

Chapter 3: Allocutive Marking as Complementizer Agreement

Mark C. Baker
Rutgers University
November 2022

3.1 Introduction

The next crosslinguistically rare construction to consider is so-called allocutive agreement, defined as agreement on the verb that shows features not of one of the arguments of the verb (the usual case), but of the person that the sentence is addressed to. The term comes from Basque linguistics, and Basque is the language in which the phenomenon has been studied most fully, with a generative literature beginning tracing back to Oyharçabal (1993). Thus, Souletian Basque has four ways to say ‘Peter worked’, depending on who the sentence is spoken to, as in (1).

- (1) a. Pettek lan egin di-**zü**.
Peter.ERG work do AUX.3.ERG-2SG.H.AL
‘Peter worked.’ (to a person with a distant, formal relationship))
- b. Pettek lan egin di-**k**.
Peter.ERG work do AUX.3.ERG-2SG.M.AL
‘Peter worked.’ (to a close male)
- c. Pettek lan egin di-**n**.
Peter.ERG work do AUX.3.ERG-2SG.F.AL
‘Peter worked.’ (to a close female)
- d. Pettek lan egin **dü**.
Peter.ERG work do AUX.3.ERG
‘Peter worked.’ (not allocutive, e.g. to a plural addressee)

It is clear that this is a form of agreement in Basque, because the vocabulary items that expone it are also used for conventional agreement with arguments. For example, the same suffixes that show allocutive agreement in (1) are used for agreement with the second person subject in (2).

- (2) Lan egin **dü-zü** / **dü-k** / **dü-n**.
Work do AUX-2SG.H.ERG / AUX-2SG.M.ERG / AUX-2SG.F.ERG
‘You (formal/familiar male/familiar female) worked.’

Whereas the upward C-agreement studied in the previous chapter is an uncommon feature of language found primarily in one region of the world (Central Africa), allocutive agreement is an uncommon feature found in a smattering of languages scattered around the world. Miyagawa (2012, 2017) argues that the politeness suffix *-mas-* in Japanese is a form of allocutive agreement (see also Yamada 2019), and similar morphology is found in Korean (Portner et al. 2019). Antonov’s (2015) typological study adds four more languages to the list:

Pumé (Venezuelan), Nambikwara (Brazilian), Mandan (Siouan), and Baja (Cushitic). Most recently, allocutive marking has been turning up in a range of Asian languages, including Jingpo (Zu 2018), Tamil (McFadden 2020), Punjabi (Kaur 2020), Maithili (Kumari 2022), and Magahi (Alok 2020, Alok 2021).¹

Allocutivity in Magahi is of special interest to us here, because its system is particularly rich in some respects, and a lot of material is available from Alok’s published work and personal communication. Magahi is an Indo-Aryan language of Northeastern India, closely related to Hindi. Like Basque, Magahi has four ways to say ‘I am coming’, depending on who one is talking to, as shown in (3).

- (3) a. Ham jaa-it h-i-**au**. (addressee nonhonorific, a peer)
 I go-PROG be-1SG-NH.AL
 ‘I am going.’
- b. Ham jaa-it h-i-**o**. (addressee honorific, e.g. a parent, grandparent)
 I go-PROG be-1SG-H.AL
 ‘I am going.’
- c. Ham jaa-it h-i-**ain**. (addressee high honorific: a king, priest, professor)
 I go-PROG be-1SG-HH.AL
 ‘I am going.’
- d. Ham jaa-it h-i. (not allocutive, sayable to anyone)
 I go-PROG be-1SG
 ‘I am going.’

In (3d), there is no allocutive marking, only ordinary subject agreement, and this version can be said to anyone. The other three versions in (3a-c) have an additional suffix that records the social status of the addressee relative to the speaker, according to Magahi’s three-way honorification system: nonhonorific (NH) for someone of the same social standing as the speaker or lower, one’s friend or one’s same-age cousin or one’s child; honorific (H) for someone of higher social standing than the speaker, one’s parent or grandparent or older brother; high honorific (HH) for someone of much higher social standing than the speaker, like one’s teacher or priest or a local ruler. Although honorific features like these may seem like strange things to agree with from the English perspective, Alok (2020, 2021) shows that this is normal within Magahi: subject-verb agreement also reflects the subject’s person and honorific status using the same three-way distinctions, but not the subject’s gender or number (see (9) below). (See also Alok and Baker (2022) for further discussion of the honorific features in Magahi.) This chapter is rooted in a meditation on Alok’s work, considering how new data from Magahi allows us to place the

¹ My working notion of allocutivity here is a little bit narrower than that of, say, Alok and Haddican’s (2022) useful survey of the phenomenon. I focus on those languages which plausibly have a greement on some head with a null pronoun (Ad) in the left periphery. This potentially excludes languages in which Ad itself is an overt pronoun cliticized to the verb (Gallician—and also Basque, on Haddican’s view) and languages where what is expounded is not a greement but an applicative-like head that selects Ad (e.g. Japanese, Korean). I mean to leave open exactly how much the latter two kinds of constructions have in common with the first. However, Oyharçabal’s work on Basque and Miyagawa’s on Japanese are included here as full partners because they are couched in terms of agreement and they have had a founding influence on the allocutivity literature.

general phenomenon of allocutive agreement within the current framework, which also covers phenomena like upward C-agreement.

Every generative study of allocutive agreement to date assumes that it is the result of a functional head agreeing with a syntactically represented null DP that denotes the addressee. Oyharçabal's (1993) early study calls the null DP e_{ALLOC} and argues that it is a variable, the trace of an operator that moves to Spec CP. Since Speas and Tenny's (2003) introduction of their neo-performative hypothesis, generative linguists have mostly called the null addressee-denoting DP *Hr* (hearer) or *Ad* (addressee); I use *Ad* in this work.² Indeed, one of Speas and Tenny's initial motivations for positing this ghostly DP comes from a limited allocutive-like pattern in the West Chadic language Mupun.³ This general approach is adopted with some minor differences by Miyagawa, Zu, McFadden, Haddican, and Alok, among others, and I adopt it as well. A rough starting point for analyzing a sentence like (3a), then, is assigning it a structure like (4).

- (4)
$$\begin{array}{cccc} [_{HP} & Ad & H & [_{TP} & I & T & \dots & [_{VP} & go &]]] \\ & Agree & & & Agree & & & & & \end{array}$$

This puts us in the same general ballpark as upward C-agreement in the African languages, in that there is agreement with a ghostly DP in the periphery of the clause.

A question, then, is whether this qualifies as *complementizer* agreement, which would bring it one step closer to the African languages. In other words, is H in (4) a C-like head, and if so what? The agreement shows up as a suffix on the verb in Magahi, which is not unexpected for C-like elements in a head final language. This turns out to be a tricky question, and there may be some crosslinguistic variation, which I return to below. But my preliminary answer is yes, although H may not be the same head in the C-space in all languages. In Magahi (and also Tamil), when T-agreement and allocutive agreement are distinct morphemes, the allocutive agreement is always further from the verb root than tense marking and subject agreement, as seen in (3). By Mirror Principle-style reasoning (Baker 1985), this suggests that allocutive agreement is on a head above T, which puts it in the C-space. Speas and Tenny (2003) claim that *Ad* is the argument of an *sa* ("speech act") head, very high in the left periphery of the clause. *saP* is present in root clauses, but can only be selected by a limited number of verbs of saying, if at all. Miyagawa (2012, 2017) derives from this the fact that allocutive *-mas-* in Japanese can only be in the CP complement of 'say'-type verbs in Japanese—a subset of the verbs that allow embedded root phenomena in a variety of languages (see also Zu (2018) on Jingpo, Portner et al. (2019) on Korean, Alok and Haddican (2022) on Punjabi). But a distinctive feature of Magahi is that allocutive marking is freely available in all kinds of embedded clauses. (5) gives some examples of allocutive marking in CP complements, where the embedded verb bears the same allocutive marking as the matrix verb.

- (5) a. **Santee-aa sochk-**au** ki Bantee-aa bhag ge-l-**au**.**
 Santee-FM thought,₃.HN.S-NH.AL that Bantee-FM run go-PRF.₃.HN.S-NH.AL

² I use *Ad* (short for "addressee") for two reasons. First, following Bill Haddican, this label is a bit more accurate, in that people may very well (over)hear a sentence that is not addressed to them; the gender or social status of such people is not reflected in the allocutive marking. Second, I am told that the term *addressee* is preferred by the deaf linguistic community.

³ The Mupun pattern is limited in that the plural addressee marker *nuwa* is used only in interrogatives, not in matrix declarative sentences. I do not myself consider it here.

‘Santee thought that Bantee went to run.’ (said to a peer)

- b. Santee-aa sochk-**o** ki Bantee-aa bhag ge-l-**o**.
 Santee-FM thought.3.HN.S-H.AL that Bantee-FM run go-PRF.3.HN.S-H.AL
 ‘Santee thought that Bantee went to run.’ (said to a parent)
- c. Santee-aa sochk-**ain** ki Bantee-aa bhag ge-l-**ain**.
 Santee-FM thought.3.HN.S-HH.AL that Bantee-FM run go-PRF.3.HN.S-HH.AL
 ‘Santee thought that Bantee went to run.’ (said to a teacher)

Allocutive marking is also possible in embedded clauses to some degree in Tamil (McFadden 2020) and quite freely in some innovative Southern Basque dialects (Antonov 2015, Haddican and Etxeberria 2022). Overall, Antonov (2015) observes that it is common for allocutive marking to be unembeddable—it is also the case in the four less-studied languages that he surveys—but this is not a universal feature of allocutivity. In Magahi, not only is allocutive marking found inside an embedded CP, it is also compatible with the ordinary declarative complementizer *ki*.⁴ Indeed, it seems to be hosted on head lower than *ki*, in that it affixes to the verb by a process of head movement or local dislocation that is not blocked by the presence of *ki*. Alok (2020: section 3.2) shows that allocutive marking is also compatible with question particles, relative complementizers, purposive complementizers, and all other known material from the high left periphery in Magahi (different from Basque). Alok thus concludes that the head that agrees with Ad in Magahi is Fin—the lowest head in the C-space according to Rizzi (1997), and the head right above T. I adopt this view as well, returning to some details and the possibility of crosslinguistic variation below. On this hypothesis, allocutive marking does count as a form of C-agreement, counting Fin as a type of C.

The fact about Magahi allocutive marking that links it most firmly to upward C-agreement in the African languages is shown in (6). Here again there is allocutive marking on the verb inside a CP complement. But unlike in (5), the allocutive marking in (6) does not simply resume the allocutive marking in the matrix clause; rather, it covaries with the goal of the matrix verb ‘tell’. When the matrix goal is ‘Bantee’, the embedded allocutive marking is NH; when the matrix goal is ‘grandfather’ the embedded allocutive is H; when the matrix goal is ‘professor’, the embedded allocutive is HH.⁵ In each case, this is different from the allocutive marking on the matrix verb.

- (6) a. Santee-aa **Bantee-aa-ke** kahk-ain ki Ram-ke Sita-se baat kar-e-ke chah-**au**.
 Santee-FM Bantee-FM-DAT told.3.NH.S-HH.AL that Ram-DAT Sita-INS talk do-INF-DAT should-NH.AL
 ‘Santee told Bantee that Ram should talk to Sita (said to a teacher).’

⁴ As in Hindi, there is some question whether *ki* is really a complementizer in Magahi. (Note for one thing that it is an initial head in an otherwise head-final language.) However, I assume that it is a C-type head (tentatively Force) for simplicity/familiarity.

⁵ More precisely, the honorificity marking on the embedded verb in examples like (6) is determined not just by the goal argument of the matrix verb but by the social relationship of the referent of the goal argument of ‘tell’ to the referent of the agent argument of ‘tell’—which is held constant as Santee in (6). Alok and Baker (2022) derive this from the semantics of the honorific features in Magahi, which is relational and always interpreted relative to the closest Sp element. In a larger picture then, embedded honorific marking depends on the agent controlling Sp as well as the goal controlling Ad, but we can focus on the second relationship for now.

- b. Santee-aa **baabaa-ke** kahk-au ki Ram Sita-ke dekh-l-o ha-l.
 Santee-FM gr'father-DAT told.3.NH.S-NH.AL that Ram Sita-ACC see-PRF.3.NH.S-H.AL be-PRF
 'Santee told grandfather that Ram saw Sita.' (said to a peer)
- c. Santee-aa **profesar saaheb-ke** kahk-au ki Ram Sita-ke dekh-l-ain ha-l.
 Santee-FM professor HH-DAT told.3.NH.S-NH.AL that Ram Sita-ACC see-PRF.3.NH.S-HH.AL be-PRF
 'Santee told the professor that Ram saw Sita.' (said to a peer)

This looks very much like upward C-agreement: a head in the lower clause agrees in honorificity with an argument of the matrix clause. In fact, it looks the most like upward object agreement in Kipsigis, where C shows suffixal agreement with the goal argument of the matrix clause. I therefore argue for a parallel analysis: not only can a C-like head agree with Ad, as it can with OoK, but Ad can be controlled by a suitable argument of the matrix clause, as OoK (and more robustly SoK) can in the African languages. This results in a representation like (7) for (6b).

- (7) (Ad Fin) [Santee T told professor_i [_{ForceP} that [_{FinP} Ad_i Fin [_{TP} Ram saw Sita]]]].
 NH NH HH HH
 \ / | \ /
 (Agree) Control Agree

McFadden (2020: (17), (19)) reports a similar range of possibilities in Tamil. In (8a), the allocutive marking (plural) *-ngæ* is understood as showing the respect of the speaker of the sentence as a whole for the addressee of the sentence as a whole, as *-ain* does in (5c) in Mahagi. In contrast, in (8b), the same allocutive marker *-ngæ* can only be understood as showing the respect that Maya, the referent of the subject of the matrix clause, has for the person she is talking to, as *-ain* does in (6c) in Magahi.⁶

- (8) a. Maya [avæ pootʃi-le dʒejkkæ-poo-r-aa[-ngæ-nnũ] so-nn-aa.
 Maya she contest-LOC win-go-PRS-3SG.F.S-H.AL-C say-PST-3SG.F.S
 'Maya said that she would win the contest.' (speaker honors their addressee)
- b. Maya [taan pootʃi-le dʒejkkæ-poo-r-ee-n-ngæ-nnũ] so-nn-aa.
 Maya self contest-LOC win-go-PRS-1SG.S-H.AL-C say-PST-3SG.F.S
 'Maya said that she would win the contest.' (Maya honors her addressee)

The upshot is that all the essential ingredients involved in upward C-agreement are also at work in allocutive marking in some languages. This motivates a unified analysis, which I pursue in this chapter.

It should be kept in mind, however, that the control relationship marked in (7) is not required in this construction, either language-internally in Magahi and Tamil, or typologically. Thus, Haddican and Extebarria (2022) show that in Basque dialects that allow embedded

⁶ Note that the interpretation of allocutive marking on the embedded verb in (8) is correlated with what devices are used to have the embedded subject refer to the matrix subject. (8a) expresses this with an ordinary third person pronoun, whereas (8b) does it with an anaphoric element *taan* that triggers "monstrous" first person agreement on the embedded verb. This is parallel to the fact that shifted allocutive marking in Magahi goes hand in hand with the use of shifted indexicals to refer to arguments of the matrix verb, as discussed in detail in the next chapter. On monstrous agreement in the Dravidian languages, see chapter 6.

allocutive marking, that marking matches the allocutivity on the matrix verb. For example, (9) has the same masculine singular familiar marking *-k* on both the matrix verb and the embedded verb (compare (5) in Magahi), and *-k* on the embedded verb cannot be understood as expressing Jon’s familiar relationship to Imanol rather than the speaker’s relationship to the addressee. (9b) shows that allocutive in this language cannot be shifted to reflect how Jon would address his female addressee rather than how the speaker addresses their male addressee.

- (9) a. Jon-ek Imanol-i [etorri-ko du-**k**-ela] esa-n zi-o-**k**.
 Jon-ERG Imanol-DAT come-FUT AUX-2.SG.M.AL-C say-PRF AUX-3.SG.DAT-2.SG.M.AL
 ‘Jon told Imanol that he will come.’ (Haddican and Etxebarria 2022)
- b. *Jon-ek Miren-i [etorri-ko du-**na**-la] esa-n z-i-o-**k**.
 Jon-ERG Miren-DAT come-FUT AUX-2.SG.F.AL-C say-PRF AUX-3.SG.DAT-2.SG.M.AL
 ‘Jon told Miren that he will come.’ (OK with *d-u-k-ela*, Etxebarria, p.c.)

In contrast, SoK in the African languages can not fail to be controlled by a matrix argument, and cannot simply resume a higher SoK. The possibility of (9a), (8a), and (5) alongside (8b) and (6) raises questions about the obligatoriness of “obligatory control” in this domain. So there will be some differences between upward C-agreement and allocutive marking to be considered, as well as some strong similarities.

My specific hypothesis in this chapter is that Ad is very similar to OoK in Kipsigis, participating in the same relationships of licensing, agreement, and control, except that Ad has inherent second person features whereas OoK is inherently unspecified for phi-features, receiving them from its controller. First, I develop some details of this hypothesis in section 3.2. Here I also claim that in some languages C can also agree with Sp, the speaker-denoting partner of Ad within Speas and Tenny’s (2003) neoperformative framework. In section 3.3, I present evidence that Ad is controlled by the same principles as OoK and SoK are; in particular, here too control is subject to a thematic-role matching condition and the Edge Condition (although not to the T/Agree Condition). Finally in section 3.4, I consider the differences between upward C-constructions and allocutive agreement, pursuing the hypothesis that these differences derive from two factors: the fact that Ad and Sp are licensed by different C-like heads than SoK and OoK are, and the fact that Ad and Sp have fixed person features (Ad is second person and Sp is first person) whereas SoK and OoK do not. One consequence of Ad having intrinsic interpretable features is that it does not need to undergo obligatory control to become interpretable at LF; this means that it can appear in matrix clauses as well as embedded ones, and in embedded clauses it can (seem to) avoid being controlled. This comparison of Ad (and Sp) with OoK and SoK will be our first step toward a principled typology of the ghostly DPs in the CP periphery.

3.2 Articulating and refining the hypothesis

I begin by further supporting and fleshing out the analysis sketched in (4) and (7). The first step is justifying my claim that Ad has intrinsic second person features.

The first and most obvious reason for saying that Ad is second person is that in a simple matrix clause it denotes the addressee, just as ordinary second person pronouns do. Thus, allocutive marking is *addressee* agreement. This sameness of referential possibilities makes sense if there is also a sameness of person features.

