Agreement and the realisation of arguments

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Abstract

Agreement is a grammatical phenomenon whereby the form of a morpheme or word co-varies with the morphosyntactic properties of another word or phrase, typically a noun. Although agreement is, by definition, conditioned by the ϕ-features (e.g. person/number/gender features) of a noun, a broader survey of cross-linguistic patterns reveals that the *surface realisation* of a noun may similarly have an effect on agreement, even when its ϕ-features are kept constant. Focusing on noun-verb agreement dependencies, we provide several case studies illustrating this idea, and show that relevant factors range from a noun's morphological case to its structural position. Although in many cases these effects may be analysed in purely syntactic terms—that is, derivable from conditions on the syntactic process underlying agreement—we also highlight cross-linguistic patterns that seem to involve non-structural factors.

Keywords: agreement, argument realisation, morphology, syntax

1 Introduction

Agreement refers to the morphological variation of a morpheme or larger word, typically a verbal element, as determined by the morphosyntactic properties of another element in the sentence, typically a noun. In the Kutchi (Indo-Aryan) examples in (1), for instance, the form of the verb tracks the person/number/gender features (henceforth, ϕ-features) of a nominal argument, here, the subject:[1]

(1) *Kutchi: Agreement with subject's ϕ-features*

a. a:ũ a:v-iyã:
I.F come-PFV.1F.SG
'I (fem.) came.'

b. Rina a:v-ai
Rina.F come-PFV.3F.SG
'Rina came. '

c. Mohan a:v-yo
Mohan.M come-PFV.3M.SG
'Mohan came.'

[1] As Keine et al. (2014) discuss, agreement in Kutchi is more complicated than shown here. However, in most contexts, including in intransitive perfective contexts, agreement cross-references the subject.

d. tṣokra: a:v-ya:
boys.M come-PFV.3M.PL
'The boys came.' (Keine et al. 2014:249)

This pattern illustrates a fairly canonical agreement pattern, in that the verbal agreement morphology on the verb consistently covaries with its nominal argument's ϕ-features. However, across the world's languages, a number of additional morphosyntactic properties beyond ϕ-features are relevant in shaping agreement. This chapter thus investigates configurations in which a noun's ϕ-features are kept constant, yet the *surface realisation* of that noun may nonetheless lead to a change in the verbal agreement morphology.

Surface realisation may refer to the surface form or surface syntactic position. In what follows, we highlight several factors, including:

- The morphological case of a noun
- The (non-)argument status of a noun
- The type of noun (e.g. R-expression, pronoun, or anaphor)
- The syntactic position of a noun

Before proceeding, we provide two disclaimers on what this chapter does *not* cover. First, it focuses on the ways in which verbal agreement may be unidirectionally affected by the properties of the noun—and hence not the converse. For instance, it is well-known that, in many languages with robust agreement morphology, the occurrence of agreement may license *pro* drop (Barbosa 2011a,b, Koeneman et al. this volume); similarly, a number of proposals link the availability of argument ellipsis to the non-participation of the elided argument in an agreement dependency (Saito 2007, Takahashi 2008, 2014). We do not discuss either of these phenomena here. Second, our chapter examines clause-level agreement between a verb (or auxiliary) and a nominal argument, and sets aside agreement between other elements, including complementizer agreement, preposition agreement, noun-possessor agreement and noun-internal concord. For some recent overviews of these phenomena see van Koppen (2017) on complementizer agreement and Norris (2017a,b) on nominal concord. We also do not discuss phenomena that have been analysed as involving agreement or the operation Agree, but which traffic in features other than ϕ-features, such as negative concord or sequence of tense (e.g. Zeijlstra 2012). Finally, as further discussed in Section 2, we situate our chapter within the Agree-based (probe-goal) system of Chomsky (1995, 2000); for reasons of space, we cannot provide a comparison of how the agreement patterns shown here are captured in other frameworks. