Differential object marking in Hungarian and the morphosyntax of case and agreement

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Declaration

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration except as declared in the Preface and specified in the text.

It is not substantially the same as any that I have submitted, or, is being concurrently submitted for a degree or diploma or other qualification at the University of Cambridge or any other University or similar institution except as declared in the Preface and specified in the text. I further state that no substantial part of my dissertation has already been submitted, or, is being concurrently submitted for any such degree, diploma or other qualification at the University of Cambridge or any other University of similar institution except as declared in the Preface and specified in the text.

It does not exceed the prescribed word limit for the relevant Degree Committee.

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Abbreviations

1	first person
2	second person
3	third person
A	agent-like argument of a canonical transitive verb
ABL	ablative
ABS	absolutive
ACC	accusative
ADV	adverbial
ANTIP	antipassive
APPL	applicative
AUX	auxiliary
CAUS	causative
CL	clitic
COM	comitative
COND	conditional
DAT	dative
DEF	definite
DEM	demonstrative
ELA	elative
ERG	ergative
F	feminine
FOC	focus
FUT	future
GEN	genitive
HAB	habitual aspect
ILL	illative
IND	indicative
INE	inessive
INF	infinitive
INS	instrumental
INV	inverse
IO	indirect object
IPFV	imperfective aspect
LAT	lative

LOC	locative
M	masculine
MOD	modal
N	neuter
NEG	negative
NOM	nominative
NPST	non-past
OBJ	object
OBL	oblique
OBV	obviative
P	patient-like argument of a canonical transitive verb
PASS	passive
PFV	perfective
PL	plural
POSS	possessive
PRF	perfect
PST	past
R	recipient-like internal argument of a ditransitive verb
REL	relative
S	single argument of a canonical intransitive verb
SBJ	subject
SBJV	subjunctive
SEC	secundative
SG	singular
SUP	superessive
T	theme- or patient-like internal argument of a ditransitive verb
TR	transitive
VM	verbal modifier

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1 DOM, case and agreement

1.1 Introduction

This dissertation discusses patterns of differential object (and subject) marking in a number of different languages. In Part I (Chapters 2 to 4), I discuss differential object agreement in Hungarian in great detail and I provide a novel syntactic analysis of the distribution of agreement in this language. In Part II (Chapters 5 to 7), I discuss languages unrelated to Hungarian and I show that the analysis proposed in Part I can be extended to account for similar patterns of case-marking and agreement across and within languages. This cross-linguistic comparison leads me to develop an analysis of the interaction of case and agreement in the grammar which is able to capture regularities in subject and object agreement and case-marking across languages in a systematic and predictive way.

The structure of the dissertation is as follows. In this introductory chapter, I will briefly lay out the main claims of this dissertation before providing some theoretical background for the following chapters.

In Chapters 2 to 4, I argue for a novel analysis of object agreement in Hungarian. I concur with much previous work that definiteness is a good, but not a perfect predictor of object agreement in Hungarian. I propose instead that *person features* trigger object agreement. I argue that Hungarian, like other languages, makes a distinction between nominals that completely lack person features and nominals that have person features (following e.g. M. Richards 2008). Only the latter, I claim, trigger object agreement in Hungarian. In Chapter 4, I extend this analysis to first and second person objects. These are often neglected in studying Hungarian object agreement, since they do not trigger (overt) agreement on the verb. I argue, however, that all personal pronouns trigger object agreement and I provide an analysis of agreement that takes into account the person of both the subject and the object to determine whether agreement is expressed morphologically or not.

In Chapter 5, I apply the analysis of the distribution of agreement with Hungarian personal pronouns to a number of unrelated languages: Sahaptin, Kashmiri, Awtuw and Fore, among others (see Section 1.6 for the sample of languages discussed in this dissertation). I show that all these languages provide further evidence for treating person features as formal features that grammaticalise properties like specificity or definiteness (as in Hungarian to some degree) or animacy (as in Awtuw and Fore). The patterns of case-marking and agreement in these languages show the same kind of interaction of the person of the subject and the object that is found in Hungarian.

In Chapter 6, I discuss the interaction of case and agreement in syntax and argue for their dissociation in order to account for the cross-linguistic variation of differential argument marking. While continuing to treat agreement as a syntactic operation (rather than a post-syntactic one), I show that cross-linguistic generalisations about the alignment of case-marking and verbal agreement suggested by Bobaljik (2008) naturally fit into the proposed architecture.

Finally, in Chapter 7, I model the variation I discuss in Chapters 2 to 6 as a parameter hierarchy, building on a recent approach to comparative syntax that includes insights from both language acquisition and typological variation (Roberts and Holmberg 2010; Roberts 2012; Biberauer *et al.* 2014; Biberauer, Roberts and Sheehan 2014; Sheehan 2014b; Bazalgette 2015).

The rest of this chapter is structured as follows. In Section 1.2, I provide a brief overview of the phenomenon of differential object marking. In Section 1.3, I discuss one of the main hypotheses I explore in this dissertation, namely that person features can grammaticalise referential and semantic properties like definiteness or animacy. Section 1.4 relates theoretical aspects of case and agreement to DOM. I summarise the theoretical assumptions I make in Section 1.5 and I discuss the sample of languages in this dissertation in Section 1.6.

1.2 Differential object marking

Differential object marking, or DOM, is a widespread phenomenon in the languages of the world which I define as in (1).

(1) **Differential object marking**
A proper subset of direct objects in a language is marked differently from the complementary subset of direct objects. The marked subset of direct objects is generally more definite, more animate, or more topical than the complementary subset.

(1) does not specify the means by which a proper subset of direct objects is marked — this underspecification is introduced on purpose, as I take DOM in case-marking and verbal agreement to be two possible expressions of the same phenomenon. (2) shows an example of differential object marking in verb morphology, from Hungarian.

(2) a. *Én lát-ok egy kutyá-t.*
I see-1SG.SBJ a dog-ACC
'I see a dog.'

b. *Ên lát-om a kutyá-t.*
I see-1SG.OBJ the dog-ACC
'I see the dog.'

In these Hungarian examples, the indefinite object in (2a) appears with a verb form glossed as SBJ, indicating that it only shows subject agreement. The definite object in (2b) requires the verb form glossed as OBJ, indicating that a certain property of the direct object also influences verbal agreement, in addition to subject agreement (shown by the 1SG gloss in both examples). Note that the verb never only agrees with the object in Hungarian, object agreement always appears together with subject agreement. While definiteness is generally a good predictor of the presence of object agreement in Hungarian, I will argue that it is in fact the person features of the object that determine whether the verb agrees with it. I provide evidence for this claim Chapters 2 to 4.

Other than being underspecified with respect to the expression of DOM, (1) does not include reference to the function(s) of differential object marking either. I will mostly refrain from discussing such questions, i.e. *why* DOM is used the way it is, but see Section 1.3.1 below for a brief discussion (for general discussion, see Silverstein 1976; Bossong 1985; Comrie 1989; Bossong 1991; Lazard 2001; Newmeyer 2002a,b; Aissen 2003; de Hoop and Malchukov 2007; P. de Swart 2007; Haspelmath 2008; Malchukov 2008; Haspelmath 2009; Iemmolo 2012; with respect to Hungarian, see Bárány 2012a,b).

Instead, I will explore the consequences of differential object marking and differential object agreement for a theory of case and agreement in a (mostly) Minimalist framework (Chomsky 1995, 2000, 2001) with some significant modifications to the general architecture of the grammar.

A crucial hypothesis I discuss in the following chapters is based on a proposal by M. Richards (2004, 2008). M. Richards argues for a close connection between the notion of person on the one hand, and animacy and definiteness on the other hand: first and second person nominals are generally assumed to be both definite and animate, only third person nominals can be indefinite (and inanimate). He therefore suggests analysing person as "a (syntactic) property of definite and animate nominals only: a person specification on indefinites and inanimates is redundant and thus plausibly left unspecified." (M. Richards 2008: 140). I adopt and test this hypothesis throughout this dissertation and I argue that we find exactly those patterns of case-marking and agreement that this view of person predicts. Related proposals have been made by Longobardi (1994, 2005, 2008) who suggests that the syntactic expression of person features is associated with the head D, a position also taken up by M. Richards (2008).

I will also adopt this suggestion and argue that object agreement in Hungarian is in fact sensitive to person features expressed on D. Rather than suggesting that the direct objects in (2a) and (2b) trigger object agreement based on their definiteness, I suggest that it is the formal specification of these noun phrases that determines whether they agree or not. Concretely, I will argue in Chapters 2 to 4 that only the object in (2b) has a person feature, but not the object in (2a).

An example of a language in which animacy behaves in a similar way is Awtuw (Feldman 1986, discussed in Chapter 5). In this language, some animate direct objects always require an object case marker, but others only do when the subject is less or equally animate. This pattern is illustrated in (3). In (3a), *tey tale-re* 'the woman' is case-marked and interpreted as the direct object. If it lacks the case-marker, as in (3b), it is automatically interpreted as the subject, because *woman* as a human entity counts as more animate than *pig*, a non-human entity.[1]

[1] Feldman (1986) uses FA for "factive".

(3) a. *tey tale-re yaw d-æl-i*
3.F.SG woman-OBJ pig FA-bite-PST
'The pig bit the woman.'

b. *tey tale yaw(-re) d-æl-i*
3.F.SG woman pig(-OBJ) FA-bite-PST
'The woman bit the pig.', *'The pig bit the woman.'

(Feldman 1986: 110, glosses adapted)

I analyse this pattern by suggesting that animacy is grammaticalised as person in Awtuw. In Chapters 4 and 5, I link differential object marking based on animacy in Awtuw to differential object agreement in person features in Hungarian, as well as to other languages showing similar phenomena. In the following section, I elaborate on some theoretical aspects of this approach to person features and its relation to differential object marking.

1.3 Person features and hierarchies

One of the consequences of adopting M. Richards's (2008) approach to person features is that it leads to a possible answer to the question of whether "third" person is in fact a grammatical property like first and second person, or whether it is the absence of the property person (see e.g. Benveniste 1971 for such a suggestion; see Nevins 2007 for a different view). I will argue that both approaches are true: at least in some languages, there is a distinction between "third" person that carries a person feature, and "third" person that does not. The former is definite and/or animate, whereas the latter is not. I formalise this by assuming that there is a generic person feature π which can grammaticalise different properties in different languages.[2] Following Harley and Ritter (2002), McGinnis (2005), Adger and Harbour (2007) and Béjar and Rezac (2009), I will assume that there are certain entailment relations among person features. Adger and Harbour (2007), for example, argue that a [Participant] feature on a nominal implies that it is animate.

I will also assume that first person arguments entail the animacy and definiteness of their referent semantically, but with a proviso: neither of these properties have to

[2] Throughout this thesis, I am using π to refer to person features following Béjar (2003) and Béjar and Rezac (2003, 2009). Similarly, # will refer to number features, and φ will cover both, as well as gender.

be *grammaticalised* in a language and therefore neither of them have to be reflected in syntax. Gender, for example, while recoverable for interpretation in Hungarian, is not grammaticalised in the language and is never involved in determining agreement. If a language does grammaticalise animacy as person, however, we expect first and second person pronouns to behave like third person *animates* as well, as all personal pronouns share these features. This approach to the role of features like animacy and definiteness in the grammar also follows Lyons (1999). Lyons (1999: 275ff.) argues that definiteness can but does not have to be grammaticalised: while all languages can have semantic-pragmatic concepts of what it is to be definite (identifiability, uniqueness, etc.), these may be grammaticalised differently (or not at all) in a given language. Treating the relevant features as privative, i.e. as either present or absent in a given language, can capture part of this intuition.

Entailment relations among referential and semantic properties are one of the hallmarks of differential object marking and are reflected in what have been called "animacy" or "definiteness" or "Hale/Silverstein hierarchies" (see e.g. Givón 1976; Silverstein 1976; Comrie 1989; Aissen 1999, 2003; Haspelmath 2008; Keine and Müller 2008; Haspelmath 2009; see also the discussion in Chapter 5). Examples of such hierarchies are shown in (4):

(4)
- a. 1 > 2 > 3
- b. Personal pronouns > Proper names > definite NP > specific indefinite NP > non-specific indefinite NP
- c. 1, 2 > Human > Non-human animate > Inanimate

In general, if any element on one of the scales in (4) triggers case-marking in a language, all higher elements will also trigger case-marking (Aissen 2003; Haspelmath 2009). There are certain counterexamples or seeming counterexamples to Silverstein's (1976) (and Haspelmath's) generalisation that types of objects that trigger marking always form continuous stretches in hierarchies like (4) (cf. Filimonova 2005 and Chapter 4). But hierarchies like (4) are helpful for characterising the set of direct objects in a language that triggers differential object marking, be it in case-marking or verb morphology and have been adopted very productively in the analysis of differential marking and related phenomena (see also Croft 2003: Ch. 5).

Any approach to DOM should be able to capture these hierarchical effects (as well as exceptions). In the definition in (1), I stated that the marked subset of direct objects in languages with DOM is generally more definite and more animate than the unmarked subset.

In this thesis, I will assume a specific implementation of such hierarchies that is based on the idea that each person is composed of several person features which form sets (see Harley and Ritter 2002; Béjar 2003; Béjar and Rezac 2003, 2009 for versions of this approach). Each of these sets is what is usually called a "person". Entailment relations are expressed by subset/superset relations among such features. I will discuss three related types of such hierarchies. First, I assume that representing person features as sets provides a natural way of capturing hierarchies (see immediately below). This is closely related to the second type of hierarchy, the ones shown in (4). The reason why DOM is sensitive to such hierarchies is that if a certain person feature triggers agreement or case-marking, "higher" elements will include that feature because they are proper supersets. Finally, in Chapter 6, I will adopt a similar view with respect to the representation of case (following Caha 2009).

Turning to the discussion of person features, Table 1.1 shows the representation of person features as feature geometries, following Harley and Ritter (2002) and McGinnis (2005) and (5) shows them as sets. I am ignoring the content of the INDIVIDUATION (or number) branch for now, focusing on the left branch which indicates person. First person is the most complex in that it includes a "Speaker" node as the daughter of PARTICIPANT, while second and third person lack part of this structure. Third person is indicated as the mere presence of the "Referring Expression" root node (Harley and Ritter 2002 suggest that "referring expressions" are pronouns; their feature specifications are thus arguably naturally embedded under D in the syntax).

In a similar vein, Béjar and Rezac (2009) use the features π, PARTICIPANT and SPEAKER which (roughly) correspond to the nodes Referring Expression, PARTICIPANT and Speaker in (5), respectively. In this thesis, I adopt Béjar and Rezac's (2009) approach and I will generally take first, second, and third person to be represented as sets of different cardinalities whose members are the features π, PARTICIPANT and SPEAKER. This alternative is shown in (5).

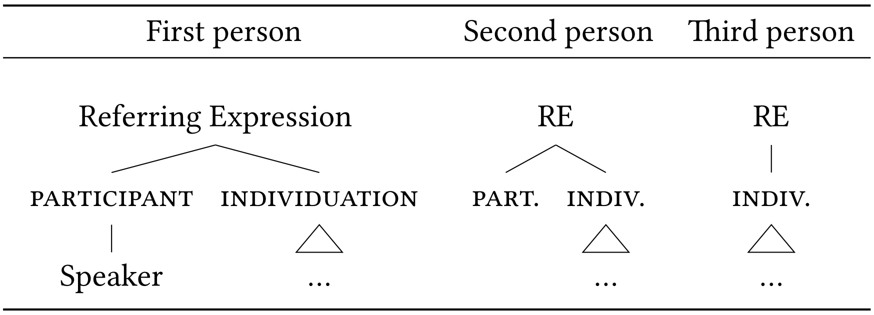


Table 1.1 Representation of person in a feature geometry

(5) $$[1] = \left\{\begin{array}{l}\textsc{speaker},\\ \textsc{participant},\\ \pi\end{array}\right\} \quad [2] = \left\{\begin{array}{l}\textsc{participant},\\ \pi\end{array}\right\} \quad [3] = \left\{\pi\right\}$$

Representing person features as sets allows us to formulate hierarchies like the one in (4a) as relations among these sets. What makes first person more "prominent" than second person, for example, is that the set of features representing first person is a proper superset of the features representing second person.

(6) $$[1] = \left\{\begin{array}{l}\textsc{speaker},\\ \textsc{participant},\\ \pi\end{array}\right\} \supset [2] = \left\{\begin{array}{l}\textsc{participant},\\ \pi\end{array}\right\} \supset [3] = \left\{\pi\right\}$$

The more complex hierarchies in (4b,c) can be captured in similar ways. I assume, again following M. Richards (2008), that π can grammaticalise different properties across languages: it can express animacy or definiteness, for example. If π grammaticalises animacy in a given language, second and first person will show the same grammatical behaviour with respect to animacy as third person, since all contain π. In such a language, I assume that inanimates will simply be represented as an empty set of features. Inanimate and animate third person thus differ in whether they have π or not. In Chapters 2 to 5, this distinction will play a crucial role.

This approach to hierarchies also addresses the question of the role of such hierarchies in grammar. M. Richards (2008: 139) argues that the "syntactic status of prominence hierarchies is dubious" (see also Newmeyer 2002a,b; Jelinek and Carnie 2003; Carnie 2005a,b; den Dikken 2006 for similar views). Since person features are generally thought of as part of syntax, however, analysing them as sets of different cardinalities allows us to incorporate some hierarchical effects into the grammar (see also Béjar and Rezac 2009). I will come back to these hierarchical effects in Chapters 4 and 5.

1.3.1 Hierarchies and functional approaches to DOM

Hierarchies play an important role in functional explanations for differential object marking. They are often linked to *markedness* and a notion of what kinds of nominals are *typical* subjects and objects (see also Chapter 5).

Aissen's (2003) well-known analysis of differential object marking in Optimality Theory (OT, Prince and Smolensky 2004) uses hierarchies to motivate constraint hierarchies that determine patterns of differential object marking. Aissen argues that subjects (or agents) are typically high in definiteness and animacy, whereas objects (or patients) are typically low (Silverstein 1976; Comrie 1989). If arguments in a clause diverge from this norm, for example when a direct object is definite and animate, morphological marking indicates the general markedness of that structure. This approach, while influential, has also been criticised for various reasons: see Næss (2004), Haspelmath (2006), Dalrymple and Nikolaeva (2011) and Iemmolo (2012) for a critique of the role of markedness; cf. also the above discussion of the role of hierarchies in the grammar.

While Aissen (2003) takes hierarchies to represent cross-linguistic tendencies for the marking of arguments, it is not clear where these tendencies come from. Aissen's (2003) OT account suggests that constraints determining DOM are universally valid across languages and thus part of UG, a position criticised by Haspelmath (2008: 79) who suggests that "Aissen does not consider the possibility that [a] functional explanation makes an explanation in terms of UG superfluous". Haspelmath claims that scales "can generally be interpreted in terms of processing costs" (Haspelmath 2009: 458), suggesting in particular that accusative case on elements higher on (6), e.g. pronouns, is less redundant than on lower elements, for example non-specific NPs. This kind of functional reasoning is also hinted at in Silverstein (1976: 113) who mentions the "semantic naturalness" of case-marking along hierarchies of noun phrases. See also Seržant and Witzlack-Makarevich (2015) for a recent overview of functional approaches to differential object (and subject) marking.

As the main focus of this thesis is on analysing differential object marking in Hungarian and other languages in a Minimalist framework, I will mostly leave functional questions aside — not because they are not relevant to the topic in general, but because I believe that the formal modelling of the phenomenon is a prerequisite for answering functional questions.

1.4 Case and agreement

Differential object marking raises questions about the interaction of case and agreement which I will discuss in detail in Chapters 5 and 6. Particularly relevant are the timing of case assignment and agreement in the syntactic derivation, and the ways in which case and agreement influence and determine each other.

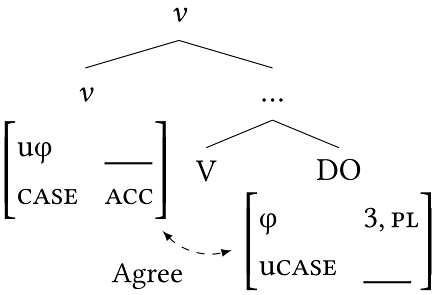
In Chomsky's (2000, 2001) framework, case and agreement are two aspects of a single syntactic operation called Agree. Continuing the analysis of case from so-called Government and Binding theory (Chomsky 1980, 1981, 1982; Vergnaud 2008 [1977]), the theory distinguishes between abstract Case (written with a capital "C") and morphological case.

This traditional approach to case suggests that even if a language lacks morphological case, noun phrases in the grammatical functions subject, direct object, etc. can bear abstract Case. In English, for example, most nominals do not show any morphological reflex of Case. It is often assumed, however, that English transitive verbs nevertheless assign accusative to their direct objects. And indeed, personal pronouns in English do show different morphological cases: cf. *she* in "subject" case vs. *her* in "object" case.

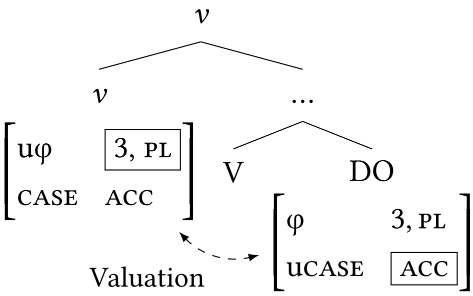
Chomsky (1981) further distinguishes structural from inherent Cases. The former are assigned in a given syntactic context, whereas the latter are determined by lexical properties of a Case assigner (see also Woolford 2006). Since Chomsky (2000, 2001), assigning structural Case is not thought of as involving a particular syntactic *position*, but assigned by a particular *head* in syntax: while it used to be assumed that nominative is assigned to an NP governed by INFL, it is now generally thought that the head T enters into an Agree relation (see below) with an accessible noun phrase. This will often be the subject in Spec*v*P (but it does not have to be). Similarly, accusative is assigned to an accessible NP by *v*.

In Government and Binding theory, structural Case was already linked to agreement (see e.g. Chomsky 1981: 172, Chomsky and Lasnik 1995: 121), but this connection has been further strengthened in recent Minimalist approaches to syntax. Chomsky (2000, 2001) suggests that the operation *Agree* underlies both Case assignment and agreement. (7) illustrates this. In (7a) *v* acts as a *probe*. It has unvalued φ-features which it aims to value in the course of the syntactic derivation. Accessible *goals* for an Agree relation are nominals that have an unvalued CASE feature, which renders them active. In (7a), *v* and the direct object (DO), respectively, fulfill these criteria and an Agree relation is established between them.

(7) a.



b.



The goal values the probe's unvalued φ-features, and the probe values the goal's unvalued CASE feature, as shown in (7b). In this scenario, the direct object is assigned accusative Case (ACC) and the probe is valued as [3, PL]. Whether any of these features are spelled-out is not determined at this point of the derivation.

In addition to abstract Case, agreement can therefore also be abstract. Case and agreement as Agree have an important role in driving the derivation: probes need to value their φ-features, and nominals need to value their CASE features, otherwise the derivation crashes. A nominal that has not entered into an Agree relation with a Case-assigning probe will not get Case and it will therefore violate the Case Filter, which rules out overt nominals appearing without Case (Chomsky 1981). When an NP's Case has been valued, that NP becomes *inactive* and will no longer be visible to probes. Agree thus links Case and agreement and determines the licensing of noun phrases: a noun phrase that has no Case at the end of the derivation will lead to a crash.

This conception of Case and agreement also makes clear predictions about the co-occurrence of morphological case and morphological agreement. Since both are determined by the same operation, we do not expect mismatches between case and agreement. Yet these do, in fact, exist. Consider first the Hungarian examples seen above, repeated here:

(8) a. *Én lát-ok egy kutyá-t.*
I see.1SG.SBJ a dog-ACC
'I see a dog.'

b. *Én lát-om a kutyá-t.*
I see-1SG.OBJ the dog-ACC
'I see the dog.'

The direct object *kutyá-t* 'dog-ACC' has case (and thus Case) in both (8a) and (8b), but only in (8b) is there object agreement. There are several ways in which this mismatch could arise. On the "classical" view of Agree of person, both direct objects in (8) have φ-features. In this scenario, both agree with the verb, value its φ-features and the Case features of both are valued as accusative. However, only the φ-features in (8b) are spelled out in morphology. This is compatible with Agree covering both Case and agreement simultaneously and the presence of object agreement is determined independently of syntax.

An alternative that is arguably not compatible with the standard conception of Agree is that the verb only agrees with the direct object in (8b), but not in (8a). On this view, *v* attempts to enter an Agree relation with the direct object, but Agree fails fails, because the direct object is lacking the relevant feature. *v* receives an empty value and object agreement on the verb is not spelled out, but the direct object is still assigned accusative case. This alternative raises questions about the origin of this accusative, as well as why a failed Agree relation does not lead to a crash of the derivation.

Notwithstanding these problems, I will argue that this alternative view of Agree, on which Case and agreement do not go hand in hand, is more suitable to explain the distribution of agreement in Hungarian and the other languages discussed in this thesis, like Hindi and Amharic. These languages also show DOM and mismatches between case and agreement; I will illustrate with Hindi (see Chapter 6 for further discussion; see Baker 2012 for the same argument, based on Amharic data).

Hindi is a split-ergative language, in which the subject bears the ergative suffix *-ne* in perfective aspect, as shown in (9b). Hindi also shows DOM: some direct objects bear the suffix *-ko*, as shown in (10). Agreement in Hindi crucially does not follow case-marking: the verb agrees with the structurally highest argument *without* case-marking (see e.g. Bhatt 2005).

In (9a), this is the subject *Rahul.* The verb shows masculine singular agreement. In (9b), where the subject is case-marked, the verb agrees with the direct object *kitaab* and shows feminine singular agreement.

(9) a. *Rahul kitaab paṛh-taa thaa.*
R.M book.F read-HAB.M.SG be.PST.M.SG
'Rahul used to read a/the book.'

b. *Rahul-ne kitaab paṛh-ii thii.*
R-ERG book.F read-PFV.F be.F.SG
'Rahul had read the book.' (Bhatt 2005: 759)

When both arguments in a monotransitive are case-marked, the verb shows default agreement as in (10).

(10) *Mona-ne is kitaab-ko paṛh-aa.*
Mona.F-ERG this.OBL book.F-ACC read-PFV.M.SG
'Mona had read this book.' (Bhatt 2005: 768)

These data from Hindi show a more serious mismatch between case and agreement than the Hungarian data above: agreement on the verb can be controlled by two different arguments, and rather than co-occurring with each other, case and agreement are in complementary distribution. Indeed, Bhatt (2005) suggests that case and agreement are dissociated in Hindi. I will also adopt this view (for Hindi and in general) and I will argue for a dissociation of case and agreement in more detail in Chapters 5 and 6.

1.5 Theoretical assumptions

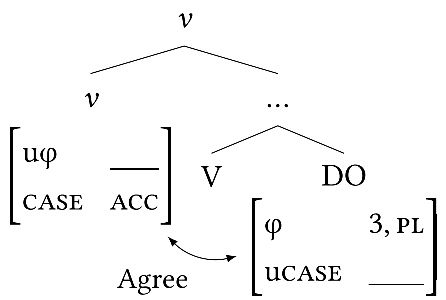
As I depart from some fairly common assumptions in Minimalist work following Chomsky (2000, 2001), I will briefly lay out some of the assumptions I adopt. I first discuss the nature of Agree before turning to the general architecture of the grammar.

1.5.1 Cyclic Agree

Following Béjar and Rezac (2009), but modifying their proposal, I will argue that Agree can proceed cyclically, i.e. a probe does not stop agreeing after a single Agree relation (see Nevins 2007, 2011 about how this approach relates to *Multiple Agree*). Whether a probe continues to probe or not depends on whether it has unvalued sets of features left.

Recall the structure in (7) above, repeated here as (11). *v* has an unvalued φ-feature which takes on the value [3, PL] after agreeing with the direct object.

(11)



Béjar and Rezac (2009) argue that probes can be "articulated". Rather than assuming that a φ-probe has a single unvalued person feature, the person probe has an unvalued feature of each person (and independent number probes; see also Béjar 2003; Preminger 2009, 2014). Such a probe is illustrated in (12). I suggest that each of elements in [u1, u2, u3] corresponds to a set of features. When valued by a third person argument, as in (11), not all of the probe's sets of φ-features are valued, but only the one that matches the goal's set of φ-features. In the example in (11), this is [3]. The remaining unvalued sets of features (in bold) can continue to probe.[3]

[3] See Béjar and Rezac (2009) for discussion about how the probe's uninterpretable φ-features are deleted in the course of the derivation.

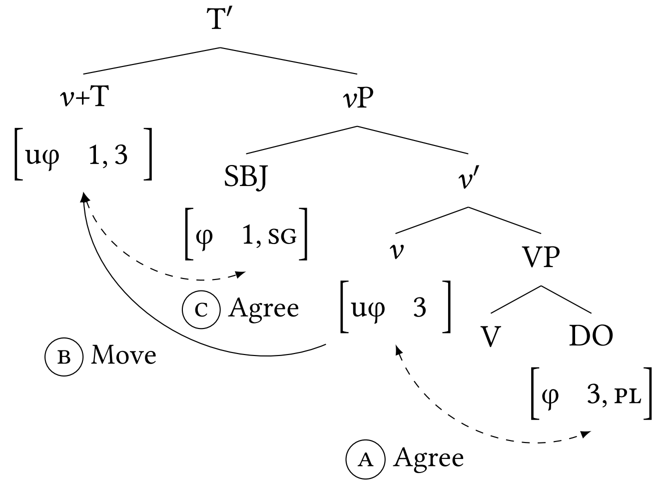
(12) $\begin{bmatrix}\text{u1}\\ \text{u2}\\ \text{u3}\end{bmatrix} \xrightarrow[\text{A Agree}]{} \begin{bmatrix}\textbf{u1}\\ \textbf{u2}\\ 3\end{bmatrix}$

In (12), after the Agree relation A, there are unvalued sets of features left on the probe. If probes can continue to probe as long as they have unvalued (sets of) features, the probe in (12) can continue. This is shown schematically in (13) and illustrated in more detail in the structure in (14). In (13), the second Agree relation in step B values the probe as [1] (and entails [2], in parentheses). The set of features [2] is entailed as it forms a proper subset of the set [1]. In general, when a set of features values a set of features on a probe, it will entail all sets of features that are a proper subset of it. The previously valued set [3] is shown in grey.

(13) $\begin{bmatrix}\text{u1}\\ \text{u2}\\ \text{u3}\end{bmatrix} \xrightarrow[\text{A Agree}]{} \begin{bmatrix}\textbf{u1}\\ \textbf{u2}\\ 3\end{bmatrix} \xrightarrow[\text{B Agree}]{} \begin{bmatrix}1\\ (2)\\ 3\end{bmatrix}$

(14) illustrates the repeated steps of Agree as part of the syntactic structure. Here I only indicate the values of features that a probe receives in an Agree relation (and I ignore Case for ease of exposition). The derivation proceeds as follows: A shows an Agree relation between *v* and the direct object. The direct object values *v*'s unvalued [3] feature set. But *v* has unvalued sets of features left and it moves to T in B from where it probes again, in step C. This time, the subject's [1] feature set values *v*'s unvalued set [1].

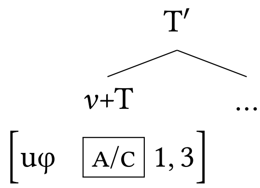
(14)



As Béjar and Rezac (2009) suggest, this cyclicity of Agree rules out certain combinations of features on *v*: if the direct object has a [1] feature set, it will fully value *v* and it will not be able to probe again. While I adopt this approach, my analysis diverges from Béjar and Rezac's in that I do not assume that in these scenarios a second probe is added as a repair strategy. Rather, if *v* cannot agree any more, the derivation simply continues (see Section 1.5.2 below). I will discuss this type of derivation in much more detail in Chapters 4 and 5.

When showing derivations in the following chapters, I will adopt the following conventions. I will indicate which feature sets are valued on a probe in a given step as in (15). The notation $\boxed{\text{A/C}}$ indicates that the values [1, 3] are the results of steps A and C of the derivation. Movement will be indicated by solid lines with a single arrowhead (⟶), Agree relations by dashed ones with two arrowheads (⇠⇢).

(15)



I will further assume that the derivation does not crash when a probe has not (fully) valued its sets of unvalued φ-features by entering Agree relations with a goal. An approach of this kind has been proposed by Preminger (2011, 2014) and I turn to its discussion now.

1.5.2 Agree can fail

Preminger (2011, 2014) refers to Chomsky's (2000, 2001) version of Agree as a "derivational time-bomb", suggesting that failed Agree relations lead to a crash of the derivation. Preminger argues for an alternative analysis of Agree: it is a *fallible* operation. A probe, say T, will attempt to value its φ-features but if it fails to do so, the derivation will not crash and the probe can get a default value. We have already seen two languages which provide some evidence for an approach along these lines, namely Hindi and Hungarian.

Recall that in Hindi, the verb agrees with arguments that do not bear overt case. Bhatt (2005) suggests that there is a single φ-probe in this language, on T, which can agree with either the subject or the object. If both the external and the internal argument are overtly case-marked, T will not find any goal to agree with. But the derivation does not crash: instead, the verb is spelled out with default (third singular masculine) agreement. This can be seen as evidence of a "failed" Agree relation that leads to a default (see also Preminger 2009).

In Chapters 4 and 5, I combine this approach to Agree with the cyclicity just discussed. This means that a probe, say *v*, can agree with the internal argument, and agree again with the external argument if it has unvalued feature sets left. The probe will attempt to agree as long as it has unvalued sets of features and it will stop when it has run out of features or goals to agree with. This will play an important role in my analysis of differential agreement in Hungarian, and other languages like Kashmiri and Sahaptin. In Hungarian, for example, *v* stops probing if it fails to encounter an argument that carries person features. The default value it receives will be an empty set of person features.

This approach has some important consequences for the role of Agree in the syntactic derivation: Agree no longer fulfills everything it does in Chomsky's (2000, 2001) system, since it is not (necessarily) involved in licensing nominals. The particular implementation of Agree I will adopt is shown in (16).

(16) FIND$_{\varphi}$(f):
Given an unvalued feature f on a head H^0, look for an XP bearing a valued instance of f. Upon finding such an XP, check whether its case is acceptable with respect to case discrimination:
a. *yes* → assign the value of f found on XP to H^0
b. *no* → abort FIND$_{\varphi}$(f) and continue with derivation
(Preminger 2014: 159)

The relevant points are the following. First, the Hindi data discussed above illustrate the idea behind "case discrimination". In Hindi, DPs with overt case-marking are *not* accessible for Agree, but only unmarked DPs are. Second, unvalued features f, say φ-features, on a head probe for matching features on an XP. If they find such an XP, valuation will take place, but if they do not, as shown in (16b), the derivation does not crash.

1.5.3 Syntax and morphology

I will assume that the features that are transmitted from arguments to the verb in syntax are spelled out post-syntactically, as is standardly assumed in Distributed Morphology (or DM; see Halle and Marantz 1993, 1994; Harley and Noyer 2003; Embick and Noyer 2007; Siddiqi 2010; see also den Dikken 2013). In standard DM, bundles of features at terminal nodes in the syntax are spelled out by vocabulary items (VIs) which link a certain morphophonological form to a bundle of features. If several vocabulary items compete for insertion in a particular node, the most specific one (i.e. the one with the highest number of features) will win. The least specific VI is also referred to as an *elsewhere* case: it will be inserted if no more specific VI can be inserted in a terminal node (this gives rise to default agreement in Hindi, for example, and the lack of overt case in a language, see Chapters 5 and 6).

To illustrate this, let us assume that, in Hungarian, T agrees with a first person plural subject and is valued as [1, PL]. Assuming that T is spelled-out as agreement on the verb, (17) shows VI items for a verb like *lát* 'to see' in Hungarian.

(17) **Vocabulary insertion rules**

a. [1, PL] ↔ *-unk*

b. [2, PL] ↔ *-tok*

c [3, PL] ↔ *-nak*

The terminal with the features [1, PL] is therefore spelled-out with the VI in (17a) and gives rise to the form in (18):

(18) *lát*-[1, PL] ↔ *lát-unk*

Feature bundles that come about via Agree relations can also be modified by (post-syntactic) rules, among others so-called *impoverishment rules.* As Embick and Noyer (2007: 311) note, impoverishment rules "allow for the expression of [systematic syncretisms]." Imagine there were a syncretic suffix for plural verbs in Hungarian, as shown in (17). It is less specific than the VIs in (17), and is therefore not considered when a terminal node is specified for person as well as number.

(17) d. [PL] ↔ *-ekk*

The suffix in (17) is only inserted if something leads to a loss of a person feature, like the hypothetical impoverishment rule in (19a). Assume that the made-up verb *nét* triggers this rule, which deletes the person features of a terminal node in a certain domain. The result is illustrated in (19b), where the feature bundle on T is impoverished.

(19) a. [{1, 2, 3}] → ∅ / *nét-*__

b. *nét*-[1, PL] → *nét*-[PL] by (19a)

c. *nét*-[PL] ↔ *nét-ekk* insertion of (17d)

Another operation that I will assume is *fusion* (see e.g. Siddiqi 2010: 533). Under certain conditions, I will assume that two feature bundles can *fuse* and result in a single bundle that is spelled out by a single VI. Concretely, in Chapter 4, I suggest that when *v* moves to T in Hungarian and the strongest, i.e. the most specified, sets of person features on *v* and T match, the two feature bundles can fuse, as shown in (20). This allows the two heads to be spelled out as by a single VI.

(20) T: [1, SG], *v*: [1, 2, SG] → *v*+T: [1, 2, SG]

A less standard assumption about Distributed Morphology and syntax that I adopt refers to the timing of impoverishment rules. Usually it is assumed that impoverishment rules only apply after the syntactic derivation (in accordance with the "no-tampering condition" in Chomsky 2005). However, it has also been proposed that certain "morphological" operations can apply during the syntactic derivation (Müller 2005, 2006, 2007; Keine and Müller 2008; Keine 2010). In these analyses, impoverishment rules can apply as soon as the conditions for a given rule are met, not just after the syntactic derivation has finished. Therefore impoverished feature structures can serve as the input to subsequent syntactic processes, like Agree. Figure 1.1 shows the standard view of impoverishment and Figure 1.2 shows the modified architecture suggested by Keine (2010). I will discuss the need for this architecture of the grammar in more detail in Chapters 5 and 6.

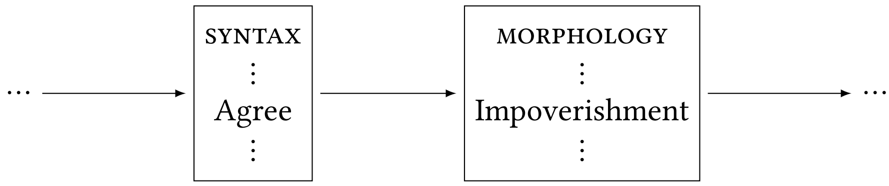


Figure 1.1 Standard view of the order of syntax and morphology (Keine 2010: 1)

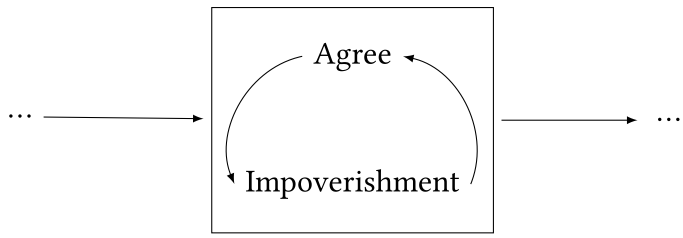


Figure 1.2 Keine's proposed order of syntax and morphology (Keine 2010: 2)

1.6 The sample of languages

The following list shows the languages and language families I discuss in this dissertation; Table 1.2 shows the sources of my data and Figure 1.3 indicates where these languages are spoken (coordinates from `http://www.wals.info/`).

Chukotko-Kamchatkan Chukchi (Chapter 5)

Uralic Hungarian (Chapters 2 to 4, 6); Northern Khanty, Eastern Mansi (Chapter 6)

Indo-European Kashmiri (Chapters 5 and 6), Nepali, Marathi, Hindi (Chapters 6)

Sahaptian Sahaptin (Chapter 5)

Sepik Awtuw (Chapter 5)

Semitic Amharic (Chapter 6)

Trans-New Guinea Fore (Chapter 5)

Yukaghir Kolyma Yukaghir (Chapter 5)

The choice of languages in this dissertation reflects what Baker (2010, 2015) calls the "middle way" between typological and generative studies. While the sample size is relatively low, it allows for a certain analytical depth. The selection is also motivated by the availability of literature, my own competence in Hungarian as well as the existence of previous analyses of the relevant phenomena in some of the languages, which allows for a comparison of the present analysis to other approaches.

Language	Source
Amharic	Baker (2012, 2015)
Awtuw	Feldman (1986)
Chukchi	Comrie (1980) and Bobaljik and Branigan (2006)
Eastern Mansi	Virtanen (2012, 2014, 2015)
Fore	Scott (1978)
Hindi	Bhatt (2005), informants
Hungarian	own data, Bartos (1999) and É. Kiss (2002)
Kashmiri	Wali and Koul (1997)
Kolyma Yukaghir	Maslova (2003)
Marathi	Pandharipande (1997) (via Legate 2008; Keine 2010)
Nepali	Bickel and Yādava (2000)
Northern Khanty	Nikolaeva (1999a,b, 2001) and Dalrymple and Nikolaeva (2011)
Sahaptin	Rigsby and Rude (1996)

Table 1.2 Sources of original data

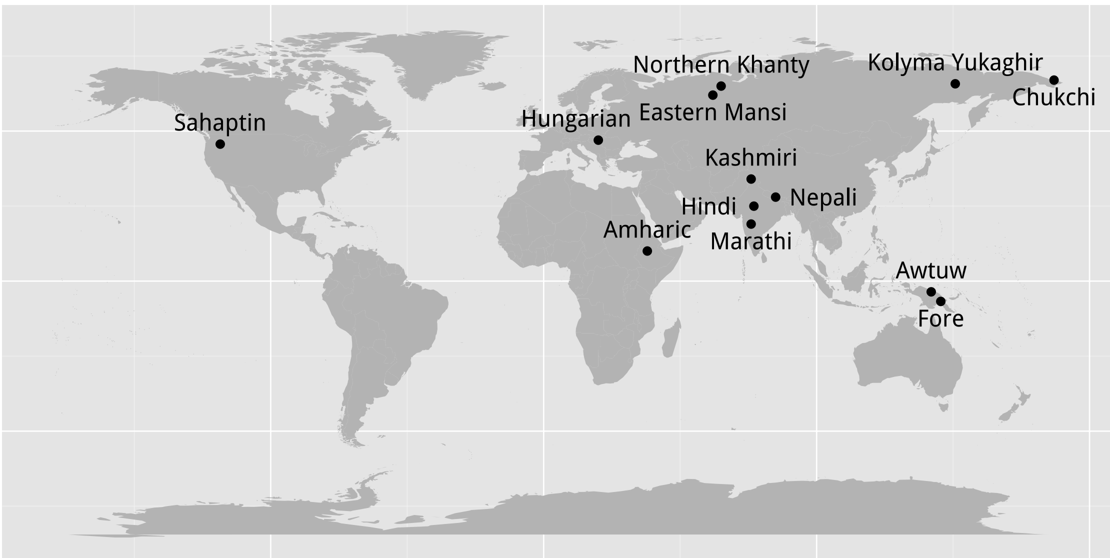


Figure 1.3 Geographical distribution of languages in this dissertation

Part I

Differential object marking in Hungarian

2 DOM in Hungarian

2.1 Introduction: Hungarian object agreement

Example (2) from Chapter 1, repeated as (1), shows an instance of differential object agreement in Hungarian.

(1) a. *Én lát-ok egy kutyá-t.*
I see-1SG.SBJ a dog-ACC
'I see a dog.'

b. *Én lát-om a kutyá-t.*
I see-1SG.OBJ the dog-ACC
'I see the dog.'

There are a number differences between (1a) and (1b). First, the direct object in (1a) is an indefinite noun phrase, whereas the object in (1b) is definite, which is reflected by the choice of determiner: *egy* 'one, a' in (1a), and *a* 'the' in (1b). Second, this difference in the definiteness of the direct object correlates with a difference in verb morphology. In (1a), the verb shows only subject agreement. The same verb form appears in an intransitive context, shown in (2) for a first and a third person subject.[1]

(2) a. *Én lát-ok.*
I see-1SG.SBJ
'I see.'

b. *Mari lát.*
Mari see.3SG.SBJ
'Mari sees.'

[1] Because personal pronoun objects can be dropped, (2b) can also mean 'Mari sees you' or 'Mari sees me', in the right context, but never 'Mari sees him/her/it'. The point that this is the intransitive form still holds, however. I return to this in Section 4.3.1.

In (1b), on the other hand, the verb form references not just the subject, but the object as well. In other words, in (1b), the verb agrees with the subject as well as the object. Traditionally, as well as in grammars, these different verb forms have been referred to as two distinct *paradigms* or *conjugations* (see e.g. Rounds 2002; Törkenczy 2002; Pete 2006; H. Varga 2010). The verb form in (1a) would be part of the *subjective* or *indefinite* conjugation, whereas the form in (1b) is part of the *objective* or *definite* conjugation. The present indicative forms of the verb *lát* are shown in Table 2.1.

	Subject agreement only	Subject and object agreement
1SG	*lát-ok*	*lát-om*
2SG	*lát-sz*	*lát-od*
3SG	*lát-∅*	*lát-ja*
1PL	*lát-unk*	*lát-juk*
2PL	*lát-tok*	*lát-játok*
3PL	*lát-nak*	*lát-ják*

Table 2.1 Present indicative forms of *lát* 'to see'

The idea behind these notions is that one set of verbal suffixes only references the subject (*subjective conjugation*). This set appears with indefinite objects (as in (1b), *indefinite conjugation*), whereas the other set of suffixes appears when the object is definite (*objective* or *definite conjugation*). Throughout the dissertation, I will gloss the former as SBJ and the latter as OBJ; the φ-features preceding OBJ in (1b), for example, indicate the person and number of the subject.

In modern work on Hungarian, the verb forms in (1b) have been referred to as *object agreement*, and I adopt this more appropriate terminology (as do Szabolcsi 1994; Bartos 1997; Dalmi 1998; Bartos 1999; Koopman and Szabolcsi 2000; Bartos 2001; É. Kiss 2002; den Dikken 2004, 2006; Coppock and Wechsler 2012; Coppock 2013; Ortmann and Gerland 2014). These analyses mostly discuss Hungarian object agreement independently of other languages, but Iemmolo (2010), Dalrymple and Nikolaeva (2011), Bárány (2012b) and Ortmann and Gerland (2014) explicitly mention Hungarian as a language with differential object marking in a cross-linguistic context. In the current and the following two chapters, I will deal with Hungarian data only, but I will adopt the analysis proposed here for related phenomena in Chapters 5 to 7.

In line with the hypothesis introduced in Chapter 1, I will argue that Hungarian object agreement is sensitive to person: the verb agrees with the formal features of the direct object, including its person (π), but not its number features, as well as the person and number (φ) features of the subject (in line with É. Kiss 2003, 2005, 2013; Bárány 2015a,b; see Coppock and Wechsler 2012; Coppock 2013 for the opposing view that the person of the object does not play a role in object agreement).

In the next section, I will discuss aspects of the morphological structure of Hungarian object agreement and its distribution, i.e. which types direct objects require object agreement.

2.2 The distribution of object agreement

The characterisation of Hungarian agreement suffixes as belonging to two distinct paradigms is useful for expository purposes. Using the verb *lát* 'to see' from above, Table 2.1 above illustrates the suffixes added to the root *lát* in the present tense indicative (without going into any morphological detail; but see Section 4.4 below).[2]

What is often only implicit in characterisations of Hungarian verb paradigms is the fact that the forms that agree with the object in Table 2.1 (the rightmost column) require *third person* objects. In fact, object agreement in Hungarian is often characterised as only being triggered by such objects, leading some researchers to suggest that object agreement is independent of φ-features in general (see Coppock and Wechsler 2010, 2012). There are some cases in which the direct object in a transitive clause is not third person, of course. (3a,b) show only subject agreement and subject as well as object agreement, respectively. When the subject is first person singular, and the object is second person, the verb has the suffix *-lak*. Crucially, this suffix is distinct from both the non-agreeing and the agreeing forms in (3a,b).

[2] Note that Hungarian has vowel harmony and several morphophonological processes influence the exact form of the suffixes; I will not be concerned with these processes much, but see Rebrus (2000), Rounds (2002), Törkenczy (2002), Rebrus (2005) and Trommer (2005) for some discussion. See Section 4.4 for detailed discussion of the morphological structure of the suffixes.

(3) a. *Én lát-ok valaki-t.*
I see-1SG.SBJ someone-ACC
'I see someone.'

b. *Én lát-om ő-t.*
I see-1SG.OBJ s/he-ACC
'I see him/her.'

c. *Én lát-lak téged.*
I see-1SG>2 you.SG
'I see you (sg.).'

While the distribution of object agreement with objects other than third person is not straightforward, I will nevertheless suggest that object agreement in Hungarian is sensitive to person (π) features. I will discuss this extensively in Section 3.4 and Chapter 4.

Nevertheless, third person objects are a useful starting point to illustrate the distribution of object agreement in general, so I will start with them.

2.2.1 Direct objects and subject agreement

In general, verbs are inflected for subject agreement only when they are intransitive and with a certain class of direct objects. Verbs show both subject and object agreement when they are transitive and the direct object belongs to a mostly complementary class of direct objects. This distribution is shown in Table 2.2. While the two columns in Table 2.2 roughly correlate with indefiniteness and definiteness, respectively, there are some mismatches between agreement and definiteness, which I will focus on in this chapter and the next one. These types of objects are marked with an * in Table 2.2.[3]

Among these mismatches are first and second person pronouns which are generally taken to be definite, but which do not (always) trigger object agreement. On the other hand, there are possessed noun phrases that are not definite, yet still require object agreement. Before discussing these mismatches, I will illustrate examples from most of the cells in Table 2.2, starting with the left column.

[3] In some grammars, like Rounds (2002) and Törkenczy (2002), as well as in some work on Finno-Ugric languages possibly influenced by traditional Hungarian grammar writing like Rédei (1965) and Gulya (1966), authors use the terms *indefinite* and *definite* conjugations. These authors have to specify what "counts" as indefinite and definite, respectively, like first personal pronouns "counting" as indefinite in Hungarian. This usage of the terms indefinite and definite is misleading and circular, as it is determined by what actually triggers agreement and what does not. Nevertheless, the property triggering object agreement is often generalised as being, roughly, definiteness.

Subject agreement only	Object agreement
	Determiners
bare objects	
numerals	
indefinite article *egy* 'a, one'	definite article *a(z)*
	demonstratives* *ez a* 'this', *az a* 'that'
	possessed noun phrases*
	proper names
valami 'something', *valaki* 'someone'	*valamelyik* 'one or the other, one of them', *semelyik* 'none (of them)'
	wh-expressions
ki 'who', *mi* 'what'	*melyik* 'which'
	Quantifiers
néhány 'some', *sok* 'many'	*a legtöbb* 'most', *az összes* 'all'
minden 'every'	*valamennyi** 'each', *mindegyik* 'each'
	Pronouns
first and second person pronouns*	third person pronouns
	reflexive and reciprocal pronouns
	Other
	complement clauses with *hogy* 'that'

Table 2.2 Classes of noun phrases that do not require object agreement (left) and that do require object agreement (right); cells indicated with a * show some variation and are discussed extensively below

2.2.1.1 Bare objects, indefinite determiners and numerals

(4) illustrates that bare plural direct objects appear with verb forms inflected for subject agreement only, i.e. these objects do not trigger object agreement. Bare plural objects have been argued to be incorporated (Szabolcsi 1986; Farkas and H. de Swart 2003): they do not introduce discourse referents and their interpretation is neutral with respect to number. This is particularly clear in (4b), which need not mean that Mari bought a single flower — in fact, it is usually interpreted as meaning she bought

more than one. As for their syntax, Farkas and H. de Swart (2003: 95) point out that incorporated nominals cannot take an article, in contrast to full DPs, which cannot be incorporated.

(4) Bare objects:

a. *Mari bicikli-t keres.*
Mari bicycle look for.3SG.SBJ
'Mari is looking for a bicycle / bicycles.'

b. *Mari virág-ot ve-tt.*
Mari flower-ACC buy-PST.3SG.SBJ
'Mari bought flowers.'

The indefinite determiner *egy* 'a' (also a numeral meaning 'one') does not trigger object agreement; neither do numerals on their own, (5b,c).

(5) Indefinite determiner: *egy* 'a' and numerals: *két* 'two', *ötven* 'fifty'

a. *Péter lát egy lov-at.*
Péter see.3SG.SBJ a horse-ACC
'Péter sees a horse.'

b. *Rozi két újság-ot olvas.*
Rozi two newspaper-ACC read.3SG.SBJ
'Rozi is reading two newspapers.'

c. *Rozi ötven sajtburger-t ev-ett.*
Rozi fifty cheeseburger-ACC eat-PST.3SG.SBJ
'Rozi ate fifty cheeseburgers.'

2.2.1.2 Wh-words

Wh-words like *mi* 'what' and *ki* 'who' do not co-occur with object agreement; the same holds for the relative pronouns *ami* 'what.REL' and *aki* 'who.REL'.

(6) Interrogative and relative pronouns: *mi* 'what', *ki* 'who', *aki* 'who'

a. *Kati mi-t mond-ott?*
Kati what-ACC say-PST.3SG.SBJ
'What did Kati say?'

b. *Kati ki-t lát?*
Kati who-ACC see.3SG.SBJ
'Whom does Kati see?'

c. *Szép a fiú, aki-t Kati lát-ott?*
beautiful the boy, who.REL-ACC Kati see-PST.3SG.SBJ
'Is the boy whom Kati saw handsome?'

2.2.1.3 *Weak quantifiers and* minden *'every'*

Weak quantifiers, as well as the universal quantifier *minden* 'every' do not trigger object agreement, as shown in (7a,b).

(7) Quantifiers: *néhány* 'some', *minden* 'every'

a. *Zsuzsa varr néhány ing-et.*
Zsuzsa sew.3SG.SBJ some shirt-ACC
'Zsuzsa is sewing some shirts.'

b. *Zsuzsa minden könyv-et elolvas-ott.*
Zsuzsa every book-ACC read-PST.3SG.SBJ
'Zsuzsa read every book.'

It is surprising that *minden* 'every' patterns with weak quantifiers with respect to object agreement, as *minden* and weak quantifiers do not generally show the same syntactic behaviour. For example, in contexts corresponding to the English existential *there*-construction, weak quantifiers are allowed, but *minden* is not — here it patterns with other universal quantifiers like *mindegyik* and *valamennyi* 'each':

(8) a. *Van az asztal-on néhány alma.*
is the table-SUP some apple
'There are some apples on the table.'

b. **Van az asztal-on minden / mindegyik alma.*
is the table-SUP every each apple
intended: 'There is every/each apple on the table.'

This kind of definiteness effect is well-known from other languages and is often discussed as a matter of the syntax-semantics interface (see Szabolcsi 1986; É. Kiss 1995; Kálmán 1995; Maleczki 2001; É. Kiss 2002; Piñón 2006 for discussion relating to Hungarian where a much larger class of predicates show similar effects; see Diesing 1992; Keenan 2003; Hallman 2004 for general discussion). The fact that weak quantifiers and *minden* do not pattern alike with respect to object agreement in (7) and the definiteness effect in (8) is a first indication that the distribution of object agreement is not directly influenced by the semantic properties of the direct object — I will argue below that the syntactic properties of the direct object play a more important role.

2.2.1.4 First and second person pronouns

Finally, first and second person pronouns cannot co-occur with object agreement when the subject is third person, even though they are definite:

(9) First and second person pronouns:

a. *Balázs lát engem.*
Balázs see.3SG.SBJ I.ACC
'Balázs sees me.'

b. *Balázs lát téged.*
Balázs see.3SG.SBJ you.ACC
'Balázs sees you.'

As I discuss at length in Chapter 4, the distribution of agreement with personal pronouns is more complicated than hinted at in (9). While first person (singular) objects never show object agreement, second person pronouns only do in very restricted contexts. (9b) shows that with a third person subject, the verb does not agree with the object. However, when the subject is first person, a different suffix appears (see also (3) above):

(10) *(Én) lát-lak téged.*
I see-1SG>2 you.SG
'I see you (sg.).'

The suffix *-lak/-lek* is sometimes treated as exceptional with respect to the rest of the object agreement system in Hungarian. Bartos (1997) refers to it as the only case of object agreement in person; in Bartos (1999) the agreeing form in (10) is derived differently from the other forms seen so far. Similarly, *-lak/-lek* is treated as an exception by Coppock and Wechsler (2012) and Coppock (2013).

However, it is also possible to take (10) as a regular instantiation of object agreement in Hungarian and treat the forms in (9) as the exception. This entails that Hungarian object agreement takes the direct object's φ-features into account — and necessitates an explanation for the seeming lack of agreement in (9). This is the strategy I adopt in this thesis, in line with much research on similar case and agreements splits across languages (see Chapter 4 as well as É. Kiss 2003, 2005, 2013; Bárány 2015b on Hungarian and Silverstein 1976; Béjar and Rezac 2009; Keine 2010; Georgi 2012 on a number of other, unrelated languages, some of which I will discuss in Chapters 5 and 6).

2.2.2 Direct objects that trigger object agreement

It is easier to define the class of noun phrases that do require object agreement extensionally than intensionally. I will therefore first go through some examples of direct objects triggering object agreement on the verb (following Table 2.2 on p. 29) before discussing the common property that is responsible for object agreement.

2.2.2.1 The definite determiner and demonstratives

(11) shows that noun phrases with the definite determiner *a(z)* 'the'[4] require object agreement. The definite determiner is used with common nouns and can be used with proper names as well.

(11) Definite determiner *a(z)* 'the', proper names:

a. *Mari lát-ja a ház-at.*
Mari see-3SG.OBJ the house-ACC
'Mari sees the house.'

b. *Mari keres-i (a) Péter-t.*
Mari look for-3SG.OBJ the Péter-ACC
'Mari is looking for Péter.'

Direct objects with the demonstratives *ez a(z)* 'this' and *az a(z)* generally trigger object agreement as well, as shown in (12). When the demonstrative substitutes a whole noun phrase and it appears as *ez* 'this' or *az* 'that', it can sometimes co-occur with subject agreement. I will discuss these unexpected uses of demonstratives in Section 2.2.3 below.

[4] *z* appears when the word following the determiner starts with a vowel; cf. English *a(n)*.

(12) Demonstratives *ez a(z)* 'this', *az a(z)* 'that':

a. *Péter ez-t a kenyer-et szeret-i.*
Péter this-ACC the bread-ACC like-3SG.OBJ
'Péter likes this bread.'

b. *Péter az-t a könyv-et olvas-t-a.*
Péter that-ACC the book-ACC read-PST-3SG.OBJ
'Péter read that book.'

2.2.2.2 *Determiners ending in* -ik

There is a group of determiners ending in *-ik*: *melyik* 'which', *semelyik* 'none', *valamelyik* 'one of them', *hányadik* 'which number', *mindegyik* 'each'. All of these trigger object agreement, both when replacing a full NP, (13a), or when used as a determiner, (13b). Note that these determiners generally do not appear adjacent to the definite determiner *a(z)* (apart from *hányadik*), as shown in (13d).

(13) Determiners ending in *-ik*:

a. *Melyik-et kér-ed?*
which-ACC want-2SG.OBJ
'Which one do you want?'

b. *Melyik bicikli-t kér-ed?*
which bicycle-ACC want-2SG.OBJ
'Which bicycle do you want?'

c. *Valamelyik-et lát-t-a.*
one of them-ACC see-PST-3SG.OBJ
'S/he saw one of them.'

d. **A melyik-et kér-ed?*
the which-ACC want-2SG.OBJ
intended: 'Which one do you want?'

Apart from their morphosyntactic similarity (the *-ik* suffix), these determiners are semantically similar. They are all presuppositional in that they refer to elements of a context-salient set. The difference between *mi* 'what' and *melyik* 'which' in Hungarian parallels the one between their English counterparts (see e.g. Pesetsky 1987 on *which* and "D-linking").

2.2.2.3 Possessive constructions and object agreement

Possessed nouns will be the topic of Section 3.3, so I will not go into a lot of detail here (but see Szabolcsi 1983, 1987, 1994; Bartos 1999; den Dikken 1999; Dékány 2011; É. Kiss 2014; Dékány 2015 for extensive overviews). In brief, in Standard Hungarian, possessed direct objects trigger object agreement. Possessed nouns in Hungarian carry a possessive suffix which indicates the person and number of the possessor, *-jé-* in (14a). The possessor itself can be covert as in (14a), or carry nominative case (unmarked or 'null') or dative case, as in (14b) and (14c), respectively. Nominative and dative possessors differ in their position in the noun phrase and their syntactic mobility. Finally, (14d) shows a pronominal possessor with nominative (unmarked) case. The following examples illustrate the different types of possessors and their co-occurrence with object agreement.

(14) Possessive constructions:

a. *Péter keres-i a bickli-jé-t.*
Péter look for-3SG.OBJ the bicycle-3SG.POSS-ACC
'Péter$_i$ is looking for his$_{i/j}$ bicycle.'

b. *Mari szeret-i Kati palacsintá-já-t.*
Mari like-3SG.OBJ Kati.NOM pancake-3SG.POSS-ACC
'Mari likes Kati's pancakes.'

c. *Kati imád-ja en-nek az író-nak a könyv-e-i-t.*
Kati adore-3SG.OBJ this-DAT the writer-DAT the book-3SG.POSS-PL-ACC
'Kati adores this writer's books.'

d. *Az én ház-am piros.*
the I house-1SG.POSS red.
'My house is red.'

Syntactically, the structures in (14) differ in the position of the possessors. While nominative possessors like (14b) cannot co-occur with a definite determiner, pronominal possessors like (14d) *must* do. In (14c), the dative possessor *en-nek az író-nak* 'this-DAT the writer-DAT' also precedes a definite determiner. The distribution of the possessors with respect to the definite determiner indicates that there are different positions for possessors.

Note, however, that the complementarity of the determiners ending in *-ik* and the definite determiner, on the one hand, and the nominative possessor and the definite determiner, on the other hand, does not mean that nominative possessors and determiners ending in *-ik* are in complementary distribution as well.

The examples in (15) illustrate this. While both nominative possessors and *-ik*-determiners are incompatible with the definite determiner *a(z)*, as shown in (15a,b), a nominative and an *-ik*-determiner *can* co-occur. This is shown in (15c).

(15) a. **Kati a palacsintá-ja*
Kati the pancake-3SG.POSS
intended: 'Kati's pancake'

b. **a mindegyik bicikli*
the each bicycle
intended: 'each bicycle'

c. *Kati mindegyik palacsintá-ja*
Kati each pancake-3SG.POSS
'each of Kati's pancakes'

To account for the incompatibility of the definite determiner and certain determiners in the Hungarian noun phrase, Szabolcsi (1994) suggests a rule of haplology that rules out co-occurrences like (15b) by deleting the definite determiner on the surface. Given that nominative possessors are generally assumed to appear in DP, the fact that they can appear with *-ik*-determiners indicates that these determiners are lower in the structure of the noun phrase.

Nominative possessors and the definite determiner are in actual complementary distribution, then, whereas *-ik*-determiners and the definite determiner do not co-occur because of an additional rule, like Szabolcsi's (1994) haplology rule or movement of the *-ik*-determiners to D, as suggested by É. Kiss (2000).

While the possessed objects shown above were all definite, this is not generally true of possessive constructions. Hungarian lacks a verb meaning 'to have' and it expresses this possession relation by the combination of, first, an optional NP in dative, second, the copula, and third, a possessed noun. This construction shows that the possessive suffix itself does not contribute a specific or definite interpretation. Evidence for this comes from the fact that it appears freely in the Hungarian *mihi est*-construction (lit. 'to me is *x*'), as shown in (16), even though this is a definiteness effect-context (Szabolcsi 1986, 1994).

(16) a. *Mari-nak van macská-ja.*
Mari-DAT is cat-3SG.POSS
'Mari has a cat.'

b. *Mari-nak nincs macská-ja.*
Mari-DAT is.NEG cat-3SG.POSS
'Mari does not have a cat.'

c. **Mari van macská-ja.*
Mari.NOM is a cat-3SG.POSS
intended: 'Mari has cat.'

(16a) illustrates how a *have*-relation is expressed in Hungarian. This context is sensitive to the definiteness and specificity of the complement, i.e. the possessed noun in this case. The possessed noun is a non-specific argument in Hungarian as well. (16b) illustrates this with a negated copula: the possessed noun *macská-ja* 'his/her cat' does not carry an existence presupposition and scopes below negation. Finally, (16c), in contrast to (16a), shows that the possessor in this construction has to be a dative, and cannot be a nominative (see also Szabolcsi 1986, 1994).

Possessed direct objects can be indefinite, then, but only when the possessor is not an overt nominative (cf. English pre-nominal and post-nominal possessors; the former are sometimes said to induce definiteness, as opposed to the latter, see e.g. Woisetschlaeger 1983). In Standard Hungarian, such noun phrases also require object agreement, as shown in (17), even if they are indefinite.[5]

(17) *Csak egy diák-nak két dolgozat-át talál-t-a jutalomra méltónak a zsűri.*
only one student-DAT two paper-ACC find-PST-3SG.OBJ of prize worthy the jury
'The jury found only one student's two papers worthy of a prize.'
(É. Kiss 2002: 173)

2.2.2.4 Quantifiers and object agreement

As mentioned in Section 2.2.1 above, the universal quantifier *minden* 'every' does not trigger object agreement. Its counterpart *mindegyik* 'each', another *-ik*-determiner,

[5] É. Kiss's translation of (17) has a definite flavour to it, but the Hungarian sentence does not entail that there are two unique papers of a student. In addition, the student in question does not need to be known to the speaker.

does trigger object agreement. The same holds for the universal quantifier *valamenny*i 'each'.[6]

(18) a. *Péter fel-hív-t-a mindegyik gyerek-et.*
Péter VM-call-PST-3SG.OBJ each child-ACC
'Péter call each child.'

b. **Péter fel-hív-ott mindegyik gyerek-et.*
Péter VM-call-PST-3SG.SBJ each child-ACC
intended: 'Péter call each child.'

c. *Péter fel-hív-ott minden gyerek-et.*
Péter VM-call-PST-3SG.SBJ every child-ACC
'Péter call every child.'

d. **Péter fel-hív-t-a minden gyerek-et.*
Péter VM-call-PST-3SG.OBJ every child-ACC
intended: 'Péter call every child.'

What is striking about the differences between *mindegyik* 'each' and *minden* 'every' is that the overt syntactic distribution of the two quantifiers seems to be identical in the noun phrase, yet they behave differently with respect to object agreement (Szabolcsi 1994; É. Kiss 2000; Coppock 2013; see Szabolcsi 1997; Brody and Szabolcsi 2003 on the distribution of these quantifiers in the clause). This might indicate that a semantic treatment of the difference between these quantifiers is necessary (see e.g. Coppock and Wechsler 2012; Coppock 2013 who generalise this idea). I will return to this question in Section 3.2.

2.2.2.5 Third person and reflexive pronouns

In contrast to first and second person pronouns, third person pronouns behave uniformly with respect to object agreement: third person pronoun objects always require object agreement, as shown in (19) (note also that the number of the object is irrelevant for determining object agreement).

[6] The quantifier *valamennyi* can also mean 'some' — on that reading, it does not trigger object agreement. Because of this ambiguity, I will continue to discuss *mindegyik* rather than *valamennyi*.