A second reason for saying that Ad is second person comes from the morphological details of some of these languages. We have already seen in (1) and (2) that Basque allocutive agreement uses some of the same vocabulary items as subject agreement with *second* person pronouns. This is also the case in Jingpo (Zu 2018: 4 (6), (7)). Magahi’s verbal paradigms are less immediately revealing in that its allocutive affixes are for the most part unique, not homophonous with any affixes seen in the subject agreement paradigm, which is shown in (10).⁷

- (10) a. Ham/hamani jaa-it h-i.
 I/we go-PROG be-1.S
 ‘I/we are going.’
- b. Tu/tohani jaa-it h-eN.
 you.SG/you.PL go-PROG be-2.NH.S
 ‘You (a peer/peers) are going.’
- c. Tu/tohani jaa-it h-a.
 you.SG/you.PL go-PROG be-2.H.S
 ‘You (a parent/parents) are going.’
- d. Apne jaa-it h-thi(n)
 you.HH.SG/PL go-PROG be-2.HH.S
 ‘You (a professor/professors) are going.’
- e. Santee/u/okhani jaa-it h-ai.
 Santee/3SG/3PL go-PROG be-3.NH.S
 ‘Santee/he/she/they (friend(s)) is/are going.’
- f. U/okhani jaa-it ha-thi(n).
 3SG/3PL go-PROG be-3.(H)H.S
 ‘He/she/they (parent(s), or professor(s)) are going.’

However, there is more subtle evidence that Ad is second person in Magahi here in the fact that allocutive marking shows three levels of honorification—NH, H, and HH (see (3))—as do second person subjects, as can be seen in the verbal agreement in (9b-d). This three-way contrast is a property of second person in Magahi, whereas third person element shows only two distinct levels of honorification, both in object pronominal forms and in subject agreement (see (9e,f)). Therefore, Alok (2020) claims that a [+high] honorific feature is impoverished on third person categories in Magahi; see also Alok and Baker (2022) for discussion. First person is even less elaborated, showing only one form (NH). The fact that there is three-way agreement with Ad in

⁷ There is one suffix that is used for both subject agreement and allocutive agreement in Magahi: *-thi(n)* is used to agree with a 2nd person HH subject ((10d)), and it is also allocutive agreement with an HH addressee when the subject is third person H or HH. However, *-thi(n)* is also used as subject agreement with a third person H or HH subject when there is no allocutive marking ((10f)). Therefore, it is some kind of default HH marker with relatively broad insertion conditions, not one unambiguously associated with second person. Similarly, Tamil’s allocutive suffix *-yga* is seen in both second and third person plural subject agreement, as well as on plural NPs quite generally, so its use with allocutive is consistent with Ad being second person, but does not prove that it is.

Magahi shows that it is not subject to the impoverishments that apply to first and third person elements in Magahi, supporting the idea that it is second person formally as well as semantically.

Perhaps the strongest evidence that Ad is second person in Magahi comes from pronoun binding, inasmuch as a pronoun that is bound by Ad must be second person. To see this, consider again the situation in which there is a CP complement of ‘tell’, and the embedded verb has allocutive marking determined by the status of the goal of ‘tell’, as in (6). Now suppose that there is a pronoun in the embedded clause that refers to the goal of ‘tell’. The striking fact is that such a pronoun must be second person, and cannot be third person, as shown in (11).

- (11) Santee-aa Bantee-aa-ke kahk-ain ki Ram toraa/#okraa dekh-l-au.
 Santee-FM Bantee-FM-DAT told.3.NS.S-HH.AL that Ram you.NH.ACC/#3SG.NH.ACC see-PFV.3.NH.S-NH.AL
 ‘Santee told Bantee_i that Ram saw you_i/#him_i.’ (said to a teacher)

The example in (11) qualifies as an instance of indexical shift of the second person pronoun; Magahi allows indexical shift more generally, with both first person pronouns and second person pronouns. This fact provides me with a bridge to the topic of indexical shift, the theme of the next chapter. For now, the important thing to observe is the relationship between allocutive marking and indexical shift in Magahi. When there is allocutive marking of the sort in (11), ‘you’ must be understood as shifted, and ‘him’ is not possible with the same antecedent ‘Bantee’. In contrast, when the embedded verb in Magahi does not have allocutive marking, using a third person pronoun to refer to the matrix third person goal is perfectly fine, as in (12).⁸

- (12) Santee-aa Bantee-aa-ke kahk-ai ki Ram okraa dekh-l-ai.
 Santee-FM Bantee-FM-DAT told.3.NS.S that Ram 3SG.NH.ACC see-PFV-3.NH.S
 ‘Santee told Bantee_i that Ram saw him_{i,k}.’

The representation of (11) is then (13).

- (13) Ad_k Fin [Santee tell Bantee_i [Ad_[+2]_i Fin [Ram pronoun_i saw]]
 HH agree | NH | NH / [+2]
 |_____| _____/ *[-2,+3]
 control (Agree)

Ad is present and controlled by the matrix indirect object ‘Bantee’, as shown by the allocutive agreement surfacing on the embedded verb (different from the agreement with the root Ad). Given this, a pronoun inside the CP complement that is bound by (c-commanded by and coindexed with) ‘Bantee’ is also bound by Ad. Indeed, Ad is its closest binder.⁹ Now we observe that the pronoun referring to ‘Bantee’ must be second person, and pronouns normally need to share the features of their local binder. Therefore, I infer that the ghostly DP operator Ad in (13) is second person—not third person or underspecified for person. This is the central syntactic difference between allocutive constructions and upward C-agreement constructions of the

⁸ There are other possibilities to consider here as well; see chapter 4 for a more complete presentation of indexical shift and its interaction with allocutive marking.

⁹ There is a tacit appeal to so-called Rule H here (Fox 2000, etc.): in a structure [... NP – pronoun – pronoun ...], the second pronoun needs to depend on the first one, not directly on the ultimate antecedent, unless it makes a semantic difference. This rules out having the embedded object bound directly by the matrix object, in which case it could be third person. See chapters 4 and 5 for more on this.

African type, I claim. (13) is the same as the structure of object C-agreement in Kipsigis, except for the phi-features of the DP in CP (and probably in the precise C-head that licenses the DP; see section 3.4.1 for some discussion).

This explains a clear difference between putative upward C-agreement in Magahi and in the Bantu languages. It is notable that although embedded allocutive verb morphology can vary with the social status of the indirect object in Magahi, as in (6), it does not vary with the person of the direct object. This can be seen in (14), where the same allocutive marking shows up on the embedded verb regardless of the person of the object. The affix *-au* on the embedded verb here (distinct from the allocutive marking on the matrix verb) shows that the goal of ‘tell’ is in a nonhonorific relationship to the agent of ‘tell’, but that goal can be first, second, or third person.

- (14) a. Santee-aa **Bantee-aa-ke** kah-l-o ki adamiaa chal ge-l-**au**.
 Santee-FM Bantee-FM-DAT tell-PFV.3.NS.S-H.AL that worker walk go-PFV.3.NS.S-NH.AL
 ‘Santee told Bantee that the worker left.’ (said to speaker’s grandfather)
- b. Santeeaa **ham-raa** kah-l-o ki adamiaa chal gel-**au**.
 Santee-FM me-DAT tell-PFV.3.NS.S-H.AL that worker walk go-PFV.3.NS.S-NH.AL
 ‘Santee told me that the worker left.’ (said to the speaker’s grandfather)
- c. Profesor X **apne-ke** kah-l-athin ki adamiaa chal gel-**au**.
 Professor X you.HH-DAT tell-PFV-3.HH.S-HH.AL that worker walk go-PFV.3.NS.S-NH.AL
 ‘Professor X told you that the worker left.’ (said to the speaker’s teacher)
 (NH *au*=professor X’s relationship to the addressee, not the speaker’s)

In contrast, C-agreement in the African languages does vary with the person of the goal argument. The most direct comparison with (12) is object agreement on C in Kipsigis, as shown in (13) (Diercks and Rao 2019: 382).

- (15) a. Ko-i-mwaa-**fi** a-le-**ndzi** ko-Ø-it layok.
 PST-1SG-tell-APPL.3.O 1SG-C-3.O PST-3-arrive children
 ‘I DID tell him/her/them that the children arrived.’
- b. Ko-i-mwaa-**an** i-le-**ndzan** ko-Ø-it layok.
 PST-2SG-tell-1SG.O 2SG-C-1SG.O PST-3-arrive children
 ‘You sg DID tell me that the children arrived.’
- c. Ko-a-mwaa-**un** a-le-**ndjin** ko-Ø-it tuya amut.
 PST-1SG-tell-2SG.O 1SG-C-2SG.O PST-3-arrive cows yesterday
 ‘I DID tell you (sg) that the cows arrived yesterday.’

There is a clear difference between the languages here: OoK and SoK originally lack phi-features of their own, and inherit them from their controllers, whereas Ad has intrinsic second person phi-features and keeps those features even when it is controlled. Ad acquires honorificity features from its controller, but not its person feature(s). Another consequence of this is that C-agreement does not go along with indexical shift in the African languages the way that control of allocutive does in Magahi. Thus, in Kipsigis a pronoun referring to the matrix goal argument that controls Agr-C is third person, if the ultimate antecedent is itself third person. In (16), ‘you’ in the

embedded clause cannot refer to Kibeet, the goal of the telling event, whereas ‘he’ in the embedded clause can (Madeline Bossi, p.c). This is in marked contrast to (11) in Magahi.

- (16) a. Kɔɔ-mwa-dʒi Kibeet a-le-ndʒi ii-tiiny-e tɔɔndet kaaron.
 PST-1SG-tell-APPL.3.O Kibeet 1SG-C-3.O 2SG-have-PROG visit tomorrow
 ‘I TOLD Kibeet_i that you_{k,*i} will have a visitor tomorrow.’
- b. Kɔɔ-mwa-dʒi Kibeet a-len-dʒi Ø-tiiny-e tɔɔndet kaaron.
 PST-1SG-tell-APPL.3.O Kibeet 1SG-C-3.O 3SG-have-PROG visit tomorrow
 ‘I TOLD Kibeet_i that he_i will have a visitor tomorrow.’

The upshot is that the DP goal of C-agreement in Magahi is parallel to the OoK that is the goal of C-agreement in Kipsigis, but it is not identical to it; the two differ in person features.

The object-controllable element OoK is paired with the subject-controllable element SoK according to my analysis of Kipsigis, and is grammatically dependent on it in the sense that an embedded clause cannot license OoK without also licensing SoK. In similar fashion, the addressee-denoting element Ad is paired with an analogous speaker-denoting element Sp in Speas and Tenny’s (2003) neoperformative proposal. Just as the agent is the external argument of a verb like ‘tell’ and the goal is its internal argument, so Sp is an external argument in the C-space and Ad is an internal argument. I adopt this assumption too, that Sp is present in the same syntactic contexts that Ad is. Just as Ad is intrinsically second person, Sp is intrinsically first person. Just as the matrix object controls OoK in Kipsigis and Ad in Magahi, so the matrix subject controls SoK in a variety of African languages and Sp in Magahi. For Magahi, the key evidence for this will be that indexical shift of first persons happens in the same kinds of contexts as second person indexical shift does in (11). Like second person indexical shift, first person indexical shift is also sensitive to whether allouctive agreement shows that Ad is controlled or not. This indexical shift is the topic of Chapter 4, but (17) is offered as a teaser.

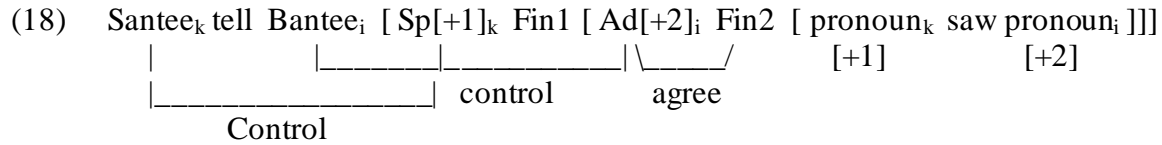
- (17) Santee-aa Banteeaa-ke kah-l-ai ki ham toraa dekh-l-i-au hal.
 Santee-FM Bantee-FM-DAT tell-PFV.3.NS.S that I you.NH.ACC see-PFV-1SG-NH.AL be-PRF
 ‘Santee told Bantee that I saw you.’ (I=speaker and you=hearer, or I=Santee and you=Bantee. If said to a teacher, then I=Santee and you=Bantee only).

The generalized structure that adds in Sp is given in (18), an enrichment of (11). As a matter of technical implementation, I assume that “Fin” can be decomposed into a sequence of two heads, Fin1 and Fin2, with Sp the specifier of the higher head Fin1 (as the agent is the specifier of the higher head v/Voice) and Ad the specifier of the lower head Fin2 (as the goal is the specifier of the lower head V in the thematic domain).¹⁰ This is parallel to my distinction between Eval1, the

¹⁰ Similarly for Ad* and Sp* that occur only in root clauses, I assume for concreteness that Sp* is the specifier of sa1 and Ad* is that specifier of the lower head sa2, following Haegeman and Hill (2013), Miyagawa (2017), Zu (2018), and McFadden (2020). (Terminology’s differ; for example, Miyagawa calls sa1 “SA”, and sa2 “sa”.)

The alternative would be to say that Sp and Ad are both specifiers of a single head Fin, Sp* and Ad* are both specifiers of a single head sa, and SoK and OoK are both specifiers of a single head Eval. The choice between these two implementations is largely one of high-level theoretical design: whether one wants to maintain that a head can only have a single specifier versus whether one wants to avoid multiplying abstract functional heads. For the most part, the difference is not crucial to my analyses. I have decided to couch my theory primarily in terms of the two-heads/one-specifier-each version for two reasons. First, this is the one that most previous users of the neo-

licenser of SoK, and Eval2, the licenser of OoK in Chapter 2. However, to help with the readability of my structures, I often include only one of these heads, calling it Fin (or just C).



One difference between Ad and Sp is that Fin1 does not agree with Sp in Magahi. However, we expect that which heads bear visible agreement with nearby DPs will vary some across languages. Therefore, from this perspective we might very well expect there to be other languages which do manifest agreement with Sp on a C-type head. A possible case is the Caucasian language Sanzhi Dargwa (Forker 2019), pointed out to me by Troy Messick. This language has complementizers derived from a converb form of ‘say’.¹¹ It is also very rich in agreement, particularly in gender and number. As one case in point, the ‘say’-complementizer agrees with the matrix subject in gender—a form of upward complementizer agreement. Thus *ik’ul* ‘that’ shows masculine agreement (\emptyset) with the matrix subject in (19a) but feminine agreement (*r*) with the corresponding subject in (19b).

(19) a. **It-i-l** xar b-irɣ-ul ca-b [[ina-d du-l murhe
 that-OBL-ERG ask N-ask.IPFV-ICVB be-N where-N.PL 1SG-ERG gold
 daʔaʔan-ne d-arq’-ib=da=jal] \emptyset -ik’-ul].
 secret-ADVZ N.PL-do.PFV-PRET=1=Q M-C-ICVB
 ‘He asks where I hid the gold.’ (Forker 2019: (13b))

b. **Dam** han b-ič-ib [[a-b-elk’-un-ne] r-ik’-ul].
 1SG.DAT seem N-occur.PFV-PRET NEG-N-write.PFV-PRET-CVB F-C-ICVB
 ‘I (fem.) thought that he did not write.’ (Forker 2019: (5a))

Messick observes that the Cs here agree with the matrix subject even when it bears an oblique case, like ergative in (19a) or dative in (19b). This is different from verbs and other elements, which agree only with absolutive DPs in this language. Thus the matrix verbs in (19) show neuter agreement, agreeing with the N predicate of the light verb construction, or perhaps as default agreement, rather than masculine or feminine agreement. Messick points out that this is evidence that C is really agreeing directly with a DP in the CP periphery (which is presumably caseless, so active for Agree), where that DP is controlled by the matrix subject; this is a version of Diercks’s indirect agree hypothesis. My question now is what precisely does C agree with: is it SoK, as in African languages, or Sp? My hypothesis is that this amounts to the question of whether the null DP associated with C is first person or not. We cannot tell from the form of agreement on C

performative theory have adopted. Second, it is a little easier to state the necessary agreement parameters in these terms. For example, Dargwa has agreement with Sp but not Ad, and Magahi has agreement with Ad and not Sp. In terms of (18), we can easily say that Fin1 but not Fin2 is an agreement probe in Dargwa and Fin2 but not Fin1 is an agreement probe in Magahi. It is less clear how to state this parameteric variation if Sp and Ad are both specifiers of a single Fin head in both languages.

¹¹ Forker (2019) does not take a firm stand on whether whether the relevant form is truly a complementizer of verbal origin or a subordinate form of the verb ‘say’ (she glosses it as ‘say’). The issues for evaluating this would be similar to those discussed for Ibibio and Kipsigis in Chapter 2.

itself, because like many other heads in Dargwa, C agrees only in gender and number, not person. However, we can tell by looking at the features of pronouns bound by the DP. Dagwa does allow indexical shift in the complement clause: ‘I’ can get a shifted reading where it refers to the matrix subject as in (20).¹²

- (20) Ša‘ban-ni-j han bi-irk-ul ca-b [[dam žawab b-alχ-ad] Ø-ik’-ul].
 Šaban-OBL-DAT seem N-be.IPFV-ICVB be-N 1SG.DAT answer N-know.IPFV-PRS.1 M-C-ICVB
 ‘Shaban_i thinks that I_{i,k} know the answer.’ (Forker 2019: (26))

Here ‘I’ is ultimately bound by the same DP (the matrix subject ‘Shaban’) that C appears to agree with. Therefore, it is bound by the ghostly DP licensed by C. And it is first person. Therefore, we can infer that the ghostly DP itself is first person—that it is an instance of Sp. This then is a likely case of C (Fin1) agreeing overtly with Sp rather than Ad.¹³

Another language that shows agreement with Sp is Jingpo, according to the analysis of Zu (2018). An example is given in (21a). Unlike Dargwa, speaker agreement is clearly first person in Jingpo, in that it uses the same vocabulary item that is otherwise triggered by a first person plural subject, as seen in (21b).¹⁴

- (21) a. Jongma du hkum mas-ai/saga-ai. (Zu 2018: 34 (53a,b))
 student arrive complete 3PL-DECL/1PL-DECL
 ‘The students have all arrived’ (1pl implies affection and solidarity between the students and the speaker.)
- b. (Anhte) masum lang hti saga-ai.
 We three times read 1PL-DECL
 ‘We have read (it) three times.’ (Zu 2018: 47 (75a))

See also Rose (2015) for some South American languages that may have agreement with Sp.

