ‘Zhangsan’s help to Lisi’

c. Zhangsan dui Lisi de bangzhu

Zhangsan DUI Lisi DE help

‘Zhangsan’s help to Lisi’

(Yang 2013)

(6) a. meiti boadao-le na-ci shigu

media report-ASP that-CL accident

‘the media reported that accident.’

b. meiti *(dui) na-ci shigu de boadao

media DUI that-CL accident DE report

‘the media’s report of that accident.’

(Sheehan, van der Waal 2018)

This pattern of data can be generalized as follows:

(7) **Direct argument generalization**

Direct argument marking is disallowed in the nominal domain

Although some individual counterexamples to this generalization have been reported (see, for instance, Baker (2015) for the discussion of Accusatives in Noun Phrases), the lack of direct marking inside Noun Phrases is definitely a very robust crosslinguistic tendency.

1.2 SOME PREVIOUS APPROACHES

Despite superficial similarity, there has been some doubt cast on the issue whether the two phrases in (1), repeated below as (8), indeed involve complementation.

(8) **Direct marking in English**

- a. perform the songs
- b. *performance the songs
- c. performance of the songs

For instance, Kayne (2009) suggests that the difference between (1a) and (1b) is due to the fact that *of*-phrases adjoin to nominal structures, while verbal direct objects are indeed in the complement position. For Kayne, N is characterized by its inability to merge with a complement on the first merge; what follows is that N must undergo self-merge before entering the derivation. Perhaps, the strongest argument against treating internal arguments of nouns as adjuncts comes from selection. Nominal heads can select for particular PPs, similarly to verbs (see Wood (2020) for discussion). In contrast, adjunction typically doesn't involve selection.²

²I adopt Kayne's intuition that NPs allow for fewer configurations where N projects by suggesting that argument introduction in the nominal domain must universally involve modification; see more discussion in Chapter 5.

The position that both nominal and verbal internal objects are indeed complements has been generally adopted in the literature, and most theories have concurred in that the absence of direct marking in the nominal domain is due to the sensitivity of argument marking rules to the N vs. V distinction. To this end, one standard way to approach the generalization (7) has been to suggest that argumental nominals in (1), despite being morphologically uninflected, nevertheless need to get Abstract Case in order to be licensed in the structure (Chomsky (1981), Stowell (1981), Chomsky (1995), a.o.). Nominal heads, as the argument goes, differ from (transitive) verbal heads in their inability to assign Abstract Accusative, which explains the ungrammaticality of examples like (1b). However, extensive research has cast doubt on the validity of Abstract Case as a licenser of noun phrases (McFadden (2004), Diercks (2012), Preminger (2018) a.o.).

In a different type of approach, Case is seen as a postsyntactic operation of assigning certain morphological form to nominals depending on the presence or absence of another nominal in the same domain (Marantz (1991)). The Dependent Case literature has largely avoided the question of N vs. V difference in case marking. In one rare exception, Baker (2015) takes on the fact that unlike VPs, Noun Phrases typically do not contain Accusative or Absolutive arguments. Assuming the same rules of assigning Case in the nominal and the verbal domain, these facts are surprising. In fact, noun phrases can contain one, two or three arguments, similarly to VPs.

To account for the difference between verbal and nominal domain, Baker stipulates a rule according to which argument introducing heads in Noun Phrases, such as *poss*, create borders for the Case assigning domain. This brings the consequence that no two arguments can be found in the same domain in Noun Phrases. Since Accusative is dependent on Nominative; the result is

that DP-internal nominals can never get Accusative Marking.

The intuition that the Noun Phrases impose additional constraints on two nominals in close proximity has been implemented slightly differently in several works by Richards (2001, 2010). In his 2010 monograph, Richards suggests that two structures with identical labels cannot be linearized. What (9) means for nominals is that two structures bearing the N label cannot be directly merged with each other.

(9) **Distinctness** (Richards 2010)

If a linearization statement $\langle \alpha, \alpha \rangle$ is generated, the derivation crashes.

This approach allows for a principled explanation of the contrast between (1a) and (1b), repeated below. While (10a) involves the merge of a verb and a noun, in (10b) two nominals are merged, in violation of Distinctness.

- (10) a. perform the songs
b. *performance the songs

To account for the crosslinguistic constraint on direct marking inside NPs, this system must postulate that English *of*-Phrases, as well as Russian Genitives, are not NPs and bear a different label, for example, KP.³ While this is indeed feasible, it is important to note that the proposed KPs, or oblique phrases, share many properties with NPs. For instance, they can bind anaphors, unlike PPs, as the following Russian examples show:⁴

³I will largely avoid the NP/DP discussion; ‘NP’ stands for any nominal phrase, regardless of its size.

⁴In English, the rules of anaphor binding may involve more complicated patterns which go beyond simple categorial distinctions; for instance, *by*-phrases may bind anaphors. See Pesetsky (1996) for discussion.

- (11) a. rasskaz Maši_i o sebe_i
 story Masha.GEN about self
 ‘Masha’s story about herself’
- b. *pis’mo ot Maši_i k sebe_i
 letter from Masha.GEN to self
 int. ‘Masha’s letter to herself’

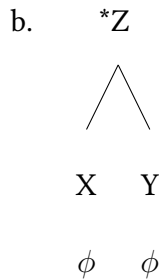
As discussed by Preminger (2014), Holmberg and Hróarsdóttir (2002), dative phrases in some languages, such as Icelandic, despite failing to trigger agreement on the predicate, nevertheless prevent the agreement probe from interacting with a nominal phrase lower in the structure. In contrast, non-dative obliques, such as PPs, do not cause such blocking. In this way, Icelandic datives pattern with NPs in being able, in principle, to interact with the agreement probe.

To sum up, it seems that despite being generally opaque for agreement, and – in languages like English – despite containing a visible extra layer of structure above the D level, certain oblique phrases (or KPs) pattern with NPs/DPs in several important properties, to the exclusion of Prepositional Phrases. These data indicate that the proposed * $\langle\alpha\alpha\rangle$ Constraint should target two nominals of a particular type rather than any two nominals.

I suggest that the crucial difference between oblique and direct phrases is that the latter, but not the former, bear visible ϕ -features. The relevant constraint, which, as I suggest, governs the licensing of nominals inside NPs, states that no two nominals can be merged directly if they both bear visible ϕ -features.

(12) a. **The * $\phi\phi$ Constraint**

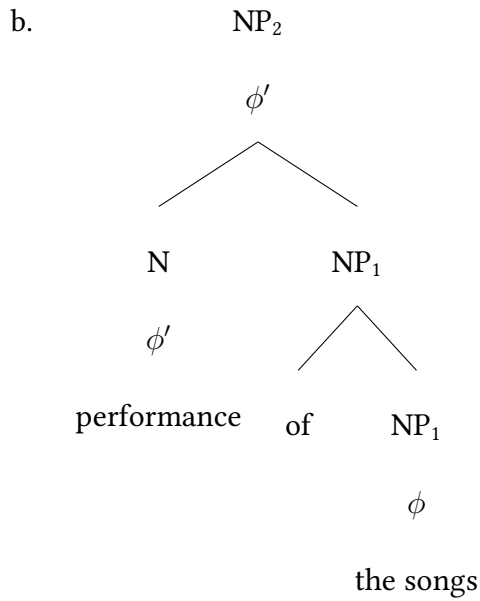
No two sister nodes can be merged if both of them bear visible ϕ -features



A note is in order on the notion *visible*. I propose a distinction between nodes that bear just ϕ (nodes with *visible* ϕ -features) and nodes that bear both ϕ and ϵ (nodes with *invisible* ϕ -features). I assume that ϕ -features of the nodes of the latter type may still be available for certain external operations, such as movement, binding, selection (cf. Icelandic Datives which are still treated as nominals for some operations). Crucially, however, nodes with invisible ϕ -features are not subject to the * $\phi\phi$ constraint, since their ϕ -features will not be inherited up to the mother node, by the definition of ϵ .

The * $\phi\phi$ violation is avoided in (13) where the nominal head merges with a phrase headed by the oblique marker *of*, and the whole NP₁, by assumption, doesn't bear visible ϕ -features. In this derivation, the phrase *of the songs*, despite being nominal, doesn't bear visible ϕ -features at the maximal level, thus avoiding the * $\phi\phi$ violation.

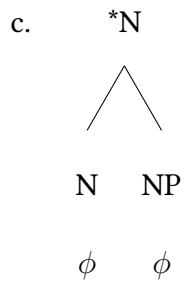
(13) a. performance of the songs



In contrast, in the following two examples, from English and from Mandarin Chinese, the two merged sister nodes both bear visible ϕ -features. As a $*\phi\phi$ violation, this structure is illicit. While Mandarin Chinese lacks overt ϕ -agreement, the assumption adopted here is that Agreement in Mandarin Chinese proceeds abstractly and that nominal ϕ -features are nevertheless visible to the syntactic computation.

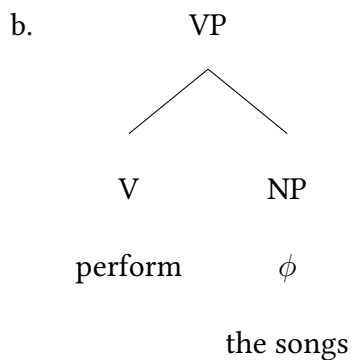
(14) a. *performance the songs

b. *bangzhu Lisi
 help Lisi
 int. 'help to Lisi'



In (15a), a verbal head, which is devoid of inherent ϕ -features, merges with a direct nominal, whose ϕ -features are visible:

(15) a. perform the songs



What is crucially missing in this system is a uniform account of why certain nominals bear ϕ -features, while others do not. To this end, I will suggest that the nominals whose ϕ -features are not visible, as well as PPs, which are different from oblique phrases in their syntactic properties, bear a formal barrier feature. This barrier feature prevents the ϕ -features of the nominal that it merges with from being visible to the rest of the computation. This accounts for both the availability of such phrases in the nominal domain, as well as their opacity for Predicative Agreement.

1.3 N vs. V DISTINCTION AND AGREEMENT

There is a remarkable similarity between the inventory of cases which are available in the Nominal domain and the inventory of cases which cannot be targeted by Agreement. This correlation can be summarized as follows: the type of phrases which are not licensed in the nominal domain are those which are more likely to be targeted by Agreement.

In Russian, a language with rich morphological case marking, only Nominative and Accusative marking is disallowed in the Nominal domain, and analogous arguments receive Genitive marking in nominalized structures. In contrast, Oblique marking is allowed, as the following examples show:

(16) **Dative:**

- a. pomogat' **drugu**
help.INF friend.DAT
'to help a friend'

- b. pomošč **drugu**
help.NOM friend.DAT
'helping a friend'

(17) **Instrumental:**

- a. *ugrožat'* **sudom**
threaten.INF court.INS
'to threaten to sue'
- b. *ugroza* **sudom**
threat.NOM court.INS
'threatening to sue'

The emerging generalization can be formulated as follows:

(18) **N vs. V Case Generalization**

- a. Structural Case is not allowed in the nominal domain
- b. Lexical Case is allowed both in the verbal and the nominal domain
- c. Prepositional phrases are licensed in the nominal domain

Patterns similar to this one can be found in many languages. In fact, Accusative and Absolutive marking is rarely, if ever, found in the nominal domain, as discussed by Baker (2015). Similarly, Nominative marking for non-Possessor arguments in the nominal domain is also extremely rare.

At the same time, the crosslinguistic research in Agreement has established that oblique cases are less commonly targeted by Agreement than Direct cases. This generalization is often represented in the form of an Implicational Hierarchy. If Agreement can target a type of phrase, it can also target any type of phrase to the left in the hierarchy. The contrast that will be most relevant

in the subsequent discussion is the contrast between oblique (lexical) cases and all other types of phrases. Originally formulated in terms of Grammatical Functions (19), this Hierarchy was later reformulated in terms of morphological case marking in Bobaljik (2008).

(19) **The Moravcsik Hierarchy (the original version)** (Moravcsik 1974)

SUBJECT >> OBJECT >> INDIRECT OBJECT >> ADVERBS

(20) **The Moravcsik-Bobaljik hierarchy (simplified)** (Bobaljik 2008)

NOM/ABS >> ACC, ERG >> LEXICAL CASE

One standard way of treating these facts has been to assume that Agreement can only target phrases with visible ϕ -features, as well as to postulate that ϕ -features are more likely to be visible on arguments in the left part of the hierarchy and less likely to be visible on the right part.

The idea that certain nominal phrases bear visible ϕ -features while others don't can now give a uniform account of both the Case discrimination facts and the distribution of Case inside NPs. The idea is that the presence of visible ϕ -features, on one hand, facilitates Agreement and, on the other hand, bleeds NP-internal Argument licensing.

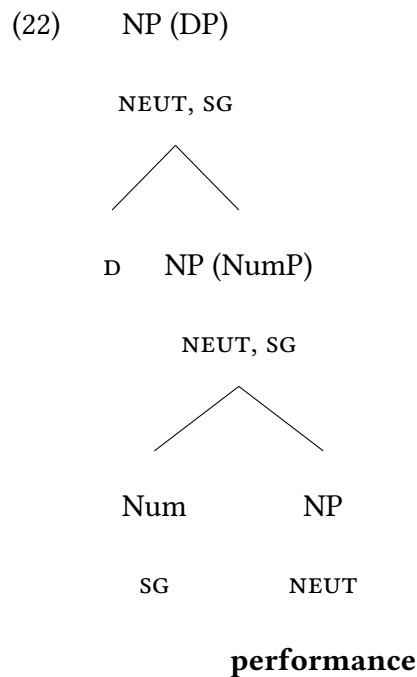
- (21) a. A nominal with invisible ϕ -features cannot be targeted by Agreement⁵
- b. A nominal with invisible ϕ -features can merge with another nominal structure directly

One piece of evidence that Agreement is crucially relevant for the N vs. V contrast is the fact that overt agreement is much less prevalent in the nominal domain than in the verbal domain

⁵Certain oblique phrases (especially Dative and Ergative), can be targeted by Agreement. In Chapter 5, I will propose that such Agreement configurations may involve a local sister-to-sister Probe-Goal relation which doesn't affect the syntactic identity of the verb phrase.

(Baker 2008).⁶ In the system proposed here, this is accounted for straightforwardly: NPs can only merge in the nominal domain if they don't bear visible ϕ -features. If a phrase doesn't bear visible ϕ -features, it cannot be agreed with. Below I propose an account of why certain phrases end up being invisible in certain nominals, as well as in PPs. I suggest that while ϕ -features are, in the general case, transmitted up in the course of the NP-derivation, this transmission can be blocked if a certain nominal head bears a formal barrier feature.

To see how this works, let's consider the following derivation:



It has been fairly common to assume since at least Ritter (1991, 1992) that ϕ -features, whose source is quite low in the structure, are available at each nominal projection until at least the D

⁶One type of phrase which demonstrates NP-agreement are internal prominent possessors, that is possessors occupying a high position in the DP structure. Such phrases also demonstrate several properties otherwise non-characteristic for the nominal domain, including Structural Dative and Ergative marking. See more discussion of prominent internal possessors in Chapter 2.

level (see also the discussion in Danon (2011)). The fact that ϕ -features are visible at intermediate levels can be evidenced from concord, among other phenomena. Thus, in languages with Full Concord, concurring phrases can be merged at different places in the structure and still match in their ϕ -features with the head noun. This can be exemplified with an example where both the demonstrative and the adjective show concord with the head noun:

(23) **Full Concord in Russian**

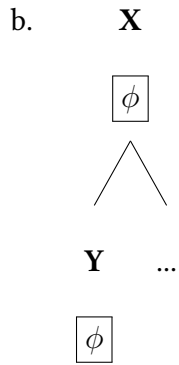
et-o dolg-oe ispolnenie
this-NEUT long-NEUT performance.NEUT
'this long performance'

Since the source of features is low and they remain visible at higher nodes, the directionality of feature transmission inside the noun phrase is upward (Landau 2013). These considerations have led several researchers suggest that ϕ -features are percolated up the nominal structure. For instance, Norris (2014) suggests that nominal ϕ -features are projected at every node starting from their locus node up to the DP's maximal projection. (See Giusti (2008) for a similar proposal).

Largely building on these insights, I suggest that in the general case, ϕ -features are inherited from daughter nodes to the mother node as a result of Merge.

(24) **General Rule of Inheritance**

- a. If X and Y are heads such that X immediately dominates Y and Y bears ϕ , then X inherits ϕ .



This seems to be a uniform mechanism of ϕ -feature transmission, regardless of their type. Thus, gender/noun class features originate at the N (the categorizing head *n* in non-lexicalist theories). Number features, on the other hand, originate higher, at the Num level. More specifically, when a Num head is merged with the nominal phrase (which already bears gender features) the resulting mother node must inherit two features: the number feature from the Num head and the gender feature from its other daughter node – the nominal phrase containing the nominal head.⁷

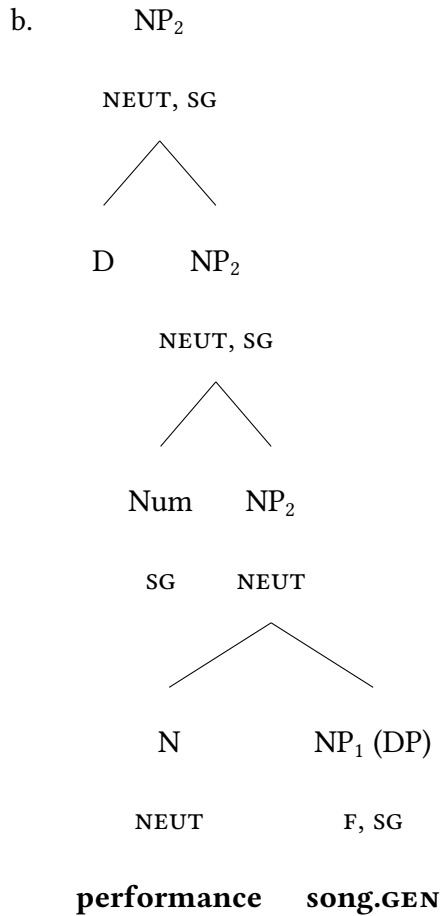
Let's now consider the case where a noun phrase contains an argument, which, in order to be licensed, must bear oblique morphology.⁸

(25) **Russian**

- a. ispolnenie pesni
- performance song.GEN
- ‘the performance of the song’

⁷I will discuss in more detail syntactic/semantic concord and different types of ϕ -features in subsequent sections.

⁸The assumption adopted here is that the internal argument merges with an already nominalized structure (see Wood (2020) for a discussion of Icelandic nominalizations).



The ϕ -features of this oblique argument are not visible at the D level of the big DP (indeed, the whole phrase is neuter, and not feminine, as can be evidenced by Agreement). Similarly, in prepositional phrases, which are typically opaque for Agreement, ϕ -features are not visible at the maximal level. As a consequence, PPs can be licensed in the nominal domain.

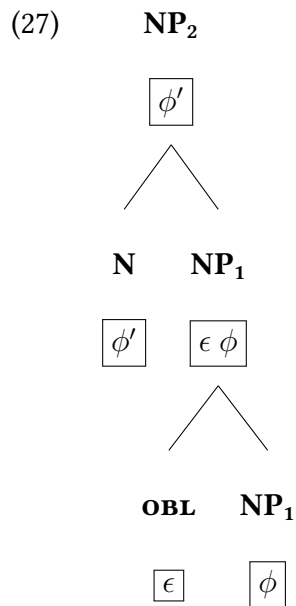
It has been common to attribute barrierhood properties to particular lexical/syntactic categories, such as P (Abels 2003). There are, however, at least two challenges to this idea. First, as we have seen, oblique phrases pattern with NP in certain syntactic properties (such as binding, coordination etc.), while being opaque to Agreement, similarly to PPs.

Second, in many languages, such as Kilega, a Bantu language, PPs are transparent to agreement (see (Carstens 2003) for discussion).

- (26) Ku-Lúgushwá kú-kili ku-á-twag-a nzogu maswá
 17-Lugushwa 17-be.still 17SA-A-stampede-FV10 10elephant 6farm

‘At Lugushwa are elephants still stampeding over (the) farms.’ Carstens (2003)

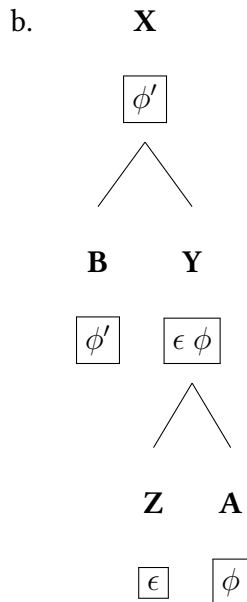
The idea proposed here is that the features of the oblique phrases are blocked from being passed up, due to the presence of a formal feature, which I label as ϵ , which stops the inheritance of ϕ -features. I formalize it as follows:



The higher NP₁ in this diagram represents an oblique phrase, whose features are borne at the head but are not visible higher in the structure due to the presence of an ϵ feature. For uniformity, I suggest that the ϵ feature is inherited by the higher NP similarly to the ϕ -feature.

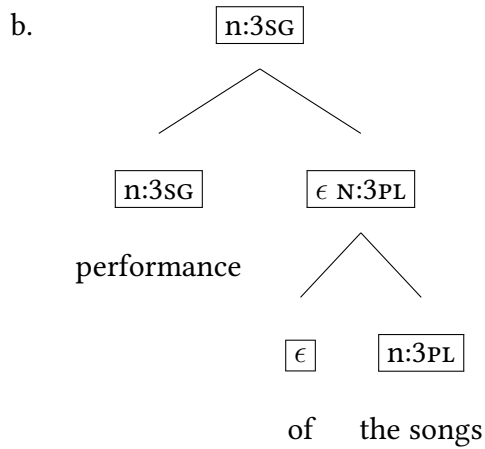
(Alternatively, one can suggest that the ϵ feature is a diacritic feature that some phrases have while others lack. Although theoretically feasible, such view makes the description of ϵ somewhat more complicated). I suggest that the same behavior of the ϵ feature holds in every configuration, regardless of syntactic category. This is formalized as follows:

- (28) a. If X, Y and Z are heads such that X immediately dominates Y and Y immediately dominates Z and Z bears ϵ ; then Y inherits ϵ and X doesn't inherit any of the features of Y;



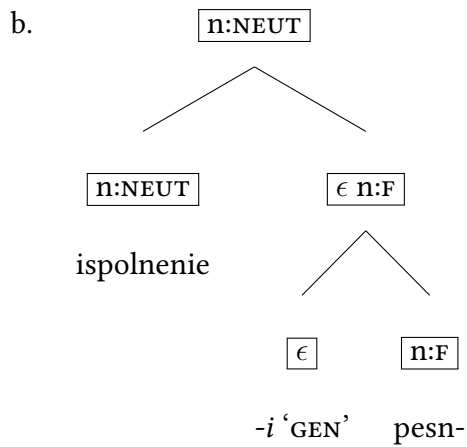
Let's now consider several specific examples of how exactly the ϵ feature facilitates NP-licensing in the nominal domain. For English, I suggest that the ϵ feature is borne on the morpheme *of* and is inherited to the *of*-Phrase. The presence of this feature prevents the plural feature of *the songs* to be passed up.

(29) a. performance of the songs



In Russian, I suggest that the ϵ feature is borne by the Genitive morpheme. (The Accusative morphology, whether or not it projects syntactically, is devoid of ϵ , by assumption). The rest of the derivation is similar to its English counterpart.

(30) a. ispolnenie pesn-i
 performance.NEUT song-GEN
 'the performance of the song'



This account can be extended to prepositional phrases in languages of Russian or English type. These phrases are opaque to Agreement, similarly to Oblique phrases, but unlike Oblique Phrases, Prepositional Phrases are not nominal.

This contrast raises the following question. What makes the oblique phrase nominal? In other words, what are the properties of N which account for nominal syntactic properties?

The answer to this question that I am going to give in the dissertation brings together several observations on the interrelation of ϕ -features and N. First, as has been argued by Kramer (2014, 2015), ϕ -features are generated on the lowest nominal projection, i.e. n (N). Assuming that inheritance in the general case always happens, this means that there are no nominal phrases which are devoid of ϕ -features.

Second, the presence of ϕ -features seems to be a universal property of NPs. While PPs show variability with respect to their opacity for Agreement operations, demonstrable NPs always show the presence of ϕ -features, in those languages where such presence is in principle observable. (This fact is partially reflected in the Moravcsik-Bobaljik Hierarchy).

I suggest that every nominal phrase bears ϕ -features (which in some cases might be invisible) and, conversely, every phrase which bears ϕ -features is nominal. To put this differently, I suggest that the N label can be reduced to ϕ : ϕ is the label of nominal phrases.

(31) **N- ϕ Equivalence Hypothesis**

$$N = \phi$$

Similarly, I suggest that syntactic properties of English PPs are fully defined by the presence of the barrier feature and the absence of ϕ . Indeed, PPs are generally opaque for agreement, and

the only kind of transparency to external processes that PPs demonstrate seems to be selection (and, in some cases, binding). While certain verbs select for a particular preposition or a semantic type of prepositions (for example directional or locative), as far as I know, no head can select for categorial PPs to the exclusion of oblique phrases.

(32) **Three types of non-clausal arguments in English:**

- a. DPs: $\{\phi\}$ – bear only ϕ -features
- b. PPs: $\{\epsilon\}$ – bear only ϵ
- c. OblPs: $\{\phi, \epsilon\}$ – bear both ϕ -features and ϵ

This suggestion can potentially lead to the account of the mixed properties of Icelandic datives, discussed above, assuming that the Icelandic EPP probe on T is sensitive only to phrases bearing ϕ ; and only phrases bearing ϕ and lacking ϵ can trigger Agreement.

While the presence of ϕ seems to be a universal property of Noun Phrases crosslinguistically, Prepositional phrases seem to differ in how they interact with Agreement, as the Kilega example (26) shows. The prediction of the theory proposed here is that prepositional phrases in languages with agreed-with PPs should not be licensed in the nominal domain. This seems to be borne out, at least in some Bantu languages.

For instance, in Kikuyu, certain noun's dependants must be embedded under *associative morphemes* which, similarly to other types of modifiers, such as adjectives or demonstratives, show concord with the noun. The concord dependency is clearly different from Predicative Agreement found in the verbal domain since the head's ϕ -features are cross-referenced on the dependent,

while in the verbal domain, the position is the opposite.⁹

(33) **Concord of prepositional phrases with the head noun in Kikuyu**

mo-tumia *(we)-na-harji

CL1-woman CL1-with-earrings

‘a woman with earrings’

(Ngamau 2004)

The fact that dependent Prepositional Phrases are not licensed in Kikuyu noun phrases without concord morphology is due to the fact that such phrases bear visible ϕ -features, and their direct merge in Noun Phrases leads to the $*\phi\phi$ Constraint. I suggest that agreeing PPs of Bantu type have the following featural makeup:

(34) **Bantu-type PPs:**

- a. PPs: $\{\phi, \epsilon\}$ – bear both ϕ -features and ϵ

This analysis of *of*-type morphemes can be further extended to other types of these oblique markers. One type of such morphemes is Modern Persian *ezafe* marker. In this language, for instance, the head noun must bear the *-e* marker (*-ye* after vowels) when the head noun is followed by a noun/PP complement or other dependent, for instance, an adjective.

⁹See Norris (2014) for the discussion of the distinction between Agreement and Concord.

(35) **Ezafe markers in Modern Persian**

- a. del-e sang
heart-EZ stone
'stone heart' (NP)
- b. shahr-e Tehran
city-EZ Tehran
'city of Tehran'
- c. manzel-e John
house-EZ John
'John's house'

While the ezafe marker is phonologically dependent on the head noun, there is ample evidence that syntactically, it forms a constituent with the dependent, rather than with the head. To that effect, subordinate clauses can be coordinated and show only a single ezafe marker (36). (See also Butt and King (2008) who makes the same claim on the constituency of Urdu ezafe).

(36) **Coordination with ezafe phrases**

- a. [kolâh(=*e) va lebâs][=e Maryam]
hat=LNK and dress=LNK Maryam
'Maryam's hat and dress.'

- b. ahâli[=e [Gilân va(*=ye) Mâzandarân]]
 population=LNK Gilân and=LNK Mâzandarân
 ‘the population of Gilân and Mâzandarân’

The data suggests that *ezafe* is inserted when a nominal head has a nominal dependent. Relatedly, *ezafe* markers are present on prepositions that can be otherwise shown to be nominal. Thus, for a subset of prepositions, the *ezafe* marker is not possible, while others may occur with *ezafe*.

(37) **Prepositions that are incompatible with *ezafe***

- a. az(*-a) Hasan
 from(-EZ) Hasan
 ‘from Hasan’
- b. ba(*-yé) Hasan
 with(-EZ) Hasan
 ‘with Hasan’

(38) **Prepositions that are compatible with *ezafe***

- a. zir(-e) miz
 under(-EZ) table
 ‘under the table’

- b. ru(-ye) miz
 on(-EZ) table
 ‘on the table’
- c. bala(-ye) divar
 up(-EZ) wall
 ‘up the wall’

Remarkably, those prepositions which can co-occur with ezafe markers also exhibit characteristic nominal properties. For example, ezafe-taking prepositions ru and zir are compatible with demonstratives and plural marking, as the following examples show:

- (39) a. raft bala(-yé deraxt)
 went up-EZ tree
 ‘went up (the tree)’
- b. in ru
 this top
 ‘up here’
- c. un zir-a
 that under-PL
 ‘way down there’

The distribution of the ezafe can be summarized as follows:

(40) **Key distributional claim:** Ezafe occurs between [+N] elements.

Here again we are faced with the question of why the N head is unable to case-mark its complement. Furthermore, the fact that the ezafe marker is only found inside the Noun Phrase suggests that it can only appear between two nominal structures.

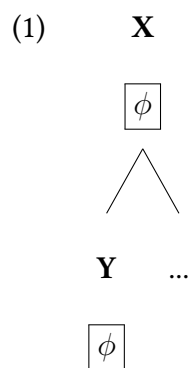
It is easy to see how the $*\phi\phi$ Hypothesis can be further extended to account for the ezafe marker, assuming that two nominal elements cannot be directly merged.

There are several issues left with this analysis, one of which is, why ezafe markers are used with adjectives – the question that I address in the next chapters.