(19) Third person pronouns:

a. *Mari lát-ja **ő-t**.*
Mari see-3SG.OBJ s/he-ACC
'Mari sees him/her.'

b. *Mari fel-hív-t-a **ők-et**.*
Mari VM-call-PST-3SG.OBJ they-ACC
'Péter called them.'

Reflexive pronouns of all persons also require object agreement — recall, however, that non-reflexive first and second person pronouns do not. Arguably, the reason for this is that reflexive pronouns historically derive from possessed nouns, which would be third person. They resemble the noun *mag* 'core, kernel' followed by a possessive suffix (see also den Dikken 2006; Coppock and Wechsler 2012; Coppock 2013; Rocquet 2013).[7]

(20) Reflexive pronouns:

a. *Mi lát-juk magunk-at.*
we see-1PL.OBJ ourself-ACC
'We see ourselves.'

b. *Mari lát-ja magá-t.*
Mari see-3SG.OBJ herself-ACC
'Mari sees herself.'

There are several arguments for the third person status of reflexive pronouns. First, as Rounds (2002: 126) points out, they inflect like nouns, not like personal pronouns. Second, reflexive pronouns can control third person agreement, for example as possessors of another possessed noun, as in the following examples ((21a) is from the Hungarian National Corpus, via Rákosi 2014).

(21) a. *El-mond-aná-m a magam eset-é-t.*
VM-say-COND-1SG the myself.NOM case-3SG.POSS-ACC
'I would tell you about my own case.' (Rákosi 2014: 550)

[7] Note, however, that the possessive suffixes do not match their synchronic forms, cf. the reflexive *mag-a* 'him/her-self' and *mag-ja* 'his/her core'. I take this as an argument for the grammaticalisation of a nominal form as a pronoun — it is interesting, however, that even first and second person reflexive pronouns retain some formal third person properties; see the discussion in the text.

b. *Mindez-t a mag-am ere-jé-ből értem el.*
all this-ACC the self-1SG power-3SG.POSS-ELA achieved VM
'I achieved all this with my own powers.'[8]

The reciprocal pronoun *egymás* shows the same behaviour: it inflects like a common noun and triggers third person possessive agreement, even with non-third person antecedents.

2.2.2.6 Complement clauses and object agreement

Hungarian complement clauses introduced by the complementiser *hogy* 'that' also trigger object agreement (see Kenesei 1994 for detailed discussion). (22) shows an example.

(22) Kati az-t képzel-i [$_{CP}$ hogy a gép el-roml-ott].
Kati that-ACC believe-3SG.OBJ that the machine VM-break-PST.3SG.SBJ
'Kati imagines that the engine's broken down.'
(Kenesei 1994: 309)

Note that in (22), there is a demonstrative *az-t* 'that-ACC' in the matrix clause that is associated with the CP. Kenesei (1994) suggests that this is an expletive element that shows the case-marking the verb assigns, as the complement CP cannot be case-marked. We have seen above that demonstratives require object agreement, so the fact that complement clauses appear with object agreement might thus be due to the presence of the demonstrative. There are, however, some questions about the structure of such DP-CP constructs. If all *hogy*-CPs come with a DP layer, movement out of the CP should not be possible as such a DP-CP structure forms a complex noun phrase and is thus an island for movement (cf. Coppock and Wechsler 2012 for this argument; Gervain 2004, 2009 argues for other strategies of escaping CPs to which I return below). It is however possible to focus elements from the embedded clause in the matrix clause, when the demonstrative is not present.

(23) a. Anna [$_{DP}$ az-t$_j$] akar-ja [$_{CP}$ hogy meg-látogas-s-am Péter-t]$_j$.
Anna it-ACC want-3SG.OBJ that VM-visit-SBJV.1SG.OBJ Péter-ACC
'What Anna wants is for me to visit Péter.'
(Kenesei 1994: 314)

[8] From Hungarian author István Örkény's story *Férfiarckép*, part of the collection *Egyperces novellák.*

b. Anna [$_{DP}$ Péter-t$_i$] akar-ja (*az-t) [$_{CP}$ hogy meg-látogas-s-am **e**$_i$].
Anna Péter-ACC want-3SG.OBJ it-ACC that VM-visit-SBJV.1SG.OBJ
'It is Péter that Anna wants me to visit.'
(Kenesei 1994: 314)

In (23a), as indicated by the index *j*, the demonstrative behaves like an expletive in focus position that is associated with the complement clause. However, elements from the embedded clause can appear in the focus position as well, as shown in (23b). In addition, (23b) does not allow spelling out the expletive demonstrative in any other position in the matrix clause, and the displacement of a constituent of the embedded clause suggests that we are not dealing with a DP-CP structure, as there does not seem to be a CNPC violation in (23b). The focused element interacts with agreement on the verb, as is shown by the following example, in which there is no object agreement, because the element in the matrix focus position is not of the type that triggers object agreement, e.g. an indefinite noun phrase in (24).

(24) Csak [$_F$ két dolg-ot$_i$] akar-ok / *akar-om [$_{CP}$ hogy [$_{VP}$
only two thing-ACC want-1SG.SBJ want-1SG.OBJ that
el-mond-j-ál **e**$_i$]]
VM-say-SBJV-2SG.SBJ
'There's only two things that I want you to say.' (Kenesei 1994: 317)

The focused element can also be an adverb, i.e. non-argument. In that case, interestingly, the matrix verb still shows object agreement — with the complement clause, seemingly.

(25) Anna [$_F$ gyorsan$_j$] akar-ja / *akar [$_{CP}$ **e**$_j$ hogy meg-javít-s-am
Anna fast want-3SG.OBJ want.3SG.SBJ that VM-repair-SBJV.1SG.OBJ
az autó-t **e**$_j$]
the car-ACC
'Anna wants me to repair the car FAST.' (Kenesei 1994: 316)

É. Kiss (2002: 252) points out that not only focus movement is possible from embedded clauses, but also movement to the topic position of the matrix clause, i.e. A′-movement in general. Object agreement behaves as with focused phrases. In (26a), the matrix verb shows object agreement even though there is no eligible DP: the moved topic *János-sal* 'János-COM' bears comitative case and comitative DPs do not trigger object agreement in Hungarian. The verb (26a) seems to agree with the complement clause. In (26b), the topic *Mari-t* 'Mari-ACC' is a proper name in accusative and thus triggers agreement.

(26) a. [$_{\text{TopP}}$ János-sal$_i$ nem akar-om [$_{\text{CP}}$ hogy meg-beszél-j-ünk
János-COM not want-1SG.OBJ that VM-discuss-SBJV-1PL.SBJ
bármit is $\mathbf{e}_i$]]
anything
'With John, I don't want us to discuss anything.'

b. [$_{\text{TopP}}$ Mari-t$_i$ [$_{\text{F}}$ Péter] igér-t-e meg [$_{\text{CP}}$ hogy fel-hív-ja
Mari-ACC Péter promise-PST-3SG.OBJ VM that VM-call-3SG.OBJ
$\mathbf{e}_i$]]

'Mary, PÉTER promised to call up.'

(É. Kiss 2002: 252)

Kenesei (1994) points out a problem for his analysis of these constructions. As briefly mentioned above, he argues that the expletive is the element that receives the Case the verb has to assign because the CP cannot. However, he points out that while his approach

> can account for the obligatory absence of the expletive and case change of the moved item, it has no natural explanation to offer for the properties of conjugation in case oblique arguments or adjuncts are moved—in fact, no proposal to our knowledge has been successful in this respect. If an oblique noun phrase or adjunct is raised, the matrix verb has definite conjugation, whether the phrase is definite or indefinite. (Kenesei 1994: 318)

It seems that Kenesei (1994) does not entertain the possibility that it is the CP itself that triggers object agreement in certain cases, namely when there is no accusative nominal in the matrix clause. This has been proposed by den Dikken (2012), for example, and is compatible with proposals about the referentiality of CPs discussed by de Cuba and Ürögdi (2009, 2010). I will return to this claim in Section 3.4.2.5.

To sum up this brief overview of complement clauses, the matrix verb in a complex Hungarian sentence can agree with, first, a demonstrative expletive that is associated with a CP argument, second, with focused or topicalised elements that have been either A′-moved out of these clauses or base-generated in the matrix clause, or, third, with the CP itself if there is no other suitable phrase to agree with.

This state of affairs is not unattested otherwise: in Turkish, a language with differential object marking, certain complement clauses have an accusative suffix, i.e. they undergo DOM; in Japanese, complement clauses can also have overt accusative case (see Rocquet 2013: 192ff. for discussion). In analogy, Rocquet argues that the same happens in Hungarian: the CP triggers agreement just like definite noun phrases do because it has the same kind of definiteness marker (see also Jánosi *et al.* 2014 and den Dikken 2012).

2.2.3 "Unexpected" object agreement

In this section, I will discuss data that seems to contradict the previous discussion. I show some examples of demonstratives that do not trigger object agreement, and other, indefinite demonstratives that *do* trigger agreement, as well as proper nouns and non-specific definite noun phrases. Given the correlation between object agreement and the definiteness of the direct object, it is interesting to point out certain mismatches between the interpretation of the direct object and its ability to trigger object agreement. In all cases, I will argue that these examples provide evidence that the syntactic structure of the direct object influences the presence of object agreement.

Demonstratives like *ez* 'this' and *az* 'that' do not always trigger agreement, but there is a clear semantic difference between occurrences of demonstratives that do and those that do not. (27a,b) illustrate the relevant contrast: when a demonstrative direct object does not trigger object agreement, it does not refer to an individual (Bartos 1999; H. Varga 2010).

(27) a. *Az-t (az almá-t) kér-em.*
that-ACC the apple-ACC want-1SG.OBJ
'I want that one (/that apple).'

b. *Az-t kér-ek.*
that-ACC want-1SG.SBJ
'I want some of that.'

c. *Az-t e-het-sz, ami-t csak akar-sz.*
that-ACC eat-MOD-3SG.SBJ REL-ACC only want-2SG.SBJ
'You can eat whatever you want.' (Bartos 1999: 116)

Note that there are also syntactic differences between the two types: whereas the object in (27a) refers to an entity and can co-occur with the NP expressing that entity, (27b,c) cannot: these demonstratives have to occur by themselves in order not to trigger object agreement.

There is another type of demonstrative that is indefinite, as shown by the fact that it can appear in contexts like the English *there*-construction and an equivalent construction in Hungarian (see e.g. Ionin 2006; Abbott 2010; von Heusinger 2011; Ebert and Hinterwimmer 2013; Ionin 2013 for discussion).

(28) a. There was this dishy logician at Mary's party tonight. (Abbott 2010: 154)

b. *Van ez a barát-om.*
is this the friend-1SG.POSS
'There is this friend of mine.'

The contexts in (28) do not generally allow definite noun phrases, suggesting that the demonstratives appearing in (28a,b) are not definite. These indefinite demonstratives can also occur as direct objects. Such constructions are obviously ambiguous between an indexical demonstrative reading and the specific, indefinite demonstrative reading shown in (28).

(29) *Sétál-t az utcá-n és hirtelen lát-t-a ez-t az autó-t.*
walk-PST.3SG.SBJ the street-SUP and suddenly see-PST-3SG.OBJ this-ACC the car-ACC
'S/he was walking on the street and suddenly s/he saw this car.'

While (29) is ambiguous between the definite and the indefinite readings of the demonstrative, (29) can straightforwardly form part of a narrative discourse in which *ezt az autó-t* 'this car-ACC' has not yet been mentioned: the demonstrative here is cataphoric. But note that the direct object triggers object agreement: given that it is a demonstrative, this is not unexpected. What could be surprising, however, is that the semantic difference between the two readings of the direct object in (29) does not correlate with a change in agreement. (29) thus provides an argument that object agreement is sensitive to the syntactic structure of a direct object, even when it gives rise to different interpretations. The syntactic structure of the object remains constant while its interpretation changes.

(29) is also remarkable because specificity does not give rise to object agreement in Hungarian *per se* (Bartos 1999; É. Kiss 2002; Coppock and Wechsler 2012; Coppock 2013): the syntactic structure of the direct object (or its formal properties) can take priority over its semantic properties with respect to object agreement.

In the previous section, we saw that proper names trigger object agreement — but again, there are uses of proper names that do not allow object agreement and these correlate with certain semantic and syntactic properties. Consider (30).

(30) *Petőfi-t olvas-ok.*
Petőfi-ACC read-1SG.SBJ
'I read Petőfi.'

The proper name in (30) refers to works by the author Petőfi, i.e. it is a metonymic use of the proper name. What the object expresses in this context is roughly *works by Petőfi.* Given this property-like interpretation, it is no surprise that the proper name in (30) can appear with different determiners which can give rise to object agreement. This is shown in (31).

(31) a. *Mari ve-tt egy Monet-t.*
Mari buy-PST.3SG.SBJ a Monet-ACC
'Mari bought a (painting by) Monet.'

b. *Én mindegyik Petőfi-t el-olvas-om.*
I each Petőfi-ACC VM-read-1SG.OBJ
'I read each Petőfi.'

The proper names in (30) and (31) behave like common nouns, semantically and syntactically. I take this to mean that this metonymic use of a proper name has a different syntactic representation than the referential use discussed in the previous section and its behaviour with respect to object agreement is therefore not exceptional.

2.3 Summary

In this brief chapter, I provided an overview of the distribution of object agreement in Hungarian, i.e. which types of noun phrases require object agreement and which types do not allow it. We saw that object agreement in Hungarian is clearly not optional: there are barely any minimal pairs that only differ in the presence of agreement, but determining whether there is object agreement or not is generally fairly clear-cut.

In Section 2.2.1, I showed that bare and indefinite nouns can only appear with subject agreement, and that this also holds for weak quantifiers, and somewhat surprisingly, for the universal quantifier *minden* ‘every’. On the other hand, noun phrases with a definite or a demonstrative determiner, proper names and third person pronouns trigger object agreement, as does the universal quantifier *mindegyik* ‘each’.

While these two classes of direct objects suggest that it is definiteness that determines whether there is object agreement or not, we have also seen that there are certain mismatches between the definiteness of the direct object and its potential to trigger agreement: possessive constructions trigger agreement, even if they are indefinite, as do the (specific) determiners *melyik* ‘which’ and *valameyik* ‘one of them’. On the other hand, some definites, like first person pronouns, are incompatible with object agreement.

That such mismatches exist is not a new observation. Szabolcsi (1994: 227), discussing possessive constructions, points out that object agreement cannot be used as a semantic “litmus test” in Hungarian. I mentioned above that in Hungarian grammars these mismatches are often glossed over: first and second person pronouns, for example, are said to “count as indefinite” (Törkenczy 2002: 70; see also Rounds 2002: 23f.). While helpful for a learner, such an extensional characterisation of what gives rise to object agreement is clearly not a strong linguistic generalisation.

Thus the property of certain direct objects that determines whether they require object agreement or not is neither definiteness nor specificity. Two recent attempts to derive intensional generalisations about Hungarian object agreement are Bartos’s (1999) syntactic approach, which aims to derive object agreement from the syntactic structure of the direct object alone, and a lexically oriented approach suggested by Coppock and Wechsler (2012). While Bartos argues that (all and only) DPs trigger object agreement, Coppock and Wechsler suggest a formal feature [DEF] that triggers agreement. Coppock (2013) extends this approach by providing a semantic explanation for distribution of the feature [DEF].

In the following chapter, I will argue for a “hybrid” approach to the analysis of object agreement in Hungarian. I will follow Bartos (1999) to a certain degree in assuming that the syntactic structure of the direct object plays a crucial role in determining object agreement, but I will incorporate insights by Coppock and Wechsler (2012) and Coppock (2013) that show that this cannot be the whole story (see also Bárány 2014b for an analysis along these lines).

3 A hybrid analysis of object agreement: syntactic structure and π-features

3.1 Introduction

In this chapter, I will discuss why object agreement in Hungarian is neither determined in a purely syntactic way nor in a purely semantic way, and I will provide an analysis that combines the best of both worlds to account for the data shown in the previous chapter.

The main proposal of this chapter is that the direct object has to project a DP and have a particular φ-feature specification in order to trigger object agreement. I present evidence for this approach from several sources: first, I show that noun phrases that trigger object agreement behave like DPs. I will argue for this by examining the syntactic distribution of determiners inside the noun phrase and its "size".

Second, cross-linguistic evidence provides support for the idea that it is a formal feature, namely the object's person feature, that triggers object agreement. Adger and Harbour (2007) and M. Richards (2008), for example, argue that the presence of φ-features distinguishes animate and definite nominals from inanimate and indefinite ones, respectively. While first and second person are always animate and definite, third person nominals do not have to be. I analyse Hungarian along these lines and argue that there are in fact four "persons": first, second, and third which are specified for φ-features, and a fourth one which lacks person features altogether (but can be specified for number). The latter two classes show distinct behaviour: while subject agreement treats both of them as "third" person, object agreement is only sensitive to one type of "third" person, namely the one with person features.

Third, treating object agreement as sensitive to φ-features fits well with the requirement of a DP projection. In much recent work, D has been argued to be the head expressing the formal feature PERSON (Bernstein 2008; Longobardi 2008; Danon 2011, see also Höhn 2015; van der Wal 2015; following Béjar 2003; Béjar and Rezac 2003, 2009, I will adopt π as representing this formal feature). Combining these insights will shed some light on subject/object asymmetries with respect to agreement and provide the basis for the analysis of the distribution of object agreement with personal pronouns proposed in Chapter 4.

This chapter is structured as follows. In the following section, I briefly outline why neither a purely syntactic nor a purely semantic account of object agreement in Hungarian is sufficient. In Section 3.3, I discuss the structure of possessive constructions and argue that they support the idea that object agreement is sensitive to the syntactic structure of the object. In Section 3.4, I propose an analysis to object agreement that accounts for the data discussed in Chapter 2 and here and sets the stage for the discussion in Chapter 4. Section 3.5 concludes.

3.2 Towards an analysis

3.2.1 Problems for semantic approaches

I have already briefly illustrated some mismatches between certain semantic properties and the occurrence of object agreement. Possessed noun phrases can be indefinite, yet trigger object agreement; first and second person pronouns are also definite, but cannot appear with object agreement.[1] I will now discuss some evidence that shows that specificity and indexicality do not predict the correct distribution either and I conclude that semantic properties do not account for the distribution of object agreement.

Bartos (1999) and Coppock and Wechsler (2012) provide evidence that specificity does not suffice to explain the distribution of object agreement (this is true for any kind of specificity; see von Heusinger 2011). The following example from Coppock and Wechsler (2012) illustrates a specific direct object, referring to a particular individual identified in the following utterance, which cannot trigger object agreement:

[1] I will argue in Chapter 4 that these pronouns do in fact trigger object agreement, it is just not spelled out in all cases.

(1) *Minden nap egy görög énekes-t hallgat-t-ak / *hallgat-t-ák. Máriá-nak*
every day a Greek singer-ACC listen-PST-3PL.SBJ listen-PST-3PL.OBJ Máriá-DAT
hív-ják.
call-3PL.OBJ
'Every day, they listened to a Greek singer. Her name is Maria.'
(Coppock and Wechsler 2012: 715)

Building on Coppock and Wechsler (2012), Coppock (2013) suggests that object agreement is triggered by the presence of a formal feature on the direct object that she calls [DEF]. She suggests that the presence of this feature on a given lexical item is determined by its anaphoricity, i.e. whether is has an antecedent in the discourse. Coppock suggests that this straightforwardly accounts for the distribution of agreement with personal pronouns.

In particular, she argues that because first and second person pronouns are not anaphoric but indexical, they do not have the feature [DEF] and therefore do not trigger agreement (see also Bartos 1999 for a similar argument; cf. de Groot 2009 for a similar idea in terms of "identifiability").

But this referential explanation does not explain all the facts: the polite personal pronouns *ön* and *maga* refer to the addressee, i.e. they are indexical and not anaphoric, yet they behave like third person pronouns when it comes to agreement (shown for the pronoun *ön*).

(2) a. *Ön / ő szeret utaz-ni?*
you s/he like.3SG.SBJ travel-INF
'Do you like to travel?' / 'Does s/he like to travel?'

b. *Lát-om ön-t / ő-t az utcá-n.*
see-1SG.OBJ you-ACC s/he-ACC the street-SUP
'I see you / him/her on the street.'

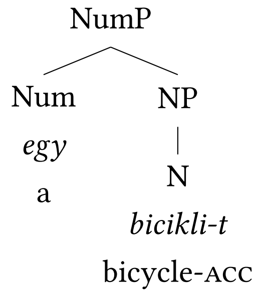
(2a) shows that both *ön* and the third person pronoun *ő* trigger third person subject agreement. (2b) shows that both pronouns also trigger object agreement: the indexicality of the pronoun *ön* therefore does not determine object agreement.

It is thus difficult to provide a uniform semantics for noun phrases that trigger object agreement. It is, however, equally difficult to provide a straightforward *syntactic* generalisation that characterises the types of noun phrases triggering object agreement.

3.2.2 Problems for syntactic approaches

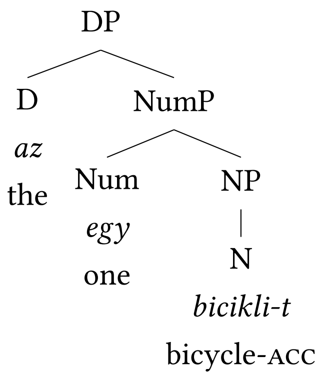
Bartos (1997, 1999, 2001) suggests a syntactic approach along these lines: he suggests that object agreement is determined by the syntactic structure of the direct objects. If and only if the direct object projects a DP, the verb shows object agreement. The intuitive appeal of this analysis follows from the distribution of determiners in the noun phrase. As shown in Section 2.2.1, indefinite determiners and numerals do not trigger object agreement. Bartos suggests that this is because they only project a NumP but not a full DP (due to projectional economy).

(3)



Since the nominal in (3) does not project a DP, it does not trigger object agreement. If it were to project a DP, it would trigger object agreement. Since a phrase like *egy biciklit* is compatible with a definite determiner, the following structure is also licit and the phrase *az egy biciklit* does trigger object agreement.

(4)



Since, as we have seen, there is no strict one-to-one mapping between object agreement and semantic properties, by extension this means that if Bartos (1999) is correct, there cannot be a strict one-to-one mapping between the syntactic structure of a noun phrase and its semantic properties either. The reason for this is that, for Bartos, even the indefinite noun phrases that require object agreement, like possessed direct objects, have to project a DP. If true, this means that the D head in Hungarian does not (always) give rise to a definite interpretation of the noun phrase. As we will see below, there is ample evidence that suggests that possessed noun phrases project more syntactic structure than an indefinite noun phrase like the one in (3). First, however, let me point out some more general problems for Bartos's (1999) approach (see also Coppock and Wechsler 2012; Coppock 2013 for extensive criticism).

One potential problem with respect to Bartos's analysis arises from the distribution of agreement with personal pronouns. Given the strong correlation between the presence of D and object agreement, first and second person pronouns have to differ in their syntactic structure from third person pronouns. This is in fact what Bartos (1999: 65ff.) suggests: because of referential differences between first and second person pronouns and third person pronouns, only the latter project a DP. The former, being indexical, do not need D to get their reference.[2] Bartos (1999) therefore suggests that first and second person pronouns are mere NumPs, but not DPs.

There are some problems with this assumption, however. First, to the best of my knowledge, there is no syntactic evidence showing that first and second person pronouns behave differently from third person pronouns in Hungarian apart from the matter at hand, object agreement. Second, while I have mentioned that the mapping between syntax and semantic structure might not be straightforward in Hungarian, NumPs are generally not indexical — they denote properties, but not indexicals (É. Kiss 2000; Déchaine and Wiltschko 2002; É. Kiss 2002).

This leads to a third problem: we have seen above that indexicality does not determine object agreement (see (2) above). For Bartos, however, the indexicality of the formal pronoun *ön* 'you (sg.)' would mean that it projects a DP, since it triggers agreement, while other indexical pronouns do not. Bartos's (1999) account for why first and second person pronouns should be NumPs therefore does not carry over to *ön*.

Finally, arguing that personal pronouns have different structures implies that the suffix *-lak/-lek* is not part of the general system of object agreement in Hungarian since second person would be a NumP. (3), repeated here, shows that *-lak/-lek* appears

[2] See Bartos (2001: 322) for a sketch of a different approach.

with second person objects and behaves like other object agreement suffixes (see the discussion in Section 2.2).

(5) a. *Én lát-ok valaki-t.*
I see-1sg.sbj someone-acc
'I see someone.'

b. *Én lát-om ő-t.*
I see-1sg.obj s/he-acc
'I see him/her.'

c. *Én lát-lak téged.*
I see-1sg>2 you.sg
'I see you (sg.).'

An approach to object agreement that treats this suffix as part of the regular agreement paradigm seems to be stronger. I will defer further discussion to Chapter 4, where I implement an analysis that overcomes the problems just mentioned.

A second problem for Bartos's DP hypothesis has been pointed out by Coppock and Wechsler (2012) and Coppock (2013) and relates to the universal quantifiers *mindegyik* and *valamennyi* 'each' and *minden* 'every' (and by extension to the determiners and quantifiers ending in *-ik*, discussed in Section 2.2.2.2, p. 34). The problem that arises for a syntactic approach to object agreement is that the quantifiers *minden* and *mindegyik* are in the same position in the noun phrase but only *mindegyik* 'each' triggers object agreement (see also Szabolcsi 1994; É. Kiss 2000). (6) illustrates this contrast in agreement.

(6) a. *El-olvas-ok / *el-olvas-om minden könyv-et.*
vm-read-1sg.sbj vm-read-1sg.obj every book-acc
'I read every book.'

b. *El-olvas-om / *el-olvas-ok mindegyik könyv-et.*
vm-read-1sg.sbj vm-read-1sg.obj each book-acc
'I read each book.'

For a syntactic approach, a solution would be to suggest that the two quantifiers are in different positions in the syntactic structure of the noun phrase, e.g. *mindegyik* projecting a DP, but *minden* only a NumP. É. Kiss (2000, 2002) suggests that this is the case: *-ik* quantifiers move to DP covertly, whereas *minden* is lower. Coppock and

Wechsler (2012) point out, however, that *minden* is higher than NumP, as it can take NumP complements (see also Kornai 1989).

(7) *Hardver minden két év-ben meg-dupláz-za kapacitás-á-t.*
hardware every two year-INE VM-double-3SG.OBJ capacity-3SG.POSS-ACC
'Hardware doubles its capacity every two years.'
(Coppock and Wechsler 2012: 726)[3]

Coppock and Wechsler (2012) and Coppock (2013) interpret this to mean that while *mindegyik* is specified as [DEF], *minden* is not. This hypothesis is supported by semantic differences between the two quantifiers. While Hungarian *minden* and English *every* are felicitous in contexts in which the domain they quantify over is undefined, *mindegyik* and *each* are less so (see also Beghelli and Stowell 1997 for differences between *every* and *each* in English and Bárány 2012b: Ch. 4).

(8) a. Every/?each girl likes to dance.
b. *Minden / ??valamennyi lány szeret táncol-ni.*
every each girl like.3SG.SBJ dance-INF
'Every/each girl likes to dance.'
(Coppock 2013: 360, (59)–(60))

Since *minden* and *mindegyik*/*valamennyi* appear in the same position inside the noun phrase and neither can appear with the definite determiner, Coppock and Wechsler (2012) and Coppock (2013) argue that there is no evidence that a syntactic difference between the two quantifiers leads to their different behaviour with respect to object agreement. Coppock (2013) suggests that because *mindegyik* and *each* need a salient set in the discourse context over whose members they quantify, *mindegyik* is anaphoric in the same way that other lexical items specified as [DEF] are as well.

3.2.3 Syntactic structure and person features

Given the problems just mentioned, it seems that neither a syntactic nor a semantic generalisation can account for the distribution of object agreement. Coppock's (2013) approach is actually not purely semantic in the sense that object agreement is triggered

[3] Cf. `http://www.liska.hu/fliska/bgates.htm`

by a formal feature, i.e. a feature visible for syntax — it is the distribution of this feature that is determined by semantic properties.

I will argue for such a combined approach here: the formal feature specification of the direct object noun phrase is what triggers object agreement, but the distribution of the features is determined by the syntactic structure of the noun phrase, rather than its interpretation. This approach has advantages in the analysis of possessive constructions, for example, because it links their shared syntactic structure (involving D) to the syntactic properties of other kinds of objects that trigger object agreement, even though possessive constructions can show a wider range of interpretations, from indefinite to definite. The same logic holds for personal pronoun objects, as I will show in detail in Chapter 4.

The ingredients of this kind of hybrid approach to object agreement are the syntactic structure of the (direct object) noun phrase, and a formal feature. As I have hinted at before, I take this formal feature to be a person feature. Recall that I assume that (in Hungarian) the inventory of person features consists of π, PARTICIPANT and SPEAKER, where π is a generic person feature (cf. Béjar and Rezac 2009, and Harley and Ritter's (2002) notion of "referring expression"). As discussed in Section 1.3, these features form sets of person features which correspond to [1], or first person, and [2] and [3], for second and third person, respectively. [3] is an abbreviation for a set of person features that only includes π, i.e. {π}.

Third person objects which trigger object agreement are specified as [3], whereas direct objects that do not trigger agreement lack this feature. I will argue that π in Hungarian grammaticalises presuppositionality. This means that direct objects triggering agreement are presuppositional, but it does not entail that all presuppositional noun phrases trigger agreement: an epistemically specific object with the indefinite determiner *egy* 'a' can be presuppositional, for example, but not by virtue of its feature content, but rather because of the discourse environment or the speaker's knowledge.

I further assume that person features in Hungarian are not expressed on all heads in the noun phrase, but rather that they are a property of D (Bernstein 2008; Longobardi 2008; M. Richards 2008; Danon 2011). When a noun phrase projects a DP, the D head introduces the possibility that the noun phrase is specified for φ-features expressing person (number being expressed lower, in NumP, see É. Kiss 2002; Dékány 2015). I argue that projecting DP is necessary to trigger object agreement but it does not suffice:

this resembles Bartos's (1999) hypothesis that DP structure triggers object agreement, but it is weaker, because Bartos claims that projecting DP is a necessary and sufficient condition for object agreement. D can be present but lack person features — in this case, it does not give rise to object agreement.

While weaker, this approach allows for an empirically more adequate analysis. I will follow Coppock and Wechsler (2012) and Coppock (2013) in assuming that certain lexical items have person features and that this correlates both with their syntactic and their referential properties. Again, this means that D can be present without a person specification, in which case a DP does not trigger object agreement.

For example, this approach makes it possible to represent the semantic difference between *mindegyik* and *minden* as the presence vs. absence of a person feature. As Coppock (2013) suggests, *mindegyik* is anaphoric or D-linked and presupposes the domain it quantifies over, whereas *minden* is not. In addition, it is necessary that this property be specified for certain (functional) lexical items, because we have seen above that specificity (and presuppositionality) that arises through the semantic composition and the influence of the discourse alone does not suffice to trigger object agreement (see (1), p. 49, for example). Some lexical items are therefore lexically specified for person features on D, while others are not.

Other determiners ending in *-ik*, as mentioned in Section 2.2.2.2 above, behave like *mindegyik* with respect to object agreement. In addition, the definite determiner, as well as demonstratives, personal pronouns and proper names also have a person feature. Non-referential uses of demonstratives and proper nouns, which were discussed in Section 2.2.3, lack this feature, which accounts for their behaviour with respect to object agreement (and they arguably have a different syntactic structure, as only non-referential proper nouns can appear with indefinite determiners, cf. (11) below).

By relying on syntactic structure (the presence or absence of D) and a formal feature (the presence or absence of person features), it is possible to account for subtle syntactic and semantic differences in the behaviour of noun phrases with respect to object agreement. This presents a way of capturing some of the "unexpected" data presented in Section 2.2.3. Recall that demonstrative pronouns sometimes do not require object agreement ((9) is repeated from (27), p. 43):

(9) a. *Az-t (az almá-t) kér-em.*
that-acc the apple-acc want-1sg.obj
'I want that one (/that apple).'

b. *Az-t kér-ek.*
that-acc want-1sg.sbj
'I want some of that.'

c. *Az-t e-het-sz, ami-t csak akar-sz.*
that-acc eat-mod-2sg.sbj rel-acc only want-2sg.sbj
'You can eat whatever you want.' (Bartos 1999: 116)

Since the demonstratives in (9b,c) only occur with subject agreement if they cannot take a complement, it is plausible to assign them a different syntactic structure: they are not DPs. Irrespective of their person features, they will not trigger object agreement, as they lack D. The demonstrative in (9a) *can* take a complement including a definite determiner, however, and crucially refers to the same entity with or without an overt nominal complement. Whether the complement *az almát* 'the apple' is present or not depends on the context; but there is no reason to assume that its feature specification differs, depending on whether its complement is overt or not. It behaves like a DP and is referential, which I take to be an effect of its person feature.

The second indefinite use of demonstratives mentioned above can be analysed along these lines as well ((10) is repeated from (29), p. 44):

(10) *Sétál-t az utcá-n és hírtelen lát-t-a ez-t az autó-t.*
walk-pst.3sg.sbj the street-sup and suddenly see-pst-3sg.obj this-acc the car-acc
'He was walking on the street yesterday and suddenly he saw this car.'

On their definite interpretations, demonstratives are plausibly still DPs, as their syntactic behaviour remains constant. They also refer in the way "regular" demonstratives do, so I take them to carry a person feature. Recall that (10) is ambiguous between a definite and an indefinite reading, but there is no change in the syntactic behaviour of the demonstrative.

The metonymic use of proper names can be characterised as lacking a DP layer, since such proper names can take modifiers and indefinite determines like other common nouns:

(11) *Egy unalmas Coelhó-t olvas-ott.*
a boring Coelho-ACC read-PST.3SG.SBJ
'S/he read a boring (book by) Coelho.'

These examples illustrate the logic behind this "hybrid" approach: one aspect relates to syntactic structure, since person features are only visible for agreement in D. In brief, I propose that object agreement is triggered when a noun phrase projects a DP and the D head is specified for person features. The importance of the syntactic structure is shown by the example in (10).

On its indefinite, cataphoric reading, the specific demonstrative in (10) is still referential and it triggers object agreement. This means that even though its interpretation with respect to definite, indexical demonstratives can change, there is no reason to assume that its structure differs from that of definite demonstratives. Because person features are formal features, they are immune to changes in interpretation induced by the context alone, i.e. whether an item with the same syntactic structure is interpreted in one way or another.

This also holds for indefinite determiners like *egy* 'a' and numerals. These items do not carry person features, but they can have specific interpretations. Nevertheless, since they are note lexically specified for person features, specificity alone will not give rise to object agreement (see also the discussion of (1), p. 49).[4]

Note that while I agree with Coppock and Wechsler (2012) that elements that trigger object agreement are lexically specified for a formal feature, I do not merely re-label Coppock and Wechsler (2012) and Coppock's (2013) [DEF] feature: I suggest that it is expressed only in a particular syntactic position, namely D. This is line with much cross-linguistic research on the role of D as the syntactic locus of referential properties (Longobardi 1994, 2001, 2005; Bernstein 2008; Longobardi 2008; M. Richards 2008). In addition, by making a connection to person features I make the strong claim that all personal pronouns trigger object agreement (*contra* Coppock and Wechsler 2012; Coppock 2013). I will argue that this is indeed the case in Chapter 4.

[4] I leave the question of how such specific interpretations arise open here. López (2012) suggests an account of DOM in Spanish, Persian, and other languages in terms of choice functions (see also Chung and Ladusaw 2004 who argue for different rules of semantic composition). In any case, the difference in specificity is not attributed to a difference in the formal feature content of the determiner.

First, however, I will provide further evidence for the role of both D and a formal feature in determining object agreement, by discussing the nature of Hungarian possessive constructions.

3.3 Evidence from possessive noun phrases in Hungarian

3.3.1 Types of possessors: nominative, dative, pronominal

In this section, I relate the structure of Hungarian possessive constructions to object agreement. I will only discuss those aspects of the nature of possessives that are relevant for my present purposes. For further and more general discussion of possessed noun phrases in Hungarian, see Szabolcsi (1983, 1987, 1994), Bartos (1999), den Dikken (1999), É. Kiss (2000, 2002, 2014) and Dékány (2015).

First, recall that in Standard Hungarian, possessed direct objects require object agreement, even when the noun phrase as a whole is indefinite. This is shown in (12), repeated from (17) above, including the structure that É. Kiss assigns to the example.

(12) Csak [$_{DP}$ egy diák-nak [$_{DP}$ [$_{NumP}$ két dolgozat-át]]] talál-t-a
only one student-DAT two paper-ACC find-PST-3SG.OBJ
jutalomra méltónak a zsűri.
of prize worthy the jury
'The jury found only one student's two papers worthy of a prize.'
(É. Kiss 2002: 173)

The structure in (12) shows a shell of two DPs on the direct object. The outer shell which includes the dative possessor *egy diák-nak* 'a student-DAT' is adjoined to the DP including the possessed noun *két dolgozat-á-t* 'two paper-3SG-POSS'. Evidence for this position comes from the fact that a dative possessor can precede a definite determiner:

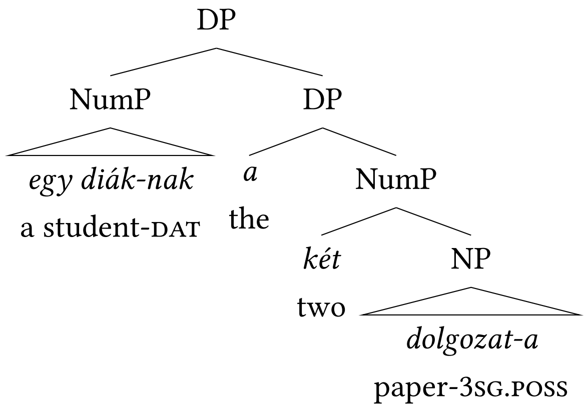
(13) [$_{DP}$ egy diák-nak [$_{DP}$ a [$_{NumP}$ két dolgozat-a]]]
one student-DAT the two paper-3SG.POSS
'a student's two papers'

This contrasts with unmarked possessors[5] which are in complementary distribution with the definite determiner (see also Section 2.2.2.3).

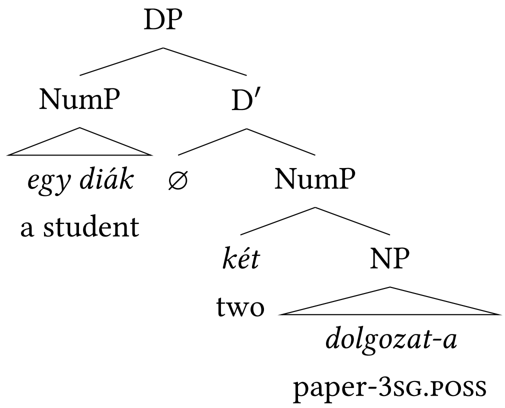
(14) [$_{\text{DP}}$ egy diák [$_{\text{NumP}}$ két dolgozat-a]]
a student two paper-3SG.POSS
'a student's two papers'

The two structures in (13) and (14) are repeated in (15a,b) for convenience.

(15) a.



b.



The presence of the unmarked possessor *egy diák* gives rise to a definite reading in (14) and (15b): the two papers in question are understood to be the unique two papers that stand in a possession relation with the student (though the nature of this possession

[5] É. Kiss (2000, 2002, 2014) and Dékány (2015) argue that unmarked possessors are in fact caseless and not nominative. This question is tangential to my present concerns, and my use of "unmarked", "nominative" or "caseless" merely serves to indicate the contrast to dative possessors.

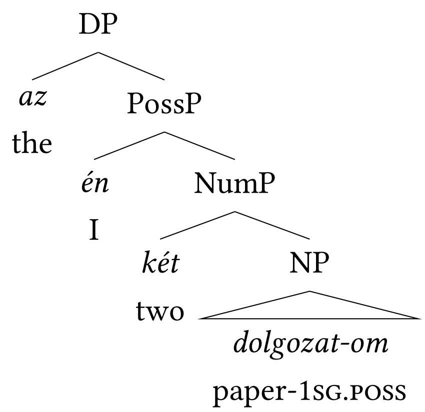
relation is underspecified and determined by the context). Since unmarked possessors generally have this semantic contribution to a possessive noun phrase, and given that they are in complementary distribution with the definite determiner, I analyse possessive DPs with such possessors as projecting a DP introducing a person feature, just like the definite determiner.

Since the unmarked possessor can be a phrase (as in (14) and (15a)), it is generally assumed to be in the specifier of D, and not in D itself. In principle, then, it should be possible to spell out a determiner in D: but this is not allowed. A possible way to account for this is that there is an allomorph of the definite determiner *a(z)* in D, whose zero spell-out is conditioned by the possessor in the same phrase. A different type of unmarked possessor appears when the possessor is a pronoun, as shown in (16).

(16) **(az) én két dolgozat-om*
the I two paper-1SG.POSS
'my two papers'

The pronominal possessor in (16) appears *following* the definite determiner, showing the need for an additional position for possessors in the left periphery of the noun phrase. The relevant parts of (16) are shown in (17) (cf. Dékány 2015: 8, (31); I abstract away from the syntactic representation of possessive morphology).

(17)



As Szabolcsi (1994) points out, personal pronouns cannot appear with definite determiners in general which suggests that *az* in (17) fills the D position of the whole possessive noun phrase (this is compatible with pronouns being DPs; cf. Déchaine and

Wiltschko 2002). Given the similarities in meaning between (16) and (17), this is another argument for the existence of a null allomorph of the definite determiner when the possessor is an unmarked noun phrase rather than a personal pronoun.

In brief, possessed noun phrases with overt unmarked phrasal and pronominal possessors pattern with noun phrases that include a definite determiner: they have a definite interpretation and they trigger object agreement.

3.3.2 Non-specific possessives and dative possessors

The syntax of dative possessors is more complex than that of unmarked possessors. As we have seen above, dative posessors are usually analysed as being in a higher position in the possessed noun phrase than unmarked and pronominal possessors (for the nature and the origin of this dative case, see Szabolcsi 1994; Bartos 1999; den Dikken 1999; É. Kiss 2000, 2002, 2014).

In addition, it is possible for dative possessors to appear in a position that is not adjacent to other elements in the possessed noun phrase, as shown in (18). This is impossible for unmarked possessors.

(18) a. *Péter-nek olvas-t-a (a) dolgozat-á-t.*
Péter-DAT read-PST-3SG.OBJ the paper-3SG.POSS-ACC
'It was Péter's paper s/he read.'

b. **Péter / ő olvas-t-a a dolgozat-á-t.*
Péter s/he read-PST-3SG.OBJ the paper-3SG.POSS-ACC

In fact, as shown by Szabolcsi (1994) dative possessors *must* sometimes extract out of the possessed noun phrase (see also É. Kiss 2002: Ch. 7). Crucially, this notion of extraction refers to constituency, and not merely the surface word order. The constituency of possessed direct objects can be diagnosed by certain syntactic tests. Consider again the way Hungarian expresses the relation *to have* (repeated from (16), p. 36):

(19) a. *Mari-nak van egy macská-ja.*
Mari-DAT is a cat-3SG.POSS
'Mari has a cat.'

b. *Mari-nak nincs macská-ja.*
Mari-DAT is.NEG cat-3SG.POSS
'Mari does not have a cat.'

c. **Mari van macská-ja.*
Mari.NOM is cat-3SG.POSS
intended: 'Mari has a cat.'

Hungarian uses a dative noun phrase to express the possessor, a copula (with positive or negative polarity) and a possessed noun instead of a verb meaning 'to have'. (19a,b) illustrate that the dative possessor does not have to be adjacent to the possessed noun. (19c) shows that only dative possessors can appear in this construction.

That the dative possessor is actually extracted from the constituent of the possessed noun is shown by the test in (20). Focus particles like *csak* force a single constituent into the pre-verbal focus position (Szabolcsi 1994; É. Kiss 2002).

(20) a. *Csak egy diák-nak két dolgozat-á-t olvas-t-uk.*
only one student-DAT two paper-3SG.POSS-ACC read-PST-1PL.OBJ
'We only read one student's two papers.'

b. **Csak Mari-nak macská-ja van.*
only Mari-DAT cat-3SG.POSS is

c. **Csak Mari macská-ja van.*
only Mari cat-3SG.POSS

(20a) shows that a dative possessor can form a constituent with its possessed noun (cf. also (17)). (20b) shows that when expressing the *have*-relation, the dative possessor cannot form a constituent with the possessed noun; (20c) shows that the unmarked possessor is also ungrammatical in this case. Szabolcsi (1994) suggests that this is because (20b,c) constitute definiteness effect contexts which can only take non-specific arguments (cf. also Szabolcsi 1986). Because the structures in (20), in which the possessors are not extracted, are ungrammatical, Szabolcsi concludes that non-specific possessed nouns that can appear in such contexts *cannot* form a constituent with their possessor:

(21) a. When the possessor is inside DP (in the nominative or in the dative), DP is specific (potentially also definite).

b. For DP to be non-specific, it must have the possessor extracted (in addition to not containing any specific determiner, of course).

(Szabolcsi 1994: 226)

3.3.3 Possessed noun phrases and object agreement

Let us now consider how this conclusion relates to object agreement in Hungarian. For ease of exposition, I will first consider data from non-standard varieties of Hungarian. As mentioned above, in Standard Hungarian (and according to some grammars, e.g. Rounds 2002; Törkenczy 2002) possessed direct objects always trigger object agreement. There are, however, speakers of Hungarian who allow possessed direct objects to appear with verbs that agree only with the subject (see e.g. Rácz 1968; Szabolcsi 1994; Bartos 1999; É. Kiss 2000; Kiefer 2003; H. Varga 2010; Bárány 2014b).[6] These varieties are interesting as they show a clear correlation between the syntactic structure and the interpretation of possessed direct objects: only possessed objects whose possessor has been extracted can appear without object agreement.

(22) shows an example in which the direct object is a possessed noun phrase and the verb only agrees with the subject.

(22) *Liszt Ferenc-nek talál-t-ak ismeretlen kézirat-a-i-t.*
Liszt Ferenc-DAT find-PST-3PL.SBJ unknown manuscript-3SG.POSS-PL.POSS-ACC
'Unknown manuscripts by Ferenc Liszt were found.'
(É. Kiss 2000: 142)

É. Kiss (2000) points out that the same restrictions hold for the object in (22) as for non-specific possessives discussed in the previous section: the possessor cannot form a constituent with the possessed object, so (23) is impossible.

(23) **Csak L. F.-nek ismeretlen kézirat-a-i-t talal-t-ak.*
only L. F.-DAT unknown manuscript-3SG.POSS-PL.POSS-ACC find-PST-3PL.SBJ
(É. Kiss 2000: 142)

[6] Even though much of the literature refers to examples of subject agreement with possessed direct objects like (22), it is not very clear which speakers of Hungarian actually accept these constructions. Most authors merely refer to non-standard, "minority" (Szabolcsi 1994) or "archaic" (É. Kiss 2000) varieties, but not much more about this or these varieties is known.

It should also be noted that in a series of online surveys, Bárány and Szalontai (2015) have found no evidence for the dialectal variation reported in the literature. The data presented here therefore reflect judgments by the authors reporting them (Szabolcsi, É. Kiss, Bartos; see H. Varga 2010; Bárány 2014b for some literary data). I take the data to be found on the internet to be representative as well, as they are unlikely to arise from typos.

In addition, the predicate *talál* 'to find' requires a non-specific complement. The following examples, with unmarked possessors, are also ungrammatical.

(24) a. **Tálal-t-ak L. F. ismeretlen kézirat-a-i-t.*
find-PST-3PL.SBJ L. F. unknown manuscript-3SG.POSS-PL.POSS-ACC

b. **Talál-t-ák L. F. ismeretlen kézirat-a-i-t.*
find-PST-3PL.OBJ L. F. unknown manuscript-3SG.POSS-PL.POSS-ACC
(É. Kiss 2000: 142, (51a,b))

Szabolcsi (1994) cites similar examples, arguing that in (25) the possessed direct object scopes under the negation and receives the non-specific interpretation shown in the English translation.

(25) *Chomsky-nak nem olvas-t-ál vers-é-t.*
Chomsky-DAT not read-PST-2SG.SBJ poem-3SG.POSS-ACC
'You haven't read any poem of Chomsky's.' (Szabolcsi 1994: 227)

Analogous examples can also be found outside of the linguistic literature, although often without an overt possessor, and sometimes including overt modifiers like *néhány* 'some' or *egy vagy több* 'one or more' as in the following examples.

(26) a. *Ha valaki meghív-ott egy vagy több barát-já-t …*
if someone invite-PST.3SG.SBJ one or more friend-3SG.POSS-ACC
'If someone invited one or more of their friends …'[7]

b. *Legalább tisztáz-ná-l vele néhány problémá-d-at …*
at least clarify-COND-2SG.SBJ with him/her some problem-2SG.POSS-ACC
'At least you would clarify some of your problems with him/her …'[8]

Given the existence of such structures, Szabolcsi (1994) and É. Kiss (2000) argue that like in contexts expressing the *have*-relation, possessed direct objects can only appear with subject agreement if the dative possessor is extracted (in the relevant varieties). This rules out non-agreeing direct objects with unmarked possessors[9] and those with

[7] `http://hu.pokerstrategy.com/forum/thread.php?threadid=116626&page=6`, 7/10/2015.

[8] `http://www.nlcafe.hu/forum/?fid=441&topicid=159911&step=2&page=755`, 7/10/2015.

[9] At least this seems to be the general consensus. Kornai (1989) suggests that some speakers of Hungarian even accept unmarked possessors of direct objects that do not require subject agreement. I do not agree with this judgment and I have not been able to find such examples.

dative possessors that form a constituent with the possessed noun, like (23) above (I will come back to the nature of covert possessor below).

The restriction on the distribution of possessors is a syntactic restriction on the structure of possessed noun phrases that has a correlate in object agreement.

3.3.4 The structure of possessed noun phrases

Having established the existence of a syntactic restriction on the distribution of dative possessors and the interpretation of possessed noun phrases, I now turn to the discussion of the structure of possessed noun phrases in more detail. I have argued above that object agreement is only triggered by noun phrases that are DPs and have person features represented on D. This proposal can be carried over to the analysis of the structure of Hungarian possessed nouns.

The basic idea is as follows: possessive constructions that trigger object agreement have person features by virtue of projecting a DP layer with a potentially null determiner, which carries person features. Non-specific noun phrases lack this layer and therefore do not give rise to object agreement (or a referential interpretation). This could explain why their possessor has to be extracted, too: there is no place for it in the specifier of DP. This analysis closely follows Bartos (1999: 106) who suggests that possessor extraction can go ahead from a position below D (see also Bartos 2001: 319).[10]

In what follows, I will only discuss the structure of possessive constructions insofar as they are relevant for present purposes and I will basically adopt the structures suggested in Dékány (2015), which are in turn based on Szabolcsi (1994), Bartos (1999) and É. Kiss (2002) (for further overviews see Szabolcsi 1983, 1987; den Dikken 1999; É. Kiss 2000; Dékány 2011; see also Chisarik and Payne 2001; Chisarik 2002; Laczkó 2007).

[10] A comment is in order here: recall that it is only true for possessed objects in non-standard varieties that they do not trigger object agreement. Szabolcsi (1994) suggests that non-specific possessives in Standard Hungarian do trigger agreement, like all other possessives.

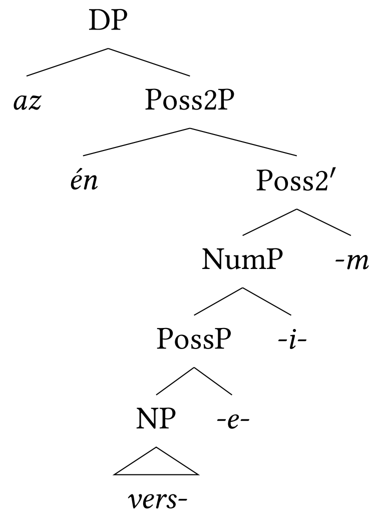
However, indefinite possessed objects that can be interpreted as non-specific are generally ambiguous and can also be interpreted as specific (or referential). On any analysis of object agreement with possessed direct objects, non-specific direct objects are the only non-referential type of noun phrases triggering object agreement, an interesting irregularity with respect to object agreement in general (also noted by Szabolcsi 1994; see also Bárány 2012b). Further research about how readily speakers allow non-specific readings of possessed direct objects is necessary to shed light on this question.

The structures include the following functional projections: NumP, which indicates the number of the possessum; two PossPs, which are necessary to account for some complex possessive suffixes.[11] The lowest position for a possessor is the specifier of Poss2P, just below DP. The following examples illustrate this with unmarked phrasal and pronominal possessors, as well as dative possessors. I will use the lexical material shown in (27) in the trees below (cf. (25) above):

(27) *Chomsky / (az én) vers-e-i-(m).*
Chomsky the I poem-3SG.POSS-PL.POSS-(1SG.POSS)
'Chomsky's / my poems.'

Unmarked pronominal possessors These possessors appear with the definite determiner preceding the possessor, providing evidence for a possessor position below DP. They cannot be extracted and form a constituent with the possessed noun.

(28)



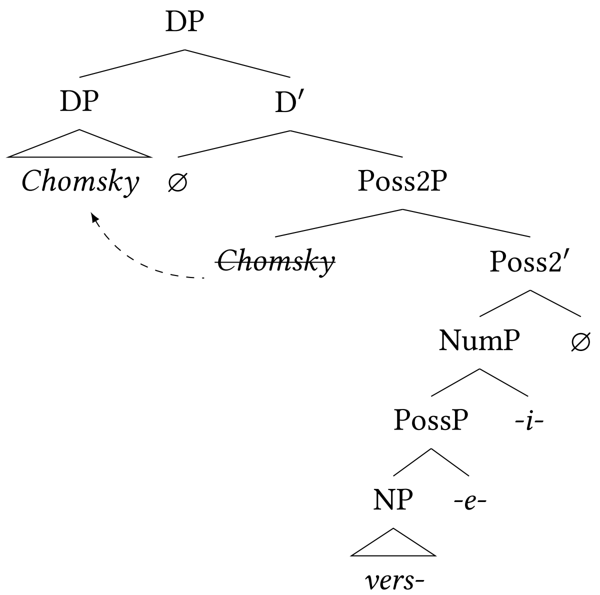
[11] Dékány (2015) identifies the suffixes *-e-i-m* in (27) as separate heads. Both *-e-* and *-m* indicate possession, but *-i-* is a plural suffix and intervenes between the two possessive morphemes. What is relevant for the present discussion is that the pronominal possessor follows the definite determiner and precedes numerals in the specifier of NumP:

(i) *az én két vers-em*
the I two poem-1SG.POSS
'my two poems'

See Dékány (2015) for further discussion.

Unmarked phrasal possessors These possessors are in SpecDP and cannot appear with a definite determiner. They cannot be extracted and therefore form a constituent with the possessed noun. The possessor arguably moves to SpecDP from SpecPossP (indicated by the dashed arrow).

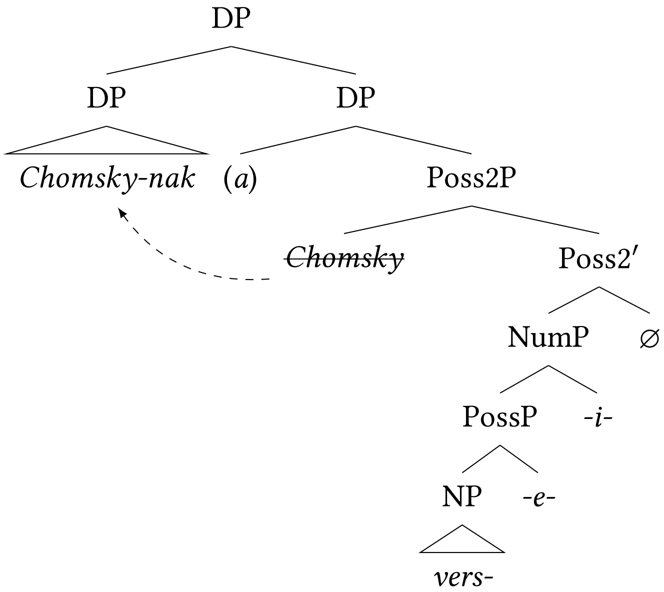
(29)



Dative pronominal/phrasal possessors Dative possessors can appear inside the possessed noun phrase, forming a constituent with it, but they can also be extracted, and *have to* be extracted in order for the possessed noun to be non-specific. Phrasal and pronominal possessors behave alike. Again, the possessor arguably moves to its final position from a SpecPoss2P.[12]

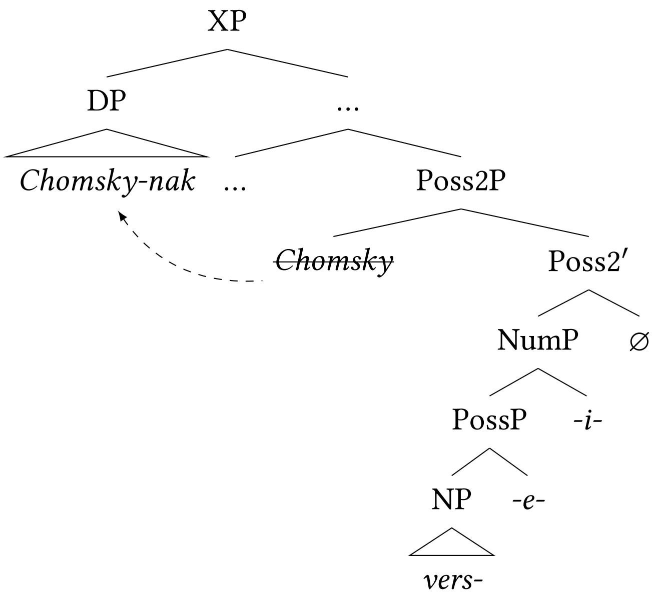
[12] The origin of the dative on these possessors is not directly relevant for the present discussion. I simplify these structures by leaving open whether the lower copy of the possessor in (30) already has dative or not; see Szabolcsi (1994), Bartos (1999), den Dikken (1999) and É. Kiss (2002) on different proposals about the origin of the dative; cf. also Georgi (2014: 198ff.).

(30)



Extracted possessors Following Bartos (1999) and É. Kiss (2000, 2002), I suggest the following structure for the remnant of an extracted possessor that gives rise to a non-specific interpretation.

(31)



Several questions arise at this point with respect to the position of the extracted dative possessor in (31) and what triggers its movement; in any case, the dative possessor has to move to a position that is not part of the extended projection of the possessive construction. See É. Kiss (2014) for a recent analysis.

I suggest that the reason why the structure in (31), as opposed to the one in (30), for example, does not trigger object agreement is that it lacks the D head (again, basically following Bartos 1999). This implies that other possessive constructions (those that are not non-specific) project a DP and include a D with person features: in these constructions the possessors form a constituent with the noun and we have seen evidence above that they all project DP. For dative possessors, it is possible to spell out this overt D. For nominative possessors, it is not, but they are in complementary distribution with the definite determiner. Finally, for pronominal possessors, the definite determiner is obligatory. There is thus reason to assume that when D is projected in possessive constructions, the whole noun phrase is specified as having person features (see Danon 2011 for an analysis of DP-internal feature sharing).

Note that given the feature system I introduced above, this proposal requires another ingredient, namely the presence of an element in the noun phrase that introduces a person feature. This is straightforward with pronominal possessors, which require D to spell out overtly, but less clear with nominative and dative possessors. Given that there is no *a priori* reason why nominative possessors should rule out the presence of a definite determiner, it is possible that a null allomorph of the definite determiner can be spelled out when DP's specifier is filled.

To summarise briefly: in the varieties of Hungarian that do not require object agreement with possessed direct objects, there is a clear correlation between syntactic structure and interpretation. The possessed noun can only be interpreted as non-specific when the possessor does not form a constituent with it. I have suggested that this can be illustrated by the structure in (31), having left open some properties of the dative possessor for now.

3.3.5 Possessed direct objects in Standard Hungarian

The discussion in the previous section focused on a non-standard variety of Hungarian. We saw that the syntax-semantics mapping in this variety seems to be more 'regular' in that object agreement does seem to have a certain interpretational correlate because only specific possessed direct objects require agreement (cf. the data in Section 3.3.3). In addition, most accounts of object agreement in Hungarian aim to account for both these and the standard variety. I turn to the latter now.

The facts are described easily: whenever a direct object is a possessed noun phrase, it triggers object agreement, even when it is non-specific (Szabolcsi 1994). Bartos (1999) suggests that this results from the fact that the option of extracting the possessor from below DP is not available in Standard Hungarian (i.e. the structure in (31) is never derived). This is technically possible and I will tentatively adopt this solution.

I argued above that both syntactic structure (the presence or absence of D) and formal features (the presence or absence of person features) determine object agreement. One way of characterising the difference between the non-standard varieties of Hungarian and the standard-varieties of Hungarian is the choice of D head that is part of possessive constructions. Since possessive constructions with phrasal nominative possessors are always definite, I have assumed that they include a null D head that carries person features. The same is true of possessive constructions with pronominal nominative possessors: these spell out the definite determiner overtly.

Constructions with dative possessors differ across the varieties, however. As Szabolcsi (1994) points out, non-standard varieties are more regular in this respect, since their syntactic structure, their interpretation, and behaviour with respect to object agreement pattern together. Bartos (1999) suggests that these lack D and therefore do not trigger agreement. He suggests that in the standard variety, it is simply not possible to derive possessive constructions without a D head, and therefore all trigger object agreement.

If person features and syntactic structure determine agreement together, it is possible that possessive constructions have the same syntactic structure across the varieties, but that non-standard varieties allow for the D head to surface without a person feature. Standard varieties, however, might lack this option: here, all D heads in possessive constructions come with a person feature and therefore trigger object agreement. This would mean that there is a mismatch between the presence of a person feature on D and the existence of non-specific readings of such possessive noun phrases in standard Hungarian (see also footnote 10 above).

In sum, there is clear evidence that the syntactic structure of the possessive constructions influences object agreement across all varieties of Hungarian, since nominative possessors do not show any variation. Constructions with dative possessors pose a more difficult analytical challenge, but D seems to play a role in these constructions, too. Bárány and Szalontai (2015) find that speakers generally prefer possessive constructions with a dative possessor with an overt determiner over those that lack an overt determiner (both for definite and indefinite determiners). Note that Bárány and Szalontai's (2015) surveys do not test for the interpretation of possessed noun phrases: it is not clear how common non-specific possessed DOs are. I conclude that while there is evidence for the role of syntax in determining object agreement with possessive constructions, further research is needed in this domain.

Before concluding this section, I turn to an alternative proposed by Coppock and Wechsler (2012) and Coppock (2013), namely that the nature of the possessor is irrelevant, and that it is the possessive suffix that determines object agreement.

3.3.5.1 *A potential alternative: the possessive suffix as the trigger*

I have argued above that there is a syntactic restriction on the distribution of object agreement with possessed noun phrases in some varieties of Hungarian: in order for subject agreement to be grammatical, the possessor has to be extracted from the noun phrase. Following Bartos (1999), I suggested that this can be modelled syntactically by assuming that the lack of a D projection leads to subject agreement. In this section, I consider an alternative approach to deriving object agreement, in particular with respect to possessive constructions and argue that the more syntactic approach suggested above covers a wider range of data (see also Bárány 2014b).

Coppock and Wechsler (2012) and Coppock (2013) propose that certain lexical items come specified for a feature called [DEF] (note again the connection to person features in the present analysis). Because possessed direct objects often trigger object agreement, these authors suggest that the possessive suffix is one of the lexical items that is specified as [+DEF] and therefore possessive constructions give rise to object agreement. Note that Coppock (2013) only considers varieties of Hungarian in which possessed direct objects can co-occur with subject agreement, i.e. non-standard varieties.

The system works as follows: lexical items can be specified as [+def], [−def] or lack a specification for the feature. A principle of percolation ensures that the feature on an embedded head is projected upwards in the noun phrase. Since different lexical items can have conflicting feature specifications, this system predicts that there can be feature clashes in the noun phrase, for example when one lexical item introduces a feature [−def] and another one introduces [+def]. This is a welcome consequence for Coppock (2013), however. We have seen that there *is* variation with respect to object agreement with possessed direct objects. Coppock suggests that this is due to the conflicting feature specification. The following example illustrates this reasoning.

(32)
[−def]/[+def]

[−def] [+def]

néhány *titk-od*

'some' 'secret-2sg.poss'

(Coppock 2013: 368)

Coppock suggests that in (32) both [−def] and [+def] are present on the noun phrase, and either feature can determine agreement. She suggests that this "predicts [that] there is variation and uncertainty in the judgments about the subjective vs. objective conjugation in this case" (Coppock 2013: 368).

There are some problems with this account: first, it ignores the fact that the syntactic nature of the possessor influences the choice of agreement (as discussed above). Second, relying on both [+def] and [−def] leads to false predictions about the distribution of object agreement. I will expand on this argument in connection with (33). Third, the semantic analysis of [+def] in Coppock (2013) predicts that there are existential presuppositions where there are in fact none. I elaborate on this argument in connection with (34).

Let us consider the syntactic argument first. The reasoning for the variation in object agreement with respect to (32) was the presence of both features in the noun phrase. Imagine a situation in which there is no determiner that introduces [−def]. The prediction is that in such cases the [+def] will always give rise to object agreement. This, in turn, predicts that unmodified possessed direct objects always trigger object agreement. This prediction is false, however. Consider (33), repeated from (25) above.

(33) *Chomsky-nak nem olvas-t-ál vers-é-t.*
Chomsky-DAT not read-PST-2SG.SBJ poem-3SG.POSS-ACC
'You haven't read any poem of Chomsky's.' (Szabolcsi 1994: 227)

In (33), the possessed noun does not have a modifier, so there is no element that could introduce [−DEF] into the structure in (33): there is no feature conflict and if the possessive suffix is indeed specified for [+DEF], the system outlined above fails to account for the lack of object agreement.

There is also a semantic problem with Coppock's (2013) analysis of the possessive suffix. As we have just seen, it is argued to be specified as [+DEF] and Coppock treats the suffix as a presupposition trigger. We have already seen, however, that possessed nouns can appear as complements to predicates that require a non-specific argument. In such cases, the argument does not carry an existential presupposition. Consider the following example, repeated from (16b) above.

(34) *Mari-nak nincs macská-ja.*
Mari-DAT is.NEG cat-3SG.POSS
'Mari does not have a cat.'

(34) asserts that it is not the case that there is a cat-individual that stands in a possession relation to *Mary* and crucially, (34) does not presuppose the existence of any such cat-individual. Recall also that according to Coppock (2013) the feature [DEF] is what determines the difference in presuppositionality between *minden* and *mindegyik* (see (8) on p. 53 and the discussion there). The feature [DEF] cannot be present on the possessive suffix, however, since the interpretation of (34) is not presuppositional.

I take these facts to show that the possessive suffix is not the trigger of object agreement. This assumption makes false predictions about the distribution of object agreement and the interpretation of possessed noun phrases in non-specific contexts.

3.3.5.2 Interim summary

In this section, I have illustrated several aspects of Hungarian possessive constructions. First, they can appear with different kinds of possessors: they can be phrasal or pronominal, and both types can be unmarked or in dative case. I have discussed evidence that certain predicates require non-specific arguments. These predicates also require the possessor to be extracted from the noun phrase.

The same syntactic requirement holds when a possessed noun phrase is a direct object. In the varieties of Hungarian that allow subject agreement with possessed direct objects, the possessor of these noun phrases *must* be extracted, according to the literature.

I have argued that this provides evidence for locating the trigger of object agreement in the D layer of the noun phrase: possessors are located in the periphery of the noun phrase. Since removing a possessor from this periphery bleeds object agreement, associating the D layer with object agreement is a sensible hypothesis. To strengthen this syntactic argument, I have pointed out some shortcomings of an analysis that treats the possessive suffix as the trigger of object agreement.