Returning to allocutive agreement proper, languages that have it seem to vary as to whether it is obligatory or optional. Oyharçabal (1993) presents it as being obligatory for the variety of Basque that he concentrates on, although the form used for agreement with a plural addressee is Ø, so one does not always see an overt morpheme. This obligatoriness can be seen in examples like (22). In (22a), the form of ‘you’ used as the possessor of the subject shows that the addressee of the sentence is singular and familiar—categories for which overt allocutive agreement morphology is available. Given this, it is required within the relevant dialect/style to have the allocutive marker *-k* on the verb as well. Similarly, Haddican and Extebarria (2022)

¹² Dargwa also has another form of “shifty” phenomena in that the reflexive pronoun *ca* can trigger first person agreement on the verb in this sort of embedded context only (Forker 2019: (21))—monstrous agreement in the sense of Messick (in press). See chapter 6 for discussion of how this phenomenon fits into my overall framework. (In the terms to be developed there, Dargwa might have 1LogOp rather than Sp as the ghostly DP that C agrees with.)

¹³ Another correct consequence of saying that the trigger of C-agreement in Dagwa is Sp not SoK is that C-agreement in Dagwa is not subject to the T/Agree Condition that the Niger-Congo languages obey. This is clear in that the ergative and dative controllers of C-agreement in (19) and (20) do not trigger agreement on the matrix verb. I argue in section 3.4.2 that this condition holds only for ghostly DPs that do not have intrinsic phi-features.

¹⁴ Note that the putative speaker agreement in (21a) must be first person plural, even when only a single person is speaking. Perhaps then the declarative head is really agreeing with both the subject and Sp in Jingpo, and the 3pl and 1sg features sum to 1pl. Because of questions about this, I hesitate to use Jingpo as a paradigm case of a greement with Sp.

report that in the innovative Southern dialects of Basque that allow allocutive marking on the verb in an embedded clause, this marking is generally found only if there is matching allocutive marking on the matrix clause, as in (22b).

- (22) a. Hire arereba dü-k/*da.
 your.SG sister AUX.3.ABS-2SG.M.AL/* AUX.3.ABS
 ‘This is your sister.’
- b. Uste di-na-t eman-go zi-da-n-ela.
 think AUX-2SG.F.AL-1SG.ERG give-FUT AUX-1SG.DAT-2SG.F.AL-C
 ‘I think that he/she/it will give it to me.’

Similarly, McFadden (2020: (16)) says that allocutive marking is obligatory in the Tamil spoken by his primary consultant. In contrast, allocutive agreement is formally optional in Magahi, as well as in Jingpo (Zu 2018), Japanese, Gallician, and Punjabi (Alok and Haddican 2022). For Magahi, this can already be seen in the basic allocutive paradigm in (3): (3d), with only subject agreement on the verb, is possible alongside (3a-c). This does not mean that a sentence like (3d) is not addressed to anyone in particular; it is not, for example, limited to signs in public places for anyone to read, as certain kinds of imperatives are (Portner et al. 2019: 4-5). Indeed, (23) shows that even when a sentence has an overt second person pronoun inside it that makes clear the relationship of the speaker to the addressee, that relationship does not have to be expressed on the verb as well. (23) in Magahi is different from (22a) in Basque in this respect.

- (23) a. Santee-aa toraa dekh-l-ai/ dekh-l-**au**.
 Santee-FM you.NH.ACC see-PRF-3.HN.S/see-PRF.3.HN.S-NH.AL
 ‘Santee saw you.’ (to a peer)
- b. Santee-aa apne-ke dekh-l-ai/ dekh-l-**ain**.
 Santee-FM you.HH.ACC see-PRF-3.HN.S/see-PRF.3.HN.S-HH.AL
 ‘Santee saw you.’ (to a teacher)

Similarly, in Magahi the same allocutive marking can appear on both the matrix verb and the embedded verb, showing the addressee of the sentence as a whole, as we first saw in (5). However, it is also perfectly possible to not have allocutive marking on one of the verbs; both markings are optional, and independently so, as shown in (24), different from (22b) in Basque.

- (24) Santee-aa sochk-**ai/au** ki Bantee-aa bhag ge-l-**ai/au**.
 Santee-FM thought-3.NH.S/NH.AL that Bantee-FM run go-PRF-3.NH.S/NH.AL
 ‘Santee thought that Bantee went to run.’ (said to a peer)

The analytical question arises, then, of what exactly is optional in Magahi but not in Basque. Is it that Ad may or may not be present in the periphery of a given clause, or is it that Fin may or may not agree with the Ad that is there? In fact, there is evidence that agreement with Ad is optional even when Ad is known to be present in the syntactic representation. We saw above that Magahi allows there to be “shifted” allocutive marking in the embedded clause as a result of Ad in the embedded clause being controlled by the goal of the matrix verb. When this happens, a pronoun inside the complement clause that refers to the goal of the matrix verb must

be a second person pronoun, not a third person pronoun, as shown in (11), repeated here as (25). This kind of indexical shift is the result of controlled Ad being in the representation, I claimed: a pronoun bound by the goal is also perforce bound by Ad, and matches its closest binder Ad in phi-features, including the second person feature.

- (25) Santee-aa Bantee-aa-ke kahk-ain ki Ram toraa/#okraa dekh-l-au.
 Santee-FM Bantee-FM-DAT told.3.NS.S-HH.AL that Ram you.NH.ACC/#3SG.NH.ACC see-PFV.3.NH.S-NH.AL
 ‘Santee told Bantee_i that Ram saw you_i/#him_i.’ (said to a teacher)

Now compare (25) to (26). (26) has the same kind of indexical shift as (25) does, with *toraa* ‘you’ in the embedded clause referring to Bantee, the goal argument of the matrix verb ‘tell’. By parity of reasoning, this suggests that (26) also has Ad in the embedded clause as the closest binder of the pronoun. However, (26) does not have allocutive agreement marked on the embedded verb. I conclude that agreement on Fin with Ad is optional in Magahi.

- (26) Santee-aa Bantee-aa-ke kahk-ai ki Ram toraa dekh-l-ai ha-l.
 Santee-FM Bantee-FM-DAT told-3.NS.S that Ram you.NH.ACC see-PFV-3.NH.S be-PFV
 ‘Santee told Bantee_i that Ram saw you_{i,k}.’

Given that agreement with Ad is optional, there is no need to say that Ad itself is also optional in Magahi. I assume that Ad is indeed obligatory across languages, at least in fully articulated root clause CPs that are addressed to someone in particular—the usual case. On this point, then, Basque is more revealing than Magahi is.

The question still remains as to why agreement between Fin and Ad is optional in Magahi. It must be acknowledged that this is not what we find with most other cases of agreement. For example, finite T must agree with the subject whenever a nominative case subject and a finite T are both present, in Magahi as in other languages. I do not try to resolve this question here. Various formal ways of stipulating the optionality of allocutive agreement in Magahi are possible and have been tried by Alok and/or me, but none of them seems obviously better than any other. Alok and Baker (2018) said that Fin agrees with Ad only if (V+)T moves to Fin, and that head movement is optional (see Zu 2018 for a very similar view on the optionality of allocutive agreement in Jingpo). However, we had no independent evidence for optional head movement. Alok (2020, 2021) simply says that it is optional to generate an Agree probe on Fin in Magahi. This is descriptively adequate, but unremarkable from an explanatory perspective. This is what I adopt for expositional purposes, leaving open whether there might be a more interesting theory of this at some point.

This leads us into the question of whether Ad is always present in embedded clauses as well as in root clauses, and more generally the question of why allocutive marking can happen in embedded clauses in some languages but not others. The first languages in which allocutivity was studied seriously either forbid allocutive marking in embedded clauses (Basque, Jingpo, Zu 2018) or strongly limit it (Japanese, Miyagawa 2012, 2017). However, more recent discoveries have shown embedded allocutivity to be possible in embedded clauses after all, and Magahi is part of this trend. What I have to say about this is not particularly new or distinctive. The best hint about what might be going on here, I believe, comes from McFadden’s (2020) study of Tamil. McFadden shows that allocutive marking can co-occur with C-heads in this language,

including the question particle in matrix clauses. Interestingly, allocutive marking can show up either outside this C-like head or inside it, or even in both places at once, as seen in (27).¹⁵

- (27) a. Niingæ saap-[-aačč-aa-ŋgæ? (ex (23a))
 you.PL eat-ASP-RES-Q-AL
 ‘Have you eaten?’ (speaker expects that addressee has)
- c. Niingæ saap-[-aačč-ŋgæ]-aa? (ex (23b))
 you.PL eat-ASP-RES-AL-Q-AL
 ‘Have you eaten?’ (speaker doesn’t know)
- c. Niingæ saap-[-aačč-ŋgæ]-aa-ŋgæ? (ex (25b))
 you.PL eat-ASP-RES-AL-Q-AL
 ‘Have you eaten?’ (speaker expects that addressee has)

In the limited data that McFadden gives about embedded allocutive marking in Tamil, the allocutive marker shows up once, inside the C head (the order is the same whether Ad is controlled by the goal or not).

- (28) a. Maya [avæ pooŋi-le dʒejkkæ-poo-r-aa[-ŋgæ-nnũ] so-nn-aa.
 Maya she contest-LOC win-go-PRS-3SG.F.S-H.AL-C say-PST-3SG.F.S
 ‘Maya said that she would win the contest.’ (speaker honors their addressee)
- b. Maya [taan pooŋi-le dʒejkkæ-poo-r-een-ŋgæ-nnũ] so-nn-aa.
 Maya self contest-LOC win-go-PRS-1SG.S-H.AL-C say-PST-3SG.F.S
 ‘Maya said that she would win the contest.’ (Maya honors her addressee)

This suggests that there are two places where Ad can appear in the languages of the world: a position in the highest left periphery, and a lower position closer to T. Putting together ideas mentioned in passing from above, we may hypothesize that the higher position is Spec sa2P, following Miyagawa’s (2017) adaptation of Speas and Tenny (2003), and the lower position is Spec Fin2P, following Alok (2020). In Tamil at least, Ad can appear in both positions, even in the same clause. However, it appears that only the version in the lower position can be in embedded clauses, as suggested by (28). This is in line with the widespread view that saP (or cP, in the terms of Portner et al. 2019) either cannot be selected by a verb at all, because of its speech act semantics, or it can only be the complement of ‘say’ and a few other verbs that sometimes license embedded root phenomena (Miyagawa 2012, 2017. Sundaresan (2012), Zu (2018), Portner et al. 2019). In Magahi, we can say that only the lower version of Ad triggers a morphological realization, so allocutive marking shows up inside of C—e.g. attached to the verb rather than to a complementizer like *ki*—in both matrix and embedded clauses, and allocutive marking is embeddable. In Korean, allocutive marking is packaged together with speech-act/clause-typing morphology; as a result, it is strictly the final morpheme in matrix clauses, and

¹⁵ McFadden (2020) reports that the morpheme order may go along with some differences in bias of the question: Q-ALLOC order tends to go with an expectation that the answer will be yes and is seeking confirmation, whereas ALLOC-Q order is more neutral in this respect. But he treats these observations as tentative and does not include them in his formal analysis—and neither will I.

is not embeddable (Portner et al. 2019; see also Alok and Haddican 2022). In Basque, allocutive marking is a kind of clitic that gets attracted to the finite auxiliary and then is ordered by complex templatic rules of clitic clustering in Basque (Haddican 2018). As a result, Basque language learners cannot reliably infer from morpheme order where the clitic originated, whether in Spec SAP or Spec FinP. Therefore, it is a point of dialectal variation in Basque whether allocutive marking is allowed in embedded clauses or not. This seems to get the major variants that we know about so far. A full root clause left periphery for (e.g.) Tamil then might have two Ad positions, with the higher one binding the lower one, as in (29).¹⁶ In contrast, embedded clauses are a bit truncated, having only the substructure headed by C. I refer to the special Ad of a matrix clause in saP rather than FinP as Ad*.¹⁷

(29) [_{sa2P} Ad*_i sa2 [_{CP} Q/C [_{Fin2P} Ad_i Fin2 [_{TP} you_i T eat]]]]
 [+2] (+Agree) [+2] (+Agree) [+2]

Languages then vary as to whether overt allocutive marking is the spell out of an agreeing sa(2) head or the spell out of an agreeing Fin(2) head or both (see also Alok 2021, Alok and Haddican 2022). In languages where sa(2) is the agreement bearer, allocutive marking happens only in root clauses and perhaps in a restricted class of embedded root clauses. In languages where Fin(2) is the agreement bearer, allocutive marking is possible in a fuller range of finite clauses, root or embedded.¹⁸ However, for the most purposes I simplify this full structure a bit and suppress the possibility of two distinct Ads in root clauses.

This completes my initial exposition of what Ad is, what head(s) license it, and how it differs from comparable items like SoK/OoK. Unlike SoK/OoK, Ad is intrinsically second person, denoting the addressee in root clauses and also in embedded clauses unless it is controlled by some other DP. It is licensed by one of two functional heads: sa(2) or Fin(2). If it is licensed only by sa in a given language, then allocutive marking is limited to root clauses. If it is licensed (also) by Fin, then it can appear in embedded clauses too. But whereas SoK/OoK are

¹⁶ This is also similar to, and in the spirit of, McFadden's own proposal, but he suggests only one Ad, in the higher Spec SAP position, which a lower head (which he calls AllAgr) agrees with it at a distance. McFadden's version is more parsimonious in having only a single Ad representing the addressee syntactically, but it has a problem with unshifted allocutive marking in embedded clauses as in (28a). Here the embedded Fin/AllAgr head is probably too far from the root Ad in SAP to agree with it directly. In contrast, the matrix Ad* can bind the embedded Ad in Spec FinP without regard for phasal boundaries, and the embedded Fin can agree with Ad in its Spec very locally. Furthermore, examples with shifted allocutive marking like (6) need to have a controlled Ad in the embedded clause and in Magahi this is not restricted to the limited class of verbs of 'saying' which can select a full SAP.

¹⁷ Similarly, I call the special Sp of a root clause that designates the speaker of the sentence Sp*. The more fully elaborated version of (29) that includes the Sps and the heads that license them is (i).

(i) [_{sa1P} Sp*_k sa1 [_{sa2P} Ad*_i sa2 [_{CP} Q/C [_{Fin1P} Sp_k Fin1 [_{Fin2P} Ad_i Fin2 [_{TP} you_i saw me_k]]]]]]]

¹⁸ In Magahi, Basque, and Tamil, allocutive agreement is semi-independent from normal agreement on T with the subject, in that both can be present on the same finite verb. Therefore, it makes sense to posit two distinct probing heads and the main question is which head is it that agrees with Ad. Somewhat different from this are Jingpo (Zu 2018) and Punjabi (Kuar 2020), in which the finite verb agrees with either the subject or Ad but not both, depending on whether the subject has participant features or not (and, in Jingpo, on discourse factors). Kuar (2020) plausibly analyzes this in terms of Cyclic Agree. A single probing head looks for a [+participant] goal. First it probes downward and agrees with a first or second person subject, if there is one. But if there is not, it can probe upward instead (Cyclic Agree) and agree with Ad. This results in allocutive marking only if the subject is third person (or in oblique case). (Zu uses T-to-sa movement rather than Cyclic Agree to get a similar effect.)

licensed by Eval, a head with a distinctive semantics, embedded Ad is licensed by Fin, a head with relatively little distinctive semantics. As a result, whether an embedded clause has allocutive marking on it in Magahi does not have the same noticeable semantic consequences that having an agreeing C in a complement clause does in (say) Kinande, involving antifactivity and assigning responsibility for the content of CP to the referent of SoK. I return to some of these matters in Section 3.4, in pursuit of a typology of ghostly DP constructions.

3.3 Conditions on the Control of Ad

Having discussed the place of Ad in the structure and its intrinsic features, let us now consider in more detail how it can be controlled. The goal of this section is to show that the same core conditions that regulate the arguments of the matrix verb controlling SoK and OoK, the targets of C agreement in African languages, also regulate the arguments of the matrix verb controlling Ad in Magahi. (Although Sp in Magahi has been introduced above, discussion of its control properties is deferred to the next chapter, on indexical shift.) Three principles from Chapter 2 are relevant to this topic. First and foremost, the Generalized Obligatory Control Signature puts conditions on both where the clause containing a ghostly DP operator needs to be in order for the operator to be controlled and on what can be the controller. The GOCS is repeated in (30).

(30) *The Generalized OC Signature: (GOCS)*

If a clause with an intrinsically null DP (PRO, SoK, OoK, *Ad*, ...) at its edge is generated within the XP headed by lexical head X, then the null DP is controlled by an argument of X. Which argument of the X is the controller is determined by the thematic roles of the controller and the contolee.

Second, I argued for a thematic role matching condition that governs which argument of a matrix verb controls which ghostly DP in the periphery of a clause that depends on the verb. This is repeated in (31).

(31) The obligatory controller of X in a CP inside VP is the argument of the verb such that its thematic role (best) matches the thematic role of X.

Third, I argued that when the matrix verb has only one non-CP argument and this has a thematic role that can be treated as either subject-like or object-like (e.g., an experiencer argument), that argument must control the subject-like operator rather than the object-like one, as stated in the Edge Condition, repeated in (32).

(32) a. *The Edge Condition:*

Only the highest null DP in the periphery of the clause can be controlled from outside the clause.

b. The Edge Condition is subject to the Principle of Minimal Compliance (Richards 1998).

In this section, I argue that the same principles work in Magahi, with Ad behaving very much like OoK. If the empirical case that I build is convincing, this will help to justify these as principles of UG relevant to a Generalized Control Theory. One might think that a single

phenomenon attested in one region of the world is too slender evidence to be worth proposing new general principles. If, however, the same principles work for a not-obviously related phenomenon found in different areas of the world, then the plausibility of UG principles being at work is much greater. This will be a significant step towards a Generalized Control Theory.

The fourth principle relevant to control from Chapter 2 was the T/Agree Condition, which says that C cannot agree with a ghostly DP operator unless T or a T-like head agrees with the controller of that operator. As foreseen above, this condition clearly does not carry over to the control of Ad in Magahi. This is obvious from the fact that the controller of Ad (if any) is the goal argument of a transitive verb, and Magahi does not have object agreement. T does not agree with the object (except in dative subject constructions), nor does any other functional head that bears overt agreement. Given that goals can control Ad in Magahi, as we have seen, there cannot be a T/Agree Condition or any analog of it in effect in this domain. We see more examples of unagreed-with NPs controlling Ad in this section. I derive this difference between allocutive marking and upward C-agreement in the African languages later on, in section 3.4.