2 | ASSUMPTIONS

2.1 PHRASE STRUCTURE

This dissertation is largely an exploration of the idea that DP-internal ϕ -features are inherited by a mother node as a result of Merge, as shown in the diagram below. More specifically, I suggest that nominal features must be inherited up, unless certain morphemes prevent features from being transmitted. This suggestion builds on several proposals by Lieber (1989), Selkirk (1982), and others, who suggest that nominal features percolate up in the course of syntactic derivation.



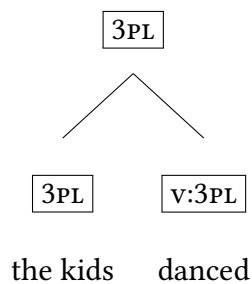
The ubiquitousness of ϕ -feature inheritance receives a straightforward account in the Features as Labels framework, which was proposed and developed in a series of works by Chomsky

(2013, 2015). Chomsky suggests that in certain cases, syntactic labels can be reduced to features that these nodes bear. Chomsky starts with the assumption that a label of a phrase must come from the features which are already present in the computation. For example, for a pair of nodes which are in Agreement relation (e.g. a verb and its internal argument) the label of the resulting node, according to Chomsky's suggestion, is a feature (or a set of features) shared by both nodes. To that effect, in the next example, the label of a verb phrase containing a transitive verb and a DP, according to Chomsky, is the feature that both the v and the DP share. Since, the agreeing v, by assumption, receives the feature from its goal, both sisters *share* the 3pl feature, which becomes the label of the resulting phrase.

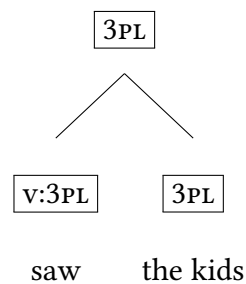
While Chomsky mostly considers Head-Specifier configurations, this idea can be applied more broadly to cases like the one below, where a verb head merges with a direct DP argument, assuming that such configurations universally involve agreement.

(2) **The schematic derivation of a transitive vP in Chomsky's (2013), (2015) system**

a. **Head-specifier**



b. **Head-complement**



The question remains of whether labels of certain verbal structures, such as the ones in the previous example, can be fully reduced to ϕ -features or whether there are further syntactic dis-

tinctions between different types of agreeing verb phrases like between the two phrases in the diagram above.

In standard analyses, the verb phrases containing an external argument are usually analyzed as containing a Voice head which is absent in structures like 2b. To that effect, the two structures in the previous example are usually taken as having two distinct labels – which accounts for their divergent syntactic properties, such as different distributions. These differences suggest that reducing the label of agreeing verb phrases to (uninterpretable) ϕ -features is at least problematic.

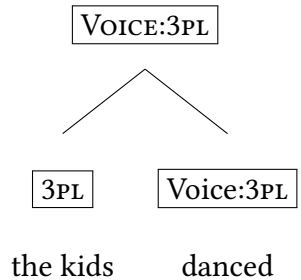
An important aspect of Chomsky's system, adopted here, is the idea that DPs' ϕ -features make up a principal part of their syntactic identity, responsible for their syntactic interaction with agreeing verb phrases. At the same time, it is well known that different of Noun Phrases may interact differently with transitive predicates, suggesting that certain further distinctions between different types of agreeing Noun Phrases may be syntactically relevant. For instance, in some languages, such as Hungarian, verbal Object Agreement is sensitive to the Internal Argument's Definiteness (Szamosi 1974; den Dikken 2006, Coppock and Wechsler 2012).

For current purposes, I adopt a weaker version of Chomsky's Hypothesis. More specifically, I suggest that ϕ -features form a subpart of the syntactic label of agreeing Verb Phrases. An important distinction is made between – on one hand – verb phrases which are in Agree relation with a suitable nominal argument and – on the other hand – verb phrases that are not.

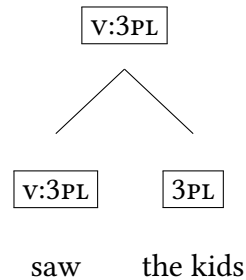
With this assumption in mind, we can now analyze the structures from the previous example as follows:

(3) Φ -features as part of the syntactic label of a Verb Phrase

a. **Head-specifier**



b. **Head-complement**



Additionally, I suggest that the traditional label N can be reduced to ϕ . I will leave the discussion of the syntactic difference between different Nominal Phrases with the same ϕ -featural makeup – most importantly, N vs. D vs. Num – for future research. The Hypothesis can now be formulated as follows.

(4) **The ϕ as label Hypothesis**

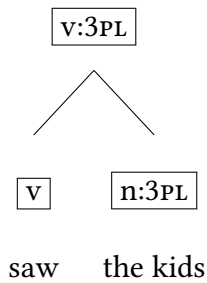
- a. The syntactic label N can be reduced to ϕ (modulo the N vs. Num vs. D difference)
- b. Verb phrases that have agreed with a nominal argument ($v:\phi$) are syntactically distinct from those verb phrases that haven't (v)

Combining the idea of inheritance of the common element (that is, ϕ) and the idea of NP-internal ϕ -transmission gives a straightforward account of Lieber's observation that nominal ϕ -features never survive category changing morphology. In order to see this, let's consider two possible ways for a nominal structure to be embedded under a verb. One way involves embedding a nominal under an ϵ morpheme, in which case the inheritance of ϕ -features is blocked. The other

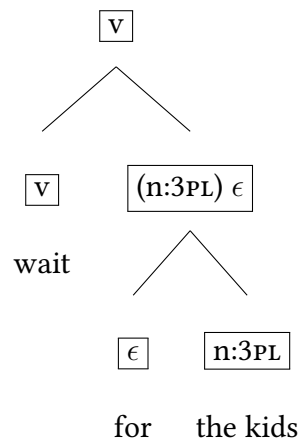
way involves a Probe-Goal interaction of the verbal head and its complement in which case the nominal ϕ -features are inherited to the mother node in the form of uninterpretable (verbal) ϕ -features. Either way, nominal ϕ -features can't be borne on a verbal head.

(5) **A verb merges with an agreeable com-** (6) **A verb merges with a non-agreeable**

plement



complement

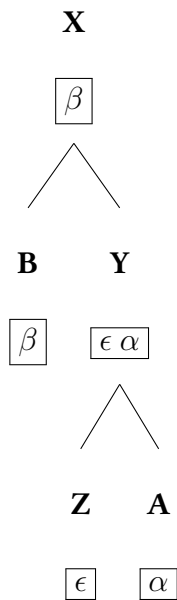


Chomsky's idea is largely motivated by considerations of economy. If this idea is on the right track, it allows us to reduce syntactic labels to ϕ -features whose reflexes can be directly observed in many languages. While Chomsky is mainly concerned with syntactic properties of the syntax of VPs, I assume that the general mechanism of feature transmission is applicable to nominal structures as well. Unlike the construction of a verbal structure where the inheritance of the ϕ -features crucially involves an interaction between a goal and a probe, in the nominal domain, such inheritance is assumed to proceed in the absence of a Probe.

One innovation that this work makes is the postulation of a formal feature – ϵ (epsilon) – which is responsible for blocking of the inheritance of ϕ -features. I suggest that, similarly to ϕ ,

ϵ is inherited with Merge. However, if any node bears ϵ and an instance of ϕ (inherited from its daughter), the inheritance of both ϵ and ϕ is blocked. According to the definition below, an ϵ morpheme is defined as a morpheme which ensures that the features of its immediately dominating node will not be percolated (or inherited) to the next node up.

(7) **Syntactic identity of ϵ**



In the diagram above, the Y represents a closed extended projection, which is syntactically subordinate to its sister node – B. Indeed, according to the definition above, Y remains subordinate upon merging with any other phrase.

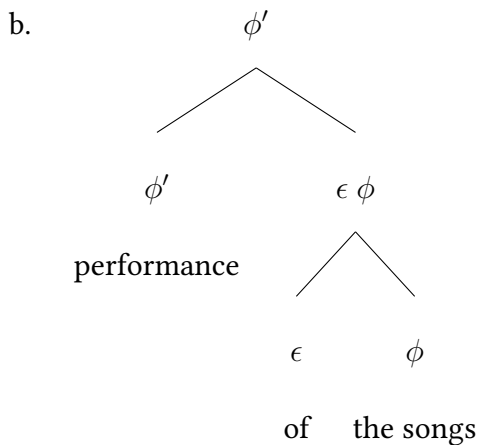
As discussed in the previous chapter, the ϵ -bearing morphemes in this system correspond to various barrier morphemes, or linkers, such as generalized prepositions, ezafe markers etc. This definition of the ϵ provided above allows to bring together two distinct intuitions on the nature of linkers. According to one intuition, the linker is a barrier morpheme that prevents two

nominal structures from appearing in close vicinity (Ghameshi 1997, Richards 2010). According to another intuition, the linker is a morpheme that serves to facilitate modification – its role in the derivation is assumed to ensure that its phrase remains subordinate when merging with another phrase (Samvelian 2007). The definition above can be understood as stating the equivalence of these two understandings of the linker. Indeed, the phrase Y in the derivation above remains subordinate by virtue of Z stopping the propagating A’s features, thus preventing two nominals (that is, ϕ -bearing structures) from appearing too close from each other.

A sample derivation using the ϕ and ϵ notation is provided below:

(8) ϕ and ϵ in ‘features as labels’ notation

a. performance of the songs

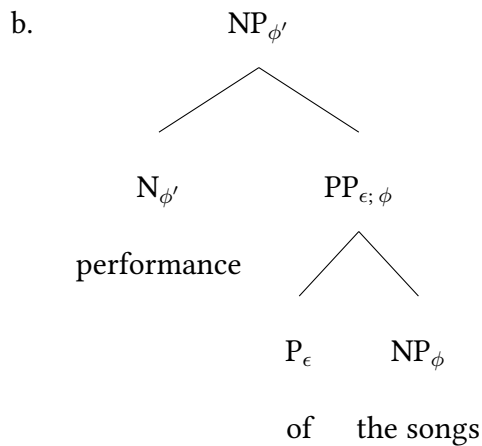


While this dissertation explicitly suggests that ϕ -features are labels of nominal projections, it is easy to see how this system can be translatable into a more traditional notation, which retains a more standard labeling (that is, the labels N, D etc.). Under this understanding, ϕ -features can be seen as diacritical or auxiliary labels which are assumed to be targetable for selection. (In the

next section, however, I intend to show that the traditional label N, under such assumption, seems to be devoid of any syntactic content).

(9) ϕ and ϵ in standard notation¹

a. performance of the songs



Below I list several morphemes that I analyze as bearing ϵ , which are traditionally labeled as K, P, Adjectival modificational morphology, linker or (oblique-marked) DP.

(10) **Morphemes which bear ϵ**

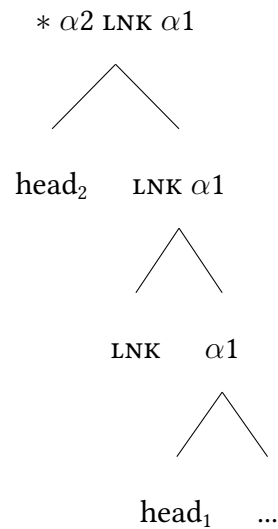
- a. Case markers: GEN, DAT
- b. Linkers: Iranian *ezafe*, Mandarin Chinese *de*
- c. Prepositions: *of*, French *de*
- d. Adjectival morphology: Russian long form morpheme *-ij*

¹The P in this diagram can be alternatively analyzed as a K or any suitable functional head in the extended projection of a noun.

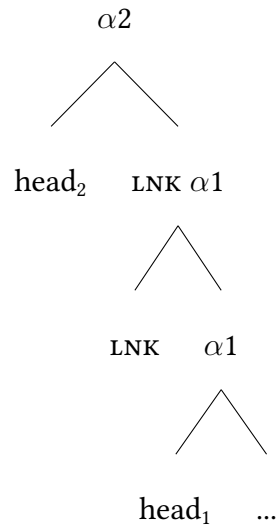
One close analogue of the ϵ -morpheme proposed in the previous research is the linker (LNK) in Philip (2012), which is understood as the highest head in the extended projection of a nominal structure. In her system, linker is understood as a label, which – similarly to features – is inherited in the course of the derivation. Philip’s account is based on the intuition that two extended projections (each of which bears percolating features – α_1 and α_2) can’t merge unless at least one of them is closed. Instead of suggesting that linker blocks the inheritance of features, Philip proposes a distributional constraint, according to which linkers cannot dominate more than one extended projection.

Philip provides an example of an impossible derivation where two non-closed extended projections are merged. In her system, such structures are ruled out since the linker morpheme dominates two extended projections. In the system proposed here, the position in (11) is impossible since the linker prevents its complements’ features from percolating up, in this way effectively closing off the extended projection.

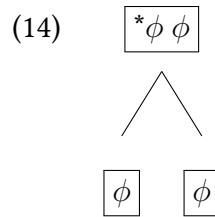
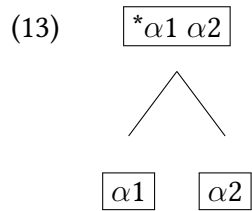
(11) **Linker dominating two extended projections, Philip (2012):**



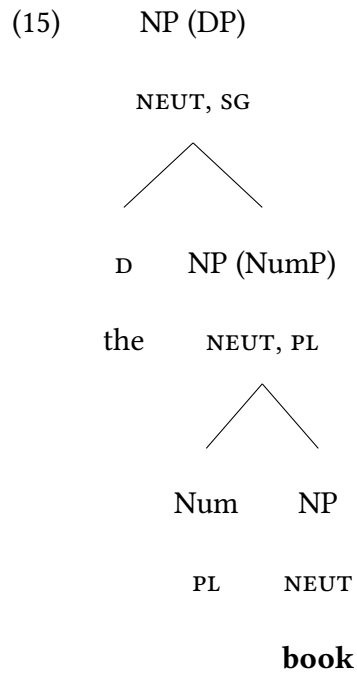
(12) **Linker closing the extended projection of its complement, this system:**



The intuition that *two non-closed extended projections cannot merge directly* (as indicated in (13)) is implemented more formally in this dissertation as a $*\phi\phi$ Constraint. In the case where two non-closed extended projections are merged without the mediation of a linker, the resulting structure leads to a $*\phi\phi$ violation.



To take one case study, let's consider the following simplified derivation of the Noun Phrase *the books*.

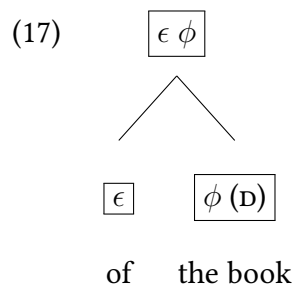
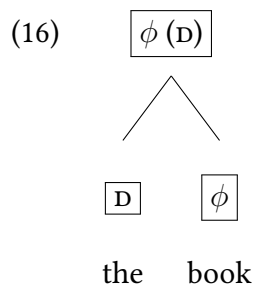


Since most theories differentiate between NPs and DPs, the label ϕ , proposed in this work doesn't strictly correspond to the traditional N. Rather, it stands for any label of the extended projection of a nominal. As discussed in detail in Bruening (2009), Bruening, Dinh and Kim (2018), the *nominalness* of DPs, (as well as NumPs, NPs and other types of nominal phrases) plays an important role in making up their syntactic identity: to that effect, most verbs selecting for nominal arguments can select for both NPs and DPs.

In this system, the nominalness of the nodes of the NP's functional heads results from the presence of ϕ -features on these nodes. Upon the merge of any other head, such as D, the nominal structure receives two instances of features, one from each of its daughter nodes. From D, it receives the D feature; while from NP it receives ϕ . To that effect, the label of a DP is determined by two types of features: ϕ -features and the D feature. To put it differently, the ϕ of the DP

projection ensures that the node is a part of the nominal extended projection; the D of the DP contributes to this node's syntactic identity which differentiates DPs from other nominal phrases.

This account builds on Bruening (2009), who suggest that the notion of extended projection is best captured by abandoning Strict Endocentricity and assuming that NP's functional nodes bear both the nominal label and the label contributed by their functional heads.² The same is true for structures where an ϵ -morpheme merges with a ϕ -morpheme. The resulting node gets both the ϕ -feature from the NP and the ϵ feature from the other daughter node (the traditional head). The syntactic identity of the D head is largely ignored here and in subsequent discussion, with the current proposal being compatible with both the NP and the DP hypothesis. The formal identity of the DP – in those cases where it is demonstrably different from NP – can be captured as an additional D feature borne by the D node, as suggested below.



In this dissertation, I assume the two widely adopted dichotomies between *valued* and *unvalued* ϕ -features on one hand, and between *interpretable* and *uninterpretable* features on the other hand (Pesetsky and Torrego 2007, Bošković 2011). In the nominal domain, the most important

²One issue that this proposal raises is the one of linearization. Indeed, in many consistently left-headed languages, such as English, determiners are linearized to the left. At the same time, functional heads of the nominal spine seem to be more often realized as phonologically deficient morphemes than, say, nominal complements. One idea here might be that irresolvable linearization conflicts (caused by bi-headedness) is a factor which causes certain functional morphemes to be morphologically bound. I will not pursue this option any further.

distinction is the former one, with valued ϕ -features associated with head positions, and unvalued ϕ -features with modifier structures. Attributive adjectives (as well as adjectival structures such as concurring possessive pronouns, determiners or numerals) seem to universally enter the derivation with unvalued ϕ -features (perhaps, by the definition of concord). As for nominal heads, they may contain both lexically specified or unspecified instances of ϕ -features. The latter type is observed in bound pronouns, among others, where the unvalued features of the pronoun may be valued externally.

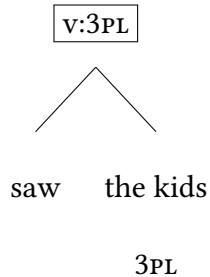
For the current proposal, it is important that the $*\phi\phi$ Constraint applies both to valued and unvalued instances of ϕ -features. For instance, if an adjectival structure headed by visible ϕ -features is merged with a nominal, the derivation cannot proceed, since such structure leads to a $*\phi\phi$ violation. This, as I will argue, is the case with adjectival structures which lack modificational morphology; one instance of such adjectives are Russian short form adjectives. In order to merge with a nominal head, as I will argue, adjectives must project a layer of modificational morphology.³

The second dichotomy concerns the distinction between interpretable and uninterpretable features. This distinction is mostly relevant for comparing the verbal and nominal syntax: with a slight simplification, uninterpretable ϕ -features are verbal and interpretable ϕ -features are nominal (both substantive and adjectival). In Chomsky's (2013) system, an instance of uninterpretable ϕ -features can be defined as a feature which is inherited as a result of an interaction of a probe and a goal. For instance, if a VP is in an agreement relation with a DP in its specifier, the resulting

³I am not aware of any cases where two structures with unvalued features can be undoubtedly shown to be merged directly.

phrase contains an instance of uninterpretable ϕ -features, acquired from the DP.

(18) **The schematic derivation of a transitive vP in Chomsky's (2013), (2015) system**



The Merge of a node with uninterpretable features and a Direct argument is assumed to be ruled out by the $*\phi\phi$ constraint, similarly to the Merge of two direct Nominals. As I discuss in Chapter 5, this results in the well known constraint on clausal syntax – the ban on two Absolutives in Ergative languages.

2.2 CASE

In this dissertation, I explicitly assume that certain instances of what is traditionally referred to as Structural Case are morphemes that project syntactically. The principal distinction assumed in this work is the one between Direct and Oblique Case. Despite a lack of strict morphosyntactic definition, the term *direct case* – in opposition to non-direct, or oblique, case – is not uncommonly used in descriptive as well as theoretical literature. The Direct Case intuition is based on a number of observations of common behavior between Nominative and Accusative phrases.

First, both Nominative and Accusative phrases are compatible with Genitive marking in numerical constructions in Russian. Complements of numerals in quantitative constructions are

usually marked Genitive, if the head noun is marked Nominative or Accusative, and concords in case with the head noun if the head noun is marked oblique case.

- (19) a. My napisali pjat' pisem
We wrote five letters.GEN
'We have written five letters'
- b. Pjat' pisem byli napisany k večeru
Five letters.GEN were written by evening.
'Five letters had been written by the evening.'
- c. My govorili o pjati pis'max/*pisem
We talked about five.PREP letters.PREP/letters.GEN
'We were talking about five letters.'

The next observation is that both Nominative and Accusative phrases in Russian are subject to the Genitive of Negation, to exclusion of all other cases.⁴

(20) **Genitive of negation with nominative subjects**

- a. Odin stakan upal so stola.
one glass.NOM.M.SG fell.MASC.SG from table
'One glass fell off the table.'

⁴Genitive is supposed to pattern with other lexical cases, as evidenced by other diagnostics, such as (19).

- b. So stola ne upalo ni odnogo stakana
 from table NEG fell.NEUT.SG no one glass.GEN.M

‘Not a single glass fell off the table.’

(Harves 2013)

(21) **Genitive of negation with accusative objects**

- a. Anna ne kupila žurnal.

Anna.NOM NEG bought magazine.ACC

‘Anna did not buy the magazine.’

- b. Anna ne kupila žurnala.

Anna.NOM NEG bought magazine.GEN

‘Anna did not buy (a/any) magazine.’

Outside of Russian, Nominative and Accusative are often associated with Agreement. For instance, in French, verbal agreement can only be established with direct phrases (most commonly in the subject position, and – less commonly – in the object position). Although Accusative and Nominative clearly pattern together in many respects in the languages discussed closely in this work (mainly, Russian, English, and French), (the case which is analyzed as) Accusative may possess different properties in other languages. For instance, in Hebrew, the object marker *et*, often analyzed as Accusative, unlike its counterparts in many other languages, can be used inside the nominal domain.

The splits between core and oblique cases are can be found in Ergative languages as well. In Tsakhur, for example, the attributive form shows a morphological distinction between Absolutive

and all other morphological cases, including Ergative (Kibrik 1999, Lyutikova 2017). The same claim about the difference between Absolutive and all other cases is made in Testelefs (2016) for Bezhta and Avar, Dagestani languages. To that effect, the nominal modifier (*flour*) appears in two different morphological forms depending on whether the whole phrase is marked Absolutive or Oblique (all other cases). The contrast in (22) shows this distinction for Absolutive and Comitative. Crucially, the Ergative patterns with Comitative in triggering oblique morphology on the adjective.

(22) **Direct/oblique distinction in Tsakhur**

a. XoIj-na mašuk

fLOUR.OBL-ATTR bag

‘bag of flour’

b. XoIj-ni mašuk-a-ka

fLOUR.OBL-ATTR.OBL bag-OBL-COM

‘bag of flour (comitative)’

(Lyutikova 2017)

This distinction between Absolutive and all other cases is typical for other Nakh-Dagestanian languages as well. (See the discussion in Moravcsik (1995) for the importance of direct/oblique distinction for Suffixaufnahme).

Based on this evidence, I suggest that at least in Nakh-Dagestanian languages the distinction between direct and oblique cases lies between Absolutive case on one hand and all other cases on the other. To sum up, the inventory of direct cases assumed in this work for the studied languages can be listed as follows.

(23) **Direct Cases**

Nominative, Accusative, Absolutive

More formally, I suggest that direct nominals are plain nominals whose ϕ -features are visible at the highest level and are available for external syntactic operations such as interactions with Probes. Oblique cases are characterized by the presence of the ϵ morpheme in their featural makeup. I make a further distinction between Oblique Cases which contain ϕ -features (which

are however inactive, or invisible, due to the presence of an ϵ morpheme) and PPs which do not contain ϕ .

This proposal is partially based on the Case Containment Hypothesis (Caha 2009, 2010, 2013, Smith et al. 2016, Zompì 2017) which suggests that what surfaces as different case markers is actually a spellout of different amount of syntactic structure.

(24) Obliqueness hierarchy under Case Containment Hypothesis (simplified)

NOM, ABS >> ACC, ERG >> LEX

While I propose a three way-distinction between DP, ObIP and PP, the current proposal is of course compatible with certain Case Containment or Nanosyntactic proposals which suggest a more elaborate structure for oblique cases which may include multiple case heads (the intermediate heads can be assumed to be devoid of ϵ and ϕ).

The main departure from the Case Containment framework concerns the relative position of Accusative compared to Ergative, on the scale of obliqueness. While the Case Containment tradition has put Ergative and Accusative in the same place in the obliqueness hierarchy, I analyzed Accusative as a direct case and Ergative as an oblique case. The main empirical motivation for treating Accusative as direct and Ergative as oblique (at least for the languages discussed at length in this work) is the consistently different inventories of what counts as direct case in Accusative and Ergative languages. In Accusative languages, Accusative patterns with Nominative in many grammatical phenomena. In Ergative languages, in contrast, Absolutive is juxtaposed to all other cases, including Ergative, which, in many languages, employs characteristic oblique markers.

Although the hierarchy proposed in this work departs from the hierarchy in (24), it is not incompatible with the main empirical datum on which this hierarchy is based, namely the fact that both Ergative and Accusative commonly demonstrate syncretisms with Absolutive and Nominative, respectively. The idea might be that the structural analogue of Accusative is absent in Ergative languages, and the syncretism is observed between the Absolutive and the least oblique case available in the given Ergative language.

- (25) a. NOM >> ACC >> DAT
 b. ABS >> >> DAT/ERG

Indeed, both Ergative and Dative demonstrate several remarkable similarities. Both cases often have a distribution of Upper Dependent Case⁵; both cases are systematically ambiguous between Structural and Lexical case (for instance, Ergative can serve as lexical Instrumental in Lezgian, see Haspelmath (2011)); finally, instances of both Structural Dative and Structural Ergative seem to be only found in the nominal domain in the position of prominent internal possessors (as understood in Nikolaeva, Bárány and Bond (2019), Say (2019)).

One piece of evidence for the ACC>ERG>LEX hierarchy can be found in Gujarati, an Indo-Aryan language with Tripartite alignment, where overtly marked Accusative can be targeted by agreement, while Ergative cannot:

⁵This term is to be understood as the case assigned to a nominal in the presence of another c-commanded nominal in the same domain; see Baker (2015) for a thorough discussion.

(26) **Verbs agree with Accusative but not with Ergative arguments in Gujarati**

a. mEN tehmahri behEn-one bolawi

I-ERG your sisters.F-ACC invited.F

‘I invited your sisters.’

b. mEN a pustek-ne waNcyuN

I-ERG this book.N-ACC read.NEUT

‘I read this book.’

Bhatt (2002), per Cardona (1965: 75)

(See, however, Zompì (2017) for a discussion of nominal paradigms in Australian languages, which are analyzed as evidence against treating Ergative as more oblique than Accusative).

The facts like the Gujarati paradigm, as presented above, raise a question of whether the proposed hierarchy holds for languages of other alignment types, such as Tripartite languages (see Legate (2006), Woolford (2006) for a discussion of this alignment type). This question is largely left for future research in this dissertation. For explicitness, I limit the scope of the inquiry only to the languages closely discussed in this dissertation – namely, Accusative languages of Slavic, Germanic and Romance branches of Indo-European, as well as Ergative languages of the Nakh-Dagestani family – suggesting that testing this hypothesis on languages outside of these groups may require additional elaboration.

2.3 Φ -FEATURES AND THE STRUCTURE OF THE NOUN PHRASE

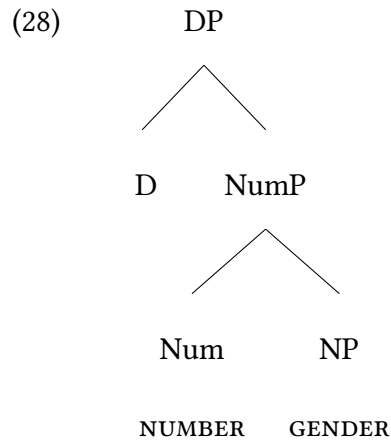
It is well established in the literature that ϕ -features constitute a class of different types of features with diverging syntactic properties which can be generated at different places in syntactic structures. For instance, there is ample evidence that Number is (most commonly) generated higher than gender, often at a designated functional projection.

Apart from gender (or noun class) features, other common types of ϕ -features include number and participant features. Quite famously, the claim that Number features are contained on different functional projections was first suggested by Ritter (1991) for the Hebrew Noun Phrase. Ritter considered several prominent properties of the Construct State in Hebrew and concluded that there exists an intermediate projection which may be targeted by movement operations in the derivation of the Construct State. Ritter argues that the head noun in (27) moves to an intermediate projection between N and D, suggesting that this intermediate projection is responsible for hosting number – a hypothesis that was widely adopted in subsequent research (Bernstein 1993, Kramer 2012, 2015).

- (27) ha-axila šel dan et ha tapuax
the-eating GEN Dan OBJ the apple
'Dan's eating of the apple'

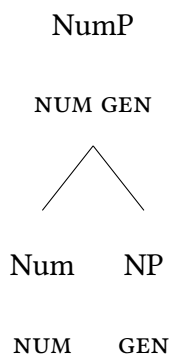
Typological investigations have revealed multiple crosslinguistic differences in inventories of nominal functional projections, as well as geometries of features in which nominal features align. For instance, languages which do not inflect for number are usually considered to lack a

syntactically detectable Num. At the same time, an influential line of research has contended that gender features are different from other ϕ -features in that they do not project a distinct functional phrase. The proposed structure of the nominal spine thus looks as follows.



In the system proposed here, that means that the node immediately dominating Num (the NumP projection) inherits two instances of ϕ -features: the number feature (NUM) and the gender feature (GEN).

(29) **The Merge of Number and Gender**



The merge of GENDER and NUMBER clearly doesn't cause a feature conflict, suggesting that

only a merge of features of the same kind can cause a Conflict. Despite lacking number, lower heads are clearly nominal in their properties, which suggests that it is enough for a structure to bear at least one type of ϕ -features (in most cases, gender) to be nominal. For explicitness, I adopt the following version of the $*\phi\phi$ constraint:

(30) **$*\phi\phi$ constraint (relativized)**

A structure bearing just one type of features can cause feature violations iff the structure it merges with bears the same type of features.