Questions remain, however. To the best of my knowledge, it is not known which varieties of Hungarian allow for variation in object agreement with possessed direct objects (Bárány and Szalontai 2015). Given that the present (and other analyses) focus on these non-standard varieties to a large degree, it is important for future research to get a clearer picture of the relation between the non-standard varieties and Standard Hungarian. Otherwise, it is not clear which grammatical system linguists are actually describing.

In a nutshell, the problem is the following: because possessors have to be extracted in both standard and non-standard varieties when a possessed noun is non-specific, there is a parallel syntactic requirement on such structures. However, while in non-standard varieties the syntactic process of possessor extraction correlates with interpretation and the absence of object agreement, in the standard variety, we only see a correlation in interpretation. More research on these structures and their exact properties is therefore needed to settle these questions definitely. Part of this research involves collecting more data to determine the reality and the properties of the varieties in question; another part is to provide further evidence for the internal structure of noun phrases and the relation of external possessors to the possessed noun (see den Dikken 1999; É. Kiss 2014 for such attempts).

3.3.6 Conclusions: syntactic structure and person features

In this section, I have argued for a “hybrid” trigger of object agreement in Hungarian: object agreement is not triggered by a purely syntactic or a purely semantic property alone, but by syntactic structure and the presence of person features. Object agreement is only triggered by a D head that is specified for person features. If D lacks person features, it does not trigger agreement.

This analysis bears some resemblance to work by Coppock and Wechsler (2012) and Coppock (2013) who suggest that the trigger of object agreement is determined lexically (see also Farkas 1990 who argues for the need of a *morphological* feature [def]). But the present approach incorporates insights from Bartos (1999) who argues that the mere presence of D determines object agreement, independently of its feature content.

I pointed out certain problems for both syntax-only and semantics-only approaches. For the former, the syntactically identical behaviour of the universal quantifiers *minden* and *mindegyik* is problematic, while for the latter, the wide range of possible interpretations of noun phrases triggering object agreement is a problem.

I showed that specificity does not *per se* trigger agreement (following *i.a.* Coppock and Wechsler 2012) but that certain classes of lexical items that *are* specific do, namely the *-ik*-determiners discussed in Section 2.2.2.2. I take this to mean that there is a formal feature that indicates that a lexical item contributes a presupposition to a noun phrase. I further suggest that this formal feature is grammaticalised as π in Hungarian, and is therefore present on any direct object with a person specification, including first and second person noun phrases, discussed in Chapter 4.

The fact that this feature is a formal feature of lexical items distinguishes its semantic effect from specificity that arises via the semantic composition directly, i.e. from cases of ambiguity between specific and non-specific readings with determiners like *néhány* ‘some’ or the indefinite determiner *egy* ‘a’. I further argued (and will argue below) that this formal feature is a person feature.

The syntactic position of this person feature is also relevant, however. I followed Bartos (1999) and É. Kiss (2000, 2002) in suggesting that the class of noun phrases triggering object agreement behave alike syntactically and project the same structure, namely a DP. Object agreement in Hungarian is therefore not triggered by definiteness, specificity or other semantic properties, but by the interaction between person features and syntactic structure.

3.4 An implementation of object agreement

In the next chapter, I will show that the distribution of object agreement with personal pronouns provides a good argument in favour of treating Hungarian object agreement as the spell-out of an Agree relation between *v* and the direct object. In this section, I will specify how this Agree relation works and how the differential character of object agreement can be modelled.

As mentioned before, the main claim of this chapter is that in Hungarian, the verb agrees with the object when the object has person features. I will refer to these as π-features (Béjar 2003; Béjar and Rezac 2009) to distinguish them from φ-features proper which also include number (and gender, in languages where it is grammaticalised). Since the verb does not agree with its object in number, it suffices to refer to π-features (I will use both "π" and "person" equivalently).

If the verb only agrees with objects that have person features, there must be noun phrases that lack person features. I follow Bernstein (2008), Longobardi (2008) and M. Richards (2008) in assuming that definiteness, animacy and person are connected and that they are specified in the D layer of the noun phrase. Noun phrases that lack this D layer lack visible person features and are thus not available for agreement with *v*. At the same time, it is possible to project a D layer but lack person features, as in the case of the quantifier *minden* 'every', discussed below. The argument for object agreement in person will be presented in more detail in Chapter 4, but here I focus on implementing the general approach to object agreement in Hungarian. I will first discuss the role of person features before illustrating the way these features interact with Agree in the syntactic derivation.

3.4.1 Object agreement and person features

I have argued above that both the presence of formal features and the projection of DP are necessary. I treat D as the locus where φ-features, and therefore person features, are expressed (see Bernstein 2008; Longobardi 2008; M. Richards 2008; Danon 2011 for arguments of D as a person head; see also Höhn 2015; van der Wal 2015).

I interpret this proposal to mean that there are four, rather than three persons: first and second person remain the same, but what is traditionally referred to as "third" person can be divided into two sub-classes: definite and indefinite, animate and inanimate, or obviative and non-obviative, for example. On M. Richards's (2008) analysis, definites and animates carry a person feature, but indefinites and inanimates do not. Person is thus tied to referential and semantic properties. Given that definites and indefinites can have different kinds of semantic referents (individuals vs. properties; cf. Longobardi 1994, 2005, 2008 for a similar view), this is a welcome consequence. Note also that a common noun lacking a person feature be provided with one by combining with a definite determiner, which carries a person feature and is merged in D. I discuss a similar case of an animate determiner in Section 5.4.2.2.

M. Richards (2008) in particular proposes that since third person noun phrases are the only ones that can be indefinite (and inanimate), it is possible to treat definiteness (and animacy) as person features: he suggests that indefinites can be treated as lacking a person feature and thus definiteness (cf. Adger and Harbour 2007 for a similar proposal with respect to animacy). These views also fit with Bartos's (1999) proposal of linking object agreement to DP, as well as É. Kiss's (2000, 2002) suggestions that DPs refer to individuals and smaller projections (like NumPs) refer to properties.

My perspective is slightly different. While person features are expressed on D, the set of person features of a noun phrase can be empty. This makes the present system more flexible which is empirically necessary as object agreement in Hungarian does not simply correlate with definiteness. The exact semantic contribution of person features remains an open question, but I propose to link it to presuppositionality in the sense that noun phrases that have person features presuppose the existence of an individual they refer to while noun phrases lacking it do not (this can be a salient set in the discourse as with *-ik* determiners). As M. Richards (2008: 139) puts it, person is the syntactic representation of specificity, definiteness or animacy. I suggest that in Hungarian, the person feature π grammaticalises referentiality.

This allows me to capture the behaviour of definite determiners, demonstratives, personal pronouns (I will return to these below and in Chapter 4), as well as the class of *-ik*-determiners that are D-linked and presuppose a referent or a domain restriction to quantify over. This characterisation differs from Coppock's (2013) proposal that noun phrases with the feature [DEF] have to be anaphoric; her proposal specifically excludes first and second person pronouns from the triggers of object agreement. My proposal includes them as triggers of object agreement. Possessive constructions are a further difference: Coppock argues that the possessive suffix is a presupposition trigger. We have seen in Section 3.3.5.1 that this analysis makes wrong predictions about the distribution of presuppositions. Locating person features inducing referentiality in D avoids this. We have seen evidence from non-standard varieties of Hungarian that object agreement with possessed direct objects correlates with their syntactic structure: only when the possessor is extracted can the verb fail to agree with the object (see the discussion in Section 3.3).

In the spirit of M. Richards (2008) and related work, I thus propose that the features triggering differential agreement in Hungarian are person features. Hungarian nominals can then be split into four classes: first, second, and third person, as well as a person-less class of noun phrases that include indefinites and other non-referential noun phrases. In Hungarian, this latter class consists of those noun phrases that do not trigger object agreement. Other languages have been argued to make similar distinctions, too. Lochbihler (2008, 2012) discusses the Algonquian language Ojibwe, which distinguishes different "third" persons for "proximate" and "obviative" categories (see also Zúñiga 2006 for other Algonquian languages). See Mithun (1999: Sect. 3.1) for discussion of types of "fourth" person.

I will assume that these four persons in Hungarian are represented as shown in (35) (cf. (5) in Chapter 1).

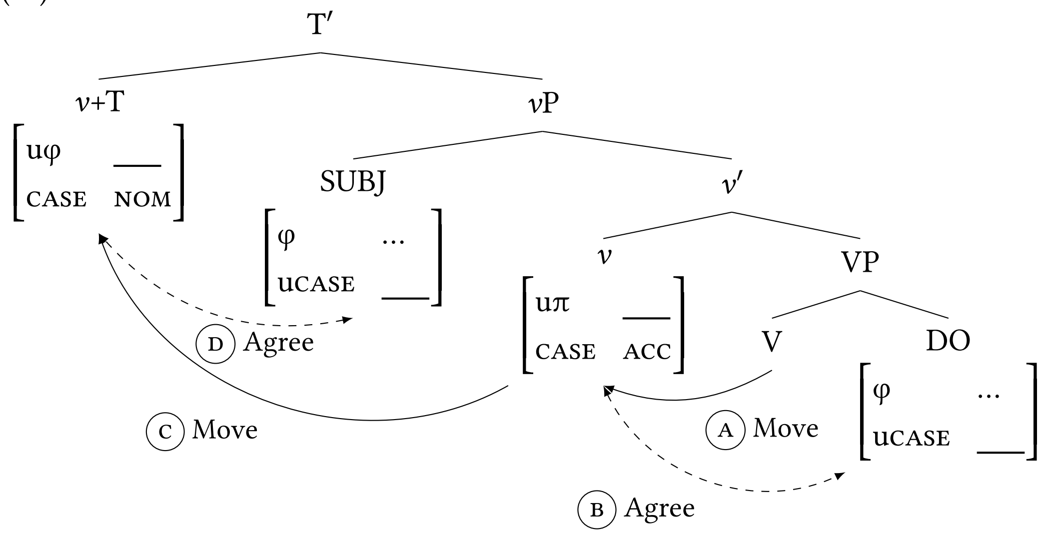
(35) $[1] = \left\{\begin{array}{l}\textsc{speaker},\\ \textsc{participant},\\ \pi\end{array}\right\}$ $[2] = \left\{\begin{array}{l}\textsc{participant},\\ \pi\end{array}\right\}$ $[3] = \left\{\pi\right\}$ $[\ ] = \{\}$

Subject agreement appears with any kind of noun phrase, but object agreement is only sensitive to noun phrases with person features. This, of course, is differential object marking. However, it also highlights an asymmetry between subject and object agreement: why can subjects that lack person features trigger agreement? I propose that the difference lies in the fact that subject agreement is sensitive to number, in addition to person, whereas object agreement is not. A subject will always agree in number with T, and I suggest that this number agreement always entails agreement in person, too (see also Adger and Harbour 2007 and the discussion in N. Richards 2010: 81; I will return to the question of such asymmetries in Chapter 6).[13]

3.4.2 Deriving agreement

The asymmetry just discussed will be reflected in the following derivations by a difference in the feature content of T and *v*. While T has a full φ-probe, including person and number, *v* only ever agrees in person, i.e. it lacks a number probe. In (36), and below, this is represented as uφ and uπ, respectively. (36) shows a schematic derivation that illustrates the order of Agree and Case valuation as well as movement.

(36)



The order of operations in (36) is as follows:

A V is merged with the direct object; it subsequently moves to *v*.

B Agree between *v* and DO, valuation of π and CASE features.

C Movement of *v* to T.

D Agree between *v*+T and SUBJ, valuation of φ and CASE features.

[13] Note that this does not mean that all subjects are DPs. This rather suggests that a number probe can see different layers in a noun phrase; if it encounters a number feature, present on all nominals, it will automatically value a person feature as well — the asymmetry is thus not reflected in the structure of the arguments themselves, but in the structure of the probes.

Having established that person features trigger agreement and the basic idea behind the syntactic derivation, I turn to the discussion of how person features are represented in the Hungarian noun phrase. This section combines the data introduced in Sections 2.2 and 3.1 with the implementation of object agreement suggested in this section.

In order for object agreement to arise, *v* has to be valued by a person feature. I propose that this only happens if the direct object is a DP with a non-empty set of person features. The mechanism valuing the person features on *v* is Agree (Chomsky 2000, 2001), in the specific implementation of Preminger (2011, 2014). As briefly discussed in Section 1.5.2, I assume that if Agree does not find a goal that can value its person features, the derivation can continue.

In Hungarian, this works as follows. If *v* does not encounter an object with person features, it will abort probing and the derivation will continue with *v* no longer active and receiving an empty default value. I assume that a probe only continues to probe after a successful Agree relation. Preminger's (2014) formulation of Agree is shown in (37).[14]

(37) $\textsc{find}_{\varphi}(f)$:
Given an unvalued feature f on a head H^0, look for an XP bearing a valued instance of f. Upon finding such an XP, check whether its case is acceptable with respect to case discrimination:
a. *yes* → assign the value of f found on XP to H^0
b. *no* → abort $\textsc{find}_{\varphi}(f)$ and continue with derivation
(Preminger 2014: 159)

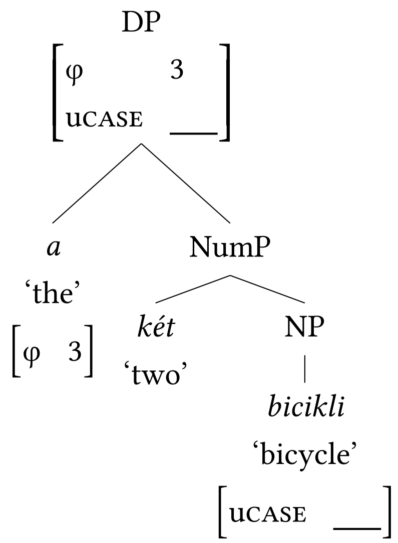
3.4.2.1 Common nouns

Common nouns do not come with a person feature that expresses referentiality, but it can be introduced by a definite determiner or a quantifier, etc. This is shown in (38), for the direct object *a két bicikli-t* 'the two bicycles'. In the following representations,

[14] I will discuss the notion of *case discrimination* in (37) in detail in Chapter 6. In brief, it refers to whether arguments bearing certain cases can agree or not — recall from Chapter 1 that in Hindi, the verb only agrees with arguments that are not overtly case-marked.

I am abstracting away from φ-features other than person and case until considering the role of these noun phrases in the clause below.

(38)

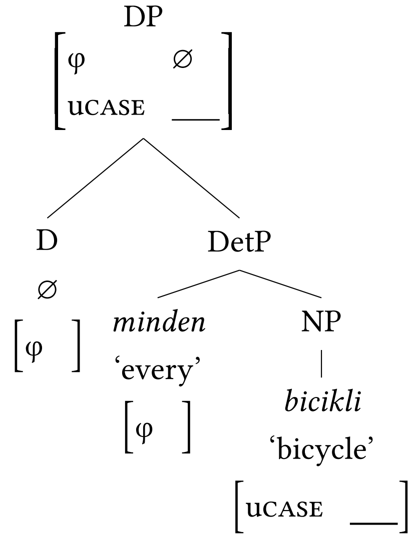


3.4.2.2 Universal quantifiers

The following structures will illustrate the difference between noun phrases that trigger object agreement and those that do not. First, let us consider the universal quantifiers *minden* 'every' and *mindegyik* 'each'. As Coppock and Wechsler (2012) and Coppock (2013) show, these quantifiers can take NumP complements and they do not occur adjacent to the definite determiner *a(z)* (Szabolcsi 1994). One way to account for this is to argue that the quantifiers *minden* and *mindegyik* move to and spell-out the D position in certain cases. The differences in object agreement come about through the different feature specification of these two items. This is shown in (39) and (40).

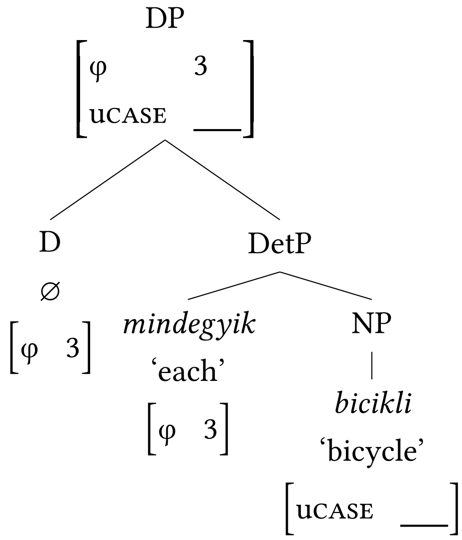
Following Szabolcsi (1994), I represent the quantifiers as being introduced as Det heads. The elements that are (externally) merged in the D head are the definite determiner *a(z)* and a null allomorph that appears with certain possessive constructions (see examples (17), p. 37, (18a), p. 61, and Section 3.3, p. 58). Since *minden* lacks a person feature, the noun phrase does not have person features either.

(39)



In (40), the quantifier *mindegyik* does have a person feature, [3], and the noun phrase triggers object agreement. Again, this approach resembles the one in Coppock and Wechsler (2012) and Coppock (2013) with the difference that D is the relevant position of the person feature involved.

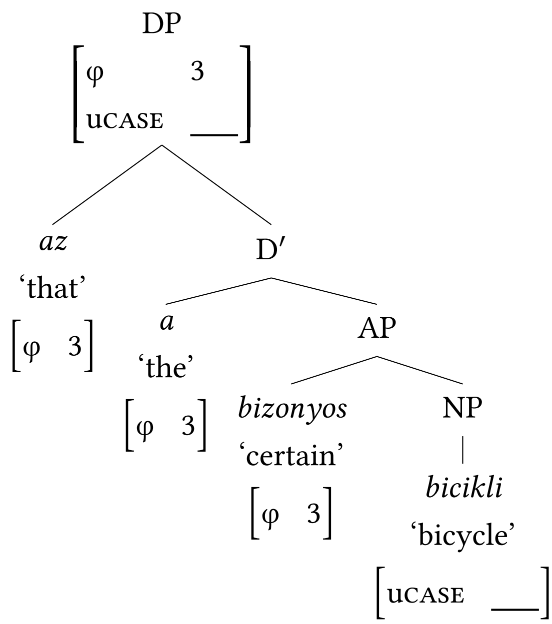
(40)



3.4.2.3 *Specific adjectives*

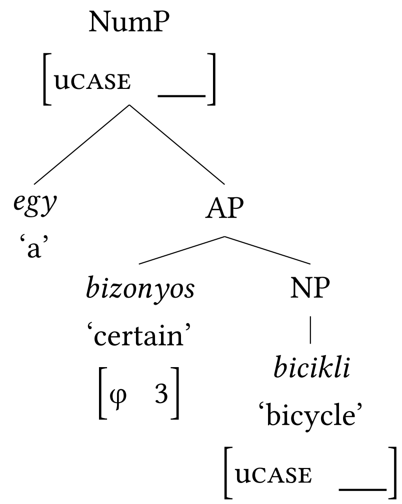
A lexical specification giving rise to a referential interpretation can arguably also be introduced lower in the structure than in D. This could be the case with lexical items like *bizonyos* 'certain' which have a specific interpretation. When these co-occur with a definite determiner or demonstratives (in (41)), D is merged with a [3] feature and the noun phrase triggers object agreement. If D is not projected, however, the noun phrase will not have a D head with a set of φ-features.

(41)



When D is absent, the noun phrase does not trigger object agreement, as shown in (42). The syntactic restriction on object agreement is implemented by assuming that D is necessary to house the person features of the direct object.

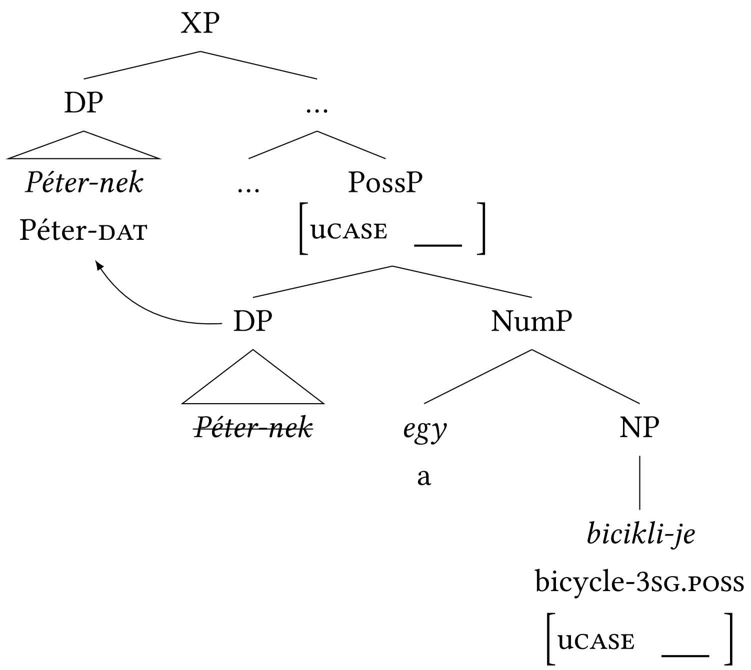
(42)



3.4.2.4 Possessed noun phrases

Recall the discussion in Section 3.3.3 above about how to capture the distribution of agreement with possessive constructions. In non-standard varieties, possessed direct objects with a non-specific interpretation do not trigger object agreement. We have seen evidence from Szabolcsi (1994) and É. Kiss (2000, 2002) that these constructions must involve a non-local dative possessor. Following Bartos (1999), I suggest that the extraction of the dative possessor is represented structurally as in (43), in which there is no D, and therefore no head to house the person features of the whole noun phrase (cf. the arguments presented in Section 3.3.5.1 against treating the possessive suffix as the location of [3]).

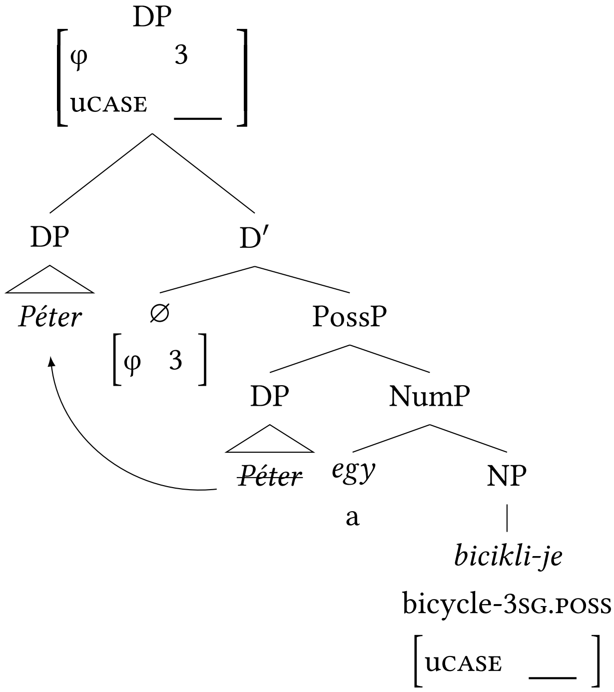
(43)



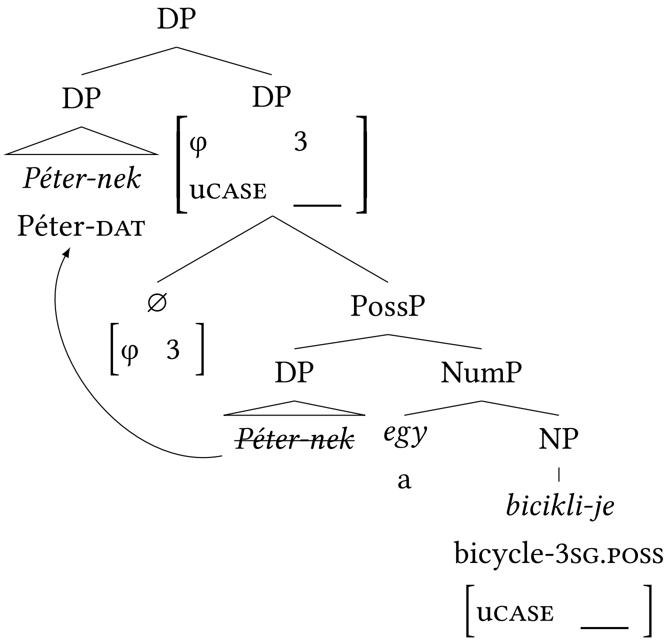
The structures of possessive noun phrases that do trigger object agreement are as shown in (44) and (45), for nominative and dative possessors, respectively.[15]

[15] Theresa Biberauer (p.c.) points out that possessed nouns do seem to carry φ-features. Why would they not trigger agreement? Note that while the possessive suffix on a noun phrase indicates the person and number of its possessor, the possessed noun itself is always third person, independently of the person of its possessor. This suggests that the φ-features of the possessor do not interfere with the φ-features of the possessed noun phrase itself.

(44)


DP
φ 3
uCASE ___
DP
D′
Péter
∅
φ 3
PossP
DP
NumP
~~Péter~~
egy
a
NP
bicikli-je
bicycle-3SG.POSS
uCASE ___

(45)


DP
DP
DP
Péter-nek
Péter-DAT
φ 3
uCASE ___
∅
φ 3
PossP
DP
NumP
~~Péter-nek~~
egy
a
NP
bicikli-je
bicycle-3SG.POSS
uCASE ___

3.4.2.5 *Complement clauses with* hogy

I discussed the behaviour of complement clauses introduced by the complementiser *hogy* with respect to object agreement in Section 2.2.2.6. The main facts can be summarised as follows.

First, complement clauses can be associated with an accusative demonstrative pronoun in the matrix clause. This is shown in (46) (these examples are repeated from Section 2.2.2.6).

(46) Kati az-t képzel-i $[_{\text{CP}}$ hogy a gép el-roml-ott].
Kati that-ACC believe-3SG.OBJ that the machine VM-break-PST.3SG.SBJ
'Kati imagines that the engine's broken down.'
(Kenesei 1994: 309)

In (46), the verb *képzeli* can agree with the demonstrative *az-t* 'that-OBJ'. Coppock and Wechsler (2012) argue that movement out of the CP should not be possible in all circumstance, however.

Such movement is possible in many cases, as shown in (47). In (47a), *Péter-t* 'Péter-ACC' is moved out of the *subject* position of the CP, but it is nevertheless assigned accusative in the matrix clause. Since it is a referential proper name direct object, it triggers object agreement.

(47) a. Anna $[_{\text{DP}}$ Péter-t_i] akar-ja (*az-t) $[_{\text{CP}}$ hogy meg-látogas-s-am $\mathbf{e}_i$].
Anna Péter-ACC want-3SG.OBJ it-ACC that VM-visit-SBJV-1SG.OBJ
'It is Péter that Anna wants me to visit.'
(Kenesei 1994: 314)

b. Anna $[_{\text{F}}$ gyorsan$_j$] akar-ja / *akar $[_{\text{CP}}$ $\mathbf{e}_j$ hogy
Anna fast want-3SG.OBJ want.3SG.SBJ that
meg-javít-s-am az autó-t $\mathbf{e}_j$]
VM-repair-SBJV-1SG.OBJ the car-ACC
'Anna wants me to repair the car FAST.' (Kenesei 1994: 316)

(47b) is different, however, in that the moved item *gyorsan* 'quickly' is not the type of noun phrase to trigger object agreement.

There are two alternative ways of explaining the pattern of agreement with such CP objects. First, it is possible to retain the idea of a DP-CP association under certain assumptions. As Gervain (2004, 2009) shows, what seems to be the subject of the embedded clause can be base-generated as an object in the matrix clause. Evidence for this comes from the subject agreement patterns of such base-generated objects. First, (48) shows that a phrase like *all the girls* triggers singular agreement in Hungarian.

(48) *Az összes lány jön / *jön-nek.*
the all girl come.3sg.sbj come-3pl.sbj
'All the girls come.'

But when the subject of (48) is focus-"raised", subject agreement in the embedded clause changes to third person plural. Gervain (2009) argues that a resumptive pronoun is responsible for this (see also Jánosi *et al.* 2014).

(49) *Az összes lány-t mond-t-ad, hogy jön-nek / ?jön.*
the all girl-acc say-pst-2sg.obj that come-3pl.sbj come.3sg.sbj
'You said that all the girls would come.'
(Gervain 2009: 692)

Since the focused element in the matrix clause can be base-generated there, it is possible to maintain that there is a demonstrative pronoun bearing a person feature in the matrix clause, which is the expletive associate of the complement clause and triggers agreement.

Alternatively, it is possible that the verb agrees with the CP directly. This has been suggested for Tagalog by Rackowski and N. Richards (2005) and for Hungarian by den Dikken (2006, 2012) and Rocquet (2013: 192ff.), for example (see also Section 2.2.2.6).

Given the previous discussion and my proposal that object agreement is triggered by D with person features, the question is why CPs can also trigger agreement. De Cuba and Ürögdi (2009, 2010) and Coppock (2013) argue independently of each other that CP complements can be referential; Coppock (2013: 368) suggests that the complementiser *hogy* could be a quantifier over possibilities, analogous to the definite determiner being a quantifier over individuals. De Cuba and Ürögdi (2009, 2010) further claim that the demonstrative expletive appears when the CP is not referential. If true, it is possible that not only D can carry person features in Hungarian, but also C, and that therefore CPs can directly trigger object agreement. Note also that Szabolcsi (1994) stresses the parallelism between DPs and CPs, including their status as arguments and treating "articles as complementisers" (Szabolcsi 1994: 179). See also Takahashi (2010), Sheehan (2011), Sheehan and Hinzen (2011) and Moulton (2015) for further discussion of similarities and differences between DPs and CPs.

3.4.2.6 Properties of T and v

The structures in (38)–(45) show the feature specifications of different kinds of noun phrases. I have argued that when the set of φ-features located on D contains a set of person features, e.g. [3], and the verb enters an Agree relation with the noun phrase, object agreement appears. Subsuming this feature under D accounts for the 'hybrid' aspect of Hungarian object agreement: it relies on the formal features of the nominal projection but also its syntactic structure. As mentioned above, being specific is not enough: the adjective *bizonyos* that gives rise to a specific interpretation of the nominal it modifies, does not project D and therefore cannot carry a person feature. Accordingly, it does not trigger object agreement.

I suggested that the properties of T and *v* can capture the subject-object asymmetry with respect to person agreement. Recall that finite verbs in Hungarian Agree with any type of subject, independently of its syntactic structure. For objects, agreement is restricted to noun phrases that carry a person feature. I will discuss this asymmetry and how it is implemented here in more detail.

It is plausible that the cause of this asymmetry lies in the nature of the probes responsible for subject and object agreement, respectively, i.e. T and *v*. T carries a full set of (sets of) unvalued φ-features (person and number, as gender is not grammaticalised in Hungarian), while *v* only has unvalued (sets of) person features. This is shown in (50).

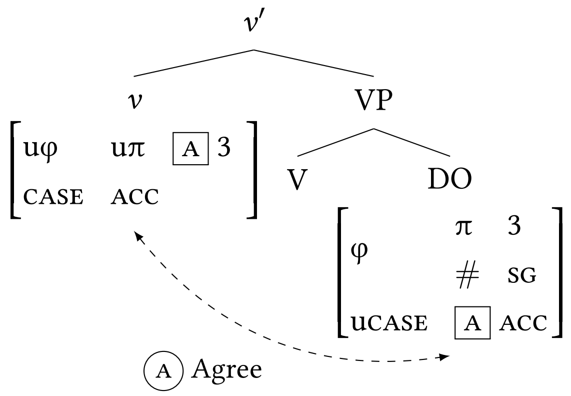
(50)

$$\overset{\text{T}}{\begin{bmatrix} \text{u}\varphi & \begin{matrix} \text{u}\pi & \underline{\quad} \\ \text{u}\# & \underline{\quad} \end{matrix} \\ \textsc{case} & \textsc{nom} \end{bmatrix}} \qquad \overset{v}{\begin{bmatrix} \text{u}\varphi & \text{u}\pi \ \underline{\quad} \\ \textsc{case} & \textsc{acc} \end{bmatrix}}$$

Recall that I assume that Agree can fail and that case and agreement are dissociated (see Section 1.5.2 and Chapter 6). Given these assumptions, *v* behaves as shown in

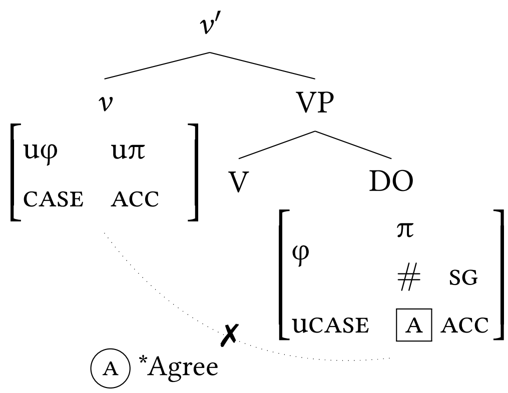
(51). In (51a), we see a successful Agree relation in which the direct object's [3] feature values *v*'s person features. *v* also assigns accusative to the direct object.

(51) a.



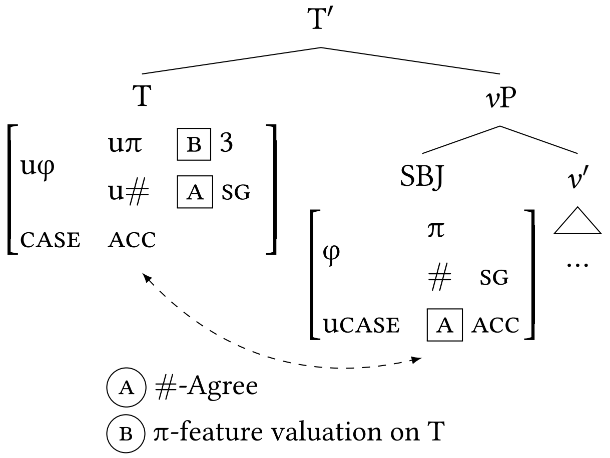
(51b), on the other hand, shows a failed Agree relation. *v* assigns case to the direct object, but its person features remain unvalued, as the direct object does not have a person feature. As *v* does not have a number probe, the direct object's number feature is not involved in the Agree relation. Case is assigned nevertheless.

(51) b.



T, on the other hand, does have a full set of φ-features, including number ($\boxed{\text{x}}$ in a feature matrix indicates that the relevant features are valued at step x). This can account for the subject-object asymmetry under the assumption that an Agree-relation that values T's number feature also values T's person features. This matches the empirical fact that all subjects Agree in number with T, but there is no object agreement in number. The relevant kind of Agree relation is illustrated in (52).

(52)



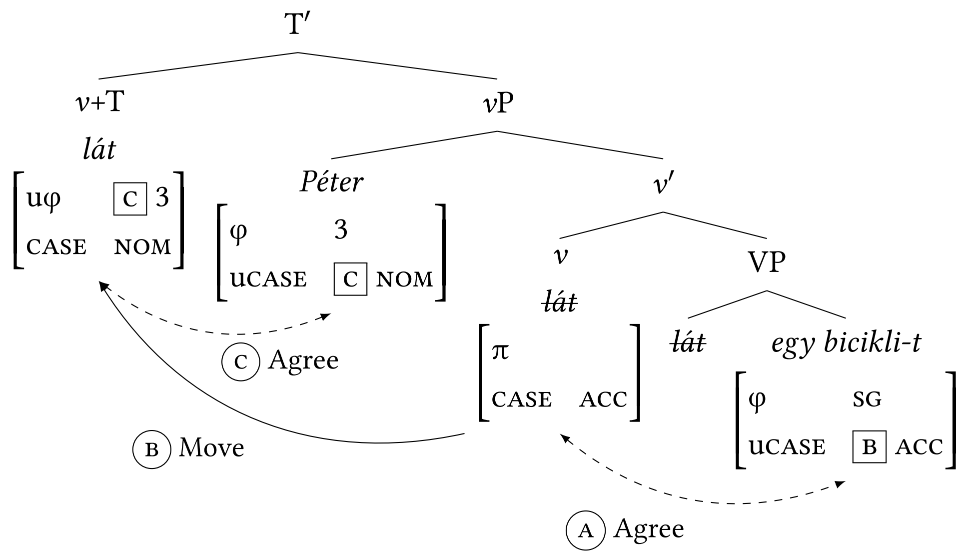
3.4.3 Putting the pieces together: agreement in the clause

We are now in a position to illustrate the derivation of transitive clauses with indefinite and definite objects, respectively. (53a) shows a transitive sentence with the indefinite object *egy bicikli-t* 'a bicycle-ACC'. This object does not trigger agreement, and the result is that the verb only agrees with the subject. This derivation is illustrated in (53b).[16]

(53) a. *Péter lát egy bicikli-t.*
Péter see.3SG.SBJ a bicycle-ACC
'Péter sees a bicycle.'

[16] I include fully inflected verb forms in this tree for the sake of presentation only — I will discuss the spell-out of verb forms in Chapter 4.

b.



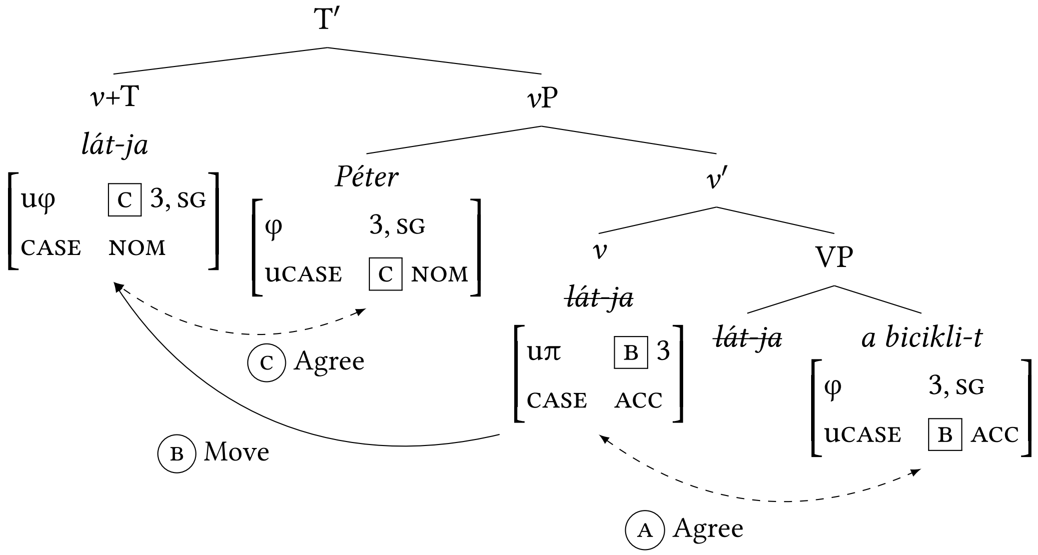
The derivation of (53) proceeds as follows:

- (A) Agree between *v* and DO. The direct object *egy bicikli-t* lacks person features so *v*'s person features are not valued. The object's uCASE feature is valued as ACC.
- (B) *v* moves to T.
- (C) Agree between *v*+T and the subject *Péter*; the subject values the features of *v*+T and in turn its uCASE features is valued as NOM.

(54a,b) illustrate an example that involves object agreement. The difference to (53b) is the syntactic structure of the noun phrase and its features.

(54) a. *Péter lát-ja a bicikli-t.*
Péter see-3SG.OBJ the bicycle-ACC
'Péter sees the bicycle.'

b.



The relevant steps of the derivation of (54b) are the following:

(A) Agree between *v* and DO. The direct object *a bicikli-t* has [3] among its φ-features and values the probe on *v*, which in turn values the direct object's uCASE as ACC.

(B) *v* moves to T.

(C) Agree between *v*+T and the subject *Péter*; the subject values the features of *v*+T and in turn its uCASE features is valued as NOM.

3.4.4 Interim summary

In this section, I showed how the interaction of φ-features and syntactic structure argued for above can be implemented in an Agree-based framework. I provided structural representations for two kinds of noun phrases: those that do trigger object agreement, and those that do not. I argued that the difference lies in their syntactic structure and their φ-feature specification.

Syntactic structure takes priority over the semantic properties of the nominal projection. This is because no argument lacking a DP projection will trigger object agreement. But I suggest that projecting DP is not a sufficient condition (*contra* Bartos 1999). DP is necessary to make the sets of person features of the noun phrase visible to Agree and only sets of person features on D can value *v*: a D head without person features does not give rise to object agreement.

3.5 Conclusions

In this chapter, I implemented an analysis of object agreement in Hungarian that relies on the syntactic structure of the direct object and its φ-feature specification. I called this approach "hybrid" because it is inspired by Bartos's (1999) suggestion that DP structure is necessary for object agreement to arise, as well as Coppock and Wechsler's (2012) and Coppock's (2013) approach to object agreement using formal features.

The analysis proposed here differs from both of these approaches in that it covers more empirical ground, however. In particular, I suggested that the formal features involved in triggering agreement are person features, and that they are expressed on D. There are several advantages to this approach.

First, D has been argued to encode referential properties of noun phrases in a number of languages (Longobardi 1994; É. Kiss 2000, 2002; Longobardi 2005; Danon 2006; Bernstein 2008; Longobardi 2008; M. Richards 2008; Danon 2011). Second, by linking person features to D and its referential properties, it is possible to capture the generalisation that first and second person are always definite and animate, while third person can be definite or indefinite, as well as animate or inanimate. Third, this approach makes strong predictions, namely that Hungarian direct objects of all persons should trigger object agreement. At first glance, this prediction seems to be wrong, since first person pronouns never trigger object agreement. In the next chapter, I will argue that personal pronouns actually all do trigger agreement, but that there are independent restrictions on when agreement is spelled out. In Chapter 5, I provide additional evidence that this is the right approach by discussing agreement and case-marking in languages which grammaticalise person features in different ways from Hungarian, but can be analysed along the same lines.

The analysis proposed in this chapter gives rise to the following generalisations about object agreement with third person objects in Hungarian. For (55) and (56), I take *definite* to mean *referring to a unique, existing individual in a given situation.*

(55) **Object agreement in Hungarian**
If a direct object is definite, it triggers object agreement.

(56) **Definiteness and noun phrase structure in Hungarian**
If a direct object is definite, it projects a DP.

These two generalisations are not necessarily new when restricted to third person arguments. One of the goals of the next chapter will be to extend these generalisations to first and second person objects as well, however, and therefore extend the coverage of (55) and (56).

4 Agreement with personal pronouns

4.1 Introduction

The goal of this chapter is to provide an analysis of object agreement with personal pronouns in Hungarian. The basic distribution of agreement is described as follows: first person pronoun objects never trigger object agreement, second person pronoun objects only do with first person subjects, and third person personal pronoun objects always do.

I will argue that the surface distribution of object agreement does not reflect the underlying agreement relations: the position taken in this chapter is that all personal pronouns trigger object agreement, but the interaction of syntax and morphology gives rise to "gaps" in object agreement. One advantage of this analysis is that agreement with second person objects, sometimes treated as exceptional in the literature, is a fully regular part of the Hungarian agreement system.

I believe that this result holds independently of the specific formalism chosen in this chapter. Part of the reason for this is that the contexts in which object agreement is expected, but not seen on the surface, match so-called *inverse* contexts in other languages that give rise to special verbal morphology and case-marking in several languages (this will be the topic of Chapter 5). I suggest that this cross-linguistic similarity provides further evidence for the analysis proposed here. Another reason to assume that all personal pronouns Agree is that they behave alike when it comes to independent syntactic properties like object drop and licensing a secondary predicate. I discuss this in Section 4.3.1.

This chapter is structured as follows. In the following section, I introduce the distribution of object agreement with personal pronouns and the puzzle it poses for an analysis of object agreement in Hungarian. In Section 4.3, I present the analysis of the syntactic derivations that distinguish contexts in which object agreement surfaces from those in which it does not. I discuss morphological aspects of object agreement and provide spell-out rules in Section 4.4. The present analysis is compared to other approaches in Section 4.5. Section 4.6 concludes.

4.2 Object agreement with personal pronouns

I ended the previous chapter by stating two generalisations about object agreement in Hungarian that linked definiteness and DP structure to the presence of object agreement (see (55) and (56), p. 94). The behaviour of personal pronouns with respect to object agreement, however, seems to provide a clear counterexample to the claim that definite noun phrases trigger object agreement.

Consider again the following examples, illustrating how the person of the object determines whether a verb shows object agreement or not. In (1), with a third person subject and a third person personal pronoun as the object, object agreement is obligatory. In (2), on the other hand, when the direct object is first person, object agreement is ruled out.

(1)	*Mari*	*lát-ja /*	**lát*	*ő-t.*
	Mari	see-3SG.OBJ	see.3SG.SBJ	s/he-ACC
	'Mari sees him/her.'			

(2)	*Mari*	*lát /*	**lát-ja*	*engem.*
	Mari	see.3SG.SBJ	see-3SG.OBJ	I.ACC
	'Mari sees me.'			

The same pattern holds when the person of the subject changes: the personal pronoun *ő-t* 's/he-ACC' always triggers object agreement, while the first person pronoun *engem* 'I.ACC' never does.[1]

However, the behaviour of second person pronouns suggests that this is not the whole story. In (3), with a third person subject and a second person object, the verb shows subject agreement only (cf. (2)). In (4), on the other hand, with a first person subject, neither the verb form showing only subject agreement, nor the one showing agreement with third person objects is grammatical, but we see the suffix *-lak*.

[1] In general, plural pronouns behave the same way, but there are some complications to be discussed in Section 4.4.

(3) *Mari lát / *lát-ja téged.*
Mari see.3SG.SBJ see-3SG.OBJ you.SG.ACC
'Mari sees you (sg.).'

(4) *(Én) lát-lak / *lát-ok / *lát-om téged.*
I see-1SG>2 see-1SG.SBJ see-1SG.OBJ you.SG.ACC
'I see you (sg.).'

These data seem to violate generalisation (55), which states that definite noun phrases trigger object agreement. In this chapter, I argue that the first and second person pronouns in the examples just illustrated *do* trigger object agreement in principle, but this agreement is not spelled out.

One crucial piece of evidence for this idea is the contrast between (3) and (4). The *-lak/-lek*-suffix is sometimes assumed to be an element distinct from regular object agreement because it appears with second person objects.[2] Considering the distribution of agreement in (4), however, it makes perfect sense to treat *-lak/-lek* as a suffix expressing the first person singular features of the subject and the second person feature of the object, just like other object agreement suffixes express the features of the subject and the *third* person feature of the object. Below, I provide an analysis of object agreement that accounts for object agreement with third person pronouns in the same way as for agreement with second person pronouns, as well as the gaps in agreement. This allows for an economical analysis of object agreement, which is favourable to an analysis that stipulates that the *-lak/-lek* suffix lies outside the general agreement paradigm (Coppock 2013; Rocquet 2013).

The fact that this suffix appears exactly when the subject is first person also provides the main clue for the analysis I propose in this chapter: when looking into the distribution of object agreement with personal pronouns in more detail, it becomes clear that object agreement (including the *-lak/-lek* suffix) appears when the person of the subject and the person of the object are in a certain relation to each other.

[2] Recall that the vowel alternation is due to vowel harmony.

É. Kiss (2003, 2005, 2013) suggests that the distribution can be captured on a hierarchy like the one in (5) (I will discuss the role of number in Section 4.4).[3]

(5) 1SG > 1PL/2 > 3 (É. Kiss 2013: 8)

É. Kiss (2013) suggests the generalisation in (6) to account for the distribution of agreement drawing on (5). She refers to this hierarchy as an "animacy" hierarchy in a broad sense of the term: what is relevant for Hungarian object agreement is simply person.

(6) **Inverse agreement constraint for Hungarian**
An object agreeing with a verb must be lower in the animacy hierarchy [in (5)] than the subject agreeing with the same verb, unless both the subject and the object represent the lowest level of the animacy hierarchy [in (5)].
(É. Kiss 2013: 8)

Whenever the person of the subject is higher than the person of the object on the hierarchy in (6), we see object agreement. In addition, (6) states that if the subject and the object are both on the lowest level, e.g. third person, we also find object agreement. On the other hand, when the person of the direct object is higher than the person of the subject, the verb shows subject agreement only.

I build on É. Kiss's insights, but I derive the distribution of agreement with personal pronouns in an Agree-based system that implements the effects of the scale in (5) in syntax (based on Béjar and Rezac 2009). This proposal is fully compatible with the approach to object agreement and person features that I proposed in the previous chapter. Before turning to the concrete analysis in Section 4.3, I discuss the distribution of object agreement with personal pronouns in more detail.

[3] É. Kiss (2013) suggests that (5) is a specific form a more general animacy (or person) hierarchy shown in (i). She argues that Hungarian collapses certain levels to give rise to (5). I discuss her approach and potential shortcomings in Section 4.5 below.

(i) 1SG > 1PL > 2SG > 2PL > 3SG > 3PL (É. Kiss 2013: 7)

4.2.1 The distribution of object agreement with personal pronouns

The following examples illustrate the distribution of object agreement with personal pronouns. First, we see examples in which the person of the subject and the person of the object are not identical. As mentioned in Chapter 3, reflexives behave like third person pronouns and they are therefore distinct from first or second person subjects. I will return to further combinations of the same person in Sections 4.4 and 4.5.

The examples in (7)–(9) show third person pronoun objects in singular and plural varying the person of the subject. These data show that personal pronouns in the third person trigger object agreement. Note that whenever object agreement is grammatical, no other verb form is allowed — object agreement is not optional.

(7) **3SG → 3SG/PL: OBJ**

a. *Lát-ja ő-t / ők-et.*
see-3SG.OBJ s/he-ACC they-ACC
'S/he sees him/her / them.'

3SG → 3SG/PL: *SBJ

b. **Lát ő-t / ők-et.*
see.3SG.SBJ s/he-ACC they-ACC
intended: 'S/he sees him/her / them.'

(8) **2SG → 3SG/PL: OBJ**

a. *Lát-od ő-t / ők-et.*
see-2SG.OBJ s/he-ACC they-ACC
'You (sg.) see him/her / them.'

2SG → 3SG/PL: *SBJ

b. **Lát-sz ő-t / ők-et.*
see-2SG.SBJ s/he-ACC they-ACC
intended: 'You (sg.) see him/her / them.'

(9) **1SG → 3SG/PL: OBJ**

a. *Lát-om ő-t / ők-et.*
see-1SG.OBJ s/he-ACC they-ACC
'I see him/her / them.'

1SG → 3SG/PL: *SBJ

b. *Lát-ok ő-t / ők-et.
see-1SG.SBJ s/he-ACC they-ACC
intended: 'I see him/her / them.'

(7)–(9) also illustrate that the number of the direct object does not influence object agreement. The verb does agree with the subject in person and number, however, as shown in the following examples.

(10) **3PL → 3SG/PL: OBJ**

a. *Lát-ják ő-t / ők-et.*
see-3PL.OBJ s/he-ACC they-ACC
'They$_i$ see him/her / them$_j$.'

3PL → 3SG/PL: *SBJ

b. *Lát-nak ő-t / ők-et.
see-3PL.SBJ s/he-ACC they-ACC
intended: 'They$_i$ see him/her / them$_j$.'

(11) **2PL → 3SG/PL: OBJ**

a. *Lát-játok ő-t / ők-et.*
see-2PL.OBJ s/he-ACC they-ACC
'You (pl.) see him/her / them.'

2PL → 3SG/PL: *SBJ

b. *Lát-tok ő-t / ők-et.
see-2PL.SBJ s/he-ACC they-ACC
intended: 'You (pl.) see him/her / them.'

(12) **1PL → 3SG/PL: OBJ**

a. *Lát-juk ő-t / ők-et.*
see-1PL.OBJ s/he-ACC they-ACC
'We see him/her / them.'

1PL → 3SG/PL: *SBJ

b. *Lát-unk ő-t / ők-et.
see-1PL.SBJ s/he-ACC they-ACC
intended: 'We see him/her / them.'

When the direct object is first person, the facts are equally clear: object agreement is ungrammatical and the verb only agrees with the subject. Again, the number of the object does not influence the choice of agreement. (13)–(14) show this.

(13) **3sg → 1sg/pl: sbj**

a. *Lát engem / minket.*
see.3sg.sbj I.acc we.acc
'S/he sees me / us.'

3sg → 1sg/pl: *obj

b. **Lát-ja engem / minket.*
see-3sg.obj I.acc we.acc
intended: 'S/he sees me / us.'

(14) **2sg → 1sg/pl: sbj**

a. *Lát-sz engem / minket.*
see-2sg.sbj I.acc we.acc
'You (sg.) see me / us.'

2sg → 1sg/pl: *obj

b. **Lát-od engem / minket.*
see-2sg.obj I.acc we.acc
intended: 'You (sg.) see me / us.'

(7)–(12) show that third person pronouns require object agreement while (13)–(14) show that with first person objects, the verb only agrees with the subject. Considering analogous structures with second person objects, the results are less clear.

In the examples above, when the object's person is kept constant, the person of the subject only influences the grammatical form of the verb with respect to its number and person agreement. It crucially does not influence whether object agreement is grammatical or not. Consider now the examples in (15)–(16). While in (15) only subject agreement is grammatical, in (16) neither subject agreement nor the forms I have identified as "object agreement" so far are grammatical.

(15) **3SG → 2SG/PL: SBJ**

a. *Lát téged / titeket.*
see.3SG.SBJ you.SG.ACC you.PL.ACC
'S/he sees you (sg./pl.).'

3SG → 2SG/PL: *OBJ

b. **Lát-ja téged / titeket.*
see-3SG.OBJ you.SG.ACC you.PL.ACC
int.: 'S/he sees you (sg./pl.)'

(16) **1SG → 2SG/PL: *SBJ**

a. **Lát-ok téged / titeket.*
see-1SG.SBJ you.SG.ACC you.PL.ACC
int.: 'I see you (sg./pl.).'

1SG → 2SG/PL: *OBJ

b. **Lát-om téged / titeket.*
see-1SG.OBJ you.SG.ACC you.PL.ACC
int.: 'I see you (sg./pl.).'

1SG → 2SG/PL: ?

c. *Lát-lak téged / titeket.*
see-1SG>2 you.SG.ACC you.PL.ACC
'I see you (sg./pl.).'

What is the status of the suffix *-lak/-lek*, then? It is clear that it references properties of both the subject and the object, as it only appears with first person singular subjects and second person objects. As (16a) and (16b) show, no other form is grammatical with such arguments. The suffix *-lak/-lek* also behaves like other object agreement suffixes in that it is not sensitive to the number of the object, as (16c) shows.[4] This is also the case for the suffixes in (7)–(9) where verbal agreement is not sensitive to the number of the object, but it is sensitive to the number of the subject. I conclude that *-lak/-lek*

[4] What makes this suffix seem somewhat exceptional is arguably the lack of a corresponding object agreement suffix when the subject is first person plural and the object is second person (cf. (5)). I return to this in Section 4.4.

indicates object agreement (as well as subject agreement).[5] The distribution of object agreement with personal pronouns is summarised in Table 4.1.

EA→IA	1	2	3
1	–	*Lát-lak téged.* see-1SG>2 you.SG.ACC 'I see you (sg.).'	*Lát-om ő-t.* see-1SG.OBJ s/he-ACC 'I see him.'
2	*Lát-sz engem.* see-2SG.SBJ I.ACC 'You see me.'	–	*Lát-od ő-t.* see-2SG.OBJ s/he-ACC 'You see him.'
3	*Lát engem.* see.3SG.SBJ I.ACC 'S/he sees me.'	*Lát téged.* see.3SG.SBJ you.SG.ACC 'S/he sees you (sg.).'	*Lát-ja ő-t.* see-3SG.OBJ s/he-ACC 'S/he sees him/her.'

Table 4.1 Transitive singular agreement paradigm with personal pronouns in Hungarian: shaded cells show inverse contexts with subject agreement only

As the data above show, the distribution of object agreement is not influenced by the number of the subject with third person objects. There is one outlier, however: when the subject is first person plural and the object is second person, the verb shows subject agreement only, as in (17).

(17) a. *Lát-unk téged / titeket.*
see-1PL.SBJ you.SG.ACC you.PL.ACC
'We see you (sg./pl.).'

b. **Lát-juk téged / titeket.*
see-1PL.OBJ you.SG.ACC you.PL.ACC
intended: 'We see you (sg./pl.).'

[5] A note about the morphological structure of this suffix here is in order here. The terms "subjective" and "objective" paradigm are often used to refer only to the sets of suffixes that appear with third person objects (see den Dikken 2006: 11, Coppock and Wechsler 2012: 702) and some authors also suggest that *-lak/-lek* can be segmented into the second person singular agreement suffix *-l* and the first person subject agreement suffix *-k* (Bartos 1999; den Dikken 2006; É. Kiss 2013).

This gives rise to the question of whether *-lak/-lek* belongs to the subjective or the objective paradigm, morphologically. As should be clear from the text, I think that the distribution of the suffix clearly shows that it is an object agreement suffix and that this is independent of which "paradigm" it belongs to (and more consequential for present purposes). I discuss the vocabulary items and spell-out rules that give rise to object agreement in Section 4.4.

This empirical fact leads É. Kiss (2013) to suggest that 1PL and 2 are on the same level on her hierarchy in (5), since in this configuration her constraint does not predict object agreement.

I return to this pattern in Section 4.4. After this overview of the relevant data, in the following section I introduce an analysis that derives the distribution of object agreement with personal pronouns in Hungarian.

4.3 Deriving inverse agreement in Hungarian

In Chapter 3, I argued that it is possible to analyse Hungarian as making four instead of three distinctions of person. In particular, I argued that "third" person noun phrases can be argued to consist of two classes of noun phrases: those with a person feature and those lacking one. I argued that this inventory of person features makes it possible to capture the asymmetry between subject and object agreement: verbs agree with all subject noun phrases in person and number, whereas they only agree with a proper subset of direct objects. The latter class is the one that has a set of person features. Here, I will describe the role of syntax in determining the distribution of object agreement. I adopt aspects of Béjar and Rezac's (2009) approach to Agree, namely that Agree is cyclic, i.e. a single probe can agree more than once if it has unvalued sets of features left after a previous cycle of Agree.

The basic algorithm for determining whether a certain configuration of subject and direct object shows object agreement or not is simple. I am assuming that the inventory of person (or π-) features consists of the sets [1], [2], and [3]. I will indicate by [ ] that a nominal lacks person features. Recall from Chapters 1 and 3 that [1] etc. are a shorthand for the following sets as shown in (18) (repeated from (5), p. 7):

(18) $[1] = \begin{Bmatrix} \text{SPEAKER,} \\ \text{PARTICIPANT,} \\ \pi \end{Bmatrix} \quad [2] = \begin{Bmatrix} \text{PARTICIPANT,} \\ \pi \end{Bmatrix} \quad [3] = \begin{Bmatrix} \pi \end{Bmatrix}$

In addition, there are entailment relations between the person features such that [1] entails the presence [2] and [3] (Harley and Ritter 2002; Béjar and Rezac 2009; Lochbihler 2012). I model these as subset/superset-relations among the respective sets. A simple person hierarchy therefore shows the following entailment relations (repeated from (6), p. 8):

(19) $$[1] = \left\{\begin{matrix}\textsc{speaker},\\ \textsc{participant},\\ \pi\end{matrix}\right\} \supset [2] = \left\{\begin{matrix}\textsc{participant},\\ \pi\end{matrix}\right\} \supset [3] = \left\{\pi\right\}$$

v in Hungarian has unvalued features corresponding to the sets [1], [2], and [3]: *v*[u1, u2, u3]. Each of these unvalued sets can be valued by the corresponding set [1], [2], or [3], respectively, or be valued by entailment if an argument provides a superset of features. In the latter case, if an argument provides [2], the probe's unvalued set [3] will be entailed. By the same logic, when *v* agrees with a direct object that has a set of person features [1], this will also value the sets of features [2] and [3] on the probe, since they are proper subsets of [1]. These sets of features cover all personal pronouns, and those third person noun phrases that were argued to trigger object agreement in Chapters 2 and 3. On this analysis, a first person noun phrase has the set [1] of person features, and thus $\{\textsc{speaker}, \textsc{participant}, \pi\}$. A second person noun phrase has the set [2], and thus $\{\textsc{participant}, \pi\}$, etc. I will mostly use the shorthand [1] and [2] for ease of exposition. Noun phrases that lack a D layer and person features do not value any person features on *v*, as they are not visible for *v*.

Cyclic Agree and sets of person features on *v* interact as follows: *v* probes and agrees with the object if the object has a set of person features. After an Agree relation with the object, *v* can probe again if it has unvalued sets of features left. The remaining sets of features, however, can only be valued if the subject's features are a proper superset of the object's. Therefore *v* will have two sets of person features only if the subject's person features are a proper superset of the object's person features. Such configurations give rise to object agreement.

(20) shows a first example of this system. The scenario involves a first person singular subject and a second person object: the subject has the set of features [1] and the object has [2]. As just shown, the subject's set of person features is therefore a proper superset of the object's person features. The probe, *v*, agrees with the direct object first. In this case, *v* is valued as [2]. I follow Béjar and Rezac (2009) in assuming that a probe with unvalued sets of features can probe again. In Hungarian, *v* moves to T, and its unvalued sets of features probe again. In the given scenario, *v* will enter an

Agree relation with the subject and receive a value of [1], *in addition* to its previous value of [2]. *v* is therefore valued as [1, 2]. This is shown in (20) where — indicates valuation of a feature set on the probe by a feature set on an argument and the grey feature indicates entailment.[6]

(20) 1 → 2: OBJ

SUBJ	*v*	DO
[1]—	[1]	
	[2]	—[2]
	[3]	

Why is the result of [1, 2] on *v* valid? As just said, a probe can try to enter Agree relations as long as it has unvalued sets of features. The first cycle of Agree, with a second person object, does not fully value the probe, so it can attempt to enter another Agree relation. This relation will only succeed, however, if the probe finds an argument that has a *stronger* set of person features, i.e. a set of person features that is a proper superset of the sets of features present on the probe. In (20), this is clearly the case, since $\{\text{SPEAKER}, \text{PARTICIPANT}, \pi\} \supset \{\text{PARTICIPANT}, \pi\}$. I will, from now on, write that [1] entails [2] etc. to express that the set [1] is a proper superset of [2]. In the same sense, [1] is stronger than [2] which in turn is stronger than [3]. (Lochbihler 2012: 44ff. argues for a similar approach to valuation and entailment).

v can therefore only have the values [1, 2] if the stronger set of features, [1] in this case, comes from the *second* argument the verb agrees with, i.e. the subject. If the probe encounters a first person argument on its first cycle of Agree, it will be fully valued and it will not be able to probe again, i.e. *v*: [1]. The reasoning extends straightforwardly to all other configurations of person. This allows for a first (tentative) characterisation of object agreement in these syntactic terms.

[6] Note that on the current approach *v* agrees with two arguments even though it only carries a single φ-probe, rather than two probes, one each for the subject and the object.

Alternatively, it might also be possible to assume that *v* comes with separate probes for the person features of the subject and the object, respectively (see Keine 2010; Georgi 2012 for such an approach). Making use of the entailment relations between features arguably provides a simpler mechanism for deriving the Hungarian pattern, and other languages. I will return to this in Chapters 5 and 6 where I discuss the distribution of φ-probes on functional heads across languages.

(21) **Object agreement in Hungarian and *v***
When *v* is valued twice, the verb shows object agreement.

Such double valuation is ruled out when the direct object's set of person features is a superset of the person features of the subject. *v* will not able to agree on a second cycle with any argument that has a weaker set of features than the argument on the first cycle. The values of features on *v* therefore reflect the relative "position" of the subject and the object on a person hierarchy like 1 > 2 > 3. When *v* has two values, the subject is higher. This approach to Agree and valuation of feature sets therefore builds in hierarchical effects into syntax proper.

At this point I diverge from Béjar and Rezac's (2009) proposal substantially. Béjar and Rezac (2009) argue that if *v* fails to enter a second Agree relation with the subject, the subject is not licensed (which would lead to a crash of the derivation). They suggest that in such cases, some languages utilise a *repair strategy*, by which a new probe can be activated on *v* which can agree with (and license) the subject (cf. also the similar notion of "proxy category" in Nash and Rouveret 2002). This probe is then spelled out as an inverse marker in some languages, for example (see Béjar and Rezac 2009 for a number of examples).

If *v* does not enter an Agree relation with the subject, T's set of person features probes and finds the external argument. This argument values T's features and T can assign Case to it. This approach arguably is simpler than Béjar and Rezac's (2009) by avoiding the need of adding features or probes at a given stage of the derivation.

This is the kind of derivation in which the verb only shows subject agreement with personal pronoun objects in Hungarian. A first person direct object will always fully value *v* and *v* will not be able to agree with the external argument again, therefore violating the generalisation in (21) (which will be formalised below). Similarly, when the direct object is second person, a third person subject will not be able to value *v* in a second cycle. If, however, the subject is first person and the object is second or third person, *v* will receive two sets of person features.

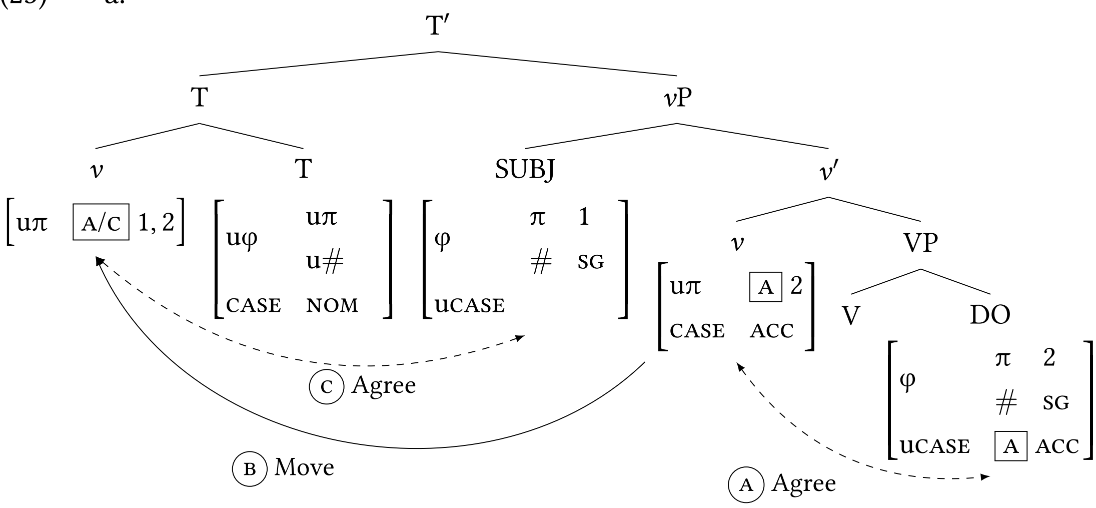
The following structures illustrate this process visually. First, (22) repeats (20) and shows again how two arguments can value *v*. Valuation is indicated by "—" linking a feature set on an argument and a feature set on the probe.