3.3.1 Basic thematic matching in control

The signature property of C-agreement in Africa was that the superordinate subject controls it and the object superordinate object does not, despite the object being structurally closer to SoK and the agreeing C than the subject is. Kipsigis then entered the story, showing (tentatively) that the goal argument of the matrix verb can control a ghostly DP inside the CP after all, but only a distinct coordinate, OoK not SoK. So agent arguments can control SoK but not OoK, and goal/theme arguments can control OoK but not SoK. This established the thematic-role matching condition in (31). Still following the Speas and Tenny's (2003) intuition that Sp and Ad are arguments of a C-like head in a way that is parallel to agent and goal being arguments of a verb like 'tell', Ad gets an object-like thematic role from the C-space head that licenses it (SA and/or Fin). Given this, the expected consequence of (31) in the domain of allocutive agreement is that the goal of a verb like 'tell' can control Ad, resulting in shifted allocutive marking, but the agent of a verb like 'tell' cannot. The positive side of this generalization has been seen above in (6); (33a) is a slight variant of (6c). Here the HH status of the goal argument 'professor' (or, more accurately, her HH status relative to Santee) is reflected in the HH affix *-ain* on the embedded verb, different from the H allocutive marker *-o* on the matrix verb. The negative side of this generalization is seen in (33b). Suppose that the subject of the matrix clause could control Ad. In this case, the subject is grandfather, in an H relationship to the speaker of the sentence (and to the indirect object Santee, the speaker's cousin). Then we would expect the allocutive marker *-o* H on the embedded verb, in contrast to the NH marker *-au* on the matrix verb. But this is impossible, as indicated in (33b).

- (33) a. Santee-aa **profesar saahab-ke** kah-l-o ki Ram Sita-ke dekh-l-**ain** ha-l.
 Santee-FM professor HH-DAT tell-PFV.3NH.S-H.AL that Ram Sita-ACC see-PRF.3.NH.S-HH.AL be-PRF
 'Santee told the professor that Ram saw Sita.' (**dekh-l-au* see-PRF.3.NH.S-NH.AL)
 (a peer of Santee speaking to his grandfather)
- b. *Baabaa Santee-aa-ke kahk-**au** ki Ram Sita-ke dekh-l-**o** ha-l.
 grandfather Santee-FM-DAT tell.PFV.3NH.S-NH.AL that Ram Sita-ACC see-PRF.3.NH.S-H.AL be-PRF
 ('Grandfather told Santee that Ram saw Sita.') (said to a friend)

The inability of the agent/subject to control Ad can also be seen by the badness of *dekh-l-au* as the embedded verb in (33a). Here the embedded verb can have shifted HH marking reflecting the status of the goal ‘teacher’ relative to Santee, but not shifted NH marking *dekh-l-au* reflecting the status of the agent Santee relative to the speaker. (Unshifted allocutive marking here would be *-o*, marking the H status of the addressee grandfather relative to the speaker; this is also grammatical.) So there is parallelism between C-agreement and shifted allocutive marking with respect to the thematic role matching condition in (31).

We can see again that thematic role matching is important, not just grammatical functions, by comparing a matrix verb like ‘tell’ with a matrix verb like ‘hear’. The verbs denote similar events, but with ‘hear’ the goal/experiencer argument is realized in the subject position, whereas the agent/source argument is realized (if at all) as an oblique phrase somewhere in the greater verb phrase. The question then is whether the hearer subject can control Ad in a way that is like how the tellee object does in (33a), and different from the agent subject in (33b). The answer is yes, as shown in (34). Here the allocutive marking on the embedded verb can be *-o*, distinct from the HH marking *-ain* on the matrix verb. This is a shifted allocutive with value H, showing the status of the experiencer subject ‘grandfather’ relative to the source Bantee.

- (34) Baabaa Bantee-aa-se sun-la-thin ki Ram Siita-ke bazaar-me dekh-l-o.
 Grandfather Bantee-FM-INS hear-PFV.3.HS.S-HH.AL that Ram Sita-ACC market-in see-PFV.3.NH.S-H.AL
 ‘Grandfather heard from Bantee that Ram saw Sita in the market.’

This confirms the thematic role matching referred to in (31). It shows that it is more accurate to say that the agent/source controls Sp (see below) and the experiencer/goal controls Ad than to say that the subject (or nominative) DP controls Sp and the oblique DP controls Ad.

We can also see that the thematic roles referred to in (31) must be relatively fine-grained ones. The kind of thematic analysis that determines where the arguments of a clause are generated (e.g. by principles like the Uniformity of Theta Assignment Hypothesis), seem to quite coarse-grained, not distinguishing (say) agent from causer and source or experiencer from goal. But we have seen that control theory (e.g. (31)) is more discriminating and does distinguish these second-order roles in certain contexts. We can see fresh evidence of this here, comparing ‘hear’ with ‘ask’ in Magahi. The verbs are superficially comparable, in that both have nominative subjects and instrumental (source) objects, as seen by comparing (34) with (35).

- (35) a. Raam profesar-saaheb-se puchhk-au ki kaa Siita ait-ain.
 Ram professor-HH-INS ask.PFV.3.NH.S-NH.AL that what Sita come.FUT.3.NH.S-HH.AL
 ‘Ram asked the professor whether Sita will come.’ (said to a peer)
- b. Raam jaun-waa-se puchhk-ain ki kaa Siita ait-au.
 Ram John-FM-INS ask.PFV.3.NH.S-HH.AL that what Sita come.FUT.3.NH.S-HH.AL
 ‘Ram asked John whether Sita will come.’ (said to a teacher)

But despite the case-marking similarity between (34) and (35), what controls Ad is different in the two examples. In (35), it is the social status of the instrumental DP (relative to the asker) that determines shifted allocutive marking, not the social status of the nominative DP (relative to the source) as in (34). This difference can be attributed to a difference in fine-grained thematic roles. The internal argument of ‘ask’ is seen as a source of the new information that the asker seeks; this presumably accounts for why it bears the same semantic case (instrumental) as a canonical

source phrase. But this argument counts as a goal as well as a source, since the asking event itself is directed to the referent of this argument; in (35b) the question goes to John, even though its answer is expected to come from John. So the internal argument of ‘ask’ is a composite goal-source, whereas the internal argument of ‘hear’ is a pure source. Because the internal argument of ‘ask’ has goal entailments as well as source entailments, it is able to match the Ad argument of C thematically and hence control it. I conclude that it is not just thematic roles that shape how OC happens in the allocutive construction, but it is fine-grained thematic roles that do this.

2.3.2. The Edge Constraint in Magahi

Next let us consider the role of the Edge Condition in (32) in allocutive constructions in Magahi. In Kipsigis, we saw that upward C-agreement with subjects and upward C-agreement with objects are both optional, but they are not independent: agreement with the object via OoK is only possible if C also agrees with the subject via SoK. This was the initial motivation for the Edge Condition. What would this look like in Magahi? The hypothesis is that Magahi has Sp as well as Ad, and Sp is controlled by the agent of the matrix verb as Ad is controlled by the goal of the matrix verb—even though the presence of Sp and its control is not conveniently revealed by obvious agreement in Magahi. (It will be confirmed by the study of first-person indexical shift in the next chapter.) In this context, the Edge Condition makes the prediction that the matrix goal cannot control allocutive marking on the embedded clause unless the matrix clause also has an agent-like argument that can control Sp. Consider then dative subject constructions in Magahi that involve verbs like ‘seem’ and ‘remember’. The dative arguments of these verbs are experiencers, not agents. They could also qualify as internal arguments, like the *to* phrase selected by ‘seem’ in English, the experiencer argument being thematically akin to the goal argument of a verb like ‘tell’. Basic examples without allocutive marking are in (36).¹⁹

- (36) a. Santee-aa-ke laga h-ai ki Ram tej h-ai.
 Santee-FM-DAT seem be-3.NH.S that Ram smart be-3.NH.S
 ‘It seems to Santee that Ram is smart.’
- b. Ram-ke yaad ha-l-ai ki Santee almira-me paisa chhupai-l-ai ha-l.
 Ram-DAT memory be-PFV-3.NH.S that Santee drawer-in money hid-PFV-3.NH.S be-PFV
 ‘Ram remembered that Santee hid the money in the drawer.’

The question, then, is whether the dative subject of such constructions can control shifted allocutive marking on the embedded verb, the way that the dative object of a verb like ‘tell’ can. Based purely on thematic matching ((31)), this might well be possible. In fact, it is not possible, as shown by the ungrammaticality of (37).²⁰ Here the matrix verb is marked with NH allocutive morphology *-au*, making it clear that the sentence is addressed to a peer of the speaker. The dative subject is ‘grandfather’, who is in an honorific relationship to the speaker. If ‘grandfather’ could control Ad in the embedded clause, then we would expect the H allocutive marker *-o* to be

¹⁹ The Niger-Congo languages do not have dative subject constructions because they do not have dative case. Therefore, this issue does not come up so clearly in them.

²⁰ We see in chapter 4 that these dative subjects can control Sp, resulting in first person indexical shift, as permitted by the Edge condition. This sheds light on the nature of the thematic role matching condition, with the experiencer role matching either Sp or Ad, depending on what other thematic roles are in the environment.

possible on the embedded verb, in agreement with Ad (and different from the matrix Ad). But this is not possible.

- (37) a. *Baabaa-ke laga h-**au** ki Ram Siita-ke beijati karl-**o**.
 grandfather-DAT seem be.3.NH.S-NH.AL that Ram Sita-GEN insult do-PRF.3.NH.S-H.AL
 ‘It seems to Grandfather that Ram insulted Sita.’ (said to a friend)
- b. *Baabaa-ke yaad ha-l-**au** ki Ram almira-me paisa chhupai-l-**o** ha-l.
 gr’father-DAT memory be-PFV.3.NH.S-NH.AL that Ram drawer-in money hid-PFV.3.NH.S-H.AL be-PFV
 ‘Grandfather remembered that Ram hid money in the drawer.’ (to a friend).

The ‘remember’ example is particularly interesting, because this predicate can undergo a transitivity alternation: ‘remind’ is formed from the same nominal predicate *yaad* ‘memory’ used with a different light verb, ‘give’ rather than ‘be’. In the transitive version, the dative rememberer argument can control shifted allocutive marking on the embedded clause, as in (38).

- (38) Santee-aa baabaa-ke yaad dial-k-**au** ki Ram almira-me paisa
 Santee-FM gr’father-DAT memory give-PFV.3.NH.S-NH.AL that Ram drawer-in money
 chhupail-**o** ha-l.
 hid-PFV.3.NH.S-H.AL be-PFV
 ‘Santee reminded Grandfather that Ram hid money in the drawer.’ (said to a friend).

This is an eloquent illustration of the Edge Condition: if there is an agent/causer of the remembering event to control Sp, as in (38), then the experiencer agreement can control Ad, but if there is no agent/causer, as in (37), the the experiencer argument cannot control Ad.

The dative subject constructions in (36)-(37) can also be compared to the passive of a ditransitive verb like ‘tell’ in Magahi. Dative case on the goal argument is not suppressed in passive sentences in this language—similar to Icelandic and many other languages. As a result, a passive example like (39) looks quite a bit like the intrinsic dative subject constructions in (37), with the addition that it is possible to express the agent as a kind of *by*-phrase as well.

- (39) Baabaa-ke (Bittuu-aa diya) kahal ge-l-**au** ki Ram ait-**o**.
 grandfather-DAT Bittuu-FM by told go-PFV.3.NH.S-NH.AL that Ram come.3.NH.S-H.AL
 ‘Grandfather was told (by Bittuu) that Ram will come.’ (said to a friend)

Although (39) looks like (36)-(37), it behaves more like (38) in that the dative argument ‘grandfather’ can control Ad in the complement clause, resulting in the shifted allocutive marker *-o* H on the verb in that clause. This fits with the Edge Condition on the assumption that the agent of the passive is still syntactically present and capable of controlling Sp in the complement clause, thus freeing up Ad to be controlled by the goal argument of ‘tell’. So nominative-subject agents, oblique PP adjuncts, and null agents all have this effect, whereas the true absence of an agent forces an experiencer/goal argument to control Sp rather than Ad, such that it does not result in shifted allocutive marking.²¹

²¹ Similarly, we can infer that the source argument of ‘hear’ must control Sp in its CP complement in an example like (34) as well, thus freeing Ad to be controlled by the experiencer subject of ‘hear’. This is confirmed by data from indexical shift in chapter 4.

3.3.3 On the locality of the obligatory control of Ad

Next I consider the implications of the GOCS in (30) for the control of Ad, and hence for the possibility of shifted allocutive marking in Magahi. The GOCS puts two kinds of restrictions on a relationship of obligatory control. First, it constrains the controller of a null DP to be an argument of the verb (or other lexical head) that CP modifies or is the complement of. Second, it constrains the clause containing the null DP to appear in the phrase headed by the verb that the controller is an argument of. I consider the first sort of restriction in this subsection and turn to the second in the next subsection.

Recall that a hallmark property of upward C-agreement in African languages is that C agreement displays a certain clause-level locality: C can only agree with the subject or the object of the immediately superordinate verb. This is shown schematically in (40): the second C head can agree with Z or W, the arguments of the lower verb ‘tell’, but not with X or Y, the arguments of the higher verb ‘ask’. This is a consequence of the GOCS.

(40) X asked Y [whether [Z told W [Z-that-(W)/*X-C-(Y) [so and so happened]]]].

One has to be a bit careful about how one tries to replicate this effect in Magahi. The complication is that control of Ad seems to be optional in this language: it happens in examples like (6) but not in examples like (5); one example of each kind is repeated in (41).

- (41) a. Santee-aa **Bantee-aa-ke** kahk-ain ki Ram-ke Sita-se baat kar-e-ke chah-**au**.
 Santee-FM Bantee-FM-DAT told.3.NH.S-HH.AL that Ram-DAT Sita-INS talk do-INF-DAT should-NH.AL
 ‘Santee told Bantee that Ram should talk to Sita (said to a teacher).’
- b. Santee-aa sochk-**au** ki Bantee-aa bhag ge-l-**au**.
 Santee-FM thought,3.HN.S-NH.AL that Bantee-FM run go-PRF.3.HN.S-NH.AL
 ‘Santee thought that Bantee went to run.’ (said to a peer)

Descriptively, in (41a) the allocutive marking on the embedded verb is determined by the social status of the matrix goal ‘Bantee’ (here NH), whereas in (41b) the allocutive marking on the embedded verb repeats the allocutive marking on the matrix verb. (41a) is the case where Ad in the embedded clause has the matrix goal as its obligatory controller. In contrast, Ad in the embedded clause seems to simply be bound by Ad in the matrix clause, and gets its honorificity values from that.²² Despite this complicating factor, we can see that shifted allocutive marking does indeed display the clause-level locality expected of OC by careful consideration of an example like (42). Here the lowest verb ‘go’ bears the H marker *-o*. This does not reflect the addressee of the sentence as a whole; that is a peer of the speaker, as shown by the presence of the NH allocutive marker *-au* on ‘tell’, the predicate of the root clause. Rather, it must be controlled by ‘grandfather’, the goal argument of ‘tell’ in the root clause; this is the only NP in the sentence that refers to someone of higher social status (note that ‘Santee’ and ‘Bantee’ as well as being first names bear the familiarity marker *-aa*). However, the lowest verb can only bear *-o* triggered by the matrix goal in this way if the verb in the intermediate clause, ‘be’, also bears the H marker *-o* (or has no allocutive marker); it is bad in this case for the middle verb to

²² Eventually I argue by comparison with LD anaphoric constructions in Japanese that Ad of one clause binding Ad of a lower clause also counts as a relationship of OC. However, that is neither evident nor necessary at this point.

bear the NH marker *-au* in agreement with allocutive marking on the verb in the root clause (contrast with (41b)).

- (42) Santee-aa baabaa-ke kahk-au ki Bantee-aa socha h-o/*au
 Santee-FM grandfather-DAT told-3.NH.S-NH.AL that Bantee-FM think be-H.AL/*NH.AL
 ki Ram parichha paas ho ge-l-o.
 that Ram exam pass become go-PFV.3.NH.S-NH.AL
 Santee told grandfather that Bantee thinks that Ram passed the test.

This subtle difference is evidence for the GOCS, which implies that the Ad of the lowest CP cannot be controlled directly by the matrix indirect object ‘grandfather’, because ‘grandfather’ is not an argument of ‘think’, the verb that the clause containing ‘pass go’ is the complement of. Since ‘think’ does not have a goal or theme argument, there is no possible obligatory controller for Ad in the lowest clause. Its only option, then, is to be bound by the Ad of the middle CP, which can in turn be controlled by the matrix goal (or not). In short, (43a) is not a possible representation in Magahi, with control at a distance, ruled out by the GOCS. but (43b) is a possible representation, with local control plus local binding of one Ad by another.

- (43) a. *Ad_k C Santee_i told Grandfather_n [Ad_k that Bantee think [Ad_n [Ram not pass]]
 |-----|
 *control
- b. OK: Ad_k C Santee_i told Grandfather_n [Ad_n that Bantee think [Ad_n [Ram not pass]]
 |-----| |-----|
 Control binding of Ad by Ad

This supports the claim that only an argument of the verb that selects CP can control the Ad in the periphery of that CP.²³

2.3.4 Allocutive marking beyond CP complements

For the African languages, we considered the possibility of C-agreement in CPs that are not complements of verbs but are in some other syntactic environment: sentential subjects, CP adjuncts, relative clauses, and noun complements. We can also investigate the possibility of controlling Ad in clauses in these positions. Like upward C-agreement, the only one of these constructions that allows *shifted* allocutive agreement is the CP complements of nouns. However, the verb in any of these clause types can contain an unshifted allocutive agreement, which expresses the relationship of the speaker to their addressee—the same marking that appears (optionally) on the verb of the root clause. The upshot of this is that the conditions on where a clause with Ad has to be in order to undergo obligatory control are the same as for SoK/OoK, but unlike Sok, Ad is also possible in environments in which it does not undergo

²³ Another consequence of the GOCS for allocutive marking in Magahi should be that the possessor of (say) the goal argument cannot determine allocutive marking on the embedded clause in an example like “Santee texted(NH.AL) to Grandfather’s phone that Bantee is coming(H.AL) soon.” It is true that second person indexicals cannot shift to refer to grandfather in this environment, but I did not test allocutive marking, in part because it is difficult to construct natural-sounding examples.

obligatory control. In these uncontrolled environments, Ad gets its value not from an argument of a higher verb, but rather is bound by the next highest Ad, often the Ad of the root clause.²⁴

Perhaps the most canonical environment of NOC rather than OC according to Landau (2001, 2013) is CPs in subject position. However, Magahi is another language in which bare CPs headed by (e.g.) the complementizer *ki* cannot appear in subject position—like Ibibio and Kinande—perhaps because this complementizer is more verbal than nominal in its category properties. So this case does not arise in Magahi.²⁵

The other highly canonical environment for NOC rather than OC according to the GOCS is adjunct clauses, especially higher adjunct clauses, which are generated in positions outside VP. Alok (2020: 97) says that allocutive marking is possible in all kinds of adjunct clauses in Magahi. (44) gives two examples of this.

- (44) a. Santee-aa ai-l-**au** jab Bantee-aa chal ge-l-**au**.
Santee-FM come-PFV.3.NH.S-NH.AD when Bantee-FM walk go-PFV.3.NH.S-NH.AD
'Santee came when Bantee left.'
- b. Santee-aa ghare ruk-l-**au** taaki Bantee-aa bimaar na paR-**au**.
Santee-FM home stay-PFV.3.NH.S-NH.AD so.that Bantee-FM sick not fall-PFV.3.NH.S-NH.AD
'Santee stayed home so that Bantee would not get sick.'