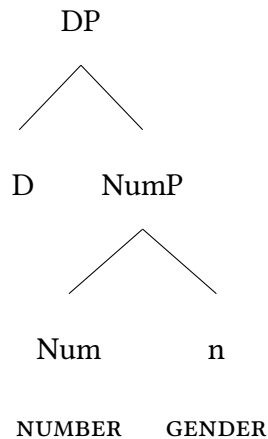
The syntactic behavior of another prominent ϕ -feature – Person – remains less clear since most nouns lack person inflection⁶ and clear cases of person concord are vanishingly rare. However, person patterns with both gender and number in being able to be crossreferenced on the agreeing predicate and with number in participating in Person Case Constraint (PCC) interactions (see Adger and Harbour (2007), Anagnostopoulou (2017), Pancheva and Zubizarreta (2018) for a discussion of the phenomenon). For explicitness, I assume that person is just another ϕ -feature and is percolated from its locus up the structure in the same way as gender and number, although this part of the proposal may require further elaboration.

With these considerations in mind, I propose the following generalized structure of a Noun Phrase. In this structure, different ϕ -features are generated at different places in the structure, and they are inherited by every dominating node and remain syntactically active at every such node. If a merge involves two nodes bearing different ϕ -features (for instance, gender and number), they both are inherited by the mother node. On the other hand, if a merge involves identical

⁶See Norris (2014) on how possessor agreement is different from concord.

ϕ -feature (e.g., gender and gender) this yields a ϕ and causes a feature conflict and, consequently, a $*\phi\phi$ violation.

(31) **General structure of a Noun Phrase**

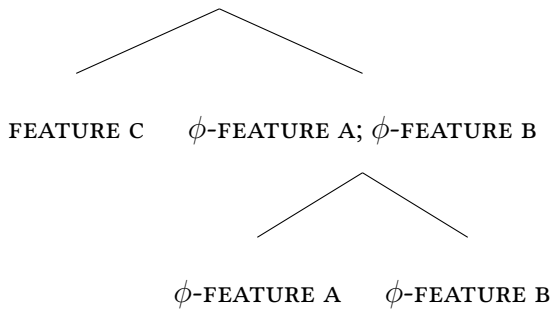


In addition to the three *core* ϕ -features – gender, number and person – there are several other syntactic features⁷ to which they bear some degree of resemblance. Most prominently, these include case and definiteness, which are sometimes analyzed as concurring features. While many languages indeed require DP-internal constituents to match in case, case concord is clearly different from gender and number in several important properties. Similarly, the status of *definiteness spreading* (Alexiadou 2006. Danon 2008) has been analyzed as a phenomenon different from concord. Both case and definiteness are also different from gender, number and person that they do not interact with predicate agreement, unlike the three core ϕ -features. For these considerations, I am not making any proposal about syntax of case and definiteness.

The generalized structure of a Noun Phrase can be now formalized as follows.

⁷I remain agnostic on whether some instances of case can be considered a feature.

(32) FEATURE A; FEATURE B; FEATURE C



The theory suggesting a strict feature inheritance predicts that the value of a given ϕ -feature will remain the same. This is indeed a crosslinguistically common pattern, often dubbed as Full Concord. However, several languages exhibit more complicated patterns. One of such patterns is a case of feature mismatch in concurring features, as in the following example from Hebrew:

(33) **Mixed Concord**

ha-be'al-im ha-kodem maxar et ha-makom lifney šana

the-owner-PL the-previous.SG sold.3SG ACC the-place before year

‘The previous owner sold the place a year ago.’

In this example, the noun referring to a semantically singular entity (the owner) is nevertheless morphologically plural. However, at a high point of the nominal structure the NP bears a singular feature which is reflected in the predicate agreement. An influential tradition of research (Smith 2012, Landau 2016) proposes that a single head may contain two sets of features (viz. semantic and index) with each of these sets active at different places in the structure. In this Hebrew example, the formal, index, features are responsible for the morphological plural

marking of the noun, while the semantic features are responsible for the singular marking on the adjective and the finite verb.

(34) **Mixed Concord**

[DP ... [NP]_{pl}]_{sg}

In British English, certain morphologically singular nouns denoting a plurality of people, such as *committee*, *faculty*, *party*, (the so called *group nouns*) can (and in some cases – must) trigger plural agreement on the verb (den Dikken 2001, Smith 2017). Similarly to the Hebrew case, the semantic (plural) feature is active higher at the structure than the index features (indeed, such nouns can control plural reflexives, as well as trigger plural predicative agreement). This hierarchy (semantic >> index) seem to reflect a robust crosslinguistic pattern. To that effect, there are no attested cases of a mixed concord structure where semantic features are borne lower in the structure than index features, as there are no cases, to my knowledge, where a single noun phrase contains more than two domains with different values of the same feature (for instance, switches from index to concord and back).

Although I do not propose a new theory of mixed concord here, I suggest an idea of how to reconcile the fact that a single noun phrase may bear two seemingly conflicting sets of ϕ -features – namely semantic and index features – without causing a Feature Conflict. I propose that concord and index features can never create a feature conflict. To avoid overgeneration, we can furthermore suggest that in order to be immune from a violation, these two sets of features must relate to the same nominal head.

(35) * $\phi\phi$ violation (revised)

C is illicit iff A and B both bear instances of the same ϕ -feature α and β , and both α and β are concord or both α and β are index

Another type of complicating data are the cases where features are observable lower than their locus. One such case might potentially be the plural marking on the noun in the presence of a numeral, as in English numerical expressions such as *three books*. Assuming that the numeral is generally treated as an instance of Num, and assuming that the plural inflection is on the n itself, the question arises of why the plural feature manifests below the place where it originates. There is evidence, however, that morphological reflexes of the plural on a low head might be a result of a morphological process rather than the realization of syntactically active feature on this head. One piece of evidence for this comes from so called Partial Concord, where low nominal elements may either match or not match in features with higher nominal heads or modifiers. In the Finnish examples, below, the head noun exhibits plural marking if in the absence of a numeral and is singular-marked in construction with numerals. (The pattern is further complicated by the fact that oblique-marked numerals do not bleed plural marking.)

(36) **Partial Concord in Finnish**

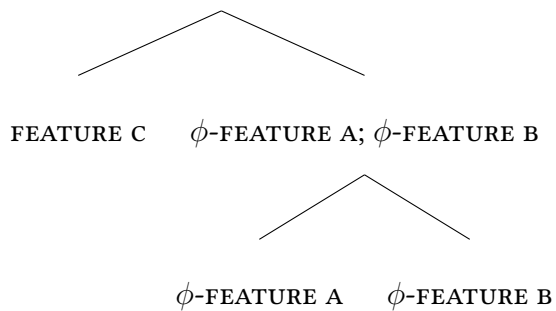
- a. ne pilaantune-et leivä-t
those.PL.NOM rotten-PL.NOM bread-PL.NOM
‘those rotten breads’

b. ne kaksi pilaantunut-ta leipä-ä
 those.PL.NOM two.SG.NOM rotten-SG.PAR bread-SG.PAR

‘those two rotten breads’ (Brattico 2011)

To that effect, I am not aware of any facts seriously challenging the view that different instances of Number and Gender, which originate quite low in the structure (below D), are consecutively inherited up at every step of the nominal derivation, as suggested in the structure below (such untested patterns might include demonstrably high number and gender heads, clear cases of downward percolation etc.).

(37) FEATURE A; FEATURE B; FEATURE C



3 | NOUNS

3.1 NOUNS AS ϕ

3.1.1 INTRODUCTION

In previous chapters, I suggested that the nominal label (the N, or n) can be reduced to ϕ . This suggestion leads to a straightforward account of two important properties of nominal structures. The first such property is the fact DPs always bear visible ϕ -features¹ (if a language has an overt manifestation of agreement). Since DPs are ϕ -bearing by definition they will always be the kind of phrases that agreement can target.

Second, treating ϕ as a label, rather than a feature additional to a label, can give a natural account of why ϕ -features are inherited with Merge. To recall, there is ample evidence that ϕ -features are borne at many places on the nominal spine, and the exact mechanism of the spreading of ϕ -features from its source (which is presumably low in the nominal structure) has remained largely unclear. One answer might be to postulate multiple Probe-Goal relations between DP-

¹Assuming that oblique phrases always bear additional structure which prevents the embedded DP's features from being visible.

internal nominal heads which facilitate agreement (Carstens 2000, 2001, Frampton and Gutmann 2006, Pesetsky and Torrego 2007). Such Probe-Goal relations must be blocked on certain oblique or prepositional phrases to ensure that these heads often render ϕ -features invisible.

The current proposal – which suggests that ϕ is a label – can explain the iterative inheritance of ϕ -features by the projections of the nominal spine through commonly held properties of derivation: indeed, labels are inherited by the immediately dominating node as a result of Merge. This move however requires some further discussion. If ϕ is equivalent to n , we should never see ϕ -features independently of n , and conversely, the n head is expected to always bear ϕ -features.

To show that nominalness is dependent on the presence of ϕ -features – most prominently, of the lowest of ϕ -features, i.e. gender – we should address the question of whether we ever find any other manifestation of nominal properties of low nominal projections other than the presence of the relevant ϕ -features. If indeed nominal syntactic properties are fully determined by the presence of ϕ -features, then we shouldn't find any n (i.e. a lexical/categorizing head with demonstrably nominal properties) devoid of gender.

The answer to this question depends crucially on the exact understanding of what *devoid of gender* stands for. In this chapter, I suggest that if lack of gender is distinguished from minimal specification for gender, then indeed nominalness can be fully reduced to ϕ .

3.1.2 GENDER DOESN'T PROJECT

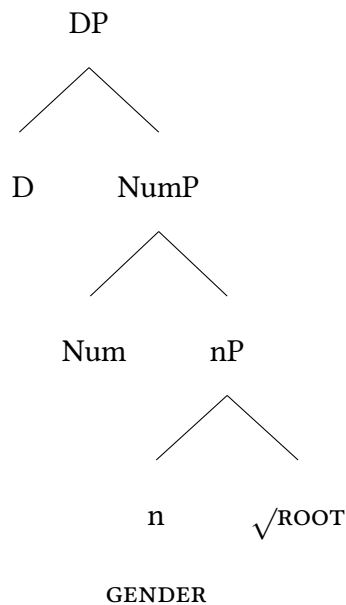
While certain nominal features – such as number and person – are often associated with the corresponding functional heads, a widespread view contends that gender doesn't project a separate

node on the nominal spine.

One major work which argues to this effect is Kramer's (2015) monograph on gender where the author provides vast empirical evidence that gender is tightly associated with the lowest nominal head – the traditional *n*. The same position is taken in a number of other works, including Ritter (1993), Kihm (2005), Lecarme (2002), Acquaviva (2009).

Kramer assumes a Distributed Morphology model of the Noun Phrase where a categorizing head *n* dominates the root and is dominated by functional projections, such as Num, D, as well as others (the exact shape of the nominal spine is subject to crosslinguistic variation). In order to argue that gender is indeed borne on *n*, Kramer considers and effectively dismisses two alternative hypotheses on the locus of gender: (i) gender originates on the root and (ii) gender originates on a separate projection higher than *n* (GenP).

(1) The proposed structure of the nominal spine, (Kramer 2015)



One of the strongest pieces of evidence against the hypothesis that ϕ -features are borne on roots is the existence of roots which are unspecified for gender. For example, in Amharic, the same root can appear either with feminine or masculine morphology, depending on the biological sex of the referent. For example, the root *hakim* has the following two forms:

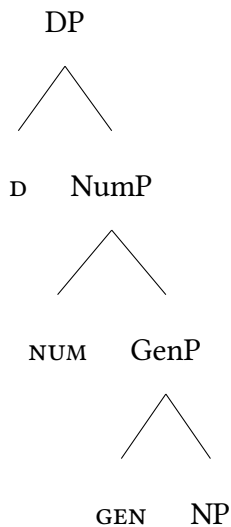
(2) **Amharic**

- a. *hakim-u* doctor-DEF.M ‘the male doctor’
- b. *hakim-wa* doctor-DEF.F ‘the female doctor’

Apart from this root, many more Amharic roots behave in this way, appearing in different forms for masculine and feminine referents. As Kramer notes, assuming that each Amharic root bears inherent gender suggests that each member of the masculine-feminine pair must be gendered independently. Indeed, if roots contain gender features, it remains largely unclear whether gender features remain syntactically visible when such roots project non-nominal (i.e. verbal) structures.

Another plausible hypothesis might assume that gender features are systematically contained above *n* – on a designated projection (hypothetical GenP) or otherwise on another functional projection (such as Num or D). This is indeed the position taken in Picallo (1991).

(3) **A hypothetical structure where gender features project**



This hypothesis was famously dismissed by Ritter (1993), who analyzed gender systems in Hebrew and Romance, arguing that in each case gender is found either on *n* (Hebrew) or on Num (in Romance).

Kramer (2015) defends a stronger claim, arguing not only that gender doesn't project its own phrase, but also that it is never found on any functional projection above *n* (such as Num). She dismisses the possibility of gender being generated on Num, discussing patterns of plural marking in several languages, including Amharic. Thus, in Amharic, plural can be formed either with the gender-specific irregular plural marker *-an-/at* or with the morphologically invariant suffix *otʃʃ*.

Amharic nouns get either regular or irregular plural, as the following examples show.

(4) **Regular and irregular plural in Amharic**

- a. *bet-otʃʃ* house-PL 'houses' = Regular plural
- b. *näfs-at* soul-PL 'souls' = Irregular plural

Regular plural may co-occur with the gender marking, as in the following example (5); however, nouns bearing a gender suffix cannot co-occur with irregular plural marking (5b), suggesting that irregular plural and gender marking compete for the same structural position.

- (5) a. mänäk^ws-it-ot[ɪtʃ]
monk-F-PL
'nuns', 'old women'
- b. *mänäkos-it-at
monk-F-PL
int. 'nuns'

Kramer analyzes the availability of structurally distinct strategies of plural marking as evidence that plurality is contained on different (although adjacent) heads: the categorizing n head (which can contain the irregular plural) and the immediately dominating Num head, which can host the regular plural.

Next, Kramer observes that irregular plural marking inflects for gender, with feminine and masculine nouns having two distinct irregular plural forms. In contrast, the regular plural has only one form, irrespective of the gender of the noun. Kramer analyzes these facts as follows. The n head in Amharic hosts both gender and (irregular) plural features, and the irregular plural marking is a portmanteau morpheme for both gender and number. The two gender forms of the irregular plural reflect the fact that the n can host both masculine and feminine features. The Num head, on the other hand, is analyzed to have just number, which explains why the regular plural is gender invariant.

Kramer argues that this reasoning can be generalized for other languages and that gender is never realized higher than number. Gender and some types of irregular plural may occupy the lowest position in the Noun Phrase, while number may occupy a higher position (the Num head).

(6) **The definition of a categorizing head**

The little *n* is the lowest head contributing ϕ -features

Establishing that gender is contained on *n* does suggest that gender is tightly associated with nominalness. As Kramer herself notes, "...assigning gender to a root plays an essential part in turning that root into a nominal..." (Kramer 2015:33). Indeed, being able to trigger concord and predicate agreement is a hallmark of noun phrases. At the same time, the strong association of gender with the categorizing *n* does not exclude the possibility that *n* still contains some syntactic content (such as, for instance, unvalued syntactic features different from gender) that is not reducible to gender.

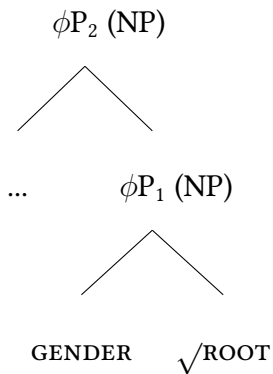
3.1.3 PROPOSAL

Largely following Kramer (2015), I suggest that gender features are universally borne on the *traditional n* – the lowest nominal head.

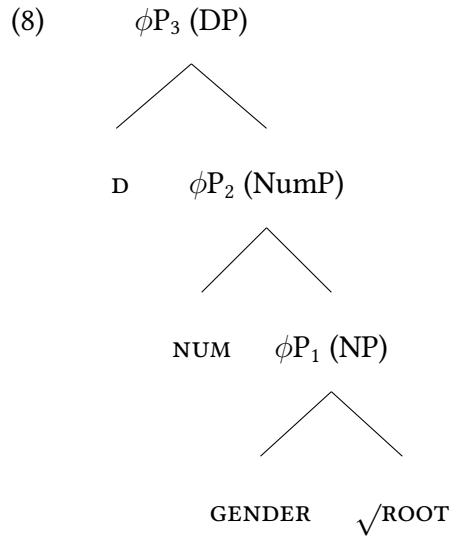
Unlike Kramer, and much other research, who (perhaps, implicitly) assume that the syntactic identity of *n* isn't reducible to the presence of gender, I suggest that the categorizing nominal head (*n*) is – in the general case – devoid of any formal syntactic features, other than gender (or number – in pluralia tantum nouns and in the irregular plurals in Amharic discussed by Kramer). In the following diagram, the gender feature merges right above the root, thus contributing an instance

of ϕ -features to the structure. Since the resulting node (ϕP_1) possesses at least one instance of ϕ -features (viz. gender), this node possesses nominal properties and is part of the nominal extended projection. To that effect, the label ϕ is to be understood here as a projection possessing at least one instance of ϕ -features.

(7) **Gender as N**



As already noted above, other instances of ϕ -features, such as number, may be iteratively added to the featural inventory of a given nominal node; a sample derivation is provided below. Importantly, each individual projection associated with the nominal spine bears at least one instance of ϕ -features.



Thus far, I haven't discussed the structure of gender features, implicitly assuming that each gender/noun class feature is associated with a particular gender feature – say, feminine or masculine gender – which stands in opposition to other values of gender/class. However, research on nominal structure has established that gender/noun class features can themselves be aligned in markedness hierarchies. One specific proposal is found in Kramer (2015), who proposes that Masculine is the morphological default in Amharic.

The main assumption taken in this work is that minimally specified gender, usually treated as morphological default by a given language, is different from absence of gender. Since a node bearing minimally specified gender (G_{\min}) is subject to $*\phi\phi$, it possesses characteristically nominal properties.

The absence of gender on a given head amounts to this head's characteristically non-nominal properties. Such is the case for (certain) verbs, prepositions, particles etc.

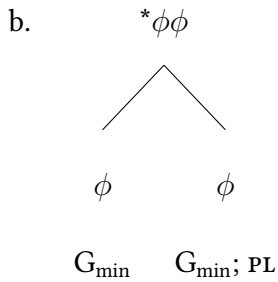
(9) **A three-way distinction in gender specification**

- a. **Specified gender:** FEM, MASC, CLASS3 etc.
- b. **Unspecified/default gender:** G_{\min} (may be realized as MASC, NEUT etc.)
- c. **No gender:** \emptyset (non-nominal heads)

I assume that minimally specified gender is also borne by nominal heads in languages without overt morphological gender agreement, such as English, where most common nouns don't show gender distinction. Despite being minimally specified for gender, they nevertheless possess nominal properties, such as the inability to merge a direct argument. The same holds for Mandarin Chinese, explaining the data in (10) and (11).

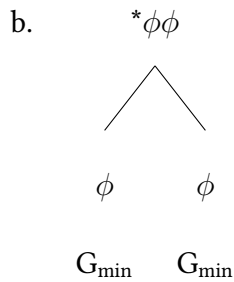
(10) **Lack of direct marking in English NPs**

- a. *performance the songs



(11) **Lack of direct marking in Mandarin Chinese NPs**

- a. *bangzhu Lisi
help Lisi
int. 'help to Lisi'



One objection at this point might be that the default gender can be alternatively analyzed as an n devoid of gender while more specified gender values are in fact n 's bearing gender features. I believe that the choice between these two options is largely theoretical in nature. One advantage of the proposed hypothesis is that it allows us to reduce the distinction between morphologically gendered and ungendered languages to properties of their features rather than to postulate different featural makeups for different heads.

It should be emphasized that equating n and ϕ isn't simply a terminological decision. The claim made here is that unspecified gender and specified gender are the two phenomena of the same nature and are subject to the same distributional constraints (most importantly – to the $*\phi\phi$ Constraint).

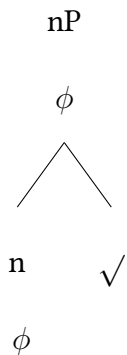
One final question left open here is whether some instances of unspecified gender can be considered unvalued ϕ -features, similarly to those on adjectives.

3.1.4 NOMINALIZATIONS

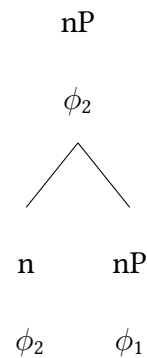
The account proposed here can be further applied to the cases where the nominalizing morpheme attaches to already categorized structures. Crosslinguistic research in nominal syntax

has revealed a wider distribution of the nominalizing heads that in cases described above where nominalizers seem to attach to non-categorized structures. To that effect, such heads may dominate the root or, alternatively, a structure of some other syntactic category, including already nominalized structures², verbal or adjectival structures:

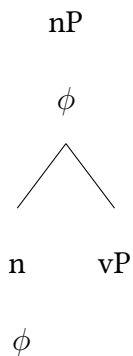
(12) ϕ above \checkmark



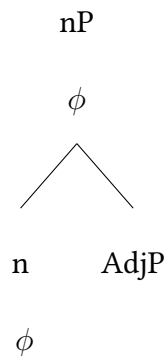
(13) ϕ above nPs



(14) ϕ above vPs



(15) ϕ above AdjPs



To start, one important observation about nominalizing suffixes is that nominalizing morphemes are always gendered. For instance, in Romanian, a clause can be nominalized by merging

²See more discussion of gender stacking in the next section.

the nominalizing morpheme *-re*. As this example shows, the resulting nominalized clause (*a good cloth-washing*) is syntactically feminine, and triggers feminine morphology on the determiner and the adjective.

(16) **Romanian clausal nominalizations**

o bună spăla-re a rufelor e recomandat-ă pentru țesatură

a.F good.FEM wash-INF of clothes is recommended-F for fabric

‘A good clothes-washing is recommended for fabric.’ (Soare 2014)

The same pattern is replicated for other languages as well. For instance, in Somali agentive deverbal nominalizations, the two nominalizers *-é* and *-shó* bear masculine and feminine gender, respectively.

(17) **Somali clausal nominalizations**

a. ababuul-é

organize-NMLZ.M

‘male organizer’

b. abaabu-shó

organize-NMLZ.M

‘female organizer’

(Lecarme 2002)

In Luganda, a noun class marker is added to an adjective to form a deadjectival nominalization. The resulting noun is gendered (i.e. it bears a noun class feature) and triggers agreement and

concord, similarly to other nouns.

(18) **Luganda agentive deadjectival nominalizations**

- a. genge ‘leprous’ – mu-genge ‘leper’ (CLASS 1)
- b. lungi ‘beautiful’ – mu-lungi ‘beautiful person’ (CLASS 1)
- c. gezi ‘clever’ – mu-gezi ‘clever person’ (CLASS 1)

(Kramer (2015), per Ferrari (2005:56), Ferrari-Bridgers (2008: 246))

The position presented above, where nominalizing morphemes are associated with a particular gender, can be contrasted with certain morphemes associated with nominal derivation, which do not affect gender of the nominal structure. Perhaps, most revealing contrasts can be found in denominal constructions where the morpheme in question is attached to an already gendered structure. In such cases, the gender of the base can be changed (suggesting that the source of the new gender is the nominalizing morpheme in question) or rather retained.

For instance, in Halkomelem, a Salishan language, diminutive morphology doesn’t affect the morphosyntactic identity of the base. Moreover, the same diminutive morpheme (realized as reduplication) can be found with structures of other syntactic categories, such as adjectives:

(19) **Diminutive formation in Halkomelem**

q’á:mi ‘girl’ – q’á-q’emi ‘girl’, ‘small girl’ (Wiltschko and Steriopolo 2007)

Similarly to Halkomelem, the Spanish diminutive *-(c)it-* is transparent for gender, and the gender of the base is retained:

(20) **Diminutive formation in Spanish**

- a. calle (f) 'street' - callecita (f) 'little street'
- b. noche (f) 'night' – nohecita (f) 'night (dim.)'
- c. avión (m) 'airplane' – avioncito (m) 'small plane'
- d. corazón (m) 'heart' – corazoncito (m) 'little heart'

These examples can be compared to other instances of diminutive formation, where the diminutive is associated with particular gender. For instance, the German diminutive *-chen* is associated with the neuter.

(21) **Diminutive formation in German**

- a. Fisch (m) 'fish' – Fisch-chen (n) 'fish (dim.)'
- b. Hummel (f) 'bumblebee' – Hummel-chen (n) 'bumblebee (dim.)'
- c. Spiel (n) 'game' – Spiel-chen (n) 'game (dim.)'

Apart from diminutive formation, the same behavior, is found, for instance, in the following example, where the feminine gendered suffix *-schaft* yields feminine nouns, regardless of the gender of the noun that it merges with.

(22) **Formation of denominal abstract nouns in German**³

- a. der Freund ‘friend (m)’ – die Freundschaft ‘friendship (f)’
- b. die Mutter ‘mother (f)’ – die Mutterschaft ‘motherhood (f)’

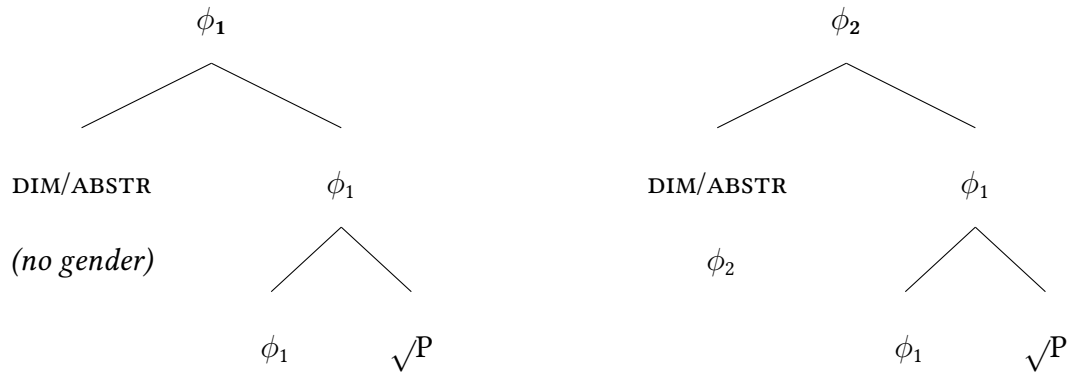
The same contrast between the two types of diminutive formation can be found in further languages (Wiltschko (2006), Wiltschko and Steriopolo (2007), and Steriopolo (2008); see also Kramer (2015) for a thorough discussion).

Previous research has firmly established a clear structural distinction between the two types of diminutive formation, with the intuition being that non-transparent nominalizers have syntactic properties of nominal heads (the traditional *n*) while transparent nominalizers do not. Such morphemes have been variously analyzed as adjuncts, or as Dim heads adjoined to *n* (See Wiltschko (2006), Steriopolo (2008), Kramer (2015) for discussion).

In the current system, these facts can be accounted for as follows. I adopt the assumption that non-transparent nominal morphemes are nominal heads. Their non-transparent status with respect to gender is accounted straightforwardly: non-transparent nominalizers contribute gender to the structure since categorizing nominal heads bear gender by definition.

³The derivation in (22a) is a * $\phi\phi$ violation; this issue will be discussed later in this chapter.

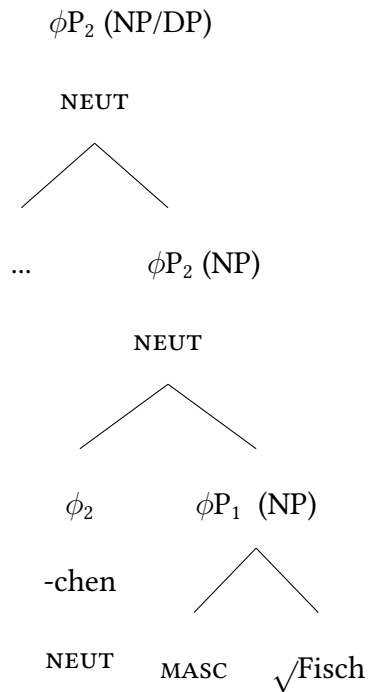
(23) **Transparent denominal nominalization** (24) **Gendered denominal nominalization**



For a specific example, let's take the derivation of the German diminutive noun formed with the suffix *-chen*. In this derivation, the diminutive suffix bears the neuter gender. Assuming that the lowest gender feature is opaque for derivation⁴, the neuter gender of the diminutive remains visible at the topmost level, contributing to the gender of the whole nominal structure.

⁴See more on this point in the next section.

(25) Derivation of *Fischchen*

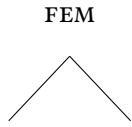


As for transparent nominalizers, the broad assumption adopted here is that such heads do not bear ϕ -features. Such heads may be either nodes completely devoid of features, or – alternatively – as heads bearing both ϕ and ϵ .

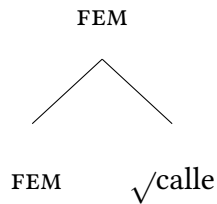
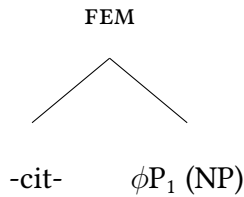
Below I provide a derivation of a Spanish diminutive, assuming that the morpheme *-cit-* is devoid of gender:

(26) **Derivation of *callecita***

ϕP_1 (NP/DP)



(-a) ϕP_1 (NP)



The fact that transparent diminutive suffixes, such as Halkomelem reduplication, do not possess a nominalizing potential when merged to phrases of other categories is fully expected in this analysis: indeed a morpheme devoid of gender doesn't have any nominal properties.

In previous chapters, I suggested that at least some of such characteristically nominal properties are due to the presence of ϕ -features on a nominal structure. This concerns both the external and the internal syntax of the phrase. As far as internal syntactic properties are concerned, the nominal phrases are characterized by their inability to merge direct arguments. In the current theory, this is a consequence of a $*\phi\phi$ Constraint. Adding ϕ -features to the structure makes it a potential participant in a $*\phi\phi$ violation.

As for external syntactic properties, nominal phrases are characterized by, among other prop-

erties, their ability to participate in predicative agreement and in external case marking. The fact that a noun's ϕ -features can be cross-referenced on a verb follows straightforwardly. To that effect, nouns can be effectively contrasted with other – non-nominal – structures, which do not trigger agreement on the verb.

In subsequent sections, I intend to show that certain other constraints traditionally attributed to licensing can be understood as strategies to avoid $*\phi\phi$ violations. The framework outlined here suggests two possible lines of theorizing on the nature of nominal licensing. One line, dubbed here as the Strong Nominal Hypothesis, suggests that all instances of structural licensing involve various strategies that languages employ to avoid the $*\phi\phi$ violation.