(22) 1 → 2: OBJ

SUBJ	*v*	DO
[1]	—[1]	
	[2]—	[2]
	[3]	

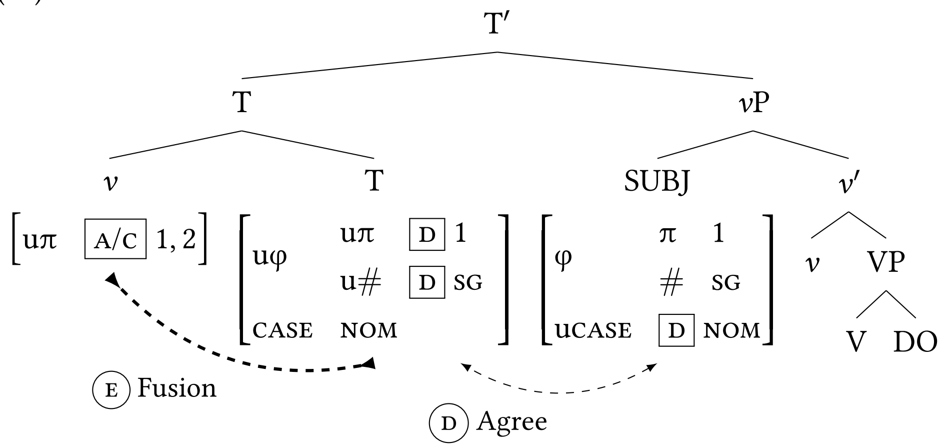
(23) illustrates this process as part of a derivation. As above, (23) only shows the result of an Agree relation, i.e. *v* gets the [2] feature after agreeing with the direct object. In (23a), *v* agrees with the direct object, gets a [2] feature, and assigns accusative to the object in step A. Next, *v* moves to T and probes again, since it is not fully valued. It finds the subject and gets an additional set of person features, [1] in step C.

(23) a.



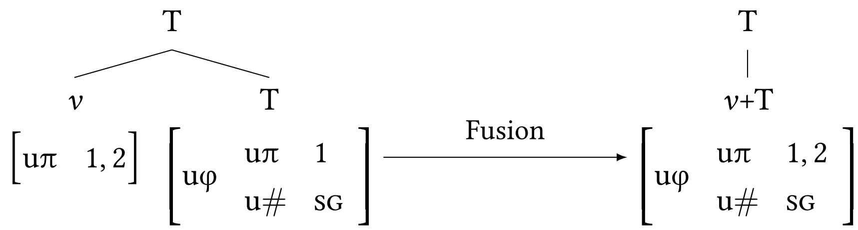
The derivation continues with T probing as well in step D. A final step that I have not discussed yet is the fusion of *v* and T. As briefly mentioned in Chapter 1, I assume that there is a post-syntactic operation that can *fuse* two sister nodes into one. Note that I do not wish to claim that fusion takes place in the syntax, it is only included in (23b) for expository purposes.

(23) b.



(24) shows the fusion operation indicated in (23b). When *v* and T are sisters and their strongest sets of features match ([1] in (23)), their feature structures fuse into one. No information is lost (or added), since no features overwrite each other (I ignore CASE in (24), as it is no longer of importance at this stage of the derivation).

(24) **Fusion of *v* and T**



I assume that fusion takes place because of the morphological structure of Hungarian verb forms. I will argue in Section 4.4 that there is only one agreement suffix in Hungarian. When the verb shows both subject and object agreement, this is spelled-out by portmanteau morphemes rather than separate agreement suffixes. However, as stated above, I assume fusion only to take place when *v* and T match in their strongest feature set. This restriction accounts for the distribution of agreement with two third person arguments, discussed in Section 4.3.2.

The derivation just shown involves a first person subject and a second person object and results in *v*+T having two sets of person features: [1, 2]. I have suggested above that this is a kind of derivation in which *v*+T will be spelled out as object agreement. In the particular case of (23), this will be the suffix *-lak/-lek*.

Consider now a clause in which the subject is third person and the object is second person. In this scenario, the person features of the direct object are a proper superset of the person features of the subject. When *v* enters an Agree relation with the direct object, the object will provide the set [2]. *v* will be able to probe again, as in (23), but the subject's features will not be able to value it. T will probe and enter an Agree relation with the subject by virtue of T's number probe. The strongest set of person features on *v* and T will not match and therefore they will not fuse. Since there is a single agreement slot, only one of the heads will be spelled out. I assume that T is spelled out in such cases since it has a full set of φ-features, whereas *v* only has person features.

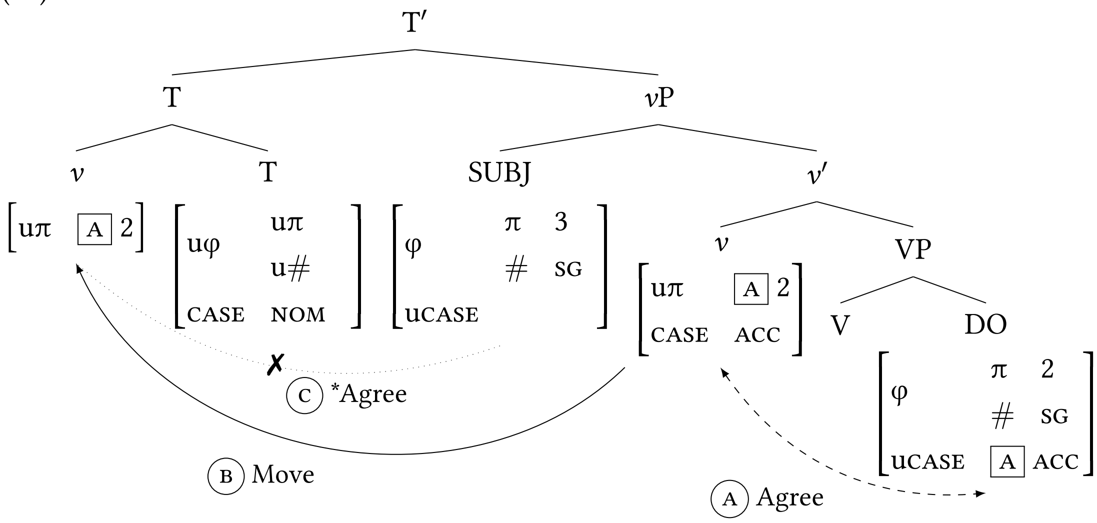
In this case, then, no probe will be valued by two arguments. This differs from the previous scenario, in which *v* was valued by the external *and* the internal argument. A sample derivation is illustrated in (25) and (26).

(25) 3 → 2: SBJ

SUBJ	**T**	***v***	**DO**
		[2]—	[2]
[3]—	[3]	[3]	

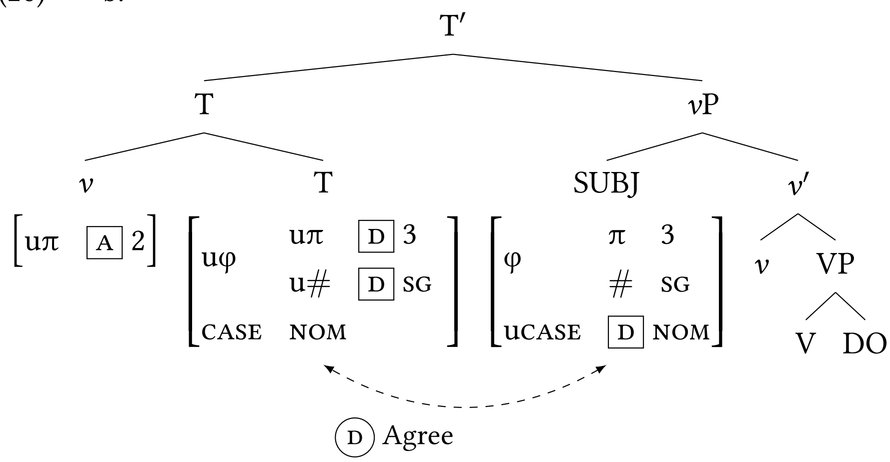
In (25), *v* cannot enter a second Agree relation with the subject since the subject's [3] feature set is a proper subset of the direct object's feature set. The probes *v* and T therefore agree with one argument each. Since their strongest feature sets do not match, the two heads will not be able to undergo fusion. The following structures illustrate this derivation. In (26a), *v* agrees with the direct object and receives a [2] value. *v* moves to T and attempts to probe again, since it has unvalued sets of features left. *v* does not find a goal, however, since the subject's [3] set is not strong enough, and therefore this instance of Agree fails in step c.

(26) a.



(27b) shows how the derivation continues. T probes and finds the subject, and receives the values [3, SG]. The subject is assigned NOM. Note again that no fusion takes place since the strongest feature sets on *v* and T do not match.

(26) b.



(23) and (26) illustrate the two syntactic possibilities that this system allows. During the syntactic derivation, *v* can be valued by a single argument or by two arguments. This distinction reflects the effects of a person hierarchy. When the subject's set of person features is a superset of the object's set of person features, *v* can be valued by both the subject and the object, but not otherwise. This corresponds to *direct* configurations, in which the subject is higher on a hierarchy than the object.

The other case, exemplified by (26), illustrates an *inverse* configuration. Here, the object's set of person features is a superset of the subject's person features and therefore *v* is only valued by the object. The subset/superset relations among person features therefore again model the hierarchical effects. This insight is due to Béjar and Rezac (2009), although my particular implementation diverges from theirs.

One of the differences lies in the role of fusion. Recall that I have argued that *v* and T fuse if their strongest sets of person features match. This will give rise to a complex head *v*+T in direct configurations; but fusion does not take place in inverse configurations. The restriction on fusion allows for one more configuration to count as direct, namely when both the subject and the object are third person. In such cases, we see object agreement, even though *v* is not valued by the two arguments in syntax. Fusion, however, can take place, since both *v* and T share the value [3]. Syntactically, a configuration involving two third person arguments should therefore pattern with inverse configurations, but the post-syntactic process of fusion makes it appear like a direct configuration. This is not just a stipulation: we will see in Chapter 5 that configurations in which both arguments involve [3] generally count as inverse across languages – the fact that they do not in Hungarian follows from an independent morphological reason, namely that heads undergo fusion when their strongest person features match. If a language does not trigger fusion at this point, a configuration involving two third person arguments counts as an inverse. I illustrate derivations of clauses involving two third person arguments in Section 4.3.2.

Another important property of the derivations just shown is that all personal pronouns trigger object agreement, i.e. they all value *v*. Since all persons trigger object agreement, no stipulation is necessary about how the suffix *-lak/-lek* arises. It is simply a suffix expressing subject and object agreement. I have also proposed a reason why object agreement is not always visible: it only surfaces when the two heads *v* and T share their strongest set of person features and undergo fusion. This provides a straightforward account of why second person objects sometimes show agreement and sometimes do not. I now turn to the discussion of independent evidence for this kind of "covert" agreement.

4.3.1 Arguments for covert agreement

I have argued that first and second person pronouns in Hungarian trigger agreement even if this agreement is not reflected in verb morphology. Why should this be the case? First, it is cross-linguistically unusual for languages with DOM to skip first and second person for differential case-marking or agreement (Silverstein 1976; Comrie 1989; Aissen 2003; Haspelmath 2008, 2009; see Filimonova 2005 for some exceptions). Second, as we will see in Chapter 5, case-marking or agreement patterns that determine the presence or absence of agreement based on the properties of *both* the subject and the object are common. Such splits in case-marking and agreement are called *global* (Silverstein 1976; Malchukov 2008; Keine 2010; Georgi 2012) as opposed to *local*. In global splits, the properties of several arguments have to be taken into account rather than just the properties of a single one.

One way of deriving the Hungarian pattern of agreement is to assume that first and second person pronouns always trigger agreement, like third person pronouns, and that there is an independent reason that blocks the spell-out of this agreement. An advantage of such an approach is that pronouns form a natural class syntactically and semantically, i.e. they can all be analysed as definite and referential DPs (*contra* Bartos 1999 for example; recall also that Coppock 2013 suggests that differences in indexicality determine the agreement pattern with pronouns). I have argued in Chapter 3 that personal pronouns do in fact behave like a natural class with respect to syntax (apart from agreement) and that differences in indexicality cannot account for the distribution of agreement: something else is needed to derive the distribution of agreement.

Here, I discuss evidence that further supports treating pronouns as a natural class syntactically and thus with respect to their potential to trigger agreement. If true, then this strengthens my proposal that all personal pronouns in Hungarian trigger agreement in syntax and that the absence of agreement in morphology is a surface-effect.

I have already proposed a first argument for why at least second person pronouns should trigger agreement, namely the distribution of the suffix *-lak/-lek*. This suffix is similar to other suffixes expressing object agreement in that the number of the object does not matter, and it obligatorily appears in a certain syntactic configuration. If some second person objects can agree, it is plausible to assume that second person pronouns do not rule out agreement *per se*.

A second argument for the existence of covert agreement comes from the distribution of dropped objects.[7] Verb forms that show object agreement allow dropping of the direct object. Object agreement morphology is explicit about the person of the dropped object and its reference is straightforwardly recovered (cf. *pro*-drop in languages with so-called "rich inflection"; see Rizzi 1982, 1986; Müller 2005; Roberts 2010; Roberts and Holmberg 2010; Holmberg and Roberts 2013). This is illustrated in (27).

(27) a. *Lát-om.*
see-1SG.OBJ
'I see it/him/her.'

b. *Lát-lak.*
see-1SG>2
'I see you.'

Object drop is also possible with exactly those verb forms that appear to be intransitive but that I have argued to agree with a pronominal object in the course of the derivation. Obviously, there is no object agreement morphology in these cases, so the forms in (28) are ambiguous with respect to the person of the dropped object:

(28) a. *Lát.*
see.3SG.SBJ
'S/he sees.' or 'S/he sees me/you.'

b. *Lát-sz.*
see-2SG.SBJ
'You see.' or 'You see me.'

Note that while (28a) can either have a dropped first or second person object when understood as transitive, (28b) can only be understood to have a dropped first person object on its transitive reading. The forms in (28) are therefore identically restricted in their interpretation to the forms in (27), in that they can only have dropped objects of a certain person.

[7] This is a synchronic argument. É. Kiss (2012) discusses the development of object drop in Hungarian and points out that the connection between agreement and object drop has only arisen in the modern stages of Hungarian.

The argument for covert agreement is the following. Overt objects can be modified by depictive secondary predicates like *drunk*. Covert objects can be modified by such predicates too, but only when the verb agrees with them. Consider the following examples. In (29a), the indefinite object *someone* can be modified by the secondary predicate *részegen* 'drunk'. This is not possible in (29b). In (29c) and (29d), however, with an agreeing form, the dropped object can be modified by the secondary predicate.[8]

(29) a. *Lát-ok valaki-t részeg-en.*
see-1SG.SBJ someone-ACC drunk-ADV
'I$_i$ see someone$_j$ drunk$_{i/j}$.'

b. *Lát-ok részeg-en.*
see-1SG.SBJ drunk-ADV
'I$_i$ see drunk$_{i/*j}$.'

c. *Lát-om részeg-en.*
see-1SG.OBJ drunk-ADV
'I$_i$ see her$_j$ drunk$_{i/j}$.'

d. *Lát-lak részeg-en.*
see-1SG>2 drunk-ADV
'I$_i$ see you$_j$ drunk$_{i/j}$.'

Verb forms with first person subjects are a good baseline for determining the correlation between agreement, object drop, and modification by secondary predicates because they are never ambiguous with respect to the person of the object (as opposed to the examples in (28)).

Given this set of data, we can thus formulate the following hypothesis, to be tested below:

(30) **Object agreement, object drop, and secondary predication**
Object agreement allows for object drop and modification of the dropped object by a secondary predicate.

The hypothesis in (30) makes a strong prediction: we should find object drop and secondary predicates controlled by the object with verb forms that do not show object agreement, but only if they have ambiguous derivations. Examples for such ambigu-

8 See Roberts (1988), Schultze-Berndt and Himmelmann (2004) and Irimia (2005) for some general aspects of the syntax and semantics of secondary predicates.

ous derivations are shown in (28) where the form of the verb does not indicate the possible types of objects.

This means that if we modify the sentences in (28) by adding a secondary predicate, that predicate should only be able to be controlled by objects that are compatible with that verb form. This is true.

In (31a), a third person pronoun object would trigger object agreement, and therefore the form *lát* 'see.3SG.SBJ' is ambiguous between an intransitive reading, a transitive reading with a first person object, and a transitive reading with a second person object. The secondary predicate can only refer to either the subject or a (covert) first or second person object. In (31b), the form *lát-sz* 'see-2SG.SBJ' is ambiguous between an intransitive reading and a transitive reading with a first person object. The secondary predicate can be controlled by the subject or by the (covert) first person object.

(31) a. *Lát részeg-en.*
see.3SG.SBJ drunk-ADV
'S/he$_i$ sees drunk$_i$.' or 'S/he$_i$ sees me$_j$/you$_k$ drunk$_{i/j/k}$.'

b. *Lát-sz részeg-en.*
see-2SG.SBJ drunk-ADV
'You$_i$ see drunk$_i$.' or 'You$_i$ see me$_j$ drunk$_{i/j}$.'

I believe that these data provide evidence in favour of the hypothesis in (30). The approach to agreement suggested in the previous section exactly predicts which types of objects can be dropped and are able to control a secondary predicate. That these objects form a natural class with respect to these properties is shown particularly clearly by examples with second person pronouns like (29d) and (31a), repeated here. While object agreement is only overt in (29d), both dropped second person objects behave alike with respect to secondary predication.

(29d) *Lát-lak részeg-en.*
see-1SG>2 drunk-ADV
'I$_i$ see you$_j$ drunk$_{i/j}$.'

(31a) *Lát részeg-en.*
see.3SG.SBJ drunk-ADV
'S/he$_i$ sees drunk$_i$.' or 'S/he$_i$ sees me$_j$/you$_k$ drunk$_{i/j/k}$.'

Again, this contrasts with the behaviour of indefinite objects which can only control secondary predication when they are overt. With respect to dropping indefinite objects, there is one seeming exception to this pattern. In answers, even *lát-ok* 'see-1SG.SBJ' can be understood to have an elided object:

(32) *Lát-sz valaki-t? — Lát-ok.*
see-2SG.SBJ someone-ACC see-1SG.SBJ
'Do you see someone?' — lit. 'I see.' meaning 'I do (see someone).'

But there are reasons to believe that the elided object in (32) differs from actual dropped objects. First, such examples need a very specific discourse context like the question-answer pair in (32). Second, such elided objects cannot control secondary predication, unlike dropped objects that trigger agreement. This is shown in (33).

(33) *Lát-sz valaki-t? — #Lát-ok részeg-en.*
see-2SG.SBJ someone-ACC see-1SG.SBJ
'Do you see someone?' — intended: 'I$_i$ do see someone$_j$ drunk$_{i/*j}$.'

I conclude that there is independent syntactic evidence that the verb agrees with all personal pronoun direct objects in the course of the derivation, even if agreement is not always visible on the surface. When the object enters an Agree relation with the verb, it can be dropped and dropped objects can control depictive secondary predicates.

4.3.2 Third person arguments

The analysis of agreement in Hungarian introduced above works for the configurations 1→2, 1→3, 2→3 "out of the box" but I have not yet discussed examples in which both the subject and the object are third person in detail. The analytical challenge for such scenarios is that *v* cannot be valued by two arguments that have the same feature sets of [3] and therefore such configurations do not seem to conform to the generalisation that object agreement appears when *v* is valued by two arguments.

In this section, I argue that because *v* and T both have a [3] feature set in such derivations, fusion can apply after the syntactic derivation and the resulting terminal *v*+T will be specified as [3, 3]. As I briefly mentioned above, this analysis explains why [3, 3] patterns with direct configurations in Hungarian rather than with inverse configurations. We will see in Chapter 5 that this is not always the case cross-linguistically — I suggest that the difference lies in the application of fusion that is specific to Hungarian (recall also the caveat referring to third person arguments in É. Kiss's 2013 hierarchy in (6), p. 100).

(34) illustrates a relevant example with a (dropped) third person subject and third person personal pronoun direct object.

(34) *Lát-ja ő-t.*
see-3SG.OBJ s/he-ACC
'S/he sees him/her.'

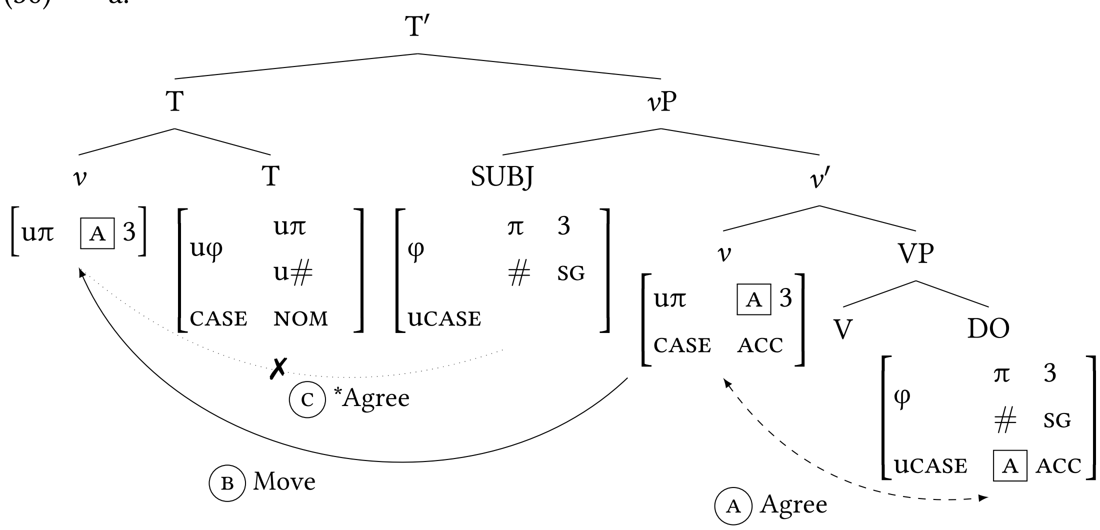
In the derivation of (34), both *v* and T agree with a single argument bearing [3]. The structures in (36) illustrate the derivations.

(35) 3 → 3: OBJ

SUBJ	T	*v*	DO
[3]—	[3]	[3]—	[3]

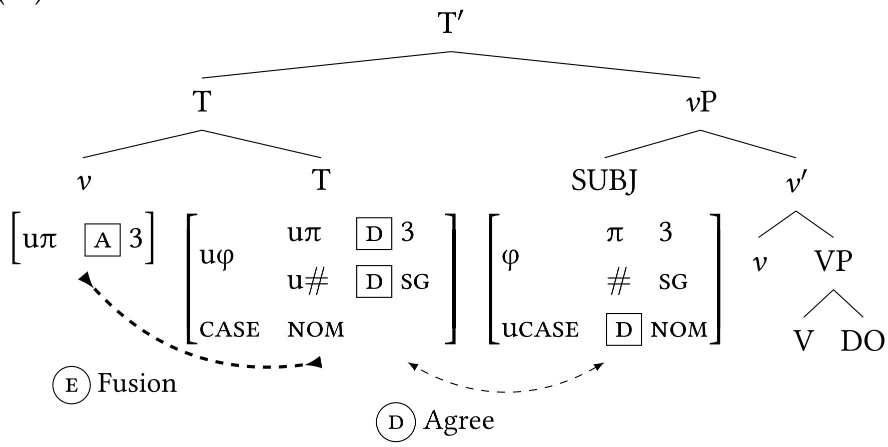
In (36a), *v* agrees with the direct object before moving to T. The second attempt at agreeing fails since the subject's [3] feature cannot value *v* again.

(36) a.

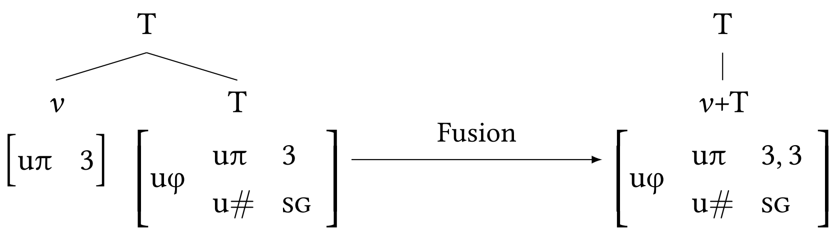


The derivation continues with T agreeing with the subject and receiving a [3] value as well in step D. Since the strongest sets of person features of *v* and T now match, the two heads can undergo fusion. Note again that I do not suggest that fusion is a syntactic operation; I merely include it in the derivation for the sake of exposition. Fusion is shown in (37).

(36) b.



(37) **Fusion of *v* and T**



4.3.3 Interim summary

In this section, I have argued that all personal pronouns in Hungarian trigger object agreement and I have implemented an analysis that can account for this. I provided independent evidence that agreement takes place even when it is not spelled out by showing that all arguments that I hypothesise to trigger agreement behave as a natural class with respect to object drop and licensing secondary predication.

The difference between whether agreement is spelled out or not lies in how *v* is valued by the arguments in a transitive clause. If *v* is valued by both arguments, object agreement arises. In direct configurations, *v* is straightforwardly valued by both the subject and the object since the subject's person features are a proper superset of the direct object's person features. In inverse configurations, *v* is valued only by the direct object's features, since they are a superset of the subject's person features. However, when both arguments are third person, the feature sets of *v* and T can still be unified by post-syntactic fusion, giving rise to a result that is analogous to direct configurations.

By adopting parts of Béjar and Rezac's (2009) approach, the current analysis incorporates the effects of a person hierarchy into the syntax and provides more evidence for the treatment of the trigger of object agreement in Hungarian as a person feature, as argued in Chapter 3.

I discuss the morphological structure and the spell-out of Hungarian verb forms in the following section.

4.4 Spelling out agreement

So far, the current approach succeeds in predicting in which configurations object agreement appears with pronominal direct objects, but I have left questions about the spell-out of agreement with these pronouns open. On the analysis presented above, object agreement is spelled out when *v* and T fuse to form a complex head. These terminals then carry properties of both the subject (its person and number) and the object (its person only). This information is spelled out in verb forms that show subject and object agreement.

I have further argued that all personal pronoun objects agree with *v* but that *v* is not always part of what is spelled out. When *v* and T agree with only the internal and the external argument, respectively, they do not fuse to become a complex head and only T is spelled out (as it has a full set of φ-features).

In this section, I discuss the particular vocabulary items, impoverishment and spell-out rules that determine the form of the inflectional suffixes on the Hungarian verb. In particular, I will argue that Hungarian only spells out a single syntactic terminal on the verb. Throughout this section, I discuss evidence that supports the view that subject and object agreement in Hungarian are expressed as portmanteau morphemes.

I adopt Distributed Morphology (DM; Halle and Marantz 1993, 1994; Harley and Noyer 2003; Embick and Noyer 2007) to model verbal and nominal morphology. After the syntactic derivation, illustrated in the previous section, Vocabulary Insertion (VI) takes place and matches features represented on terminals in the syntactic structure with lexical items (cf. also Chapter 1 and further discussion in Chapter 5). The relevant vocabulary items under discussion in this section are subject and object agreement suffixes.

4.4.1 Hungarian verb morphology and spell-out rules

I adopt a view of Hungarian verb morphology that mostly corresponds to the one in Törkenczy (2002) (*contra* some more elaborate approaches to be discussed below).

(38) stem + TENSE/MOOD + φ (Törkenczy 2002: 68)

I will argue that the template in (38) suffices to spell-out the verb forms under discussion so far. In Section 4.5 below, I relate this structure to other proposals in the literature. I will mostly set aside tense and mood morphology as it is not directly relevant to the question of agreement morphology (φ in (38)).

As argued above, syntax derives two kinds of configurations in transitive clauses with personal pronouns. One possibility is that *v* and T agree with the internal and the external argument, respectively. In the other case, *v* agrees with both the internal and the external argument (in this order), and T agrees with the external argument as well. I suggested that following the syntactic derivation the two heads can fuse, but only if their strongest sets of person features match. If that is the case, *v* and T fuse to form a complex head *v*+T which carries the features of both arguments (see the derivations in (24) and (37) above).

In both scenarios, then, there is a single head that has a full set of φ-features, namely person and number (recall that gender is not grammaticalised in Hungarian). I assume that this head, T or *v*+T if fusion has taken place, is targeted by spell-out rules. Note that, as mentioned previously, the object never agrees with the verb in number. In direct cases, therefore, while the person of both arguments is specified on *v*+T, only the subject's number is.

Table 4.2 shows the distribution of person features before spell-out, i.e. after the syntactic derivation has finished and after fusion has taken place (cf. also Table 4.1 above). This clearly distinguishes direct configurations and configurations with two third person arguments from inverse configurations. The gaps at 1→1 and 2→2 in

Table 4.2 refer to reflexive pronouns which are third person syntactically and always trigger object agreement (I return to non-reflexive cases of 1→1 and 2→2 below).[9]

EA→IA	1	2	3
1	—	*v*+T: [1, 2]	*v*+T: [1, 3]
2	*v*: [1], T: [2]	—	*v*+T: [1, 2]
3	*v*: [1], T: [3]	*v*: [2], T: [3]	*v*+T: [3, 3]

Table 4.2 Distribution of person features in Hungarian direct and inverse contexts (shaded)

The following (preliminary) spell-out rules refer to the cells of Table 4.2 and also take into account the number of the subject. The notation used is as follows. Capital letters indicate variables over vowels in a given vowel harmony alternation: *A* is realised as either a back or a front open vowel: /ɒ/ vs. /ɛ/. *O* allows for an additional contrast in roundedness for front vowels, leading to /œ/ and /ɛ/; its back variant is /ɔ/. *U* stands in for the closed rounded back and front vowels /ʊ/ and /y/, respectively. Double capitals indicate long vowels. I am ignoring tense/mood features unless relevant. The two variants of the second person singular subject agreeing suffix in (40) depend on the morphophonology of the verb: roots ending in non-sibilant consonants get the *-sz* suffix. I will return to the role of the *-l* suffix below.

(39) **Vocabulary items involving first person subjects (provisional)**

/*-lAk*/	↔	[1, 2, SG]
/*-Om*/	↔	[1, 3, SG]
/*-Uk*/	↔	[1, 3, PL]
/*-Ok*/	↔	[1, SG]
/*-Unk*/	↔	[1, PL]

[9] The reader might wonder why *v* can have two sets of φ-features while T only has one in Table 4.2. In principle, T can agree several times as well and be valued repeatedly. Nothing would change with respect to the analysis proposed here. It is possible, however, that accusative on the direct object renders the direct object inactive for agreement with T after it has agreed with *v*. See Chapters 5 and 6 for discussion.

(40) **Vocabulary items involving second person subjects (provisional)**

/*-Od*/	↔	[2, 3, SG]
/*-AAtOK*/	↔	[2, 3, PL]
/*-Ol/-sz*/	↔	[2, SG]
/*-tOk*/	↔	[2, PL]

(41) **Vocabulary items involving third person subjects**

/*-a/-i/-e*/	↔	[3, 3, SG]
/*-AAk/-ik*/	↔	[3, 3, PL]
/*-∅*/	↔	[3, SG]
/*-nAk*/	↔	[3, PL]

The rules in (39)–(41) mostly suffice to spell-out present tense verb forms. There are, however, a few syncretic forms that are not yet covered by the rules shown here that warrant further discussion.

4.4.1.1 Modifications

First person singular suffixes in the past tense neutralise the distinction between subject agreement and subject and object agreement. This is shown in (42).

(42) a. *Lát-t-am egy fiú-t.*
see-PST-1SG a boy-ACC
'I saw a boy.'

b. *Lát-t-am a fiú-t.*
see-PST-1SG the boy-ACC
'I saw the boy.'

The fact that the "agreeing" form is resorted to in this case casts doubt on the analysis of the suffix *-Om* as shown in (39). The reason for this is that the rule in (39) is too specific for the suffix *-am* to be inserted in (42a), with an object that does not trigger object agreement (see Trommer 2005 for this argument and further discussion). In addition, a form of *-Om* appears on nominals indicating a first person singular possessor.[10] Again, in a context without an object, an "object agreement" suffix appears.

[10] In the past tense and possessive morphology the back variant of *-Om* and *-Od* is realised as /ɒ/ rather than /ɔ/; I nevertheless treat them as the same suffixes here and I will continue to refer to the *-Om* and *-Od*.

(43) *ház-am*
house-1SG.POSS
'my house'

It is of course possible that there are several homophones that are all spelled out as *-Om*, but there might a be a missing generalisation looming here as there is consistent overlap between verbal morphology and possessive morphology in Hungarian (Szabolcsi 1994; Trommer 2005).

Szabolcsi characterises this overlap as follows: possessive suffixes indicating a singular possessor show an overlap with verbal morphology expressing object agreement. Possessive suffixes indicating a plural possessor overlap with verbal morphology expressing only subject agreement. Some of these parallels are shown in (44), with the spell-out rules from above.

(44) a. *lát-om* *ház-am* */-Om/* ↔ [1, 3, SG]
see-1SG.OBJ house-1SG.POSS
'I see (it)', 'my house'

b. *lát-od* *ház-ad* */-Od/* ↔ [2, 3, SG]
see-2SG.OBJ house-2SG.POSS
'you (sg.) see (it)', 'your (sg.) house'

c. *lát-unk* *ház-unk* */-Unk/* ↔ [1, PL]
see-1PL.SBJ house-1PL.POSS
'we see', 'our house'

d. *lát-tok* *ház-atok* */-tOk/* ↔ [2, PL]
see-2SG.OBJ house-2SG.POSS
'you (pl.) see', 'your (pl.) house'

These forms raise two questions: first, why does an arguably non-relational noun like *ház* 'house' carry the same suffix as a verb agreeing with an object. Second, why is the specification of the vocabulary items in (45) different in singular and plural? In this section, I will attempt to provide answers to both questions.[11]

[11] It might be possible to argue that possessed nouns like *ház-am* 'house-1SG.POSS' in (43) are relational nouns that take two arguments and therefore do behave like transitive verb forms that spell out the features of both the subject and the object; however, I do not provide an analysis of agreement inside the noun phrases and I will therefore assume that possessive suffixes are only sensitive to the person of the possessor. Not much hinges on this question.

Trommer (2005) argues that the distribution of the suffix(es) *-Om* provides evidence against analysing it as a portmanteau suffix, i.e. a suffix that reflects properties of both a first person argument and a third person argument (I will return to the question of whether these suffixes are portmanteaus below). He suggests instead that *-Om* only spells-out a first person feature, but not a third person feature.

In addition to verb forms with third person objects, and nominals, *-Om* also appears in examples like (45), showing so-called *inclusive reference.* This means that the referent of the subject is included in the referent of the object, as both have the same person. As argued by den Dikken *et al.* (2001), some speakers of Hungarian show a preference for the "agreeing" form with configurations of the type X.SG → X.PL for X ∈ {1, 2} (see also É. Kiss 2013). Note that (45b) is merely more acceptable than (45a), but not generally seen as fully grammatical.

(45) a. **Én mink-et választ-ok meg.*
I we-ACC choose-1SG.SBJ VM
intended: 'I choose us.'

b. %*Én minket választ-om meg.*
I we-ACC choose-1SG.OBJ VM
'I choose us.' (den Dikken *et al.* 2001: 140f.)

Since the distribution of the suffix *-Om* which expresses subject and object agreement is less restricted than the distribution of the suffix *-Ok* which expresses only subject agreement, Trommer suggests deriving the context for inserting the suffix *-Om* by feature deletion. Concretely, he suggests that the vocabulary item *-Ok* is only inserted in the context of a feature [+V], as shown in (46).[12] This feature reflects the category of the terminals into which the suffix is inserted: since *-Om* can also appear in a non-verbal context, however, it can also be inserted in other contexts (predicting correctly that it can appear as a nominal suffix).

This suggestion makes the subject agreement suffix *-Ok* more specific than the alternative *-Om*. In order for the suffix *-Om* to be inserted on a terminal such as *v*+T, the feature [+V] is deleted (I adopt the gist of Trommer's approach in what follows, but see his paper for a different implementation).

[12] Trommer (2005) uses [+*v*], but I will refer to [+V] in order not to confuse this with the syntactic head *v* in the derivations above.

(46) **Vocabulary items involving first person singular subjects**
   a. /*-Ok*/ ↔ [1, sg] / [+V]
   b. /*-Om*/ ↔ [1, sg]

To derive the distribution of *-Om*, [+V] is deleted in several contexts which feeds the vocabulary insertion rule for /*-Om*/ in (46). The contexts in which impoverishment takes place involve nominals as in (43), past tense forms as in (42), as well as transitive clauses with objects that require object agreement, i.e. objects that have person features. These impoverishment rules are sketched in (47).[13]

(47) **Impoverishment rules for first person singular subjects**
   a. [+V] → ∅ / [+N]
   b. [+V] → ∅ / [1, +pst]
   c. [+V] → ∅ / [1, 3, sg]

The rule in (47a) deletes [+V] in the context of a nominal; this allows for insertion of the VI *-Om*, given (46). (47b) specifies that [+V] is deleted in the past tense, again feeding the insertion rule in (46b). Finally, when features of both the first person subject and the third person object are specified on *v* in the course of the syntactic derivation, (47c) deletes [+V] and *-Om* is inserted.

To give a more concrete example, consider the structures in (48). Here, *v*+T is specified as [1, 3] and carries a [+V] feature (its syntactic category). This matches the context for the rule in (47c) to apply. This leads to the deletion of [+V]. Vocabulary insertion rules for first person subjects are shown in (46), repeated from above. After impoverishment applies, the form in (46a) cannot be inserted because it is specified for [+V] contexts and *-Om* is inserted instead.

[13] When inserted as a possessive suffix, the feature [+V] is arguably not present in the first place and does not have to be deleted: *-Om* would be the only suitable candidate. The rule in (47a) might therefore be dispensable.

(48) **Impoverishment**

$$\overset{v\text{+T}}{\begin{bmatrix} +\text{V} & \\ \text{u}\varphi & \begin{matrix} \text{u}\pi & 1,3 \\ \text{u}\# & \text{SG} \end{matrix} \end{bmatrix}} \xrightarrow{\text{Impoverishment: (47c)}} \overset{v\text{+T}}{\begin{bmatrix} \cancel{+\text{V}} & \\ \text{u}\varphi & \begin{matrix} \text{u}\pi & 1,3 \\ \text{u}\# & \text{SG} \end{matrix} \end{bmatrix}}$$

(46) **Vocabulary items involving first person singular subjects**

a. /*-Ok*/ ↔ [1, SG] / [+V]

b. /*-Om*/ ↔ [1, SG]

Instead of a suffix that expresses properties of both a first person subject and a third person object, a suffix that is underspecified for the person of the object and the category of its terminal is inserted: this makes it possible that the suffix *-Om* has a wider distribution than the subject agreement-only suffix *-Ok*.

There are two further contexts that require deletion rules. First, a large number of verbs in the class of *-ik*-verbs (prescriptively) neutralises the difference between subject agreement and subject and object agreement and always bears the *-Om* suffix in first person singular.[14]

Second, in cases of inclusive reference as shown in (45) above, *-Om* is reported to be more acceptable than *-Ok*. This is reflected in the spell-out rules below.[15]

(47) **Impoverishment rules for first person singular subjects (cont.)**

d. [+V] → ∅ / [1, V = *eszik* 'to eat', *iszik* 'to drink', ...]

e. [+V] → ∅ / [T = v = (1 | 2)]

(47d) captures the forms of *-ik*-verbs and (47e) captures the fact that [+V] is deleted when the subject and the object are both first or second person. In (47e), "|" indicates

[14] In present-day Hungarian, this class of verbs includes unergatives, unaccusatives, as well as transitive verbs; see Törkenczy (2002: 116) for a list of these verbs, and see Havas (2004) for some diachronic discussion with respect to medialisation.

[15] Recall that the notion *inclusive reference* indicates that the referent of the subject is included in the referent of the object. In the cases at hand, this is because the subject is singular and co-indexed with a plural object. See den Dikken *et al.* (2001) and Rooryck (2006).

Note that these inclusive-reference forms obviously compete with reflexive pronouns and that they do not seem to be fully grammatical.

logical disjunction: the feature [+V] is deleted when the person features on T and *v* match, i.e. when both are either first or second person.

Second person singular suffixes are similar to first person singular suffixes in certain respects: the suffix *-Od*, indicating object agreement, also appears as the marker of a second person singular possessor, as shown in (49).

(49) *ház-ad*
house-2SG.POSS
'your house'

Given (49), the rule in (40) is too specific to allow for insertion of *-Od* in this case. Again, I will assume that the suffix *-Ol/-sz* that appears with intransitive predicates as well as indefinite objects is specified as [+V] and that deletion rules remove this feature in certain contexts. The revised spell-out rules are given in (50) and the deletion rules in (51). Note the parallel to the first person suffixes discussed above.

(50) **Vocabulary items involving second person singular subjects**
a. /*-Ol/-sz*/ ↔ [2, SG] / [+V]
b. /*-Od*/ ↔ [2, SG]

(51) **Impoverishment rules for second person singular subjects**
a. [+V] → ∅ / [+N]
b. [+V] → ∅ / [2, 3, SG]

(51a,b) show some overlap with the corresponding rules for first person subjects; indeed, some of these rules can be combined.

4.4.2 Revised spell-out rules

The previous discussion leads to the following spell-out and deletion rules for Hungarian agreement suffixes.

(52) **Vocabulary items involving first person subjects (final)**

/*-Ok*/	↔	[1, SG] / [+V]
/*-lAk*/	↔	[1, 2, SG]
/*-Uk*/	↔	[1, 3, PL]
/*-Om*/	↔	[1, SG]
/*-Unk*/	↔	[1, PL]

(53) **Vocabulary items involving second person subjects (final)**

/*-Ol/-sz*/	↔	[2, SG] / [+V]
/*-AAtOK*/	↔	[2, 3, PL]
/*-Od*/	↔	[2, SG]
/*-tOk*/	↔	[2, PL]

(54) **Vocabulary items involving third person subjects (final)**

/*-a/-i/-e*/	↔	[3, 3, SG]
/*-AAk/-ik*/	↔	[3, 3, PL]
/*-∅*/	↔	[3, SG]
/*-nAk*/	↔	[3, PL]
/*-Uk*/	↔	[3, PL] / [+N]

(55) **Impoverishment rules**

a. [+V] → ∅ / [+N]
b. [+V] → ∅ / [1, +PST]
c. [+V] → ∅ / [(1|2), 3, SG]
d. [+V] → ∅ / [T = *v* = (1 | 2), SG]
e. [+V] → ∅ / [1, V = *eszik* 'to eat', *iszik* 'to drink', ...]

The syntactic derivations introduced in Section 4.3, together with the spell-out rules just introduced derive the full range of data discussed in this section.

I adopted Trommer's (2005) insight that some of the verb forms indicating object agreement are better analysed as being underspecified for the person of the object: this explains why they have a wider distribution than the verb forms expressing subject agreement only. While adding some complexity to the system by introducing some impoverishment rules, this approach explains the distribution of syncretic forms in the paradigm and, as I show in the next section, it makes it possible to generalise the overlap of verbal and nominal morphology.[16]

4.4.3 Verbal agreement and possessive suffixes

As briefly mentioned above, Szabolcsi (1994) notes that the overlap between possessive suffixes and verbal agreement suffixes seems to cut across the distinction between suffixes expressing subject agreement only and those expressing both subject *and* object agreement.

A welcome consequence of the analysis proposed here is that the overlapping distribution of verbal agreement suffixes and possessive suffixes can now be generalised:

(56) **Agreement morphology and possessive suffixes**
When agreement and possessive suffixes match for a given person π, they represent the least specific vocabulary item for that person, of the following form:
/SUFFIX/ ↔ [π, SG/PL]

The generalisation in (56) states that verbal agreement and possessive suffixes match when the person of *one* argument is represented in a spell-out rule, but not when there are two. This gives rise to the impression that in the singular, possessive suffixes match verbal agreement suffixes that show object agreement, but in the plural, possessive suffixes match those that only indicate subject agreement (as suggested by Szabolcsi 1994).

But if the spell-out rules presented in Section 4.4.2 above are on the right track, *-Om* and *-Od* do not cross-reference the object after all. Given their insertion rules, they match intransitive contexts as well but they are only inserted when deletion of [+V] rules out insertion of *-Ok* and *-sz/-l*, respectively. (57), including the revised spell-out rules, shows the overlap between verbal agreement and possessive suffixes and the relevant spell-out rules for first and second person.

(57) a. *lát-om* *ház-am* */-Om/* ↔ [1, SG]
see-1SG.OBJ house-1SG.POSS
'I see (it)', 'my house'

[16] More is to be said about certain conditional and subjunctive forms that show syncretic forms in certain configurations. These are not relevant for present purposes, however.

b. *lát-od* *ház-ad* /*-Od/* ↔ [2, SG]
see-2SG.OBJ house-2SG.POSS
'you (sg.) see (it)', 'your (sg.) house'

c. *lát-unk* *ház-unk* /*-Unk/* ↔ [1, PL]
see-1PL.SBJ house-1PL.POSS
'we see', 'our house'

d. *lát-tok* *ház-atok* /*-tOk/* ↔ [2, PL]
see-2SG.OBJ house-2SG.POSS
'you (pl.) see', 'your (pl.) house'

Consider the competing vocabulary items for the verb in (57a). After the syntactic derivation and the application of fusion as discussed in Section 4.3, the terminal *v*+T has the features [1, 3, SG, +V]. This feature specification triggers the impoverishment rule in (55c) above which deletes [+V]. Now the terminal is specified as [1, 3, SG] which correctly allows the insertion of the suffix *-Om*. This was shown in (48) above, repeated here.

(48) **Impoverishment**

$$\overset{v\text{+T}}{\begin{bmatrix} +\text{V} & \\ \text{u}\varphi & \begin{matrix} \text{u}\pi & 1,3 \\ \text{u}\# & \textsc{sg} \end{matrix} \end{bmatrix}} \xrightarrow{\text{Impoverishment: (55c)}} \overset{v\text{+T}}{\begin{bmatrix} \cancel{+\text{V}} & \\ \text{u}\varphi & \begin{matrix} \text{u}\pi & 1,3 \\ \text{u}\# & \textsc{sg} \end{matrix} \end{bmatrix}}$$

In the case of the nominal *ház-am* 'my house', the terminal node arguably lacks the specification for [+V] and therefore only *-Om* can be inserted, and not *-Ok*. The same reasoning holds for (58b). In (58c,d), there is no competition between spell-out rules.

The situation for third person suffixes is slightly more complex. First, in the plural, third person verbal agreement and third person plural possessors do not show the same form.

(58) a. *lát-nak*
see-3PL.SBJ
'They see.'

b. *lát-ják*
see-3PL.OBJ
'They see it.'

c. *ház-uk*
house-3PL.POSS
'their house'

Since none of the suffixes in (58) match, third person plural suffixes are not in the scope of the generalisation in (56) (see Trommer 2005 for an alternative approach). In the third person singular, however, there is an overlap between verbal agreement and possessive suffixes:

(59) a. *lát-ja*
see-3SG.OBJ
'S/he sees (it).'

b. *lát-t-a*
see-PST-3SG.OBJ
'S/he saw (it).'

c. *ház-a*
see-3SG.POSS
'his/her house'

(59b) and (59c) in particular show matching verbal agreement and possessive morphology. However, when the possessed noun is in the plural, the suffix *-a-* seen in (59c) appears in all persons, not just third:

(60) a. *ház-a-i-m*
house-POSS-PL.POSS-1SG.POSS
'my houses'

b. *ház-a-i-d*
house-POSS-PL.POSS-2SG.POSS
'your (sg.) houses'

c. *ház-a-i-∅*
house-POSS-PL.POSS-3SG.POSS
'his/her houses'

I therefore analyse the suffix *-a-* in (59c) as a general possessive suffix that does not express the person of the possessor. If this is correct, the third person possessive suffix is ∅, as indicated in (60c) and the correct gloss of (59c) is as in (61):

(61) *ház-a-∅*
house-POSS-3SG.POSS
'his/her house'

This allows us to keep the generalisation in (56) intact. (62) shows the matching zero exponent of third person singular verb forms without object agreement and the ∅-suffix following a generic possessive suffix. (63) repeats the generalisation introduced in (56) above.

(62) *lát-∅* *ház-a-∅* /-∅/ ↔ [3, SG]
see-3SG.SBJ house-POSS-3SG.POSS
's/he sees', 'his/her house'

(63) **Agreement morphology and possessive suffixes**
When agreement and possessive suffixes match for a given person π, they represent the least specific vocabulary item for that person, of the following form: /SUFFIX/ ↔ [π, SG/PL]

4.4.3.1 Interim summary

The syntactic analysis introduced in the previous section and the spell-out rules introduced here can express Szabolcsi's (1994) observation of the distribution of matching verbal agreement and possessive suffixes.

I adopted the gist of Trommer's (2005) analysis about the distribution of first and second person suffixes indicating object agreement, without adopting his suggestion that there is no portmanteau morphology in Hungarian (see the next section for discussion). I argued, following his proposal, that some suffixes that spell-out subject and object agreement are actually underspecified and do not include reference to the person of the object. Rather, their distribution follows from a number of impoverishment rules.

Note, finally, that this analysis serves as a synchronic account of the data but it does not shed light on the origin of the overlap between possessive and verbal morphology. For a number of possible explanations for Hungarian, see Havas (2004) (and see Malchukov 2013 for related phenomena in a number of unrelated languages).

4.4.4 Further issues in verb morphology

Before concluding this section, I return to the question of compositionality in Hungarian verb morphology. I have analysed the suffixes *-lAk* (1sg/2), *-a/-e/-i* (3sg/3), *-Uk* (1pl/3), *-AAtOk* (2pl/3) and *-AAk* (3pl/3) as indicating both the person of the subject and the person of the object as portmanteau morphemes.

However, a large number of approaches to Hungarian object agreement and verb morphology draw a different conclusion and argue that (some of) the suffixes can transparently be segmented into separate subject and object markers.[17] In this section, I discuss the present approach relative to other analyses that assume a more "compositional" make-up of Hungarian verb morphology.

First, consider evidence for separate exponents of the person features of the subject and the object.[18] The forms of the verb *lát* are shown in Table 4.3 (cf. Table 2.1, p. 26 above). In the present tense, the element *-j-* is a candidate for an object agreement marker, as it appears in several forms that show third person object agreement.

	Subject agreement only (sbj)		Subject and object agreement (obj)	
	Present tense	Past tense	Present tense	Past tense
1sg	*lát-ok*	*lát-t-am*	*lát-om*	*lát-t-am*
2sg	*lát-sz*	*lát-t-ál*	*lát-od*	*lát-t-ad*
3sg	*lát-∅*	*lát-ott*	*lát-ja*	*lát-t-a*
1pl	*lát-unk*	*lát-t-unk*	*lát-juk*	*lát-t-uk*
2pl	*lát-tok*	*lát-t-atok*	*lát-játok*	*lát-t-átok*
3pl	*lát-nak*	*lát-t-ak*	*lát-ják*	*lát-t-ák*

Table 4.3 Present and past indicative forms of *lát* 'to see'

Ignoring 1/2sg for now, *-ja-* can be identified in 3sg, 1pl, 2pl and 3pl. In the past tense, however, *-j-* disappears, and the suffix *-t-* takes its place, presumably expressing

[17] Trommer's (2005) paper is called "Hungarian has no portmanteau agreement" and he puts forth conceptual arguments against portmanteau agreement as well as the argument for underspecification reviewed above; see also Bartos (1999), É. Kiss (2002), den Dikken (2004, 2006) and Rocquet (2013) for approaches involving separate subject and object agreement suffixes.

[18] For the sake of simplicity, I abstract away from morphophonological variation induced by vowel harmony and assimilation and I focus on the forms of a single verb, namely *lát* 'to see'. My general point holds across morphophonological variation.

past tense. This is shown in more detail in Table 4.4. While the contrast between the present tense forms points to *-j-* as an agreement marker, the differences between the agreeing present and past tense forms in Table 4.4 could suggest that *-j-* indicates present tense, like *-t-* indicates past (cf. also Rocquet 2013: 68f. for discussion).

	SBJ, present	OBJ, present	OBJ, past
3SG	*lát-∅*	*lát-**j**-a*	*lát-**t**-a*
1PL	*lát-unk*	*lát-**j**-uk*	*lát-**t**-uk*
2PL	*lát-tok*	*lát-**j**-átok*	*lát-**t**-átok*
3PL	*lát-nak*	*lát-**j**-ák*	*lát-**t**-ák*

Table 4.4 *-j-* and *-t-* in present and past tense forms of *lát* 'to see'

Another candidate for an object marker is *-a-*, as in the following pairs:

(64) a. *lát-ott*
see-PST.3SG

b. *lát-t-**a***
see-PST-A-3SG

b. *lát-t-atok*
see-PST-2PL

d. *lát-t-**a**-atok*
see-PST-A-2PL

c. *lát-t-ak*
see-PST-3PL

e. *lát-t-**a**-ak*
see-PST-A-3PL

However, neither *-j-* nor *-a-* (or their several allomorphs) consistently distinguish a third person object agreement form from one that only appears with the subject. In addition, there are pairs of person suffixes that do not exhibit either of these: 1SG and 2SG in both present and past tenses, as well as arguably 1PL, do not show these exponents.

(65), adapted from Rebrus 2005: 64, shows a templatic structure for Hungarian verbs, where *-j-* and *-a-* are shown as the potential allomorphs of an object marker, and the two instances of φ indicate two positions of exponents of person and number features.

(65) stem + TENSE/MOOD/*-j-* + *-a-*/φ(I) + φ(II)

Tables 4.3 and 4.4 and the example in (64) showed verb forms that match different versions of the template in (65). (64d), for example, realises all of these exponents in the template, while (64b) realises the first two suffixes but not the final one, and (64a) arguably realises the first one only. Rebrus (2005: 66, fn. 23) mentions that given the amount of variation in Hungarian verb morphology, it is questionable whether it is at all useful to assume that the morphemes in question are segmentable and that these segments are subject to morphophonological rules.

I have argued for an alternative, namely to treat the agreement morphemes as portmanteaus and I have attempted to show that this allows us to derive the spell-out of verb morphology and capture the overlap with possessive morphology. While this approach potentially glosses over certain details in verb morphology, it has several further advantages.

First, I provided both a syntactic and a morphological analysis that work together to derive the forms presented in this section. Second, by adopting the structure that involves a single agreement suffix, there is no need to assume null morphemes referring to object agreement in certain configurations (as Trommer 2005 and den Dikken 2006 do).

Trommer (2005) further argues against portmanteaus in Hungarian for conceptual reasons. Since vocabulary items are inserted into one terminal in DM, portmanteau morphology is difficult to model if a vocabulary item has to refer to properties of more than one terminal node (say a subject agreement probe T, and an object agreement probe *v*). However, I have argued that a single probe can carry features of two arguments when the subject's features are a proper superset of the object's features or when fusion applies. I have put forth a restrictive view of fusion of *v* and T: the two heads only fuse if they are sisters and their strongest features match. These assumptions are compatible with the existence of portmanteau morphology in Hungarian verb morphology.

Combining the syntactic and morphological structures proposed in this chapter results in a systematic and elegant explanation of the gaps in object agreement with personal pronouns, which has some advantages over other approaches. Both Trommer (2005) and den Dikken (2006) assume a range of null object agreement suffixes, but it is not clear why they should appear in exactly the contexts of first and second person pronouns, for example. Trommer assumes that in these contexts, object agreement features are deleted. Den Dikken (2006) goes further by assuming that in inverse contexts, first and second person objects are represented by null clitics. Second person pronouns, however, have non-null allomorphs that appear with first person subjects.

The present proposal derives the seemingly non-agreeing forms using a combination of syntactic processes and morphological rules, which explains the gaps in a systematic way.

4.4.5 Interim summary

In this section, I provided an analysis of the morphological structure of verb forms in Hungarian that fits with the syntactic analysis provided in the preceding sections. I argued that there is one position in Hungarian verbs that spells out a full set φ-features. The φ-features are determined by the syntactic derivation and entailment relations among sets of person features.

Vocabulary insertion rules either directly spell-out the features on a terminal node in the syntax or are preceded by impoverishment rules. Following Trommer (2005), I have used impoverishment rules to derive the distribution of first and second person singular suffixes, which not only appear in verb morphology, but also as possessive suffixes.

I further proposed a generalisation that accounts for the overlap between possessive suffixes and verb morphology (see (56), p. 132). As Szabolcsi (1994) notes, verb morphology and possessive morphology overlap in different ways. When the subject or the possessor is singular, possessive morphology matches verb morphology expressing subject and object agreement. When the subject or the possessor is plural, possessive morphology matches verb morphology expressing subject agreement only. I showed that this pattern can be explained by the following generalisation: possessive suffixes and verb morphology match when both are the result of a vocabulary insertion rule that refers to one argument only.

4.5 Comparison to other analyses of object agreement

Before concluding this chapter, I will position the current proposal with respect to existing proposals. Analyses of Hungarian object agreement, in particular with respect to agreement with personal pronouns, fall into two classes. Some researchers suggest that only third person arguments trigger object agreement, while others assume that personal pronouns of other persons can trigger agreement as well — these approaches have to account for the gaps in agreement, and do so in different ways.

4.5.1 Agreement with third person objects

Bartos (1999), É. Kiss (2002), den Dikken (2004), Coppock and Wechsler (2012), Coppock (2013) and Rocquet (2013) provide analyses of the former type: these authors focus on third person objects. Recall that Bartos (1999) suggests that only third person pronouns project a DP, but first and second person pronouns do not. Similarly, Coppock and Wechsler (2012) only attribute the feature [DEF] to third person pronouns. Coppock (2013) makes use of differences in the pronouns' referential properties: she suggests that anaphoric pronouns, like third person pronouns and reflexives, do trigger agreement, but indexical pronouns, like first and second person pronouns do not.

There are two obvious consequences of analysing Hungarian object agreement in this way. First, as mentioned above in much detail, the behaviour of second person pronouns with respect to object agreement requires a different explanation from object agreement with third person pronouns (and first person pronouns). I have attempted to show that second person pronouns clearly trigger object agreement with first person subjects and that it is possible (and thus arguably preferable) to account for object agreement with distinct pronouns by using a single mechanism. Obviously, this raises the question of why agreement is not always spelled out.

The present chapter provides an answer to this question. The syntactic mechanisms I used to explain the lack of agreement are well attested in other languages (cf. Béjar 2000; Bobaljik and Branigan 2006; Lochbihler 2008; Béjar and Rezac 2009; Keine 2010; Georgi 2012; Lochbihler 2012 and Chapter 5) and are compatible with a common syntactic structure of all personal pronouns. In addition, I showed that indexicality and anaphoricity do not influence object agreement, as both indexical and non-indexical pronouns can trigger agreement (see Section 3.2.1).

A second consequence of interpreting object agreement as being restricted to third person arguments is that it becomes more difficult to characterise the class of noun phrases that trigger object agreement. As discussed in Chapter 1, differential object marking tends to be triggered by direct objects that are high in definiteness, and/or animacy, or topicality. While definiteness correlates with object agreement even when object agreement is restricted to third person, this restriction itself is not typical across languages. By extending the potential to trigger object agreement to first and second person pronouns as well, it becomes possible to state a generalisation about object agreement in Hungarian that fits in well with DOM in other languages. This was suggested in (55) on p. 94 in Chapter 3 and is repeated here as (66):

(66) **Object agreement in Hungarian**
If a direct object is definite, it triggers object agreement.

The possibility of stating (66) is a consequence and advantage of the present analysis which takes the lack of object agreement with personal pronouns to be a superficial effect. This is a welcome result.[19]

4.5.2 Agreement with first, second, and third person objects

The second kind of approach to object agreement in Hungarian acknowledges that not only third person arguments can trigger object agreement. Analyses of this type have been proposed by É. Kiss (2003, 2005), den Dikken (2006), É. Kiss (2013), Bárány (2015b) and É. Kiss (2015) — the present work also endorses this view. The analysis I presented here shares properties with these approaches, but I believe that it is also superior in certain respects. Let me first discuss É. Kiss's (2013) approach.

As mentioned above, É. Kiss (2013) characterises the Hungarian agreement patterns as follows (repeated from (6), p. 100; her animacy/person hierarchy is shown in (68)):

(67) **Inverse agreement constraint for Hungarian**
An object agreeing with a verb must be lower in the animacy hierarchy than the subject agreeing with the same verb, unless both the subject and the object represent the lowest level of the animacy hierarchy.
(É. Kiss 2013: 8)

(68) 1SG > 1PL/2 > 3 (É. Kiss 2013: 8)

This is a descriptive statement that mostly fits the data. The underlying motivation for it is a fossilised constraint on agreement with topical direct objects in the history of

[19] Note, however, that (66) does not imply that all noun phrases that trigger object agreement are definite.

Hungarian. Marcantonio (1985) suggests that object agreement in Hungarian used to be sensitive to the topicality of the direct object (see also Peredy 2009; cf. Nikolaeva 1999a,b; Dalrymple and Nikolaeva 2011 for similar suggestions in related languages).

É. Kiss (2013: 16) suggests that this sensitivity explains the constraint in (67): in the typical Uralic SOV clause, the subject would be a topic and the object would only trigger agreement if it were topical as well (a secondary topic; see Nikolaeva 2001; Dalrymple and Nikolaeva 2011; Bárány 2014a). The constraint blocks "that the secondary topic be more topical (in other words, more animate, more specific) than the primary topic. An object more animate, more salient than the subject can only be presented as a focus." (É. Kiss 2013: 16)

Consider a sentence with a second person subject and a (topical) first person object. According to É. Kiss (2013), there can be no object agreement in this case, because the direct object would be more topical than the subject — exactly what is ruled out by her constraint. While topicality historically did play a role in object agreement (Marcantonio 1985), its influence on object agreement in present-day Hungarian is not strong, if present at all (see Peredy 2009 for discussion). Most importantly, the distribution of object agreement with personal pronouns does not correlate with information structure, i.e. even objects that are less topical than their subjects are not agreed with when they are first and second person pronouns (and the subject is lower on the hierarchy). This suggests that É. Kiss's (2013) constraint can only be part of the grammar of present-day Hungarian as a constraint that specifically rules out agreement with first person pronouns and second person pronouns (when the subject is third person) because topicality does not influence present-day object agreement. While possible, this means that the distribution of object agreement in present-day Hungarian would not be stated as a generalisation, but merely as a descriptive statement that rules out certain combinations of the person of the subject and the object. In contrast, on the analysis I proposed here the distribution of agreement follows from syntactic principles.

A second problematic aspect of É. Kiss's (2013) analysis is her claim that being more topical correlates with being more animate and/or more specific, or simply higher in person. While there is arguably a general tendency for definite and animate entities to be more topical than indefinite and inanimate ones, personal pronouns are all definite and specific. However, personal pronouns can be topical or focused depending on the discourse, independently of their (constant) property of being definite (see also Coppock and Wechsler 2010 for a similar argument).

Another analysis that assumes that not only third person pronouns trigger agreement is proposed by den Dikken (2004, 2006). Den Dikken's two analyses diverge in some respects; here, I will focus on den Dikken (2006). I will first summarise his approach to verb morphology and then highlight certain aspects of his analysis that contrast with the present proposal.

Den Dikken argues that Hungarian verb morphology includes inflectional suffixes as well as clitics, for both subject and objects. He identifies *-ja-* as a third person object clitic, and the suffixes *-om* and *-od* as subject clitics, for example:

(69) a. *lát-ja*
see-3.OBJ.CL

b. *lát-om*
see-1SG.SBJ.CL

Combining the two clitics in (69) would derive a hypothetical form **lát-ja-m* 'see-3.OBJ.CL-1SG.SBJ.CL' that does not exist. Den Dikken (2006) suggests that there is a co-occurrence restriction on subject and object clitics that rules out any verb form with a third person and a first or second person clitic:

(70) **Clitic co-cccurrence restriction (Proto-Uralic)**
A third person [object clitic] cannot co-occur with a first or second person [subject clitic].
(den Dikken 2006: 12)

While the constraint in (70) rules out forms like **lát-ja-m* correctly, it is not clear why it would not give rise to a form like that in (71a). Since *-k* is not a clitic, it should not be subject to the restriction in (70). (71b) shows an analogous example that includes an object clitic and the first person inflectional suffix indicating the subject.

(71) a. **lát-ja-k*
see-3.OBJ-1SG.SBJ
intended: 'I see him/her'

b. *lát-l-ak*
see-2.OBJ-1SG.SBJ
'I see you'[20]

I want to highlight three more potential problems with den Dikken's (2006) analysis. First, while his clitic co-occurrence restriction resembles the person-case constraint (or PCC, see e.g. Béjar and Rezac 2003; Anagnostopoulou 2005; Adger and Harbour 2007; Rezac 2008b; M. Richards 2008 among many others), it actually seems to be more of an *ad hoc* tool to explain Hungarian verb morphology. The reason for this lies in the distinction den Dikken makes between inflectional suffixes and clitics. Clitics are said to be derived from Proto-Uralic pronouns, whereas inflectional affixes are presumably newer. But this cannot be the whole story: according to the data den Dikken presents, the element *-l-* that appears in the second person object agreement form *-lak* does not derive from an old pronoun. It is nevertheless treated as a clitic and therefore subject to the constraint in (70). The distinction between inflectional affixes and clitics is therefore unclear and not defined independently.

A second problem with den Dikken's analysis lies in the inventory of clitics. To explain why the second person object clitic *-l-* appears when the subject is first person, but not when the subject is third person, den Dikken (2006: 18) suggests that this clitic has a covert allomorph whose presence is triggered by a third person subject. Similarly, first person object clitics are also null. In other words, den Dikken (2006) assumes that while all personal pronouns trigger clitic doubling, many object clitics are null. These null clitics appear in inverse cases in den Dikken's analysis, but this is an accidental fact.

In the present analysis, on the other hand, the absence of agreement follows from spelling out a probe that has only agreed with the subject. I believe that the system introduced in Section 4.3 above provides a more principled analysis of the distribution of agreement with personal pronouns.[21]

[20] Note that it is also unclear why there should not be a form like **lát-sz-ak* 'see-2.OBJ-1SG.SBJ' in which the second person suffix has the *-sz* allomorph that appears after stops like [t]. There is no allomorphy in the *-lAk* suffix (apart from obvious vowel harmony), indicating at least that the inventory of potential object agreement suffixes is restricted to and does not fully overlap with subject agreement suffixes.

[21] Den Dikken (2006: 18, fn. 34) refers É. Kiss's (2005) proposal of deriving inverse agreement, whose essentials are similar to É. Kiss (2013). His main criticism is that É. Kiss (2005, 2013) relies on a "combined PERSON/NUMBER hierarchy" whose status in a Minimalist framework is questionable. The present approach avoids this issue and provides a syntactic alternative that derives the same effects.

A third problem for den Dikken's (2006) specific implementation of clitic doubling follows from his analysis of the structure of first and second person pronouns. Essentially, den Dikken (2004, 2006) assumes that the accusative first person pronoun *engem* and the accusative second person pronoun *téged* are actually possessive constructions, on analogy to possessed common nouns (see den Dikken 2006; Rocquet 2013 for detailed analyses of the role and nature of -g-):[22]

(72) a. *en-g-em*
1SG-g-1SG.POSS

b. *kez-em*
hand-1SG.POSS

c. *té-g-ed*
2SG-g-2SG.POSS

d. *kez-ed*
hand-2SG.POSS

Den Dikken (2004, 2006) assumes that first and second person object clitics are generated in the left periphery of these possessed noun phrases or "pronouns" as their possessors. He analyses clitic doubling as movement of these possessors from the possessed NP onto the verb (recall the notion of possessor extraction discussed in Chapters 2 and 3). This resembles so-called bigDP analyses of clitic doubling, in which a clitic moves from an outer layer of a DP onto the verb, combining XP movement and head movement (Uriagereka 1995; Cecchetto 1999).

It is possible to test whether this kind of movement can happen. In a noun phrase that consists of two coordinated pronouns, movement of either a single possessor or two distinct possessors should be ruled out by the coordinate structure constraint. The following examples show that such combinations are grammatical, however. (73) shows a coordinated noun phrase whose constituents differ in person, and (74) shows a coordinated noun phrase whose constituents differ in number. The fact that these examples are grammatical makes it unlikely that each pronoun includes a movable possessor clitic.[23]

[22] É. Kiss (2015) relates the analysis of personal pronouns along these lines to the lack of the usual accusative suffix *-t* on these pronouns and the possibility of dropping this suffix with nouns with first and second person possessors (see also Kamper 2006).