McFadden (2020: (20)) gives a similar example of allocutive marking inside a temporal adjunct clause in Tamil. It is notable that in these examples the allocutive marking on the embedded clause is the same as that on the root verb, showing the social relationship of the addressee of the sentence as a whole to its speaker. Adjunct clauses do not allow shifted allocutive marking, such that allocutive marking on the embedded verb is different from that on the matrix verb, showing the social relationship of one of the matrix arguments with respect to another. In theoretical terms, Ad is possible in adjunct clauses, where it can be bound by a higher Ad, but it cannot be controlled by an argument of the matrix verb. This restriction can be seen most clearly in 'so that' clauses, where conditions would arguably be maximally favorable for allowing the control of Ad. As discussed in the next chapter, first-person indexical shift is possible in such clauses, showing that Sp of the adjunct clause can be controlled by the subject of the matrix clause, as in (45). This is parallel to the fact that C-agreement is possible in this type of adjunct clause in Lubukusu and Ibibio.

- (45) Bantee-aa ghare ruk-l-ai taaki ham bimmar na ho jaa-i.
Bantee-FM home stay-PFV.3.NH.S-NH.AD so.that I sick NEG become go-1SG.S
'Bantee_i stayed home so that I_{i,sp} would not become sick.'

²⁴ In complex sentences it is also possible for an argument of the root verb to control Ad in the intermediate clause and then Ad in the lowest clause to get its value from that intermediate Ad. See the discussion of (72) and (73).

²⁵ A CP is possible inside a NP headed by a noun like 'news' (used with a demonstrative) in Magahi. It is possible that this carrier noun has little effect on the control dynamics of the structure, and is present only to give the CP the nominal/phi-features that it needs to sit in Spec TP and be the target of T-agreement. However, I don't know of any predicates in Magahi that select a CP-(like) subject and two additional arguments that could control Sp and Ad, such that allocutive shift would have a chance of happening in a CP subject. See chapter 4 for discussion of how this structure behaves with respect to indexical shift.

The example in (46) shows again that these ‘so-that’ clauses can contain allocutive marking, where that marking matches the marking on the matrix verb. (This is less obvious in (46) than in (44b), because in (46) the NH allocutive marking in the root clause forms a portmanteau with the 3.H.S subject marking, resulting in a different allomorph from the one on the verb in the ‘so that’ clause.)

- (46) Baabaa netaa-jore batiai-l-**thu** taaki hamraa kuchh phaidaa hob-**au**.
 grandfather leader-with talk-PFV-3.H.S.NH.AD so.that I.DAT something benefit be.FUT-NH.AL
 ‘Grandfather spoke with/to the leader so that I will get some benefits.’ (spoken to a peer)

A matrix verb like ‘talk’ can also have a second argument, a kind of goal phrase, as in (46). So here we have an adjunct clause that can be controlled into and that has a controllable Ad, and a matrix verb that has a potential controller for Ad. However, even under these maximally favorable circumstances, shifted allocutive marking in the embedded clause is not possible, as shown by the ungrammaticality of (47). Here *-thu* on the verb ‘talk’ shows that the sentence as a whole is addressed to a NH or H person. The HH marking *-ain* on the embedded verb ‘be’ does not match this matrix addressee, but would reflect the status of the community leader relative to the grandfather (or the speaker). This would be a shifted use, the result of Ad in the ‘so that’ clause being controlled by ‘leader’. It is, however, ungrammatical (regardless of whether ‘I’ shifts to refer to the grandfather or not).

- (47) *Baabaa netaa-jore batiai-l-**thu** taaki hamraa kuchh phaidaa hob-**ain**.
 grandfather leader-with talk-PFV-3.H.S.NH.AD so.that I.DAT something benefit be.FUT-HH.AL
 (‘Grandfather_i spoke with/to the leader so that I_{i,sp} will get some benefits.’)

So higher adjuncts, like a ‘when’-clause, do not allow the control of either operator, Sp or Ad, much as they do not allow upward C-agreement in (say) Ibibio. But even lower adjuncts, like ‘so that’ clauses, which do allow the matrix subject to control Sp and SoK, do not allow the internal argument to control Ad. This suggests that c-command is needed for this kind of control. The subject c-commands into an adjunct clause adjoined to vP/VoiceP, but the object or oblique argument does not (whereas both subjects and internal arguments c-command into complement clauses).²⁶ I pick up on this lead in chapter 4 on indexical shift.

Next consider relative clauses adjoined to the extended projection of a noun phrase. This is an environment that does not allow OC in English or upward C-agreement in the Niger-Congo languages. The expectation is that in Magahi relative clauses will not allow allocutive marking that is shifted relative to that of the clause of which the NP modified by the relative clause is an argument. This is correct. (48) shows that a relative clause in Magahi can have unshifted

²⁶ As a minimal contrast, note that the oblique argument of the verb *batiail* ‘speak’ can control Ad when the embedded clause can be parsed as a complement rather than an adjunct, as in (i). Here the complementizer is *ki*, not *taaki*, and the CP expresses the content of what the speaker says to their interlocuter, not just the speaker’s goal in speaking to that person, as in (47). This shows that it is not the case or thematic role of ‘leader’ in (47) that makes it incapable of controlling Ad, but rather its position relative to the embedded clause. (That Ad is controlled in (i) is shown by the shift of the second person pronoun ‘you’ rather than by allocutive marking.)

- (i) Baabaa Banteeaa-se batiai-l-thi ki tu dukhii na ho.
 grandfather Bantee-INS speak-PFV-3.H.S that you.NH sad NEG be
 ‘Grandfather talked (said) to Bantee_i that you_{i,Ad} would not be sad.’

allocutive agreement, expressing the relationship of the speaker to the addressee (although allocutive marking happens to be absent in the matrix clause in this example).

- (48) Laikwaa [je uhan khaRaa h-**au**] hamar bhaai h-ai. (Alok 2020: 98)
 boy REL there stand be.3.NH.S-NH.AL my.GEN brother be-3.NH.S
 ‘The boy who is standing there is my brother.’ (spoken to a peer)

This shows that the CP (FinP) in the relative clause can contain an Ad coordinate; it is not some kind of truncated clause that has no room for such an element. However, (49) shows that Ad in the relative clause cannot be controlled by the arguments of the verb ‘tell’ in the root clause. Here the goal of ‘tell’ is ‘grandfather’, the referent of which is in an honorific relationship to both Santee and the speaker of the whole sentence. If this NP could control Ad, then we would expect that the H marker *-o* could be possible as allocutive marking on the verb of the relative clause, but it is not. (The same judgment holds if the relative clause is extraposed to sentence final position, following the matrix verb ‘tell’.)

- (49) Santee-aa ii khabar je Ram okraa kahk-**au**/***o** baabaa-ke kahk-**au**.
 Santee-FM this news REL Ram him.ACC tell-NH.AL/*H.AL grandfather-DAT tell.PFV.3.NH.S-NH.AL
 ‘Santee_i told grandfather the message that Ram told him_i.’

Again, we see that it is possible to have an Ad component in a clause even when it cannot be controlled by some other NP—as of course happens also in ordinary root clauses.

The fourth and last case to consider is CPs that function as the complement of a noun like ‘rumor’ or ‘news’. In chapter 2, we saw that in this sort of structure, the head C can agree out of the NP in the African languages. If the same principles of control are at work in both domains, the expectation for Magahi is that shifted allocutive will be possible in this structure too, as long as the verb selecting the complex NP can select a goal phrase that is a possible controller. Examples relevant to this are (50). In (50a), what is semantically the complement of the direct object ‘rumor’ is extraposed to the right edge of the clause, as is typical in Magahi. In (50b) it is kept inside the object, as is also possible. In either case, control of Ad is possible, resulting in shifted allocutive marking different from that on the root verb.

- (50) a. Santee-aa baabaa-ke ii khabar kahk-**au** ki Ram ait-**o**.
 Santee-FM grandfather-DAT this news told.3.NH.S-NH.AL that Ram come.3.NH.S-H.AL
 ‘Santee told grandfather the news that Ram will come.’ (to a friend)
- b. Santeeaa baabaa-ke ii khabar ki Ram ait-**o** - kahk-**au**.
 Santee-FM grandfather-DAT this news that Ram come.3.NH.S-H.AL told.3.NH.S-NH.AL
 ‘Santee told grandfather the message that Ram will come.’

In chapter 2, my main analysis was that nouns like ‘news’ can have arguments of their own, sometimes expressed overtly by possessors or PPs, but often covert. The covert goal argument of the noun can control the Ad coordinate in the CP associated with the noun. This covert argument

of the noun can in turn be controlled (NOC) by the goal argument of ‘tell’. This results in H marking on the embedded verbs in (50), reflecting the status of the grandfather.²⁷

The main goal of this section has been to point out substantive similarities between the control of Ad by an argument of the superordinate verb in Magahi, which results in shifted allocutive marking, and the control of SoK and OoK by the arguments of the superordinate verb in Bantu languages and Kipsigis, which results in upward C-agreement. Both constructions show clear signs of being subject to the GOCS, to a condition on thematic role matching, and to the Edge Condition. In contrast, the T/Agree Condition governs the realization of C-agreement with SoK in African languages, but this does not apply to the control of Ad in Magahi. The positive similarities are seen in the complements of ‘tell’ type verbs, ‘hear’ type verbs, passives of ‘tell’, clausal locality effects, and noun complement clauses. Distinctive Magahi constructions that follow the same general principles include dative subject constructions and triadic verbs with oblique objects like ‘ask’. The other side of the coin is that upward C-agreement and shifted allocutive marking are both ruled out in NOC contexts, including high adjunct clauses, relative clauses, and matrix clauses (also in principle in CP subjects, but Magahi does not have these). These similarities make the two constructions ripe for a unified analysis in terms of a Generalized Control theory based on these principles ((30)-(31)). There is an important difference too, though: if Ad in Magahi is not controlled, it denotes the addressee in the speech context (root clauses) or the same person as the next highest Ad (in embedded contexts), whereas SoK (and presumably OoK) are ruled out when OC does not apply.

3.4. Toward a typology of ghostly DP operators

The last section explored the core similarities between the control of Ad in Mahagi and the control of SoK and OoK in African languages. I claimed that they were substantive. The core principle that the immediately superordinate thematic subject controls the outer operator and the immediately superordinate thematic object controls the inner operator is valid for both constructions and language groups. The additional principle that the inner operator can be controlled only if the outer one is is also important in both Magahi and Kipsigis.

I round out this chapter with some higher-level reflection about comparing the (Sp)-Ad system of Magahi with the SoK-(OoK) system of the African languages, sorting out more systematically what they have in common from what distinguishes them. This provides the framework for a broader typology of the ghostly DP operators, to be filled out in later chapters. Properties that they have in common are on their way to being principles of UG relevant to this conceptual domain. But it is also possible, indeed desirable, that the differences between them might form coherent clusters, such that several seeming-differences can be reduced to one or two fundamental differences. This could be a path toward further insight into what the fundamental character of these ghostly elements is beyond their being something that matrix arguments can control.

3.4.1 Similarities among the ghostly DP operators

²⁷ The alternative analysis I mentioned is that ‘tell-news’ can count as a complex predicate, such that the goal of ‘tell’ is a co-argument of the CP complement of ‘news’. That would work in Magahi too, and might be particularly plausible for (50a), where the CP surfaces apart from the noun and adjoined to a projection of the verb.

First, I recap the similarities, lest the discussion to follow make the reader start to feel like there are only differences. They include the following:

- (51) a. They appear at the periphery of a relatively full finite CP—not in, say, nominalized or nonfinite clauses (see chapter 1).
 b. They (can) come in pairs: one subject-like and the other object-like.
 c. They are broadly similar (although not identical) in meaning, having to do with the producers, consumers, possessors, and judges of propositional content.
 d. They are obligatorily null DPs, pronoun-like in their features.²⁸
 e. They do not create islands for extraction (see below).
 f. They do not count as A-binder antecedents for reflexive pronouns (see below).
 g. They do count as semantic binders for ordinary pronouns, transmitting their features to their bindees.
 h. They can be the goals of an Agree relation, if a nearby head has probe features.
 i. They can be controlled by the arguments of the verb (or noun) that heads the phrase which the CP merges with (a CP complement or low adjunct).
 j. Control of them is governed by matching thematic roles: agent-type arguments control Sp and SoK; theme/goal-type arguments control Ad and OoK.
 k. The inner DP (Ad or OoK) can only be controlled if the outer one is (Sp or SoK).

Most of these 11 similarities have already been discussed in some detail, with the exceptions of (51a,d,e). As for the negative side of (51a), I mentioned in chapter 1 that allocutive marking is not possible on infinitival verbs and gerundival verbs in Magahi, illustrating with the examples in (52).

- (52) a. Santeeaa [jaa-yel-*au/*o/*ain chaha h-au/o/ain (infinitive)
 Santee go-INF-NH.AL/H.AL/HH.AL want be.3.NH-NH.AL/H.AL/HH.AL
 ‘Santee wants to go.’
- b. Ham okaraa dhekhe-se bach-l-i-**ain/o/au.** (participle)
 I 3.SG.NH.ACC see.PTCP-INS avoid-PFV-1.SG-HH.AL/H.AL/NH.AL
 ‘I avoided seeing him.’ (no alternative forms of *dhekhe-se* available)

Similarly, (53) shows that an agreeing complementizer cannot appear with a verb in gerund or infinitival form in Ibibio.

- (53) a. Okon a-ma a-tre [(***a-bo**) u-koot ngwet].
 Okon 3.SG-PST-3.SG-stop 3.SG-C GER-read book
 ‘Okon stopped reading the book.’
- b. Nditọ e-ke-yem (***e-bo**) edi-ta ebot.
 children 3.PL-PST-want (3.PL-C) INF-eat goat
 ‘The children want to eat goat.’

²⁸ Spadine (2020) argues that an overt DP expressing the author of an attitude—something like SoK or Sp—is possible in the CP periphery of a clause in Tigrinya. I discuss this interesting case briefly below.

The badness of ghostly operators at the edge of nominalized clauses may be principled: nominal projections are very limited as to the range of operators and other specifiers they can license (Baker 2003). The badness of most ghostly operators at the edge of a nonfinite clause may be less principled, more a matter of which heads have which lexically -specified selectional features in a given language.²⁹

The fact that SoK, OoK, Sp, and Ad are licensed by (finite) heads in the C-space (e.g. Eval, Fin) strongly suggests that they are A-bar positions, not A-positions. This fits with (51f), the fact that they cannot be the antecedents of anaphors inside the clause that contains them. Oyharçabal (1993) originally pointed this out for Basque, using examples like (54). Here the allocutive marking on the auxiliary verb shows that Ad is present triggering agreement that surfaces on that verb. Nevertheless, it is not possible for there to be a reflexive anaphor inside the sentence that is bound by this Ad.

- (54) *Hire burua-rekin mintzaten nau-k.
 you self-SOC speaking AUX.1.ABS-M.AL
 ‘I am speaking to yourself.’

This is also true in Magahi. In (55), shifted allocutive marking shows that ‘grandfather’ controls Ad in the embedded clause, but this does not allow reflexive *apan* to refer to grandfather by virtue of being locally bound by Ad.

- (55) a. *Santee-aa baabaa-ke kahk-au ki apan Ram-ke dekh-l-o ha-l.
 Santee-FM gr’father-DAT told.3.NH.S-NH.AL thatself Ram-ACC see-PFV.3.NH.S-H.AL be-PFV
 (‘Santee told grandfather_i that himself_i saw Ram.’)
- b. #Santee-aa baabaa-ke kahk-au ki Ram apan dekh-l-o ha-l.
 Santee-FM gr’father-DAT told.3.NH.S-NH.AL thatRam self see-PFV.3.NH.S-H.AL be-PFV
 ‘Santee told grandfather_i that Ram_k saw himself_{k,*i}.’

The examples in (56) show the same thing for Ibibio. The presence of *a-te* or *a-bo* would show that SoK is present in the CP complement, controlled by the matrix subject *Okon*. However, it is still impossible for a local anaphor (lit. ‘body his’) in the embedded clause to refer to *Okon* by virtue of being locally bound by SoK.

- (56) a. *Okon á-ké-bó (a-te) ké idém ómò ó-sóp-idém.
 Okon 3SG-PST-say 3SG-C that body his 3SG-be.fast-body
 (‘Okon_i said that himself_i is smart.’) (Aphranaph, D1a’, confirm Agr-C)
- b. #Okon á-dióngò (a-bo) ké Edem á-ma idem ómò.
 Okon 3SG-know 3SG-C that Edem 3SG-like body his
 ‘Okon_i knows that Edem_k likes himself_{k,*i}.’

²⁹ Indeed, the ban on ghostly operators at the edge of a nonfinite clause is not absolute: see chapter 5 for evidence that logophoric operators are possible in nonfinite clauses in Ibibio. There does seem to be an implicational relationship, however: a given ghostly DP is possible in a nonfinite clause only if it is also possible in a finite clause. [Perhaps this has to do with infinitival clauses having strictly less superstructure than finite clauses have?]

These ghostly operators differ in this respect from the logophoric operator which Charnavel (2019, 2020) posits in constructions with long-distance anaphors in French and other languages, which can bind an anaphor giving the appearance of genuine long-distance behavior. See chapter 5 for some discussion.³⁰

The last similarity between Ad/Sp and SoK to illustrate is (51e), the fact that neither one of them creates an island for extracting a *wh*-phrase from the CP complement. Thus, (57a) shows that shifted allocutive marking is possible in a clause from which ‘when’ has been extracted in Magahi. (The ? here is because ‘when’ is more easily interpreted as questioning the time of the telling, as in English.) Similarly, (57b) shows that *what* can be moved out of a CP headed by the agreeing complementizer *a-ti* in Kinande. (57c) shows the same thing for Ibibio.

- (57) a. ?Kab Santee-aa baabaa-ke kahk-ai/au ki Ram mar-b-o?
 when Santee-FM gr’father-DAT told-3.NH.S/NH.AL that Ram die-FUT.3.NH.S-H.AL
 ‘When did Santee tell grandfather [that Ram will die --]?’
- b. Eki-hi ky-o Kambale a-bw-ira aba-kali **a-ti** ba-gul-e?
 CL7-what CL7-FOC CL1.Kamable CL1.S-tell-APPL CL2-women CL1-C CL2.S-buy-SBJV
 ‘What did Kambale tell the women that they should buy?’ (Kinande)
- c. Nso ke Okon a-ke-dokko Emem (**a-bo / a-te**) ke imo i-k-i-dep?
 What FOC Okon 3SG-PST-tell Emem 3SG-C/3SG-C that LOG 3.LOG-PST-3.LOG-buy
 ‘What did Okon tell Emem that he bought?’ (Ibibio)

Thus ghostly operators do not create *wh*-islands the way that moved *wh*-phrases in the Spec CP of a complement clause so often do. In terms of phases, these null DPs do not clog up the edge of the CP phase so that there is no escape hatch for the moved *wh*-phrases. In Rizziian relativized minimality terms, ghostly DPs must count as being in a different equivalence class from ordinary *wh*-phrases. This is not surprising, given that moved *wh*-phrases typically bear focus and interrogative features, and there is no reason to think that SoK, OoK, Ad, or Sp have that kind of feature. Overall, then, both types of ghost are invisible to some of standard syntactic diagnostics, from the theories of movement and binding. But they are certainly not invisible to all syntactic processes; in particular, they are not invisible to agreement, control, or feature transmission under pronoun binding.