(27) **Strong Nominal Hypothesis**

All licensing constraints on nominals can be attributed to the $*\phi\phi$ constraint

However, if the current proposal is on the right track, it is not incompatible with there being other constraints on the distribution of nominals – a position which effectively falsifies the Strong Nominal Hypothesis. However, the $N=\phi$ strongly suggests that nominal properties can only stem from ϕ that NPs bear, so any other potential constraint on the distribution of nominals should actually be a constraint on ϕ -bearing nodes. I formalize this position as follows.

(28) **Weak Nominal Hypothesis**

- a. Certain licensing constraints on nominals can be attributed to the $*\phi\phi$ constraint
- b. All structural constraints on nominals are triggered by ϕ -features

3.2 APPARENT COUNTEREXAMPLES TO THE * $\phi\phi$ CONSTRAINT:

GENDER STACKING, COMPOUNDING

In previous sections, we have seen several cases which might look like counterexamples to the * $\phi\phi$ Generalization. One prominent example is gender stacking, which involves consecutive addition of gender morphemes. One example of gender stacking is diminutive formation in German, where certain diminutive suffixes can bear independent gender. For instance, the diminutive suffix *-chen* bears neuter gender, overriding the gender of the noun that it attaches with.

(29) Diminutive formation in German

- a. Fisch (m) ‘fish’ – Fisch-chen (n) ‘fish (dim.)’
- b. Hummel (f) ‘bumblebee’ – Hummel-chen (n) ‘bumblebee (dim.)’
- c. Spiel (n) ‘game’ – Spiel-chen (n) ‘game (dim.)’

Apart from German, similar patterns, where nominalizers can attach to already nominal structures, can be found in other languages. In Fox, for instance, singulatives are morphologically animate and yield the animate gender even when they attach to inanimate nouns.

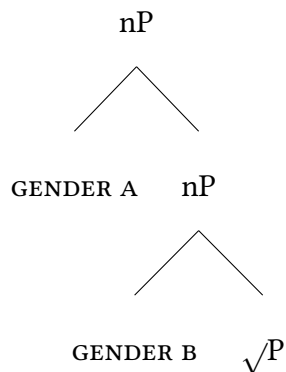
(30) Fox singulatives

- a. zhooniyaah-i ‘silver – money-INANIM’ zhooniyaah-a ‘a.coin/a.bill-ANIM’
- b. miichipeh-i ‘game-INANIM’ – miichipeh-a ‘a.game.animal-ANIM’ (Goddard 2002)

As a rule, the whole structure in gender stacking gets the gender features of the highest head. As Kramer notes, in gender stacking configurations, it is always the gender of the highest morpheme that determines the gender of the whole nominal structure.

(31) **Highest Gender Hypothesis**

- a. The gender of the highest n is the agreeing gender of the nominal.
- b.



The question arises of whether such cases present a challenge for the * $\phi\phi$ constraint hypothesis. Indeed, if a gendered diminutive suffix is merged with a gendered structure the resulting node is predicted to inherit gender features from both daughters creating a * $\phi\phi$ violation. Given (32), one might suggest that the merge of the highest diminutive makes the lower diminutive's ϕ -features invisible. With this hypothesis, the question then might be reformulated as follows: What stops the inheritance of the lower diminutive's features?

Let's start with the observation that apparent stacking of ϕ -bearing features only arises in the context of derivation, or word formation; that is, the gender of an NP is never determined by a

word separate from the head noun.⁵

(32) **Gender stacking generalization**

Gender stacking is only possible in nominal derivation

One possible way to approach this question is to assume that the $*\phi\phi$ Constraint doesn't apply to instances of nominal derivation. More formally, this may be implemented as follows. Following a tradition of research within Distributed Morphology that suggested word formation may create cyclic domains opaque for certain morphosyntactic processes (Marantz (2007), Marvin (2002), Newell (2008), Embick (2010)), one may suggest that the input for denominal nominalization is a cyclic domain, which renders the lower structure's ϕ -features invisible for the rest of the derivation.⁶

(33) a. Every derivational domain is a cyclic domain

b. The $*\phi\phi$ Constraint does not apply across boundaries of cyclic domains

Although I will retain (33) as a working hypothesis, in the rest of the chapter I am going to outline a prospect of a different account, the full evaluation of which might prove challenging with available data on morphological compounding.

More specifically, I want to suggest that gender stacking, despite appearing as a mere stacking of gendered morphemes, universally involves asymmetric structures, where the subordinate part is as a syntactic modifier. Unlike syntactic modification, where the exponent of ϵ is usually

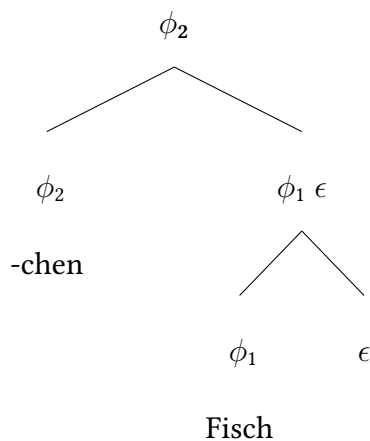
⁵I remain agnostic on whether Russian phrases like *xorošaja vrač* 'good.F doctor.M', famously analyzed in Pesetsky (2013) as containing a feminine (Ж) head, actually involve contributing a feminine feature to a less specified (masculine) structure. I leave it for future research. Thanks to N.Myler and J.Bobaljik who brought this data to my attention.

⁶By assumption, instances of syntactic complementation, such as V+DP, do not involve such cyclic domains.

consistently realized, the idea is that in morphological compounding the syntactic modifier might be null, with the whole derived form appearing as a superficially symmetric structure.

This is illustrated below where the subordinate morphological part (*Fisch*) is supposed to have a null modifier. Since lower ϕ -features are embedded under (null) modifier morphology, they are not visible at the topmost level.

(34) **Gender stacking as modification**



The asymmetries between the two nominal subparts of a complex nominal have also been observed for compounding – yet another morphological phenomenon involving combining two gendered subparts. In languages with morphological gender marking, such as German, a single nominal can consist of two nominal subparts, each of which is gendered when used independently:

(35) **Nominal compounds in German**

- a. Auto-sammlung (f) – ‘car collection’
- b. Auto (n) – ‘car’

- c. Sammlung (f) – ‘collection’

Despite the fact that many nominal compounds may appear as morphologically simplex, many researchers have argued that compounding involves asymmetric structures. Bisetto and Scalise (2005) propose a three-way classification of compounds based on the nature of the relation between the two parts of the compound. The three types are: subordination, attribution and apposition, which roughly correspond to types of dependencies found in the noun phrase.

(36) **Three types of compounds**

- a. Subordinative: taxi driver
- b. Attributive: ghost writer, sword fish
- c. Appositive: singer bassist

Importantly, two of the three kinds of compounding can be directly compared to syntactic structures with a clear head-dependent distinction. In this way, the parallelism can be drawn between nominal compounds (or at least of some of its cases) and noun phrases which are modified either by adjectival or prepositional arguments.

Whether or not the classification in (36) is the right typology, it shows clearly that compounds mimic the head-dependent asymmetry characteristic of nominal constructions inside the Noun Phrase (‘a driver of a taxi’, ‘sword(-like) fish’, ‘singer (who is a) bassist’ etc). On the morpho-syntactic side, the crucial observation on morphosyntax of compounds is that they are morphosyntactically endocentric⁷; that is the ϕ -featural identity of the whole compound is determined by one of its members. Unlike true coordinating constructions (such as *X and Y*) where

⁷I am not considering exocentric compounds here; see Bisetto and Scalise (2005) for a discussion

coordinating two singular nouns (most commonly) yields a plural nominal structure, compounds are morphologically singular. In languages with rich gender marking, the gender of the compound is usually determined systematically by one of the nominal sub-parts.

Even without adopting the $*\phi\phi$ constraint, one should explain why compounds cannot contain truly symmetric structures. An example of such structure would be a compound in which both of its nominal parts are visible at the highest level. Under the modification analysis, N+N compounds are nominal heads modified by other nominal structures, which excludes the possibility of a direct merge of two nominal structures.

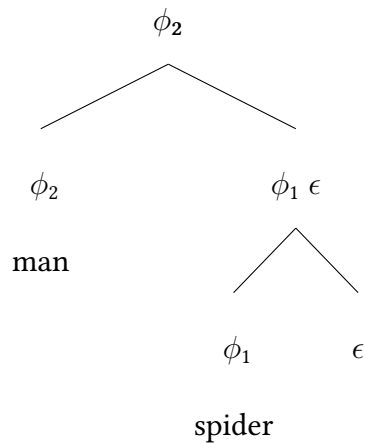
Ntelitheos and Pertsova (2019) propose explicitly that compounding involves modificational structures. In their analysis, the opaque, or the subordinate part of a compound is embedded under an extra layer of (modificational) functional structure.

(37) **A structure for a N+N compound**

[[man]_{NP} [[spider]_{NP} RelP]]

Within the framework proposed here, it can be recast as follows:

(38) **Nominal compounding as modification**



The asymmetric nature of compounding structures can be directly observed in certain cases – where the modifying structure appears with an extra layer of morphology. This is the case, for instance, for German nominal compounds, where the modifying part appears with a linker morpheme (such as *-s-*). As a rule, the whole compound gets the gender of its nominal subpart that it *is not* marked with the linker morpheme. For instance, German nominal compounds may appear with *s*-marked nominal roots, such as in the example below. In both cases, the gender of the whole compound is determined by the gender of the nominal which is not *s*-marked.

- (39) a. Land-*s*-mann (m) ‘compatriot’ (NEUTER + MASC)
b. Liebe-*s*-brief (m) ‘love letter’ (FEM + MASC)

This type of construction is quite common crosslinguistically, and linking morphemes are found in numerous languages, including Dutch, Swedish, a.o. Such structures can be directly compared to syntactic argument-taking in the noun phrase where the gender of the whole phrase is the gender of the phrase, that lacks oblique morphology.

(40) **Linker morphology crosslinguistically**

- a. **Danish:** dø-d-s-straf ‘death penalty’
- b. **Swedish:** fotboll-s-domare ‘football referee’

Moreover, linkers often appear as oblique markers and are analyzed as such. Thus, in Estonian, the linking morpheme takes the form of Genitive marker, and in Yimas the nominal compounds contain oblique nominal structures.⁸

(41) **Oblique marking in compounding**

- a. **Estonian:** riis-i-puder ‘rice-GEN-porridge’
- b. **Yimas:** turuk-n namarawt ‘magic-OBL person’=‘magician’ (Bauer 2009)

At the same time, certain linkers, such as German *-s-*, cannot be directly reduced to case markers and seem to lack a direct analogue outside of compounding constructions. The derivation of a compound containing a linker, under the current analysis, is largely analogous to the derivation of a corresponding noun phrase where the nominal dependent is embedded under a layer of oblique morphology. Relatedly, in languages with rich compounding, like German, only nominal parts of compounds appear with linkers. Adjective + Adjective compounding does not contain linkers, and neither do other combinations which are not N+N⁹:

⁸Although English compounds typically do not contain oblique morphology, English has independently observable instances of null modification, cf. *brick* (n) – *brick house*. I am not aware of any language with superficially symmetric compounding without independent evidence for null modification. If this generalization turns out crosslinguistically valid, this might serve as independent evidence for the structure in (36).

⁹The only few examples where the linker appears in a structure other than N+N that I am aware of are N+Adj cases, such as *arbeitsbereit*, *arbeitsunfähig*. In the next chapter, I will suggest that adjectives bear ϕ -features, similarly to nouns, which might provide a rationale for the linker morpheme in such cases. Thanks to J. Bobaljik for providing me with these examples.

- (42) a. alt+klug ‘precocious’ (Adj+ Adj)
b. Groß+segel ‘mainsail’ (Adj+Noun)
c. Neben+frau ‘concubine’ (P+N)

The data suggest that linker morphology appears only with nominal structures (that is, with structures which need licensing) and only in those cases where a nominal structure combines with another nominal structure (that is, in a position of a potential * $\phi\phi$ violation).

Of course, not all instances of nominal (N+N) compounding involve extra layer of linking morphology, as the following nouns show:

(43) **Compounding without linker morphology**

- a. Schiff-fahrt ‘ship cruise’
b. Nagel-fabrik ‘nail factory’

However, the evidence suggests that compounds universally involve asymmetric structures. If both parts are nominal, one nominal part is more opaque with its features invisible at the highest level. This asymmetry can be accounted for given the modificational analysis where the modifier is headed by an ϵ -bearing morpheme.

The compounding data presented above shows that there is a robust tendency for the subordinate part of a compound to be embedded under oblique morphology.

4 | ADJECTIVES

4.1 INTRODUCTION

In previous chapters, I have mostly considered noun phrases and different ways in which noun phrases interact with verbs. This chapter is concerned with syntactic properties of adjectives. One of the main claims defended in this chapter is that for those adjectives that exhibit concord, many of their syntactic properties are determined by the presence of inherent ϕ -features. Similarly to nouns, concurring adjectives may involve ϵ -bearing morphemes that prevent adjectival structures from creating feature conflicts with any neighboring part of the structure, including with their complements, as well as with head nouns that concurring adjectives modify. This suggestion goes in line with the long tradition of research that has considered both adjectives and nouns as two instances of one lexical supercategory of nominals.

To briefly illustrate the main idea of the proposal, let's consider the following well-known paradigm that shows that similarly to nouns, English(-type) adjectives disallow direct marking on their arguments.

(1) **Lack of direct marking by adjectives in English**

- a. proud *(of) their son
- b. wary *(of) driving

Apart from English, the same pattern occurs in other languages. In Russian, for instance, no non-derived adjective can take an Accusative argument; several examples of adjectives with oblique complement marking are provided below.

(2) **Lack of direct marking in Russian**

- a. dovol'nye svoej rabotoj
satisfied their.INS work.INS
'satisfied with their work'
- b. ravnyi desjati
equal ten.DAT
'equal to ten'
- c. poxožie [na roditelej]_{PP}
similar at parents.ACC
'resembling their parents'
- d. Unattested pattern: Adj + ACC

Similar patterns are reported for German, Modern Greek, Sakha and Jamaican Creole, among other languages. Moreover, Baker in his (2015) monograph, notes that 'the complements of [...] adjectives cannot get dependent accusative case' (Baker 2015:180), without however providing

much empirical evidence to support this claim.

(3) **Modern Greek**

Enas [poli perifanos *(ya) tin kori tu] pateras.

A very proud for the daughter his father

‘A father very proud of his daughter.’

(Panagiotidis 2014)

(4) **Sakha**

Künnej Sargy-ga/*Sargy-ny interiehinej

Künnej Sargy-DAT/*ACC interesting

‘Künnej is interesting to Sargy.’

(Vinokurova 2005:257)

(5) **German**

ein seines Studiums/*sein Studium überdrüssiger Student

a his.GEN study.GEN/*his.ACC study.ACC weary student

‘a student weary of his studies’

(van Riemsdijk 1983)

(6) **Jamaican Creole**

a. afried *(a) di enimi

afraid PREP DET enemy

‘afraid of the enemy’

b. wori *(bout) di fuucha

worried about DET future

‘worried about the future’

(Sheehan, van der Wal 2018)

In Modern Persian, complements of adjectives trigger either ezafe marking or are headed by prepositions, as the following examples show:

(7) **Ezafe marking with adjectives in Modern Persian**

a. ašeq-e Hasanin

love-EZ Hasan

‘in love with Hasan’

b. negarân-e bače

worried-EZ child-PL

‘worried about the children’

c. bizâr az zendegi

disgusted of life

‘disgusted at life’

(Chandra and Kumar 2013)

This generalization can be stated as follows.

(8) **Adjective-Complement Generalization**

Complements of adjectives cannot have direct (Accusative, Absolutive) marking

There are several kinds of apparent counterexamples to this generalization. First, adjectives like *tall*, *long* can merge with unmarked nominals which are probably not true arguments. Such examples include degree phrases such as *three meters* in *three meters tall*. The non-complement status of such phrases in English is evidenced, among other things, by their strictly pre-adjectival linear position (cf. **tall three meters*).

Similar constructions are also found in Latin, as in (9). Vincent and Börjars (2010) analyze these Accusative-marked phrases as circumstants¹ rather than objects, noting that Accusative marking is common in spatial, temporal and extent constructions in Latin.

(9) **Latin adjectival constructions with Accusative nominals**

a. longus binos pedes

long two feet.ACC

‘two feet long’

b. latus digitos tres

wide fingers.ACC three

‘three fingers wide’

(Vincent and Börjars 2010)

Another apparent counterexample to the Adjective-Complement Generalization was reported for Swedish, where nominal complements of certain adjectives are unmarked, as is shown in (10). However, despite being unmarked, these arguments have been analyzed as bearing inherent case. To that effect, Ohkado (1990) compares the Swedish data to analogous constructions in related Germanic languages (most prominently to Old English) where adjectival complements

¹The term is to be understood as (roughly) all dependents with non-argumental status.

bear oblique case. Ohkado suggests that while Swedish has lost morphological oblique marking, unmarked adjectival complements (like *religionen* in (10)) are still marked with (abstract) oblique case (see Ohkado (1990) and Lowe (2017) for discussion).²

(10) **Swedish unmarked adjectival complements**

a. Han var hängiven religionen

he was devoted religion.DEF

‘He was devoted [to] the religion.’

b. Hon är lik sin mor

she is like her mother

‘She is like her mother.’

c. Drycken hade gjort honom överlägsen sina motståndare

drink.DEF had made him superior his opponents

‘The drink had made him superior [to] his opponents.’ (Ohkado 1990)

Next, Accusative marking is commonly found in participial clauses formed from transitive verbs, as in the following examples from Russian and Lithuanian. However, while participial clauses have external syntax of adjectives, they retain many verbal properties, including aspect distinctions, as well as the licensing of temporal adverbials. I suggest that the possibility of direct marking in participials is due to the presence of the embedded verbal structure. The verbal structure then gets embedded under piece(s) of structure that facilitate attributive use of the structure,

²In the approach proposed here, abstract oblique case can be understood as a DP embedded under a phonologically null ϵ -bearing morpheme.

which I label as ATTR in the structure below. I remain agnostic on the exact syntax of these areas of the participial structure.

(11) **Accusative complement marking with transitive participles**

a. **Russian**

svarivšij sup povar

cooked.PERF.M soup.ACC cook

‘the cook who made the soup’

b. **Lithuanian**

... dėkoj-u [skaiči-us-iems įvad-o tekst-a] istorik-ams

thank-PRS.1SG read-PST.PERF-DAT.PL.M preface-GEN.SG text-ACC.SG historian-DAT.PL

‘... I thank the historians who have read the text of the preface’ (Arkadiev 2012)

(12) **A simplified structure of Russian participles**

[ATTR [make soup]_{VP}]_{ATTRP}

The investigation of case marking of adjectives is severely complicated by the fact that the nature and the crosslinguistic and theoretical validity of the notion *adjective* is far from being settled. As Baker (2003) notes, words corresponding to English, or Standard Average European, adjectives may in other languages constitute several lexical categories with diverging properties. The main complication for the current generalization seems to arise with those adjectives which demonstrate verbal properties, such as tense or inflection. This is the case, for instance, in Korean adjectives, which have been analyzed as reduced relative clauses which contain verbal structures

(Kim 2002); such adjectives have been reported to have Nominative dependants (13c). Although I do not propose a theory of such adjectives, I suggest that such adjectivals indeed are built from verbal phrases and might not contain nominal structures.

(13) **Korean adjectives**

- a. ce yeppu-n yeca
that pretty-REL woman
'that pretty woman'
- b. ce yeppu-ess-ten yeca
that pretty-PRT-REL woman
'that woman who used to be/was pretty'
- c. khi-ka khu-n salam
height-NOM big-REL person
'a tall person' (lit. a person whose height is big)

Many works have emphasized that adjectival structures with properties of reduced relatives (RR-adjectives) are remarkably different from attributive adjectives in several respects. For instance, as Baker (2003) shows, Japanese RR-adjectives demonstrate a freer word order compared to adjectives in English.

(14) **Constraints on the order of adjectives in English and Japanese**

- a. the small square house
- b. *the square small house

- c. chiisa-na shikaku-i ie
 small square house
- d. shikaku-i chiisa-na ie
 square small house

A similar problem is found with adjectives like German *wert*, which may take direct complements, as in the following examples:

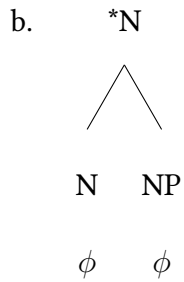
- (15) a. Das ist **die Mühe** (ACC) nicht wert. – ‘It isn’t worth the pain’
 b. Das ist **den Preis** (ACC) nicht wert. – ‘It isn’t worth the price’

Importantly, the German *wert* can only appear in predicative position (cf. **Das seinen Preis werte Auto* int. ‘the car that is worth its price’).³ Although the full elaboration of this construction is outside the scope of this work, we may preliminary conclude that the German *wert* is incompatible with ϕ -morphology which prevents it from appearing in attributive position and facilitates direct complementation. (See Fruehwald and Myler (2015) for a discussion of similar constructions in English).

I suggest that the theory proposed in first chapters can be extended to account for the apparent lack of direct marking in modifying adjectives. To wit, I suggested that nouns cannot merge with direct arguments directly because that would create a $*\phi\phi$ violation. Since nouns bear inherent ϕ -features, they cannot merge with direct nouns without mediation, and the oblique strategy must be used instead.

³The homophonous attributive adjective *wert*- ‘dear’, which is undeniably historically related, is predictably incompatible with direct objects.

(16) a. *performance the songs



For adjectives, I suggest that they contain ϕ -features which are syntactically visible and affect syntactic properties of adjectival structures. Similarly to nouns, the presence of ϕ -features on adjectives bleeds Accusative marking on adjectival complements, as the following diagram shows. It is easy to see how this approach can be extended to account for the ungrammaticality of (17c). Assuming that ϕ -features that are borne on adjectives are of the same nature as that of their counterparts found on nouns, we can now suggest that the direct marking on adjectival complements leads to a $*\phi\phi$ violation, as is shown below.

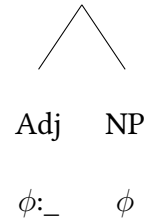
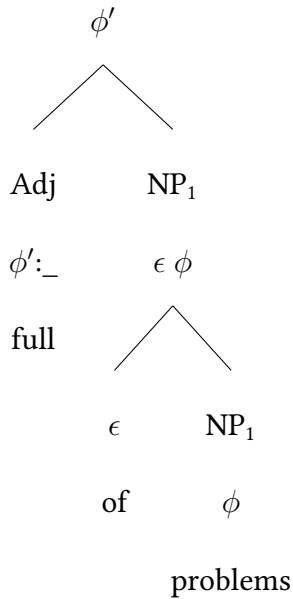
(17) **Lack of direct marking on Adjectival complements**

a. full of problems

c. *full problems

b. AdjP_2

d. *Adj



More formally, this can be captured as a selectional property of an adjectival which is determined by its featural makeup.

(18) **Selectional properties of a concording structure**

- a. The $*\phi\phi$ constraint demands the following selectional property of a concording structure
- b. A concording head X must select an ϵ -bearing morpheme.

The account proposed above can account for the well established property of adjectives of never agreeing with their complements (Polinsky (2016), Norris (2017)). In the system proposed

here, this follows straightforwardly: adjectival complements must be opaque by (18). As a consequence no featural dependency between an adjectival and its complement is possible.

Another phenomenon, which, I suggest, can receive an explanation within the $*\phi\phi$ violation account is the so called Feature Uniqueness Generalization proposed in Dobrovie-Sorin and Giurgea (2011). This generalization concerns the possible combinations of featural makeup found on modifying possessive pronouns in Romance and Slavic. To that effect, as the authors note, in Romanian, only 1st and 2nd person possessive pronouns demonstrate concord, while 3rd person pronouns are morphologically genitive forms from corresponding personal pronouns. For example, the first person singular possessive pronoun *me-* ‘my’ demonstrates concord: its plural masculine form is *mei* with the feminine plural being *mele*. The second person possessive pronoun *te-* also demonstrates concord. In contrast, third person pronouns do not concord and are, morphologically, the genitives of the corresponding personal pronouns.

(19) **Concording possessive pronouns in Romanian**

- a. *baietii mei/tăi/noștri/voștri*
boys.THE my.M.PL/your.sg.M.PL/our.M.PL/your.pl.M.PL
‘my/your.sg/our/your.pl boys’
- b. *fetele mele/tale/noastre/voastre*
girls.the my.F.PL/yoursf.F.PL/our.F.PL/yourpl.F.PL
‘my/your.sg/our/your.pl girls’

(20) **Non-concording (genitive) possessive pronouns in Romanian**

- a. *baietii ei/lui/lor*
 boys.the she.GEN/he.GEN/they.GEN
 ‘her/his/their boys’
- b. *fetele ei/lui/lor*
 girls.the she.GEN/he.GEN/they.GEN
 ‘her/his/their girls’

The question can be raised what prevents 3rd person pronouns from hosting concord-ing features, like in the following unattested forms:

(21) **lor-e/i*, **ei-e/i*, **lui-i/e*

The authors go on to analyze the morphological makeup of Romanian possessive pronouns, showing that 3rd person pronouns are decomposable into person and gender features, unlike 1st and 2nd person pronouns. To that effect, 3rd person personal strong form pronouns *el* ‘he’, *ea* ‘she’, *ei* ‘they.M’, *ele* ‘they.F’ can be clearly decomposed into the root *e(l)* and the inflectional markers \emptyset ‘M.SG’, *-a* ‘F.SG’, *-i* ‘M.PL’, *-le* ‘F.PL’. At the same time, there is no obvious morphological decomposition for first and second person pronouns such as *noi* ‘we’, *tu* ‘thou’, suggesting that in 1st and 2nd person pronouns the person and number features are contained on the root. For this reason, the authors suggest that in 3rd person pronouns, all ϕ -features are contained on the functional material, while in 1st and 2nd person pronouns certain ϕ -features are contained on the root.

(22) **A structure for 1st and 2nd person possessive pronouns in Romanian**

[[$\sqrt{\quad}$; PERS: 1/2] (ϕ -AGR)]

(23) **A structure for 3rd person possessive pronouns in Romanian**

[[PERS: 3 [$\sqrt{\quad}$]]]

The authors then postulate the Feature Uniqueness constraint, according to which two instances of the same ϕ -features cannot merge above the lexical root. For example, in the hypothetical ungrammatical form where the third person pronoun appears in a concord form, Feature Uniqueness is violated since the same structure contains the same ϕ -feature in two places in the structure.

(24) **Feature Uniqueness Constraint**

Pronominal roots merge with at most one set of inflectional ϕ -features.

As Dobrovie-Sorin and Giurgea note, the lack of concord forms in the 3rd person is also attested in other languages, such as Swedish, Albanian, Latin and Russian:

(25) **Swedish**

a. mina/dina/vara/era pojkar

my.PL/yours.sg.PL/our.PL/yourpl.PL boys

'my/your.sg/our/your.pl boys'

- d. vajzat e tij/e saj/e tyre
girls.THE ART he.GEN/ART she.GEN/ART they.GEN
'his/her/their girls'

(27) **Latin**

- a. pueri mei/tui/nostri/uestri
boys my.M.PL/your.sg.M.PL/our.M.PL/your.pl.M.PL
'my/your.sg/our/your.pl boys'
- b. puellae meae/tuae/nostrae/uestrae
girls my.F.PL/yours.F.PL/our.F.PL/your.pl.F.PL
'my/your.sg/our/your.pl girls'
- c. pueri eius/eorum/earum
boys (s)he.GEN/they.M.GEN/they.F.GEN
'his/her/their boys'
- d. puellae eius/eorum/earum
girls (s)he.GEN/they.M.GEN/they.F.GEN
'his/her/their house'

(28) **Russian**

- a. moi/tvoi/naši/vaši mal'čiki
my.PL/yours_{sg}.PL/our.PL/your_{pl}.PL boys
'my/your.sg/our/your.pl boys'
- b. moja/tvoja/naša/vaša devuška
my.F.SG/yours_g.F.SG/our.F.SG/your_{pl}.F.SG girl
'my/your.sg/our/your.pl girls'
- c. jego/jejo/ix mal'čiki
he.GEN/she.GEN/they.GEN boys
'his/her/their boys'
- d. jego/jejo/ix devuška
he.GEN/she.GEN/they.GEN girl
'his/her/their girl'

It is easy to see how the proposed principle of Feature Uniqueness can be accounted for within the framework proposed in this dissertation – two instances of the same features merged in different places of the pronominal structure would create a * $\phi\phi$ violation, as the structure in (29) shows. What is important for the current discussion is that (if the * $\phi\phi$ violation Analysis is on the right track) these data show that concurring features can create conflicts with inherent, nominal features.

(29) **A potential feature conflict in 3rd person possessive pronouns**

[[$\sqrt{\quad}$; PERS: 1] ϕ : _]

The account above leaves the question of why the lexical person and number features on second and first person pronouns (if they are indeed instances of ϕ -features) do not enter in feature conflicts with other instances of ϕ -features. I will discuss this issue in subsequent sections.

Interestingly, in many Romance languages, including French, Spanish, among others, the third person singular possessive pronoun *s-* (as in French *son, sa*) exhibits concord but crucially doesn't show a distinction reflecting the gender of the possessor. This pattern is fully expected under the Feature Uniqueness approach since the concurring gender features do not form a conflict with any other instance of features on the pronominal structure.

Feature Uniqueness also makes the following prediction. If a language shows gender distinctions on the 3rd person, but this distinction is a lexical property of the pronominal root, then such language can in principle have concurring 3rd person possessives. To that effect, we might expect to find a language where gender features on 3rd person pronouns are contained on the root. Such a language is predicted to be compatible with further ϕ -inflection (although nothing in the theory requires that such inflection is present). One example of such language is German, where feminine and masculine possessive pronouns (*sein-* 'his' and *ihr-* 'her') are lexically unrelated. These pronouns exhibit concord, as the following examples show.