[23] Den Dikken (2004) argues that the movement of the possessor clitic can explain the pattern of dative intervention in (i); however, his (2006) reanalysis of the structure of pronouns is no longer compatible

(73) … *hogy egyedül csak a halál választ el engem és téged!*
that alone only the death separate.3SG.SBJ VM I.ACC and you.SG.ACC
'… also if anything but death parts me from you.'
(Ruth 1:17, `http://szentiras.hu/KNB/Rút1` and English Standard Version)

(74) … *hogy egyedül csak én választ-alak el téged és titeket!*
that alone only I separate-1SG>2 VM you.SG.ACC and you.PL.ACC
'… only I part you (sg.) from you (pl.).'

Note also that third person pronouns are presumably not possessive NPs. It remains unclear where the third person object clitic, *-j-*, originates from, and why personal pronouns should have different syntactic structures.

4.5.3 Inclusive reference, again

É. Kiss (2015) raises the data in (75) as problems for the analysis of agreement I proposed in Bárány (2015a,b). I will address this criticism below and show that the present proposal solves the issue in question.

(75) a. *Te titek-et ajánl-od / *ajánl-asz?*
you.SG you.PL-ACC recommend-2SG.OBJ recommend-2SG.SBJ
'Do you (sg.) recommend you guys?
b. *Ti téged *ajánl-játok / ajánl-otok?*
you.PL you.SG.ACC recommend-2PL.OBJ recommend.2PL.SBJ
'Do you guys recommend you (sg.)?'
(É. Kiss 2015: 6f. glosses adapted)

(75a) involves a case of inclusive reference. With a second person singular subject and a second person plural object, object agreement is preferable to subject agreement. (75b) shows that if the subject is plural and the object is singular, the pattern is reversed and subject agreement is preferred.

with the earlier proposal. (i) still poses an interesting puzzle for which I do not have an explanation. See den Dikken (2004: 453) and den Dikken (2006: 16, fn. 31) for discussion.

(i) *Hagy-lak (*János-nak) meg-látogat-ni (téged).*
let-1SG>2 János-DAT VM-visit-INF you.SG.ACC
'I let you be visited (*by János).' (den Dikken 2006: 453)

Recall that É. Kiss's (2013) animacy/person hierarchy places first person singular higher than first person plural (repeated from (5) above):

(5) 1sg > 1pl/2 > 3

The motivation for this split in first person pronouns comes from data like that in (76). As mentioned above, when the subject of a transitive verb is first person singular and the object is second person, the suffix *-lAk* appears, showing object agreement. When the subject is first person plural, however, the verb appears in the intransitive form, as in (76a,c). Object agreement with a third person pronoun is shown in (76b).

(76) a. *Lát-unk.*
see-1pl.sbj
'We see.'

b. *Lát-juk (ő-t).*
see-1pl.obj s/he-acc
'We see him/her.'

c. *Lát-unk téged / titeket.*
see-1pl.sbj you.sg.acc you.pl.acc
'We see you (sg./pl.).'

É. Kiss's (2013) hierarchy in (5) derives this because object agreement between first and second person arguments only arises when the person of the subject is higher than the person of the object. In my proposal, the fact that (76c) only shows subject agreement on the verb is a matter of spell-out. As argued in Section 4.3.1, the possibility of dropping objects with verb forms that show subject agreement only can be linked to the syntactic derivation in which *v* has entered an Agree relation with the object. The form *látunk* in (76c) on its own is in fact ambiguous between an intransitive reading and a reading with an implicit second person object.

É. Kiss's (2013) hierarchy also predicts the pattern of agreement in configurations involving two first person arguments.

(77) a. ?*Én mink-et is belevesz-em / *belevesz-ek a névsor-ba.*
I we-acc too include-1sg.obj include-1sg.sbj the namelist-ill
'I also include us into the list of names.'

(É. Kiss 2013: 6)

(77) shows a case of inclusive reference. But while the agreement pattern in (77) follows from the hierarchy in (5), example (75) including second person arguments does not and it constitutes a problem for É. Kiss (2013, 2015) as much as it does for Bárány (2015a,b). In that work, I attempted to explain these patterns by suggesting that first person singular pronouns were more richly specified than first person plural pronouns. If that were the case, the pattern in (77) would follow.

However, where É. Kiss (2013), Bárány (2015a,b) and É. Kiss (2015) succeed (or fail) in deriving the presence of object agreement, their approaches to not determine the *form* of object agreement and it remains unclear why first person plural objects would not trigger a form other than the one that also appears with third person objects (see the discussion of den Dikken *et al.* 2001 below for an approach along these lines).

The current proposal implements these patterns by impoverishment rules that bleed the insertion of the form showing subject agreement only when first and second person singular subjects have plural objects in the same person (see Section 4.4 above).

These impoverishment rules can arguably be motivated by the semantics of configurations involving inclusive reference. When the subject of the clauses in question is singular, its referent is part of the (plural) referent of the object. In this sense, these predicates are reflexive. When the subject is in the plural, however, and the object is in the singular, the subject's referent is not included in the object's referent and the predicate is not reflexive.

Consider actual reflexive pronouns. Reflexive pronoun objects seem impossible when the subject is plural and the object is singular, but they are possible when the subject is singular and the object is plural, as in (78a) and (78b), respectively (this is the same pattern as the one seen with inclusive reference involving personal pronouns).

(78) a. **Lát-unk* / **lát-juk* *magam.*
see-1PL.SBJ see-1PL.OBJ myself
intended: 'We see myself.'

b. *Lát-om* / **lát-ok* *magunkat.*
see-1SG.OBJ see-1SG.SBJ ourselves
'I see ourselves.'

Suppose now that reflexives are ruled out when the referent of the antecedent does not include the referent of the reflexive, i.e. when the pronoun is not *fully* reflexive because its antecedent has additional referents. This is the case in (78a). This would rule out singular reflexives with plural antecedents in general, but not singular antecedents of plural reflexives. Indeed, (78b) is more acceptable than (78a), as is its English translation.

The impoverishment rules in (55), repeated below, bleed the insertion of verbal morphology that only shows subject agreement in inclusive reference contexts. The mismatch between the reflexive interpretation of inclusive reference and form that only show subject agreement could motivate the rule in (79d). Note further that when the subject in (78) is plural, the present system correctly predicts that the verb only shows subject agreement.

(55) **Impoverishment rules**

a. [+V] → ∅ / [+N]
b. [+V] → ∅ / [1, +PAST]
c. [+V] → ∅ / [(1|2), 3, SG]
d. [+V] → ∅ / [T = *v* = (1 | 2), SG]
e. [+V] → ∅ / [1, V = *eszik* 'to eat', *iszik* 'to drink', ...]

If correct, this provides a motivation for the pattern of agreement in contexts of inclusive reference. If not, it is no more stipulative than É. Kiss's (2013) account but has a wider empirical coverage because the hierarchy in (5) is not flexible enough to cover both first and second person inclusive reference.

4.5.3.1 First person plural as third person

Using impoverishment rules to determine the spell-out of verb morphology in contexts that involve inclusive reference provides a solution to the puzzle of why the verb appears to show agreement with a third person object: the verb is actually underspecified for the person of the object and the least specific vocabulary item is inserted.

In this section, I briefly discuss an alternative approach, namely den Dikken *et al.*'s (2001) suggestion that first and second person plural pronouns can surface as *third* person pronouns and therefore trigger object agreement (I will only discus first person, but the reasoning extends to second person as well). Consider again the data in (79).

(79) a. **Én minket választ-ok meg.*
I we.ACC elect-1SG.SBJ VM
intended: 'I elect us.'

b. %*Én minket választ-om meg.*
I we.ACC elect-1SG.OBJ VM
'I elect us.' (den Dikken *et al.* 2001: 140f.)

Den Dikken *et al.* (2001) write that for certain speakers of Hungarian, (79b) is acceptable. According to den Dikken *et al.*, the problem with (79) is that in general first and second person pronouns do not trigger object agreement, but the first person plural pronoun *minket*, in (79b), does. Den Dikken *et al.* (2001) argue that this can be explained by assuming that first person plural pronouns in Hungarian can be expressed using two different structures. Both of these are abstract comitative structures that include a first person singular *pro* and a comitative PP as in (80):

(80) $[_{\text{NP}}$ 'we'/'us' $[_{\text{SC}}$ $\textit{pro}_{\text{1SG}}$ $[_{\text{PP}}$ COMIT [x (& y (& z ...))]]]]
(den Dikken *et al.* 2001: 145)

Den Dikken *et al.* explain the pattern in (79) by referring to binding theory. They argue that in (79a), if the structure of the personal pronoun is as shown in (80), the result is a violation of Principle B, since *pro* is bound by a first person singular pronoun in subject position. Basically, (79a) is ruled out for the same is reason (81) is ungrammatical.

(81) *I see me.

To allow for agreement in (79b), den Dikken *et al.* suggest that there is an alternative structure for first person pronouns that is embedded under a null *third* person noun phrase, as shown in (82). The pronoun in (82) is embedded in an NP that "can essentially be paraphrased as 'those who are us'" when it appears as a direct object (den Dikken *et al.* 2001: 146).

(82) v/AgrO ... $[_{\text{VP}}$ V $[_{\text{DP}}$ $\text{D}_{[\text{def}]}$ $[_{\text{SC}}$ $\varnothing_i$ $[_{\text{NP}}$ 'us' (=[(80)])$]_i$]]]
(den Dikken *et al.* 2001: 146)

Clearly, this raises the question of why a first person plural subject would trigger agreement on the verb that differs from that of a third person subject. Den Dikken *et al.*

(2001: 147) suggest that the answer lies in an economy constraint that only inserts the DP-form of the first person pronoun in (82), which is more complex than the pronominal structure in (80), if choosing the latter would crash the derivation by violating Principle B. In other words, a structure is chosen that does not give rise to a violation of binding theory.

The motivation for treating first person plural pronouns as abstract comitative structures comes from examples like (83).

(83) *(Mi) a nővér-em-mel nem ment-ünk mozi-ba.*
we the sister-1SG.POSS-COM NEG go-1PL cinema-ILL
'my sister and I did not go to the cinema'

(den Dikken *et al.* 2001: 144)

Note that the comitative *a nővéremmel* 'with my sister' in (83) has a first person *singular* possessive suffix and that the meaning of (83) refers to at least the speaker and his/her sister (other people might be included); see Schwartz (1988) for discussion of similar constructions across languages.

Linking agreement in cases of inclusive reference to restrictions on binding is a promising approach, but den Dikken *et al.*'s (2001) analysis includes a lot of machinery and involves very intricate structures for (some) personal pronouns. Nevertheless, if correct, it is compatible with the analysis developed in this chapter.

4.5.4 Interim summary

In this section, I discussed a number of alternative approaches to object agreement with Hungarian personal pronouns. I distinguished two types of analyses: those that only assume object agreement with third person objects, and those that assume that objects of any person can agree in principle. I argued that the analysis presented here derives the actual distribution of overt object agreement in a more systematic way than other analyses.

4.6 Summary and conclusions

In this chapter, I extended the analysis of Hungarian object agreement to the domain of personal pronoun objects. The agreement patterns with personal pronouns pose an interesting puzzle because it is not clear at first glance which syntactic or semantic properties of first person arguments should be incompatible with object agreement.

I argued that there is in fact no inherent difference that gives rise to the attested agreement patterns, but that the relative properties of the subject and the object determine the spell-out of agreement. All personal pronouns trigger object agreement, but object agreement is not always spelled-out.

The present analysis determines two kinds of syntactic derivations that depend on the configuration of the person features of the subject and the object. I provided spell-out and impoverishment rules that apply to the result of the syntactic derivation and correctly determine the form of verb morphology in all possible contexts, including certain syncretic forms. In addition, I proposed a generalisation to capture the distribution of the overlap between possessive and verbal morphology as described by Szabolcsi (1994).

Finally, this chapter provided further evidence for the hypothesis proposed in Chapter 3 that Hungarian object agreement is triggered by person features. This chapter therefore also strengthens the hypothesis that person features can grammaticalise referential properties that determine differential case-marking and agreement patterns. I present more evidence for this in Chapter 5.

4.A Appendix: Full derivations

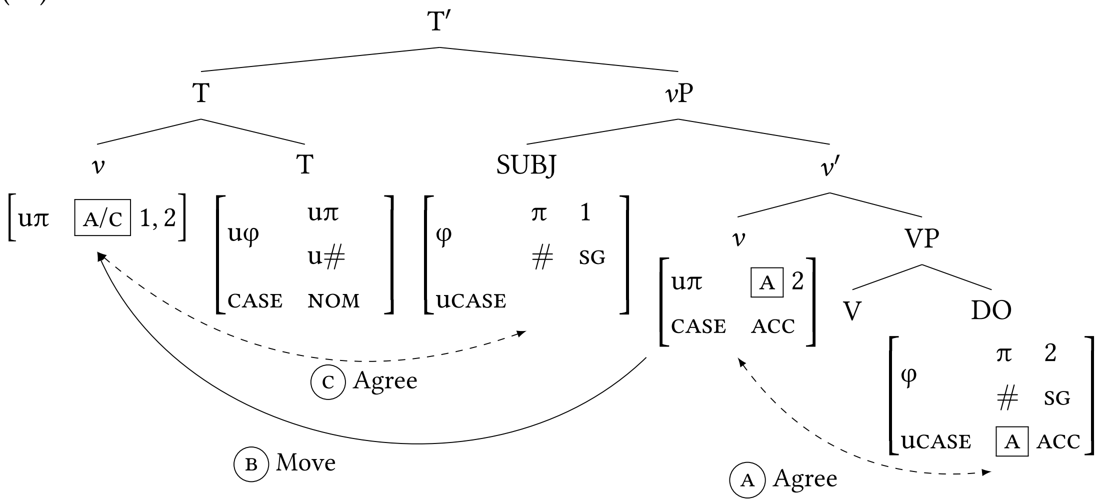
In this appendix to Chapter 4, I repeat the full derivations shown in Section 4.3 including spell-out rules for easy comparison.

4.A.1 Direct configuration

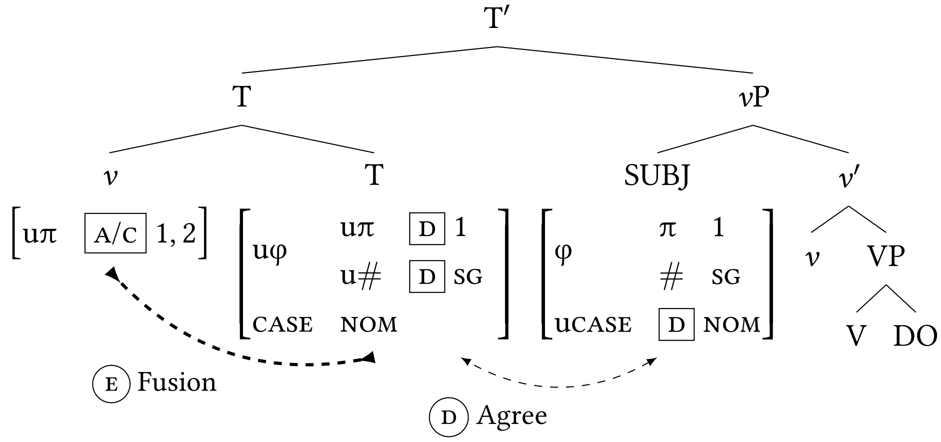
The derivation in (85) (repeated from (23) above) shows the derivation of a clause like (84), with a first person singular subject and a second person object, i.e. a direct configuration. (85a) and (85b) show the steps of the derivation while (86) shows the fusion operation.

(84) *Lát-lak téged.*
see-1SG>2 you.SG.ACC
'I see you (sg.).'

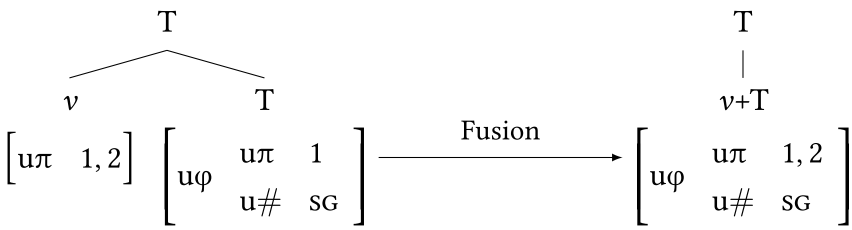
(85) a.



(85) b.



(86) **Fusion of *v* and T**



After T and *v* fuse, as shown in (86), there is a single terminal that has the features shown in (87a). This matches the vocabulary insertion rule in (87b) (repeated from (53) in Section 4.4 above). Therefore, the suffix *-lAk* is inserted.

(87) a. *v*+T: [1, 2, SG]

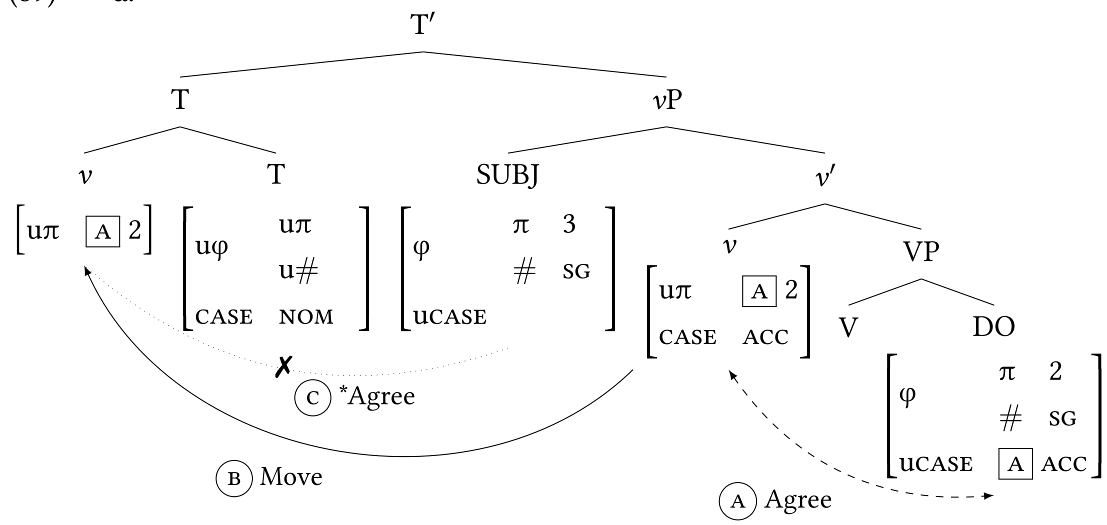
b. /*-lAk*/ ↔ [1, 2, SG]

4.A.2 Inverse configuration

The derivation in (89) (repeated from (26) above) shows the derivation of a clause like (88), with a third person singular subject and a second person object, i.e. an inverse configuration. (89a) and (89b) show the steps of the derivation.

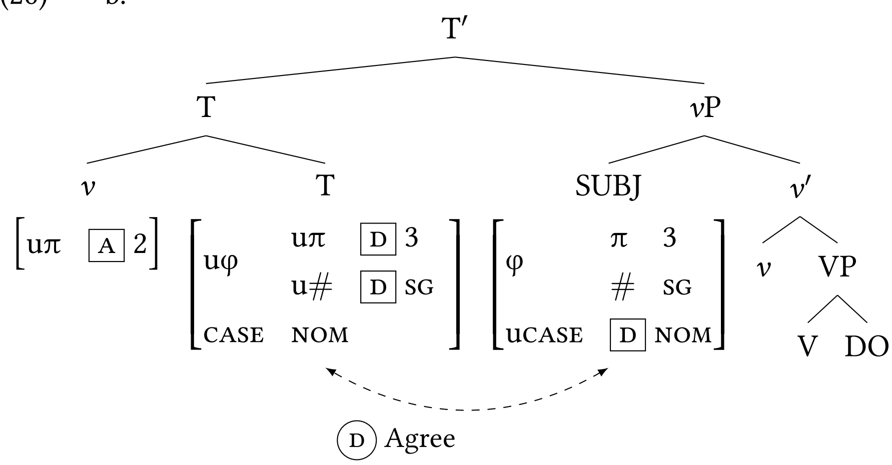
(88) *Lát* *(téged).*
see.3SG.SBJ you.SG.ACC
'S/he sees you (sg.).'

(89) a.



(90b) shows the continuation of the derivation. T probes and finds the subject, and receives the values [3, SG]. The subject is assigned NOM. Note again that now no fusion takes place since the strongest features on *v* and T do not match.

(26) b.



In (89), *v* and T do not fuse and only T has a full set of φ-features, shown in (90a). The vocabulary item in (90b) (repeated from (54)) above is therefore inserted.

(90) a. T: [3, SG]

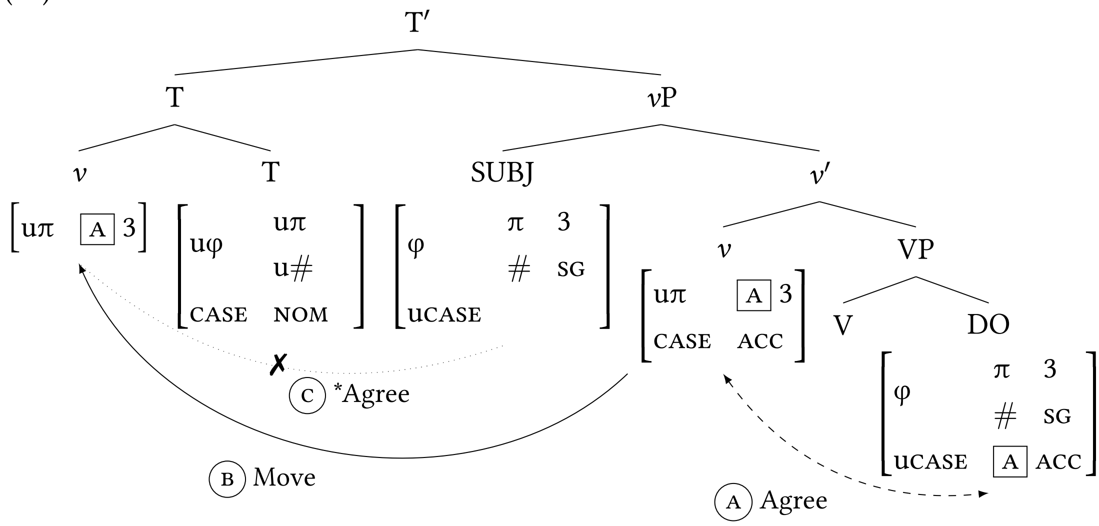
b. /-∅/ ↔ [3, SG]

4.A.3 Two third person arguments

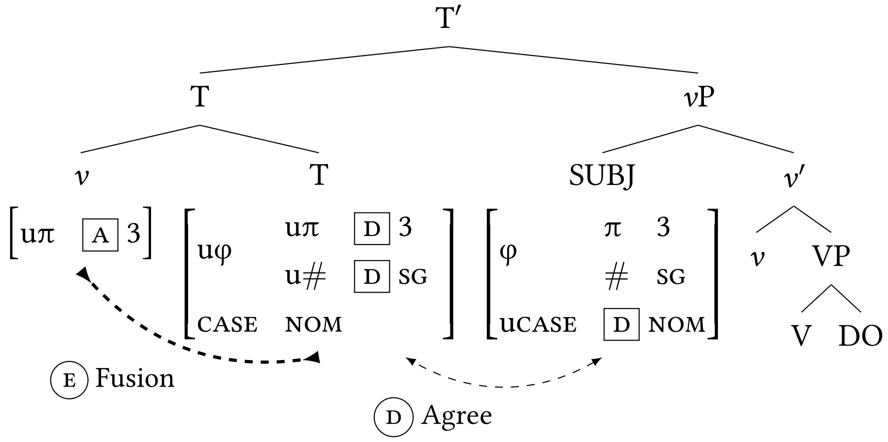
The derivation in (92) (repeated from (36) above) shows the derivation of a clause like (91), with a third person singular subject and a third person object. (92a) and (92b) show the steps of the derivation while (93) shows the fusion operation.

(91) *Lát-ja ő-t.*
see-3SG.OBJ s/he-ACC
'S/he sees him/her.'

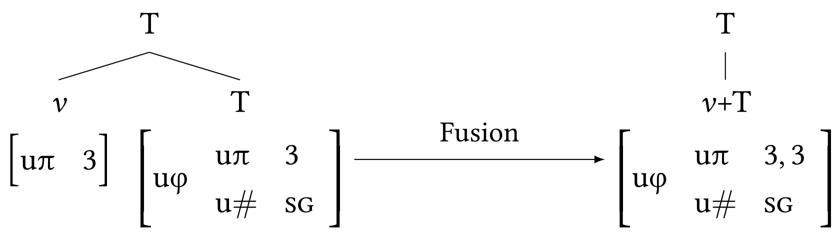
(92) a.



(92) b.



(93) **Fusion of *v* and T**



After T and *v* fuse, as shown in (93), there is a single terminal that has the features shown in (94a). This matches the vocabulary insertion rule in (94b) (repeated from (54) in Section 4.4 above). Therefore, the suffix *-a/-i/-e* is inserted.

(94) a. T+*v*: [3, 3, SG]

b. /*-a/-i/-e*/ ↔ [3, 3, SG]

Part II

Case and agreement in the grammar

5 Inverse agreement and global case splits

5.1 Introduction

The goal of this chapter is to extend the analysis of inverse agreement in Hungarian to other languages and explore its cross-linguistic implications. In Chapter 4, I proposed that Hungarian object agreement relies on cyclic Agree and interprets person features as sets of sub-features.

In this chapter, I argue that the specific assumptions about the nature of Agree and entailment relations among person features are not simply *ad hoc* rules that serve to explain a quirk of Hungarian grammar. I show, following a.o. Béjar and Rezac (2009), Keine (2010) and Georgi (2012), that the agreement pattern found in Hungarian is only one possible expression of grammatical phenomena that can be characterised by the notions of "direct" and "inverse", i.e. certain relations between the φ-features of the external and the internal argument.

So-called *global case splits* (Silverstein 1976; de Hoop and Malchukov 2008; Malchukov 2008; Keine 2010; Georgi 2012) are a related phenomenon. The term *global* refers to the fact that the properties of more than one argument determine whether that argument shows case-marking or not. *Local* splits, on the other hand, depend on the properties of a single argument only. Kashmiri, discussed below, represents an example of a global case split. In this language, case-marking of the object depends on the properties of both the subject and the object.

As Georgi (2012) illustrates convincingly, such splits can pose a problem for derivational approaches to syntax. In a language in which the morphological case of the direct object shows a global case split, i.e. where its case depends on the properties of both the subject and the object, *v* cannot assign Case upon entering an Agree relation with the direct object, as this would be too early in the derivation.

In this chapter, I propose that this problem of timing Case assignment finds a simple solution in the approach to cyclic Agree introduced in Chapter 4. If *v* can enter Agree relations as long as it has not exhausted its φ-probe and Case assignment follows Agree, the φ-features of both the external and the internal argument will be able to value a probe before Case assignment happens. Whether a language exhibits a global case split or not is then (in part) a consequence of the order of Agree and Case assignment on *v* (see Müller 2004a; Heck and Müller 2007; Müller 2009; Keine 2010; Müller 2010; Georgi 2014 on the order of syntactic operations initiated by functional heads).

Combining this approach with the view that person features can grammaticalise different properties across languages, including definiteness and animacy, I show that a small set of assumptions derives the agreement and case patterns of a wide range of unrelated languages.

To illustrate the phenomenon consider the following data from Kashmiri (Indo-European, Indo-Aryan; Wali and Koul 1997), to be discussed in more detail below. In (1a), the subject is a first person pronoun and the object is a second person pronoun. Both are unmarked for case (glossed as NOM). In (1b), however, the first person pronoun is an object, and now it surfaces in its dative form.

(1) a. *bɨ chu-s-ath tsɨ parɨna:va:n*
I.NOM be.M.SG-1SG.SBJ-2SG.OBJ you.NOM teaching
'I am teaching you.'

b. *tsɨ chu-kh me parɨna:va:n*
you.NOM be.M.SG-2SG.SBJ I.DAT teaching
'You are teaching me.'

(Wali and Koul 1997: 155, glosses adapted)

(1) indicates that first person objects can surface as datives. As (2) shows, however, second person objects undergo a similar alternation. In (2a), the subject is a second person, and the object is a third person pronoun, both unmarked (NOM). When the subject is third person, as in (2b), and the object is second person, the object surfaces as dative.

(2) a. *tsɨ chi-h-an su parɨna:va:n*
you.NOM be-2SG.SBJ-3SG.OBJ he.NOM teaching
'You are teaching him.'

b. *su chu-y tse parɨna:va:n*
he.NOM be.M.SG-2SG.OBJ you.DAT teaching
'He is teaching you.'

(Wali and Koul 1997: 155, glosses adapted)

In brief, whether a second person object surfaces as dative or not depends on the person of the subject.

The pattern in (2) resembles the distribution of the Hungarian *-lak/-lek* suffix, discussed in the previous chapter: with a first person subject, the verb agrees with a second person object, but with a third person subject, it seemingly does not. As I have argued in Chapter 4 that the distribution of agreement in Hungarian can be likened to direct and inverse marking in other languages, I will suggest that data like (1) and (2) provide additional evidence for treating global case splits in a similar way.

What characterises these phenomena is that certain properties of the subject and the object, in this case their person features, have to be "compared" to determine the morphological form of the verb. I have argued in Chapter 4 that this comparison, and the distinction between direct and inverse configurations, can be read off the values of the φ-probes of T and *v*, respectively, after they have agreed with the subject and the object. Direct configurations are characterised by *v* having more than a single set of φ-features.

I will show that the same holds for global case splits, with the difference that the relevant exponent is the case morphology on one of the two arguments. Global case splits are therefore a dependent-marking counterpart to inverse agreement, which reflects the properties of two arguments on the verb, i.e. the head (Nichols 1986).

While the two phenomena appear to be two sides of the same coin, then, there is a crucial difference following from the dependent-marking nature of global case splits: the case morphology determined by the Agree relations with the subject and the object are not spelled out on the probe that is valued by the arguments, but on the dependents, i.e. the arguments providing the values. Yet in order to determine the form of case-marking, both the subject and the object will have had to value the head that determines case assignment. In other words, if the object's case depends on the person features of the subject as well, case assignment to the object has to wait until the subject has agreed with the object's case assigner.

This chapter is structured as follows. In the following section, I discuss case splits in two languages (Kashmiri and Sahaptin) in more detail. In Section 5.3, I discuss a crucial aspect of the analysis of global case splits: the timing of case assignment and its interaction with Agree. In Section 5.4, I implement my analysis and show detailed derivations of case splits based on person and animacy in six unrelated languages, grouped in pairs. First, Kashmiri and Sahaptin show a differential object and subject marking, respectively. Second, Awtuw and Fore show evidence of animacy as a person feature, and third, Chukchi and Kolyma Yukaghir show agreement and case-marking patterns that cross the divide between direct and inverse. Section 5.5 concludes.

5.2 Case studies: Inverse agreement and global case splits

In this section, I will present data from two languages that show global case splits on different arguments. It will become clear that the patterns of case-marking and agreement that are morphologically expressed in these languages correspond closely to the "gaps" in Hungarian object agreement discussed in Chapter 4.

5.2.1 Kashmiri

As briefly mentioned above, Kashmiri (Indo-Aryan, Indo-European) has a split-ergative system based on aspect: in non-perfective aspect, the alignment of a clause is nominative-accusative, while it is ergative in perfective aspect. In non-perfective aspect, the features of both the subject and the direct object determine case-marking. Recall that so-called *inverse* configurations are those in which the person of the subject is "lower" than the person of the object, e.g. a second person subject and a first person object.

In such inverse contexts in non-perfective aspect, the object has an overt case that resembles the dative. This dative appears on the direct object in all inverse configurations, whereas the direct object is unmarked in direct configurations (note again, that this alternation does not appear in perfective aspects).

In the following pairs of examples (repeated from above), the direct object in the first example is unmarked (in direct contexts), whereas it is marked in the second example (in inverse contexts). (3) illustrates this for first and second person. The case-marking on the object is shown in (3b). The second person singular pronoun *tsɨ* 'you.NOM' is identical in (3a) and (3b), but the case-marking on the first person object changes depending on its grammatical role. (4) shows the analogous pattern for second and third person. (5) illustrates that two third person arguments also give rise to dative on the direct object.[1] The distribution of this dative is summarised in Table 5.1.

(3) a. *bɨ chu-s-ath tsɨ parɨna:va:n*
I.NOM be.M.SG-1SG.SBJ-2SG.OBJ you.NOM teaching
'I am teaching you.'

b. *tsɨ chu-kh me parɨna:va:n*
you.NOM be.M.SG-2SG.SBJ I.DAT teaching
'You are teaching me.'

(Wali and Koul 1997: 155, glosses adapted)

(4) a. *tsɨ chi-h-an su parɨna:va:n*
you.NOM be-2SG.SBJ-3SG.OBJ he.NOM teaching
'You are teaching him.'

b. *su chu-y tse parɨna:va:n*
he.NOM be.M.SG-2SG.OBJ you.DAT teaching
'He is teaching you.'

(Wali and Koul 1997: 155, glosses adapted)

(5) *su vuch-i təmis.*
he see-3SG he.DAT
'He will see him.' (Wali and Koul 1997: 156, glosses adapted)

Note also that the dative case assigned to the object in these examples is a structural, and not an inherent Case (Béjar and Rezac 2009). Evidence for this comes from passivisation: the dative assigned to first and second person direct objects is not retained under passivisation, as shown in (6) for second person:

[1] Note that second person arguments are always coded on the verb, while other persons do not have to be (Wali and Koul 1997: 246).

(6) a. *su* *kariy* *tse* *me* *hava:lɨ*
he.NOM do.FUT.2SG.OBJ you.DAT I.DAT handover
'He will hand you over to me.'

b. *tsɨ* *yikh* *me* *hava:lɨ* *karnɨ* *təm'sɨndi dəs'*
you.NOM come.FUT.2SG.OBJ.PASS I.DAT handover do.INF.ABL he.GEN by
'You will be handed over to me by him.'

(Wali and Koul 1997: 208)

In contrast to the nominative on the logical object in (6b), Wali and Koul (1997: 209) point out that indirect objects retain their dative under passivisation (see also Béjar and Rezac 2009).[2]

EA→IA	1	2	3
1	—		
2	DAT	—	
3	DAT	DAT	DAT

Table 5.1 Distribution of inverse dative in Kashmiri

The previous examples and Table 5.1 show that the distribution of this pronominal dative case is similar to the distribution of subject agreement with Hungarian personal pronouns. Note, however, that in Kashmiri, the bottom-right cell of Table 5.1 indicates that 3→3 counts as inverse as well, in contrast to Hungarian.[3]

Obviously, Kashmiri also differs from Hungarian in that the morphosyntactic exponent that is sensitive to the φ-features of the external and the internal argument is case morphology, and not verb morphology. Before turning to a full analysis of this pattern, I turn to a language in which case is assigned to the external argument rather than the internal argument in inverse contexts.

[2] Wali and Koul (1997: 209) mention that this is not true for all varieties of Kashmiri. Dative can be retained under passivisation for some speakers. See also Bhatt (2007) on Hindi for a similar pattern.

[3] This is a more "regular" behaviour, as a single probe cannot be valued by two third person arguments. For Hungarian, I have argued that the configuration 3→3 patterns with direct configurations because *v* and T can fuse (see Section 4.3.2).

5.2.2 Sahaptin

Sahaptin (Sahaptian; Nez Perce is the other Sahaptian language; see Rigsby and Rude 1996; Zúñiga 2006; Deal 2010; Keine 2010) is similar to Kashmiri in that it shows differential case-marking in inverse contexts. However, whereas a global case split affects the direct object in Kashmiri, Sahaptin shows what Rigsby and Rude (1996) call the "inverse ergative" and the "obviative ergative". Both are realised on the subject, with the inverse ergative appearing with first and second person objects and the obviative ergative appearing with third person objects. In this language, case-marking of the external argument depends on properties of the subject and the direct or indirect object. The following examples from Rigsby and Rude (1996) illustrate the distribution and form of this case. The crucial difference lies in the person of the object: when the direct object is second person, as in (7b), the subject bears the inverse ergative suffix *-nɨm*.

(7) a. *ɨwínš i-q̓ínun-a yáamaš-na.*
man 3.NOM-see-PST mule deer-OBJ
'The man saw a/the mule deer.' (Rigsby and Rude 1996: 673)

b. *ɨwínš-nɨm=nam i-q̓ínu-ša.*
man-INV.ERG=2SG 3.NOM-see-IPFV
'The man sees you.' (Rigsby and Rude 1996: 677)

The obviative ergative appears when both the subject and the object are third person and it tracks the relative pragmatic status of the two arguments (Rigsby and Rude 1996; Zúñiga 2006). Zúñiga (2006: 146) characterises the the difference between the two arguments as "high-pragmatic" (HP) and "low-pragmatic" (LP), respectively. When an LP third person subject has a HP third person object, it will bear the obviative ergative suffix. An example is shown in (8).

(8) *ɨwínš-in pá-tux̣nana yáamaš-na.*
man-OBV.ERG 3INV-shot mule deer-OBJ
'The man shot a mule deer.' (Rigsby and Rude 1996: 676)

The obviative ergative also correlates with a change in verb morphology. In (8), the verb shows the *pá-* suffix rather than *i-* as in (7). Rigsby and Rude (1996) suggest that the suffix *pá-* allows tracking the reference of salient arguments in a discourse, illustrating with the pair in (9). In (9a), the subject of the first clause remains the subject of the second, conjoined clause. According to Rigsby and Rude (1996), the subject is the topic in both clauses.

(9) a. *ɨwínš i-q̓ínun-a wapaanłá-n ku kʷaaná* ***i***-*ʔíƛ̓iyawi-ya.*
man 3.NOM-see-PST grizzly-OBJ and that.OBJ 3.NOM-kill-PST
'The man saw a grizzly and he killed it.'

b. *ɨwínš i-q̓ínun-a wapaanłá-n ku* ***pá***-*ʔíƛ̓iyawi-ya.*
man 3.NOM-see-PST grizzly-OBJ and 3.INV-kill-PST
'The man saw a grizzly and it killed him.' (Rigsby and Rude 1996: 677)

In (9b), on the other hand, the *object* of the first clause becomes the subject of the second clause and the verb shows the *pá*-suffix, indicating a reversal of the roles of the first clause: the object of the first clause is topical in the second clause.[4]

As these examples illustrate, Sahaptin has a rich inventory of verbal marking in addition to case-marking. Pronominal enclitics co-reference first and second person arguments (participants), while the prefixes indicate third person arguments, as well as (certain) inverse, reflexive and reciprocal forms (Rigsby and Rude 1996: 675f.). In this chapter, I will only focus on describing the case-marking pattern, and in particular the distribution of the *inverse* ergative, i.e. case-marking on the subject when the object is first or second person (see Rigsby and Rude 1996 and Zúñiga 2006: 149ff. for discussion of verb morphology in Sahaptin in more detail, including the distribution of the prefix *pá*-). Table 5.2 summarises the distribution of ergative marking, and Table 5.3 summarises the distribution of inverse markers.

5.3 Case assignment and cyclicity

Recall the issue of timing Case assignment mentioned in the introduction to this chapter. When *v* agrees with the direct object in Kashmiri, it should not yet assign the direct object Case, because the Case of the direct object also depends on the person of the subject. Assuming that a post-syntactic impoverishment rule determines the spell-out of the case on the direct object could be an option, but the context for such a rule

[4] Note that the pattern of verb morphology in (9) resembles so-called *switch-reference* (see Finer 1985; Keine 2013). As I am interested on the case of the external argument in this section, I will not discuss this matter here.

EA→IA	1	2	3
1	—		
2		—	
3	inverse ergative	inverse ergative	obviative ergative

Table 5.2 Distribution of the inverse ergative with singular subjects in Sahaptin (Rigsby and Rude 1996).

EA→IA	1	2	3
1	—		
2	*pá-*	—	
3	*i-*	*i-*	*pá-*

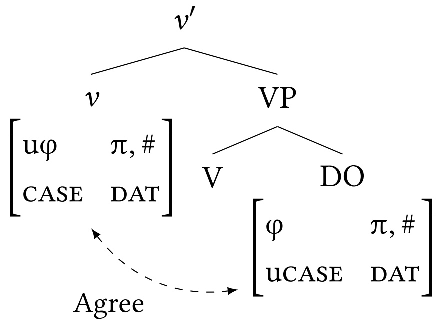
Table 5.3 Distribution of inverse verb markers for singular subjects in Sahaptin (Rigsby and Rude 1996).

refers to a large syntactic domain and gives rise to an extremely powerful notion of impoverishment. Following Keine (2010), I will take the impoverishment rules in this chapter to only apply in the domain of a single functional head, although this head might be complex. This restricts the power of such rules.

(10) illustrates this argument (DAT in (10) represents the structural Case assigned to the direct object in Kashmiri). If *v* assigns DAT on agreeing with the direct object, it is unclear how later stages of the derivation can delete (by impoverishment) the DAT feature from the direct object if the configuration does not require this case on the object.[5]

[5] From now on, I will use simplified feature matrices in derivations, as in (10). I will not indicate person, number and gender probes separately; they will be shown as uφ. If a head only has a person probe, it is shown as uπ, as before. Number and gender are only shown when relevant.

(10)



The Kashmiri data introduced above show that the direct object is assigned dative in inverse configurations. A first step towards an analysis is to take this into account in the derivation. In the system of cyclic Agree argued for in Chapter 4, direct and inverse configurations, respectively, can be distinguished by the sets of person features on *v*.

Recall from the previous chapter that I assume a person specification like [1], [2] or [3] to refer to a set of features like SPEAKER, PARTICIPANT and π (Harley and Ritter 2002; McGinnis 2005; Béjar and Rezac 2009). Subset/superset relations referencing these sets give rise to entailment relations between persons and therefore model hierarchical effects. A "higher" set of person features is a proper superset of a "lower" set of person features (cf. (6), p. 8).

(11) $$[1] = \left\{\begin{matrix}\textsc{speaker},\\ \textsc{participant},\\ \pi\end{matrix}\right\} \supset [2] = \left\{\begin{matrix}\textsc{participant},\\ \pi\end{matrix}\right\} \supset [3] = \left\{\pi\right\}$$

Assuming further that unvalued features on *v* correspond to these sets, *v* can have the values shown in Table 5.4 after agreeing with the direct object and the subject. Table 5.4 clearly shows how direct and inverse configurations can be distinguished from each other: in inverse configurations, *v* only has a single set of person features. This is because the features of the subject on the second cycle of Agree cannot value *v* as they are not a proper superset of the object's features. The cells indicated by "—" refer to reflexives that are outside the scope of the present discussion.

In direct configurations, however, it is possible for *v* to be valued by two arguments: the features on the external argument are a (proper) superset of the features of the object and therefore *v* can be valued by the subject in addition to the object. *v* is

EA→IA	1	2	3
1	—	*v*: [1, 2]	*v*: [1, 3]
2	*v*: [1]	—	*v*: [2, 3]
3	*v*: [1]	*v*: [2]	*v*: [3]

Table 5.4 Distribution of person features on *v*

valued by two sets of person features. In addition, the superset relation between the sets makes it clear that the stronger set always corresponds to the subject: whenever there are two sets of person features on *v*, the subject valued *v* second. This follows from the fact that any set of features on a probe that remains unvalued after a cycle of Agree has an additional person feature, i.e. if a second person argument values *v*, only *v*'s unvalued first person feature set will be unaffected – the feature set referring to third person will be valued by entailment. Only a stronger set of features can therefore value a probe in a second cycle of Agree.

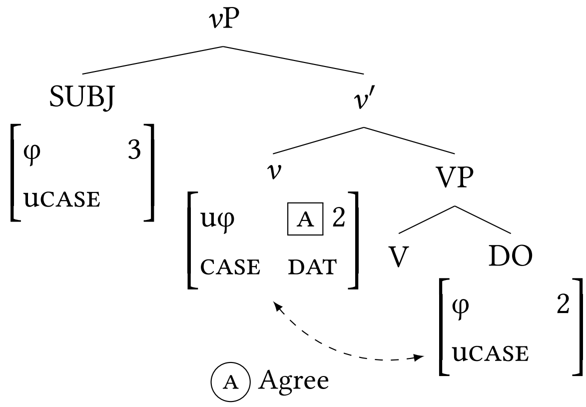
(12) illustrates a derivation taking these entailment relations among person features into account, showing a clause involving a third person subject and a second person object (and ignoring number and subject agreement, for now).

First, in (12a), *v* agrees with the direct object, which values *v*'s φ-features. There is no Case assignment yet. Next, in (12b) *v* moves to T and probes again, because its φ-features have not been fully valued yet.[6] Since the subject has a [3] person feature which cannot value *v* again, *v* can now assign Case, as shown in (12c).

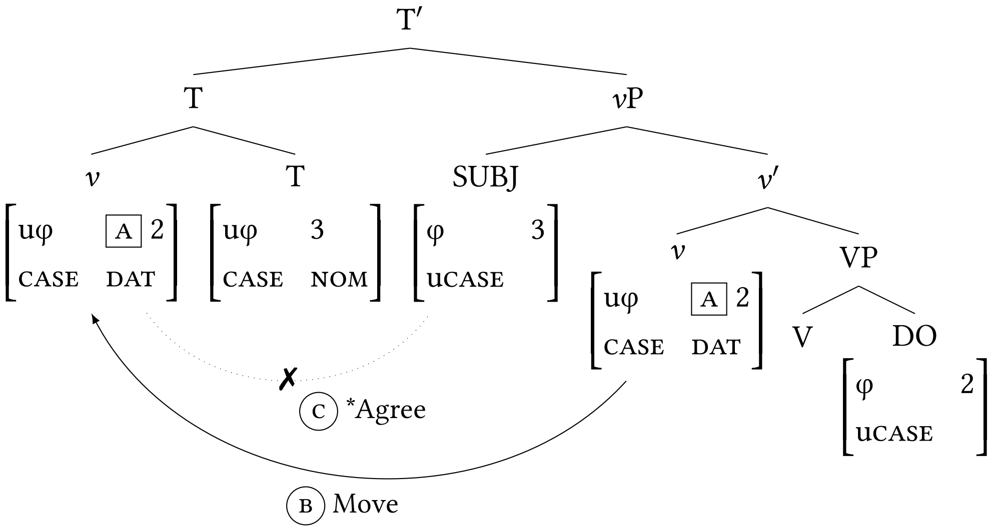
[6] Note that movement of *v* to T is not strictly necessary: in the derivation in (12), it serves the purpose of allowing *v* to enter an Agree relation with the subject by agreeing downward.

For the sake of clarity, I adopt this approach to Agree throughout this chapter, but there are alternatives, like Zeijlstra's (2012) *Upward Agree* (see Preminger 2013 for a critique) and Wurmbrand's (2014) *Reverse Agree*. Finally, Béjar and Rezac (2009) and Georgi (2012) argue that if *v*'s features percolate upwards in *v*P, *v* can also enter an Agree relation with the argument in Spec*v*P without moving.

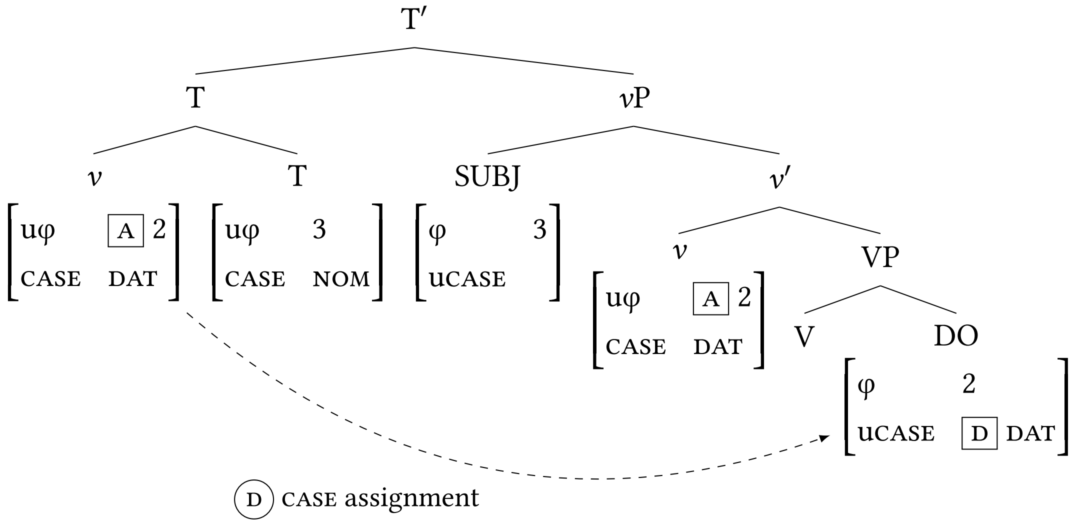
(12) a.


vP
SUBJ
v′
φ 3
uCASE
v
VP
uφ A 2
CASE DAT
V
DO
φ 2
uCASE
A Agree

b.


T′
T
vP
v
T
SUBJ
v′
uφ A 2
CASE DAT
uφ 3
CASE NOM
φ 3
uCASE
v
VP
uφ A 2
CASE DAT
V
DO
φ 2
uCASE
✗
C *Agree
B Move

c.



Since *v*'s only value is a [2] feature (or set of features, more precisely), it will assign DAT to its direct object. The derivation in (12) leaves two questions open, however:

1. How is Case assignment delayed?
2. How is the spell-out of Case determined on an argument?

The first of these two questions gets a simple answer. I assume that the order in which a probe discharges its features and gives rise to syntactic operations is fixed but can vary across languages. For *v*, the relevant head in (12), the order is one in which Agree precedes (<) the assignment of CASE features: [φ < CASE]. This ordering means that Agree takes place before copying a CASE feature onto the direct object. Following the logic of cyclic Agree, Case assignment only takes place once the probe can no longer enter Agree relations.

This means that if *v* encounters a first person object, it will instantly be fully valued and assign Case to the direct object. With second and third person objects, however, it is possible that there is a second cycle of Agree before Case assignment can take place. On this second cycle, it is determined whether the external argument can value *v* or not, and this information can feed Case assignment, as desired. In this chapter, I locate these processes in syntax and I will discuss this choice and provide further evidence for it in Chapter 6.

Note that this system diverges from Chomsky's (2000, 2001) analysis of Agree, on which Case assignment and agreement in φ-features are two aspects of a single syntactic operation happening simultaneously. I have argued that a probe can attempt to enter several Agree relations to value its φ-features which influence which Case it assigns to an argument. Case can therefore be delayed until a φ-probe is no longer probing. In Chapter 6, I will discuss further evidence for dissociating Case and agreement from each other.

I now discuss how person features determine Case assignment.

5.3.1 case features, Case assignment and impoverishment

As we have seen, the direct object in Kashmiri can appear in nominative or in a form that resembles the dative of an indirect object (but behaves differently in syntax with respect to passivisation as shown in (6)). Assuming, as seems reasonable, that the spell-out of direct object is determined by which features it has, there must be a way for *v* to determine which case feature to assign to the direct object.

One way of modelling this is to assume that case features are not privative, but complex (as I have been assuming for person features), consisting of sub-features like [±subj], [±obj] and [±obl], for "subject", "object" and "oblique", respectively (see, e.g., Bierwisch 1967; Jakobson 1971 [1936]; Wiese 1999; Müller 2002; McFadden 2004; Müller 2004b; Keine and Müller 2008; Caha 2009; Keine 2010 and Chapter 6). On this perspective, *v* does not merely assign a single case feature, but a set of such features.

I will follow Müller (2005, 2006, 2007), Keine and Müller (2008) and Keine (2010) in assuming that these sets of case features can be modified during the syntactic derivation. Rather than assuming that impoverishment (cf. Chapter 1) can only apply after syntax, these authors suggest that feature structures can be subject to impoverishment as soon as the input conditions of an impoverishment rule are met. Figures 5.1 and 5.2 illustrate this.

Keine (2010) takes advantage of the model in Figure 5.2 by assuming that the result of an Agree operation, i.e. a feature matrix, can be subject to impoverishment rules *right away*. Impoverishment does not have to wait until the end of the syntactic de-

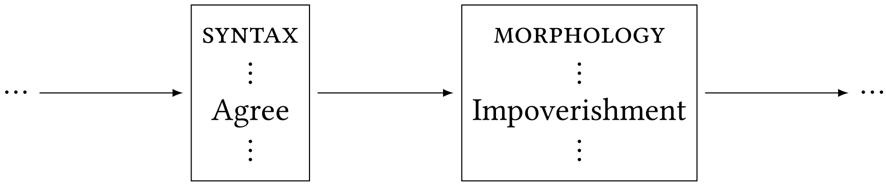


Figure 5.1 Standard view of the order of syntax and morphology (Keine 2010: 1)

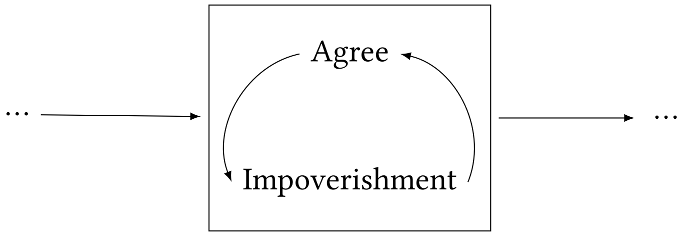


Figure 5.2 Keine's proposed order of syntax and morphology (Keine 2010: 2)

rivation, but it can be triggered by certain configurations of features on a head during the derivation.

To illustrate this, consider a transitive clause with a first person subject and a second person object, such as the Kashmiri example in (3a), repeated as (13).

(13) *bɨ* *chu-s-ath* *tsɨ* *parɪna:va:n*
I.NOM be.M.SG-1SG.SBJ-2SG.OBJ you.NOM teaching
'I am teaching you.'
(Wali and Koul 1997: 155, glosses adapted)

I assume that NOM and DAT correspond to the features in (14). I treat non-dative object case as NOM here, as in the glosses above. (15) shows the relevant vocabulary insertion rules for Kashmiri.

(14) NOM = [ ]   DAT = [+obl]

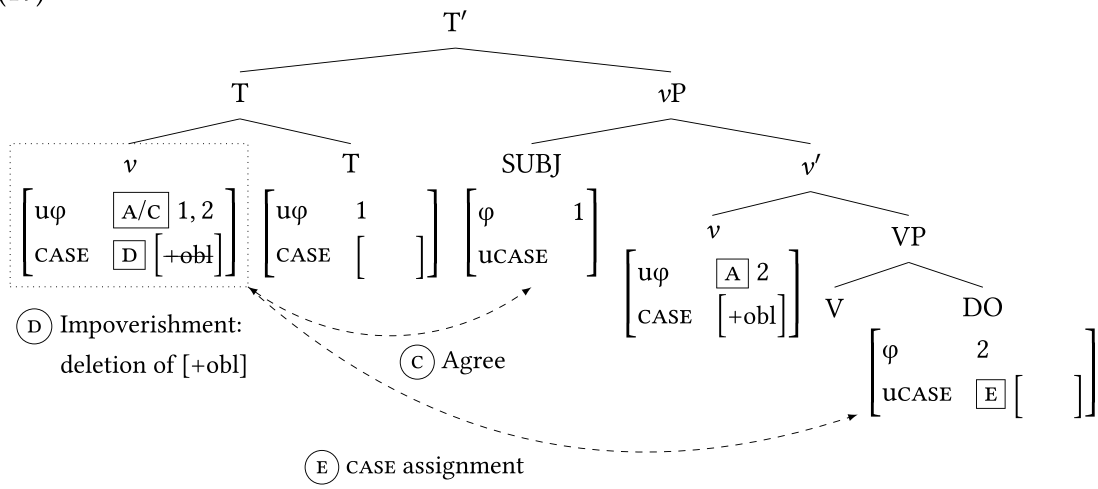
(15) **Vocabulary insertion rules**
a. [ ] ↔ *bɨ* 'I.NOM', *tsɨ* 'you.SG.NOM', *su* 'he.NOM'
b. [+obl] ↔ *me* 'I.DAT', *tse* 'you.SG.DAT', *təmis* 'he.DAT'

Finally, the impoverishment rule in (16) applies if *v* is valued by two sets of person features, shown as [α, β], and deletes the feature [+obl].

(16) [+obl] → ∅ / *v* = [α, β]

If impoverishment can apply as part of the syntactic derivation, we can derive (13) as shown in (17) (following the earlier steps of the derivation as seen in (12)). The crucial point is step D: the impoverishment rule in (16) deletes [+obl] if *v* is valued by sets of person features from two arguments. *v* therefore assigns an empty set of CASE features to the direct object: this is spelled out as nominative, according to (16).

(17)



On this perspective, *v* generally assigns DAT to its direct object, unless the feature [+obl] is deleted by the impoverishment rule in (16).

But why does this rule apply when *v* has been valued by two sets of person features in particular? An answer to this question comes from the nature of Agree, as discussed here. Following Béjar and Rezac (2009), I argued in Chapter 4 and summarised above that direct and inverse configurations can be distinguished by the content of *v*. (17) states that this impoverishment rule only applies in a direct configuration, i.e. when the subject's set of person features is a proper superset of the object's set of person features.[7]

[7] While I do not necessarily endorse such a view, it is possible to give a functional answer to this question too. A direct configuration is more typical than an inverse one and therefore less likely to require

Since multiple valuation is only possible in such contexts, it corresponds exactly to direct configurations stated on a hierarchy like the one in (18):

(18) 1 > 2 > 3

[1, 2], [1, 3], and [2, 3] are direct, and distinguish the configurations in which the direct object in Kashmiri surfaces without case-marking from those in which the direct object bears dative (cf. also the agreement pattern with Hungarian personal pronouns and case-marking in Sahaptin). The analysis proposed here derives this split by relying on sets of person features, rather than hierarchies (see Section 5.5.1 for a brief comparison of this approach to other proposals).

In the rest of this chapter, I show how this approach successfully derives case-marking and agreement patterns in a number of unrelated languages and therefore presents a viable alternative to other approaches to global case splits.

5.4 Analysis

In this section, I will analyse three kinds of global case splits. First, I show how Kashmiri and Sahaptin are mirror images of each other in that the former has morphological case on the direct object in inverse configurations, whereas the latter has morphological case on the subject in the same contexts. In Section 5.4.2, I discuss the languages Awtuw and Fore, in which nominals are marked depending on the relative animacy of subject and object. I show how such a system can be captured in the same way as systems in which marking depends more directly on "person" features. Finally, in Section 5.4.3, I discuss Chukchi and Kolyma Yukaghir, which are similar in that the exponents of agreement (Chukchi) and case (Yukaghir) morphology do not adhere strictly to the distinction between direct and inverse. In Chukchi, a subset of inverse configurations shows the so-called *spurious antipassive*, whereas in Yukaghir the same case suffixes can appear in both direct and inverse contexts.

These languages are chosen because they illustrate the same kind of phenomena based on seemingly different properties, i.e. person and animacy. This serves to illustrate that these two notions can be thought of as one.

case-marking of the object. This is why the CASE features of the object are impoverished in direct configurations.

5.4.1 Global case splits on subject and object

I argued above that in order to derive the kind of case split exhibited by Kashmiri and Sahaptin, *v* only assigns Case once its φ-probe cannot enter any further Agree relations. For the sake of illustrating the analysis, I will first analyse both languages as having a single φ-probe on T and *v*, respectively (like Hungarian). I will return to indirect object agreement in Kashmiri in Chapter 6. For ease of exposition, derivations are split into several trees, as above.

5.4.1.1 Kashmiri

Starting with Kashmiri, consider again the data from the introduction to this chapter, repeated here.

(19) a. *bɨ chu-s-ath tsɨ parɨna:va:n*
I.NOM be.M.SG-1SG.SBJ-2SG.OBJ you.NOM teaching
'I am teaching you.'

b. *tsɨ chu-kh me parɨna:va:n*
you.NOM be.M.SG-2SG.SBJ I.DAT teaching
'You are teaching me.'

(Wali and Koul 1997: 155, glosses adapted)

(20) a. *tsɨ chi-h-an su parɨna:va:n*
you.NOM be-2SG.SBJ-3SG.OBJ he.NOM teaching
'You are teaching him.'

b. *su chu-y tse parɨna:va:n*
he.NOM be.M.SG-2SG.OBJ you.DAT teaching
'He is teaching you.'

(Wali and Koul 1997: 155, glosses adapted)

(21) *su vuch-i təmis.*
he see-3SG he.DAT
'He will see him.' (Wali and Koul 1997: 156, glosses adapted)

In order to derive all of the possible forms of personal pronoun objects in (21), the following assumptions are necessary. *v* has unvalued φ-features and can assign the set of CASE features shown in (22).

(22) v: $\begin{bmatrix} \text{u}\varphi & \\ \textsc{case} & \begin{bmatrix}+\text{obl}\end{bmatrix} \end{bmatrix}$

To derive the patterns in (19) to (21), the CASE features in (23) suffice. (24) shows the vocabulary insertion rules for the data discussed here. Recall that non-dative object case is spelled out like NOM.

(23) NOM = $\begin{bmatrix} \quad \end{bmatrix}$ DAT = $\begin{bmatrix}+\text{obl}\end{bmatrix}$

(24) **Vocabulary insertion rules**

a. $\begin{bmatrix} \quad \end{bmatrix}$ ↔ *bɨ* ‘I.NOM’, *tsɨ* ‘you.SG.NOM’, *su* ‘he.NOM’

b. $\begin{bmatrix}+\text{obl}\end{bmatrix}$ ↔ *me* ‘I.DAT’, *tse* ‘you.SG.DAT’, *təmis* ‘he.DAT’

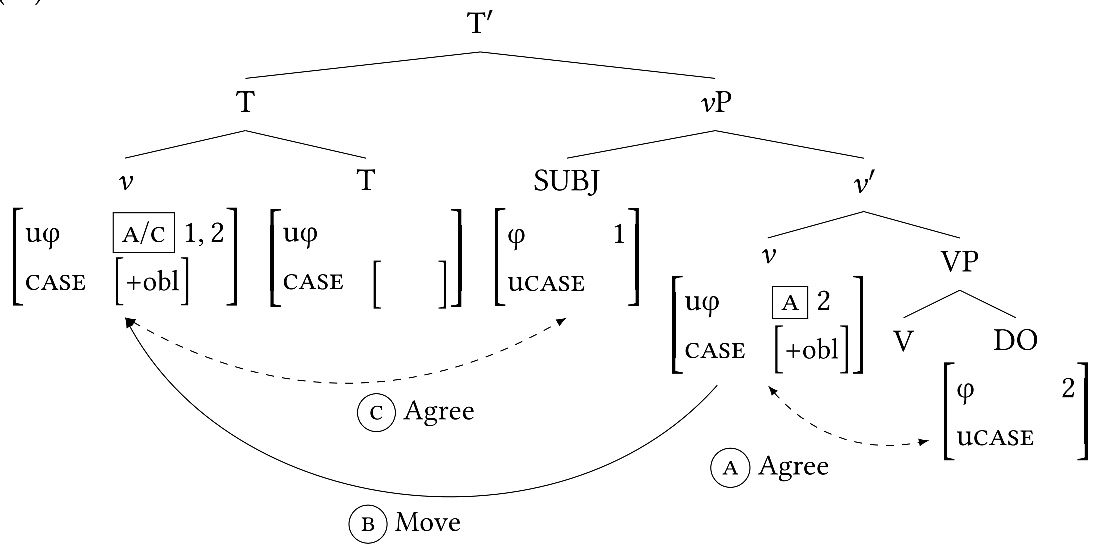
Finally, a single impoverishment rule is needed to derive the distribution of DAT on direct objects:

(25) [+obl] → ∅ / v = [α, β]

There are only two types of transitive derivations with personal pronoun direct objects: direct configurations, in which v is valued twice, and inverse configurations, in which it is only valued once. In direct configurations, v will be valued by the subject and the object together and will have two sets of person features. This creates the context for the rule in (25) to apply and delete [+obl] from the set of case features assigned by v. This is illustrated in (26), which shows the derivation of a clause with a first person subject and a second person object.

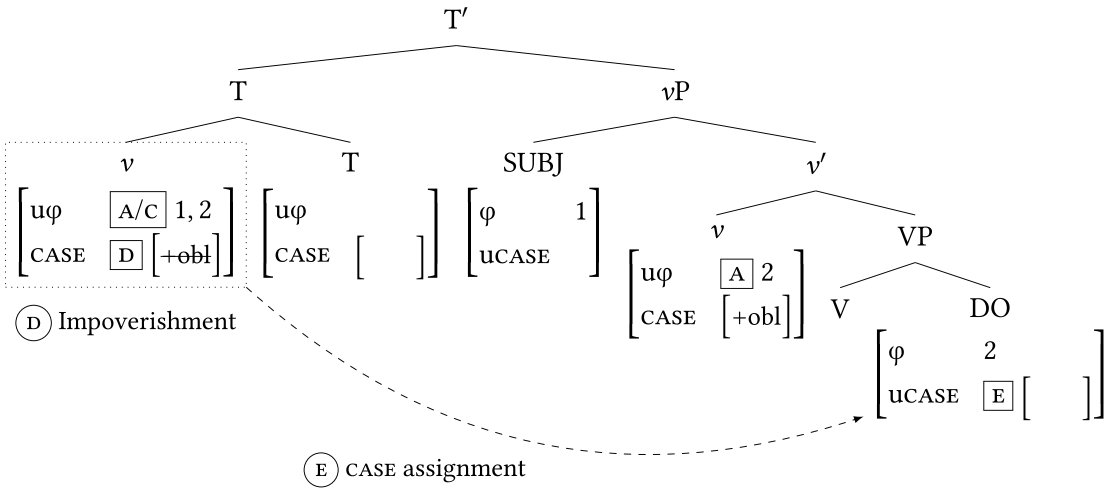
First, v’s φ-features are valued by the direct object in A. Then v moves to a position where it enters an Agree with the subject in B and is valued with an additional [1] feature in C (cf. footnote 6 on the direction of Agree).

(26) a.



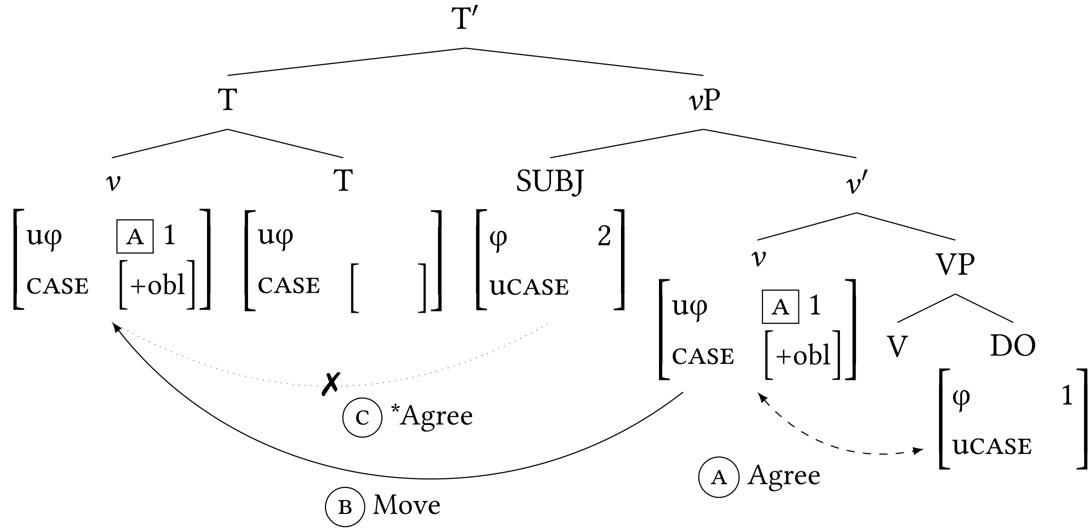
The two sets of φ-features on *v* match the context for the impoverishment rule in (25): impoverishment applies and deletes [+obl] in D. This results in an empty set of CASE features being assigned to the direct object and the (post-syntactic) vocabulary insertion of the nominative form, as determined by (24a) above.

b.