We seen, then, that there is quite a bit of similarity between Sp/Ad and SoK/OoK. Therefore, it makes sense to think of them as falling under the same general theory. Reprising the analogy in chapter 1, it is like all mammals having forelimbs with the same skeletal syntax, even though it shows up as a wing in some animals (bats) and a flipper in others (seals).

3.4.2 Differences among the ghostly DP operators

But there are nontrivial differences as well. A bat is not a seal, even if they both have forelimbs. The differences include the following:

- (58) a. Their meanings are different in finer detail. For example, SoK is bad with factive

³⁰ In the text, I assume that Ad and SoK do not bind local anaphors because they are in A-bar positions. Another factor could be that they are outside of the TP, so arguably not within the binding domain of an anaphor inside TP.

- clauses, whereas Ad (and Sp) is not so restricted (see below).
- b. SoK and OoK are unspecified for phi-features, whereas Ad is intrinsically second person (and Sp is first person).
 - c. Ad (and Sp) are found in matrix clauses; SoK and OoK seem not to be.
 - d. SoK and OoK are found in embedded clauses; many languages apparently do not allow Ad in most such clauses (although Magahi does—among others).
 - e. A subject needs to trigger agreement on a T-like head in order to trigger agreement on C in the Niger-Congo languages; there is no such restriction on agreement with Ad.
 - f. If Ad is not controlled by arguments of the matrix verb, then it is bound by the next highest Ad (and similarly for Sp); SoK (and OoK) cannot be bound by a higher SoK (or OoK) in this way.

So the differences are nontrivial, and they should be understood as well. This subsection takes up this task. I propose that (58a) and (58b) are the heart of the matter when it comes to defining how Ad is different from SoK and OoK. (58a) arguably leads to (58b), but (58b) is a more comfortable starting spot for syntax, so many of my chains of reasoning will start from there.

3.4.2.1 Fundamental properties of the operators

I start with (58a), saying a bit more about the semantics of Ad (and Sp) and how it compares that of SoK and OoK. Even within this subdomain, there are broad similarities and smaller scale differences. A hint that Ad, like SoK and OoK, has some nontrivial meaning comes from the causative example in (59) from Magahi. (This example does not have overt allocutive marking on the embedded clause, but it can have second person indexical shift, an indirect effect of there being a controlled Ad.)

- (59) Ram Sita-se soch-walk-ai ki (ham) toraa-se pyaar kar h-i.
 Ram Sita-INS think-CAUS.PFV-3.NH.S that I you-INS love do be-1SG.S
 ‘Ram made Sita think (convinced Sita) that I(=Ram) love you(=Sita).’
- a. OK: [...by giving a red rose.] (*laal gulaab-ke phul de de-ke*)
 - b. Not OK: [...by stammering awkwardly]

There are many ways that one person can make another person think something. Some are intentional linguistic communication: Ram could say in a sincere tone of voice to Sita “I love you.” Some are intentional communication that is nonlinguistic: Ram could silently hand Sita a red rose on Valentine’s Day. Some are not intentional at all: Ram could turn red and start stammering awkwardly whenever Sita comes into the room; Sita could notice this and infer that Ram has feelings for her. Apart from issues operator control, ‘think-cause’ could potentially have this wide range of meanings. But with operator, the sense of (59) is relatively limited. When ‘you’ in the embedded clause is understood as referring to Sita (and ‘I’ as referring to Ram³¹), showing that Ad has been controlled by the causee, (59) is only possible with an intentional communication meaning: giving the red rose qualifies, as does a spoken declaration, but blushing and stammering does not. This is a hint as to what Ad means: it refers to the intended recipient of propositional information. Thus, once *Sita* controls Ad, *Sita* must be the

³¹ These two types of indexical shift go together—the Shift Together constraint of Anand and Nevins (2004) and subsequent work, which partially reduces to the Edge Condition in the current framework. See chapter 4.

goal of an act of communication with the content “I love you”. This extra element of meaning comes from the meaning of Ad, rather than being intrinsic to the meaning of ‘think-cause’. This is like the evidence that having SoK or OoK present in a CP complementation construction often narrows the meaning of that construction in noticeable ways.

But there are differences too. We have seen that SoK is not good in the CP complement of factive verbs in the African languages; (60a) is an example with ‘remember’ from Kinande. In contrast, controlled Ad is compatible with such verbs in Magahi, as shown by the possibility of shifted allocutive marking in the complement of ‘remind’ in (60b).³²

- (60) a. *Kám bale mw-á-kumbuk-íre a-ti Marya mw-á-gul-ire ehi-lóle.
 CL1.Kambale AFF-CL1.S.TNS-remember-ASP CL1-C CL1.Mary C-CL1.S-buy-ASP CL19-bananas
 (‘Kambale remembered that Mary bought bananas.’) (Kinande C-agreement)
- b. Santee-aa baabaa-ke yaad dial-k-**au** ki Ram almira-me paisa
 Santee-FM gr’father-DAT memory give-PFV.3.NH.S-NH.AL that Ram drawer-in money
 chhupail-**o** ha-l. (=38)
 hid-PFV.3.NH.S-H.AL be-PFV (Magahi allocutive shift)
 ‘Santee reminded Grandfather that Ram hid money in the drawer.’ (said to a friend).

More generally, SoK goes along with new or asserted content, not presupposed content, whereas allocutive marking is neutral in this regard. Similarly, if Diercks and Rao (2019) are right about upward C-agreement with objects in Kipsigis, then OoK gives a marked effect of (something like) verum focus in that language. In contrast, having Ad triggering allocutive marking does not have this effect in Magahi.

Presumably whatever semantic differences can be teased out here are less about the meanings of SoK, OoK, (Sp and) Ad in themselves, and more about the different C-like heads that license them. SoK, OoK, Sp and Ad are probably all just minimal pronouns—bearers of indices, of phi features, and possible targets of agreement, but not much else. If so, the locus of the difference in meaning between an upward C-agreement sentence in Kipsigis and a sentence with allocutive marking in Magahi is not due to OoK versus Ad itself, but to the meanings of the heads that select OoK and Ad. OoK and SoK are the specifiers of Eval heads, according to Speas and Tenny (2003) (and my extension to OoK). In contrast, Ad* in the matrix clause is the specifier of an saP head, and Ad in embedded clauses is a specifier of a Fin head according to the proposal arrived at by the end of section 3.2 (see (29)); both of these heads are distinct from Eval. So the meaning difference presumably lives in the meanings of those heads. Eval1 means something like “x has a distinctive responsibility for the content of CP” whereas sa1 means “x is the source of the content of CP”. Similarly Eval2 in Kipsigis may mean “x acquires a commitment to the truth of CP” (according to my rough and tentative suggestion) whereas sa2

³² This pair is not ideal in that ‘remember’ and ‘remind’ are semifactives, and the African languages vary some as to whether this class is compatible with an agreeing C or not (no in Kinande and probably Ikalanga; yes in Lubukusu and Ibibio). C-agreement is ruled out more uniformly with a factive verbs of emotion, but I do not know of a factive verb of emotion in Magahi that also has a goal argument that could control Ad. However, first person indexical shift (controlled Sp; see Alok (2020: 149 (36)) and unshifted allocutive marking (uncontrolled Ad; see (i)) are both possible in the complements of verbs of emotion, as with virtually all other verbs in Magahi.

- (i) Santee-aa khuus h-au ki Bantee-aa bhag gel-**au**.
 Santee-FM happy be.3.NH.S-NH.AL that BanteeFM escape went-3.NH.S-NH.AL
 ‘Santee is happy that Bantee ran away.’ (Alok 2020: 11 (15), translation corrected)

means roughly “x is an intended receiver of the content of CP”. Or something like that.³³ Of course, it is usually hard to be precise about the meaning of a lexical item, and functional heads are not always the easiest ones to do this for. I do not try to take this farther here. However, it must be a basic difference between the two operator constructions.

The other difference that I treat as basic is the difference in (58b): Ad is second person (and Sp is first person), whereas SoK and OoK are not intrinsically specified for phi-features. The empirical basis of this claim was already discussed in section 3.2. In this respect, SoK and OoK are the more usual case, and may in this respect be no different from ordinary verbs, which allow their arguments to be pronouns (or NPs) of any person.³⁴ The fact that Ad and Sp are fixed in phi-features seems more peculiar. However, it is not unheard of for a functional head to impose particular person features on a nearby DP. In particular, Zanuttini and colleagues (Zanuttini 2008, Zanuttini et al. 2012, Portner et al. 2019) argue that this is what happens with what they call jussive heads. The most familiar of the jussive heads is imperative, which can impose second person features on the subject that it is in construction with. To see this, consider the range of imperatives in (61) from English. The most common and obvious case is an imperative with a second person pronoun as its subject, either overt or covert, as in (61a). However, Zanuttini (2008) argues that imperatives can also have subjects that are unspecified for person, like quantifiers, D-less common noun phrases, or even proper names, as in (61b,c,d).³⁵ In this case, the imperative head imposes second person features on a nominal that does not have them intrinsically, as shown by the person features of the reflexive object that depends on the subject in (61b,c,d) (as well as the meanings of the subject themselves, which amount to *every one of you*, and *you children*).³⁶

- (61) a. (You) help yourself to another cookie.
b. Everyone help yourself to another cookie.
c. Children help yourselves to another cookie.
d. Mary wash your hands and John brush your teeth. (Then we can go.)

Zanuttini et al. (2012) extend these observations to a larger paradigm in Korean, which in addition to imperative heads has a “promissive” head that imposes first person exclusive features

³³ Probably this should be developed in such a way that the meaning of Fin (or embeddable versions of *sa*) is largely redundant with the meanings of other heads in a CP complementation structure, such as the the CP-selecting verb and other heads in the C-space. The fact that Fin/*sa* have a meaning allows their meaning to constrain the constructions that they appear in in certain ways, but the fact that it is a largely redundant meaning in most contexts implies that their contribution to the meaning of the overall structure is not very noticeable. (Compare the tradition of saying that finite complementizers in many languages are bleached/grammaticized versions of the verb ‘say’, from which they may derive historically.)

³⁴ A different perspective on this might be that Eval does not select a DP with any person features, but rather a DP that is (initially) devoid of person features, such that it has to undergo obligatory control in order to receive features and become interpretable. In that case, the right analogy would be between Eval and the nonfinite T in control infinitives in languages like English, which requires the subject to be PRO. How to think about this depends on exactly how we specify the class of controllable DPs in the GOCS, which I left open.

³⁵ See Zanuttini (2008) for arguments that the initial DPs in these sentences are the subjects of the imperative rather than vocative phrases. In some cases, this may be less than certain.

³⁶ Zanuttini (2008) claims that if the subject of an imperative has specified phi-features that are incompatible with second person, the structure is ruled out, at least in a common dialect of English: **She/the child/I help yourself to another cookie*. However, some English speakers do allow imperatives with third person subjects in some cases, and crosslinguistically there may be more cases of DPs have layers of phi-features than Zanuttini realized (see chapter 6 on indexiphors).

on the subject of the clause and an “exhortative” head that imposes first person inclusive features on the subject of the clause. My hypothesis then is that sa1 and/or Fin1 in Magahi is akin to promissive in Korean in assigning first person features to its specifier, and sa2 and/or Fin2 is akin to imperative in assigning second person features to its Spec. Presumably these properties are related to the lexical meaning of the functional heads involved. There is a clear intuitive sense that grammatical second-personness is related to the inherent addressee-directed nature of an act of commanding denoted by an imperative head (although this is not so easy to make precise, and some languages do allow imperatives with third person subjects as well). Similarly, the first-personness of Sp, the specifier of sa1P (and Fin1P), and the second-personness of Ad, the specifier of sa2P (and Fin2P) should be intrinsically related to what sa1 and sa2 mean. ‘I’ is for the author of the sentence being produced, and sa1 says that its specifier is the producer of its CP complement, so there is an affinity there. Similarly, ‘you’ is for the addressee that a sentence is aimed at, and sa2 says that its specifier is the intended recipient of its CP complement—a similar affinity.

The Ethiosemitic language Triginya as described and analyzed by Spadine (2020) helps to reinforce these ideas. It has a construction which is interestingly intermediate between upward C-agreement and speaker agreement in the sense of Dargwa. Simple examples like (62) look just like upward C-agreement in the Central African languages, where the complementizer *?il* agrees with the subject of the matrix verb in person, number, and gender. This suggests that the specifier of *?iP* is like SoK.

- (62) a. **Naomi** [[Aman siga sariḥ-u] ?il-a] ti-ḥasib.
Naomi.F Aman.M meat cook-3SG.M C-3SG.F 3SG.F-think
‘Naomi thinks that Aman cooked meat.’ (p. 27, (15b))
- b. **Kidane** [[hiwät mäṣḥaf ?anbib-a] ?il-u] täzaräb-u.
Kidane.M Hiwet.F book read-3SG.F C-3SG.M say-3SG.M
‘Kidane said that Hiwet read a book.’ (p. 29, (19))
- c. **Nissiki** niṣayi [[?anä ni Birhane riya?-ä-yo] ?il-ki] nägar-ki-ni.
2.F.SG.NOM 1.SG.ACC 1SG.NOM DOM Birhane see-1SG.S-3SG.M.O C-2SG.F say-2SG.F.S-1SG.O
‘You told me that you saw Birhane.’ (p. 171, (251a))

However, Tigrinya is different from Kipsigis and the Niger-Congo languages in that when a CP complement headed by *?il* has a pronoun that refers to the NP that *?il* agrees with, that pronoun must be first person, a type of indexical shift.³⁷ This is seen in (63a) (and also (62c)). (63b) shows that a third person pronoun inside such a CP cannot refer to the matrix subject.

- (63) a. **Hiwät** [?anä näti mäṣḥaf ?anbib-ä] ?il-a] ti-?ammän.
Hiwet.F 1.SG.NOM DETbook read-1SG.S C-3SG.F 3.F.SG-believe
‘Hiwet believes that I_{i,*sp} read the book.’ (p. 24, (12a))

³⁷ Alternatively it can be a third person *reflexive* anaphor (Spadine 2020: 34). I (may) return to this additional possibility in chapter 6, in the context of long-distance anaphors and indexiphors.

- b. Almaz [[**nissa** saʕasiʕ-a] ʔil-a] (täzaräb-a³⁸).
 Almaz.F 3SG.F.NOM dance-3.F.SG.S C-3.G.SG say-3SG.F.S
 Almaz_i said that she_{k,*i} danced. (p. 110, (155c))

In this respect, the specifier of *ʔilP* acts like Sp, a first person analog of Ad in Magahi (see also Dargwa, discussed in Section 3.2). So the ghostly operator in Tigrinya behaves like a hybrid of SoK and Sp. An additional wrinkle is that Spadine shows that the specifier of *ʔil* can even be overt in Tigrinya, different from the ghostly DPs we have seen up to now. In (64a), this position is occupied by a pronoun that is coreferential with the matrix subject; in (64b) it is a referentially distinct noun phrase.

- (64) a. Hiwät [**ʔissa** [ʔanä näfoʕti ʔiy-a] **ʔil-a**] ti-ʔammin.
 Hiwet.F 3.F.SG 1.SG.NOM smart.F COP-1 C-3SG.F 3SG.F-believe
 ‘Hiwet_i believes that she_i read the book.’ (p. 45, (46b))
- b. Almaz [**Mahari** [riʕ-äy-a] **ʔil-u**] ti-ḥasib.
 Almaz.F Mahari.M see-1SG.S-3.F.SG.O C-3.M.SG 3.F.SG-say
 ‘Almaz says Mahari thinks he saw her.’³⁹ (p. 46, (48))

It is significant the specifier of *ʔilP* here does not look like it is first person; rather it looks like an ordinary third person pronoun or name. I claim that this is the same kind of phenomenon that we see in (61b-d) from English imperatives: *ʔil* in Tigrinya imposes first person features on a DP that would otherwise be third person, just as Imperative imposes second person features on erstwhile third person subjects in (61b-d). This strengthens the claim that special functional heads can be the source of intrinsic person features, connecting the dots between jussive heads and the heads that license Sp and Hr. What is special about Tigrinya, on this view, is that it allows a single DP to have different values for the same person feature more than some other languages do.⁴⁰ Messick (In press) argues that this happens for a variety of constructions involving so-called monstrous agreement; I return to this in chapter 6 on so-called indexiphors.

The connection I have posited here between the semantics of certain functional heads and the phi-features of the (usually) ghostly DPs that they license is admittedly somewhat vague, and I do not attempt to work out all the complexities. For purposes of the rest of the work, it will work well enough to say that being second person is a defining property of Ad, whereas SoK (and OoK) are unspecified for person, again by definition.

3.4.2.2 Differences that follow from differences in phi-feature specification

Although my discussion of (58a) and (58b) has been somewhat vague and intuitive, as may befit the kind of motivation one can give to the axioms of a formal system, we now have the prospect

³⁸ Spadine does not include the overt verb ‘say’ in this example, but I don’t see why it should not be possible given her generalizations and tentatively include it for illustrative purposes. For small but fascinating differences between sentences with ‘say’ as well as *ʔil* and sentences without overt ‘say’ see Spadine (2020: ch 2).

³⁹ I wonder if this sentence should rather be glossed as ‘Almaz thinks that Mahari says that he saw her’, since *ḥasib* is otherwise consistently glossed as ‘think’, and *ʔil* with a subject but no verb is usually interpreted as ‘say.’

⁴⁰ Even a second person pronoun can get first person features from *ʔil* in Tigrinya (Spadine 2020: 117 (166a)). This is like indexiphors in Telugu, but different from imperatives in English according to Zanuttini (cf. fn. 35), where a speaker cannot give themselves an order using a sentence like **I_i raise your_i hand in class more often.*

that other distinctive properties in the cluster in (58) might be derived from them, especially from (58b). This section pursues this goal for (58c-e).

Consider first (58c), the issue of whether a particular ghostly DP operator is possible in a root clause. On the one hand, a version of Ad (Ad*) clearly is possible in this environment. Thus allocutive marking is definitely possible in matrix clauses in Magahi and other languages, as shown again in (65). Indeed, this is the only environment where it is possible in conservative Basque, Jingpo, Punjabi, and the other languages that Antonov (2015) discusses. On the core assumption that this marking is agreement with a nearby Ad, Ad must be present in root clauses.