(30) **Concurring 3rd person possessive pronouns in German**

- a. *ihr* Freund 'her friend'
- b. *ihr-e* Freundin 'her girl friend'

- c. sein Freund ‘his friend’
- d. sein-e Freundin ‘his girl friend’

What is predicted impossible by this system are languages where a possessive pronoun has two independent functional exponents of gender (or number). Such hypothetical language would have a pronoun of the form ‘ROOT-FEM1-...FEM2-...’, where FEM1 is an exponent of the inherent feminine gender of the pronoun, matching the female gender of possessor and FEM2 is an exponent of the concording female feature matching the female gender of the possessee noun⁴.

4.2 (CONCORDING) ADJECTIVES AND NOUNS AS NOMINALS

Common patterns of argument marking in nouns and adjectives (as in (31)) have led many researchers to assume that these two lexical classes constitute a natural class and form a lexical supercategory of *nominals*. This idea can be traced back to at least Roman grammarians who classified nouns and adjectives as *nomina* – the word that can be seen as a close analogue of the term *nominals*. Below, I will consider some empirical evidence for this hypothesis and show that nominal properties of both nouns and adjectives can be accounted for in terms of the presence of inherent ϕ -features.

Since, as discussed earlier, phrases corresponding to adjectives in English may constitute a very heterogenous class, with some of them demonstrably lacking characteristic nominal prop-

⁴J. Bobaljik points out that Serbo-Croatian possessive pronouns *njegov-a* ‘his.F’; *nje-n-a* ‘her.F’ might present a potential counterexample to this prediction, assuming the following morphological parsing: *nje-gov-a*, *nje-n-a* where *nje-* is a root and *-gov-*, *-n-* are masculine and feminine markers. However, I am not aware of any evidence that rules out the possibility that *njegov-*, *njen-* are morphologically simplex and lack separate exponents of gender. I leave this for future research.

erties, I limit the domain of investigation only to those adjectives that demonstrate overt concord with the head noun. The assumption here is that certain adjectives that do not demonstrate overt concord, such as English adjectives, can of course be analyzed in the same way.

(31) **Lack of direct marking with nouns and adjectives**

- a. destruction *(of) the city
- b. proud *(of) their children

One of the earliest works proposing the notion *nominal* (understood as a supercategory of adjectives and nouns) within a formal syntactic framework is Stowell (1981). Stowell discusses the incompatibility of nouns and adjectives with direct (Accusative) marking. To that effect, nouns and adjectives are analyzed as unable to assign Accusative case (or, in his terminology, create contexts for *of*-insertion) and thus can only take an *of*-phrase as a complement. Stowell's theory bears on the feature-based system proposed in a series of works (Chomsky 1970, Jackendoff 1977) which analyze the four main lexical categories as a combination of two binary features: $\pm N$ and $\pm V$ – the framework widely known as the Amherst system.

(32) **Chomsky's system of categorial features (The Amherst system)**

	+N	-N
+V	Adj	V
-V	N	P

Other researchers characterized the common properties of nouns and adjectives by examining their inflectional identity. The idea that the categories of nouns and adjectives are related has been

rejected by some scholars; see Baker (2003) and Pesetsky (2013) for two prominent accounts. Fanselow and Felix (1987) suggest that +N might stand for being able to inflect for case and gender. Indeed, in German, as well as in many other languages, adjectives exhibit concord with the noun in case, as well as gender.

(33) **German adjectives inflect for case and gender**

- a. *tiefer* ‘deep’ (masculine, Nominative)
- b. *tiefem* ‘deep’ (masculine/neuter, Dative)
- c. *tiefes* ‘deep’ (neuter, Nominative/Accusative)

While verbs also co-vary with nouns in ϕ -features, many researchers have pointed out that the verbal agreement inflection is remarkably different from adjectival agreement. One of the most significant of such differences is the absence of person inflection on adjectives (Baker 2008, 2011), and is widely known as the Structural Condition on Person Agreement (SCOPA). For instance, Spanish adjectives in the predicate position inflect of gender and number, but not in person:

(34) (Nosotras) somos gord-as/*gord-amos.

we.F.PL are.1PL fat-F.PL/fat-1PL

‘We are fat.’

(Baker 2011)

While the Amherst system treated the nominalness (+N) feature as binary, suggesting that all -N categories form a natural class, Déchaine (1993) proposes instead that +N is a privative feature, arguing that all non-nominals do not share many common characteristics. Initially, the

Amherst system comprised only four categories, of which only two (P and V) were analyzed as -N. While P and V have some common properties (such as the case-marking property) this point gets more complicated if other categories, beyond Nouns, Verbs, Adjectives and Prepositions, are included into the systems of Lexical Categories. Such categories might include adverbs (which are not included into the Amherst system), as well as categories found in other languages, such as linkers, ezafe markers and others. For instance, as will be shown below, ezafe markers can demonstrate concord, similarly to adjectives, thus challenging the hypothesis that all categories outside of nouns and adjectives form a natural class.

The system proposed here builds on Déchaine's idea that +N is a privative feature. Unlike Déchaine's system however (as well as the Amherst system on which it is largely built), which just postulated the +N feature without making a connection with any independently observable syntactic phenomenon, I suggest that the nominalness of adjectives and nouns is contributed by the presence of inherent ϕ -features.

(35) **The Nominal Hypothesis**

Both nouns and concurring adjectives bear inherent syntactically active ϕ -features.

The system proposed here builds on the assumption that the instances (or reflexes) of ϕ -features found on adjectives are different in nature from those found on verbs. This goes in line with much of the recent work on concord that has revealed many profound differences between concord and agreement. These differences led many researchers to postulate that those two phenomena are different in nature (see Norris (2014)). (See also Baker (2008) for a discussion of why case and definiteness should not be considered ϕ -features). In this way, nominals may be

distinguished from non-nominals in that they may exhibit concord, unlike non-nominals.

Norris (2014) discusses four such differences in his dissertation. First, while Agreement (typically) involves cross-referencing of nominal features in just one locus, the number of nominal exponents in concord constructions is indefinite. This fact can be illustrated by Estonian data; below is the example that Norris provides. In this example, the Inessive case feature on the head noun is borne on all nominal modifiers.

(36) **Concord in Estonian**

kõigi-s nei-s raske-te-s küsimus-te-s
all.PL-INE this.PL-INE hard-PL-INE question-PL-INE
'in all these hard questions'

Second, as Norris notes, the structural positions that concord may target are systematically different from those that are found in Agreement. For instance, Concord may target peripheral phrases, such as Adjectives, while verbal adverbs cannot be targeted by Agreement in almost all languages (see Burroni et al. (2016) for apparent counterexamples in Ripano and (Kibrik et al. 1977a) and Polinsky (2016) for a description of a similar phenomenon in Archi, a Dagestani language).

Next, Norris notes that Concord relations are usually within the same nominal projection, while a Probe and a Goal in Agreement are usually not contained within one DP, as the following example suggests.

(37) [these books]_{DP}

While the generalization that Agreement with NPs is generally external to the NPs a crosslinguistically valid statement, there are several cases of Agreement which proceed DP-internally. One such case is Possessor agreement where the head noun agrees with a DP-internal possessor.

(38) **Possessor agreement in Turkish**

ben-im radyo-m

I-GEN radio-1SG

'my radio'

Despite this, these examples can hardly provide serious counterevidence to Norris's observation. Indeed, possessor agreement is limited to a very special type of configuration where the target (that is, the possessor) sits at a high, functional projection and thus the whole relation transcends the boundaries of the (lexical) NP. In contrast, concord relations are relatively unconstrained with respect to the positions that they may target. Importantly, unlike Possessor Agreement, Concord may target multiple positions below nominal functional projections.

Last, Norris points out the widely discussed connection between Agreement and Case – the relation which is absent in Concord configurations. Several influential theories suggested a tight connection between these two operations: for instance, in Pesetsky and Torrego (2004) it is suggested that the two operations are reflexes of the same underlying operation. Irrespective of one's view on whether Case and Agreement are directly and intrinsically connected, Agreement and Concord clearly target phrases of different syntactic identity: while Concord targets a nominal head and an adjective-like modifier, Agreement usually involves an argumental nominal and a verbal or a functional head. In the case of possessor agreement, the probe, despite clearly being

nominal in nature, behaves as a probe in that it agrees with a suitable target (in this case, a possessor). (In subsequent sections, I will suggest that this dual nature of agreeing nominal heads can be analyzed as presence of two syntactic features – ϕ and Π (probe)).

A *nominal* lexical category can be (roughly) defined as a category that can participate in concord, either as a donor (most commonly, noun) or a recipient of concording features (most commonly, an adjective or an adjective-like modifier). For instance, in Serbian, a highly inflected language, concording phrases include adjectives, numerals, possessive pronouns and demonstratives. As the following examples show, these phrases concord with the head noun in gender, number and case.

(39) **DP-internal concord in gender, number and case in Serbian**

sve ove Jovanove stare slike

all.F.PL these.F.PL John's.F.PL old.F.PL pictures.F.PL

'all of these John's old pictures'

(Fowler 2000)

Another property that adjectival and nominalized structures share is licensing Genitive subjects. Many Turkic languages, for instance, possess a highly productive system of syntactic nominalizations and participial clauses which license Genitive subjects. For instance, in Turkish, subjects in finite clauses are most commonly marked Nominative. However, in participial and in nominalized clauses the default marking is Genitive. The example in (40b) shows that participial clauses in Turkish can modify nouns, thus confirming their structural similarity to adjectives. In contrast, adverbial clauses, whose distribution is similar to that of adverbs, mark their subjects with Nominative. (See Kornfilt (2001) for a proposal connecting *nominalness* and Genitive subject

marking, as well as some discussion).

(40) **Genitive subjects in Turkish**

- a. Mary-nin parti-ye gel-me-sin-i iste-mi-yor-um.
Mary-GEN party-DAT come-NMNLZ-3.SG-ACC want-NEG-PRS-1SG
'I don't want for Mary to come to the party.'
- b. Semra-nın gör-dü-g-ü film daha.yeni piyasaya.çık-mıs
Semra-GEN see-P-C-3 film recently release-EV
'The film that Semra saw/has seen has just been released.'

(41) **Adverbial clauses in Turkish**

- [ben ev-den çık-ınca] Oya sinema-ya git-ti
I house-ABL exit-'when' Oya cinema-DAT go-PST
'When I left home, Oya went to the movies.'

Thus far, I have considered adjectives which may appear in attributive position. The hypothesis that I will argue for in this chapter can be formulated as follows.

(42) **The Nominal Hypothesis**

- a. Nouns and concurring adjectives bear syntactically visible ϕ -features at the highest projection
- b. Structures with ϕ -features at the highest level cannot take direct complements

A broader discussion addressing the other prominent position for traditional adjectives – namely, the predicative position – reveals that such adjectives may constitute a large class with heterogenous properties. In Japanese, for instance, such adjectives may appear with tense morphology, as the following example shows.

(43) **Adjectival structures with tense morphology in Japanese**

a. utsukushi-*(i) onna

beautiful-PRS woman

‘a beautiful woman’

b. utsukushi-katta onna

beautiful-PST woman

‘a woman that was beautiful’

(Baker 2003)

As Baker suggests, the difference between the two types of adjectives (viz. English-type and Japanese-type) can be captured in terms of presence/absence of ϕ -features. To that effect, Japanese-type adjectives are analyzed as lacking ϕ -features.

Another language where semantic adjectives have been analyzed as lacking ϕ -features is Slave, an Athabaskan language. In this language, which has rich inflection, adjectives are morphologically invariant. For instance, although verbs are inflected for person and number, adjectives like *sódi* ‘happy’ remain uninflected.

(44) **Inflectional morphology of verbs vs. adjectives in Slave**

Subject/Poss'er	'eat' (verb)	'hand' (noun)	'happy' (adjective)
1st sing	shée-h-ti	si-lá	sódi
1st, 2nd plural	hit-´á	naxi-lá	sódi

Relatedly, as Baker notes, adjectives in Slave cannot modify nouns directly and must instead form a reduced relative clause structure.

(45) **Slave adjectives cannot be used attributively**

*yenene sho
 woman proud/happy
 'a proud/happy woman'

The data from Slave adjectives indicates clearly that adjectives in certain languages lack ϕ -features and that modifying adjectival structures are formed from non-nominal phrases. The reduced relative analysis of adjectives suggests that the semantic adjectives project a certain amount of verbal structure, which then forms a relative clause.

In the system proposed here the parametric difference between Japanese-type and English adjectives can be captured as follows. I suggest that in Japanese an ϵ -bearing morpheme is lacking that can select a nominal structure. Instead, this language possesses a modifier morpheme that selects phrases that are devoid of ϕ . This can be formalized as follows:

(46) **Selectional properties of a modifier morpheme in Slave and Japanese**

MOD (ϵ) selects for: $-\phi$

In order for a semantic adjective to merge with a noun, the adjectival root must first be embedded under a verbal structure. This structure then gets embedded under an ϵ -bearing morpheme, forming a reduced-relative clause⁵:

(47) **A structure for reduced-relative adjectival structures**

[ϵ [vP [adj]]]

Unlike languages with plain adjectival modification, such structures do not contain unvalued ϕ -features and do not enter into concord relations with the head noun. I follow Baker, as well as much research, in assuming that a feature dependency is a prerequisite for the merge of a specifier and in the absence of unvalued ϕ -features an adjectival structure can only merge as an adjunct, yielding a less rigid ordering of adjectives, among other things.

4.3 ADJECTIVES AS MODIFIERS

4.3.1 INTRODUCTION

In the previous subsection, I suggested that nouns and attributive adjectives bear inherent ϕ -features. I also suggested that much of the syntactic identity of nouns (such as what is traditionally referred to as *the need for licensing*) is determined by the presence of inherent ϕ -features on the nominal phrase.

Yet, adjectives are clearly very different from nouns in their syntactic properties. Nouns can project much functional material (such as D or Poss) in their extended projection and their pro-

⁵In subsequent sections, I will propose that the topmost level of adjectival morphology may contain unvalued ϕ -features, in addition to ϵ .

jected phrases may appear in argument positions. Adjectives, in contrast, cannot occupy argument positions; and they either do not contain functional material or it is limited to comparative or superlative morphology. The question then arises of the nature of syntactic features that determine syntactic properties of adjectives.

(48) **Syntactic identity of adjectives**

What determines the syntactic identity of concurring adjectives?

While much of the theoretical discussion on adjectives has compared adjectives with nouns (or, in a similar vein, predicative adjectives – with verbs), another line of research has emphasized certain remarkable similarities between adjectives and prepositions (or prepositional phrases). For instance, as Déchaine (1993:48) notes, both Adjectives and Prepositions do not have extended projections. While more recent research on the syntax of prepositions has cast doubt on this claim (see for instance, the work of Svenonius (2003, 2006, 2010), the intuition of the relative structural deficiency of AdjPs and PPs in comparison to NPs and VPs can be formulated differently. For instance, one can emphasize that adjectives and prepositions never inflect for categories independent from other parts of the structure. While adjectives may exhibit concord, this inflection is always a relation of co-variance between the adjective and other inflected head (most typically, a noun). The same holds for PPs, which (for instance, in Bantu languages) are in concord relation with an external noun. In contrast, both nouns and verbs may exhibit independent inflection (for number, definiteness and tense, aspect respectively). The observation can now be formulated as follows.

(49) **AdjPs and PPs as dependent categories**

Adjectives and PPs never exhibit regular morphological inflection independent of another part of the structure.

Other researchers noted the distributional similarity between adjectives and PPs. For instance, in the following Spanish example, a noun can be modified both by an adjective or a PP. Based on this and similar data, Mateu (2002) suggests that adjectives can be analyzed as a nominal structure headed by a preposition. This Spanish example, as well as many similar examples in other languages, indicates that both adjectives and PPs can modify a noun phrase (See also Fábregas and Marín (2017) for a discussion of this idea).

(50) **Spanish**

- a. un objeto de metal
- b. un objeto metálico

In many Turkic and Mongolic languages, the distribution of attributive structures is largely similar to that of comitative phrases, which are usually analyzed as PPs (Graščenkov (2017)).

I suggest that adjectives can be analyzed in a similar vein, assuming that an adjective (or an adjectival phrase) is headed by an ϵ -bearing morpheme. This morpheme ensures that (unvalued) ϕ -features of the nominal are not inherited up, effectively yielding a modifier with nominal properties.

(51) **Nominal Modifier Hypothesis**

- a. (Attributive) adjectives are nominal modifiers, which bear both ϵ and an unvalued ϕ
- b. The (unvalued) ϕ is responsible for adjectives' nominal properties (such as lack of direct marking)
- c. ϵ facilitates modification

In the remaining part of the chapter, I will discuss two prominent ways in which a language can build an attributive structure. One strategy involves taking a non-nominal structure and merging it with a concurring linker. Such is the case, as I will argue, for Kurmanji Kurdish and Albanian. In Kurmanji Kurdish, nominal modifiers are linked with an agreeing (or concurring) *ezafe* marker. I will show that Kurdish *ezafe* markers are structurally equivalent – modulo morphological inflection – to the syntactic category which has been analyzed as linkers, oblique markers or generalized prepositions (which includes English *of*, French *de*, Mandarin Chinese *de*, Thai *thii* etc). On the other hand, Kurmanji Kurdish *ezafe* is similar to adjectival morphology in facilitating NP-internal modification *and* covarying in ϕ -features with the head noun. In this way, Kurmanji Kurdish *ezafe* markers demonstrate a direct connection between linkers (or generalized prepositions) and adjectival morphology.

(52) **Featural makeup of Kurmanji Kurdish Ezafe**

EZAFE: ϵ ; ϕ : _

The other strategy involves taking an already nominal structure and merging it with a purely attributive morpheme. This position, as I will suggest, is found in Russian long adjectives, many

of which are formed from non-attributive short adjectives by adding an extra morpheme with an unclear syntactic identity (*-ja* in *dorogaja* ‘expensive.F.SG’). The principal difference between *long* and *short* forms is that short adjectives are unable to appear in attributive position. I analyze long adjectives as containing one additional morpheme – if compared to short adjectives – containing an ϵ -bearing morpheme, which facilitates modification.

4.3.2 KURMANJI KURDISH EZAFE

In Kurmanji Kurdish, nouns appear with *ezafe* marking in certain configurations involving modification. For instance, in the following examples, the head noun *gund* ‘village’, which is modified by the adjective *xwesik* ‘beautiful’ is marked with the *ezafe* marker *-i*. In contrast, when not modified, nouns lack *ezafe* marking. The *ezafe* marker matches the gender of the head noun.

- (53) a. gund-ek-i xwesik
 village.M-INDEF-EZ.M.SG beautiful
 ‘a beautiful village’
- b. gund ‘village’ (Schroeder 1999, gloss translated from German).

Unlike many languages of the Iranian group which are also *ezafe*-marking, Kurmanji Kurdish *ezafe* inflects for gender and number, as the following examples show. Apart from concord with the *ezafe*, the ϕ -features of the head noun also trigger agreement on the finite verb.

- (54) a. kurk-(ak)-e: mazən jet het
 boy-(one)-EZ.M big M.SG come.3.SG
 ‘A/The big boy is coming.’

- b. ketak-(ak)-a mazən jat het
girl-(one)-EZ.F big F.SG come.3.SG

‘A/The big girl is coming.’

(Manzini, Franco, Savoia 2015)

The full inflection paradigm of is provided in (55).

(55) **Kurmanji Kurdish ezafe**

- a. kur-e: ganç
boy-EZ.M.SG young
‘young boy’

- b. kaç-a ganc
girl-EZ.F.SG young
‘young girl’

- c. kur-e:n ganç
boy-EZ.PL young
‘young boys’

- d. kaç-e:n ganc
girl-EZ.PL young
‘young girls’

Apart from adjectival modification, ezafe marking is also required in possessive constructions or in other constructions where a noun is modified by another noun⁶. In case where the

⁶In the case of NP modification, the dependent noun is marked with oblique case – a point to which I will return

subordinate phrase is itself branching, the ezafe marker is found on every head preceded by a dependent.

(56) **Ezafe in Possessive constructions**

- a. dest-e: kurk-i/ketak-e
hand-EZ.M.SG boy-OBL.M/girl-OBL.F
'The hand of the boy/girl.'
- b. vcav-een we
eye-EZ.PL you
'your eyes'

(57) **Branching possessors**

- ma:l-a: mazin-a: Narmi:n-e:
house-EZ.F.SG big-EZ.F.SG Narmin-OBL.F
'Narmin's big house'

The exact structural status of Kurmanji Kurdish inflected ezafe markers has been subject of debate, with different researchers analyzing this morphemes as inflectional affixes (Samvelian 2007) or linkers (Franco, Manzini and Savoia 2014).

One point of consensus among all or nearly all authors is that the Kurmanji Kurdish ezafe, despite showing inflection, is structurally equivalent to its non-inflected counterpart found in other Iranian languages, such as Modern Persian, Sorani Kurdish and Zazaki, among others.

later.

(58) **Ezafe marking in Iranian**

a. *lebas-e sefid-e maryam*

dress-EZ white-EZ Maryam

‘Maryam’s white dress’

(Modern Persian)

b. *kiras-êk-î úin-î Narmîn*

dress-INDEF.SG-EZ blue-EZ Narmin

‘a blue dress of Narmin’s’

(Sorani Kurdish)

c. *pir‘tok-o find*

book-EZ good

‘good book’

(Zazaki)

The Persian ezafe is largely similar to Kurmanji Kurdish in its distribution. Like in Kurmanji Kurdish, the Persian ezafe appears in complex noun phrases, in contexts of postnominal modification. For instance, the head noun bears an ezafe marker in the presence of an adjective, a dependent noun phrase or a relative clause. Furthermore, similarly to Kurmanji Kurdish ezafe, in consecutive modification, the ezafe marker precedes every dependent that triggers ezafe marking.

(59) a. **Adjectives**

otaq-e kuchik

room-EZ small

‘small room’

(Ghameshi 1997)

b. **Possessors**

nāme-ye ali

letter-EZ Ali

‘Ali’s letter’

c. pāye-ye miz

leg-EZ table

‘the leg of the table’

d. lebās-e maryam

dress-EZ Maryam

‘Maryam’s dress’

e. **Consecutive modification**

lebās-e sefid-e maryam

dress-EZ white-EZ Maryam

‘Maryam’s white dress’

f. otāq-e kučik-e zir-e širvāni-e ali

room-EZ small-EZ under-EZ roof-EZ Ali

‘Ali’s small room under the roof’

(60) **Relative clauses**

- a. in javaan-e [az suis bargašte]
this young-EZ from Switzerland returned
'this young man who has returned from Switzerland'
- b. aks-e [chaap-šode dar ruznaame]
picture-EZ published in newspaper
'the picture published in the newspaper'

- (61) pošt-e manzel
behind-EZ house
'behind the house'

Morphologically, ezafe markers, both in Modern Persian and in Kurmanji Kurdish, are enclitics, leaning on the phological word to their left, which is usually a *modified head*. The clitic status of ezafe markers can be demonstrated by the following facts where the modified nominal is phrasal and the ezafe marker attaches only to the rightmost word:

- (62) mojgan-e [az rimel sangin]-e maryam
eyelid.PL-EZ of mascara heavy-EZ Maryam
'Maryam's mascara-laden eyelids' (Samvelian 2007:635)

In what follows, I will adopt Philip (2012), account who suggest that the ezafe forms the constituent with the modifier:

(63) **Constituency of ezafe marking**

- a. [N-[*ezafe* MODIFIER]]_{DP}

In order to argue for this, she considers constructions where the *ezafe* marker attaches to a conjunction. If the *ezafe* marker formed a constituent with the head noun, as the argument goes, we would expect both head nouns in (64a) to be able to appear with the *ezafe*. (See more discussion of this in Philip (2012)).

(64) **Coordination in ezafe constructions**

- a. [koolaah(*=e) va lebaas][=e Maryam]

hat=EZ and dress=EZ Maryam

‘Maryam’s hat and dress.’

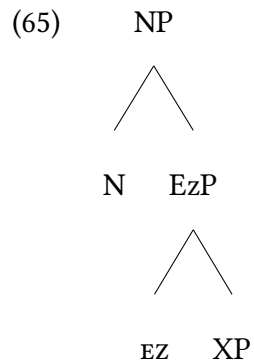
- b. ahaali[=e [Gilân va(*=ye) Mâzandarân]]

population=EZ Gilân and=EZ Mâzandarân

‘the population of Gilan and Mazandaran’

(Philip 2012)

Given this established constituency, we can now outline the following simplified structures for *ezafe* constructions. I will notate the modified phrase headed by the *ezafe* as EzP:



The syntactic identity of the Persian ezafe morpheme is a subject of debate in the literature. Ghomeshi (1997), for instance, argues for a PF insertion rule of the ezafe marker on a X0 in the context of phonologically overt non-affixal material in the same extended projection.

(66) **Ezafe Insertion Rule**

Insert the vowel on an X0 that bears the feature[+N] when it is followed by phonetically realized, non-affixal material within the same extended projection. (Ghomeshi 1997:781)

Ghomeshi's proposal is intended to account for the apparent restriction on phrasal modifiers in ezafe constructions. In the next example, for instance, the adjectival modification of the possessed noun supposedly bleeds the ezafe marking on the head noun. Ghomeshi suggests that both the head and the dependent in the ezafe construction must be minimal projections, which explains the ungrammaticality of (67).

- (67) *ketab-e sorx-i maryam
 book-EZ red-INDEF Maryam
 int. 'a red book of Maryam'

However, as Samvelian (2007) points out, modifiers in *ezafe* constructions *can* be phrasal (68), and the problem with (68) is the indefiniteness of the possessee rather than any other factor.

(68) **Branching modifiers in *ezafe* constructions**

mard-e negaran-e bacce-ha-yas vared sod

man-EZ worried-EZ children-PL-3.SG entered become.PAS

'The man worried about his children entered.'

Furthermore, the placement of the *ezafe* marker is not limited to head nouns and can also attach to adjectives, as in the following example:

(69) lebas-e sefid-e bi astin-am

dress-EZ white-EZ without sleeve-PAF.i.SG

'my white dress without sleeves'

(Samvelian 2007)

Apart from empirical problems, this analysis fails to provide a rationale for the phonological insertion rule nor does it attempt to compare the *ezafe* marking with any other known grammatical phenomenon outside of the Iranian group.

Another family of analyses of the *ezafe* is based on the intuition that *ezafe* marking participates in nominal licensing. Samiian (1994), for instance, starts with the observation that nominal categories (that is, nouns and adjectives) require *ezafe* marking only in the presence of another nominal category, while verbs and prepositions⁷ generally don't. For instance, verbal arguments

⁷See more discussion of prepositions below.

do not require ezafe, and neither do complements of prepositions. In contrast, nominal dependents of nouns or adjectives trigger ezafe marking on the noun.

(70) **Ezafe in Persian**

a. **Nouns**

ketab-e Mina

book-EZ Mina

‘Mina’s book’

b. **Prepositions**

ba(*-ye) Hasan

with(-EZ) Hasan

‘with Hasan’

c. **Adjectival structures**

garan-e bacceha

worried-EZ children

‘worried about the children’

d. **Verbs**

ketab xandan

book read

‘to read a book’

The author suggests that while prepositions and verbs are case assigners, nouns and adjec-

tives are not, and the ezafe marker facilitates case licensing – similarly to case markers in other languages. Prepositions, however, demonstrate more complicated behavior, with certain prepositions bleeding ezafe marking, while some being compatible or requiring it. The idea is that certain prepositions may bear ϕ -features, similarly to nouns.

(71) **Class 1 Ps (reject Ezafe)**

- a. be(*-ye) Hasan
to(-EZ) Hasan
'to Hasan'
- b. æz(*-e) Hasan
from(-EZ) Hasan
'from Hasan'

(72) **Class 2 Ps (permit Ezafe)**

- a. zir(-e) miz
under(-EZ) table
'under the table'
- b. ru(-ye) miz
on(-EZ) table
'on the table'

(73) **Class 3 Ps (require Ezafe)**

a. beyn-a man-o to

between-EZ me-and you

‘between you and me’

b. vasat-e otaq

in-the-middle-EZ room

‘in the middle of the room’

Based on this evidence, Samiian proposes that the function of the ezafe marking is that of a case marker: it serves to license nominal arguments

(74) **Samiian’s (1994) analysis of the ezafe**

Ezafe is a casemarker, inserted before complements of [+N] categories.

Larson and Yamakido (2008) develop the idea that ezafe is a case-licensor. They start with the fact that ezafe’s distribution is wider than that of the English *of*. Most importantly, ezafe is found with modifiers, which, in English, as well as in other languages, presumably do not require case licensing. The authors suggest that Persian modifiers originate as NP-internal arguments and subsequently undergo movement to the D area. Larson and Samiian (2020) further develop this theory by drawing several parallels between patterns of ezafe marking and patterns of argument marking in English nominalizations.

Another line of research (Kahnemuyipour 2000) has taken a slightly different perspective on this issue suggesting that the role of the ezafe is to facilitate modification, with that ezafe

uniformly occupy a Mod head.

The apparent connection between modification, on one hand, and case licensing, on the other, has been noted in multiple works. There are indeed remarkable similarities between the two phenomena. Both case licensors and Mod heads facilitate licensing of their complements. One important difference between the two is that modification is often associated with concord morphology while licensing markers are most commonly inflectionally invariant. In many familiar European languages with adjectival inflection (such as French), linkers are only present in the structure when appearing with nouns; in adjectival structures, linkers are absent and concord morphology is used instead.

(75) **Nominal modification in French**

- a. [la] veste vert-**e** (green.F) ‘green jacket’
- b. [la] veste **de** Pierre ‘Pierre’s jacket’

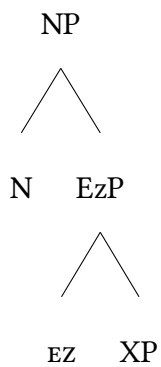
The main idea that I want to propose in this dissertation is that both adjectives and prepositional phrases are headed by an ϵ -bearing morpheme which may or may not also bear unvalued ϕ -features. In the current approach, the syntactic identity of prepositions is largely determined by the presence of an ϵ feature on the structure’s head. The presence of this feature ensures that a prepositional (or a linker) phrase will have a subordinate status when merged with the head noun. This amounts to saying that the linker creates a modificational phrase that never projects when merged with a head noun.

Richards’ (2006, 2010) approach to linkers and generalized prepositions assumes that the rationale for merging a linker is to *break symmetry* between two nouns. While the current proposal

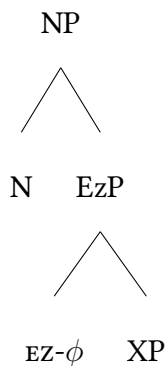
recognizes this intuition as generally correct, the focus can be shifted to the fact that NP-internal linkers always yield phrases serving as nominal modifiers.