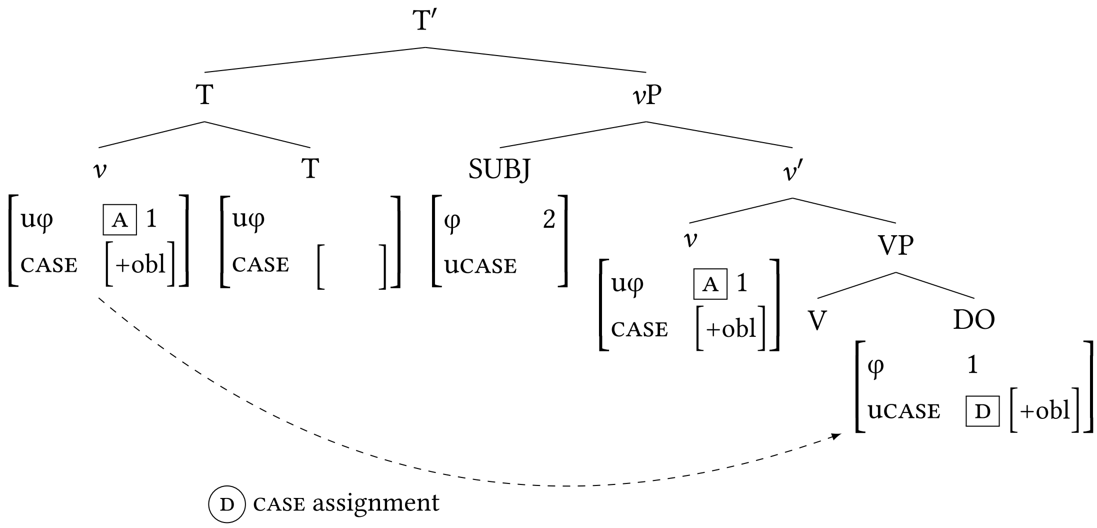
Inverse configurations differ in that *v* will only end up with a single set of φ-features, as shown in (27). This will bleed the context for the impoverishment rule in (25). The derivation in (27a) differs from the one in (26) in step (C): in (27a), the subject's [2] feature set cannot value *v*, which has already been valued as [1].

(27) a.



As *v* has a single set of φ-features, no impoverishment takes place, and the feature [+obl] is assigned to the direct object. Given the insertion rule in (24b), this form will be spelled out as a dative pronoun.

b.



The derivations so far have ignored Kashmiri's split-ergativity, mentioned at the beginning of this section. They are therefore only valid for non-perfective aspects. In perfective aspects, the subject is ergative-marked and the object is in the absolutive. Without going into any detail about the structure of the ergative clause in Kashmiri, it might simply come with a different *v*, which assigns inherent case to its specifier rather than to the direct object. (28) shows that the verb agrees with both the subject and the object even when the former is ergative and the latter absolutive. v_{perf} might also assign Case before entering an Agree relation with the object, bleeding the possibility of impoverishing the CASE features it assigns (see also Müller 2009; Assmann *et al.* 2015).

(28) *tse* *vuch-u-th-as* *bɨ*
you.ERG saw-M.SG-2SG.SBJ-1SG.OBJ I.ABS
'You saw me.' (Wali and Koul 1997: 156, glosses adapted)

5.4.1.2 Sahaptin

As briefly introduced above, Sahaptin differs from Kashmiri in that the case morphology that is restricted to inverse contexts appears on the external argument. In addition, inverse case-marking in Sahaptin only appears on third person subjects.

The fact that the global case split affects the external argument raises the question where the inverse and obviative "ergatives" come from:[8] are they assigned by *v* as a kind of inherent Case (Woolford 1997, 2006; Legate 2008, 2012; Sheehan 2014a, 2015) or assigned by T, resembling a structural Case (see Deal 2010 on Nez Perce and Sahaptin, Rezac *et al.* 2014 on Basque). Note that independently of whether ergative in Sahaptin is inherent or structural, its form is determined by the person features of the subject and the object.

Arguments for treating the ergative as structural and originating from T come from the range of thematic roles that ergative-marked subjects can bear. Consider the following examples:

[8] Recall the discussion in Section 5.2.2 about inverse and obviative ergative: the former is sensitive to person alone, while the latter appears with third person pronouns of different pragmatic salience (Rigsby and Rude 1996; Zúñiga 2006). I will simplify here and focus on how the presence of both can be derived.

(29) a. *x̣ʷɨ́saat-in pá-tuyayč-a áswani-na.*
old.man-OBV.ERG INV-lecture-PST boy-OBJ.SG
'The old man lectured the boy.'

b. *hulí-in pá-wilapx̣ʷ-ša łáł-x̣na.*
wind-OBV.ERG INV-blow.up-IPFV dust-OBJ.SG
'The wind is blowing up the dust.' (Rigsby and Rude 1996: 677)

The subjects of (29a,b) express different thematic roles and different levels of volitionality, yet they can both appear in the obviative ergative (see also Deal 2010: 102f. on similar examples from Nez Perce, where the ergative-marked subject lacks "characteristic properties of agents, e.g. animacy and volition").

I will thus assume that *v* assigns Case to the object in Sahaptin, and T assigns Case to the subject. For implementing this pattern, the following CASE features suffice:

(30) ERG = $\begin{bmatrix}\text{+subj}\\ \text{+obl}\end{bmatrix}$ OBJ = $\begin{bmatrix}\text{+obj}\end{bmatrix}$

(31) **Vocabulary insertion rules**

a. $\begin{bmatrix}\text{+subj, +obl}\end{bmatrix}$ ↔ *-nɨm* (INV.ERG)

b. $\begin{bmatrix}\text{+subj}\end{bmatrix}$ ↔ *-in* (OBV.ERG)

c. $\begin{bmatrix}\text{+obj}\end{bmatrix}$ ↔ *-na* (OBJ), *ína* 'I.OBJ', …

d. $\begin{bmatrix}\quad\end{bmatrix}$ ↔ ∅

As the ergative is assigned to the external argument by T, by assumption, the relevant impoverishment rules target the CASE features on T (rather than *v*, as in Kashmiri, cf. (25) above). These rules are shown in (32).

(32) **Impoverishment rules**

a. [+obl] → ∅ / T = [3]

b. $\begin{bmatrix}\text{+subj, +obl}\end{bmatrix}$ → ∅ / T = [PART]

Rule (32a) specifies that if T is valued by a [3] argument only, its [+obl] feature is deleted and the external argument is assigned [+subj] only. (32b) states that if T is only valued by PARTICIPANT arguments, it will assign an empty set of CASE features to the external argument (correctly restricting inverse or obviative ergative marking to third person subjects).

These ingredients lead to the following derivations. I will illustrate the appearance of the inverse ergative in (34), the obviative ergative in (35), and null suffixes in (36). Examples for each of these types of clauses are given in (33) ((33a) repeated from (7b), (33b) from (29b); (32c) is from Rigsby and Rude 1996: 674).

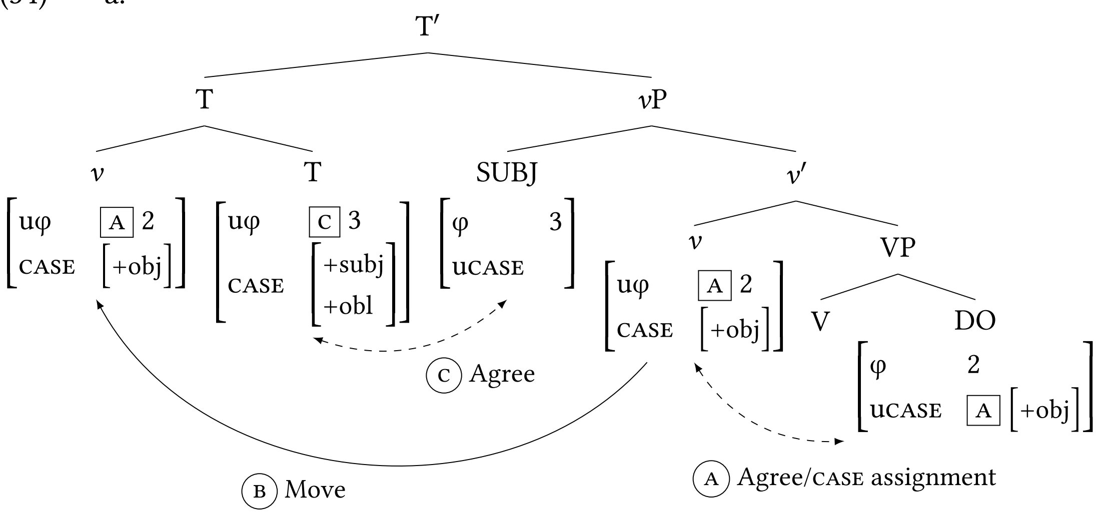
(33) a. *ɨwínš-nɨm=nam i-q̓ínu-ša.*
man-INV.ERG=2SG 3.NOM-see-IPFV
'The man sees you.'

b. *hulí-in pá-wilapx̣ʷ-ša łáłx̣-na.*
wind-OBV.ERG INV-blow.up-IPFV dust-OBJ.SG
'The wind is blowing up the dust.'

c. *ín=aš á-q̓ínu-ša payúwii-na łmáma-an*
I-1SG 3.ABS-see-IPFV sick-OBJ old.woman-OBJ
'I see the sick old woman.'

(34a) illustrates the first steps of deriving (33a).[9]

(34) a.

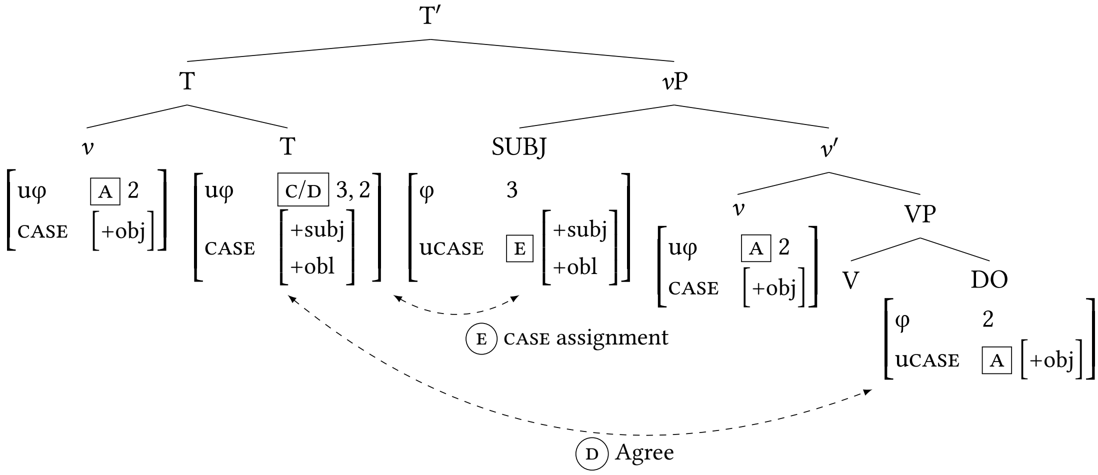


In (34b), after T has agreed with the subject and its φ-features are valued by the subject (C), it enters an Agree relation with the object (D): T ends up with the values [3, 2]. This value does not trigger any of the impoverishment rules in (32) and therefore T

[9] Note that neither *v*-to-T movement nor immediate Case assignment to the direct object are crucial ingredients to this derivation. The existence of second-position enclitics like *=nam* '2SG' in (33a) indicates that *v* might move to a high position in the course of the derivation.

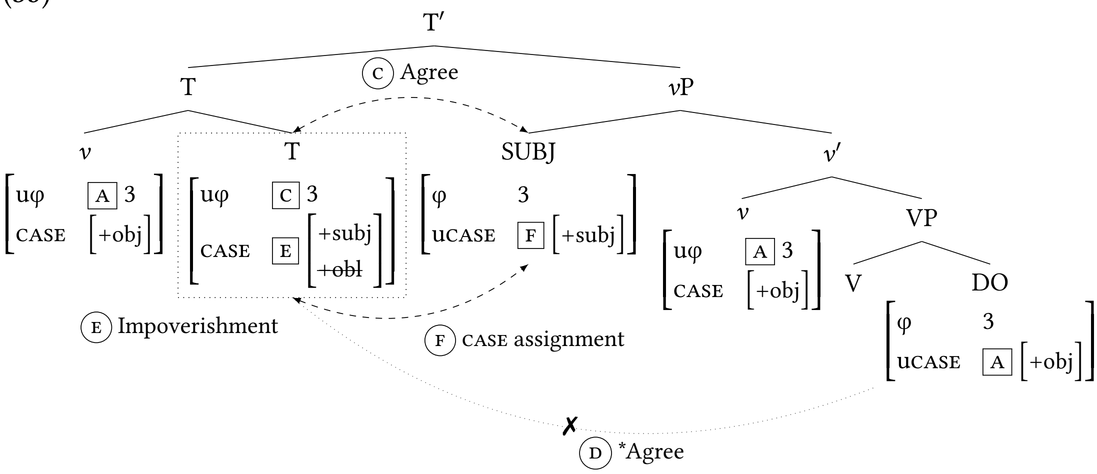
assigns its full set of CASE features to the subject. This will be spelled out as the inverse ergative.

b.



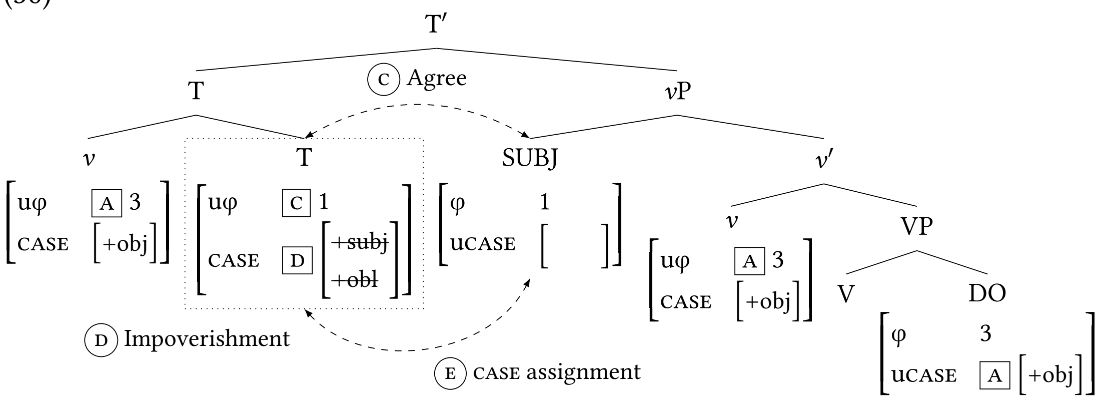
(35) shows the derivation of a clause giving rise to the obviative ergative on the external argument. The first steps of the derivation are essentially as in (34a), so only the remaining steps are shown. Again, T agrees with the subject and is valued [3] in C. Agreeing with the direct object does not change this value, and thus the features on T provide the right context for the impoverishment rule in (32a). [+obl] is deleted and the subject is assigned [+subj] only, which is spelled out as the obviative ergative.

(35)



Finally, (36) shows the relevant steps of the derivation of (33c), with a first person subject and a third person object. T's φ-features are fully valued after the Agree relation with the first person subject in C and provide the right context for the impoverishment rule in (25b) to apply in D, deleting all the features. The result is that the subject is unmarked for case.

(36)



In Sahaptin, indirect objects also affect the appearance of the inverse ergative. In ditransitive clauses, it is the *indirect* object's φ-features that determine whether the subject bears inverse ergative, or not. Consider (37). The subject and the direct object are both third person. This is not a configuration that gives rise to the inverse ergative. However, the first person indirect object *ína* (in its object form) triggers the inverse ergative *-nɨm* on the subject. The direct object remains unmarked.

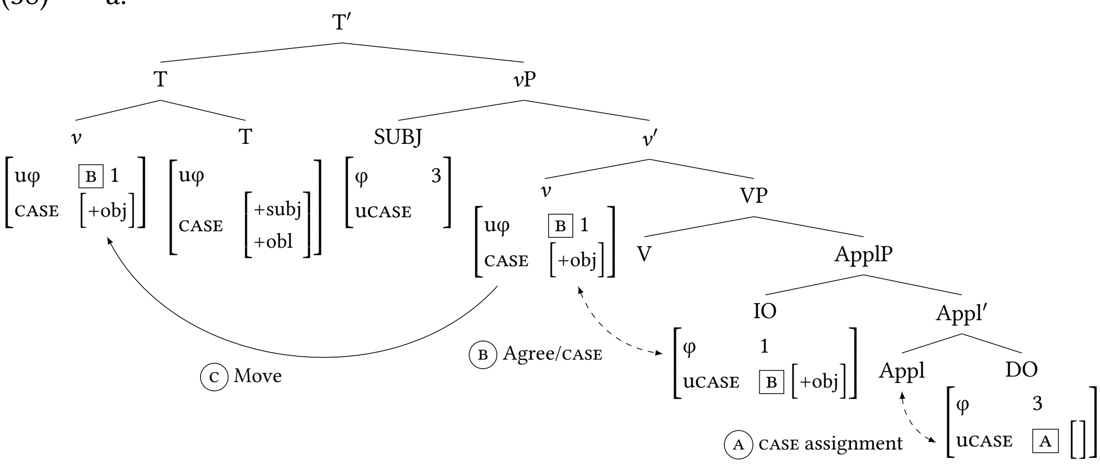
(37) *łmáma-nɨm=š i-ní-ya ína k̓pɨtłimá.*
old.woman-INV.ERG=1SG 3.NOM-give-PST me piece of beadwork
'The old woman gave me a piece of beadwork.'

(Rigsby and Rude 1996: 677)

(37) can be modelled by the structures in (38), involving a low applicative structure, in which the indirect object is introduced in the specifier of ApplP (Pylkkänen 2008). I assume that Appl assigns Case to the direct object (which remains unmarked) in A and that *v* enters an Agree relation with the indirect object and assigns it object Case in B. The indirect object is thus treated as the primary object in such constructions (Dryer

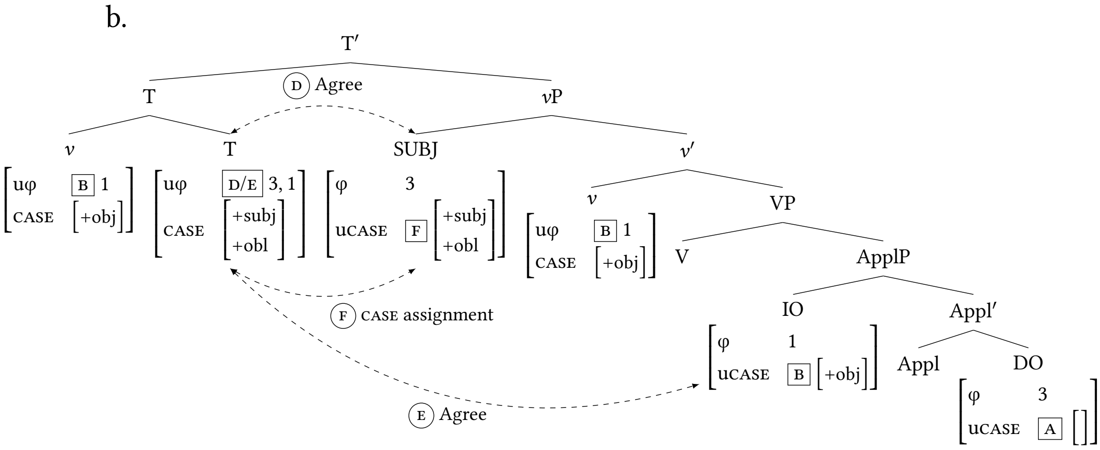
1986); in other words, the alignment of the direct and indirect object is *secundative* (Haspelmath 2005) (see also Chapter 6).

(38) a.



T, as before, enters an Agree relation with the subject and gets valued as [3]; but it will enter a second Agree relation and find the indirect object which provides the second value [1] in D and E. These sets of φ-features do not create the context for any of the impoverishment rules in (32), and therefore the subject is assigned an untouched set of CASE features in E, to be spelled out as the inverse ergative.

b.



5.4.1.3 *Interim summary*

Kashmiri and Sahaptin both express the inverse configurations in case morphology, albeit not on the same argument: in Kashmiri, the direct object surfaces as dative in roughly the same situations in which the subject surfaces as ergative in Sahaptin. As the distribution of these case-markers is very similar to the distribution of object agreement with personal pronouns in Hungarian as discussed in Chapter 4, I applied the same mechanisms to determine direct and inverse configurations: when *v* is valued by more than one set of φ-features, a derivation is direct. In Kashmiri, the direct object surfaces as dative when *v* has been valued by a *single* argument, i.e. in inverse contexts only.

I argued that in Sahaptin the same approach can derive the assignment of ergative case to the subject from T. Note, however, that since T agrees with the subject first, inverse configurations will result in more than one set of φ-features on T.

A crucial assumption throughout this chapter was that the order of operations that are carried out by a probe can be such that Agree precedes case assignment. If a probe can enter into several Agree relations before it is fully valued, Case assignment can be delayed until the head has agreed with more than one argument. The heads *v* and T thus determine the Case of the internal and the external argument, respectively, in a parallel fashion.[10]

Exploiting the role of *v* and T to license object and subject Case, respectively, is a possible advantage over other approaches to global case splits, where comparing the features of the subject and the object has to happen on a single functional head with two probes, one each for the subject and the object, respectively (e.g. Keine 2010; Georgi 2012; see Section 5.5.1). Assuming a restrictive mapping between functional heads and probes, as I have done here, is motivated empirically. There is a cross-linguistic tendency for languages to only exhibit object agreement if they also exhibit subject agreement (see e.g. Siewierska 2013, D'Alessandro and Roberts 2008: 488, and Chapter 6). A way of modelling this trend is to only assume φ-probes on functional heads if there is evidence for agreement between that head and an argument. To capture the asymmetry between subject and object agreement, I will argue that *v* can only have a φ-probe if T also has one. I will return to this question in Chapter 6.[11]

[10] If the direct object has been assigned Case, it might not be accessible for an Agree relation with T any more, in contrast to the derivation in (38b). If so, an alternative approach to the impoverishment rules in (32) would be to compare the φ-features on T and *v*.

[11] Note that this suggestion has far-reaching consequences. Implicitly, this means that languages that never exhibit object agreement, like English, lack probes on *v*. If true, this raises an obvious question: how is an English object licensed? See Chapter 6 for discussion.

In the following section, I address similar case splits that are based on animacy and extend the analysis presented so far.

5.4.2 Global case splits and animacy

5.4.2.1 Awtuw

Awtuw, a Sepik language spoken in Papua New Guinea, is discussed in Malchukov (2008) in the context of local and global case splits (data from Feldman 1986, cf. P. de Swart 2007; de Hoop and Malchukov 2008; Malchukov 2008 for other analyses). Feldman (1986: 87) writes that even though the verb is final in the language, the order of subject and object is too varied to be useful in identifying grammatical relations.

Awtuw has differential object marking and the subject of the clause is always unmarked. The set of OBJ suffixes is *-re/-te/-e* (Feldman 1986: 107).[12] These markers obligatorily appear on some direct objects, may appear on others, and always appear on indirect objects. Since personal pronoun and proper name objects, as well as indirect objects always require case-marking independently of the relative animacy of the subject and the object, the domain of differential object marking does not extend to all objects. In other words, for personal pronouns and proper names, object marking is not differential. In consequence, the global case split only affects common noun objects.

Feldman indicates that the "empathy hierarchy" in (39) determines the case-marking of the object based on the relative position of the subject and the object on the hierarchy.

(39) Pronoun > Proper name > [+human] > [+animate] > [−animate]
(Feldman 1986: 108, labels adapted)

Feldman (1986: 110) writes that when "the object is equal to or higher than the Subject in empathy, it must take the Object suffix … When two unmarked NPs co-occur in a clause, the one that is higher on the empathy hierarchy is again obligatorily interpreted

[12] There are further allomorphs that are not relevant for the present discussion. *-re/-te* indicate unmarked and (optionally) feminine gender, respectively, whereas *-e* is the suffix that appears on personal pronouns. The vowel quality can change due to vowel harmony.

as the Subject." Malchukov (2008) cites the following examples as indicating the global nature of the Awtuw case split:[13]

(40) a. *tey tale-re yaw d-æl-i*
3.F.SG woman-OBJ pig FA-bite-PST
'The pig bit the woman.'

b. *tey tale yaw(-re) d-æl-i*
3.F.SG woman pig(-OBJ) FA-bite-PST
'The woman bit the pig.', *'The pig bit the woman.'
(Feldman 1986: 110, glosses adapted)

In (40b), the default mapping of arguments to grammatical relations is mapping the argument that is higher on the empathy hierarchy onto the subject function.[14] This can be overridden by adding the object marker *-re* to the argument to be interpreted as the direct object as in (40a).

Awtuw case-marking therefore combines aspects of local and global case-marking. As mentioned above, for personal pronouns and proper name direct objects (as well as indirect objects), object marking is obligatory (Feldman 1986: 89). Case-marking in these contexts can therefore be seen as local: there is no need to refer to the properties of the subject to determine whether the object will be case-marked or not.

This local aspect of case-marking is illustrated in (41), for example. In (41a), the direct object *rey-e* 'him' is not equal or higher on the empathy hierarchy than the subject, yet it has to be marked.

(41) a. *wan rey-e du-k-puy-ey*
1SG 3.M.SG-OBJ FA-IPFV-hit-IPFV
'I'm hitting him.'

b. **wan rey du-k-puy-ey*
1SG 3.M.SG FA-IPFV-hit-IPFV
*'I'm hitting him.', *'He's hitting me.' (Feldman 1986: 109, glosses adapted)

Similarly, in (42a), the proper name *Kampo* is case-marked. Again, proper names require object marking; this explains why *Kampo* cannot be the object in (42b). The case

[13] I have adapted the glosses in this section. In addition to the regular glosses, Feldman (1986) uses FA for 'factive'.

[14] Note that (40b) is not ungrammatical, it just cannot give rise to the interpretation in which *yaw* 'the pig' is the subject.

of the object in (41) and (42) is determined locally, the properties of the subject do not matter.

(42) a. *rey piyren Kampo-re d-æl-i*
3.M.SG dog Kampo-OBJ FA-bite-IPFV
'The dog bit Kampo.'

b. *rey piyren Kampo d-æl-i*
3.M.SG dog Kampo FA-bite-IPFV
'Kampo bit the dog.', *'The dog bit Kampo.'

(Feldman 1986: 109f. glosses adapted)

The distribution of the object case-marker is shown in Table 5.5. Shaded cells indicate that the marker is optional. These cells indicate where case-marking is global, because it is sensitive to the properties of the object as well as the subject. Note further that since inanimate definites can also show case marking, there is no cell that completely rules out case-marking.

EA→IA	1	2	3	[+human]	[+anim.]	[−anim.]
1	-OBJ	-OBJ	-OBJ	-OBJ	-OBJ	-OBJ
2	-OBJ	-OBJ	-OBJ	-OBJ	-OBJ	-OBJ
3	-OBJ	-OBJ	-OBJ	-OBJ	-OBJ	-OBJ
[+human]	-OBJ	-OBJ	-OBJ	-OBJ	-OBJ	-OBJ
[+animate]	-OBJ	-OBJ	-OBJ	-OBJ	-OBJ	-OBJ
[−animate]	-OBJ	-OBJ	-OBJ	-OBJ	-OBJ	-OBJ

Table 5.5 Distribution of object case-marking in Awtuw

In the languages discussed so far, animacy did not play a role in determining agreement or case morphology. In order to analyse the distribution of object case in Awtuw, I will assume that animacy is grammaticalised in this language, and expressed as a person feature. Animate third person noun phrases therefore have a set [3]: inanimate noun phrases lack person features.

Since Awtuw distinguishes humanness from animacy, there are in fact three possible types of third person in Awtuw. I will refer to these as [3^{H}], [3] and [ ], corresponding to humans, animates and inanimates, respectively. In present terms, these entities correspond to sets of features. So far, I have argued that person features grammaticalise referential properties only. This approach can easily be extended to include reference to animacy and humanness, however. Note that first and second person are always animate and human, and only third person makes a distinction between animate and inanimates (see M. Richards 2008 for motivation; for the features used in (43) see Harley and Ritter 2002; McGinnis 2005; Béjar and Rezac 2009). The relevant sets of features are the following:

(43) $$[1]= \left\{\begin{matrix}\textsc{speaker,}\\ \textsc{participant,}\\ \textsc{human,}\\ \pi\end{matrix}\right\} \supset [2]= \left\{\begin{matrix}\textsc{participant,}\\ \textsc{human,}\\ \pi\end{matrix}\right\} \supset [3^{H}]= \left\{\begin{matrix}\textsc{human,}\\ \pi\end{matrix}\right\} \supset [3]= \left\{\pi\right\}$$

On the assumption that *v* agrees with direct objects bearing sets of person features, linking humanness and animacy to person features in this way captures that human objects tend to be case-marked (Feldman 1986: 110). Since case-marking is never fully ruled out, it must be possible that the verb assigns Case to the object in all configurations.

To model this, the following assumptions are necessary. First, subjects agree with the verb independently of their animacy.[15] I will assume that since the number of the subject, but not of the object, is represented on the verb, subject agreement in number entails the valuation of the set [3]. Second, since case-marking of human objects is obligatory for proper names and pronouns and there is tendency to case-mark definite, human common nouns, I will simplify by conflating these two categories as [3^{H}].

Third, the verb does not actually express differences in person in verb morphology. This means that *v* and T do not have to be sensitive to the whole range of person features — global case-marking is mostly determined by reference to [3^{H}] and [3] alone. Any proper name or personal pronoun will value [3^{H}] by virtue of having a superset of person features of the set [3^{H}]: first person pronouns, for example, are [1] and therefore value [3^{H}]. Proper names are [3^{H}]. Pronouns and proper names are therefore

[15] The majority of transitive examples in Feldman (1986) have proper names or pronouns as subjects, but there are also examples with inanimate subjects (see e.g. Feldman 1986: 104).

still accounted for. I assume *v* and T to be specified as follows. *v* only has a person (π) probe, but no number probe, while T has both.

(44) $v\text{: }\begin{bmatrix} \text{u}\pi \begin{matrix} \text{u}3^{\text{H}} \\ \text{u}3 \end{matrix}, \textsc{case} \begin{bmatrix} +\text{obj} \end{bmatrix} \end{bmatrix}$ $\quad$ $\text{T: }\begin{bmatrix} \text{u}\varphi \begin{matrix} \text{u}\pi \begin{matrix} \text{u}3^{\text{H}} \\ \text{u}3 \end{matrix} \\ \text{u}\# \end{matrix}, \textsc{case} \begin{bmatrix} +\text{subj} \end{bmatrix} \end{bmatrix}$

Since any direct object can be case-marked in Awtuw, it is necessary to assume that *v* can assign object case to *any* kind of object. Case-marking becomes optional when the subject has a superset of the features of the object. In terms of the features used here, such a configuration occurs when the subject is human, [3^{H}] but the object is merely animate, [3]. (45) shows such an example, repeated from (40b) above.

(45) *tey tale yaw(-re) d-æl-i*
3.F.SG woman pig(-OBJ) FA-bite-PST
'The woman bit the pig.'

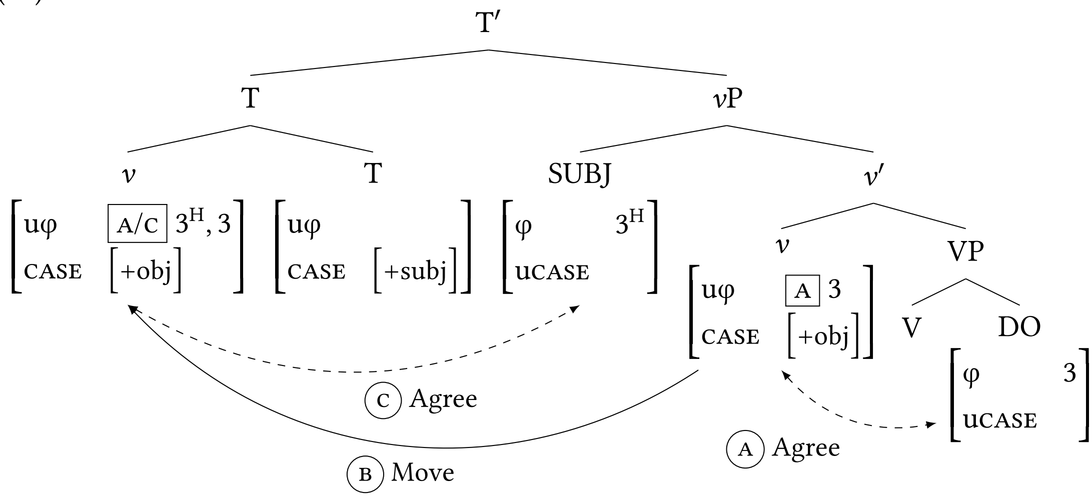
(45) is derived as follows: *v* attempts to enter an Agree relation with the direct object. Unless it is fully valued, it will agree again before assigning object Case to the direct object. After *v* has entered Agree relations with as many arguments as it can, an optional impoverishment rule can delete *v*'s [+obj] feature.

As far as the syntax is concerned, this accounts for the fact that any direct object can be case-marked. The possible values on *v* and T are shown in Table 5.6. The derivation of (45) is shown in (46).

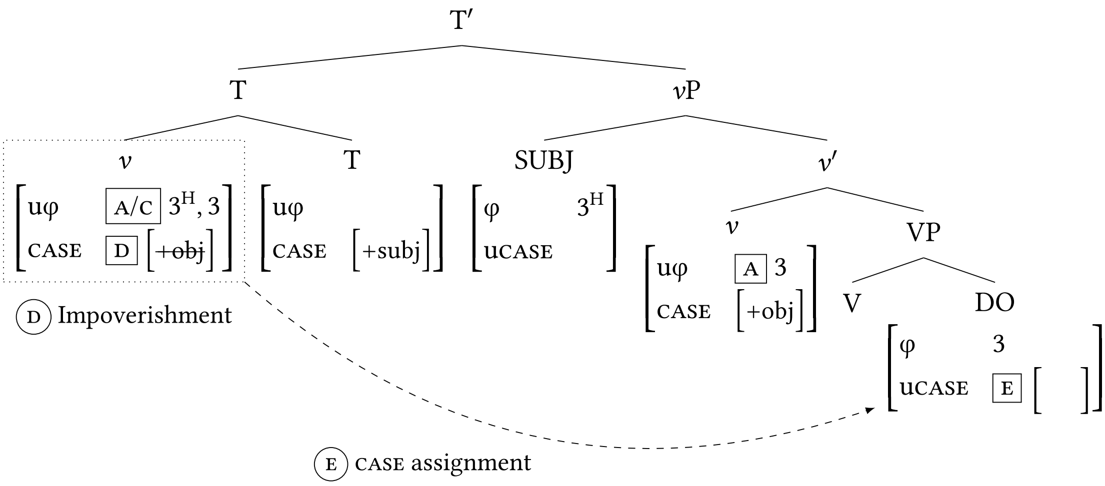
EA→IA	3^{H}	3	[ ]
3^{H}	*v*: [3^{H}], T: [3^{H}]	*v*: [3^{H}, 3], T: [3^{H}]	*v*: [ ], T: [3^{H}]
3	*v*: [3^{H}], T: [3]	*v*: [3], T: [3]	*v*: [ ], T: [3]

Table 5.6 Distribution of person features in Awtuw. Dark shaded cells indicate obligatory case-marking, light shaded cells indicate optional case-marking.

(46) a.



b.



In (46a), *v* first enters an Agree relation with the direct object, which values it as [3] and it gets an additional set of features [3^{H}] from the subject. This gives rise to the context for an impoverishment rule to apply in (46b) and delete *v*'s [+obj] feature. This rule is shown in (47) (note the similarity to the Kashmiri impoverishment rule in (25) above).

(47) **Impoverishment rule**
[+obj] → ∅ / *v* = [α, β]

This approach successfully captures that object marking is obligatory when both arguments are merely animate, but not human, for example, as shown in (48).

(48) *piyren-re yaw di-k-æl-iy*
dog-OBJ pig FA-IPFV-bite-IPFV
'The pig is biting the dog.' (Feldman 1986: 110, glosses adapted)

In (48), *v* will only be valued by the direct object's [3] feature and therefore the context for the impoverishment rule in (47) will never arise, and Case assignment is forced.

As for inanimate arguments, contrary to Malchukov's (2008) interpretation of the data that case-marking in Awtuw is forced when two arguments are equal in features, (49) suggests that even here, case-marking might be optional:

(49) *stua tawkway urunk-urunk də-kə-kow-ey*
shop tobacco three-three FA-IPFV-give-IPFV
'This shop sells cigarettes in threes/three at a time.'
(Feldman 1986: 189, glosses adapted)

To account for (49), an additional impoverishment rule is needed that can apply when *v* has not been valued at all. Such a rule would apply before *v* assigns Case and without any input from the subject. This is exactly what the approach pursued here allows: the final column in Table 5.6 is completely marked as optional. Since *v*'s φ-probe assigns an empty set of CASE features if it has not found an argument to agree with, the subject's features cannot influence whether an impoverishment rule applies or not.

Apart from the optionality of applying impoverishment rules in Awtuw, the system proposed for case splits based on person in Kashmiri and Sahaptin accounts for the same kind of split based on animacy in the same way. If, as hypothesised throughout this thesis, person is a way of expressing the grammaticalisation of animacy, this is a welcome consequence.

5.4.2.2 Fore

Fore, a Trans-New Guinean language, is spoken in Papua New Guinea, like Awtuw. The data reported here are from Scott (1978) (analyses of the distribution of the nominal marking discussed here can be found in P. de Swart 2007; de Hoop and Malchukov 2008; Malchukov 2008; Georgi 2012).

Fore has been compared to Awtuw by these authors because the relative properties of the subject and the object seem to determine case-marking on the subject. In this sense, it might be a mirror image of Awtuw in the same way that Sahaptin and Kashmiri mirror each other: Awtuw assigns case to the object depending on the relative animacy of the subject and the object. In Fore, similar marking can appear on the subject. Consider the data in (50).[16]

(50) a. *mási wa ágaye.*
boy man he.sees.him
'The boy sees the man.', *'The man sees the boy.'

b. *mási wá-má agaye.*
boy man-DLN he.sees.him
'The man sees the boy.' (Scott 1978: 115)

(50a) can only mean 'the boy sees the man' because both arguments are human and in such cases the first argument is interpreted as the subject. However, if the suffix *-má* is added to the second argument, as in (50b), the second linear argument is interpreted as the subject.

Scott (1978) calls this suffix the "delineator".[17] While de Hoop and Malchukov (2008), Malchukov (2008) and Georgi (2012) analyse it as a subject case-marker, Scott (1978: 100f.) rather likens its function to a determiner. I will also treat it as a determiner, but the distribution of the delineator provides some evidence for either analysis.

First, it distinguishes arguments similarly to the object case-marker in Awtuw did (as in (50), for example). Second, as Scott (1978: 103) writes, the delineator must appear on inanimate subjects of transitive clauses. Again, this resembles the case-marking patterns discussed above because an inanimate subject will give rise to inverse configurations in a language where person grammaticalises animacy.

However, there are also arguments against analysing this suffix as a case-marker. First, it can appear on the subject of an intransitive, arguably an unaccusative in (51).[18] This is unexpected if the delineator marks that the subject is lower in animacy than the object, since the predicate in (51) has a single argument.

[16] In the glosses in this section, DLN stands for 'delineator'.
[17] See Höhn (in progress) for a cross-linguistic comparison of delineators and similar items.
[18] The delineator surfaces as *-má* on animates and *-wama* on inanimates.

(51) *yaga:-wama kana-y-e.*
pig-DLN come-it-IND
'The pig comes.' (Scott 1978: 102)

Second, the delineator can occur on the transitive *object* as well, even together with the subject, although this is "exceedingly rare" (Scott 1978: 102). (52) shows an example of this.

(52) *yaga:-wama-N a-ka-y-e.*
pig-DLN-OBL it-see-he-IND
'He sees the pig.' (Scott 1978: 102)

Scott (1978) argues that in (52), it is in fact the oblique case suffix on the object *-N* that distinguishes the subject and the object from each other, and suggests that Fore is a "pure nominative-accusative type language" (p. 102). On the object, the semantic contribution of the suffix *-wama* is to express its "agentive potentiality"; Scott (1978: 102) states that this gives rise to a reading of (52) as 'He sees the pig (doing something)'.

The function of the delineator, Scott suggests, is to turn the noun it attaches to into a *potential agent*. The term *potential agent* covers a class of nominal elements including "any proper noun representing an animate being, any personal pronoun, any inalienably-possessed kin term, or any term [with a delineator]" (Scott 1978: 105). Part of the contribution of the delineator seems to be adding common nouns to a morphosyntactic class that they do not belong to without the delineator.

Its use resembles that of a case-marker because it helps with mapping arguments onto grammatical roles. This mapping depends on several factors in Fore, with one of them being the presence of the delineator. Other factors are word order and the relative animacy of arguments. Scott (1978: 114) suggests that, together with word order, the scales in (53a,b) determine the basic mapping of unmarked arguments onto grammatical roles.

(53) a. Potential Agent > Human > Animate > Inanimate
b. Subject > Indirect object > Direct object

I would like to suggest then that the delineator is in fact a determiner rather than a case-marker, following Scott (1978), and *contra* P. de Swart (2007), Malchukov (2008) and Georgi (2012). Moreover, if it is a determiner that expresses the property of being a potential agent, this can be taken to be an abstract, formal counterpart of the semantic property [+human]. As such, Fore is another example of a language in which "person" features do not merely refer to first, second and third person, but where they express the grammaticalisation of certain semantic properties.

While in Hungarian this property was referentiality, in Awtuw and Fore it is humanness. In Hungarian, verb morphology is sensitive to this property on the direct object, and I have argued in much detail in Chapter 3 that this property is connected to the D position as several determiners and quantifiers in Hungarian trigger object agreement.

Fore can be seen as exhibiting a similar phenomenon: the delineator is a D-like element that is the formal expression of a semantic property related to humanness and agentivity. As such, it can be used to "add" these properties to arguments that lack them, much like a definite determiner "adds" definiteness to a noun phrase that is indefinite.

Seen in this light, the distribution of the delineator is arguably more natural than if it were a case-marker. It is not restricted to subjects or objects, and can appear on either. Proper names and pronouns, however, never take a delineator (cf. the behaviour of proper names and pronouns and the definite determiner in English). Finally, the obligatory occurrence of a delineator on an inanimate transitive subject could be the animacy-based analogue of a *definiteness effect*. Some languages, for example Malagasy, only allow definite subjects (see e.g. Keenan 2008). The restriction to animate subjects in Fore might be an analogous type of *animacy effect*, then.[19] A inanimate transitive subject can be made to conform to the restriction by adding a delineator to it. Again, this resembles the contribution of a definite determiner. This view of the delineator provides further evidence for the idea that D expresses person which can grammaticalise different referential and semantic properties across languages (Longobardi 2008; M. Richards 2008; cf. also Höhn 2015).

Summing up, the distribution of the delineator *-má/-wama* in Fore resembles that of an ergative case-marker like the one in Sahaptin to some degree, seemingly suggesting that there is a global case split in Fore that mirrors the one in Awtuw. However, the fact that this suffix also appears on intransitive subjects as well as transitive objects casts doubt on its analysis as an ergative marker.

[19] P. de Swart (2007: 79) mentions that Jacaltec, Japanese and Lakhota only allow animate subjects.

I have followed Scott (1978) in suggesting instead that it is a determiner and I have sketched how this is compatible on the perspective taken in this thesis: person features grammaticalise semantic properties. In Fore, the formal property coded by the delineator corresponds to humanness or agentivity but it is expressed as a determiner, and not in case morphology (as in Awtuw) or on the verb (as in Hungarian).

5.4.3 Crossing the distinction between direct and inverse

In this section, I want to discuss two further languages that have case and agreement systems resembling the ones discussed so far. First, I will turn to Chukchi, discussing data from Bobaljik and Branigan (2006). In the variety of Chukchi they study, some verbs appear in a form they call the "spurious antipassive", i.e. the verb shows an antipassive marker even though it is transitive. This spurious antipassive is triggered in a subset of inverse configurations.

In the second language I discuss in this section, Kolyma Yukaghir, there are several allomorphs of accusative that are assigned depending on the person features of both the subject and the direct object. What distinguishes Kolyma Yukaghir from the languages discussed so far, however, is that these allomorphs cut across the direct/inverse divide.

5.4.3.1 Chukchi

Chukchi has an inverse pattern in agreement (Comrie 1980; Bobaljik and Branigan 2006). Somewhat similarly to Hungarian, certain inverse configurations in this language give rise to what Bobaljik and Branigan (2006) call the "spurious antipassive" (SAP). Verb forms in the SAP look like antipassives, as indicated by the infix *-ine-*, but they are semantically transitive and not antipassive. An example is given in (54b).

(54) a. *ərɣə-nan ɣəm ne-ɬʔu-ɣəm*
3PL.ERG me.ABS 3.SBJ-see-1SG.OBJ
'They saw me.'

(Skorik 1977: 45, cited in Bobaljik and Branigan 2006: 48)

b. *ə-nan ɣəm ∅-ine-ɬʔu-ɣʔi*
he-ERG me.ABS 3SG.SBJ-**ANTIP**-see-3SG.SBJ
'He saw me.'

(Skorik 1977: 44, cited in Bobaljik and Branigan 2006: 49)

Note that both sentences in (54) have a third person subject and a first person singular object, yet only (54b) shows the spurious antipassive. Bobaljik and Branigan (2006) write that not all inverse configurations trigger the SAP, that it does not appear in all tenses and that exponents differ across dialects. Table 5.7 shows the configurations in which the SAP appears in the variety discussed by Bobaljik and Branigan (2006).

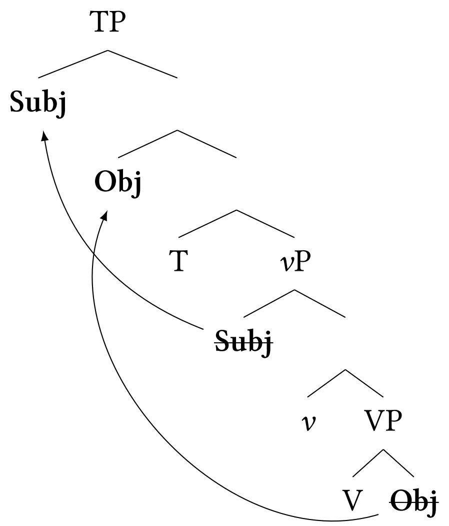
EA→IA	1	2	3
1	—		
2	SAP	—	
3	SAP (sg.)		

Table 5.7 Distribution of the SAP in Chukchi (Bobaljik and Branigan 2006)

Bobaljik and Branigan (2006) propose an analysis in which T licenses both the subject and the object. Certain configurations of features (the ones shown in Table 5.7) give rise to conflicting features on T which are resolved by deleting the object's features post-syntactically.

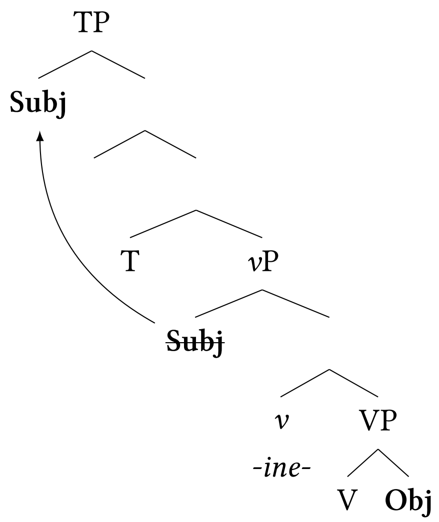
The "intransitive" nature of the SAP verb forms is explained by this deletion: the only φ-features available on T are those of the subject. Bobaljik and Branigan (2006) tie the appearance of the antipassive marker *-ine-* to the fact that the resulting structure resembles that of a true antipassive:

(55) a. Transitive clause (active)



(Bobaljik and Branigan 2006: 50)

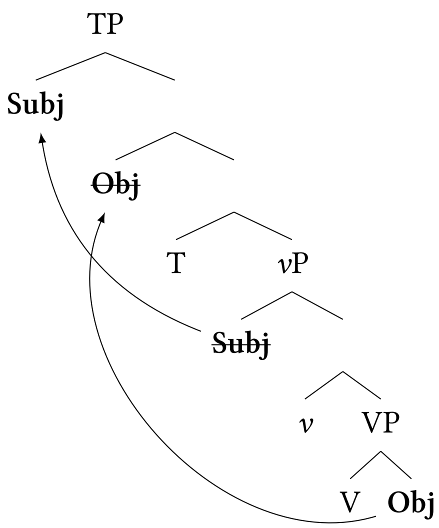
b. True Antipassive clause



(Bobaljik and Branigan 2006: 50)

In a true antipassive, the marker -*ine*- is inserted because the object "remains in the domain of *v*" (Bobaljik and Branigan 2006: 66). The SAP arises when the object's features are deleted on T, as shown in (56). Bobaljik and Branigan (2006) interpret this kind of structure as essentially the same as in (55), with the low position of **Obj** giving rise to SAP morphology.

(56) Spurious Antipassive

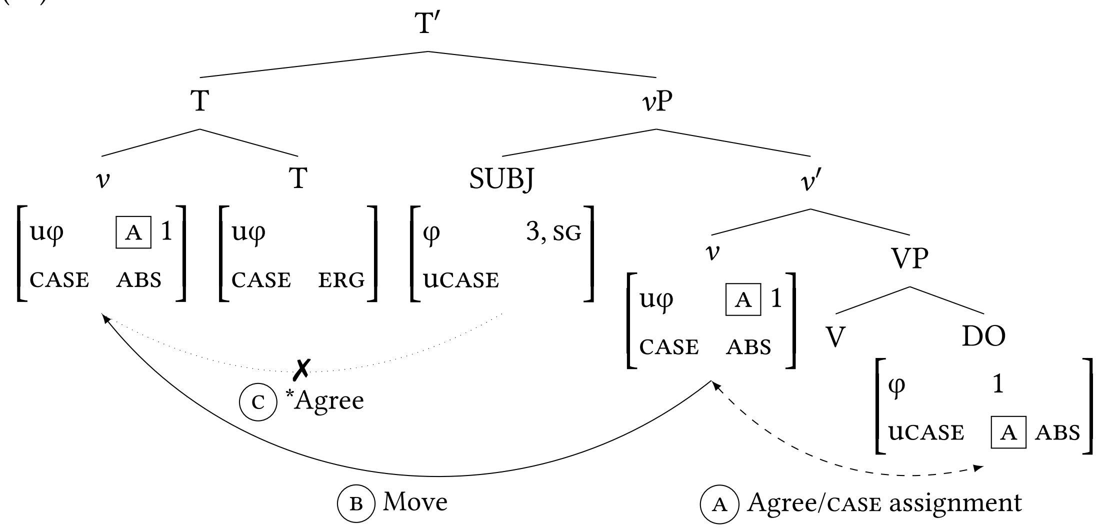


(Bobaljik and Branigan 2006: 51)

Bobaljik and Branigan's (2006) analysis can be restated in the terms of the analysis proposed here. I interpret their suggestion that the object's features move up to T as movement of *v* to T. The conflicting configurations that Bobaljik and Branigan argue are deleted can be removed by impoverishment rules targeting *v* and T. (57) shows a derivation that illustrates this.

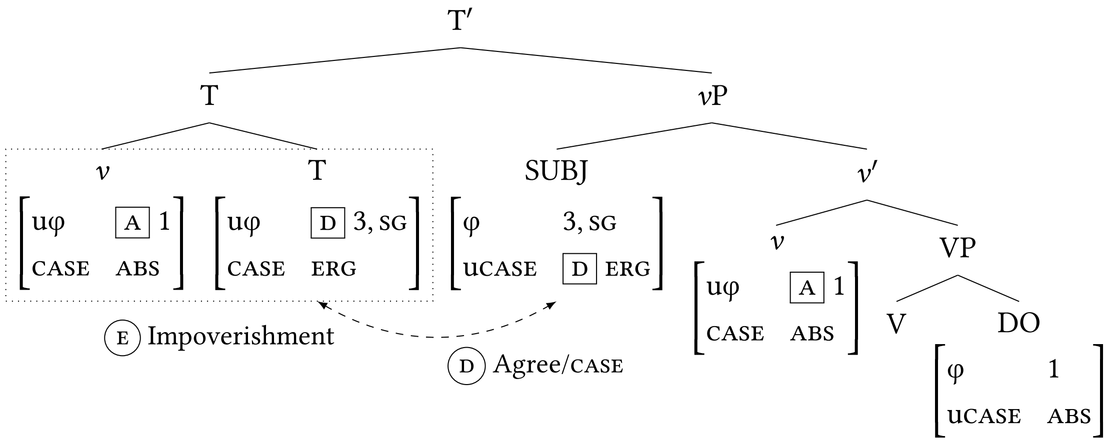
In (57), the subject is third person singular, and the object is first person, a configuration that gives rise to the SAP. (57a) shows *v* agreeing with the object before moving up to T. For simplicity, I am ignoring number features on the object and *v*. *v* cannot agree with the the subject again, since it is fully valued.

(57) a.



In (57b), T agrees with the subject, has its φ-features valued and assigns ergative to the subject. As sisters, *v* and T are local enough to create the context of an impoverishment rule that deletes *v*'s features, giving rise to the spurious antipassive. The impoverishment rule that achieves this is shown in (58b).

b.



(58) **Impoverishment rules**

a. $v \rightarrow \varnothing$ / v = [α]

b. $v \rightarrow \varnothing$ / v = [1], T = [3, SG]

Note that rule (58a) would give rise to the SAP in all inverse contexts: those in which *v* has a single set of φ-features. But the SAP in Chukchi is more restricted and requires more specific rules like the one in (58b). In varieties in which the SAP also appears in some direct contexts, spell-out rules can target *v* that has more than one set of φ-features, as in (58c):

(58) **Impoverishment rules** (continued)

c. $v \rightarrow \varnothing$ / v = [α, β]

The purpose of this brief discussion of Chukchi was to show that the analysis developed above for both accusative and ergative languages straightforwardly provides the means to capture the idiosyncratic distribution of the spurious antipassive in Chukchi. This phenomenon is also of interest for the discussion of Hungarian in Chapter 4, because Chukchi is another language in which (some) inverse configurations are characterised by seemingly intransitive verb forms, while retaining their transitive semantics. This connection was made by É. Kiss (2003, 2005, 2013) who suggests that these similarities might be due to a *sprachbund* between certain languages spoken or originating in parts of Siberia, including Chukchi and Hungarian. The range of languages discussed in this chapter, and the common analysis I have proposed for them, suggest that the phenomenon is more wide-spread.

5.4.3.2 Kolyma Yukaghir

Kolyma Yukaghir is a southern Yukaghir language spoken in Eastern Russia (Lewis *et al.* 2013), linked to the Uralic family by (Maslova 2003: 1). It has a complex set of case-suffixes whose distribution depends on the φ-features of the arguments. What makes Kolyma Yukaghir similar to Chukchi is that the suffixes cut across the direct/inverse distinction and there is a fair amount of syncretism in the suffixes.

Considering third person objects first, they get the accusative suffix *-gele*[20] when they are pronouns, proper names, possessive or definite noun phrases (Maslova 2003: 93). Indefinite noun phrases take instrumental case, *-le* (Maslova 2003: 104).

This only holds when the subject is third person, however. When the subject is first or second person (i.e. [PARTICIPANT]), third person objects are zero-marked, while first

[20] Also *-kele* or *-jle*.

and second person objects bear what Maslova calls "pronominal accusative" case, *-ul* (Maslova 2003: 94f.). The distribution of case suffixes is shown in Table 5.8.

<table>
<tr><th>EA→IA</th><th>1</th><th>2</th><th>3</th><th>[ ]</th></tr>
<tr><td>1</td><td colspan="2" rowspan="2">-ul</td><td colspan="2" rowspan="2">-∅</td></tr>
<tr><td>2</td></tr>
<tr><td>3</td><td colspan="3">-gele</td><td>-le</td></tr>
</table>

Table 5.8 Objective case suffixes in Yukaghir (Maslova 2003, cf. also Keine 2010: 146).

As Table 5.8 shows, the suffix *-ul* cannot be analysed as a suffix that appears in inverse contexts only, but it is restricted to configurations involving [PARTICIPANT] arguments.

The suffix *-gele* is more "regular": it only appears in inverse contexts. Third person objects are not case-marked when the external argument is first or second person, and indefinite objects have the suffix *-le* when the external argument is *not* first or second person. Note that this last characteristic is similar to Hungarian where object agreement differs from subject agreement in that it divides "third" person into two subclasses. The following examples illustrate the four suffixes.[21]

(59) a. *met tet-ul kudede-t.*
I you-ACC kill-FUT(TR.1SG)
'I will kill you.'

b. *met-ul amde-l-get polde-mek.*
me-ACC die-PFV-ANR-ABL save-TR.2SG
'You have saved me from death.' (Maslova 2003: 95)

c. *tet kimnī met-kele kudede-m.*
your whip me-ACC kill-TR.3SG
'Your whip has killed me.' (Maslova 2003: 93)

d. *čolhoro-le tudel šinel'-e ningō ik-čī-m.*
hare-INS he snare-INS many get.caught-CAUS.ITER-TR.3SG
'He caught lots of hares with his snare.' (Maslova 2003: 104)

[21] The special glosses used in this section are ITER "iterative" and ANR "action nominaliser".

e. *met mēmē iŋī.*
I bear be.afraid(TR.1SG)
'I am afraid of the bear.' (Maslova 2003: 89)

(59a,b) show that first and second person pronouns get the same suffix when the subject is also a participant. (59b,c) show the alternation in case marking on a first person pronoun object, depending on the person of the subject. (59d) shows an indefinite noun phrase that surfaces with the instrumental suffix, and (59e) shows a bare noun object, unmarked because the subject is first person.

Kolyma Yukaghir poses a problem for the analysis of global case splits and inverse agreement that I have proposed in this chapter. This problem is the timing of Case assignment. Even with a first person object, the case-marking on the object depends on the person of the subject. This was not the case in Kashmiri, where objects in inverse contexts are assigned dative across the board, or in Awtuw, where case-marking on objects is also consistent. In these languages, a first person object would be assigned Case by *v* after a first cycle of Agree since *v* cannot be valued any further.

A crucial difference between Kashmiri, Sahaptin and Awtuw, on the one hand, and Yukaghir, on the other hand, is that object case-markers in the latter cut across the inverse/direct divide. This suggests that a different analysis is called for.

One way of characterising Yukaghir is that T plays a bigger role in Yukaghir. Keine (2010: 145ff.) suggests that in this language, T can assign Case to two arguments, so *v* is not involved in licensing object Case at all. Rather, T agrees with the subject, and possibly feeds impoverishment rules applying to the set of CASE features that T assigns to the object. This set of CASE features can be impoverished again on the direct object itself.

I will adopt Keine's suggestion that T assigns two Cases in Kolyma Yukaghir, but I will suggest that there is some evidence for agreement between *v* and the object. Notice that the verbs in (59) have suffixes from what Maslova (2003) calls the transitive paradigm, glossed as TR. Maslova (2003: 141) relates the exponent *-m(e)-*, seen in (59b,c,d), to transitivity, contrasting with *-j(e)-* in the corresponding intransitive paradigm. Since transitivity is expressed on the verb, it is possible that there is a kind of object agreement, the expression of which does not reflect φ-features, however.

To derive the case-marking pattern, I will assume that this exponent of transitivity is in fact a φ-probe that can agree with the direct object but cannot assign it Case. When *v* moves up to T, impoverishment can apply to the features on *v* and T and determine the Case assigned to the object. An advantage of this approach could lie in providing a context for a second set of CASE features on T to become active. Rather than suggesting that there are two types of T head, one transitive and one intransitive, there is a single one. While it can assign two Cases, it only does this when *v* adjoins to it.

(60) shows the CASE features (adapted from Keine 2010: 148) and (61) shows the relevant impoverishment rules for the data discussed here.

(60) NOM: $\begin{bmatrix} +\text{subj} \\ -\text{obj} \\ -\text{obl} \end{bmatrix}$ ACC: $\begin{bmatrix} -\text{subj} \\ +\text{obj} \\ -\text{obl} \end{bmatrix}$

(61) **Impoverishment rules**

a. [−subj] → ∅ / *v* = [+PART], T = [+PART]

b. [−subj], [−obl] → ∅ / *v* = [ ], T = [−PART]

c. [α] → ∅ / *v* = [−PART], T = [+PART]

Finally, (62) shows the vocabulary insertion rules that determine the spell-out of the CASE features.

(62) **Vocabulary insertion rules**

a. *-gele* ↔ $\begin{bmatrix} -\text{subj} \\ +\text{obj} \\ -\text{obl} \end{bmatrix}$ b. *-ul* ↔ $\begin{bmatrix} +\text{obj} \\ -\text{obl} \end{bmatrix}$ c. *-le* ↔ $\begin{bmatrix} +\text{obj} \end{bmatrix}$ d. -∅ ↔ $\begin{bmatrix} \ \end{bmatrix}$

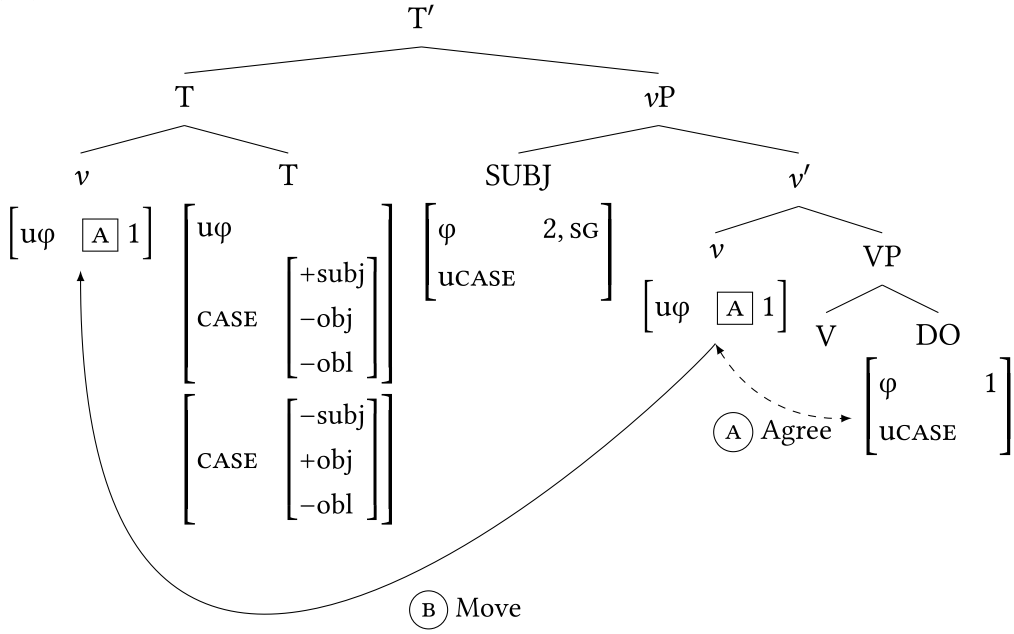
(63) and (64) illustrate two derivations with first person objects (cf. (59b) and (59c), repeated here). The derivations illustrate how the difference in the person of the subject influences the case-marker on the object.

(59) b. *met-ul amde-l-get polde-mek.*
me-ACC die-PFV-ANR-ABL save-TR.2SG
'You have saved me from death.'

c. *tet kimnī met-kele kudede-m.*
your whip me-ACC kill-TR.3SG
'Your whip has killed me.'

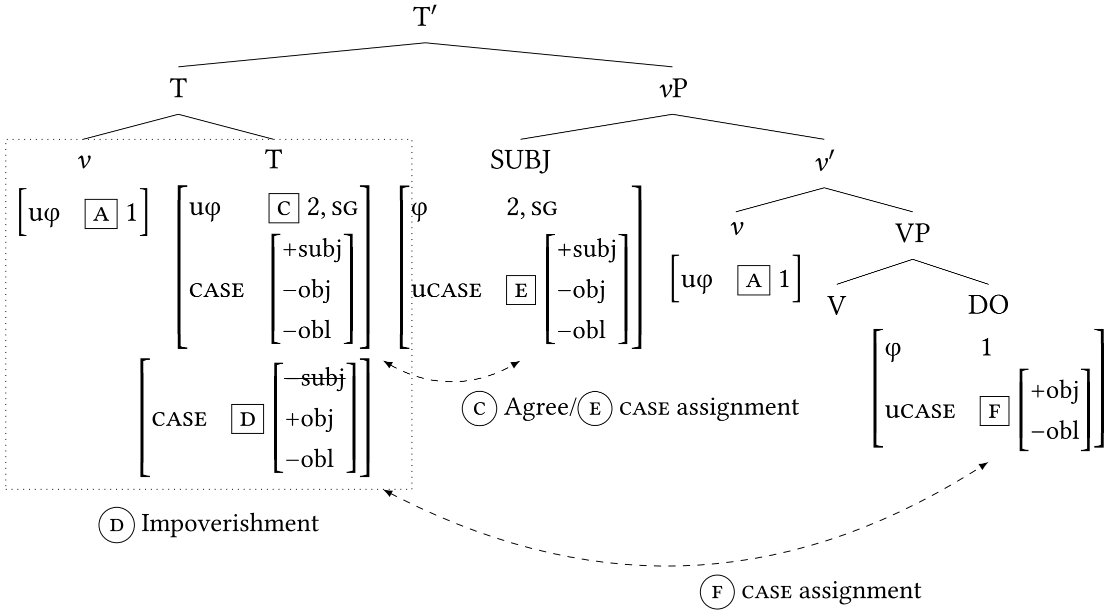
(63a) shows a Agree relation between *v*, which by assumption agrees but cannot assign accusative Case. After agreement, *v* moves to T.

(63) a.



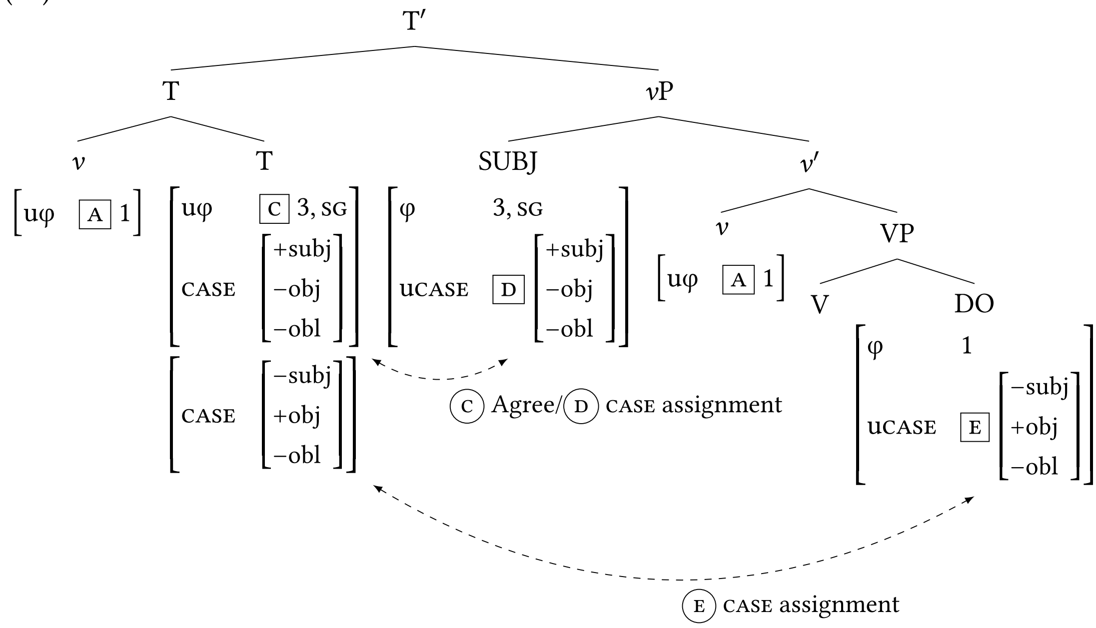
v is fully valued after agreeing with a first person object and does not probe again. In (63b), T probes and agrees with the subject in C but does not assign it Case yet. Since *v* has moved to T, impoverishment can apply in D. The presence of two PARTICIPANT features on *v* and T triggers the rule in (61a), deleting [−subj] from T's (second) set of CASE features. The reduced set of features is assigned to the direct object in F, spelled out as *-ul*, as shown in (62b).

b.