- (65) a. Ham jaa-it h-i-**au**. (addressee nonhonorific, a peer)
 I go-PROG be-1SG-NH.AL
 ‘I am going.’
- b. Ham jaa-it h-i-**o**. (addressee honorific, e.g. a parent, grandparent)
 I go-PROG be-1SG-H.AL
 ‘I am going.’
- c. Ham jaa-it h-i-**ain**. (addressee high honorific: a king, priest, professor)
 I go-PROG be-1SG-HH.AL
 ‘I am going.’

If Ad is present in matrix clauses, then presumably its partner Sp is too. Indeed, this must be the case if first person pronouns are pronouns that are locally bound by Sp, since such pronouns are of course possible in matrix clauses (see chapter 4). In contrast, agreeing C is not possible in matrix clauses in African languages.

- (66) *A-li/ba-li ba-keni ba-a-cha. (Lubukusu, cf. Diercks (2013))
 CL1-C/CL2-C CL2-guests CL2.S-TNS-go
 ‘The guests left.’

From a certain perspective, the restriction in (66) is rather obvious: there is nothing above C for C to agree with in this context, so upward C agreement could not happen here. But in terms of my theory, there is something to be said. C actually agrees with the null DP SoK, and it is not out of the question that as a pronominal element SoK could get an antecedent from discourse, or receive an arb(itrary) interpretation, as pronouns often can, including PRO in non-OC environments. However, it is plausible to say that an item must have some kind of intrinsic features in order to get an interpretation from the wider discourse context in this way. For example, Reuland (2011) and others have argued that if a DP has no phi-features, then it is a sort of anaphor and as such it needs to have a linguistic antecedent by the time that Spell Out sends it to the semantic interface—i.e. within a local syntactic domain. Since SoK has no intrinsic features at all (by hypothesis, (58b)), it needs to get them from an antecedent or controller within the next highest phase that contains it, or it runs afoul of the Principle of Full Interpretation. But SoK in the periphery of the root clause cannot be assigned a controller or antecedent in that clause. Hence, it cannot appear in that context. In contrast, Ad (and Sp) have intrinsic phi-features, including at least [+2]. Therefore, it counts as a pronoun rather than as an anaphor in this respect. As such, it does not require a local controller or antecedent in order to be interpreted

at the interface. In fact, matrix Ad (Ad*) is stipulated as referring to the addressee of the sentence it has scope over. Therefore, Ad is possible in root clauses, making possible allocutive marking in such clauses.⁴¹

Property (58d) is the converse of (58c): it is the fact that SoK is possible in embedded clauses in African languages, but Ad (and Sp) may not be in many languages. Indeed, Magahi seems to be somewhat special in allowing Ad to be embedded quite freely. The African side of this is now obvious: if SoK is featureless, so intrinsically anaphoric, it will be possible in embedded clauses where it can acquire a c-commanding antecedent/controller. This time it is the Sp/Ad side of the generalization that raises issues. As discussed in section 3.2, we find typological variation on this point, ranging from Conservative Basque and Korean (least embeddable allocutive marking) to Magahi and Innovative Southern Basque (freely embeddable allocutive marking), with Japanese (Miyagawa 2012) and perhaps Tamil (McFadden 2020) somewhere in between. Alok (2020, 2021) discusses this issue, and I have basically followed his view. Recapping my remarks in section 3.2, I suggest that there is a high Sp (Sp*) and a high Ad (Ad*) in matrix clauses that are generated in SAP, and this projection cannot normally be embedded, except perhaps under ‘say’ verbs that license embedded root phenomena (see Miyagawa 2012, 2017). In addition, there is a lower Sp and Ad that can be generated in FinP, and this can be embedded. Languages with allocutive agreement then differ as to whether the agreeing head is SA (Conservative Basque) or Fin (Magahi) or both (Tamil). At least this last factor is a shallow morphological difference across languages. The new consideration raised by this section is that I want Sp and Ad to get their distinctive qualities imposed on them by the special functional heads of which they are specifiers—including their intrinsic phi-features. This may rule out a view according to which Sp and Ad are specifiers of quite different heads in different languages; that would not give a uniform account of the inherent first-personness of Sp and the inherent second-personness Ad in terms of the properties of the licensing head, including its meaning. To the degree that there are genuine differences in embeddability across languages, not just differences in agreement, these presumably follow from the meanings of the functional heads ((58a)), perhaps in interaction with the meanings of attitude verbs. For example, SA heads have been thought to have a performative speech act meaning and may not be embeddable for that reason (cf. Portner et al. 2019).

The last property in this cluster is (58e), the fact that C-agreement with SoK is subject to the T/Agree Condition in the Niger-Congo languages, but C-agreement with Ad in Magahi is not. Moving to a more minimal comparison, C-agreement with Sp in Dargwa is not subject to the T/Agree condition either. Recall that verbs in Dargwa normally agree only with

⁴¹ Spadine (2020) argues that agreeing C is possible in unembedded clauses in Tigrinya, in examples like (i).

- (i) **[Kidane** [Almaz māṣṣhaf ʔanbib-a] ʔil-u].
 Kidane.M Almaz.F book read-3SG.F C-3SG.M
 ‘Kidane [says/thinks...] that Hiwet read a book.’ (p. 16, (6))

This is obviously related to the fact that Tigrinya allows overt DPs in Spec CP (*ʔilP*)—*Kidane* in (i). When the DP in Spec CP is not SoK, it has phi-features and is not anaphoric, so Full Interpretation does not require it to have a controller or antecedent in the next phase. The structure is then a candidate for use as a root sentence. Spadine argues that what many have taken to be sentences with defective verbs meaning ‘say’ or with null verbs meaning ‘say’ taking a CP complement are really unembedded CPs, not only in Tigrinya, but also in languages like Ewe and Malayalam. If her arguments for this carry over to other languages with “defective verbs” (like *-te* in Ibibio and *-ti* in Kinande), then this situation may turn out to be relatively common.

nominative/absolutive DPs. Nevertheless, C can agree indirectly with an ergative or dative subject that controls Sp but does not trigger agreement on the matrix verb, as shown again in (67).

- (67) a. **It-i-l** xar b-irɔ-ul ca-b [[ina-d du-l murhe (=19)
 that-OBL-ERG ask N-ask.IPFV-ICVB be-N where-N.PL 1SG-ERG gold
 daʔaʔaʔn-ne d-arq'-ib=da=jal] Ø-ik'-ul].
 secret-ADVZ N.PL-do.PFV-PRET=1=Q M-C-ICVB
 'He asks where I hid the gold.' (Forker 2019: (13b))
- b. **Dam** han b-iç-ib [[a-b-elk'-un-ne] r-ik'-ul].
 1SG.DAT seem N-occur.PFV-PRET NEG-N-write.PFV-PRET-CVB F-C-ICVB
 'I (fem.) thought that he did not write.' (Forker 2019: (5a))

It would be easy enough to simply stipulate this difference by saying that the relevant C-like heads in Magahi and Dagwa are primary agreeers—they trigger Agree-Copy as well as Agree-Link—whereas the C-like heads in the African languages are dependent agreeers, triggering Agree-Copy but not Agree-Link. Therefore, the Cs in the African languages need T to trigger the actual copying of phi-features onto all the heads linked to SoK, whereas the Cs in Magahi and Dagwa can do this themselves.

But suppose that a good number of examples of embedded and shifted allocutive agreement and speaker agreement come to light, and they do not obey a T/Agree Condition either, making it clear this difference is not accidental. Then this difference between agreement with Sp/Ad and agreement with SoK could be derived from the fact that Sp and Ad have intrinsic phi-features whereas SoK does not. This can be done by hypothesizing that C is always a primary agreeer, just as T is—in the African languages as well as in Magahi and Dagwa. Then we can envision derivations like (68) for a generic example like 'Mary thinks that Sue came', concentrating on Sp in Dagwa vs C-agreement with subjects in the Niger-Congo languages.

- (68) a. [_{CP} SoK / Sp C [Sue came]] Agree-Link and Agree-Copy (C)
 Ø +1, F (Ø / +1, F)
- b. [_{VoiceP} Mary Voice [think [_{CP} SoK/Sp C [Sue came]]]] Control
 [3sg, F] [3sgF] [1sgF] (Ø / +1, F)
- c. T [_{VoiceP} Mary Voice [think [_{CP} SoK/Sp C [Sue came]]]] Agree-Link (T)
 [3sg, F] [3sgF]/[1sgF]
- d. T [_{VoiceP} Mary Voice [think [_{CP} SoK/Sp C [Sue came]]]] Agree-Copy (T)
 [3sg] [3sg] [3sg]/[1sgF] [3sg]/[1sgF]

When a C head is first merged with SoK or Sp (or Ad) in the embedded clause, it undergoes Agree-Link and Agree-Copy immediately ((68a)). In Dargwa (or Magahi), C then gets first (or

second) person features from Sp (or Ad) immediately, and that is essentially all there is to it.⁴² However, in the Niger-Congo languages C cannot get phi-features from SoK immediately at this early stage, because SoK does not have phi-features yet: it has no intrinsic phi-features, as we have seen, and control has not happened yet at this point in the bottom-up derivation. When the matrix VoiceP is built, as in (68b), control happens and SoK receives the phi-features of its controller. However, Agree-Copy does not automatically reapply, the initial opportunity for that having already passed. Then if T is later merged and enters into Agree with the controller of SoK, as in (68c), Agree-Link takes place, but crucially Agree-Copy is triggered again. Recall from Chapter 2 that I formulated Agree-Copy in the particular way in (69) to allow for the phenomenon of dependent agreement, found not only with complementizers in the Niger-Congo languages but with infinitives in Hindi, participles in Icelandic, and similar phenomena.

(69) *Agree-Copy*:

If head H points to DP and H is [+Agree-Copy], then phi(DP) is copied onto *all heads* linked to DP.

Therefore, the embedded C in a Niger-Congo language can get phi-features as a side effect of this second instance of Agree-Copy, triggered by the matrix T, as shown in (68d). In this way, it arrives at essentially the same endpoint that C in Dargwa and Magahi get to in one step. In contrast, if no T ever triggers Agree-Copy with the controller of SoK (say because the matrix VoiceP is embedded in a causative construction and T agrees with the causer, or because the agent is null or oblique in a passive construction), this does not happen. Then Agree-Copy is not triggered again by any head that points to SoK or a controller thereof. This gives the basic contrasts in the Niger-Congo languages that were discussed at the end of Chapter 2 in a slightly revised way. In this version, the fact that the T/Agree Condition is relevant to C-agreement with SoK but not to C-agreement with Sp or Ad follows from the fact that Sp and Ad have intrinsic phi-features but SoK (and OoK) do not—one of the fundamental differences between these ghostly operators according to the current view.

We see, then, that several of the additional differences between Sp/Ad and SoK/OoK can plausibly be derived from the primary differences—in particular, the difference between having intrinsic phi-features and not having them.

3.4.2.3 Binding versus control of the operators

This brings us to one of the more interesting differences between the different kinds of operators, the one stated in (58f). Shifted allocutive marking appears to be optional in Magahi and Tamil. We have seen that Ad can be controlled by an argument of the matrix verb (the goal), but it can also be bound by the Ad of the higher clause. We see this in single-embedded structures in the fact that embedded allocutive can either resume the allocutive marking on the matrix verb, expressing the addressee's social standing relative to the speaker, or it can be shifted to show the matrix goal's rank relative to the matrix subject. A Magahi minimal pair is given in (70); (70a) has the unshifted embedded allocutive marking that results from the binding of Ad by Ad, whereas (70b) has the shifted embedded allocutive marking that results from the control of Ad

⁴² However, it is not so obvious how to handle gender agreement on C in Dargwa: does that feature originate on Sp, or is it inherited from the controller, as all features are with SoK? I leave this open.

by the matrix goal ‘Bantee’. Note that both outcomes are possible with the very same matrix clause, headed in this case by the verb ‘tell’.

- (70) a. Santee-aa Bantee-aa-ke kahk-**ain** ki Ram-ke Sita-se baat kareke chah-**ain**.
 Santee-FM Bantee-FM-DAT told.3.NS.S-HH.AL that Ram-DAT Sita-INS talk do.INF should-3.NS.S-HH.AL
 ‘Santee told Bantee that Ram should talk to Sita (said to a teacher).’
- b. Santee-aa **Bantee-aa-ke** kahk-ain ki Ram-ke Sita-se baat kareke chah-**au**.
 Santee-FM Bantee-FM-DAT told.3.NS.S-HH.AL that Ram-DAT Sita-INS talk do.INF should-3.NS.S-NH.AL
 ‘Santee told Bantee that Ram should talk to Sita (said to a teacher).’

The examples in (71) show again the analogous two possibilities in Tamil (McFadden 2020).

- (71) a. Maya [avæ pootti-le dzejkkæ-poo-r-aa[-ŋgæ-nnũ] so-nn-aa.
 Maya she contest-LOC win-go-PRS-3SG.F.S-H.AL-C say-PST-3SG.F.S
 ‘Maya said that she would win the contest.’ (speaker honors their addressee)
- b. Maya [taan pootti-le dzejkkæ-poo-r-ee-ŋgæ-nnũ] so-nn-aa.
 Maya self contest-LOC win-go-PRS-1SG.S-H.AL-C say-PST-3SG.F.S
 ‘Maya said that she would win the contest.’ (Maya honors her addressee)

So Ad in a singly embedded clause has two choices: it can be controlled by the matrix goal, or it can be the same as Ad*, the matrix Ad. This raises the question of whether “obligatory control” is really obligatory in this construction, given that Ad in (70) and (71) is in the context described by the GOCS: it is in the periphery of a CP generated inside the VP headed by ‘tell’/‘say’.

This observation can be refined by looking at doubly embedded clauses, as in (72) from Magahi. The matrix Ad (Ad*) is NH here; the speaker is addressing a peer. The Ad in the middle clause can also be the NH form *-au*, as in (72b), or it can be the H form *-o*, if Ad in the middle clause is controlled by ‘grandfather’, the goal of the highest clause, as in (72a). These are the same two options as we see in (70), not taking into account yet that the embedded verb ‘think’ also selects a CP complement. The interesting new observation is that the Ad in the lowest clause must match the Ad in the middle clause: it must be *-o* not *-au* in (72a) and it must be *-au* not *-o* in (72b). This pattern is expected in part: there is no goal in the middle clause built around ‘think’ that could control the Ad in the lowest clause. But there is new information in that *-au* on the lowest verb not match *-au* on the highest verb rather than *-o* on the middle verb in (72a).

- (72) a. Santee-aa baabaa-ke kahk-**au** ki Bantee-aa socha h-**o**
 Santee-FM gr’father-DAT told.3.NH.S-NH.AL that Bantee-FM think be.3.NH.S-H.AL
 ki Ram parichha paas ho ge-l-**o**/*ge-l-**au**.
 that Ram exam pass become go-PFV.3.NH.S-H.AL/*go-PFV.3.NH.S-NH.AL
 ‘Santee told grandfather that Bantee thinks that Ram passed the test.’ (to a peer)
- b. Santee’aa baabaa-ke kahk-**au** ki Bantee-aa socha h-**au**
 Santee-FM gr’father-DAT told.3.NH.S-NH.AL that Bantee-FM think be.3.NH.S-NH.AL
 ki Ram parichha paas ho ge-l-**au**/*ge-l-**o**
 that Ram exam pass become go-PFV.3.NH.S-NH.AL/*go-PFV.3.NH.S-H.AL
 ‘Santee told grandfather that Bantee thinks that Ram passed the test.’ (to a peer)

The structure of the crucial example in (72a) is given in (73). What we see is that Ad3 cannot be bound by Ad* past Ad2.⁴³

- (73) [Ad*_n C Santee told grandfather_i [Ad2_i that Bantee think [Ad3_{i,*n} that Ram passed]]]
 NH H H H,*NH

This shows that Ad cannot automatically denote the addressee regardless of its position in a syntactic structure. Only the matrix Ad, Ad*, automatically denotes the addressee; other Ads do so only by being controlled or bound (directly or indirectly) by the matrix Ad. Moreover, the binding of one Ad by another has a locality condition on it, as stated in (74).

- (74) If (Sp and) Ad are not controlled by an argument of the immediately superordinate verb, then they must be bound by the immediately superordinate (Sp and) Ad.

This states that in a representation like (73), Ad3 can be bound by Ad2 (controlled by ‘grandfather’), but it cannot be bound by Ad* or left free. ((74) is stated for both Sp and Ad; the extension to Sp is justified by patterns of first person indexical shift in the next chapter.)

In contrast, there is no similar operator-binding-operator option for SoK in the African languages. Suppose that SoK could avoid being controlled by an argument of the superordinate verb (the subject) and be bound by the higher SoK instead, parallel to (70a) in Magahi. Then we should be able to see C agreeing not with the closest higher subject, but with a further away subject—the one that controls the higher SoK—as in (75) with the structure in (76). But this is impossible.

- (75) Alfredi ka-a-loma a-li baba-andu ba-mwekesia ba-li/*a-li omu-keni k-ola.
 CL1.Alfred CL1.S-PST-say CL1-C CL2-people CL2.S-revealed CL2-C/*CL1-C CL1-guest CL1.S-arrive
 ‘Alfred said that people revealed that the guest arrived.’ (Diercks 2013: 371)

- (76) [Alfred_i said [SoK1_i that people_n revealed [SoK2_{n,*i} that the guest arrived]]]
 Cl1 c1 c2 c2/*c1

Diercks and Rao (2019) show that the same kind of clause-level locality holds for upward C agreement with objects in Kipsigis, assuming that to be a real phenomenon, as discussed in Chapter 2. So (Sp and) Ad can be bound by the next closest (Sp and) Ad, but SoK and OoK cannot be bound by the next closest SoK and OoK—another difference between the two families of ghostly DP operators.

I propose to derive this difference also from the fundamental difference in phi-features stated in (58b). Consider first the African side of the contrast. SoK and OoK are devoid of phi-features. Therefore, they are anaphoric/uninterpretable, needing to be controlled or bound by a suitable antecedent. The subject and object of the superordinate verb can count as such, clearly. But why can’t the superordinate SoK (or OoK) also play this role? I propose that this is a result of derivation by phases: SoK1 comes into the representation too late to save the SoK2 in a structure like (76). This can be developed as follows. A featureless DP like SoK cannot be

⁴³ The analog of this for indexical shift has been known since Anand and Nevins (2004), often discussed under the label “No Intervening Binder.”

interpreted as such at the LF interface, leading to a violation of Full Interpretation. Therefore, SoK must receive features by the time that it undergoes Spell Out, which sends it to the LF interface. When is that? Definitions vary, but I adopt the less restrictive version proposed by Chomsky (2001), stated roughly as in (77).