Let us now recapitulate the main problem the ezafe marker poses. The Persian and Kurmanji Kurdish ezafe seems to be a marker of generalized modification, with its role and syntactic identity remaining largely unclear. The structures of the constructions are provided below.

(76) **Modern Persian**



(77) **Kurmanji Kurdish**



If compared to familiar European languages, such as French, ezafe markers lack direct analogues. However, in most cases, Iranian ezafe markers correspond to either of the two following

constructions: adjectival modification or modification by means of the linker *de*.

(78) **Adjectival nominal modification in French, Persian and Kurmanji Kurdish**

a. **Adjectives**

otaq-e kuchik

room-EZ small

‘small room’

b. kaç-â ganc

girl-EZ.F.SG young

‘young girl’

c. [la] veste vert-**e** ‘green jacket’

(79) **Non-adjectival nominal modification in French, Persian and Kurmanji Kurdish**

a. nāme-ye ali

letter-EZ Ali

‘Ali’s letter’

b. dest-e kurk-i

hand-EZ.M.SG boy-OBL.M

‘The hand of the boy/girl.’

c. [la] veste **de** Pierre ‘Pierre’s jacket’

What this data suggests is that, simplifying slightly, the ezafe marker corresponds both to the linker (generalized preposition) and to adjectival modification in French. Let’s now assume that

French adjectives contain a piece of functional morphology that facilitates modification (I will return to this point when discussing the contrast between long and short adjectives in Russian). With this assumption, we can now suggest that *ezafe* markers are structural analogues of both French linkers and French concurring adjectival morphology.

(80) **General scheme of nominal modification in Persian, K. Kurdish and French**

a. **Persian**

NP [EZAFE XP]

b. **Kurmanji Kurdish**

NP [EZAFE- ϕ XP]

c. **French**

NP [*de*/ADJ- ϕ XP]

The contrast between Kurmanji Kurdish and Modern Persian is particularly interesting because each system as a whole can be compared to a subpart of modificational strategies found in French (as well as in many other similar languages which employ both generalized prepositions and inflected adjectives). In other words, we can think of Persian *ezafe* (roughly) as a structural analogue of the French *de* generalized to other instances of modifying morphology, such as adjectival inflection. In a similar vein, the agreeing Kurmanji Kurdish *ezafe* can be seen as adjectival morphology which is generalized to non-inflected linkers.

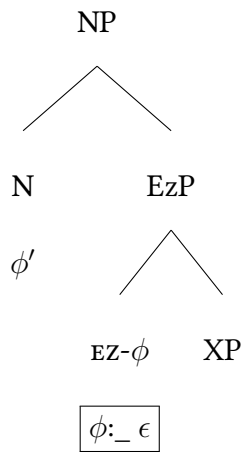
In chapter 1, I proposed that linkers can be analyzed as morphemes bearing the ϵ feature. The principal additional assumption adopted here is that structures that are headed by ϵ may also

bear an unvalued ϕ -feature. Let's consider a specific example how this system is supposed to work. The Kurmanji Kurdish noun phrase *kurk-e: mazən* 'big boy' consists of a masculine noun (*kurk*) and a modifier phrase, or an EzP, (*-e: mazən*). The EzP itself is headed by the concord-ing ezafe marker *-e:* which matches the masculine gender of the head noun and which embeds the morphologically invariant predicate *mazən* that presumably lacks ϕ -features. Since *mazən* can't modify nouns by itself (**kurk mazən*), I assume that it is not an AdjP, and will notate it as XP (I will remain agnostic on whether it is a root phrase or something else; nothing in the analysis really hinges on this label). Furthermore, I suggest that the ezafe marker in Kurmanji Kurdish bears both an ϵ morpheme and an unvalued ϕ -feature. According to the definition of an ϵ , the presence of this feature on a node X ensures that features on X's mother node will not be inherited further. For the current derivation, that means that ezafe's unvalued ϕ -features will not cause a conflict when merged with a ϕ -bearing head noun.

Following Norris (2014), Polinsky (2016), I assume that concord involves a (ϕ -)feature-copying operation, which is different from Agreement. In the following example, ϕ -features are copied from N to the unvalued ϕ on EZ- ϕ .

This is indicated in the diagram below.

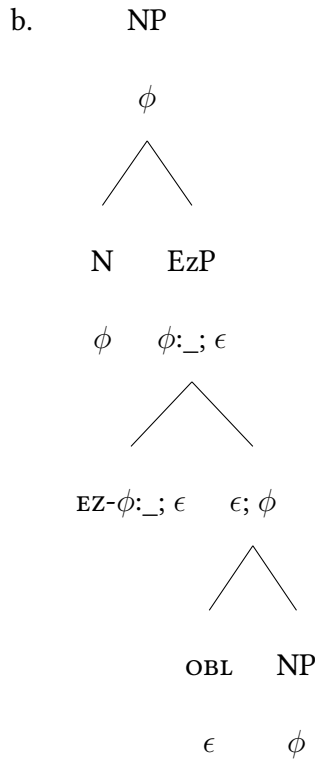
(81) **A structure for K. Kurdish adjectival modification**



Next, let's consider the derivation involving modification by nouns, such as the noun phrase *ma:l-a: Narmin-e*: 'Narmin's house.' In such phrases, the concurring ezafe marker embeds an oblique-marked modifier noun. Similarly to the previous derivation, such structures contain a concurring ezafe marker which in this case merges with a NP.

(82) **Concurring ezafe with an oblique noun**

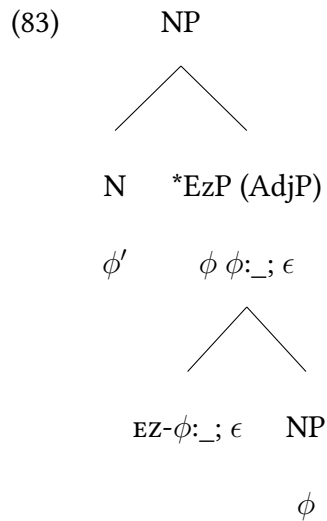
- a. *ma:l-a: Narmin-e*: 'Narmin's house'



This derivation is remarkable in containing an adjectival structure with two sets of ϕ -features: the one on the adjectival morphology and the noun. As we have already seen earlier in this chapter, direct apposition of two sets of ϕ -features is effectively avoided in adjectival structures, yielding such effects as Feature Uniqueness (as stated in (24)). I suggest that such conflict is avoided by presence of oblique morphology which is required in such constructions.

Crucially, embedding an NP under an article triggers oblique marking on the NP. The presence of this morpheme can now receive a straightforward explanation: this oblique morpheme separates two sets of features – in other words, it is inserted to prevent a $*\phi\phi$ violation. The diagram in (83) provides an illicit derivation – one in which the modifying NP is in direct case, which renders its ϕ -features visible thus creating a $*\phi\phi$ violation with concurring features. The

oblique marker separates two instances of ϕ features thus avoiding the violation.



The obligatory status of oblique morphology with concording linkers can be further confirmed by data from other languages employing a similar strategy of NP-internal modification. In Albanian, for instance, syntactic dependents of a noun are usually embedded under a morpheme traditionally analyzed as an article, which is however remarkably similar to linkers in its distribution. As the following examples show, the article covaries with the head noun in gender and number. Unlike *ezafe* markers, however, Albanian articles do not cliticize on the head noun, yielding a more transparent constituency. To that effect, the article make up a constituent (glossed as ModP) to the exclusion of the head noun, as shown in (84).

(84) **Albanian concording articles**

- a. $\epsilon r\theta$ $dia\lambda-i$ $[i \quad ma\theta]_{ModP}$
 came boy-NOM.M.DEF the.M big
 ‘The big boy came’

b. $\epsilon r\theta$ vazd-a [ϵ mað- ϵ]_{ModP}

came girl-NOM.M.DEF the.F big-F

‘The big girl came’

c. $\epsilon r\delta\theta$ kriatura-tə [tə mbið ϵ ɲ-a]_{ModP}

came boy-NOM.PL the.PL big-PL

‘The big boys came’

Crucially, NPs embedded by articles get obligatory oblique markers.

(85) kamb-a ϵ mat ϵ -sə

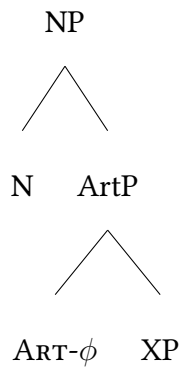
leg-NOM.F.DEF the.F cat-OBL.F.DEF

‘the leg of the cat’

Franco, Manzini and Savoia (2015) thoroughly discuss the Albanian data and draw a similarity between Albanian agreeing articles and Kurmanji Kurdish ezafe markers. Indeed, both types of morphemes serve to link the head noun and its dependent and co-vary in ϕ -features with the head noun.

In the analysis proposed here, concurring linkers, such as Kurmanji Kurdish ezafe markers and Albanian concurring articles, bear both unvalued gender features and an ϵ feature. The oblique marking separates two sets of ϕ -features and prevents a * $\phi\phi$ violation.

(86) **Structure for Albanian linker construction**



Another language with concording linker morphemes is Awngi, a Cushitic language, where linking morphology has been analyzed as an inflected genitive marker.

(87) **Concording linkers in Awngi**

- a. murí-w aqí
village-GEN.MASC man
'the man of the village'
- b. murí-t yuna
village-GEN.FEM woman
'the woman of the village'
- c. murí-k^w aq(ka) / yunayúná
village-GEN.PL men.PL / women.PL
'the men / women of the village'

(Hetzron (1995))

Let's now turn to languages with non-inflected ezafe. In Modern Persian, discussed above,

the morphologically invariant *ezafe* marker has a distribution roughly similar to that of its Kurmanji Kurdish analogue. The tentative proposal concerning the syntactic status of Persian *ezafe*, introduced earlier, suggested that the *ezafe* marker is ϵ .

One problematic point under the ϵ analysis for Persian *ezafe* marking is its behavior with adjectives. To recall, Persian *ezafe* is required with modifiers of different syntactic identity, including adjectives and PPs. The rationale for merging the *ezafe* marker remains largely unclear. One suggestion which might shed light on the nature of the Modern Persian *ezafe* is to assume that similarly to its Kurmanji Kurdish counterpart, it bears an unvalued ϕ which is however morphologically unrealized.

This approach can be extended to other languages with linking morphology. Mandarin Chinese is another language where linkers appear both with modifying nouns and attributive structures⁸. For instance, in the examples below, *de* appears with (semantic) adjectives, personal pronouns, nouns, as well as PPs. The investigation of the selectional properties of *de* is complicated by the fact that in the absence of rich morphology the categorial identity of many lexical items in Mandarin Chinese is not clear.

⁸R.Kayne points out that in Mandarin Chinese, certain nouns, many of which are kinship terms, do not require *de* in modificational structures. I leave for future research the investigation of whether such structures involve possessors connected by an abstract Agreement relation, or rather may involve null linkers.

(88) **Distribution of *de* in Madarin Chinese**

a. [zhongyao de] shiqing

important LNK matter

‘important matters’

b. wo de shu

I LNK book

‘my book’

(89) weilai de laoshi

future LNK teacher

‘future teacher’

(90) guanyu Chomsky de shu

about Chomsky LNK book

‘book about Chomsky’

Importantly, *de* forms a constituent with the subordinate phrases, as indicated by the bracketing below. To that effect, the linker and the subordinate can undergo movement.

(91) a. na san ben [[youqu de] shu]

that three CL interesting LNK book

b. na [[youqu de] [san ben shu]]

that interesting LNK three CL book

c. [youqu de] [na san ben shu]

interesting LNK that three CL book

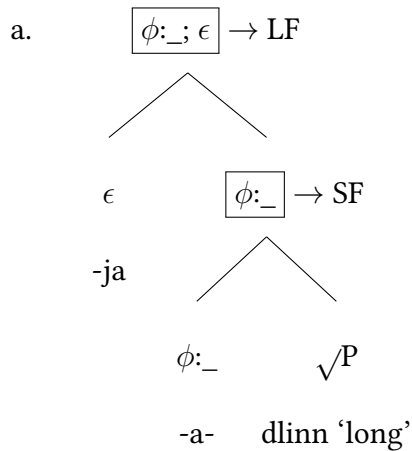
The exact syntactic status of linkers in these examples has remained controversial in the theoretical literature. In Philip (2012), this marker is analyzed as a formal marker of subordination. In the current framework, *de* is analyzed as a morpheme which is identical to K.Kurdish *ezafe* in its featural makeup.

(92) **Featural makeup of Mandarin Chinese *de***

de: ϵ

To sum up this part, we have seen that adjectival structures can be formed by adding con-cording particles to syntactic structures of differend kinds. In the next section, I will show that adjectival structures can be formed by merging ϵ to already nominal structures, which is the case, as I will show, in Russian long adjectives. I will propose that long adjectives are formed from already nominal structures by virtue of adding an ϵ . This merge prevents the adjectival structure from creating a $*\phi\phi$ violation with the head noun.

(93) **A simplified structure for long adjectives**



Kibrik (1995) discusses several cases where adjectives and oblique nominals (for instance, Genitives and Ergatives), which bear a certain level of superficial similarity, can still be distinguished. In Lak, a Dagestani language, for instance, possessors can be realized as Genitive, while adjectival marking is impossible.

(94) **Possessor marking in Lak**

buṭa-l qāṭa
father-GEN/ERG house
'father's house'

(Kibrik doesn't provide an ungrammatical minimal pair; the adjectival marking on the possessor is implied to be impossible). While both adjectives and oblique nominals in this system are both assumed to be headed by an ϵ morpheme, the difference between them can nevertheless be captured formally. To wit, (attributive) adjectives are analyzed as structures headed by both ϵ and unvalued ϕ , while PPs, being non-nominal phrases, bear just ϵ , without ϕ . This formal

distinction allows us to capture certain distributional differences between PPs and AdjPs.

4.3.3 RUSSIAN LONG AND SHORT ADJECTIVES

In this section, I turn to another syntactic problem that pertains to the problem of syntactic modification – namely, to the syntactic difference between short and long adjectives.

In Russian, adjectives may come in two morphological forms, widely known as long and short forms. One crucial difference between the long form and the short form is that while both forms are allowed in the predicative position, only the long form is allowed in the attributive position. To put differently, **only long adjectives can modify nouns**.

(95) Long adjectives

a. glubok-aja reka

deep-LF.F river

‘a deep river’

b. reka glubok-aja

river deep-LF.F

‘the river is deep’

(96) Short adjectives

a. *glubok-a reka

deep-SF.F river

int. ‘a deep river’

- b. reka glubok-a
 river deep-SF.F
 ‘the river is deep’

Although most (or, at least, a large number of) adjectives have both forms, certain adjectives exist only in their long form, with short forms unavailable. Although certain patterns can be observed (for instance, it seems that certain adjectival suffixes, such as *-sk-*, bleed SF formation), universal generalizations seem to be non-existent and the short/long form alternations seem to retain a certain level of idiosyncrasy. Morphologically, long and short adjectives come with a different sets of inflectional markers.

Despite differences in external syntax, long and short adjectives share much of their internal syntactic properties. For instance, both types of adjectives are incompatible with direct (Accusative) object marking on their complements, as the following examples show.

- (97) a. dovolen rabotoj/*rabotu
 satisfied.SF work.INS/work.ACC
 ‘satisfied with the work’
- b. dovol’nyi rabotoj/*rabotu
 satisfied.LF work.INS/work.ACC
 ‘satisfied with the work’
- c. Unattested: LF + Acc
- d. Unattested: SF + Acc

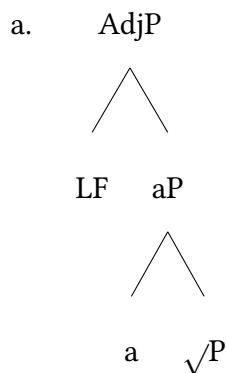
Moreover, both forms of a given adjective require (perhaps, without exception) the same type of argument marking. For instance, if a short adjective projects an Instrumental argument (as in the previous example), the corresponding long adjective must also project an Instrumental argument. The following generalization seems to hold: if a long adjective is able to project arguments, it has a short form counterpart. In other words, all argument-taking adjectives have a short form.

(98) **SF-Argument Generalization**

All long adjectives which are able to project arguments also have a short form

These facts have made many researchers (Borik 2014) assume that arguments are merged to short adjective structure and the long adjective morphology is built atop of this whole phrase .

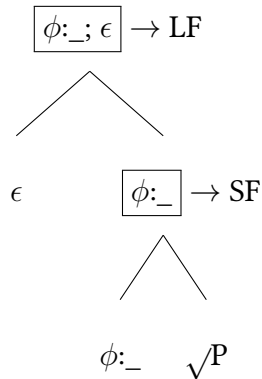
(99) **A simplified structure of formation of long adjectives from short adjectives (Borik 2014, slightly modified)**



In this structure, an adjectival structure is construed as having two layers. The lower level a is responsible, among other things, for projecting the adjective's argument structure, and manifests as short adjective morphology. The second layer facilitates modification and is realized as long form morphology. In the system proposed here, the lower layer is responsible for nominalness

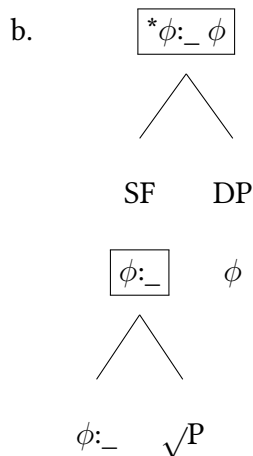
and hosts unvalued ϕ -features. The higher layer is responsible for modification by virtue of preventing a $*\phi\phi$ violation. The basic structure for adjectives using the novel notation is given below.

(100) **A simplified structure for long adjectives**



An important aspect of this structure is that the short adjective structure has its ϕ -features visible at the highest level. This fact can account for two important properties of short adjectives: their incompatibility with direct objects and their inability to modify nouns by themselves, without mediation of additional morphology. Both of these of illicit derivations lead to a $*\phi\phi$ violation, as is indicated in the following diagrams. In contrast, if an ϵ morpheme is merged, a $*\phi\phi$ violation is avoided.

- (101) a. *dovolen rabotu
 satisfied.SF work.ACC
 int. 'satisfied with the work'



Many researchers have suggested that the role of long adjective morphology is to facilitate modification (Graščenkov and Graščenkova 2007). Rubin (1994) suggests that the *-ij* morpheme heads a Modifier Phrase, which facilitates modification of a noun. As Borik (2014) notes, ‘SFs are not tolerated in adnominal position since they lack some necessary morphosyntactic features’ (Borik 2014). Her account explicitly suggests that long adjective morphology is added to the structure to satisfy the Agreement requirement of adjectives.

As in many similar proposals, the exact syntactic nature of the long adjective markers remain largely vague, as well as consequences of such a proposal. For instance, it remains unclear whether adjectives in other languages, such as English or French, also have the Agreement requirement and how exactly it might be satisfied.

The current proposal provides a direct link between (what is traditionally analyzed as) the need for licensing in nouns and the adjectival licensing which manifests itself in Russian as long adjective morphology. More specifically, both phenomena can be seen as strategies to avoid a $*\phi\phi$ violation. This move can also account for the very common Adjective/Genitive alternation

found in nominal modification, if we assume that both GEN and ADJ bear ϵ .

When appearing in predicative position, short adjectives can get their features valued by the subject in a non-local fashion. In this respect, they behave exactly like long adjectives, which can also appear in the predicative position and which also demonstrate co-variance in ϕ -features with the subject.

Several works (Isačenko 1963, Babby 1994) have proposed long adjectives are always used attributively and that the full structure of predicative sentences contains a phonologically unrealized noun, to which the long adjective is a modifier. This account is supposed to reduce the role of long adjectives to just one syntactic function – that of a modifier – regardless of their position. (See also Geist (2010), Borik (2014) for arguments against this view).

- (102) Ivan byl zloj \emptyset_n
Ivan.NOM be.PST.SG.M angry.LF.SG.M.NOM
'Ivan was angry'

Whether or not this analysis is correct, there is hardly anything typologically unusual or analytically challenging in the fact that a certain adjectival form (in this case – long adjectives) can be used both attributively and predicatively; this behavior of adjectives holds for many European languages, including English and French. The exact elaboration of the exact mechanics relating attributive and predicative is beyond the scope of this work.

Finally, let's turn to the last major datum, namely the one in (98), repeated below, that states that long adjectives' argument structure must be inherited from a short adjective structure. I adopt the assumption that long adjectives that lack short forms do not contain short adjective

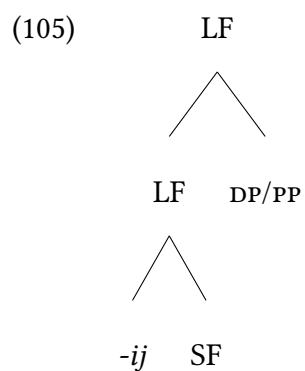
structures.

- (103) a. dovolen rabotoj/*rabotu
satisfied.SF work.INS/work.ACC
'satisfied with the work'
- b. dovol'nyi rabotoj/*rabotu
satisfied.LF work.INS/work.ACC
'satisfied with the work'

(104) **SF-Argument Generalization**

All long adjectives which are able to project arguments also have a short form

To that effect, the question now can be formulated as follows. What prevents arguments from being merged to the adjectival structure after the long adjective morphology is merged? In other words, what rules out structures like (105)?



This fact follows naturally from the understanding of ϵ morphemes as nodes responsible for closing off the extended projection of the adjective. Indeed, if any phrase is merged to an already

attributive adjectival structure, then the adjective's ϕ -features will not be visible to the external structure thus bleeding concord relations. To that effect, long adjectives are unable to merge any arguments after the ϵ is merged; all adjectival arguments must merge before the long adjective morphology.

(106) * LF + DP/PP

The ability of short adjectives to project complex argument structure has led many researchers to conclude that short adjectives possess verbal properties. This is indeed the position taken in Borik (2014), Grašcenkov (2019). Although I remain largely agnostic on whether short adjectives are any more verbal than their long counterparts (whatever the exact syntactic content behind this intuition), the current account can explain the more possibilities for projecting arguments by short adjectives by immediately deriving constraints against complementation for long adjectives.

5 | VERBS AND CLAUSES

5.1 INTRODUCTION: UPPER DEPENDENT CASE AS A STRATEGY TO

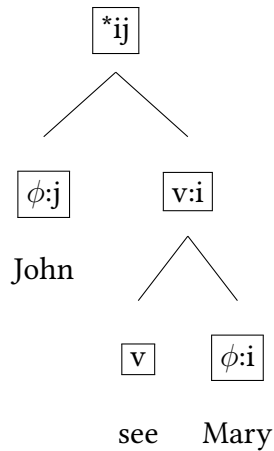
AVOID * $\phi\phi$ VIOLATIONS

In this chapter, I propose that the framework developed in previous chapters can be extended to account for certain constraints on the distribution of direct arguments that are not adjacent, but which are nevertheless in a co-argumenthood relation.

More specifically, I suggest that a featural relation between the argument in the complement and the argument in the specifier can be mediated by an agreeing head. A potential violation arises in the case where the head is in an agreement relation with the complement; as a consequence of Agreement, such a head bears the complement's ϕ -features, which prevent the phrase from merging with a Direct-marked specifier.¹ A scheme of such a violation is provided below. One strategy that languages use to avoid a such violation is to employ oblique marking – more specifically, Structural Dative and Structural Ergative marking on the external argument.

¹By assumption, Agreement with an oblique phrase may involve a local valuation relation which doesn't affect the syntactic identity of the resulting verb phrase.

(1) **Direct marking on both the internal and external argument as * $\phi\phi$ violation**



The starting point of the discussion is the following observation on the distribution of direct arguments within one clause:

(2) **Direct Argument Generalization**

Two direct arguments are often prohibited from co-occurring within one domain.

In Ergative languages, for instance, direct marking on both the subject and the direct object is disallowed, with the structurally higher argument getting Ergative marking. Such position holds for Chechen, a Nakh-Dagestanian language, as illustrated below. In this language, the subject in a transitive clause gets Ergative marking.

(3) **Ergative marking in Chechen**

- a. *eli kniga j-iša-ra
Eli.ABS book.F.ABS F-read-RPST
int. 'Eli read the book.'

- b. el-as kniga j-iša-ra
 Eli-ERG book.F.ABS F-read-RPST
 ‘Eli read the book.’

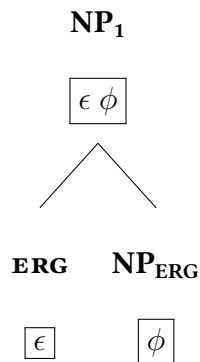
Some Ergative languages allow Absolutive marking on both direct arguments in certain syntactic configurations (widely known as Double Absolutive Construction). For instance, in (4a), the subject gets Absolutive marking in the presence of an aspectual auxiliary. Several influential proposals (Laka (2006), Coon (2013), Baker 2015) suggests that the lack of Ergative marking on the subject is due to the presence of an aspectual functional head which splits the thematic domain of such clauses into two, each of which contains one direct (Absolutive) argument. In this way, the Direct Argument Constraint is not violated.

(4) **Double Absolutive Construction in Chechen**

- a. eli kniga jaz-j-eš w-u
 eli.ABS book.F.ABS write-F-PTCP M-AUX
 ‘Eli is writing a book.’
- b. [eli [kniga jaz-j-eš] w-u]
 eli.ABS book.F.ABS write-F-PTCP M-AUX
 ‘Eli is writing a book.’

The Ergative marking prevents a feature conflict since an Ergative phrase, by assumption, is headed by an ϵ -bearing morpheme and prevents a Direct Argument violation.

(5) **Featural composition of Ergative phrases**



A scheme of an Ergative phrase is provided in (6a). This clause contains two arguments: the internal argument, which has ϕ -features visible and the external which is realized as an Oblique Phrase.

(6) **Lack of Feature Conflict with Ergative marking**

- a. [$\boxed{\text{NP}_{\phi; \epsilon}}_{\text{SUBJ}} \vee \boxed{\text{NP}_{\phi}}_{\text{OBJ}}]$
- b. DIRECT OBJECT: $\phi \rightarrow$ features visible
- c. SUBJECT: $\phi, \epsilon \rightarrow$ features not visible

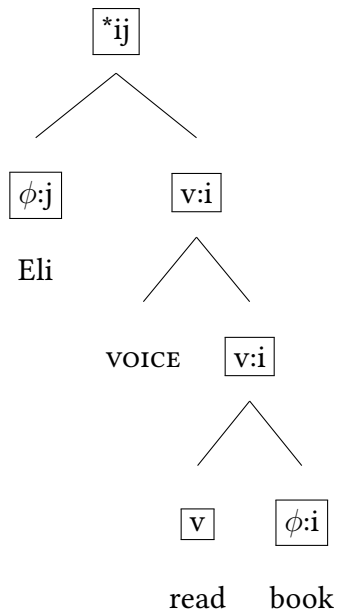
I suggest that the constraint against two nominals in one domain can be seen as a consequence of the $*\phi\phi$ Constraint. Unlike $*\phi\phi$ Violations considered in previous chapters, which were analyzed to be caused by a direct merge of two nominals, I suggest that in such cases, the conflict between the two nominals is mediated by the predicate, which enters in an agreement with the direct object and thus obtains its ϕ -features. The conflict arises at the moment of the merge of the verbal phrase with the external argument. This merge causes the $*\phi\phi$ violation and yields ungrammaticality. In contrast, if the verbal structure merges with an Ergative argument, such

conflict is avoided, as indicated in the following diagram. For instance, in the transitive structure *Eli reads book* the external argument *Eli* merges with a verbal structure which contains the ϕ -features of the direct object.

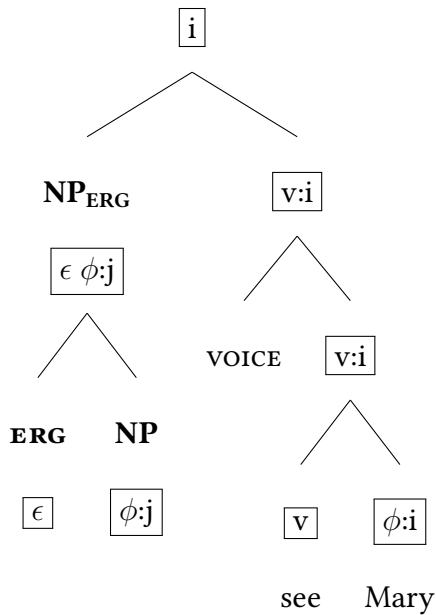
(7) **A structure for a Direct Argument Violation**

* [[Eli]_M [reads.F book.F]_M]

(8) **An Absolutive subject causes a * $\phi\phi$ violation**



(9) A * $\phi\phi$ violation is avoided with Ergative marking



More formally, the distribution of Ergative phrases in languages like Chechen can be captured as a selectional requirement of an agreeing head to merge an Ergative argument.

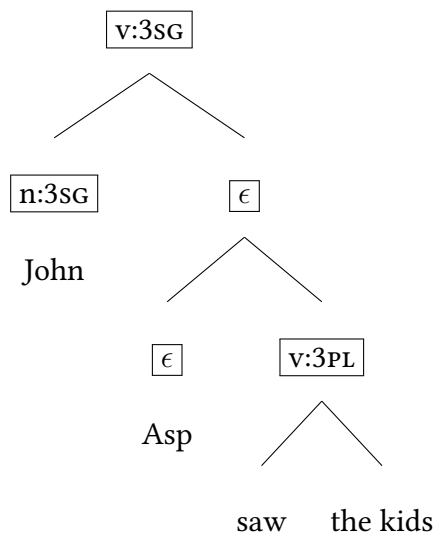
(10) Selection rule for Structural Ergative

$v:i$ selects for ϵP_{ERG}

Furthermore, assuming that an Asp head in Double Absolutive Constructions is an ϵ -bearing morpheme, the grammaticality of Double Absolutive marking in such constructions can now be explained. There is much evidence that the domain boundary for all the purposes related to * $\phi\phi$ computation are located above v/Voice and below T (perhaps, universally at the Asp level). In the system proposed here, the notion of *boundary* (which might correspond to the more familiar notion *phase*), is formalized as just any node which has an ϵ feature. Assuming that Asp in languages like English, Chechen or Nez Perce is a ϵ -bearing morpheme, we can now see how the

proposed system can derive the fact that direct arguments in SpecTP do not cause $*\phi\phi$ violations. The merge of Asp is largely analogous to the merge of an ϵ -bearing preposition. According to the proposed rule (repeated below), the presence of the ϵ feature on Asp prevents the ϕ -features from being percolated up.