The derivation of (59c) only differs from (63) in the operations shown in (63b) — (64) illustrates. Here, the subject is a third person noun phrase. The features on *v* and T therefore do not provide the right context for any of the impoverishment rules in (61) to apply. T assigns a full set of CASE features to the direct object in (E). This is spelled out as *-gele*, as shown in (62a).

(64)



Other derivations work analogously. Note that like in Hungarian, the relation between *v* and third person objects distinguishes between definite and indefinite direct objects. Again, I assume that Yukaghir person features grammaticalise definiteness. In Table 5.8, this difference is represented as [3] and [ ], respectively. Moreover, the subject agrees with the verb in number, not just person. As above, I take this asymmetry lead to T's φ-features being valued as [3] when agreeing with the subject, independently of the subject's definiteness.

To summarise, the distribution of accusative in Kolyma Yukaghir cannot be derived in the same way as suggested for Kashmiri and Awtuw in previous sections. The difference lies in the fact that the same person on the object can give rise to different accusative suffixes, depending on the person of the subject. Crucially, while a first person object in Kashmiri is always spelled out as dative, the case of first person objects in Yukaghir still depends on the person of the subject.

This means that if accusative Case comes from *v*, it has to delay Case assignment until *after* T has agreed with the subject. It is not clear how this could be implemented as a property of *v*. I do not, however, take this to be a disadvantage of the analysis I proposed in the previous sections. The reason is that the distribution of case-marking in Kolyma Yukaghir does not correlate with direct and inverse configurations. To a certain degree, then, this language shows a slightly different phenomenon than Kashmiri and Awtuw.

I have, following Keine (2010), suggested that T can assign two Cases in Yukaghir. My analysis diverges from Keine's, however, in the role of *v*. I have taken the existence of a transitive verb paradigm as suggestive of *v* agreeing with the direct object and moving to T where it makes Case assignment to the direct object possible. This analysis exploits the different distribution of probes on functional heads in Kolyma Yukaghir to derive a distribution of case-suffixes that differs from the one found in Awtuw and Kashmiri.

In the following, concluding section, I will come back to questions regarding the distribution of φ-probes and CASE features on the heads T and *v*.

5.5 Discussion and conclusions

Before concluding this chapter, I will discuss the necessary ingredients of analyses of with global case splits and relate my analysis to other proposals in the literature.

5.5.1 Other approaches to global case splits

A first ingredient relates to the **locality of φ-features**. Since global case splits are defined by being sensitive to the properties of the subject and the object, there must be a way of comparing these features before determining which case to assign. This is where approaches to global case splits vary strongly.[22]

Deal (2010), discussing Nez Perce, but extending her analysis to Sahaptin, suggests that the locus of comparison of the features of the subject and the object is the subject itself. She argues that the object's φ-features are transmitted to the subject by *v*; it therefore has two φ-features. In Sahaptin, the inverse ergative is only assigned when the subject's own φ-features are third person, and the object's φ-features are first or second person.

[22] I am focusing on analyses in a framework comparable to the one in this chapter. Other approaches include P. de Swart (2007), de Hoop and Malchukov (2008) and Malchukov (2008). I am focusing on the syntactic derivation of case splits here and I have referenced the analyses mentioned when discussing the specific languages in this chapter.

While this provides the correct results, it seems to be difficult to extend this analysis to similar splits on the object (as in Kashmiri or Awtuw) since there does not seem to be a way of transmitting the subject's φ-features to the object, in analogy to Deal's (2010) suggestion. In addition, the motivation to assigning inverse ergative in inverse situations does not follow from her analysis — in principle, any combination of features could give rise to case-marking. While this is not necessarily a problem, it might be missing a generalisation about direct and inverse configurations.

Keine (2010) and Georgi (2012) assume that the locality of the φ-features of the subject and the object is simply due to φ-probes on a single functional head that agree with both arguments in turn. Georgi (2012) suggests that *v* carries language-specific probes that are co-indexed with the subject and the object. These probes have certain expectations about what kinds of arguments they encounter, e.g. a third person direct object, and they are specified as such: if *v* encounters a second person argument, it will need an extra feature to agree with it. Georgi suggests that this extra feature comes from the probe that is co-indexed with the subject: it is *marauded*, so that *v* can agree with the object. She suggests that Case assignment to the subject or the object indicates that *Maraudage* has happened. While very powerful, this approach relies on very specific unvalued features on probes for a given language and raises questions about the role of T in determining agreement.

Keine (2010) also suggests that a single functional head can carry several probes that are co-indexed with their relevant arguments. On his approach, though, the probes are equal, and once they have been valued, impoverishment rules can modify the sets of CASE features on the probes. This approach also raises questions about the role of functional heads in Case assignment and Agree: if T agrees with both the subject and the object, and assigns both arguments Case, what is the role of *v*?

In this chapter, I have argued that it is possible to maintain the perspective that T agrees with and assigns Case to the subject, and *v* agrees with and assigns Case to the object. The φ-features of both arguments can be represented on a single head, however, because I have assumed that a probe can agree as long as it is not fully valued.

An advantage of this approach is that direct and inverse configurations fall out as natural classes: in direct configurations, *v* will be valued by both arguments and have two values, and in inverse configurations, it will only have a single value.

A second aspect of describing global case splits relates to the **evaluation of the φ-features**. How do the φ-features on a functional head determine Case assignment or verb morphology? In Georgi's (2012) approach, *Maraudage* is restricted to contexts in which the object's features are a superset of the subject's features — in a similar way to the present proposal, but arguably involving more machinery. Keine (2010) invokes person and animacy hierarchies to determine which features are targeted by impoverishment rules. This approach to hierarchies and how they motivate constraints against atypical configurations can also be found in Aissen (1999, 2003), P. de Swart (2007), de Hoop and Malchukov (2008), Keine and Müller (2008) and Malchukov (2008).

These authors adopt Optimality Theory (OT, Prince and Smolensky 2004) to derive the relevant splits from markedness hierarchies. In brief, the system works as follows: markedness hierarchies are assumed to be theoretical primitives, valid for all languages. These hierarchies give rise to constraint rankings which indicate that certain syntactic configurations are typologically marked: first person *objects*, for example, are more marked than first person *subjects* — constraints against such configurations are ranked higher than constraints against less marked configurations. Keine (2010), in particular, uses constraint hierarchies to derive impoverishment rules that determine which Case is assigned to an argument.

As I briefly pointed out in Chapter 1, this type of approach has been met with some criticism. Some authors argue that typological hierarchies have a questionable role in syntax (Jelinek and Carnie 2003; Carnie 2005a,b; M. Richards 2008). Haspelmath (2008) also suggests that locating such hierarchies in UG is not the right approach since their effects can be derived from functional considerations.

My position is different. I acknowledge the existence of hierarchical effects but I have implemented these effects as a consequence of several factors. First, person features are sets of features such that a set corresponding to first person is a proper superset of a set corresponding to second person.[23] Second, subjects are higher in the

[23] But note that this does not have to be the case. In some languages, second person is said to be more prominent than first, e.g. in Ojibwe (or Nishnaabemwin; Valentine 2001; Lochbihler 2008; Béjar and Rezac 2009; Lochbihler 2012). In Ojibwe, 1 > 2 counts as inverse, rather than direct, as shown in (i).

(i) *g-waabm-in*
2-see-INV(local)
'I see you.' (Valentine 2001: 270)

structure of the clause than objects. Third, *v* agrees with the direct object first, and whether it can also Agree with the subject depends on the sets of features of the two arguments. These assumptions derive the contexts in which impoverishment can apply in a language like Kashmiri: only when *v* is valued by the sets of person features of two arguments. Therefore, hierarchical effects are a "built-in" feature of the analysis of person.

Finally, a third aspect of analysing global case splits is the **timing of Case assignment**: Case must not be assigned too early, i.e. before the φ-features of both arguments have been evaluated. For approaches involving a single head that can assign several Cases, this is simply a matter of specifying the order of operations on that head (Keine 2010; Georgi 2012). Deal (2010) argues that the presence of φ-features of both the subject and the object on the subject determine the spell-out of its Case. In this sense, Case assignment is not delayed, but it is merely the spell-out of Case that is influenced by features. As mentioned above, it would be difficult to adapt this approach to object case-marking.[24]

In the present proposal, this question is solved by the possibility of probes agreeing as long as their φ-features are not fully valued. If a probe comes with an ordering statement like [φ ≺ CASE], meaning that Agree has to take place before the probe assigns Case, Case assignment is simply delayed as long as the probe can still enter Agree relations. This makes it possible to assign different Cases depending on whether the subject and object are in a direct or an inverse configuration: if a probe fails to agree with a second argument, the configuration is inverse. This solution maintains that T and *v* are separate heads that have φ-probes and can assign Case when case-marking is distributed along the lines of direct and inverse configurations.

This can be modelled by assigning the sets corresponding to [1] and [2] different contents than in the languages discussed in this chapter: if [2] includes ADDRESSEE and [1] lacks SPEAKER, the entailment relations among these sets change. This makes it possible for children to learn different "hierarchies" like 1 > 2 vs. 2 > 1 by positing different sets of features. A universal, UG-internal hierarchy 1 > 2 > 3 might be less flexible. See Harley and Ritter (2002), McGinnis (2005) and Lochbihler (2008, 2012) for further discussion.

[24] Again, a detailed comparison to Silverstein (1976), P. de Swart (2007), de Hoop and Malchukov (2008) and Malchukov (2008) would take us too far afield — obviously, the question of timing Case assignment also arises in these approaches. Since these authors do not assume as tight a connection between agreement and case in their formalism as is done here, I again focus on analyses that are comparable to the one presented here. The possible functions of case-marking, e.g. ease of identifying and distinguishing arguments, that these authors discuss may answer the question of *why* we find global case splits; the present chapter implements an answer to the question of *how* such splits are realised.

The present approach combines these three aspects of global case splits, i.e. the locality of φ-features, their comparison and their evaluation, in a simple way: a single head can agree more than once; it can be read off its φ-features whether the subject and object are in a direct or an inverse configuration; and, finally, Case assignment follows these two steps as specified by an ordering statement on a functional head.

5.5.2 Functional heads and probes

An advantage of maintaining the separate roles of T and *v* in determining inverse agreement and global case splits is the potential to explain a cross-linguistic tendency about the relation of subject agreement and object agreement.

Consider languages in which a verb agrees with a single argument in a transitive clause. According to Siewierska (2013), in a large majority of languages, this argument is the subject.[25] One way of implementing this generalisation in the present framework is to make the presence of φ-features on *v* dependent on the presence of φ-features on T. This means that no languages would only have φ-probes on *v* but not on T. These assumptions restrict the number of possible grammars in line with what we find empirically: T can have a single φ-probe while *v* lacks one, or two φ-probes can be distributed between T and *v*.[26] I discuss the distribution of φ-probes across functional heads in more detail in Chapter 6.

This kind of dependency between the feature content of different functional heads is in line with the approach to parametric variation suggested by Roberts (2012) (see

[25] Some of the exceptions are ergative languages. Here, "object" agreement can arise as the sole agreement relation in a clause if the subject's case-marking blocks agreement with the verb. This is the case in Hindi, for example. The finite verb agrees with the highest unmarked argument. Because of Hindi's split-ergative system based on aspect, in imperfective aspects, the verb agrees with the subject. In perfective aspects, which are ergative, the verb agrees with the object *if* it is also unmarked.

It follows that in a language that is consistently ergative, the verb might agree with the object because the subject cannot Agree. In the technical terms that are relevant for the present discussion, this kind of language could still have a single φ-probe on T, just like a language that lacks object agreement altogether. That φ-probe will simply agree with the most local accessible argument, which would be the internal argument in a transitive clause, if the subject is not accessible because of its Case marking. See Chapter 6 for further discussion.

[26] The analysis I proposed for Yukaghir is compatible with this suggestion; the peculiarity of this language compared to the other languages discussed in this chapter lies in the distribution of accusative case. I have modelled this by suggesting that T can assign two Cases, but *v* nevertheless agrees with the object. Since the distribution of case in Yukaghir differs from the other languages, it motivates this different analysis.

also Sheehan 2014b, 2015 on variation in alignment across languages), to which I will return in Chapter 7.

Restricting the variation in the distribution of probes across functional heads, while maintaining an empirically adequate analysis of distinct agreement and case assignment patterns is a welcome consequence of the analysis in this chapter.

5.5.3 Conclusions

The aim of this chapter was to provide further evidence for the hypotheses made in the previous chapters. First, in Chapter 3, I adopted M. Richards's (2008) proposal that person features do not only encode "person" but can encode semantic properties like definiteness or animacy as formal features that affect the syntax. After having seen evidence for the role of referential properties as well as person in the agreement system of Hungarian in Chapter 4, in this chapter I showed how animacy can lead to the same kinds of morphosyntactic phenomena in case-marking that "pure" person does, e.g. in the analysis of Awtuw compared to Sahaptin and Kashmiri.

Both reference and animacy give rise to similar kinds of splits in case-marking and agreement across languages, which is exactly what we expect if they are expressed as person features. The case of Fore arguably also provides an interesting argument in favour of locating these features on D: its "delineator" seems to serve the purpose of an animate determiner, similar to a definite determiner in other languages.

Second, this chapter provided further evidence for the specific analysis of representing person as sets of person features and the implementation of Agree. I adopted Béjar and Rezac's (2009) suggestion that a probe can agree more than once, but I embedded this in a system that does not invoke *repair strategies* in the way they suggest.

Rather, once *v* cannot agree any further, T agrees and assigns Case; the two functional heads simply show their "natural" behaviour. This system, worked out in detail for Hungarian in Chapter 4, extends straightforwardly to a number of unrelated languages discussed in this chapter.

In the next chapter, I discuss the interaction of agreement and case in syntax and embed the analysis developed so far in the architecture of the grammar.

6 Case and agreement in the grammar

6.1 Introduction

In this chapter, I will embed the languages surveyed in the previous chapters in a wider typological context and establish parameters that model the variation of case and agreement across languages. In the previous chapter, I discussed the interaction of object agreement and subject agreement and their influence on case-marking. In this chapter, I focus on the influence of case-marking on agreement.

The main claims I am making are the following. First, I argue that the inventory of φ-probes on functional heads differs across languages, but that it is restricted: in a language with a single φ-probe, this probe is on T. When a language has more φ-probes, the additional probes will be located on lower functional heads. As we have seen in Chapter 5, if a functional head can assign Case and has a φ-probe, the order in which Case assignment and agreement happens can vary and this ordering determines whether a language has global case splits or not.

Second, I will show that cross-linguistic generalisations about the distribution of subject and object agreement and the distribution of case and agreement alignment across languages proposed by Bobaljik (2008) can be implemented in the framework discussed here. Reformulating Bobaljik's (2008) generalisations is empirically motivated: while Bobaljik suggests that morphological case determines agreement, the data discussed in Chapter 5 and some of the data discussed below show that it is necessary to take abstract Case into account to determine certain agreement patterns (Legate 2008).

The system proposed here can account for Case and agreement influencing each other in either order: Case can determine agreement, and agreement can determine Case.

This chapter is structured as follows. I will start by discussing the distribution of case-marking and agreement in Hindi, Nepali and Marathi, languages with a single φ-probe, in Section 6.2. These three languages differ in interesting details with respect to which types of noun phrases can agree with the verb: in Hindi and Marathi, only arguments without case-marking can agree with the verb, while in Nepali both ergative and unmarked arguments trigger agreement.

Based on these agreement patterns, I will discuss Bobaljik's (2008) proposal that agreement is determined by morphological case and his generalisations about the distribution of ergative-absolutive and nominative-accusative alignment systems in both case and agreement. In brief, Bobaljik's approach correctly predicts a typological gap, namely the lack of languages which have nominative-accusative case alignment and ergative-absolutive agreement alignment (I illustrate these terms in Section 6.2.2).

I will then review one of Legate's (2008) arguments against this proposal: Legate argues that the distribution of morphological case and agreement in Marathi provides a counterexample to Bobaljik's analysis. She highlights the need for abstract Case to explain the agreement pattern in this language. I concur, and I follow Legate (2008) and Keine (2010) in assuming that abstract Case can influence agreement and that both Case and agreement are determined in the syntax.

In Section 6.3, I discuss Caha's (2009) approach to Case as sets of features that are ordered by subset/superset relations. I show that by treating different Cases as distinct sets of features, Bobaljik's (2008) generalisations about the distribution of case and agreement alignment follow naturally. Discussing languages with two φ-probes, I further extend the generalisation about the lack of languages with nominative case alignment and ergative agreement alignment to ditransitives and I show that an analogous typological gap exists in this domain: I suggest that there are no languages which show secundative case alignment and indirective agreement alignment.

Section 6.4 concludes.

6.2 Case, agreement and Bobaljik's generalisations

The agreement patterns in Hindi, Nepali and Marathi differ in interesting details. All three languages are split-ergative: in the perfective aspect, the subject is ergative, and it is unmarked in other aspects. Hindi and Marathi do not allow agreement with ergative noun phrases, but Nepali does. I will start by discussing Hindi.

6.2.1 Hindi and Nepali

In (1a), both the subject and the object are unmarked. The verb agrees with the masculine subject. In the perfective clause in (1b), the subject bears ergative and the verb now agrees with the feminine direct object *kitaab*, as indicated on the verb.

(1) a. *Rahul kitaab paṛh-taa thaa.*
R.M book.F read-HAB.M.SG be.PST.M.SG
'Rahul used to read a/the book.'

b. *Rahul-ne kitaab paṛh-ii thii.*
R-ERG book.F read-PFV.F be.F.SG
'Rahul had read the book.' (Bhatt 2005: 759)

Hindi also has differential object marking: the direct object can appear with the case-marker *-ko* when it is animate and specific. When both arguments are marked, as in (2), the verb surfaces in a default third person masculine form. Note that none of the arguments in (2) are masculine.

(2) *Mona-ne is kitaab-ko paṛh-aa.*
Mona.F-ERG this.OBL book.F-ACC read-PFV.M.SG
'Mona had read this book.' (Bhatt 2005: 768)

The verb therefore agrees with the structurally highest argument that does not have morphological case (Woolford 1997; Bhatt 2005; Anand and Nevins 2006; Bobaljik 2008; Legate 2008).

The situation in Nepali is different (Bickel and Yādava 2000; Bobaljik 2008). While the language is also split-ergative, it differs from Hindi in that agreement is controlled by the highest ergative or unmarked argument.

In (3a), the subject *ma* 'I.NOM' and the object *patrikā* 'newspaper' are both unmarked for case. Agreement on the verb follows the first person subject. In (3b), the subject bears ergative case and the object remains unmarked. The verb still agrees with the subject.

(3) a. *ma yas pasal-mā patrikā kin-ch-u.*
1SG.NOM DEM.OBL store-LOC newspaper.NOM buy-NPST-1SG
'I buy the newspaper in this store.'

b. *maile yas pasal-mā patrikā kin-ẽ / *kin-yo.*
1SG.ERG DEM.OBL store-LOC newspaper.NOM buy-PST.1SG buy-PST.3SG.M
'I bought the newspaper in this store.'

(Bickel and Yādava 2000: 348)

Bickel and Yādava (2000: 348) therefore suggest that, in Nepali, the verb agrees with "the highest S/A-argument" where S is the single argument of an intransitive (or a passive) and A the most agentive argument of a transitive.

The difference between Nepali and Hindi is that Nepali allows the verb to agree with an argument in ergative, whereas Hindi does not. Crucially, Nepali nevertheless allows the verb to agree with an unmarked argument as well, as shown in (3a).

6.2.2 Bobalijk's generalisations

Based on the data just discussed, Bobaljik (2008) suggests that agreement between and a predicate and its arguments is determined by morphological case. Referring to and building on earlier work by Edith Moravcsik, and Marantz's (1991) notion of dependent case, Bobaljik (2008: 306) suggests that the hierarchy in (4) determines which arguments a verb can agree with based on their morphological case.

(4) Unmarked Case > Dependent Case > Lexical/Oblique Case

The levels in (4) refer to the following different types of Case. First, unmarked Case refers to arguments of a verb that do not have overt case morphology. Second, "Dependent Case" refers to a type of Case assignment based on dependency relations between two arguments (Marantz 1991; Bittner and Hale 1996; McFadden 2004; see also Preminger 2014; Baker 2015). The idea behind dependent Case assignment is that two DPs in a certain syntactic domain, where DP_1 asymmetrically c-commands DP_2, form a dependency relation. If such a dependency relation is established, one of the DPs will be marked with morphological case. In nominative-accusative languages, the lower of the two DPs will get accusative, whereas in ergative-absolutive languages, the higher one will get ergative. Since the dependency is absent in intransitives, the single argument in such a clause will be unmarked in both nominative-accusative and ergative-absolutive languages. Both ergative and accusative are instances of *dependent Case* because their presence depends on the presence of another DP in the relevant syntactic domain.[1]

Finally, lexical or oblique case refers to case assigned based not on the structural properties of the clause but on lexical properties of a verb.

The hierarchy in (4) forms the basis of two striking cross-linguistic generalisations which I will refer to as Bobaljik's first and second generalisation, respectively. The first one relates to which arguments a verb in a given language can agree with and is shown in (5).

(5) a. **Bobaljik's first generalisation**
If one type of Case on the hierarchy in (4) triggers agreement, all types of Case higher on the hierarchy will also trigger agreement.

For Hindi, the sole type of Case on a noun phrase that can give rise to agreement with the verb is unmarked Case, the highest level on (4). In Nepali, ergative arguments can also agree; according to (5a), this implies that unmarked arguments also must be able to agree. And they do, as shown in (3) above.

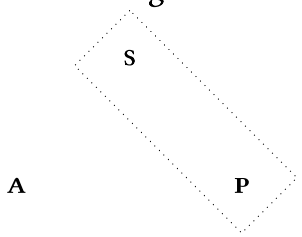
What I will call Bobaljik's second generalisation follows from (5a) and relates to the distribution of the *alignment* of Case and agreement. It is shown in (5b).

(5) b. **Bobaljik's second generalisation**
Languages with nominative-accusative case alignment cannot have ergative-absolutive agreement alignment.

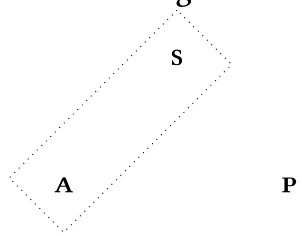
In the perfective aspect, both Hindi and Nepali show ergative-absolutive case alignment. This means that the single argument of an intransitive clause, S, and the object of a transitive clause, pattern together: they are both unmarked. The subject of a transitive clause, A, is ergative. This is shown in (6a).

[1] McFadden (2004) and Baker (2015) assume that this syntactic domain is a *phase* (Chomsky 2000, 2001, 2008). Baker (2015) implements certain patterns of differential object marking by suggesting that only direct objects that move out of VP into the same phase as the external argument will be assigned accusative, as they are otherwise not in the relevant domain for dependent case assignment.

(6) a. **ERG-ABS alignment**



b. **NOM-ACC alignment**

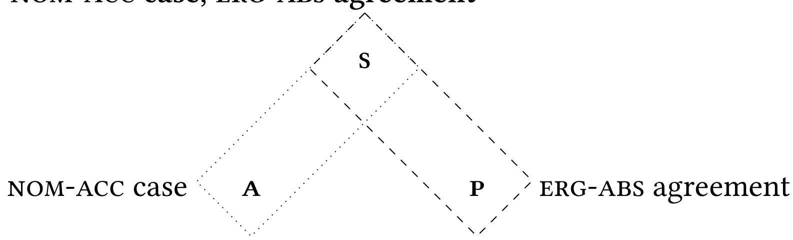


Hindi and Nepali differ in their agreement alignment, however. As we have seen, the verb in Hindi agrees with unmarked arguments, i.e. the single argument of an intransitive, or S, and the unmarked object of a transitive in the perfective aspect, P. Agreement is therefore distributed in the same way as case-marking, namely as in (6a).

Nepali is different. While its case alignment patterns with Hindi, its agreement alignment does not: the verb agrees with the subject, irrespective of its Case, i.e. S and A. This is nominative-accusative alignment, shown in (6b). A language like German shows nominative-accusative alignment in case-marking and agreement.

(5b) states that the fourth logical possibility is impossible: a language with nominative-accusative case alignment (like German) but with ergative-absolutive agreement alignment (like Hindi). In such a language, agreement would be controlled by the unmarked subject in an intransitive, but by the case-marked *object* in a transitive. This is shown in (7).

(7) ***NOM-ACC case, ERG-ABS agreement**



The generalisation in (5b) rules this out: since unmarked arguments are able to control agreement, it is impossible for the verb to bypass the unmarked subject in a transitive clause and agree with the object.

While Bobaljik (2008) assumes that it is *morphological* case that determines agreement along the lines of (4), the generalisations in (5) are in principle independent of this specific approach: I will implement them based on abstract Case below.

The move from morphological case to abstract Case in determining agreement is motivated empirically, because there are counterexamples to Bobaljik's (2008) claim that morphological case, rather than abstract Case, determines agreement. I turn to one such counterexamples now.

6.2.3 Marathi

Legate (2008) argues that Bobaljik's (2008) account of agreement does not suffice to explain the cross-linguistic variation the interaction of Case and agreement gives rise to. Among other evidence in defense of the notion of abstract Case she provides, Legate's account of Marathi (and Punjabi) is directly relevant to the present discussion, because Marathi agreement patterns pose a problem for Bobaljik's (2008) analysis in terms of morphological case (see Legate 2008: 94ff. and Keine 2010: 51ff.).

At first glance, the distribution of agreement in Marathi is identical to the distribution of agreement in Hindi in that ergative arguments do not trigger agreement in either language. This is shown in (8). I gloss unmarked arguments as ABS (following Legate 2008).

(8) a. *mulī* *gāṇī* *mhaṇtāt.*
girl.3PL.F.ABS song.3PL.N.ABS sing.PST.3PL.F
'Girls sing songs.'

b. *mulī-ne* *gāṇī* *mhaṭlī.*
girl.3PL.F-ERG song.3PL.N.ABS sing.PST.3PL.N
'The girls sang songs.'

(Pandharipande 1997: 284, cited by Legate 2008: 94, Keine 2010: 51)

(8a) shows that in a transitive clause with both an absolutive subject and an absolutive object, the verb agrees with the higher argument in person, number and gender. In (8a), the subject *mulī* controls agreement. In (8b), with an ergative marker on the subject, the absolutive object *gāṇī* controls agreement. So far, this pattern of agreement in Nepali can be captured by the same generalisation as for Hindi above: the verb agrees with the highest unmarked argument.

There is an additional factor in Marathi that interacts with agreement and case-marking, however. In addition to being split-ergative, Marathi has another split in case-morphology, based on person. First and second person pronouns never take an ergative suffix, even if the aspect of the clause would require it. Third person pronouns do not show this restriction and behave as expected; this is shown in (9a). Interestingly, however, agreement does not change in (9b), where the first and second person subjects surface unmarked. The verb still agrees with the object *gāṇī* 'songs', rather than the unmarked subject.

(9) a. *tyā-ne / ti-ne gāṇī mhaṭlī.*
he-ERG she-ERG song.3PL.N.ABS sing.PST.3PL.N
'S/he sang songs.'

b. *mī / tū gāṇī mhaṭlī.*
I.ABS you.ABS song.3PL.N.ABS sing.PST.3PL.N
'I / you (sg.) sang songs.'

(Pandharipande 1997: 131, cited by Keine 2010: 52)

Legate (2008) suggests that the correct generalisation for agreement in Marathi is not that it follows the highest unmarked argument, but that it follows the highest argument with structural absolutive. She argues that while they look like absolutive on the surface, the first and second person subjects in (9b) are actually ergative and block agreement for this reason (the gloss in (9b) therefore reflects the surface form).

Since Bobaljik (2008) relies on morphological case to determine agreement, this pattern does not follow from his account straightforwardly. The problem is that in (9b), the highest unmarked argument is the subject — but the verb nevertheless agrees with the object. Bobaljik (2008: 312) mentions that agreement tracks morphological case "in as far as zero exponents do not obscure [it]" but this raises the question of how distinct zero exponents differ so that some can block agreement while others cannot. Legate (2008: 95) thus suggests that there is syntactic Case and that "[t]o wait until the morphology to do case and agreement is to wait too long".

How can we account for the fact that certain Cases block agreement and that this is a point of variation across languages? There are different answers to this question; two proposals are shown in (10) (see also Keine 2010: 30f. and Preminger 2014: Ch. 8).

(10) a. A DP with θ-related Case may not value a φ-probe. (Rezac 2008a: 83)

b. **The Visibility of Inherent-Case to Verbal Agreement (VIVA) Parameter**
A language will differ as to whether the verb can agree with an inherently case-marked DP. (Anand and Nevins 2006: 6)

The suggestion in (10a) fails to account for the fact that the verb can agree with an ergative argument in Nepali, if ergative is a θ-related case (Woolford 1999, 2006; Aldridge 2008; Legate 2008, 2012). Anand and Nevins (2006), on the other hand, suggest that their VIVA in (10b) is a microparameter that specifies whether a given language allows agreement with ergatives. In Hindi, inherently Case-marked DPs are not visible, whereas in Nepali they are.

In sum, some languages allow agreement with ergative (Nepali, Sahaptin), while others do not (Hindi, Marathi). The same holds for other Cases, like accusative: some languages, like Hungarian, allow agreement with these, but others, like German, do not. In addition, some languages allow agreement with dative arguments (like Basque, Sahaptin or Kashmiri), but others do not (like Hungarian). I will return to the question of how this information is specified for a given language in Section 6.3.1 below.

6.3 Analysis

We have just seen evidence that the Case of an argument determines its ability to agree with the verb in some languages. In Chapter 5, I showed that agreement in φ-features can determine the Case of an argument as well: in global case splits, the (sets of) person features of two arguments determine which Case is assigned to the subject or the object. These situations are difficult to state in a system in which morphological case influences agreement, since the order of Case and agreement is reversed.

In this section, I will show that the analysis I proposed in Chapter 5 can derive the agreement patterns introduced in the previous section and that Bobaljik's generalisations in (5) can be stated in this system as well. To do this, I will first lay out the assumptions I am making about Case and agreement before showing how the agreement patterns of Hindi, Nepali, and Marathi can be analysed involving abstract Case (following Legate 2008; Keine 2010).

I will then extend the discussion to ditransitive constructions in Section 6.3.4 in languages with two φ-probes. I show that the alignment of Case and agreement in ditransitives is parallel to the alignment of Case and agreement in monotransitives.

6.3.1 Theoretical assumptions

First, as in Chapter 5, I will adopt aspects of Keine's (2010) syntactic framework, most importantly his suggestion that impoverishment rules can take place in the syntax (and not just post-syntactically, as in standard Distributed Morphology). This means that impoverishment can affect sets of CASE features which in turn can serve as the input for Agree (see 5.3.1 for more discussion).

Second, I will assume that Case assignment and agreement are independent of each other, i.e. that Agree does not simultaneously lead to the valuation of Case and φ-features. Instead, I will assume that the functional heads *v* and T (and possibly others, like Appl) can assign Case. Rather than relying on unvalued Case features which make noun phrases visible for Agree, I take Case assignment to be directly determined by the syntactic structure of the clause and the argument structure of predicates (cf. argument structure lists in Head-driven Phrase Structure Grammar or HPSG, Sag *et al.* 2003). I adopt the view that Case and agreement are dissociated, i.e. that the operation Agree does not simultaneously value the Case features of a goal and the φ-features of a probe (see also Bhatt 2005; Baker 2012, 2015 who argue that Case and agreement do not go hand in hand in Hindi and Amharic, respectively).

Third, in addition to assigning Case, functional heads like T and *v* (and again, others like Appl) *can* have φ-probes, but they do not have to. A specific precedent for this and the previous assumption comes from Bhatt (2005) who assumes a single φ-probe on T for Hindi, with both T and *v* being case assigners. The independence of Case assignment and agreement allows for cross-linguistic variation in φ-probes; I will argue that this variation is restricted, however. Concretely, *v* can only have a φ-probe if T has one, etc. I will show that this, together with the other assumptions derives Bobaljik's (2008) generalisations. I will relate this restrictive mapping of probes onto functional heads to Roberts's (2012) approach to parameters in Chapter 7.

Fourth, I will assume that if a functional head like T or *v* is both a Case assigner *and* has a φ-probe, the order in which Case is assigned and agreement is triggered is subject to cross-linguistic variation. This assumption builds on work by Müller (2004a), Heck and Müller (2007), Keine (2010), Müller (2010) and Georgi (2014) and I have argued in Chapter 5 that it provides an explanation for why some languages have global case splits, while others do not.

Fifth, and finally, I will adopt the assumption that Case can be modelled by sets of features. As mentioned in Chapter 5, I will assume that these sets can be modified during the syntactic derivation (Keine and Müller 2008; Keine 2010). In addition, they determine the spell-out of morphological case on arguments (Legate 2008). As they will be crucial in this chapter, I will lay out my assumptions about the relation between different Cases in more detail now.

6.3.2 Case and CASE features

Rather than treating "nominative" and "accusative" as Case features, I assume that they are labels for sets of features. Nominative and accusative in German can be represented as in (11), for example (following Bierwisch 1967: 246). I will continue to refer to these sub-features as "CASE" features.[2]

(11) $\text{NOM} = \begin{bmatrix} -\text{obl} \\ -\text{gov} \end{bmatrix} \qquad \text{ACC} = \begin{bmatrix} -\text{obl} \\ +\text{gov} \end{bmatrix}$

The feature [−obl] is shared by both cases in (11), suggesting that neither is "oblique", but they differ in the feature [gov], for "governed". Bierwisch (1967: 246) suggests the use of *governed* because accusative arguments tend to be governed by verbs (and maybe prepositions), but nominative arguments do not.

Note that the labels adopted for CASE features differ in the literature. The reason for this is in part that one of the functions of these features is to distinguish one Case from another (cf. Caha 2009; see Dresher 2009 for discussion of contrastive features in phonology). An alternative label for [gov] could be [dep], for example, mnemonic of "dependent case": this feature could distinguish ergative and accusative from absolutive and nominative, for example.

Morimoto (2002: 305f.) adopts a similar approach in her analysis of DOM in Bantu languages. She uses the features [±hr] for "higher role" and [±lr] for "lower role" (see also references there). On this view, NOM/ABS are a represented by an empty set of features, but ACC is [+hr], indicating that there is a *higher role*, namely the nominative subject (note the similarity to dependent Case).

[2] See Bierwisch (1967), Jakobson (1971 [1936]), Wiese (1999), Morimoto (2002), Müller (2002), McFadden (2004), Müller (2004b), Keine and Müller (2008), Caha (2009) and Keine (2010) for background and a number of empirical applications of treating Case as sets of features.

What [gov], [dep] and [hr/lr] therefore have in common is that their presence (or positive value) correlates with transitivity: these features can distinguish unmarked Case from the Case assigned to an object or a transitive subject, or accusative and ergative, respectively. By adding features, we can distinguish further Cases like dative, for example. Rather than representing NOM and ACC as in (11), they can be represented as shown in (12). The label [case] in (12) is inspired by Legate's (2008) notation of Case with a zero exponent (ABS or NOM; cf. Legate 2008: 59f.): it can arguably be thought of as a generic abstract Case feature. [dep] distinguishes ACC from NOM. Dative can be added to this system by adding a feature [obl].

(12) $\text{NOM} = \begin{bmatrix}\text{case}\end{bmatrix}$ $\text{ACC} = \begin{bmatrix}\text{case}\\ \text{dep}\end{bmatrix}$ $\text{DAT} = \begin{bmatrix}\text{case}\\ \text{dep}\\ \text{obl}\end{bmatrix}$

Thinking of Case in these terms makes it possible to treat the sets of CASE features in (12) as a type of hierarchy like Bobaljik's Case hierarchy in (4), repeated in (13).[3]

(13) Unmarked Case > Dependent Case > Lexical/Oblique Case

In keeping with the recurring theme of remodeling hierarchies as relations among sets, another way of formulating (13) is by interpreting > as expressing the relation ⊂, i.e. a proper subset relation on the sets in (12). The idea is that unmarked case has a proper subset of CASE features compared to dependent case, which in turn has a proper subset of CASE features compared to lexical case.

Caha (2009) proposes precisely such a way of representing Case and briefly discusses the possibility of combining his approach to case with Bobaljik's (2008) proposal. He shows that patterns of syncretism in case systems can be captured if Cases are assumed to be composed of sub-features. He argues for a "cumulative classification" (Caha 2009: 21) of Case: the Cases in (14) are sets of different cardinality where each set adds a feature to the previous one.

(14) **Cumulative classification**

a. NOM = W

[3] Note that I use [ ] in the derivations below rather than { } to indicate sets of CASE features, using the notation shown in Chapter 5 for reasons of consistency.

b. ACC = W, X
c. GEN = W, X, Y
d. DAT = W, X, Y, Z (Caha 2009: 21)

Caha's "Case sequence" in (15) reflects this way of organising Case (cf. Caha 2009: 10; see his footnote 5, ibid., for discussion of ERG case). Note the similarities to Bobaljik's (2008) hierarchy in (13).

(15) **The Case sequence**
NOM/ABS — ACC/ERG — GEN — DAT — INS — COM

By combining (14) and (15), each Case is related to the next one in the sequence by the $\subset$ — (16) illustrates this with the features in (12) above.

(16) $$\left\{\text{case}\right\} \subset \left\{\begin{matrix}\text{case,}\\ \text{dep}\end{matrix}\right\} \subset \left\{\begin{matrix}\text{case,}\\ \text{dep,}\\ \text{obl}\end{matrix}\right\} \subset \cdots$$

(16) matches Caha's (2009) Case sequence and provides a way of implementing the hierarchy and the generalisations proposed by Bobaljik (2008).

Recall that one aspect of Bobaljik's (2008) proposal is that languages differ in which Cases block agreement and which do not. We have seen several examples above: while ergative arguments are opaque for agreement in Hindi and Marathi, they are not in Nepali (cf. Anand and Nevins's 2006 VIVA discussed in Section 6.2.3 above). The potential of a Case to block agreement is naturally implemented in this feature-based system by identifying a feature that introduces opacity to agreement in a given language. Any Case that has this feature corresponds to the type of Case blocking agreement on Bobaljik's (2008) hierarchy. We can now reformulate Bobaljik's first generalisation as follows (see (5a) for comparison):

(17) **Bobaljik's first generalisation and CASE features**
If a given set κ of CASE features includes a feature [α] which blocks agreement, any superset of κ will block agreement as well. Sets not including [α] do not block agreement.

On the assumption that the feature(s) giving rise to unmarked Case are a proper subset of those features giving rise to dependent Case (and of lexical Case) in all languages, (17) implements the same hierarchical effect as Bobaljik's (2008) first generalisation.

Assuming further that in languages with a single instance of agreement only T has a φ-probe, Bobaljik's (2008) second generalisation also follows. The unattested pattern is a language with nominative-accusative case alignment and ergative-absolutive agreement alignment.

Consider why: the unattested scenario would involve T agreeing with an accusative object by skipping a nominative subject. Since the nominative subject will be higher than the accusative object, and because nominative will necessarily be a proper subset of accusative, it is impossible that nominative has a feature that blocks agreement, while accusative does not.

I will now apply these assumptions to the set of data discussed in Section 6.2 above: the distribution of agreement in Hindi, Nepali and Marathi.

6.3.3 Deriving agreement in Hindi, Nepali and Marathi

In this section, I illustrate how the Hindi, Nepali and Marathi agreement patterns introduced above are derived using abstract Case features, and in accordance with the reformulation of Bobaljik generalisation in (17). I will start with Hindi.

6.3.3.1 Hindi

As we have seen above, Hindi only allows agreement with unmarked arguments. The subject is unmarked in the imperfective aspect, but ergative in the perfective aspect. The direct object can be unmarked or, when animate and specific, marked with *-ko*, a case-marker that resembles the dative (I gloss it as ACC following Bhatt 2005). The following examples, repeated from Section 6.2.1, illustrate this.

(18) a. *Rahul kitaab paṛh-taa thaa.*
R.M book.F read-HAB.M.SG be.PST.M.SG
'Rahul used to read a/the book.'

b. *Rahul-ne kitaab paṛh-ii thii.*
R-ERG book.F read-PFV.F be.F.SG
'Rahul had read the book.' (Bhatt 2005: 759)

(19) *Mona-ne is kitaab-ko paṛh-aa.*
Mona.F-ERG this.OBL book.F-ACC read-PFV.M.SG
'Mona had read this book.' (Bhatt 2005: 768)

These data show that any overt case morphology blocks agreement in Hindi. As discussed in Chapter 1, Bhatt (2005) argues that agreement and case-marking are dissociated in Hindi, rather than being two aspects of a single Agree operation. Bhatt suggests that only T has a φ-probe in Hindi, and that *v* can assign Case independently.

Following the discussion of CASE features in the previous section, I suggest that any Case that includes the feature [dep] makes arguments opaque for agreement. The relevant Cases are specified as in (20), followed by the vocabulary items in (21):[4]

(20) $\text{NOM} = \begin{bmatrix}\text{case}\end{bmatrix} \qquad \text{ERG} = \begin{bmatrix}\text{case}\\ \text{dep}\end{bmatrix} \qquad \text{DAT} = \begin{bmatrix}\text{case}\\ \text{dep}\\ \text{obl}\end{bmatrix}$

(21) $\begin{bmatrix}\ \ \end{bmatrix} \leftrightarrow -\varnothing \qquad \begin{bmatrix}\text{case}\\ \text{dep}\end{bmatrix} \leftrightarrow \textit{-ne} \qquad \begin{bmatrix}\text{case}\\ \text{dep}\\ \text{obl}\end{bmatrix} \leftrightarrow \textit{-ko}$

Since, by assumption, [dep] blocks agreement and both ERG and DAT (the object Case for differential object marking) include this feature, only unmarked arguments will be able to agree in Hindi. To derive DOM, I follow Keine (2010: 60) in assuming that an impoverishment rule deletes the CASE features on the direct object when it is specific and animate. A version of this rule adapted to the CASE features I assume here is shown in (22).

[4] This section owes much to Keine's (2010) analysis of Hindi. The major point of departure is the inventory of CASE features that I assume in order to link the analysis to the present discussion. The two analyses are otherwise fully compatible.

(22) $\begin{bmatrix} \text{case} \\ \text{dep} \\ \text{obl} \end{bmatrix} \rightarrow \varnothing$ / [−HUMAN, −SPECIFIC]

Keine (2010: 60) adds another impoverishment rule to derive split-ergativity in Hindi. (23) states the feature [dep] is deleted from the set of CASE features assigned to the subject in the imperfective aspect.

(23) $\begin{bmatrix} \text{dep} \end{bmatrix} \rightarrow \varnothing$ / [−PFV]

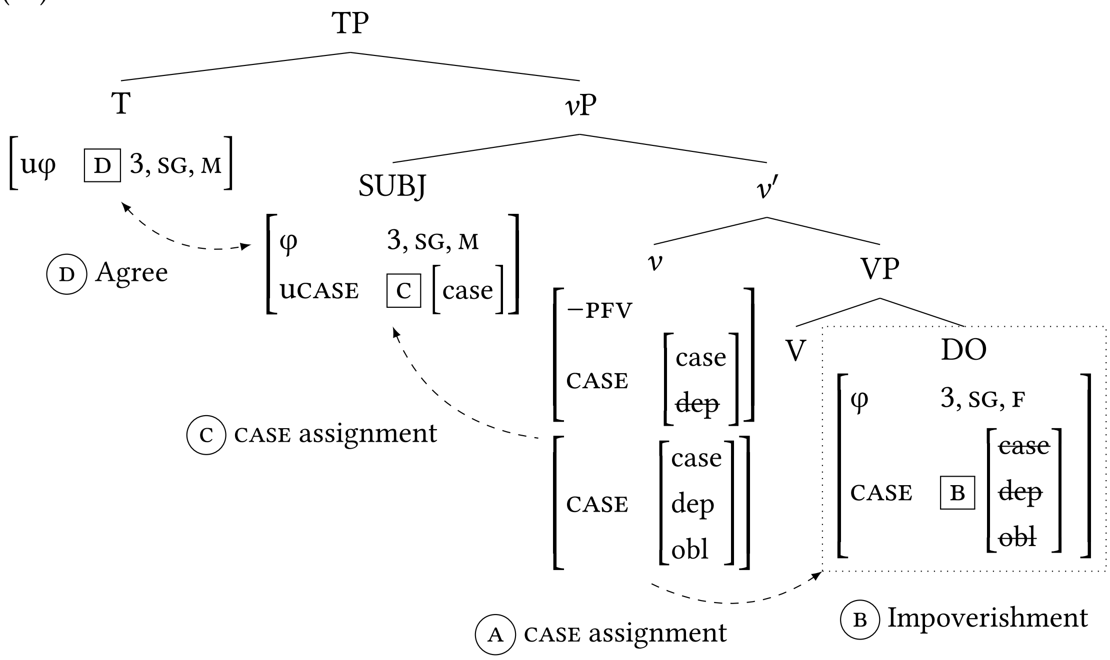
Finally, I will assume with Keine (2010) that *v* assigns inherent Case to the subject and structural Case to the direct object. Hindi has a single φ-probe on T (Bhatt 2005; Legate 2008).[5]

The following structures show how these ingredients interact in a full derivation. I will show the derivations of the data discussed above. (18a) shows agreement with an unmarked, masculine subject. (18b) shows agreement with an unmarked, feminine object when the subject is ergative. Finally, (19) shows default masculine agreement when both the subject and the object have overt case. Derivations of these examples are shown in (24a)–(24c), respectively.

(18a) is in the imperfective aspect, creating the context for the impoverishment rule in (23) to delete the feature [dep] from the set of CASE features assigned to the subject, and the subject only receives [case]. The object's CASE features are impoverished because the object is non-specific and inanimate in (18a). Since the subject's features do not include the feature [dep], T and the subject enter an Agree relation and T is valued as 3, SG, M, the subject's φ-features.

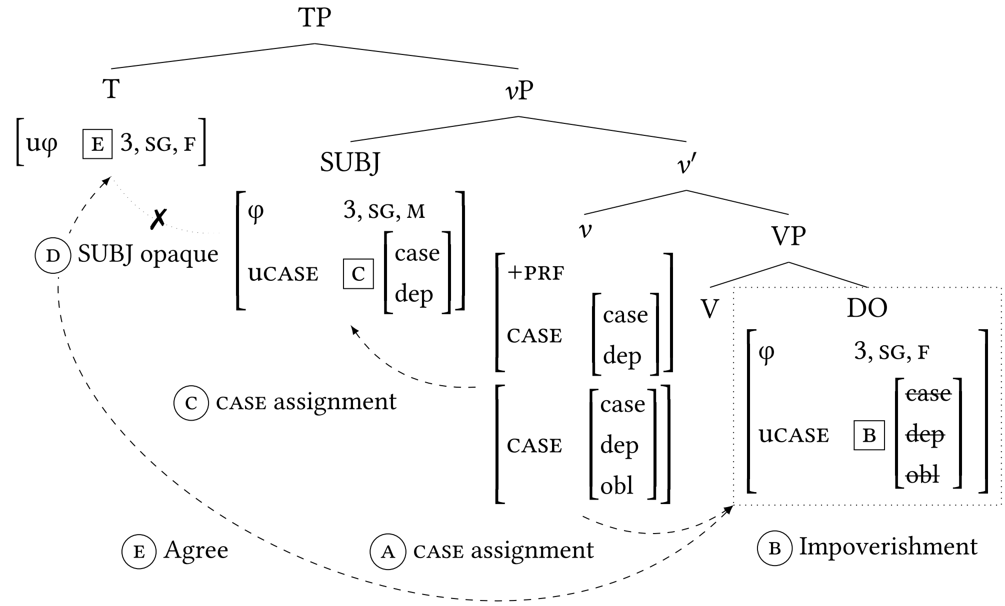
[5] There are several different analyses of ergative assignment in Hindi. Bhatt (2005: 767), for example, suggests that nominative and ergative are both assigned by "Tense in association with *v*" depending on aspect. Anand and Nevins (2006) suggest that T assigns nominative, *v* assigns ergative, and two distinct additional heads assign null and overt object case (*-ko*), respectively. Legate (2008) also suggests that ergative is assigned by *v*. Since inherent Case is assigned in conjunction θ-role, the Case assigned to the subject and the (structural) Case assigned to the object do not interfere, even if assigned by the same head (cf. also Aldridge 2008: 978f.).

(24) a.



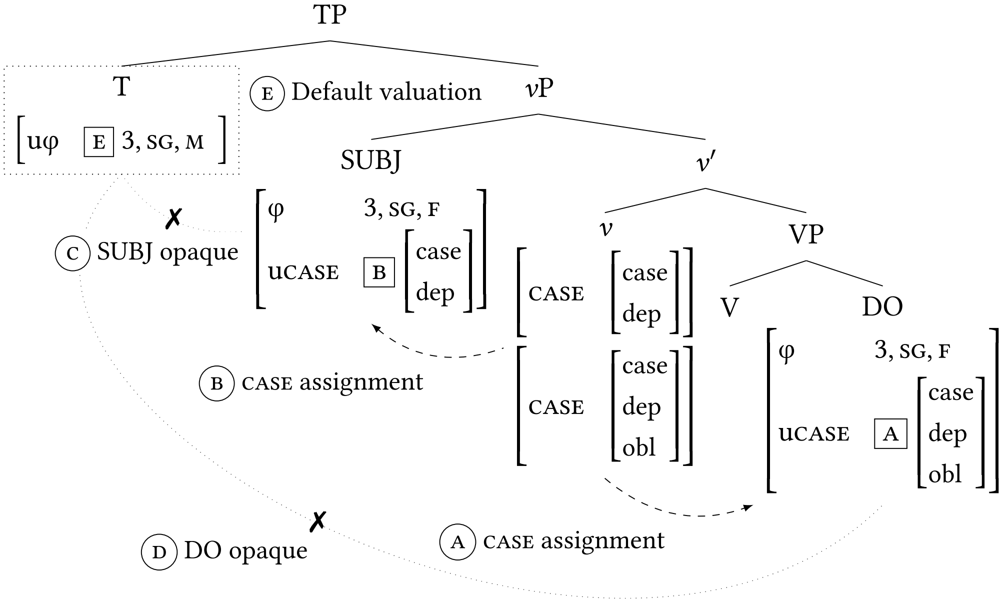
(24b) differs from (24a) in that *v* assigns ergative to the subject because the perfective aspect in (18b) bleeds the application of the impoverishment rule in (23). The presence of [dep] then blocks agreement between T and SUBJ, but when T continues to probe, it finds the direct object. The direct object's features have been deleted by the impoverishment rule in (22). Agreement on T will therefore reflect the person, number and gender of the direct object.

(24) b.



Finally, (24c) shows the derivation of (19). Here, the object's CASE features are not deleted because it is specific and therefore the impoverishment rule in (22) cannot apply. T fails to agree with either the subject or the direct object, since both have the feature [dep] and are invisible; T's φ-features get the default value of third person singular masculine, shown in E.

(24) c.



To sum up, in Hindi any overt morphological case renders an argument opaque for Agree. In Bobaljik's (2008) terms, this means that any dependent Case is invisible for agreement; I model this by suggesting that the feature [dep] in a set of CASE features renders an argument opaque (see also Keine 2010).

6.3.3.2 *Nepali*

Nepali differs from Hindi in that it allows agreement with ergative subjects. I implement this by assuming that [dep] does not render an argument opaque for agreement. Apart from this difference, I will analyse Nepali and Hindi in the same way. I will again follow Keine (2010) in suggesting that split-ergativity is derived by an impoverishment rule that deletes the subject's [dep] feature in the imperfective aspect, giving rise to unmarked Case on the subject, and I will assume that *v* assigns inherent Case to the subject and structural Case to its object. The relevant data illustrating the Nepali agreement pattern are shown in (25), repeated from (3). In both (25a) and (25b), the verb agrees with the subject – the ergative in (25b) does not block agreement.

(25) a. *ma yas pasal-mā patrikā kin-ch-u.*
1SG.NOM DEM.OBL store-LOC newspaper.NOM buy-NPST-1SG
'I buy the newspaper in this store.'

b. *maile yas pasal-mā patrikā kin-ẽ / *kin-yo.*
1SG.ERG DEM.OBL store-LOC newspaper.NOM buy-PST.1SG buy-PST.3SG.M
'I bought the newspaper in this store.'

(Bickel and Yādava 2000: 348)

The sets of CASE features and the relevant vocabulary items for the data discussed (abstracting away from person features) here are shown in (26) and (26).

(26) NOM = $\begin{bmatrix}\text{case}\end{bmatrix}$ ERG = $\begin{bmatrix}\text{case}\\ \text{dep}\end{bmatrix}$

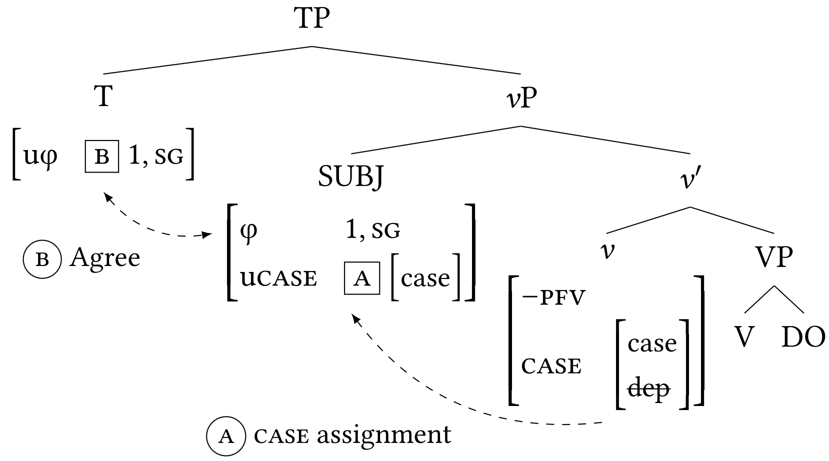
(27) $\begin{bmatrix}\text{case}\end{bmatrix}$ ↔ *ma* 'I.NOM' $\begin{bmatrix}\text{case}\\ \text{dep}\end{bmatrix}$ ↔ *maile* 'I.ERG'

The impoverishment rule in (28) deletes the feature [dep] in the imperfective.

(28) $\begin{bmatrix}\text{dep}\end{bmatrix} \rightarrow \varnothing$ / [−PFV]

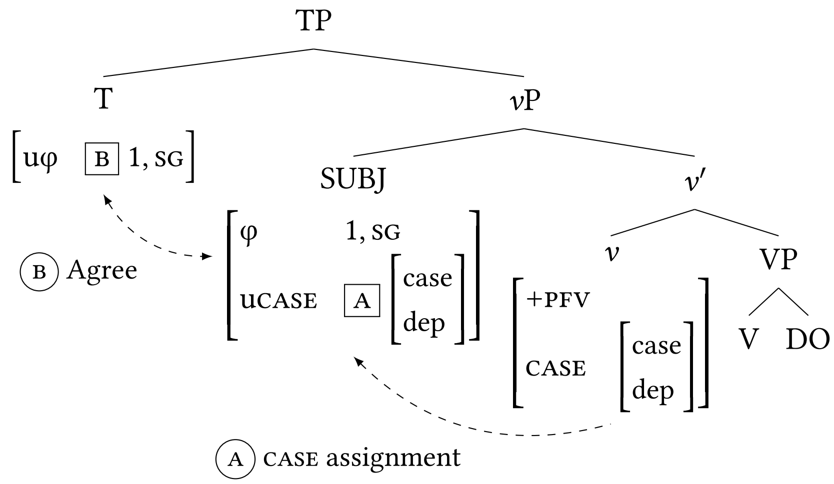
(29a) shows the (simplified) structure of a sentence like (25a), with a nominative (unmarked) subject ignoring earlier stages of the derivation in which the direct object is assigned Case by the verb. In (29a), [dep] is deleted because the context for the rule in (28) is matched. *v* therefore assigns only [case] to the subject. After CASE assignment, T probes: the subject in Spec*v*P values T's φ-features.

(29) a.



In (29b), corresponding to (25b), the clause is in the perfective aspect, and the subject is assigned ergative CASE features, i.e. including [dep] in step A. However, [dep] does not block agreement in Nepali (in contrast to Hindi), and therefore T will agree with the subject as in (29a).

(29) b.



While Hindi and Nepali use the same sets of CASE features, the different agreement patterns result from [dep] turning arguments opaque for agreement in Hindi, but not in Nepali. Both languages have a single φ-probe on T that determines agreement with the verb.

6.3.3.3 Marathi

The agreement pattern in Marathi is similar to that of Hindi: ergative arguments are opaque for agreement. However, as discussed in Section 6.2.3 above, ergative Case in Marathi is not always spelled out. The relevant data are repeated here. First, (30a) and (30b) indicate that agreement is controlled by unmarked arguments, the ABS subject in (30a) and the ABS object in (30b). As before, ergative Case is assigned in the perfective.

(30) a. *mulī gāṇī mhaṇtāt.*
girl.3PL.F.ABS song.3PL.N.ABS sing.PST.3PL.F
'Girls sing songs.'

b. *mulī-ne gāṇī mhaṭlī.*
girl.3PL.F-ERG song.3PL.N.ABS sing.PST.3PL.N
'The girls sang songs.'

(Pandharipande 1997: 284, cited by Legate 2008: 94, Keine 2010: 51)

In addition to the split based on aspect, Marathi also has a person split in the perfective (Legate 2008; Keine 2010). First and second person pronouns appear in absolutive rather than ergative. Nevertheless, they are opaque for agreement. This is shown in (31).

(31) a. *tyā-ne / ti-ne gāṇī mhaṭlī.*
he-ERG she-ERG song.3PL.N.ABS sing.PST.3PL.N
'S/he sang songs.'

b. *mī / tū gāṇī mhaṭlī.*
I.ABS you.ABS song.3PL.N.ABS sing.PST.3PL.N
'I / you (sg.) sang songs.'

(Pandharipande 1997: 131, cited by Keine 2010: 52)

Independently of the overt case-marking, the verb still agrees with the object *gāṇī* 'songs', rather than the unmarked subject, in both (31a) and (31b). Legate (2008) thus argues that it is abstract Case that determines agreement with the verb, not overt morphological Case. Hindi and Marathi therefore show the same restriction: ergative arguments are opaque for agreement. I take this to mean that [dep] renders arguments opaque for agreement in both languages. The two languages differ, however, in how the spell-out of this Case is determined.

I will again follow Keine (2010) in implementing this pattern of agreement, but I use the same set of CASE features as in Hindi and Nepali. (32) shows the feature specification of ABS and ERG, and (33) shows the corresponding vocabulary insertion rules.

(32) $\textsc{abs} = \begin{bmatrix}\text{case}\end{bmatrix} \qquad \textsc{erg} = \begin{bmatrix}\text{case}\\ \text{dep}\end{bmatrix}$

(33) $\begin{bmatrix}\quad\end{bmatrix} \leftrightarrow \text{-}\varnothing \qquad \begin{bmatrix}\text{case}\\ \text{dep}\end{bmatrix} \leftrightarrow \textit{-ne}$

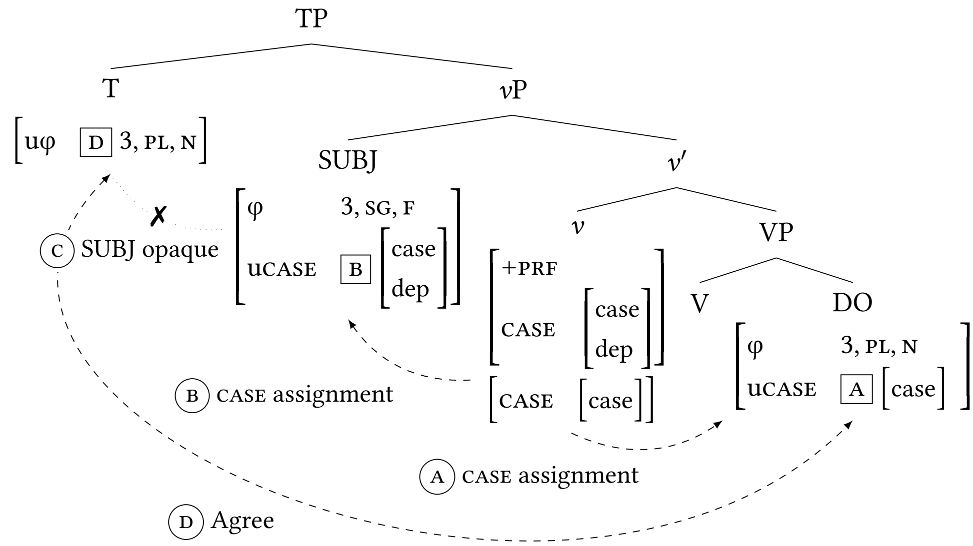
To derive the zero spell-out of ergative with first and second person subjects, I assume with Keine (2010) that an impoverishment rule modifies the set of CASE features on the subject. This rule is shown in (34). It deletes the feature [case] when the subject is first or second person.

(34) $[\text{case}] \rightarrow \varnothing$ / __ $[\pi\text{: } 1 \vee 2]$

I will only focus on the perfective here to illustrate the contrast between first and second person subjects, on the one hand, and third person subjects, on the other, as shown in (31).

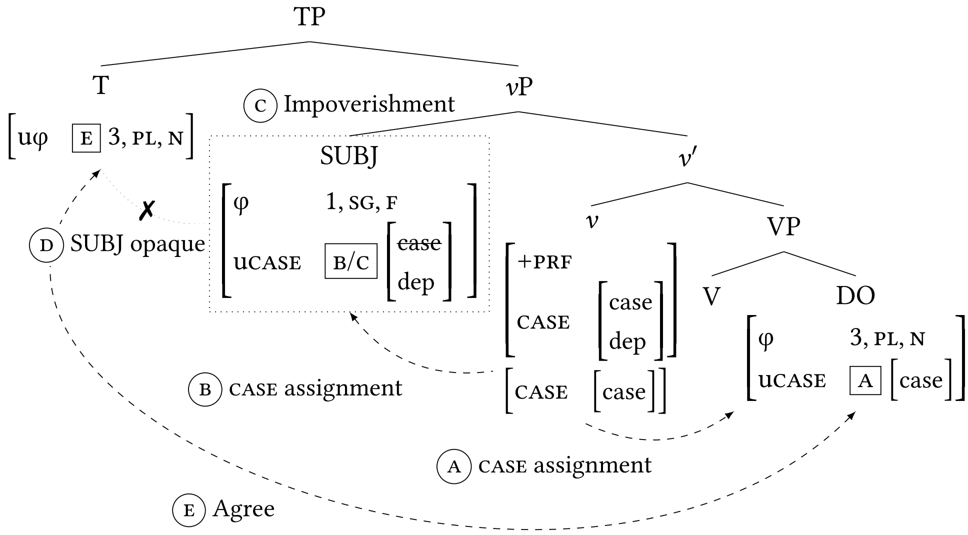
The vocabulary insertion and impoverishment rules interact as follows. If the subject is third person, (34) cannot apply and the subject's CASE features include both [case] and [dep], which gives rise to ERG-marking. This is shown in the derivation in (35a), corresponding to (31a). Since the subject's set of CASE features includes [dep], T will not enter an Agree relation with it.

(35) a.



In (35b), the subject is first person, and therefore the impoverishment rule in (34) applies, deleting the feature [case] on the subject. This means that the ergative suffix *-ne* cannot be inserted since its vocabulary item specifies a superset of the features on the subject. Nevertheless, [dep] is still present on the subject and makes it opaque for agreement.

(35) b.



6.3.3.4 Interim summary

The Hindi, Nepali, and Marathi examples shown here have in common that they involve a single φ-probe on T and the same set of CASE features. But these languages differ in the particular feature that makes an argument opaque for agreement and the spell-out of CASE features.

Recall that while Hindi, Nepali and Marathi show ergative-absolutive case alignment in the perfective, they differ in their agreement alignment (cf. Section 6.2.2 above). Hindi and Marathi have ergative-absolutive agreement alignment: unmarked subjects and objects agree, but ergative subjects do not. Nepali agreement is different in that the verb agrees with the subject whether it is unmarked or ergative. This is nominative-accusative agreement alignment.

So Hindi and Marathi have ergative-absolutive alignment in both case and agreement and German, for example, has nominative-accusative alignment in both case and agreement. Nepali combines two systems, however: it has ergative-absolutive case alignment (like Hindi and Marathi), but nominative-accusative agreement alignment (like German).

The fourth logical possibility is unattested: languages with nominative-accusative case alignment, but ergative-absolutive agreement alignment. As mentioned above, this follows from Bobaljik's (2008) generalisation and its reformulation in the present framework, repeated here:

(36) **Bobaljik's first generalisation and CASE features**
If a given set κ of CASE features includes a feature [α] which blocks agreement, any superset of κ will block agreement as well. Sets not including [α] do not block agreement.

(36) relates to the analysis presented here as follows: the languages discussed above have a single φ-probe on T. When there is an unmarked subject, T will agree with this subject. If the subject is ergative and has a feature [α] that makes it opaque for agreement, T will agree with the object (as in Hindi and Marathi). If the subject is ergative, but is not opaque for agreement, the verb will agree with it (as in Nepali).

What is impossible, however, is for T to bypass an unmarked subject and agree with the object. This is because in a language with nominative-accusative case alignment, the set of CASE features on the subject are a proper subset of the features on the object. It is impossible that the subject's set contains a feature that renders the subject, but not the object, opaque for agreement.

The alignment patterns of the languages discussed here are summarised in Table 6.1. For German, Nepali, Hindi, and Marathi, it shows their case alignment and indicates the assigner of subject case, their inventory of φ-probes, and the agreement alignment originating from that probe. The final column indicates which Case is opaque for agreement in each language. Note that the entries for Nepali, Hindi and Marathi indicate the perfective aspect only. The final row shows the unattested pattern of nominative-accusative case alignment and ergative-absolutive agreement alignment.

By combining insights from Bobaljik (2008), Legate (2008), Caha (2009) and Keine (2010), it is possible to derive a wider empirical coverage than on Bobaljik's approach while retaining his cross-linguistic predictions about typological gaps in alignment systems.

I now turn to case and agreement alignment in languages with two φ-probes, one each on T and *v*.

	Case alignment	φ on	Agreement alignment	Case opacity
German	T: NOM	T	T: NOM	ACC+
Nepali	*v*: ERG	T	T: NOM	DAT+
Hindi	*v*: ERG	T	T: ERG	ERG+
Marathi	*v*: ERG	T	T: ERG	ERG+
*	$\boxed{\text{T: NOM}}$	T	$\boxed{\text{T: ERG}}$	

Table 6.1 Alignment and φ-probes of languages discussed in this section

6.3.4 Languages with two φ-probes

We have just seen that it is possible to implement the cross-linguistic generalisations about case and agreement alignment proposed by Bobaljik (2008) without adopting his conclusion that morphological case determines agreement.