- (77) The complement of phase head H is spelled out at the completion of H'P, where H'P is the smallest phrase with a phase head H' that properly contains HP.

By hypothesis, SoK is the specifier of Eval, in the C-space of an embedded CP. It is in the domain of Force, the highest head in the C-space, which I take to be the normal phase head associated with CPs. Then SoK is sent to LF when the matrix VoiceP is completed, (active) Voice being the first phase head above ForceP in the architecture of the clause. This VoiceP contains the matrix subject and the matrix object. Therefore, these DPs can in principle control SoK (subject to the principles of control theory, like the thematic-role matching condition) in time to give SoK the phi-features that it needs to survive at LF. However, an SoK in the superordinate clause, like SoK1 in (76), is not in the phase that immediately contains the phase head just above SoK2. Therefore, it cannot transfer features to SoK2 in time for it to survive at LF. This strategy of explanation essentially involves generalizing my account of why SoK cannot be in an unembedded clause to why it has to be bound early rather than late when it appears in an embedded clause. The schematic structure is in (78), with only the most important (phase) heads indicated in bold.

- (78) [Alfred_i said [SoK1_i Eval_{[TP people_n T_{[voip t_n **Voi** [VP reveal_{[ForP **Force** [SoK2_{n,*i} Eval_[TP guest arrive]]]]]]]]}}}
- |
|
|
outside
point
inside
of spell out
of EvalP

Now consider the Magahi side of the contrast: why are (Sp and) Ad different from SoK and OoK in this respect? By hypothesis, Ad does have intrinsic phi-features, namely at least [+2]. Therefore, it can be interpreted at LF in a way that is guided by this feature. As such, it can be left free at the point of Spell Out. That is why Ad (and Sp) can appear in the periphery of a root clauses. By the same token, Ad can also be free at the time of the spell out of the complement of ForceP, triggered by the completion of the VoiceP that contains it. Therefore, Ad (and Sp) does not have to be controlled by the arguments of the matrix verb, whereas SoK and OoK do. Control by the arguments of the matrix verb is predictably optional in this case. It is then possible for Ad to be bound by a higher Ad instead. This is in line with the fact that one pronoun binding another is not restricted by locality restrictions like the PIC.

Indeed, the binding of Ad by another Ad can happen at greater syntactic distances, not only crossing clausal boundaries but even reaching into syntactic islands. Recall that relative clauses do not allow shifted allocutive marking, in which Ad in the relative clause is controlled by an argument of the verb in the root clause. But possible is unshifted allocutive marking which reflects the relationship between the speaker and the addressee and which matches the allocutive marking on the verb in the root clause (if any). This is seen in (79), with a structure like (80).

- (79) Santee-aa ii khabar je Ram okraa kahk-**au**/*o baabaa-ke kahk-**au**.
 Santee-FM this news REL Ram him.ACC tell-NH.AL/*H.AL grandfather-DAT tell.PFV.3.NH.S-NH.AL
 ‘Santee_i told grandfather the message that Ram told him_i.’

- (80) Ad*_k [Santee told gr'father_i [NP news [CP Rel [Ad_{k,*i} [TP Ram told him --]]]]]
|
OK pronoun binding | island |
| *control |

This implies that Ad in the relative clause can be bound by the matrix Ad, Ad*, even though it cannot be controlled by the matrix goal ‘grandfather’. In other words, obligatory control of Ad by the goal is subject to syntactic locality, including phase boundaries, as expected. But binding of Ad inside the island by the closest higher Ad is not subject to this kind of locality—like pronoun binding in general. Ad binding Ad can thus be quite a different relationship from a goal controlling Ad. This can also be seen in adjunct clauses like ‘so that’ clauses. These too can contain an Ad bound by Ad*, but not an Ad controlled by the matrix goal, as seen in (81).

- (81) Baabaa netaa-jore batiai-l-**thu** taaki hamraa kuchh phaidaa hob-**au/*ain**.
grandfather leader-with talk-PFV-3.H.S.NH.AD so.that I.DAT something benefit be.FUT-NH.AL
‘Grandfather spoke with/to the leader so that I will get some benefits.’ (to a peer) -*NH.AL

However, it is still true that what pronoun can bind Ad (or Sp) is somewhat more constrained than ordinary pronoun binding. Recall that (72)/(73) shows that Ad when it is not controlled by the superordinate goal must be bound by the closest c-commanding Ad, as stated in (74), not by any c-commanding Ad. Ordinary pronoun binding is not subject to such a restriction, as seen in examples like *Every girl_i thinks that every mother_k should acknowledge that she_i is talented*. This extra restriction can, however, be attributed to the fact that Ad (and Sp) is a +participant pronoun, i.e. a pronoun with second person (or first person) features. Such pronouns are known to be subject to some extra conditions that simple third person pronouns are not. It is well-known from Kratzer (2009) and many others that first and second person pronouns can participate in bound variable anaphora. Now Baker (2008: 126) proposed the principles in (82) for local/participant pronouns.⁴⁴

- (82) a. A first person pronoun must be locally bound by the closest Sp (or another 1st person pronoun).
b. A second person pronoun must be locally bound by the closest Ad (or another 2nd person pronoun).

This is motivated for the ordinary pronouns ‘I’ and ‘you’ in argument positions in Magahi and some other indexical shift languages.⁴⁵ A vivid illustration is the badness of examples like (83) in Magahi.

- (83) a. *Santee soch-l-ai ki (ham) hamraa dekh-l-i.
Santee think-PFV-3.NH.S that I me.ACC see-PFV-1.S
(‘Santee thinks that I saw me.’)

⁴⁴ I called (82) the Person Licensing Condition, but this term has been used by others in different ways—for example, by Béjar and Rezac in their theory of the Person Case Constraint.

⁴⁵ There are superficial examples of this sort in languages like Amharic and Mishar Tatar, but Deal (2020) treats them as having indexiphors, not true indexicals. I’ll discuss this in chapter 6.

Sp_i* Santee_k thinks [Sp_k that [I_{i,k} saw me_{k,i}].

- b. *Santee-aa Bantee-aa-ke kah-l-ai ki (tu) toraa dekh-l-eN
Santee-FM Bantee-FM-DAT tell- PFV-3.NH.S that (you.NH) you.NH.ACC see-PFV-2.NH.S
(‘Santee told Bantee that you saw you.’)
Ad_i* Santee told Bantee_k [Ad_k that [you_{i,k} saw you_{k,i}].

Absent conditions like (82), one might expect these examples to be possible with meanings like ‘Santee thinks that he saw me’ (or ‘Santee thinks that I saw him’) and ‘Santee told Bantee that he saw you’ (or ‘Santee told Bantee that you saw him’). This would be the result of one of the participant pronouns in the complement CP being bound by Sp*/Ad* and the other one being bound by the controlled Sp/Ad in the complement CP. But this is impossible, a kind of Shift Together violation. (82) plays a role in explaining why.⁴⁶ This forces the two first person pronouns in (83a) to refer to Santee, the controller of the closest c-commanding Sp, and the two second person pronouns in (83b) to refer to Bantee, the controller of the closest c-commanding Ad. These interpretations then violate Condition B of the Binding theory, since a nonanaphoric pronoun is locally bound by a coreferent DP in the same clause, on a par with **I scratched me* and **You scratched you* in English. So there is reason to think that the binding properties of +participant pronouns are a bit more restricted than those of -participant pronouns in the way described by (82).

Now (82) was not originally envisioned as applying to Sp and Ad as bindees rather than as binders of ordinary pronouns. However, given our hypothesis that Ad is itself second person (and Sp is first person), it naturally falls under this principle. This then gives us what we need to derive the descriptive generalization in (74) and thus complete the analysis of (72)/(73). As it is a kind of second person pronoun, (82b) implies that Ad must be bound by the closest higher Ad—the immediately superordinate one (and similarly for Sp). It is a little paradoxical that binding Ad is relatively unconstrained—it can reach across phases and into islands—but not totally unconstrained—it is subject to a kind of relativized locality condition as described by (74). Obligatory control of SoK is more tightly constrained, whereas normal (third person) pronoun binding is less constrained. But this is just the behavior that local pronouns are already known to have. If that is right, then the sharply contrasting behavior of (Sp and) Ad as opposed to SoK and OoK in this domain also follows from fundamental difference in phi features, as desired.⁴⁷

⁴⁶ See chapter 4 for some discussion of alternatives, in particular the context overwriting analysis of Anand (2006) and Deal (2020).

⁴⁷ There is some ambiguity as to whether Ad binding Ad inside a complement clause as in (73) is merely pronominal binding, theoretically equivalent to what happens in (80) and (81), or whether it counts as a form of OC, theoretically on par with what happens in examples like (70b). Given the constraint in (82), which is needed anyway, it is sufficient to treat it as pronominal binding to cover the facts at hand. However, in future chapters we will see ghostly DP operators which have some feature content (unlike SoK), and hence can undergo NOC/pronominal binding, but which are not [+participant] and hence are not subject to (82). For such constructions, there does seem to be a difference between how an Op in an adjoined clause gets its antecedent and how an Op in a deeply embedded complement clause does; see especially the analysis of long distance *zibun* in Japanese in Chapter 5. In the end, then, I claim that Sp and Ad count as obligatory controllers (not just binders) of the next lowest Sp and Ad. This also has the conceptual advantage of maintaining that “obligatory control” is in fact obligatory, as assumed in the GOCS. On this view, optionality seen in examples like (70) and (71) is not whether OC happens or not, but in which DP in the superordinate clause is selected as the controller, Ad or the matrix goal. Compare Landau (2013), who argues that with verbs like ‘propose’ either the subject or the internal argument can be the controller of PRO in the CP complement, both options counting as instances of OC.

This completes the task of deriving all the differences we observe between Sp/Ad and SoK/OoK ((58c-f)) from the fundamental difference that Sp and Ad are +participant pronouns whereas SoK and OoK are featureless DPs ((58b))—a difference that may ultimately be rooted in the lexical semantics of the C-like heads that license them ((58a)).⁴⁸

3.5 Conclusion

This chapter has investigated allocutive agreement constructions, with a focus on rich new data from the Magahi language, but with an eye also on Basque, Tamil, and other languages. I have adopted the generative tradition of saying that this is the result of a functional head in the CP space agreeing with a null DP that refers to the addressee of the sentence—to Ad (also called Hr) in the sense of Speas and Tenny (2003). What is particularly interesting about Magahi is that this Ad (and hence allocutive marking) is possible in embedded clauses as well as in matrix clauses, and when it appears in embedded clauses it can be controlled by a suitable argument of the matrix verb. On the one hand, allocutive marking in these clauses turns out to be essentially a variant of upward C-agreement, making a connection to the material discussed in chapter 2. In particular, the same principles of (generalized) control theory apply to both constructions, including the GOCS, the thematic role matching principle, and the Edge Condition. On the other hand, allocutive marking in this context becomes a kind of shifted allocutive marking, which is both conceptually parallel to ordinary indexical shift and empirically intertwined with it. This makes a connection to the material discussed in chapter 4. Whereas licensing, control, and agreement work in recognizably the same way in both upward C-agreement constructions and allocutive constructions (at least in Magahi), there are nontrivial differences between the constructions as well. Toward the end of the chapter, I argued that these differences are the result of Ad intrinsically bearing some phi-features, notably [+2], whereas SoK is devoid of phi-features, forcing it to undergo OC within the next phase. I also presented the conjecture that this basic difference traces further back to the lexical meaning of the C-head that licenses Ad, suggesting that it imposes [+2] on its specifier in the same way that an imperative head imposes [+2] on the subject of an imperative clause according to Zanuttini (2008) and related work. From this, the general outlines of a typology of ghostly DP operators begins to come into view, in which ghostly DPs vary as to whether they have phi-features at all, and if so, which ones.

-
- (i) a. John_i proposed to Mary_k [PRO_k to nominate herself_k for the prize].
 b. John_i proposed to Mary_k [PRO_i to nominate himself_i for the prize].

⁴⁸ One residual question that I do not have a good answer for is why Ad in embedded clauses in Southern Basque dialects cannot be controlled the way that Ad in embedded clauses can be in Magahi and Tamil (see (9)). The most principled and interesting answer that I can imagine is if the structure of CP complements in Basque is different in some relevant way. For example, if embedded clauses are nominalized in Basque, the additional NP structure might interfere with OC (as it does in the relative clause structure in (80)). A very different route might be to parameterize whether or not languages allow a null DP to be controlled by a DP that does not match it in features: Magahi and Tamil allow [+2] Ad to be controlled by (e.g.) third person DPs, whereas Basque may not. I do not know enough about Basque syntax to fruitfully pursue the question at this point.

References

- Alok, D. (2020). Speaker and addressee in natural language: Honorificity, indexicality and their interaction in Magahi. New Brunswick, NJ, Rutgers University. **PhD**.
- Alok, D. (2021). "The morphosyntax of Magahi addressee agreement." *Syntax* **24**(3): 263-296.
- Alok, D. and M. Baker (2018). On the mechanics (syntax) of indexical shift: Evidence from allocutive agreement in Magahi. R. University. New Brunswick, NJ.
- Alok, D. and M. Baker (2022). "Person and honorification: Features and interactions in Magahi." *Glossa* **7**(1).
- Alok, D. and B. Haddican (2022). "The formal heterogeneity of allocutivity." *Glossa* **7**(1).
- Anand, P. (2006). *De de se.*, MIT. **Ph.D**.
- Anand, P. and A. Nevins (2004). *Shifty operators in changing contexts*. SALT 14, Northwestern University.
- Antonov, A. (2015). "Verbal allocutivity in a crosslinguistic perspective." *Linguistic Typology* **19**: 55-85.
- Baker, M. (1985). "The Mirror Principle and morphosyntactic explanation." *Linguistic Inquiry* **16**: 373-415.
- Baker, M. (2003). *Lexical categories: Verbs, Nouns, and Adjectives*. Cambridge, Cambridge University Press.
- Baker, M. (2008). *The syntax of agreement and concord*. Cambridge, Cambridge University Press.
- Charnavel, I. (2019). *Locality and logophoricity: A theory of exempt anaphora*. New York, Oxford University Press.
- Charnavel, I. (2020). "Logophoricity and locality: A view from French anaphors." *Linguistic Inquiry* **51**: 671-724.
- Chomsky, N. (2001). Derivation by phase. *Ken Hale: A life in language*. M. Kenstowicz. Cambridge, Mass., MIT Press: 1-52.
- Deal, A. R. (2020). *A theory of indexical shift: Meaning, grammar, and crosslinguistic variation*. Cambridge, MA, MIT Press.
- Diercks, M. (2013). "Indirect Agree in Lubukusu complementizer agreement." *Natural Language and Linguistic Theory* **31**: 357-407.
- Diercks, M. and M. Rao (2019). Upward-oriented complementizer agreement with subjects and objects in Kipsigis. *Theory and description in African linguistics: Selected papers from the 47th Annual Conference on African Linguistics*. E. Clem, P. Jenks and H. Sande. Berlin, Language Science Press: 369-393.
- Forker, D. (2019). "Reported speech constructions in Sanzhi Dargwa and their extension to other areas of grammar." *Sprachwissenschaft* **44**(2): 171-199.
- Fox, D. (2000). *Economy and semantic interpretation*. Cambridge, Mass., MIT Press.
- Haddican, B. (2018). "The syntax of Basque allocutive clitics." *Glossa* **3**(1): 101.
- Haddican, B. and U. Etxeberria (2022). "Embedded allocutivity in Basque." *Syntax*.
- Haegeman, L. and V. Hill (2013). The syntacticization of discourse. *Syntax and its limits*. R. Folli, C. Sevdali and R. Truswell. Oxford, Oxford University Press: 370-390.
- Kaur, G. (2020). "On the syntax of addressee in imperatives: Insights from allocutivity." *Glossa* **5**(1): 107.
- Kratzer, A. (2009). "Making a pronoun: Fake indexicals as windows into the properties of pronouns." *Linguistic Inquiry* **40**: 187-237.

- Kumari, P. (2022). Honorificity agreement in Maithili - A meso-level comparison with Magahi and Bangla. Delhi, Indian Institute of Technology. **PhD**.
- Landau, I. (2001). "Control and extraposition: The case of super-equi." Natural Language and Linguistic Theory **19**(109-152).
- Landau, I. (2013). Control in generative grammar. Cambridge, Cambridge University Press.
- McFadden, T. (2020). The morphosyntax of allocutive agreement in Tamil. Agree to agree: Agreement in the Minimalist Programme. P. Smith, J. Mursell and K. Hartman. Berlin, Language Science Press: 391-424.
- Messick, T. (In press). "On apparent pronominal feature contradictions: Shifty agreement in Telugu." Syntax.
- Miyagawa, S. (2012). Agreements that occur mainly in main clauses. Main clause phenomena: New horizons. L. Albrecht, L. Haegeman and R. Nye. Amsterdam, John Benjamins: 19-112.
- Miyagawa, S. (2017). Agreement beyond phi. Cambridge, Mass., MIT Press.
- Oyharçabal, B. (1993). Verb agreement with non arguments: On allocutive agreement. Generative studies in Basque linguistics. J. Huale and J. Ortiz de Urbina. Amsterdam, John Benjamins: 89-114.
- Portner, P., et al. (2019). "The speaker-addressee relation at the syntax-semantics interface." Language **95**: 1-36.
- Reuland, E. (2011). Anaphora and language design. Cambridge, MA, MIT Press.
- Richards, N. (1998). "The principle of minimal compliance." Linguistic Inquiry **29**: 599-629.
- Rizzi, L. (1997). The fine structure of the left periphery. Elements of grammar. L. Haegeman. Dordrecht, Kluwer: 281-338.
- Rose, F. (2015). "On male and female speech and more: Categorical gender indexicality in indigenous South American languages." International Journal of American Linguistics **81**(4): 495-537.
- Spadine, C. (2020). The structure of attitude reports: Representing context in grammar. Cambridge, MA, MIT. **PhD**.
- Speas, M. and C. Tenny (2003). Configurational properties of point of view roles. Asymmetry in grammar. A. M. Di Sciullo. Amsterdam, John Benjamins: 315-344.
- Sundaresan, S. (2012). Context and (co)reference in the syntax and its interfaces. Stuttgart, University of Stuttgart and University of Tromsø PhD dissertation.
- Yamada, A. (2019). The syntax, semantics and pragmatics of Japanese addressee-honorific markers. Washington, DC, Georgetown University. **PhD**.
- Zanuttini, R. (2008). "Encoding the addressee in the syntax: Evidence from English imperative subjects." Natural Language and Linguistic Theory **26**: 185-218.
- Zanuttini, R., et al. (2012). "A syntactic analysis of interpretive restrictions on imperative, promissive, and exhortative subjects." Natural Language and Linguistic Theory **30**: 1231-1274.
- Zu, V. (2018). Discourse participants and the structural representation of the context. New York, NYU. **PhD**.