(11) **Lack of $*\phi\phi$ violations in Double Absolutive Constructions**



The idea that Ergative marking is tightly connected with object agreement has been explored in a number of works. Deal (2010) for instance, suggests that Ergative case assignment in Nez Perce verb phrases is contingent on the agreement with the direct object. In Nez Perce, a tripartite language, arguments can be marked with Ergative, Absolutive or Objective case. Absolutive is typically used in intransitive constructions; Ergative and Objective marking are associated with transitive constructions. In most cases, Ergative marking is contingent on Objective marking; that is (with some rare exceptions) the external argument can only be marked Ergative if the internal argument is marked Objective.

(12) **Absolutive marking in Nez Perce**

sík'em hi-wleke'yx-tee'nix háamti'c

horses 3SUBJ-run-HAB.PL fast

'Horses run fast.'

(13) **Ergative and objective marking in Nez Perce**

'ip-ním pée-qn'i-se qeqíi-ne

3SG-ERG 3/3-dig-IMPERF edible.root-OBJ

'He digs qeq'íit roots.'

Furthermore, Objective case is dependent on Object agreement. Unlike many languages, where constructions with two direct arguments are associated with Ergative marking, many dyadic constructions in Nez Perce lack both Ergative marking and object agreement, as the following example indicates.

(14) pit'íin hi-yáaâ-na pícpic

girl 3SUBJ-find-PERF cat

'The girl found her cat.'

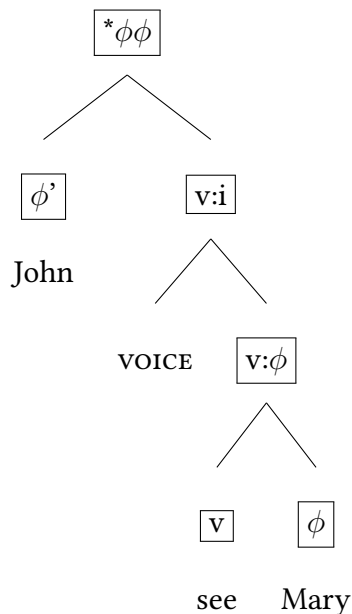
The tight interconnection of object agreement and Ergative led Deal to suggest that Ergative marking is a result of the interaction of the featural makeup of a verbal projection and its argument introducing identity: roughly speaking, only the Voice which has obtained ϕ -features from the lower verbal projections (v) is able to assign Ergative to the argument that it introduces.

Another phenomenon which has been analyzed as involving a syntactic distinction between transitive and intransitive VPs is Voice alternations. Wurmbrand (2017) has proposed that Voice alternations can be analyzed in terms of featural makeup of a verbal phrase.

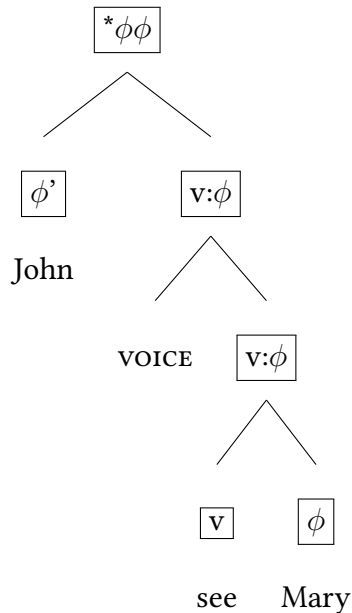
In the current proposal, the syntactic distinction between $v/\text{Voice}_{\text{trans}}$ and a plain v/Voice is a direct consequence of the visibility of ϕ -features on the internal argument. For notational convenience, I will mark any verb phrase that has agreed with an internal argument as $v:\phi$ (roughly corresponding to the notion "transitive verb phrase") and any phrase which has not as just v .

The difference between v and $v:\phi$ has one crucial consequence for external syntactic properties of the $vP - v_\phi$ are constrained against merging with direct arguments. For instance, a verb phrase containing an agreed-with direct object cannot merge with an external argument realized as a direct NP, since such merge would cause a $*\phi\phi$ constraint. In contrast, a plain v doesn't have such a constraint – it is free to merge with a direct argument.

(15)



(16)



The crucial assumption, adopted here, is that the lowest verbal head (v) is universally in an agree relation with the direct argument. While many languages lack object agreement, I suggest that verbs in such languages still acquire ϕ -features of their direct internal arguments, largely in the same way as do the verbs in languages like Chechen. Adopting this assumption allows for a straightforward explanation of the Direct Argument Constraint. Since a transitive verb phrase bears direct object's ϕ -features it is constrained from merging with a direct argument². The proposed logic can be extended to Structural Dative. Indeed, as Baker notes, the distribution of certain instances of Dative is the same as that of Upper Dependent case with its assignment dependent on the presence of another DP in its domain.

In the rest of the chapter I will discuss one specific environment in which such kind of Dative

²I will not make any explicit proposals about the nature of the Accusative Case in this chapter. However, I assume that Accusative languages, where both Nominative and Accusative arguments are presumably direct, employs a different strategy to avoid $*\phi\phi$ constraints. One such strategy may be bearing an ϵ -feature on the Voice head, effectively splitting the thematic verbal domain into two. I leave this for future research.

is attested – namely low applicative constructions. The crucial assumption adopted here is that the (transitive) low applicative head is in the agreement relation with the DP in the complement position.

Since no direct object – and, consequently, no agreement – is possible in the nominal domain, a transitive Appl head is not possible either. For this reason, Structural Dative Case is predicted to be impossible in the Nominal Domain.

As in the case with Ergative, considered above, Structural Dative can be seen as a phrase selected by APPL:i, which stands for an applicative head which has agreed with a nominal.

(17) **Selection rule for Structural Dative**

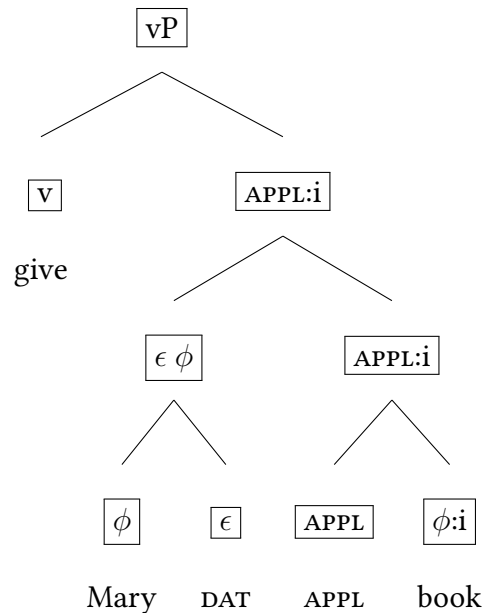
APPL:i selects for ϵP_{DAT}

In (18), a low applicative phrase is in an agreement relation with a (Accusative) phrase in the complement position, acquiring its ϕ -features. The Appl+DP phrase selects for a Structural Dative phrase in its specifier, the presence of an ϵ on which prevents a $*\phi\phi$ violation.

Since an agreeing Appl is unavailable in the nominal domain, no ϵP_{DAT} is possible in this domain.³

³The Appl head in languages with Double Accusative in ditransitive constructions may bear ϵ .

(18) **Structures for Applicative**



A long and influential tradition of research has analyzed the distribution of Structural Dative and Structural Ergative in terms of competition-based postsyntactic case assignment (widely known as the Dependent Case framework) (Baker and Vinokurova, 2010, Preminger, 2014, Baker 2015, Anagnostopoulou and Sevdali 2017) . In such analyses, Ergative and Dative are both assigned to a higher Noun Phrase in the presence of another direct argument.

(19) **Upper Dependent Case**

Assign Dative/Ergative Case to the phrase X if X c-commands another nominal in its domain

One highly problematic aspect of this approach is that it predicts no significant differences in Upper Dependent Case distribution between the nominal and the verbal domain. To wit, given that case assignment rules are identical across domains, Ergative and Dative are predicted to be

readily available in the nominal domain, just as in the verbal domain. However, as I intend to show below, Upper Dependent case is systematically absent in the nominal domain in Russian. I will consider in detail the distribution of Structural Dative showing that its distribution can be best described as that of Upper Dependent case. While available in the verbal domain in high-low applicative and external possession constructions, Structural Datives are systematically disallowed in analogous contexts in nominalizations. While Dative phrases are available in the nominal domain, they can be shown to be instances of Lexical Dative.

(20) **The absence of Structural Dative in Russian**

Phrases marked with structural Dative Case are not licensed NP-internally

The discussed unavailability of the Structural Dative in the nominal domain can be straightforwardly accounted for given the assumptions proposed above: the Upper Dependent Case is unavailable in the Nominal Domain as a consequence of the unavailability of Agreement in the thematic domain of a Noun Phrase. I will furthermore consider several instances of Nominal Ergative and Nominal Dative showing that these cases are only attested in the functional, i.e. higher, domain of the Noun Phrase – these are the areas of the structure where agreement is also attested.

One consequence of this account is the fact that the presence of internal arguments should have no syntactic consequences for the syntax of nominal phrases. Indeed, since no agreement with an internal argument inside noun phrases is typically attested, a nominal phrase cannot contain inherited *uninterpretable* ϕ -features. To that effect, the presence or absence of an internal argument cannot affect the featural makeup of a nominal projection. Consider, for instance, the

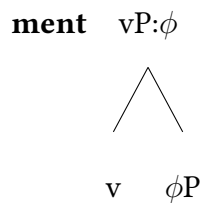
following derivations, where the nominal has (21a) or lacks (21b) an internal argument.

- (21) a. a long performance
 b. a long performance of the songs

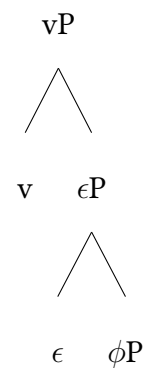
While verbal arguments can either enter the derivation as agreeing phrases or as syntactic modifiers (that is, as phrases headed by an ϵ -bearing morpheme), nominal arguments can't be realized as phrases with visible ϕ -features. That is, nominal arguments can't be targeted by agreement relations, having the consequence that such arguments can only be realized as syntactic modifiers.

(22) **Verbal domain**

a. **Complement taking with agree-**

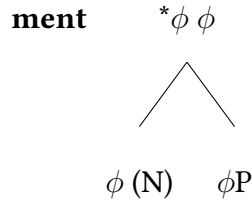


b. **Syntactic modification**

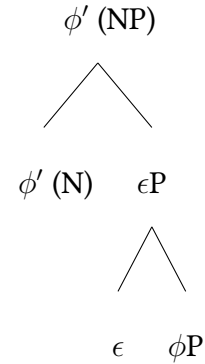


(23) **Nominal domain**

a. ***Complement taking with agree-**



b. **Syntactic modification**



5.2 DATIVE CASE IN THE RUSSIAN NP

Before proceeding to discussing the distribution of NP-internal Datives, I want to briefly review the distribution of other cases in the Russian Noun Phrase. One important conclusion is that the inventory of cases found in the nominal domain is reduced if compared to that of the Verbal Domain, with certain types of case marking ruled out NP-internally.

One class of cases which are disallowed in the nominal domain are Direct Cases, the two instances of which in Russian are Nominative and Accusative. To review the pattern discussed in previous chapters, Accusative and Nominative marking in Russian is never found on nominal arguments: internal arguments of transitive predicates are usually marked Genitive inside the Noun Phrase; external (agentive) arguments can be variably marked as concurring arguments or instrumental phrases, among others.

- (24) a. napisanie pis'ma/*pis'mo
 writing letter.GEN/letter.ACC
 'writing of a letter'
- b. napisanie pis'ma *Dima/^{ok}Dimoj
 writing letter.GEN *Dima.NOM/^{ok}Dima.INS/
 'writing of a letter by Dima'

To recall from the previous discussion, Nominative and Accusative marking is consistently disallowed in the nominal domain. NP-internal arguments can be Genitive, Dative or Instrumental:

- (25) a. pis'mo **drugu**
 letter.NOM friend.DAT
 'a letter to a friend'
- b. ispolnenie **pesni** **gruppov**
 performance.NOM song.GEN band.INS
 'the performance of the song by the band'

(26) **Direct Case Generalization**

A nominal inside of a noun phrase cannot be marked with Direct Case.

In the framework developed in this dissertation, merging a nominal head and a direct argument is a $*\phi\phi$ violation: in such case, both daughter nodes have visible features; in the example in

(27), the neuter singular of the nominal head and the feminine singular of the accusative phrase.

Such a structure is symmetrical and the resulting structure cannot receive a label.

(27) a. *napisanie knigu

writing book.ACC

int. 'writing of a letter'

b. * $[[N]_{\phi_i} [NP]_{\phi_j}]$

In contrast, if a Genitive phrase is merged in the complement position, the Genitive phrase doesn't bear visible ϕ -features, and the resulting structure gets the ϕ -features from the nominal head.

(28) a. napisanie knigi

writing book.GEN

'writing of a letter'

b. $[[N]_{\phi_i} [NP]]_{\phi_i}$

The same problem arises if a Nominative phrase is merged inside a noun phrase. The structure that the Nominative Phrase merges with is nominal and thus bears visible ϕ -features. This is shown in the diagram below.

(29) a. *[napisanie knigi] Dima

writing book.GEN

'writing of a letter'

b. $[[NP]_{\phi_i} [NP]_{\phi_j}]$

Similarly to the previous case, marking the argument oblique (in this case, Instrumental) rescues the derivation by making visible only one daughter node's ϕ -features (the one containing the predicate and its internal argument).

Further investigations into the syntax of Noun Phrases reveal additional constraints on the distribution of oblique cases, suggesting that the generalization might not be fine-grained enough. One prominent type of constraint concerns the distribution of dative phrases; some of them are not licensed as nominal arguments. As illustrated in the following examples, the two types of Dative phrases – viz. External Possessor Datives and Datives in High-Low Applicative⁴ constructions – are disallowed inside nominalizations.

(30) **Nominal Datives**

a. **High-low applicatives**

*uspokoenie učenika
 calming.down student.GEN
 učitelju
 teacher.DAT

int. 'calming down of a student for
 [the benefit of] the teacher'

b. **External possessors:**

polomka *mne/^{OK}moej mašiny
 breaking me.DAT/my.GEN car.GEN
 int. 'the breaking of my car'

⁴See more on the term below.

(31) **Verbal Datives**

a. **High-low applicatives**

Dima uspokoil
Dima.NOM calmed.down

učenika učitelju
student.ACC teacher.DAT

int. 'Dima calmed down the student
for [the benefit of] the teacher'

b. **External possessors:**

Dima slomal mne mašinu
Dima.NOM broke me.DAT car.ACC

'Dima broke my car.'

This constraint clearly affects only a subset of Dative constructions, since certain other constructions with Datives are allowed, as the following example shows.

(32) a. pomošč bednym

help.NOM poor.PL.DAT

'the help for the poor'

b. protivopostavlenie gamleta korolju liru

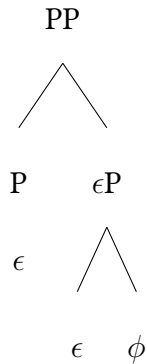
juxtaposition Hamlet.GEN King.DAT Lear.DAT

'contrasting of Hamlet and King Lear'

I suggest that the following constraint holds. The type of Dative that is not licensed in Noun Phrases is Structural Dative; Lexical Dative Case is unconstrained both in the verbal and nominal domain.

Lexical Dative is understood here as case which is structurally equivalent to other instances of Lexical Case; following Pesetsky (2013), such cases can be seen as headed by overt or covert P, associated with specific semantics (Directional, Benefactive, Locative etc.).

(33) **A structure for Lexical Case**



Structural Case is understood here as case devoid of a semantically contentful P and distributionally dependent on its syntactic environment. In the current system, it may stand both for Direct Case (such as Nominative and Accusative) and for Structural Dative, which is analyzed as a phrase headed by an ϵ -bearing morpheme.

(34) **A structure for Structural Dative**



This suggestion largely builds on Boneh and Nash (2017), who discuss the distribution of two distinct types of Dative in Russian. Boneh and Nash provide several arguments showing

that datives in constructions in (31) pattern with DPs and datives in (32) pattern with PPs. The generalization that emerges at this point is that NP-internal Datives are consistently disallowed in constructions with DP-datives and are allowed with PP-datives. Boneh and Nash take a rather common assumption that low applicative constructions involve two DPs, the higher of which, in Russian, is marked dative case. In contrast, non-applicative ditransitive constructions involve a PP-dative where a (null) preposition contributes directional semantics.

According to Boneh and Nash, a large class of verbs is compatible with both an applicative structure (where a dative is a DP in SpecAppIP) and with a non-applicative structure (where a dative is PP-adjunct). For instance, verbs like *dat* 'give', according to Boneh and Nash, are compatible with either structure. Russian DP-datives can be compared to unmarked nominals in English in the Double Object Construction. In this way, Russian behaves like English where predicates like *give* are compatible with both applicative and non-applicative ditransitive constructions.

In the rest of the chapter, I will discuss two instances of structural dative case – more specifically, high-low applicatives and external possessors. Next, I will suggest that the lack of Structural Datives is a consequence of Upper Dependent Cases' dependence on Predicate Agreement. This constraint can be accounted for in the present framework as follows. Structural Dative – as an instance of Upper Dependent Case – is analyzed as an oblique phrase (ϵ P) which is selected by a transitive Applicative head. Since agreement, and consequently, transitivity, is unavailable inside Russian NPs, Structural Dative is ruled out.

In the next two chapters, I discuss in detail two constructions with Structural Dative – viz. the Dative External Possessor Construction and the High-Low Applicative Construction – arguing

for a low Applicative analysis for each of these constructions.

5.3 EXTERNAL POSSESSORS

This section is concerned with properties of external possessor constructions and argues for a low applicative structure for External Possessors.

The discussion is structured as follows. First, I provide a description of the syntactic properties of Russian external possessor constructions, arguing for a low applicative structure. Next, I will suggest that Dative external possessors can be merged only in the context of a transitive ApplP.

5.3.1 APPLICATIVE ANALYSIS OF EXTERNAL POSSESSORS

In Russian, possessors are most commonly realized as genitive or adjectival phrases inside the DP containing their possessee.

(35) **Internal, or ‘canonical’ possessors**

a. Dima slomal [moju mašinu]

Dima.NOM broke my.ACC car.ACC

‘Dima broke my car.’

b. [Moja mašina] slomalas’

my.NOM car.NOM broke.ANTIC

‘My car broke.’

However, in the constructions in examples (36), the possessor surfaces outside the possessee-

DP:

(36) **External possessors**

a. **Dative external possessors**

Dima slomal **mne** mašinu

Dima.NOM broke me.DAT car.ACC

‘Dima broke my car.’

b. **U-possessors:**

U menja slomalas’ mašina

u me.GEN broke.ANTIC car.NOM

‘My car broke.’

In example (36a), the possessor is realized as a Dative phrase, while in example (36b), the possessor is realized as a prepositional phrase. Although PP external possessors are most commonly found at the left periphery of the clause, this is not always so: in the next example, the possessor PP surfaces postverbally, at the same linear position as the dative external possessor in example (37).

(37) Oxrannik proveril u Niny dokumenty

guard.NOM checked u Nina.GEN documents.ACC

‘The guard checked Nina’s documents.’

Similarly, while dative possessors are most commonly found postverbally, immediately preceding the possessee, they can surface at the left periphery as well.

- (38) Mne včera razbilo vetrom vazu
me.DAT yesterday broke.3SG.NEUT wind.INS vase.ACC
'My vase was broken by the wind yesterday.'

Despite the difference in case marking, such phrases have properties of possessors: such constructions are compatible with relational adjectives like *ljubimyi* 'favorite' (see Harves (2013) for discussion):

- (39) a. Dima slomal mne ljubimuju mašinu
Dima.NOM broke me.DAT favorite.ACC car.ACC
'Dima broke my favorite car.'
- b. U menja slomalas' ljubimaja mašina
u me.GEN broke.ANTIC favorite.NOM car.NOM
'My favorite car broke.'

As Harves reports, based on observations made in Barker (1995), this adjective is only licensed in the presence of a possessor, cf. **(moja) ljubimaja knjiga* 'my/*a favorite book'. This diagnostic can be used to distinguish external possessor constructions from other similar constructions (such as transfer-of-possession datives etc.) Importantly, the use of the adjective *favorite* is impossible under the same construal in the absence of the possessor, as the examples below show.

- (40) a. Dima poslal mne *(moju) ljubimuju knigu
 Dima.NOM sent me.DAT (my.ACC) favorite.ACC book.ACC
 int. 'Dima sent me my favorite book.'
- b. U Dimy doma živet *(ego) ljubimaja sobaka
 u Dima.GEN at.home lives (his) favorite dog.NOM
 int. 'His favorite dog lives at Dima's place.'

Yet, external possessors are clearly contained outside of the possessee DP, in contrast to internal possessors. One piece of evidence for that comes from pied-piping. In the following wh-question, the internal possessor, a wh-word, triggers pied-piping of the rest of the DP, containing the possessee. Leaving the possessee in situ is dispreferred.

- (41) a. [Čjo pal'to]_i sobaka porvala t_i?
 whose overcoat.ACC dog.NOM tore
 'Whose overcoat did the dog tear?'
- b. ??Čjo_i sobaka porvala [t_i pal'to]?
 whose dog tore overcoat.ACC
 int. 'Whose overcoat did the dog tear?'

Dative possessors, in contrast, can't trigger pied-piping:

- (42) a. ?**Komu** pal'to sobaka prinesla?
 who.DAT overcoat.ACC dog.NOM brought
 int. 'Who did the dog bring the overcoat to?'
- b. **Komu** sobaka prinesla pal'to?
 who.DAT dog.NOM brought overcoat.ACC
 'Who did the dog bring the overcoat to?'

This data strongly suggests that internal possessors surface inside the DP that contains possessee while dative/PP possessors surface outside of it.

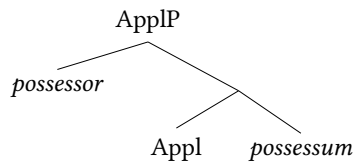
- (43) a. Internal possessors: [... possessor ... possessee ...]_{DP}
 b. Dative/PP possessors: ... possessor ... [... possessee ...]_{DP}

One important question that this data raises is how exactly dative and prepositional phrases in the examples above get interpreted as possessors. I suggest that both dative and PP possessors are introduced by an applicative head which is merged directly above the Possessee-DP. I follow Pyllkänen (2002), (2008), Cuervo (2003) in assuming that the applicative head encodes a possession relation.

- (44) Semantics of Appl:

Appl = $\lambda x. \lambda y. xRy$; (where R is a contextually determined relation).

(45)



I propose that this head comes in two featural modification: Appl_{+D} and Appl_{-D}. The +D feature requires that the head merge a DP in its specifier while -D feature constrains the specifier from being a DP: the specifier in this case must be a PP.

(46) Two kinds of Appl:

Appl_{+D}: must merge a DP in its specifier Appl_{-D}: must merge a non-DP in its specifier

In assuming this, I am following the tradition of research which suggests that argument-introducing heads impose selectional requirements on their specifiers (Oseki 2017, Oseki and Kastner 2017). In the case Appl_{+D} is merged, a dative possessor is merged as specifier, as in the following example:

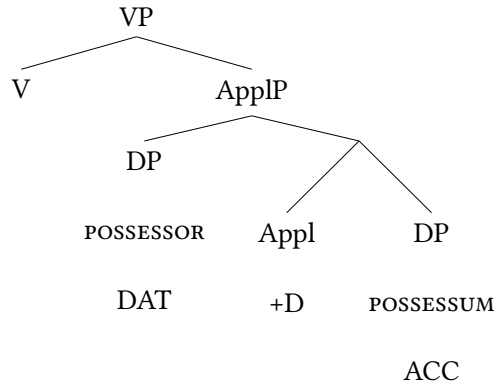
(47) **Dative external possessors:**

a. Dima slomal **mne** mašinu

Dima.NOM broke me.DAT car.ACC

‘Dima broke my car.’

b. The structure of dative external possessors in Russian:

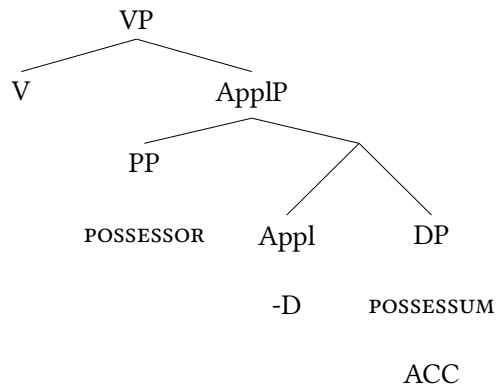


Otherwise, a Appl_D is merged, in which case a prepositional phrase of the form $[u + \text{DP}]_{\text{PP}}$ is merged in the SpecPossP .

(48) **U-possessors**

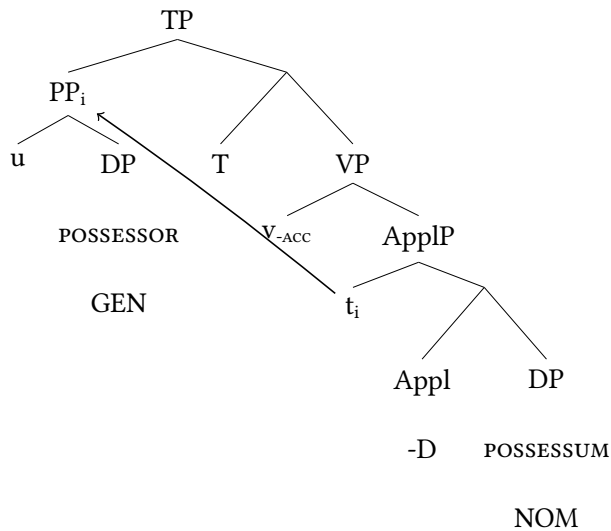
- a. Oxrannik proveril u menja dokumenty
 guard.NOM checked u me.GEN documents.ACC
 ‘The guard checked my documents.’

b. The structure of u-possessors in Russian:



Finally, in those cases where the external possessor is found at the left periphery, I suggest that the possessor moves to the subject position.

(49)



I assume that the preposition *u*, which is used in PP external possession, is semantically vacuous, and in terms of their semantic denotation, dative possessors and *u*-possessors are identical. Outside of external possession constructions, the preposition *u* has a vague locative semantics (similar to English prepositions *by*, *at*) which is absent in the external possession construction. Finally, the question arises what conditions the choice of one or the other type of head. Although I largely leave this question for future research, one observation can be made at this point. All the attested examples with dative external possessors involve predicates with causative semantics (*slomat* 'break', *ispačkat* 'make dirty', *porvat* 'tear', *počinit* 'fix' etc.). Interestingly, PP external possessors are compatible with both non-causative and causative predicates. For instance, passives of sentences with dative external possessors license PP possessors:

- (50) a. Sobaka porvala mne kurtku
dog.NOM tore me.DAT jacket.ACC
'The dog tore my jacket.'

- b. U menja porvana kurtka
 U me.GEN torn jacket.NOM
 ‘My jacket is torn.’

One construction which bears a remarkable similarity to sentences with PP possessors are predicative possession structures, which also involve u-phrases interpreted as possessors, as the one below:

- (51) U Dimy est' mas'ina
 u Dima.GEN there.is car.NOM
 ‘Dima has a car.’

As argued in Myler (2016), in such sentences the prepositional phrases are generated higher than low applicative, in the external argument position. One possible analysis of such construction might involve the generation of a possessor in the verbal specifier with subsequent movement to SpecTP. I leave the elaboration of the analysis of u-possessors for future research.

5.3.2 EXTERNAL POSSESSORS AND CASE LICENSING

Despite semantic similarity, the two types of possessors differ in their distribution. One important difference is that dative possessors are only found in the presence of an accusative phrase. Once no such phrase is present the use of dative possessors is ungrammatical, as the following examples show:

(52) a. **Locative possessee**

*Mašina stoit mne v garaže
car.NOM stands me.DAT in garage.LOC
int. 'The car is in my garage.'

b. **Instrumental possessee**

*Načal'nik nedovolen mne rabotoj
boss.NOM unhappy me.DAT work.INS
int. 'The boss is unhappy with my work.'

If a transitive clause containing a dative possessor gets passivized, the use of dative possessors is not possible, as the following examples show:

(53) a. Sobaka porvala Dime kurtku
dog.NOM tore Dima.DAT overcoat.ACC
'The dog tore Dima's jacket.'

b. *Kurtka byla mne porvana
jacket.NOM was me.DAT torn
int. 'My jacket was torn.'

The following generalization can be formulated:

(54) **Dative-accusative generalization**

Dative external possessors are only found in the presence of an Accusative phrase

In contrast, u-possessors have a much wider distribution. The following sentences show that apart from Accusative and Nominative, the possessee in such constructions can be marked with oblique cases or be embedded under a preposition.

- (55) a. U menja načalnik nedovolen rabotoj
u me.GEN boss.NOM unsatisfied work.INS
'My boss is unhappy with the work.'
- b. Ja xoču ubrat'sja u sebja v komnate
I want to.clean u self in room.LOC
'I want to clean [in] my room.'

I suggest that the distribution of both dative and PP external possessors is governed by principles of case licensing. More specifically, I suggest that Dative possessors, similarly to other instances of Structural Dative, are only licensed in the presence of an Accusative phrase (or, using Baker's (2015) terminology, are dependent on Accusative).

(56) **The Rule of Dative Licensing**

A nominal can get Dative marking only if there is a c-commanded Accusative nominal in the same domain.

Importantly, if a DP external possessor cannot get dative case, it cannot get any other case either. This position results in ungrammaticality. In contrast, PP-external possessors do not need a c-commanded Accusative phrase because the genitive DP that they contain is always licensed by the preposition u. The result is that PP external possessors can appear in various positions in

the clause, irrespective of the marking of the possessee.

5.3.3 EXTERNAL POSSESSORS AND THE SUBJECT POSITION

In this subsection, I want to provide additional evidence for movement of external possessors to the subject position. Let's start by considering the following paradigm.