The languages discussed so far showed one instance of agreement. I suggested that Hindi, Nepali, Marathi, and German have a single φ-probe, on T, which will agree with an argument based on that argument's abstract Case features.

In this section, I will discuss languages with two φ-probes. As mentioned in Section 6.3.1, I assume that such languages have a φ-probe on *v*, in addition to the probe on T. Paralleling the discussion about case and agreement alignment in languages with a single probe, I will show that there is an analogous generalisation about *v* and two internal arguments in ditransitive constructions. The analysis proposed so far predicts that not all combinations of case and agreement alignment in ditransitives should be possible: no language should have secundative case alignment and indirective agreement alignment. I will show that this prediction is borne out.

6.3.4.1 Case and agreement alignment in ditransitive constructions

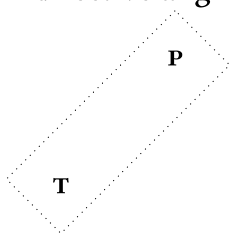
Languages differ in the way that case-marking and agreement are manifested in ditransitive constructions. Dryer (1986), among others, suggests that in analogy to ergative-absolutive vs. nominative-accusative alignment in monotransitive clauses, languages differ in their alignment in ditransitive clauses: I will refer to these two types of alignment as "indirective" and "secundative", following Haspelmath (2005).[6]

In analogy to the notions A, S, P which are used to describe nominative and ergative alignment, Haspelmath (2005) uses P, T, and R for ditransitive alignment systems. These are defined as follows:

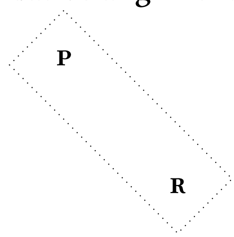
(37) a. **P** is the single internal argument of a monotransitive.
  b. **T** is the theme- or patient-like internal argument of a ditransitive.
  c. **R** is the recipient-like internal argument of a ditransitive.

Indirective and secundative alignment are then defined by whether it is T or R that patterns with P with respect to case-marking or agreement ("flagging" and "indexing", respectively, in Haspelmath 2005).

(38) a. **Indirective alignment**



  b. **Secundative alignment**



These types of alignment can be demonstrated using different predicates in English: *donate* can be monotransitive or ditransitive, and shows indirective alignment, because its single internal argument P is a T argument in the ditransitive construction.[7]

The verb *equip (with)*, on the other hand, takes P as its single internal argument that patterns with R in the ditransitive construction. This is secundative alignment. (39) and (40) illustrate.

(39) a. I donate [$_{P}$ the book].
  b. I donate [$_{T}$ the book] [$_{R}$ to the man].

(40) a. I equip [$_{P}$ the man].
  b. I equip [$_{R}$ the man] [$_{T}$ with the book].

[6] Haspelmath (2005) also mentions neutral alignment in which none of P, T, and R are overtly marked. I will set this aside.

[7] These examples are not meant to make any deep statements about the nature of English ditransitives or double object constructions; they just illustrate the alignment patterns under discussion.

While English does not show much case-marking, these examples illustrate the difference in alignment. In indirective alignment, the P and T arguments appear unmarked, while the R argument appears with a preposition (or a prepositional dative). In secundative alignment, the single internal argument in the monotransitive (40a) patterns with the ditransitive R argument to the exclusion of T.

Other languages show similar alternations in agreement in ditransitive constructions. Some varieties of the Ob-Ugric languages Khanty (Nikolaeva 1999a,b, 2001; Dalrymple and Nikolaeva 2011) and Mansi (Virtanen 2012, 2014, 2015) can alternate between indirective and secundative agreement with objects. The following examples illustrate this.

(41a) and (41b) show secundative and indirective agreement alignment, respectively, in Eastern Mansi. In both examples, the verb shows object agreement, glossed as 'SG<1SG' and 'SG<3SG', respectively. The first 'SG' indicates the number of the object; the rest indicates the person and number of the subject.

The trigger of agreement is an R argument *nää-n* 'you' in (41a) and a dropped T argument in (41b) (referring back to the *bowl full of blood*). The object that is not agreed with is expressed as an oblique in both cases.

(41) a. *am* ***nää-n*** *tat-øs-løm nee-l.*
1SG 2SG-SG.2SG bring-PST-**SG<1SG** woman-INS
'I brought you a wife.', lit. 'I brought you with a wife.'

b. *moot sõõn-toågøl keeløp-mø wø-s-tø, kõõp-posøm-øt püw-øtään*
other bowl-full blood-ACC take-PST-SG<3SG boat-stern-LOC son-LAT.SG.3SG
tow-mø-s-tø.
VM-give-PST-**SG<3SG**
'He took the other bowl full of blood and gave it to his son ...'

(Virtanen 2012: 125f.)

Northern Khanty shows the same pattern. In (42a), the unmarked and agreed with argument is a T, *cup*, and the R argument is expressed with the postposition *e:lti* 'to'. In (42b), the agreeing object is R and the T argument is an oblique, expressed with locative case.

(42) a. *ma* ***a:n*** *Pe:tra e:lti ma-s-**e:m*** */ ma-s-əm.*
I cup Peter to give-PST-**OBJ.1SG.SBJ** give-PST-1SG.SBJ
'I gave a/the cup to Peter.'

b. *ma* ***Pe:tra*** *a:n-na ma-s-****e:m*** / **ma-s-əm.*
I Peter cup-LOC give-PST-**OBJ.1SG.SBJ** give-PST-1SG.SBJ
'I gave a/the cup to Peter.'
(Dalrymple and Nikolaeva 2011: 148)

Khanty and Mansi therefore allow both secundative and indirective alignment, and both alignment types pattern together in case-marking and agreement. This does not have to be the case, however.

Amharic ditransitives, for example, can show indirective case-alignment, but secundative agreement alignment. This means that the single internal argument in a monotransitive, P, patterns with the theme-like T argument in a ditransitive with respect to case-marking, but with the recipient-like R argument with respect to agreement. This is shown in (43).

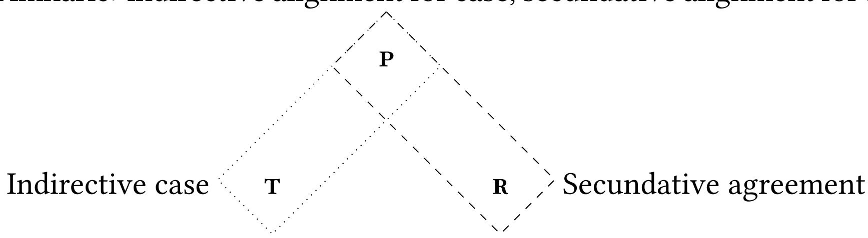
(43) a. *Ləmma wɨʃʃa-w-ɨn j-aj-əw-al.*
Ləmma dog-DEF-ACC 3SG.M.SBJ-see-3SG.M.OBJ-AUX(3SG.M.SBJ)
'Lemma sees the dog.' (Baker 2012: 257)

b. *Ləmma l-Almaz məts'haf-u-n sət't'-****at****.*
Ləmma.M DAT-Almaz.F book-DEF.M-ACC give-(3SG.M.SBJ)-3SG.F.OBJ
'Lemma gave the book to Almaz.' (Baker 2012: 258)

In (43a), a single internal argument gets accusative case and triggers agreement. In (43b), the T object *məts'haf-u-n* 'book-DEF.M-ACC' gets accusative, but the verb agrees with the R argument *l-Almaz* 'DAT-Almaz'.

The different alignments are illustrated in (44), where the dotted box shows the alignment of case-marking and the dashed box shows the alignment of agreement in (43b).

(44) Amharic: indirective alignment for case, secundative alignment for agreement



These patterns can be generalised as follows. Let us assume that the same Case is assigned by the same head, so *v* assigns Case to P, and in indirective alignment it also assigns Case to T. A distinct head, e.g. Appl in Amharic and P (a postposition) in Khanty, assigns Case to R. In secundative alignment, *v* assigns Case to P and R, and T is assigned case by another head, e.g. P in Khanty and Mansi.

What about agreement? In a language with two φ-probes, the single internal argument of a monotransitive is accessible for agreement.[8] The Case of this object will be accusative (or absolutive). Accusative precedes dative on Caha's (2009) Case sequence shown in Section 6.3.1 above and therefore has a proper subset of CASE features compared to dative.

This means that if a verb can agree with a dative argument, none of the CASE features that constitute dative introduce opacity. Following the logic of subset/superset relations among Cases, this entails that a verb must also be able to agree with an accusative argument. The Amharic example above provided an example of this.

Under the assumption that an R argument is structurally higher than a T argument in a ditransitive construction and both are below *v*, this predicts the existence of the alignments in (45a)–(45c) but rules out the combination of alignment types in (45d).

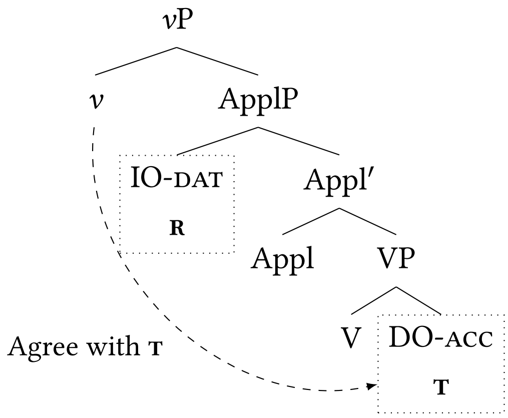
(45) a. indirective case and indirective agreement — e.g. Hungarian
b. secundative case and secundative agreement — e.g. Khanty
c. indirective case and secundative agreement — e.g. Amharic
d. *secundative case and indirective agreement

Consider why: if a P argument agrees in a monotransitive, then in secundative case alignment, the R argument that patterns with P also must be able to agree. The distinct indirective systems in (45a) and (45c) can be explained by the opacity of the case on the R argument: if it is opaque, as in Hungarian, it does not agree, but if it is accessible, as in Amharic, it does.

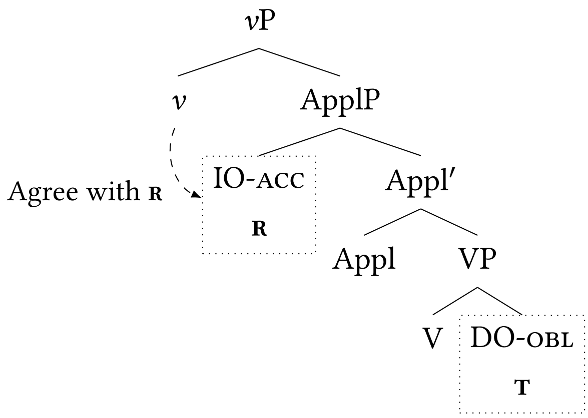
But it is impossible to derive (45d). In secundative case alignment, the T argument bears a Case that is lower on Bobaljik's (2008) hierarchy, or, in present terms, it has more features than the Case on the R argument which patterns with the monotransitive P. If R is structurally higher than T, it is impossible for *v* to ignore R when it probes as R will have to be accessible. The following structures illustrate this.

[8] As I will discuss in Chapter 7, I assume that an acquirer would not posit a φ-probe on *v* if there were no agreement with internal arguments.

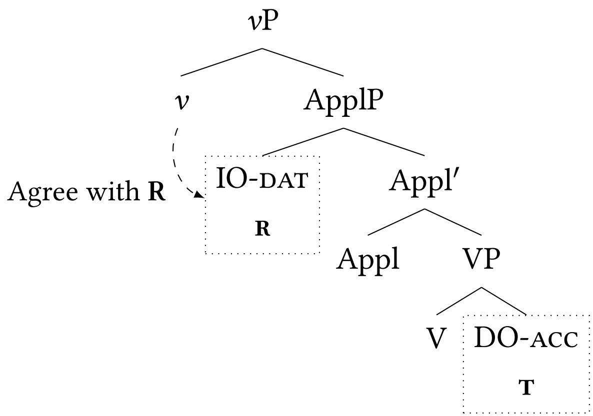
(46) a. Indirective case and indirective agreement, cf. (45a); DAT opaque



b. Secundative case and secundative agreement, cf. (45b)

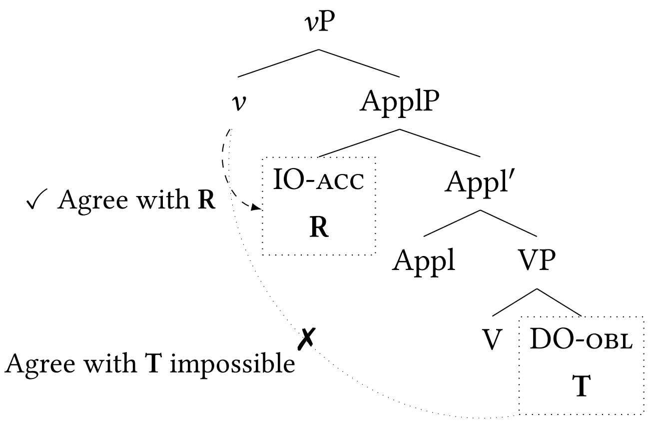


c. Indirective case and secundative agreement, cf. (45c); DAT visible



(46a) and (46c) differ in whether dative is opaque for agreement or not: if it is, agreement ignores it. If it is not opaque, *v* agrees with R bearing dative because it is more local than T bearing accusative. Finally, consider (46d), corresponding to (45d). R is accusative and therefore must be accessible for agreement. There is thus no way that *v* can agree with the less local T, irrespective of its Case.

(46) d. *Secundative case and indirective agreement, cf. (45d)



This prediction is analogous to Bobaljik's (2008) second generalisation: while he considers ergative-absolutive vs. nominative-accusative case-alignments and agreement patterns found in languages with a single φ-probe, the reasoning extends straightforwardly to languages with *two* φ-probes and the domain of *v* involving two internal arguments.

Is this prediction borne out? Are there no ditransitive systems with secundative case and indirective agreement? In Haspelmath's (2005) survey of 100 ditransitive systems, none of the languages show this pattern (Haspelmath 2005: 15ff.), although it should be noted that there are few languages with secundative case-alignment in his sample (Haspelmath 2005: 7). I therefore, tentatively, take the following generalisation to be valid:

(47) **Alignment in ditransitives**
There are no languages with secundative case-alignment but indirective agreement alignment in ditransitives.

(47) follows from the interaction of case and agreement in the grammar as suggested in this section in the same way as Bobaljik's (2008) second generalisation about the lack of ergative agreement alignment in nominative-accusative-case languages.

In addition, Haspelmath's (2005) Generalisations 6 and 7 point to a similar conclusion. (48) states that *v* never agrees only with R. This follows because P must bear a Case that is at least as or more accessible than the Case on R. (49) states that both P and R are always indexed in secundative agreement-alignment. This follows because P and R have the same (accessible) Case; this blocks agreement with T.

(48) **Generalisation 6**
Indirective indexing is never achieved by indexing of R alone (only by indexing of P and T alone, or by differential indexing of R).
(Haspelmath 2005: 13)

(49) **Generalisation 7**
Secundative indexing is always achieved by indexing of the P and R alone, never by indexing of T alone or by differential indexing of T.
(Haspelmath 2006: 14)

To summarise, Bobaljik's (2008) generalisations about the distribution of nominative-accusative and ergative-absolutive alignment types can be extended to cover the distribution of indirective and secundative alignment in ditransitive constructions. The logic of the argument is the same as before. ACC has a proper subset of features of OBL. If ACC can be agreed with in a monotransitive, then it will be impossible for *v* to skip an R-argument bearing ACC argument and agree with the T-argument bearing OBL in a ditransitive with secundative case alignment.

Table 6.2 extends Table 6.1 with the languages discussed in this section, and the languages from Chapter 5. These languages have two φ-probes, one on T and one on *v*. For each language, Table 6.2 indicates the case and agreement alignment for each φ-probes and also shows the unattested patterns that are ruled out by the reformulated version of Bobaljik's first generalisation, repeated here.

(50) **Bobaljik's first generalisation and CASE features**
If a given set κ of CASE features includes a feature [α] which blocks agreement, any superset of κ will block agreement as well. Sets not including [α] do not block agreement.

The final column of Table 6.2 shows another parameter determining cross-linguistic variation in Case and agreement, namely the order of Case assignment and agreement on a given head (as discussed this in Chapter 5). I argued there, following Müller (2004a, 2009), Keine (2010) and Georgi (2012, 2014), that the order of operations on a head can vary. In Sahaptin and Awtuw, specified as φ ≺ CASE, this order gives rise to global case splits. When CASE assignment precedes agreement, as in Hungarian and Amharic, arguments are assigned the same Case independently of the φ-features of other arguments.

	Case alignment	φ on	Agreement alignment	Case opacity	φ, CASE
German	T: NOM	T	T: NOM	ACC+	
Nepali	*v*: ERG	T	T: NOM	DAT+	
Hindi	*v*: ERG	T	T: ERG	ERG+	
Marathi	*v*: ERG	T	T: ERG	ERG+	
*	T: NOM	T	T: ERG		
Sahaptin	T: ERG, *v*: SEC	T, *v*	T: ERG, *v*: SEC	OBL+	φ ≺ CASE
Awtuw	T: NOM, *v*: IND	T, *v*	T: NOM, *v*: IND	ACC/DAT+	φ ≺ CASE
Amharic	T: NOM, *v*: IND	T, *v*	T: NOM, *v*: SEC	OBL+	CASE ≺ φ
Hungarian	T: NOM, *v*: IND	T, *v*	T: NOM, *v*: IND	DAT+	CASE ≺ φ
Khanty	T: NOM, *v*: both	T, *v*	T: NOM, *v*: both	OBL+	CASE ≺ φ
*	T: …, $\boxed{v\text{: SEC}}$	T, *v*	T: …, $\boxed{v\text{: IND}}$	…	…

Table 6.2 Alignment and φ-probes of languages discussed in this section

Before concluding this chapter, I will briefly discuss Case and agreement in two more languages. First, I turn to Senaya. Kalin (2014, 2015) and Kalin and van Urk (2015) suggest that this language has a single φ-probe on T in the perfective, and two φ-probes, on T and Asp, respectively, in the imperfective. Second, I will return to Kashmiri as an example of a language with three φ-probes, on T, *v* and Appl, respectively.

6.3.5 Splits between one and two probes

Kalin (2014, 2015) and Kalin and van Urk (2015) discuss split-ergativity in Neo-Aramaic, in particular the language Senaya. In Senaya, the perfective and the imperfective show different agreement patterns. In the perfective aspect, there is subject agreement, but no object agreement. Subject agreement is expressed by "L-suffixes" (the "L" refers to the morphology of these suffixes).

In the imperfective, there is subject agreement and differential object agreement. Interestingly, *object* agreement is expressed by L-suffixes and subject agreement is expressed using a separate set of suffixes that Kalin and van Urk call S-suffixes.[9] (51) and (52) show examples of perfective and imperfective aspect, respectively.

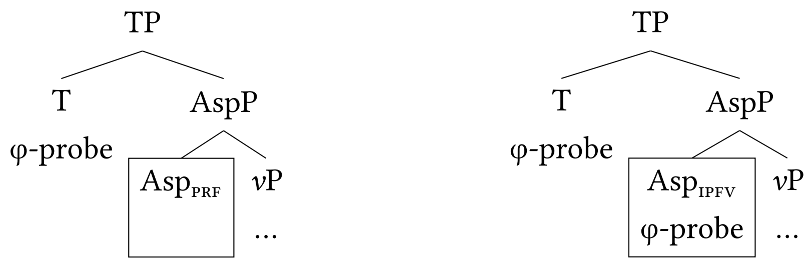
(51) *axnii dmex-lan.*
we sleep.PRF-L.1PL
'We slept.' (Kalin and van Urk 2015: 662)

(52) *ooya molp-a-lan.*
she teach.IPFV-S.3.F.SG-L.1PL
'She teaches us.' (Kalin and van Urk 2015: 662)

These examples illustrate "partial agreement reversal" (Kalin and van Urk 2015: 662): the L-suffix agrees with the subject in (51), but with the object in (52). Kalin and van Urk propose that agreement reversal follows if there is a single φ-probe on T in the perfective aspect, but a φ-probe on both T and $\mathrm{Asp}_{\text{IPFV}}$ in the imperfective aspect, shown in (53):

[9] As Kalin and van Urk (2015: 666) point out, the language shows nominative-accusative agreement alignment in both aspects because the transitive (A) and the intransitive subject (S) are expressed by the same suffixes in the respective aspects: L-suffixes for A, S in perfective, and S-suffixes for A, S in imperfective. In the perfective aspect, the object does not trigger agreement at all, and in the imperfective aspect, it is marked with an L-suffix.

(53) a. **Perfective aspect** b. **Imperfective aspect**



(Kalin and van Urk 2015: 661)

The distribution of these φ-probes above *v*P explains the distribution of the suffixes: agreement with T is expressed by L-suffixes, and agreement with Asp by S-suffixes. In the perfective, T will find the subject, and in the imperfective, T will bypass the subject, which has already agreed with Asp.

Kalin (2015) focuses on the pattern of differential object agreement in Senaya (see also Kalin 2014: Ch. 4). While subjects always agree, only specific (and more definite) direct objects trigger agreement with the verb — spelled out as L-suffixes in imperfective aspect. Kalin implements this differential agreement by suggesting that non-specific arguments do not need to be licensed, i.e. they are exempt from the Case Filter. Differential object agreement is illustrated in (54). Only the definite object in (54b) triggers agreement, spelled out with an L-suffix.

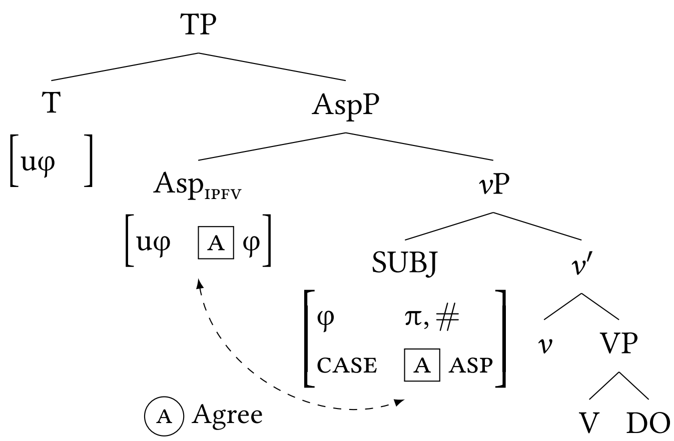
(54) a. *axnii xa ksuuta kasw-ox.*
we one book write.IPFV-S.1PL
'We write a book (fem.).'

b. *axnii oo ksuuta kasw-ox-laa.*
we that book write.IPFV-S.1PL-L.3.F.SG
'We write that book (fem.).'

Technically, this works as follows: all nominals come with *unvalued* Case features, but only some nominals come with both uninterpretable and unvalued Case features. Kalin writes the former as [Case: __] and the latter as [*u*Case: __] (following Pesetsky and Torrego 2007). Kalin (2015) assumes that only nominals that have an uninterpretable *and* unvalued Case feature require licensing. In Senaya, specificity introduces an uninterpretable Case feature. Non-specific nominals escape licensing because they lack an uninterpretable Case feature. Evidence for this comes from the perfective aspect which restricts the appearance of specific objects (Kalin 2015: 10f.).

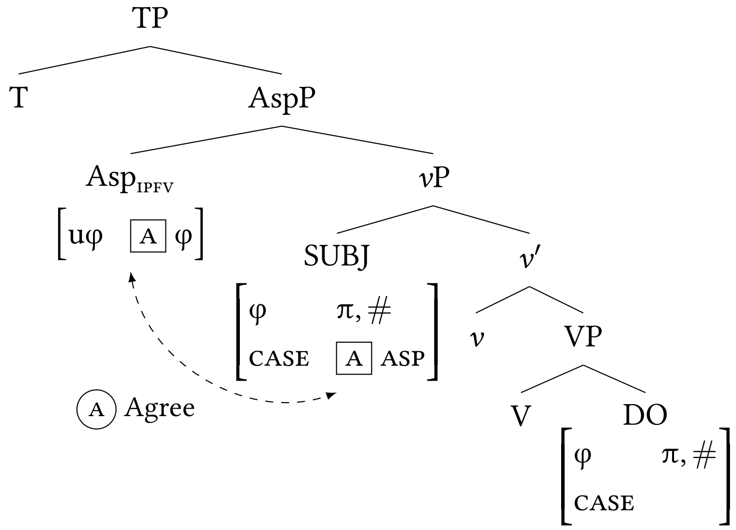
However, an unvalued Case feature can still undergo agreement and be valued: since there is always at least one φ-probe which will find the subject, any subject will trigger agreement, even non-specific ones. While such subjects do not require licensing, they are nevertheless accessible for agreement. Representative derivations are shown below. First, (55) shows the derivation of subject agreement with a non-specific subject, which comes with an unvalued Case feature (but not an uninterpretable one). Asp and the subject agree, Asp values the subject's Case feature (shown as [CASE $\boxed{\text{A}}$ ASP]) and in turn the subject values Asp's φ-features. The derivation is essentially the same if the subject is specific and comes with an unvalued and uninterpretable Case feature.

(55)



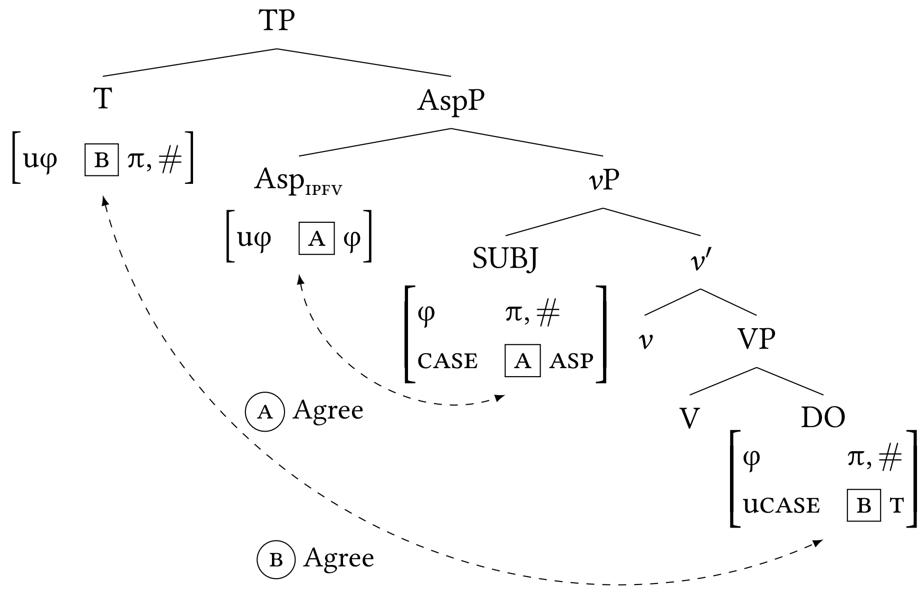
So how is differential object agreement derived? Kalin (2015) suggests that the additional φ-probe on T only appears when needed, i.e. when there is a specific object that requires licensing by a higher head. Kalin (2015) thus treats Agree as valuing a Case feature on a goal and φ-features on the probe simultaneously, but modifies the scope of the Case Filter: only nominals with both uninterpretable and unvalued Case features are subject to it. But not all nominals come with uninterpretable Case features. This is shown in the following derivations. First, (56) shows a clause with a non-specific object, which lacks an uninterpretable Case feature and therefore does not need licensing. T does not have a probe.

(56)



(57) shows a structure with a specific direct object: it has an unvalued and uninterpretable Case feature which requires licensing. Kalin (2015) suggests that therefore T comes with a φ-probe which serves to license the direct object.

(57)



6.3.5.1 An alternative analysis for Senaya

The Senaya data can be accounted for in the present framework as well. The crucial difference lies in the nature of Agree: I have assumed throughout this thesis that referential properties of noun phrases can be grammaticalised as person features. Instead of assuming that specific noun phrases introduce an uninterpretable Case feature, I suggest for Senaya that only specific nominals come with a person feature, whereas non-specific noun phrases do not. Specific direct objects thus trigger agreement because they are visible for the φ-probe on T, but non-specific direct objects do not.

However, subject agreement is possible with non-specific arguments, just like in Hungarian (see Chapter 4). For Hungarian, I have argued that the additional number probe on T entails a person feature on any kind of subject — Hungarian *v* lacks a number probe and therefore does not agree with objects lacking person features.

In Senaya, the probe that agrees with the subject can either be Asp or T. Both have number probes, and neither is sensitive to the specificity of the subject, so this option does not work for this language. A (stipulative) alternative is to assume that *v* requires its specifier to have certain formal features, which make it visible for agreement but do not necessarily introduce a specific interpretation (cf. N. Richards 2010: 81f. for a similar idea with respect to animacy).

This approach captures the distribution agreement and case-marking in Hungarian, as well as the agreement pattern of Senaya, whereas Kalin's (2014, 2015) analysis cannot derive the distribution of agreement in Hungarian. The reason for this is the mismatch between case and agreement: direct objects in Hungarian have overt accusative case, but they do not always trigger agreement. Kalin's account explains the lack of agreement by the lack of a licenser, but the presence of accusative is mysterious: I am not aware of evidence that case and agreement would come from distinct heads in Hungarian.

There is thus a trade-off between the two approaches: I believe that the approach endorsed here, dissociating Case and agreement, accounts for a wider range of data, while the analysis of Senaya proposed by Kalin (2014, 2015) and Kalin and van Urk (2015) accounts for the distribution of agreement across aspect and the subject-object asymmetry in agreement in a very systematic and elegant way.

Before returning to Kashmiri, a note is in order about the distribution of φ-probes on functional heads in Senaya. I have suggested so far that if a language has a single φ-probe, it is on T, and that a second φ-probe will be on *v*. In light of the data discussed here, this hypothesis has to be modified, since Kalin (2014, 2015) and Kalin and van Urk (2015) argue convincingly that the lower φ-probe is on Asp in Senaya, rather than *v*.

There are then (at least) two types of languages with two φ-probes: the type with probes on T and *v* I discussed above, and the type with probes on T and Asp, exemplified by Senaya. I want to highlight two consequences of this. First, both types are compatible with the suggestion that a single φ-probe in any language is on T and gives rise to agreement with an unmarked argument (as follows from Bobaljik's 2008 generalisations). Second, the position of the second probe makes a clear prediction about the pattern of object agreement a language exhibits: Senaya shows agreement reversal, i.e. T agrees with the subject in the perfective, and with the object in the imperfective aspect. In the languages where φ-probes are on T and *v*, there is no such reversal: T always agrees with the subject and *v* agrees with the object.

I conclude that Senaya provides further evidence that languages differ in the number of φ-probes they have on functional heads, but that in addition, languages can differ in where the second φ-probe is: *v* or Asp.

6.3.6 A language with three φ-probes: Kashmiri

Before concluding this chapter, I will briefly discuss Case and agreement in a language with three φ-probes, namely Kashmiri (Wali and Koul 1997; another language with three φ-probes is Basque, cf. Arregi and Nevins 2012; Odria 2014).

While the presence of agreement markers ("pronominal suffixes" in Wali and Koul 1997) depends on aspect as well as the person of the arguments, certain verb forms cross-reference all three arguments in a ditransitive. An example is shown in (58) (Wali and Koul 1997 gloss *su* as ACC, but it is homophonous with nominative; I therefore gloss it as NOM).

(58)	*bɨ*	*chu-s-an-ay*	*su*	*tse*	*hava:lɨ*	*kara:n.*
	I.NOM	be-1SG.SBJ-3SG.OBJ-2SG.IO	he.NOM	you.DAT	hand over	doing

'I am handing him over to you.'

(Wali and Koul 1997: 253, glosses adapted)

The auxiliary *chu-s-an-ay* references the subject, the direct object and the indirect object (in that order) with its suffixes. Restrictions on whether these suffixes can be overt are related to the Case and the person of the arguments (Wali and Koul 1997: 247). First, only pronominal objects can be cross-referenced as suffixes. Second, only second person pronouns can appear both as a suffix and as overt pronoun (as in (58)). Pronouns of other persons either appear as a DAT argument or as a suffix.

Interestingly, the same holds if the DAT-argument is not an indirect, but a direct object. As discussed in Chapter 5, the direct object is dative when the set of person features of the direct object is a superset of the person features of the subject. Wali and Koul (1997: 228f.) provide the following examples:

(59) a. *tsɨ vuch-ɨh-am (*me).*
you see-2SG.SBJ-1SG.OBJ I.DAT
'You see me.'

b. *su vuch-i-y (tse).*
he see-3SG.SBJ-2SG.OBJ you.DAT
'He will see you.' (Wali and Koul 1997: 228f.)

Following the reasoning in previous chapters, I suggest that Kashmiri has φ-probes on T and *v*, as well as on Appl, which agrees with the indirect object. For the Case assigned to the indirect object, however, the person of other arguments does not play a role, i.e. there is no global split involving the indirect object, yet there is no reason why Appl should not agree cyclically, as *v* does. I will assume that *v* and Appl assign the sets of CASE features shown in (60):

(60) v: $\begin{bmatrix} \text{case} \\ \text{dep} \end{bmatrix}$ Appl: $\begin{bmatrix} \text{case} \\ \text{dep} \\ \text{obl} \end{bmatrix}$

The following vocabulary items spell out these sets of features (cf. (24) in Section 5.3.1). The Case assigned by *v* and Appl is then spelled out equivalently, but they differ in their feature structures (cf. the discussion of Marathi above).

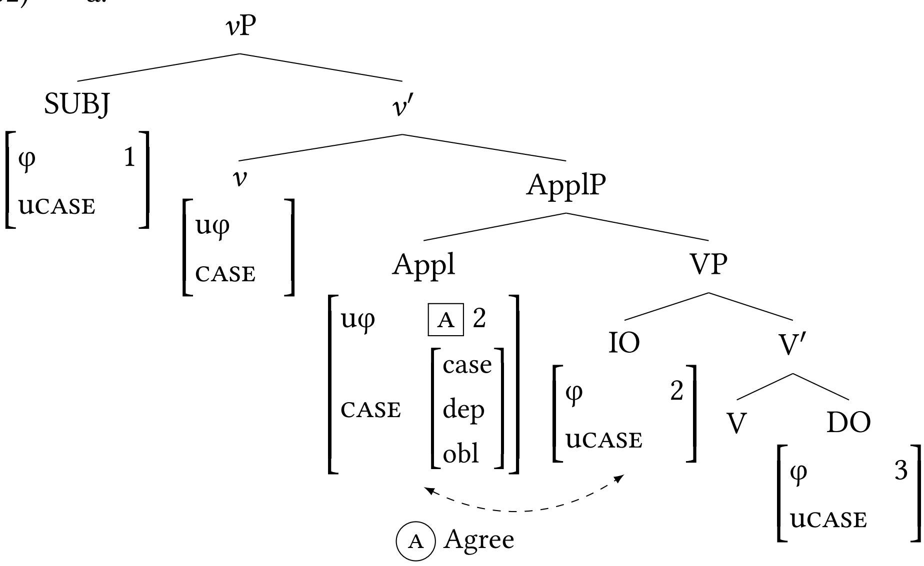
(61) **Vocabulary insertion rules**

a. $\begin{bmatrix} \; \end{bmatrix}$ ↔ *bɨ* 'I.NOM', *tsɨ* 'you.SG.NOM', *su* 'he.NOM'

b. $\begin{bmatrix} \text{case} \\ \text{dep} \end{bmatrix}$ ↔ *me* 'I.DAT', *tse* 'you.SG.DAT', *təmis* 'he.DAT'

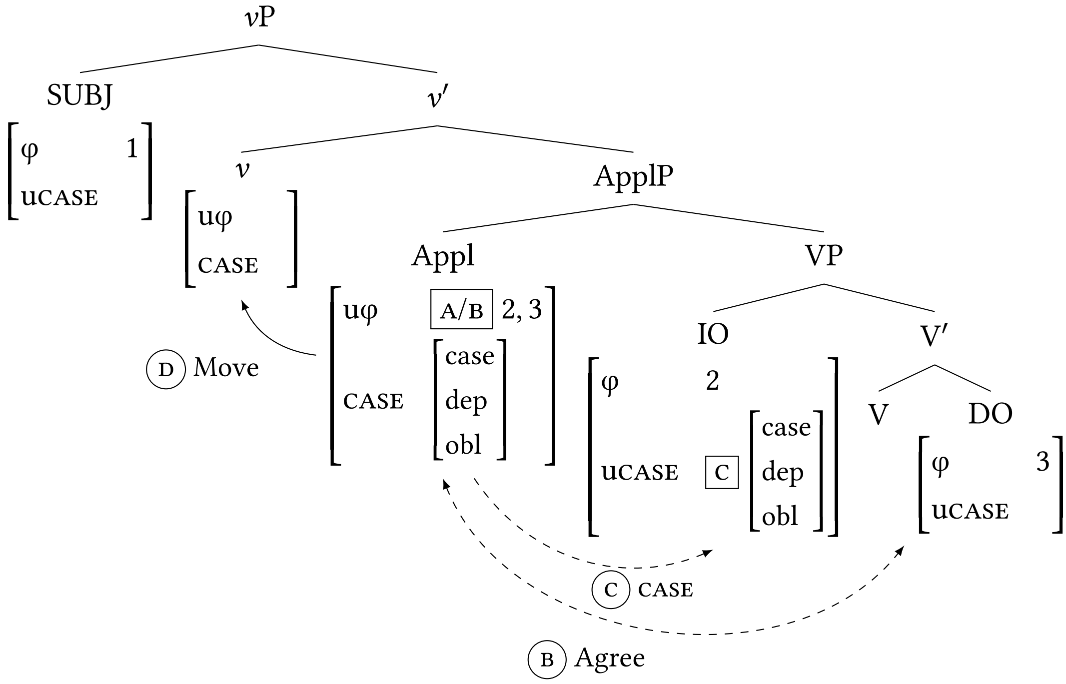
The derivation of the ditransitive shown in (58) above can be modelled as follows. I will follow Georgala *et al.* (2008) and Georgala (2012) in assuming a so-called "raising applicative" structure, in which the indirect object is generated in the specifier of VP and moves up to the specifier of the applicative phrase to satisfy Appl's EPP feature (not shown in (62)). Appl will first enter an Agree relation with the indirect object (IO), shown in (62a).

(62) a.



Since Appl's sets of features have not been fully valued, it will attempt to enter another Agree relation, and it finds the direct object. In (62b), Appl enters an Agree relation with the direct object and then assigns Case to the indirect object before moving to *v*.

(62) b.



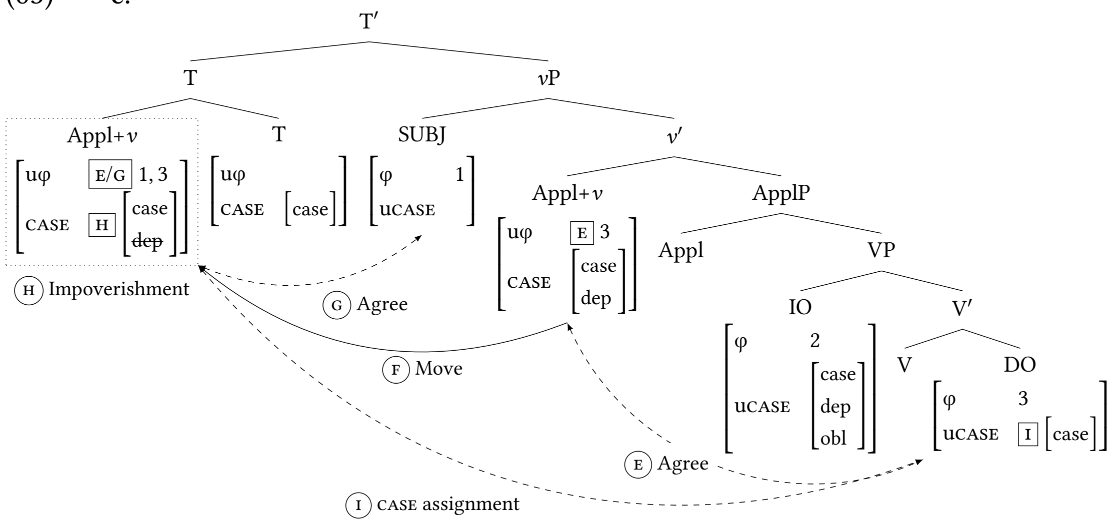
Recall that I argued in Chapter 5 that the set of CASE features on *v* is impoverished when *v* is valued by two sets of φ-features. Since this rule was restricted to *v*, it will not apply on Appl. In other words, the set of CASE features Appl assigns will not be affected by the φ-features of its arguments and there is therefore no global case split in the domain of the indirect and the direct object.[10]

(62c) shows the subsequent steps of the derivation. After Appl moves to *v*, *v* probes and enters an Agree relation with the direct object. Crucially, *v* does not agree with the *indirect* object, but only with the direct object and the subject. This is possible if the feature [obl] on the indirect object renders it opaque for agreement. Note that [obl] does not prohibit Appl from agreeing with the indirect object, because agreement happens *before* Case assignment (an instance of so-called *counterbleeding*). Since *v* is valued by two sets of person features, its set of CASE features is impoverished is repeated in (63) (see Section 5.3.1 for further discussion).

(63) [dep] → ∅ / *v* = [α, β]

[10] I have simplified the order of operations in (62). It is possible that Appl agrees in A, then moves to *v*, from where it attempts to agree again before assigning Case to the indirect object. Since neither this order nor the order shown in (62) changes the result, I showed the order in (62) for ease of exposition.

(63) c.



The CASE features on the direct object and the indirect object in (62) are spelled out as follows. Since the set of features assigned to the object is impoverished, the direct object will be spelled out unmarked. The indirect object's set of CASE features, however, will be spelled out as dative. The relevant insertion rules are repeated in (64).

(64) **Vocabulary insertion rules**

a. $\begin{bmatrix} \ \end{bmatrix}$ ↔ *bɨ* 'I.NOM', *tsɨ* 'you.SG.NOM', *su* 'he.NOM'

b. $\begin{bmatrix} \text{case} \\ \text{dep} \end{bmatrix}$ ↔ *me* 'I.DAT', *tse* 'you.SG.DAT', *təmis* 'he.DAT'

Summing up, I have followed the logic of previous sections in this chapter, and I have illustrated how a language with three φ-probes fits in to the typology of case and agreement developed here. Adding Kashmiri to the languages discussed before gives us Table 6.3. Note that while for Nepali, Hindi, and Marathi, the tables in this chapter show their case and alignment patterns in the perfective aspect, Table 6.3 shows the imperfective aspect for Kashmiri. This is because only the imperfective aspect shows the global case split discussed in Section 5.2.1 and just above.

	Case alignment	φ on	Agreement alignment	Case opacity	φ, CASE
German	T: NOM	T	T: NOM	ACC+	
Nepali	*v*: ERG	T	T: NOM	DAT+	
Hindi	*v*: ERG	T	T: ERG	ERG+	
Marathi	*v*: ERG	T	T: ERG	ERG+	
*	T: NOM	T	T: ERG		
Sahaptin	T: ERG, *v*: SEC	T, *v*	T: ERG, *v*: SEC	OBL+	φ < CASE
Awtuw	T: NOM, *v*: IND	T, *v*	T: NOM, *v*: IND	ACC/DAT+	φ < CASE
Amharic	T: NOM, *v*: IND	T, *v*	T: NOM, *v*: SEC	OBL+	CASE < φ
Hungarian	T: NOM, *v*: IND	T, *v*	T: NOM, *v*: IND	DAT+	CASE < φ
Khanty	T: NOM, *v*: both	T, *v*	T: NOM, *v*: both	OBL+	CASE < φ
*	T: …, *v*: SEC	T, *v*	T: …, *v*: IND	…	…
Kashmiri	T: NOM, *v*: IND	T, *v*, Appl	T: NOM, *v*: IND	DAT+	φ < CASE

Table 6.3 Alignment and φ-probes of languages discussed in this chapter

6.4 Conclusions

In this chapter, I showed how the patterns of case-marking and agreement in the languages discussed in Chapters 4 and 5 relate to each other.

I argued for an architecture of the grammar in which Case and agreement do not depend on, but can influence each other. I implemented this by suggesting that functional heads that assign Case can, but do not have to, also have a φ-probe.

Combined with an approach to Case that relates different Cases in terms of subset/superset relations, a restrictive view of the distribution of φ-probes across languages can derive two cross-linguistic generalisations suggested by Bobaljik (2008). The generalisations in question state that agreement with dependent Cases (ergative and accusative) always implies agreement with unmarked cases (absolutive and nominative), and that there are no languages with nominative-accusative alignment in their case system, but ergative-absolutive alignment in their agreement system.

I showed that both of these generalisations can be expressed in the present framework, repeated in (65), and I extended the second generalisation to indirective and secundative case and agreement alignment in ditransitive constructions.

(65) **Bobaljik's first generalisation and CASE features**
If a given set κ of CASE features includes a feature [α] which blocks agreement, any superset of κ will block agreement as well. Sets not including [α] do not block agreement.

In the following chapter, I turn to a specific implementation of variation in Case and agreement in terms of a parameter hierarchy.

7 Parameters of DOM

7.1 A hierarchical approach to parameters

In this chapter, I will embed the analysis and the results from the previous chapters in a specific framework of cross-linguistic variation: the idea that (some) morphosyntactic variation across languages can be modelled in terms of parameters relating to properties of functional heads in a given language. Baker (2008: 156) refers to this as the "Borer-Chomsky Conjecture".

In particular, I adopt the view that parameters are not independent of each other but that it is possible to establish hierarchies of dependent parameters, as suggested in recent work by Roberts (2007), Biberauer (2008), Roberts and Holmberg (2010), Roberts (2012), Biberauer, Roberts and Sheehan (2014), Sheehan (2014b), Biberauer and Roberts (2015a,b) and Sheehan (2015), who analyse the distribution of null subjects, diachronic change, and variation in alignment systems across languages.[1]

The following structure, from Sheehan (2014b: 400) illustrates this approach more concretely. The root node in (1) is a first parameter. The way this parameter is set will influence the parameters that follow: if the first parameter is set to N for "no", a language will not set any further parameters in a given hierarchy. The further down a language is located in (1), the more parameter settings it has (see Biberauer *et al.* 2014 for an attempt to link this to the complexity of grammars).

[1] As Roberts (2012) points out, this approach to parametric variation addresses some of the criticisms of the notion of parameter put forth by Newmeyer (2005) and Boeckx (2014). The notion of parameter hierarchies was introduced by Baker (2001).

(1) **Schematic parameter hierarchy**

Parameter 1
N Y — Parameter 2
N Y — Parameter 3
N Y — Parameter …

Roberts (2012), Biberauer *et al.* (2014) and Biberauer and Roberts (2015a,b) further suggest that hierarchies of the type shown in (1) also reflect paths of language acquisition. They assume that learners apply certain strategies to account for a given set of data. On the one hand, an acquirer minimises the number of features that are necessary to account for the data and, on the other hand, she generalises these features. These strategies are shown in (2). They are instantiated in hierarchies like the one shown in (1) and therefore link cross-linguistic variation to language acquisition (cf. Bazalgette 2015).

(2) a. **Feature economy (FE)**
Postulate as few formal features as possible to account for the input.

b. **Input generalisation (IG)**
If a functional head F sets parameter P_j to value v_i then there is a preference for all functional heads to set P_j to value v_i.

(Biberauer and Roberts 2015b: 300)

These conditions reflect aspects of a learner's approach to the primary linguistic data she receives. Biberauer *et al.* (2014: 111) suggest that these conditions together shape a learning path, stated in (3) (with some simplifications; cf. also Dresher 2009; Bazalgette 2015):

(3) a. **Hypothesis I** (prior to analysis of linguistic input)
No head H has feature F (satisfies both FE and IG)

b. **Hypothesis II** (at least one occurrence of F in input)
All heads have F (FE overridden by input, IG still satisfied)

c. **Hypothesis III** (at least one non-occurrence of F in input)
Some heads have F (both FE and IG overridden by input)

In this chapter, I apply this approach to parameters and parameter hierarchies to the variation I surveyed in Chapters 4–6 and I sketch how Case and agreement across languages can be modelled in this framework. In what follows, I focus on how to capture cross-linguistic generalisations rather than on how a particular system is acquired.

7.2 Cross-linguistic variation in DOM

Throughout this dissertation, I have discussed differential argument marking in a range of languages that had some aspects in common, but differed in others. For example, the referentiality of the direct object plays a role in determining object agreement in Hungarian, but the animacy of the object does not. In Awtuw, on the other hand, animacy does play a role (cf. Section 5.4.2.1). In addition, the two languages differ in how differential marking is expressed: in Awtuw, direct objects can appear with or without a case-marker, whereas in Hungarian, direct objects are always case-marked; in this language, only object agreement is differential.

Some languages also show a correlation between movement and differential object marking. In Northern Khanty, objects that trigger object agreement are in a higher structural position than objects that do not (Nikolaeva 1999a, 2001; Dalrymple and Nikolaeva 2011). The same has been suggested for Amharic (Baker 2012, 2015), Persian (Karimi 2003a), Spanish (López 2012), and Hindi (Bhatt and Anagnostopoulou 1996) (among others).

Other languages do not exhibit this kind of link between DOM and movement: the position of the direct object in Hungarian does not seem to influence agreement (or it is very difficult to determine this; see É. Kiss 2008). Danon (2006) also analyses DOM in Hebrew independently of the position of the direct object in the clause.

Of course, some languages without DOM show similar kinds of movement: scrambling and object shift are well-known phenomena that exist in languages that show neither differential case, nor differential object marking (Thráinsson 2001; M. Richards 2004; Vikner 2005). The correlation between a more specific interpretation and such movement operations has also been repeatedly pointed out in the literature, leading, among others, Aissen (2003), Jelinek and Carnie (2003) and López (2012) to suggest that the two phenomena are connected. I agree, but I do not think that such movement is a parameter of DOM, but a more general property of some languages. The literature on these topics is vast; see i.a. Diesing (1992), Bhatt and Anagnostopoulou (1996), Sportiche (1996), Alexiadou and Anagnostopoulou (1997), Aissen (2003), Dayal (2003), Jelinek and Carnie (2003), Karimi (2003a), Kornfilt (2003), Hallman (2004), M. Richards (2004), Baker (2012), López (2012) and Baker (2015) for discussion of the interpretation of noun phrases with respect to scrambling, clitic doubling, object agreement and case-marking.

The point is that DOM is not easily described in terms of movement, or with reference to animacy or specificity alone, since both languages with and without DOM can have scrambling and reflexes of animacy and specificity in their grammar. It is rather a phenomenon that arises through the interaction of variation across a number of properties.

Here, I am going to address some aspects of the variation across the languages discussed in the previous chapter in terms of the following predictors:

Number of φ-probes I have argued in Chapters 5 and 6 that if the number of φ-probes varies across languages, we gain a natural explanation of the distribution of subject and object agreement across languages. I showed how this variation can capture the trend that object agreement in a given language implies the existence of subject agreement.

While I have argued for the existence of covert agreement in Hungarian in Chapter 4, I showed that there are clear morphosyntactic cues that lead an acquirer to hypothesise that object agreement exists even if it is not spelled out. I assume that such cues are necessary for an acquirer to posit the existence of a φ-probe on a given head (a view compatible with the emergentist approach of Biberauer and Roberts 2015a,b).

In the same vein, I suggested in Section 5.4.2.1 that even though the verb in Awtuw does not show overt object agreement, there is reason to assume that the verb does in fact agree with both the subject and the object: case-marking on the object is sensitive to the relative animacy of both the subject and the object. I argued that case-marking in Awtuw is determined analogously to case-marking in Sahaptin and Kashmiri, where we see overt subject and object agreement.

Distribution of φ-probes By adopting (and adapting) cyclic Agree (Béjar and Rezac 2009), I argued that it is possible to account for global splits (i.e. agreement or case-marking that is sensitive to properties of both object and subject) while retaining the idea that φ-probes are on T and *v*, rather than assuming several probes on a single head.

This allows for a strict one-to-one mapping between functional heads and φ-probes, i.e. locating a φ-probe that generally agrees with the subject on T, and locating a φ-probe that generally agrees with the direct object on *v*. These tendencies can be overridden, however. The distribution of agreement in Hindi and Marathi shows an example of this: in these languages, there is a single instance of agreement, originating from a φ-probe on T, that is sensitive to the Case of the arguments in the clause. In both Hindi and Marathi, T can agree with either the subject or the object, depending on which one is the highest absolutive argument.

I have followed Bobaljik's (2008) proposal that it is the Case of arguments rather than their grammatical function that determines the distribution of case-marking and agreement across languages: it is not the presence of object agreement that implies the presence of subject agreement in a language, but rather the presence of agreement with arguments bearing morphological case which implies the presence of agreement with unmarked arguments. I implemented this generalisation in terms of abstract Case in Section 6.3.

Order of operations I have assumed that *v* and T (as well as other heads like Appl, P, …) assign Case. They may but do not necessarily have to have φ-probes. I argued that when they do, the order of Case assignment and agreement can vary.

This makes it possible to capture the difference between languages which have global case splits (like Awtuw, Sahaptin and Kashmiri) and those that do not (like Hungarian). Both types of languages have at least two φ-probes but they differ in the timing of Case assignment with respect to agreement.

7.2.1 Modelling dependencies

The first two properties just mentioned can be illustrated in a parameter hierarchy of the type discussed above. Figure 7.1 illustrates the distribution of φ-probes on functional heads that can assign Case in the languages discussed in this dissertation and includes further languages of other types.[2]

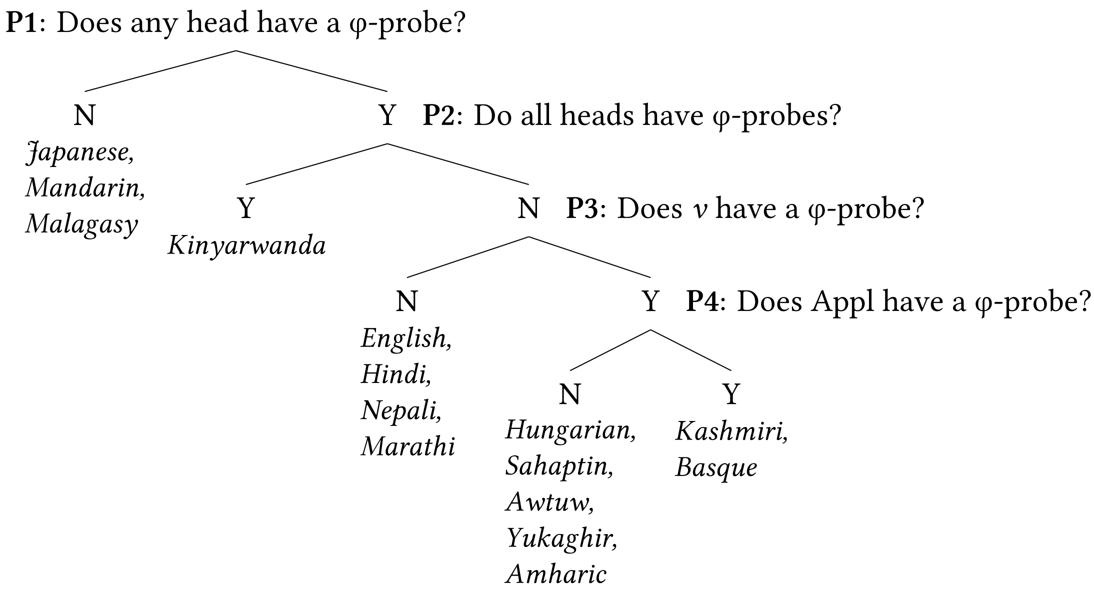


Figure 7.1 Parameters of functional heads and φ-probes (for Japanese, Mandarin, Malagasy see Baker 2008: 221 and Siewierska 2013; for Basque see Arregi and Nevins 2012; Odria 2014; for Kinyarwanda, see Beaudoin-Lietz *et al.* 2004 and footnote 2)

Figure 7.1 shows a systematic approach to the cross-linguistic variation of subject and object agreement that is compatible with the architecture of the grammar laid out in Chapter 6. The hierarchy captures the dependency of object agreement on subject agreement in terms of the distribution of φ-probes on functional heads. Note that the parameters do not refer to grammatical function, but only to the distribution of probes

[2] Some comments with respect to Kinyarwanda are in order: I have not specified in detail what "all heads" refers to; presumably, these are all Case assigning heads, therefore including P. I think that Kinyarwanda seems to fit this classification based on examples like (i), in which locative objects are also expressed as markers on the verb.

(i) *Umugoré a-ra-na-**ha-ki-zi-ba-ku-n**-som-eesh-eesh-er-er-eza.*
woman she-FOC-also-**THERE-IT-IT-THEM-YOU-ME**-read-CAUS-CAUS-APPL-APPL-IPFV
'The woman is also making us read it (book) with them (glasses) to you for me (in the house).'
(Beaudoin-Lietz *et al.* 2004: 183)

See van der Wal (2015) for discussion of differential agreement in Bantu.

on functional heads. This makes the hierarchy both general and flexible enough to account for the data discussed in the previous chapters.[3]

Consider again Hindi: morphological case and agreement are in complementary distribution. The verb can agree with both the subject and the object, but not at the same time. Both kinds of agreement can be analysed by assuming a single φ-probe on T (Bhatt 2005; Chapter 6). In terms of the hierarchy in Figure 7.1, Hindi is therefore like English in that there is one instance of agreement in the clause. But Hindi differs from English in that the former language can have ergative subjects which are opaque for agreement.

The assumption that additional φ-probes, in languages with more than one probe, are located on heads lower than T reflects the cross-linguistic distribution of agreement (discussed in Chapter 6). I suggested in Section 6.3.4 how attested types of case and agreement alignment in ditransitives can be derived by assuming a φ-probe on *v*. When languages show agreement with two internal arguments, I assume that they have an additional probe on Appl, a lower head. I argued that this is the case in Kashmiri.

Not all aspects of variation that I mentioned above are included in Figure 7.1, however. First, the difference in whether an indirect object agrees or not is related to the question which cases in a given language count as opaque: in Hungarian, datives cannot trigger agreement, but in Amharic and Sahaptin they can. In other words, languages with two φ-probes, which are shown in the same node in Figure 7.1, nevertheless differ in certain properties.

Another example is the choice of the order of Case assignment and agreement for a given head. In Figure 7.1, Hungarian and Sahaptin are at the same node (they have two φ-probes), but only the latter has a global case split. As shown in Table 6.2 in Chapter 6, this difference can be analysed by assuming that in Hungarian *v* has the order [case ≺ φ], i.e. case assignment before agreement, while *v* in Sahaptin has the order [φ ≺ case].

Finally, Figure 7.1 does not indicate that the nature of person features and their grammaticalisation is a similar aspect of variation: languages at every level of the hierarchy

[3] Figure 7.1 is similar in some respects to Sheehan's (2014: 403) hierarchy of clausal alignment in that both address properties of *v*. It also relates to Roberts's (2012: 324) null argument hierarchy, which involves φ-features on the heads *v* and T. I will not attempt to combine these hierarchies here.

differ in how they grammaticalise person features, i.e. what the role of animacy or referentiality is in a given language.

But the variation with respect to Case opacity, the order of agreement and Case assignment on a given head, and the grammaticalisation of person features are parameters in their own right: while they appear to have "narrow scope" with respect to the hierarchy in Figure 7.1, they are no less important or secondary. The value for each language with respect to parameters of Case opacity, an ordering statement or the nature of person features can be thought of as a particular node on another hierarchy that cross-classifies the languages shown in Figure 7.1.

In sum, Figure 7.1 illustrates some of the dependencies that are found in Case and agreement systems across languages and that follow from the analysis proposed in Chapters 4 to 6. Other aspects of variation can be modelled on hierarchies that partly overlap with the hierarchy in Figure 7.1. I believe that this account of the variation in Case and agreement across languages provides a specific answer to the questions of whether and how parameters determine differential object and subject marking, to which I turn now.

7.3 Conclusions — Parameters of DOM?

The parameter hierarchy in Figure 7.1 does not make any reference to differential object marking *per se*. This is because differential object marking (or agreement) depends not just on the distribution of functional heads across languages, but on other properties as well, like the ordering of operations on a given head for example.

A second point of variation is the role of referential properties like specificity and definiteness, or semantic properties like animacy. Does a language treat these as purely semantic features that only affect the interpretation of utterances or are they represented in syntax formally (as person features)? In the latter case, we expect to see variation as described and analysed in Chapters 4 and 5.

I take this to mean that there is no single parameter that predicts for any given language whether is has DOM or not. Rather, parameters like the ones in Figure 7.1 determine general properties of Case and agreement in a language that can give rise to seemingly different kinds of DOM. This means that differential object case-marking and differential object agreement are two expressions of the same phenomenon. Differential subject marking does not differ in "deep" ways either: as we have seen in Chapter 5, Sahaptin and Kashmiri are very similar in that the expression of case morphology depends on the sets of φ-features on *v*. In Sahaptin, differential case is expressed on the subject, whereas in Kashmiri, it is expressed on the object.

Before concluding this chapter, I briefly turn to one more aspect in which languages with DOM might differ. Dalrymple and Nikolaeva (2011: 215), following de Hoop and Malchukov (2007), identify three distinct types of languages with differential object marking (or differential object agreement). Their type 1 languages have DOM based on information structure only. Dalrymple and Nikolaeva (2011) cite the Finno-Ugric languages Khanty and Mansi as examples. Type 2 languages are those in which only "semantic features" determine DOM (p. 215). They cite Hebrew as an example. Their type 3 refers to languages in which both semantic and information structural properties determine DOM, and they suggest that Hindi is a language of this type.

I have not discussed the role of information structure in differential object marking in any detail in this dissertation (for this, see Dalrymple and Nikolaeva 2011 and Iemmolo 2010, 2012), but I have discussed languages of types 2 and 3. Dalrymple and Nikolaeva's (2011) typology does not readily accommodate languages like Hungarian, however. I have argued in Chapters 2 to 4 that differential object agreement in Hungarian cannot be described with reference to the semantic properties of the direct object, and neither by the information structural properties of the direct object.

Instead, I have argued that semantic properties grammaticalised as person features in Hungarian determine object agreement. I further suggested that evidence for this claim comes from the interaction between person features and agreement which gives rise to a kind of "inverse agreement" system. The global splits in Sahaptin, Awtuw, and Yukaghir, discussed in Chapter 5 also depend on person features.

Danon (2006, 2011) suggests a similar approach to DOM in Hebrew. He argues that, rather than being determined by semantic properties of the direct object, e.g. definiteness, DOM is triggered by the "formal marking of definiteness which does not always correlate with semantic or pragmatic characterizations of definiteness" (Danon 2006: 1005).

This characterisation allows for certain mismatches between the reference and the syntactic properties of an expression. Recall Awtuw, in which the relative humanness and animacy of the subject and the direct object plays a role in determining the presence of object case. If this were the only factor, DOM would only depend on semantic properties. But according to Feldman (1986), pronouns and proper names are always case-marked: certain classes of noun phrase that form syntactic natural classes diverge from the *semantic* trend. This can be seen as an instance of *formal marking of animacy*, parallel to the situation found in Hebrew and Hungarian with respect to definiteness (cf. also the discussion of the "delineator" in Fore in Section 5.4.2.2).

Danon (2006) suggests a correlation between the types of properties triggering DOM in a language and the degree to which DOM has been grammaticalised. He assumes that the origin of DOM could lie in functional pressure but that, over time, DOM becomes grammaticalised and the original functional triggers are replaced by formal triggers, like formal features on DPs. This characterisation fits Hungarian diachrony well: as Marcantonio (1985) shows, earlier stages of Hungarian involved differential case marking of topical direct objects (see also É. Kiss 2012, 2013).

This again shows that DOM is not governed by a single parameter: DOM in a single language can evolve over time and can be expressed in different ways, with changes in DOM arising through the interaction with other aspects of grammar. Nevertheless, languages with DOM will be in one of the positions on the parameter hierarchy in Figure 7.1 and the particular expression of DOM in a given language will be constrained by the properties illustrated there, i.e. the number of φ-probes, as well as the other properties discussed above like the nature of person features and the order of Case assignment and agreement.

8 Conclusions

In this closing section, I will briefly summarise the main points in this dissertation and their relation to each other. First, I argued that Hungarian object agreement is an instance of differential object marking that is sensitive to person. Second, I adopted and tested M. Richards's (2008) hypothesis that person features can grammaticalise referential properties like definiteness and semantic properties like animacy, and I showed that Hungarian and the languages Sahaptin, Kashmiri, and Awtuw exhibit very similar phenomena that link person, definiteness and animacy. Finally, I argued for a dissociation of Case and agreement and for an architecture of the grammar that locates Case and agreement in syntax and allows for impoverishment of features in the syntactic derivation. I showed that this, coupled with a decomposition of Case features, allows for wide empirical coverage of phenomena involving the differential expression of Case and agreement. This architecture also captures cross-linguistic generalisations about the distribution of alignment in case and agreement.

In Chapters 2 to 4, I argued that what is often called the "objective" or "definite" conjugation should be analysed as differential object agreement. The main claim is that object agreement in Hungarian is sensitive to person features in general, and that it is not just a phenomenon that affects third person objects, as assumed traditionally and also in recent work (Bartos 1999; Coppock 2013).

Evidence for this proposal comes from the distribution of object agreement with personal pronouns in Hungarian, which I discussed in Chapter 4. Not all personal pronoun objects trigger object agreement: when the subject is not first person, and the object is second person, or when the object is first person, the verb does not show agreement with the direct object.

Following É. Kiss (2013), I argued that this distribution of agreement is best explained as a type of inverse agreement system. I adopted and modified Béjar and Rezac's (2009) version of Agree that distinguishes direct from inverse configurations in terms of the number of sets of φ-features a probe, e.g. *v*, can have. When the subject's φ-features are a superset of the object's, i.e. in direct configurations, *v* can have two values; in inverse configurations, it can only have one. I provided spell-out rules that also predict the overlap between verbal agreement morphology and possessive morphology in Hungarian.

Further evidence for the suggestion that Hungarian agreement is sensitive to person features comes from the cross-linguistic overview in Chapter 5. I related the observation that Hungarian differential agreement is influenced by the relative person features of the subject and the object to differential case-marking in other languages. Differential subject marking in Sahaptin, and differential object marking in Kashmiri and Awtuw arises in the same contexts as differential agreement in Hungarian.

In addition, the languages discussed in Chapter 5 support the claim that person features can be more than just "person". I explored M. Richards's (2008) suggestion that person features can also express referential properties like specificity or definiteness, or semantic properties like animacy. If this is the case, we expect to find languages in which the relative animacy of the subject and the direct object gives rise to the same phenomena as "person" features: this is exactly what we find in Awtuw.

Hungarian also provides evidence for another aspect of this hypothesis: locating person features on the head D. Person features trigger object agreement and object agreement correlates with a specific interpretation of the direct object; but the presence of person features is linked to D, in line with suggestions by Bernstein (2008), Longobardi (2008), M. Richards (2008), Danon (2011) and Höhn (2015), among others.

Finally, in Chapters 6 and 7, I argued that Case and agreement are part of the syntactic derivation rather than being post-syntactic phenomena. I showed how this can account for the variation described in the previous chapters, as well as powerful cross-linguistic generalisations proposed by Bobaljik (2008) about the distribution of alignment of case and agreement across languages. Chapter 7 relates this analysis to current work in comparative syntax which models variation through the interaction of parameters that organised hierarchically. I argued that the variation in the distribution of subject and object agreement across languages fits with the approach to syntactic variation and acquisition argued for by Roberts (2012), Biberauer *et al.* (2014), Biberauer, Roberts and Sheehan (2014) and Biberauer and Roberts (2015b).

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