(57) Linear position of dative external possessors

a. Postverbal

Dima [sломal mne mašinu]

Dima.NOM broke me.DAT car.ACC

'Dima broke my car.'

b. Left periphery

Mne včera razbilo vetrom ljubimuju vazu

me.DAT yesterday broke wind.INS favorite.ACC vase.ACC

'My (favorite) vase was broken by the wind yesterday.'

(58) Linear position of PP external possessors

a. Postverbal

Oxrannik proveril u menja dokumenty

guard checked u me.GEN documents.ACC

'The guard checked my documents.'

b. **Left periphery**

U menja slomalas' mašina

u me.GEN broke.ANTIC car.NOM

'My car broke.'

The pattern above suggests that movement of an external possessor is only available if there is no argument higher in the clause. Both example (57a) and example (58a) contain external arguments (*Dima* and *oxrannik*, respectively), which presumably move to the subject position. In contrast, both the example (57b), an impersonal sentence, and the sentence in (58b), an anticausative structure, do not contain an overt external argument (I remain agnostic on whether these clauses contain a null external argument). This makes the external possessor (i.e. the phrase in SpecAppP) the highest argument in the verbal domain.

I suggest that in this case the external possessor moves to SpecTP.⁵ For instance, I suggest that in example (59) the T attracts the closest argument, i.e. the *u*-phrase. When the *u*-phrase is found in the left periphery, the nominative subject is found in a post-verbal position; further movement of the nominative phrase to a preverbal position is only possible under special information structure conditions (such as topicalization of the PP in (61)).

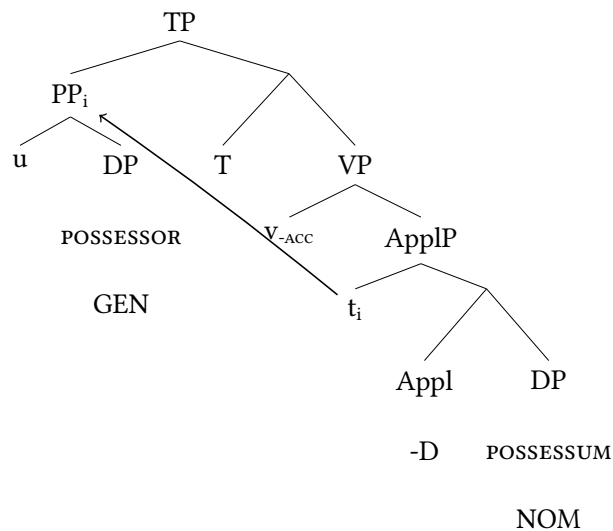
⁵Bailyn (2004), Livitz (2006), a.o. suggest that the subject position in Russian can be occupied by Nominative or Prepositional phrases

(59) **U-possessors:**

a. U menja slomalas' mašina

U me.GEN broke.ANTIC car.NOM

'My car broke.'



(60) U menja mašina slomalas'

U me.GEN car.NOM broke.ANTIC

'My car broke.'

Similarly, if a phrase with an external possessor contains a nominative phrase higher in the structure, the *u*-phrase must remain in situ: moving it to the left periphery is strongly dispreferred under unmarked information structure conditions.

(61) a. Oxrannik proveril u Niny dokumenty

guard.NOM checked u Nina.GEN documents.ACC

'The guard checked Nina's documents.'

- b. ?U Niny oxrannik proveril dokumenty
 u Nina.GEN guard.NOM checked documents.ACC
 ‘The guard checked Nina’s documents.’

The following generalization can be formulated.

(62) **Subject-Possessor generalization**

An external possessor can only move to the subject position if it is the highest argument in its clause.

A similar pattern is observed with sentences containing no nominative argument, such as the ones below. In (63a), the highest (and the only) argument is the accusative phrase, which must move to the subject position; leaving such argument in situ is dispreferred ((63b))

- (63) a. Vazu razbilo vetrom
 vase.ACC broke wind.INS
 ‘The vase was broken by the wind.’

- b. ?Razbilo vazu vetrom
 broke vase.ACC wind.INS
 int. ‘The vase was broken by the wind.’

If a dative possessor is added (64a), it is now the highest argument and must move to the subject position.

- (64) a. Mne razbilo vazu vetrom
 me.DAT broke vase.ACC wind.INS
 ‘The vase was broken by the wind.’
- b. ?Vazu razbilo mne vetrom
 vase.ACC broke me.DAT wind.INS
 ‘The vase was broken by the wind.’

5.3.4 AGAINST RAISING AND HIGH APPLICATIVE ANALYSES

In this section, I argue explicitly against two prominent analyses of external possession in Russian found in the recent literature, namely, raising and high applicative analyses. Thus, Graščenkov and Markman (2007) and Harves (2013) suggest that external possessors are generated DP-internally and then move to a DP-external position. There are several problems with suggesting that the external possessors are generated in the same position as canonical possessors. One problematic fact about this analysis is that possessee phrases can contain structures which disallow possessive modification. For example, the possessee can be a full pronoun or an adverbial:

- (65) a. Dima mne ee slomal
 Dima.NOM me.DAT her broke
 ‘Dima broke it [i.e.my car].’

- b. [U menja zdes'] ne rabotaet svet
 U me.GEN here NEG works light.NOM
 'The light is down [here] in my kitchen.'

The following sentences show that neither full pronouns nor adverbials are compatible with internal possessors.

- (66) a. *moja ona
 my she.NOM
 int. 'my it/she'
- b. *mojo zdes'
 my here
 int. 'my here(abouts)'

Another persistent idea in analyzing external possession is that external possessors are merged by a high applicative head (Pšexotskaja 2011). This idea is problematic for the following reasons. First, as Bosse et al. (2010) observe, high (i.e. preverbal) non-selected arguments differ from external possessors in several important respects. One such difference is the licensing of non-coreferential DP-internal possessors. In the following German example, for instance, a high applicative argument (Chris), is compatible with a canonical internal possessor (Bens). In contrast, in Russian external possession constructions, internal possessors are banned:

(67) a. **German**

Alex zerbrach Chris Bens Vase

Alex.NOM broke Chris.DAT Ben's vase

'Alex broke Ben's vase on Chris.'

b. **Russian**

*Dima porval Nina moju knigu

Dima.NOM tore Nina.DAT my.ACC book.ACC

int. 'Dima tore my book on Nina.'

The relevant, and unavailable reading is where my book is controlled/possessed by Nina. Another problematic aspect of the high applicative analysis are constructions with multiple *u*-possessors, such as the one below:

(68) [**U menja u babuški**] slomalas' mašina

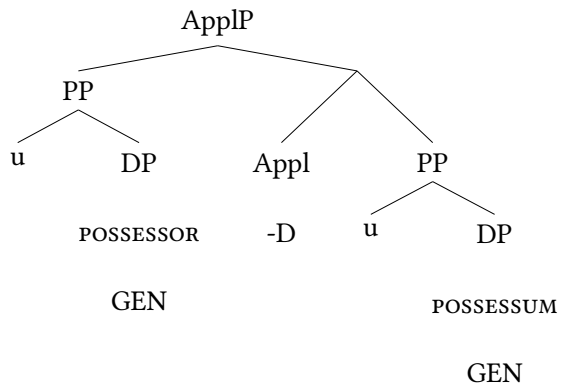
u me.GEN u grandmother.GEN broke.ANTIC car.NOM

'My grandmother's car broke.'

In this sentence, there are two possession relations: the one between *the grandmother* and *the car* and the relation between *me* and *the grandmother*. Importantly, the second relation is local, with both the possessee and the possessor forming a constituent. Since high applicative are defined as arguments merged higher than the verb, and there is no verb in the bolded constituent, there is no obvious way of applying a High Applicative Analysis to external possession phenomena in Russian. In my analysis, the two highest arguments are related by a local possessive head,

which is merged directly above the possessee. Importantly, this head can be merged completely independently of the verbal head:

(69) **An applicative head relating two prepositional phrases:**



Such a head can be merged iteratively, with the number of stacked u-possessors constrained only by pragmatic factors (see Harves (2013) for some discussion):

(70) [U menja u babuški ... u sestry] slomalas' mašina
 u me.GEN u grandmother.GEN ... u sister.GEN broke.ANTIC car.NOM
 'My grandmother's ... sister's car broke.'

5.3.5 APPLICATIVES AND POSSESSORS

Finally, let's consider the canonical possessors, i.e. those which are found DP-internally, such as the one in the following sentence.

(71) Dima slomal [moju mašinu]
 Dima.NOM broke my.ACC car.ACC
 'Dima broke my car.'

I suggest that Russian possessors (at least of non-relational nouns) are introduced by a DP-internal functional head: Poss (see Lyutikova (2017) who provides a motivation for this head). Importantly, such a Poss head must be lower in the structure than a D head, since demonstratives usually linearly precede possessors⁶:

- (72) a. eta Dimina kurtka
 this Dima's jacket
 'this Dima's jacket'
- b. Dimina (*eta) kurtka
 Dima's this jacket
 int. 'this Dima's jacket'

Given the semantic similarity (or near-identity) of Poss and Appl, one may suggest that Poss and Appl are instances of the same head. To formulate this differently, Appl can be seen as a positional variant of Poss found DP-externally. If this view is correct, the presence of a D head is the factor which distinguishes external possessors from canonical ones. Thus, the possessive constructions in the following two sentences are only different in whether a D head is merged above Poss/Apppl or not:

- (73) a. Dima slomal **mne** mašinu
 Dima.NOM broke me.DAT car.ACC
 'Dima broke my car.'

⁶Here and henceforth, D is understood as a highest functional head in the nominal domain. I take a largely agnostic view on the NP/DP debate in this dissertation. See however Lyutikova (2017) for a thorough discussion of the problem.

b. Dima slomal [moju mašinu]

Dima.NOM broke my.ACC car.ACC

‘Dima broke my car.’

I suggest that this difference has important consequences for case marking and ultimately results in different distributions of external and internal possessors. One important aspect in which dative external possessors are different from canonical possessors is that they are much more constrained in their distribution. While a DP-internal possessors usually can freely combine with their possessee, external possessors require either a c-commanded Accusative (in which case they can be realized as dative possessors) or a preposition, which can assign them Genitive Case. I want to propose that this is due to the fact that the Poss head is not a case assigner and that possessors need to be additionally case-licensed. When possessor is merged DP-internally, it can be assigned Genitive, which, as Pesetsky (2013) notes, is available to almost any nominal merged in the nominal domain. Alternatively, it can be realized as a concording modifier, as in example (72a), which presumably does not need case licensing.

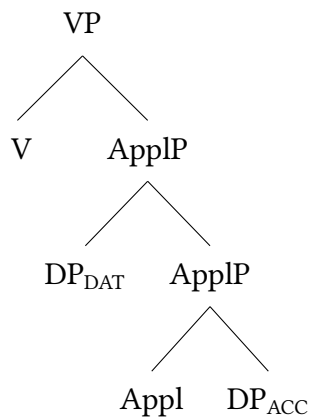
When merged DP-externally, nominal Genitive is unavailable, and the possessor must be licensed in a different way. One possibility is Structural Dative. The other possibility is merging a semantically vacuous case-assigner.

One important consequence of this view is that the Poss/Appl has no other selectional requirements other than to merge with two nominals or PPs. Of course, different languages may impose different requirements on the exact phrasal status of both the possessor and the possessee. For instance, certain languages might disallow PP possessors etc.

- b. s'jomki (*mne) fil'ma
 shooting me.DAT movie.GEN
 int. 'filming [of a movie] (for me)'

In this section, I argue that Dative in such constructions is structurally identical to the Dative in External Possession Constructions and is subject to the same constraint: it can only be used in transitive syntactic environments in the presence of an Accusative phrase. In more technical terms, such a Dative is analyzed as an oblique phrase, selected by an agreeing predicate.

(76) **Structure of high-low Datives**



Despite the difference in semantics (indeed, high-low constructions do not involve a possessor or a possessee), such sentences demonstrate several important similarities to External Possession Constructions.

First, similar to External possessors, high-low Datives demonstrate properties of added arguments. Their semantic interpretation is not affected by the lexical predicate; moreover, they can be freely omitted from the structure. To that effect, in all high-low Dative constructions, the

Dative argument is interpreted as a beneficiary.

(77) **Beneficiary interpretation of high-low datives**

a. spoj **mne** pesnju

sing me.DAT song.ACC

‘Sing me a song.’

b. narisuj **mne** kvadrat

sing me.DAT square.ACC

‘Draw me a square.’

c. prigotov’ **mne** užin

cook me.DAT dinner.ACC

‘Cook me dinner.’

In contrast, the semantic interpretation of lexical datives can be affected by the lexical verb, as in the following examples, where the dative argument can be interpreted as either a goal or a theme (among other semantic roles), depending on the verb.

(78) **Interpretation of lexical datives depends on the lexical verb**

a. daj **nam** sumku

give us.DAT bag.ACC

‘Give us the bag.’ → GOAL

b. pover' mne

believe me

'Believe me.' → THEME

Furthermore, many of such datives have a clearly core argumental status and cannot be freely omitted. Thus, in (79a), the dative argument can only be omitted given contextual recoverability, while in (79b) dropping the dative argument seems to be ungrammatical under all (or nearly all) circumstances.

(79) **Lexical datives as core arguments**

a. Otprav' *(im) pis'mo/stat'ju

Send them.DAT letter.ACC/article.ACC

'Send them a letter/article.'

b. Professor protivopostavil gamleta *(korolju liru)

professor juxtaposed Hamlet.GEN King.DAT Lear.DAT

'The professor juxtaposed Hamlet to King Lear.'

Second, similarly to Dative External Possessors, the distribution of high-low Datives is limited to transitive structures with an Accusative internal argument. To that effect, both types of Datives are impossible with stative structures, unaccusative verbs and constructions involving an oblique argument:

(80) **Stative structures**

a. Ja zdes' *tebe/^{ok}dlja tebjja

I here you.DAT/for you

int. 'I am here for you.'

b. *Mne mašina zdes'

Me.DAT car here

int. 'My car is here.'

(81) **Unaccusatives:**

a. *Mne mašina priexala

me.DAT car here

int. 'My car has arrived.'

b. *Mašina mne priexala

car me.DAT here

int. 'The car has arrived for me.'

(82) **Intransitive structures with dative arguments:**

a. *My dovol'ny jemu rabotoj

We satisfied him.DAT job.INS

int. 'We are satisfied with the job for his benefit.'

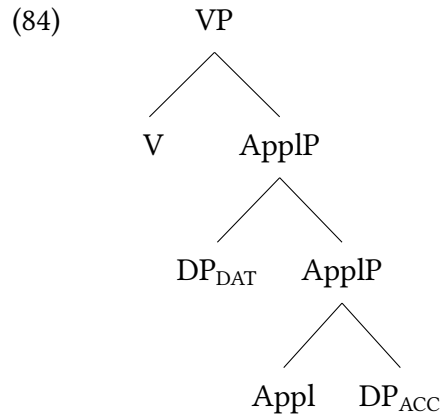
- b. *My dovol'ny jemu rabotoj
We satisfied him.DAT job.INS
int. 'We are satisfied with his job.'

Remarkably, both high-low datives and Dative external possessors do not survive passive formation, as the following examples indicate:

(83) **Passive**

- a. *Kvadrat byl mne narisovan
square was me.DAT drawn
int. 'The square was drawn for me.'
- b. *Mne mašina byla slomana
me.DAT car was broken
int. 'My car was broken.'

I analyze high-low Dative constructions as instances of Low Applicative formation, with the Dative argument and the Accusative argument being, respectively, the specifier and the complement of an ApplP; the whole ApplP is in the complement position of the lexical verb.



This departs from Boneh and Nash’s (2017) analysis in assuming that constructions with predicates as in (77) are high-low applicatives, rather than high applicatives.

One piece of evidence against the high applicative analysis comes from word order. As Boneh and Nash point out, the DAT>ACC is the default word order for the arguments in applicative constructions. In complex event nominalizations, we find the opposite picture: dative arguments seem to be preferred in the position on the right, as the following example shows:

- (85) a. protivopostavlenie gamleta korolju liru professorom
 juxtaposition Hamlet.GEN King.DAT Lear.DAT professor.INS
 ‘contrasting of Hamlet and King Lear by the professor’
- b. ? protivopostavlenie korolju liru gamleta professorom
 juxtaposition King.DAT Lear.DAT Hamlet.GEN professor.INS
 ‘contrasting of Hamlet and King Lear by the professor’

In addition to demonstrating similarities to External Possessor Constructions, such sentences can be directly compared to high-low constructions in English (*John baked Mary a cake*), where a

low applicative analysis has been defended in Marantz (2009) for English and in Wood (2012) for Icelandic. Moreover, Russian disallows datives with stative verbs (Russ. **John.NOM runs Mary.DAT*), a hallmark of high applicative languages.

To sum up, the data discussed above demonstrates clearly that the kind of Dative which is disallowed in the nominal domain is associated with low applicative structures.

6 | CONCLUSION

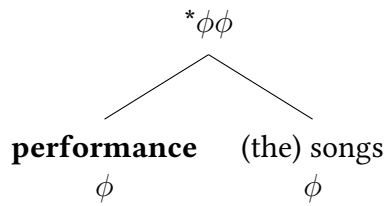
6.1 ϕ , ϵ AND LEXICAL CATEGORIES

In the concluding part of the dissertation, I want to summarize the main theoretical claims proposed in previous chapters, as well as outline prospects for future research.

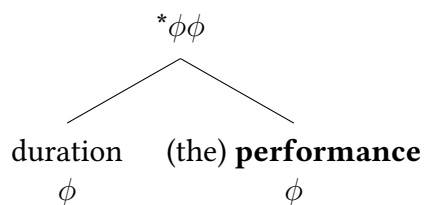
To start, I would like to go back to the main research question discussed in the first chapter: what accounts for the differences between verbs and nouns? I suggested that the major syntactic properties of nouns are determined by the presence of visible ϕ -features. Assuming that a pair of two nodes with visible ϕ -features cannot merge directly (the $*\phi\phi$ constraint), the distribution of nouns will be restricted in the vicinity of other ϕ -bearing nodes. More specifically, this means that a standard NP (with its ϕ -features visible) is unable to merge with another nominal head.

This concerns both merging a higher NP and a lower NP (as indicated in the diagrams below), affecting both internal and external properties of nouns and resulting in both internal and external intransitivity. For instance, nouns like *performance* cannot take direct complements (*performance *(of) the songs*), and cannot be direct complements of other nouns (*duration *(of) the performance*).

(1) **Internal intransitivity of nouns: *N + ϕ**



(2) **External intransitivity of nouns: * ϕ + N**



In contrast, verbs are assumed to be devoid of (inherent) ϕ -features, which allows for more configurations in which verbs can merge with nominal nodes.

In Chapter 5, I discussed two distinct instances of verbal heads which differ from each other with respect to their Agreement potential. Non-agreeing verb heads do not acquire a DP's ϕ -features while agreeing verbal heads do. To that effect, a non-agreeing v can (in principle) merge with a DP, as well as being taken by a DP as a complement. In contrast, an agreeing v in transitive contexts can merge with DP. However, should such a head agree with a suitable DP goal, this head is banned from merging with a higher nominal.

In Chapter 1, I suggested that a DP may merge with an ϵ morpheme to create a nominal phrase with invisible ϕ -features. Such a phrase will possess syntactic properties of both a nominal and an oblique phrase. The oblique phrase may furthermore be embedded under an additional ϵ -bearing morpheme, resulting in a phrase which bears only ϵ . Such a phrase is predicted not to possess

any nominal properties. The suggested three-way distinction can be summarized as follows.

(3) **Three types of non-clausal arguments in English:**

- a. DPs: $\{\phi\}$ – bear only ϕ -features
- b. PPs: $\{\epsilon\}$ – bear only ϵ (at the level of the PP)
- c. OblPs: $\{\phi, \epsilon\}$ – bear both ϕ -features and ϵ

The next major proposal of this dissertation suggested that ϵ can be clustered together with (unvalued) ϕ , effectively yielding a concurring phrase. A concurring phrase is understood here as a phrase which, at its topmost level, bears unvalued ϕ -features and an ϵ -morpheme, as opposed to OblPs as in (2c), which bear valued ϕ -features and an ϵ -morpheme. The visibility of unvalued ϕ -features facilitates Concord relation with an external nominal head, and the presence of ϵ ensures that the instance of ϕ -features that the concurring phrase bears is not inherited at a higher level and doesn't create a $*\phi\phi$ violation with the head noun.

Incorporating concurring heads into the typology results in the following system.

Featural makeup	Corresponding “traditional” labels	Properties
ϕ	N	Incompatible with Direct Objects; Cannot be complements of ϕ
$\phi+\epsilon$	Obl; Generalized Prepositions; Concording Adjectival heads	Compatible with Direct Objects; Can be complements of ϕ ; Accessible for Concord
ϵ	P	Compatible with Direct Objects
no ϕ , no ϵ	V	Compatible with Direct Objects; Selects for ϵ if bears uninterpretable ϕ -features

6.2 PREPOSITIONS AND ϵ

The ϵ feature, as defined in this dissertation, is assumed to be a formal feature, that is, its distribution is in principle independent of the semantic properties of the head bearing it. For instance, we have seen that the ϵ feature can be borne on semantically void morphemes, such as linkers or oblique case markers, as well as on semantically contentful prepositions, such as *for*, *under*, etc.

At the same time, semantic prepositions in languages like English *of* seem to universally pattern with bare ϵ . Indeed, both oblique phrases (such as those headed by the generalized prepositions) are licensed inside Noun Phrases. In languages with rich morphological Agreement, phrases headed by PPs seem to bleed Agreement.

However, in certain Bantu languages phrases headed by semantic prepositions demonstrate a certain degree of transparency in their ability to enter into an Agree relation with PP-external DP arguments.

Below I consider a fragment of grammar of Zulu, another Bantu language, (as described in Halpert (2012, 2014)), suggesting that certain (semantic) prepositions do not bear an ϵ . This assumption informs our understanding of the ϵ as a formal feature whose distribution is indepen-

dent of the semantics of the heads that may bear it.

6.2.1 ZULU AUGMENT

Argument marking in Zulu is characterized by the presence of the so-called Augment morpheme (henceforth glossed as AUG), whose syntactic identity defies easy categorization in terms of familiar syntactic categories.

Zulu DPs may either bear or lack the Augment, and the presence/absence of the Augment affects distributional properties of the DP. With a slight simplification, this difference between DPs that bear or do not bear the augment can be summarized as follows: DPs lacking AUG are more constrained in their distribution.

As a rule, a transitive clause cannot contain more than one Augmentless nominal.¹ In (4a), for instance, a transitive clause contains a Augmentless nominal which c-commands another nominal (*iqanda*), which contains an Augment. In (4b), in contrast, there are two Augmentless nominals, which results in ungrammaticality.

- (4) a. **V S_{-AUG} O_{+AUG}**
a-ku-phek-anga muntu i-qanda
NEG-17S-cook-NEG.PST 1person **AUG**-5egg
'Nobody cooked the/an/any egg.'
- b. ***V S_{-AUG} O_{-AUG}**
*a-ku-phek-anga muntu qanda
NEG-17S-cook-NEG.PAST 1person 5egg

¹Halpert also observes that -AUG must be the highest argument inside the vP. I am not discussing this issue here.

I suggest that the constraint of Augmentless arguments can be accounted for on the assumption that the Augment vowel bears ϵ , while Augmentless nominals do not, having their ϕ -features visible. If more than one Augmentless nominal is merged within one domain, this leads to a $*\phi\phi$ violation, similarly to Double Absolutive marking in Ergative languages.

Let's now turn to the main datum of this discussion, namely to the syntactic properties of Zulu prepositions (morphological prefixes). As described in Halpert, Zulu possesses two syntactically distinct classes of morphemes equivalent to English prepositions. These two classes are: Augment-replacing Prepositions and Augment-permitting Prepositions. While Augment-replacing prepositions cannot co-occur with the Augment, Augment-permitting Prepositions can. The distribution of Augment-replacing Prepositions suggests that they may compete for the same position with the Augment.

- Augment-replacing Prepositions: cannot co-occur with the Augment
- Augment-permitting Prepositions: can occur with the Augment

Several examples of the two types of prepositions are provided below. Importantly, augment-replacing prepositions are incompatible with the Augment:

(5) **Augment-replacing prepositions (ARP): *kwa* 'for'**

- a. with Augment: **kwe-zingane* 'kwa.AUG-10child'
- b. without Augment: *kwa-zingane* 'kwa-10child'

(6) **Augment-permitting prepositions (APP): *na* ‘with’**

a. with Augment: *no-mfana* ‘na.AUG-1boy’

b. without Augment: *na-mfana* ‘na-1boy’

As Halpert observes, while Augment-replacing Prepositions have the same distribution as +AUG, Augment-permitting Prepositions have the same distribution as -AUG. For instance, Augment-replacing PPs may appear in the positions where only Augment arguments are licensed.

(7) u-Sipho a-ka-zu-pheka u-kudla kwa-zingane

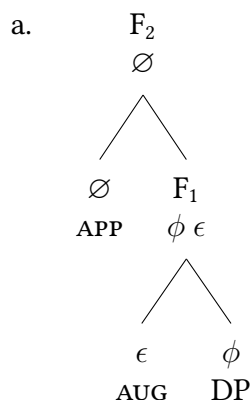
AUG-1Sipho NEG-1S-FUT-cook AUG-15food KWA-10child

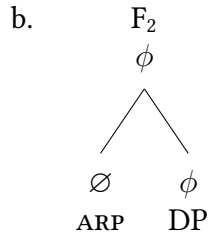
‘Sipho will not cook food for any children.’

Most importantly, Augment-permitting Prepositions, when appearing with the Augment, do not change the distributional properties of the nominal: to that effect, Augmentless nominals with Augment-permitting prepositions are limited to the highest position in the domain, similarly to plain Augmentless nominals.

As a provisional account of Zulu argument marking, I suggest that in Zulu, there are two functional layers above the DP: F_1 and F_2 . F_1 contains AUG and Augment-replacing Prepositions; F_2 contains Augment-permitting Prepositions. F_1 bears ϵ ; F_2 doesn’t bear ϵ .

(8) **Structure of DP/PP left periphery in Zulu**





Let's now see how this system accounts for syntactic properties of the two types of Zulu PPs. Since Augment-replacing prepositions are featurally void (unlike English-type prepositions), the phrases that head will be subject to the same type of constraint: to that effect, such phrases can't appear in a phrase with another augmentless nominal. Despite containing no formal features such prepositions may add semantic content.

Similarly, Augment permitting Prepositions are also featurally void, however they merge with already oblique structures, which are prevented from entering into $*\phi\phi$ violations with other nominals in the same domain.

6.3 VERBS AND PROBES

The system proposed here suggests that properties of many traditional lexical (or syntactic) categories stem from interaction of ϕ -features. To that effect, I argued in Chapter 3 that the syntactic properties of nouns can be fully reduced to ϕ .

Furthermore, as was suggested for transitive verbal heads, the syntactic identity of verbs is at least partially determined by their featural interaction with ϕ -bearing arguments.

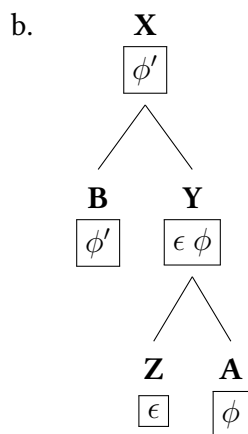
One natural extension of this idea is to propose that ϕ -feature interactions are central in shaping the syntactic identity of all major syntactic categories. To further develop this idea, I suggest that a more elaborate system of lexical categories might involve a third component in

addition to ϕ and ϵ – Probe (henceforth notated as Greek capital Π (pi)). Agreeing verbal heads may be thought as heads bearing a formal Π feature.

A question can be raised of what happens in the case where a Probe-bearing head doesn't merge with a suitable ϕ -bearing argument. Although this idea may require further elaboration, I suggest that the Π feature may be subject to the same inheritance rules as ϕ and ϵ .

(9) (= ex. 28, Chapter 1)

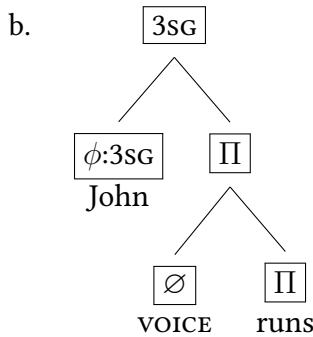
- a. If X, Y and Z are heads such that X immediately dominates Y and Y immediately dominates Z and Z bears ϵ ; then Y inherits ϵ and X doesn't inherit any of the features of Y;



Below, I consider two derivations that might involve a Probe feature which is inherited up in the course of the derivation.

In (10), the Probe fails to find a suitable DP in the internal argument position and agrees with the external argument instead.

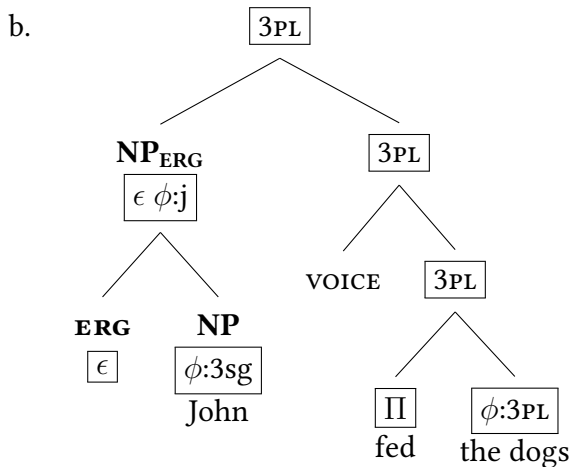
(10) a. John runs.



The sentence in (11) is an English periphrase of a transitive sentence in an Ergative language, such as Chechen or Basque, where the probe agrees with a suitable DP and is not inherited up.²

(11) **Transitive clauses.**

a. John fed the dogs



Thinking of Probes as features which may be inherited with Merge may lead to a formal account of Complementizers – as well as other categories associated with domain edges – as ε-

²The analogous sentence in an Accusative language may involve an ε-bearing Asp. Alternatively, one may suggest that *φφ violations in Accusative languages may be avoided by A-movement of the subject to a higher domain, largely in the spirit of Moro's (2002) Dynamic Antisymmetry.

bearing morphemes which may block inheritance of two types of features – that is, ϕ and Π . I leave this for future research.

7 | BIBLIOGRAPHY

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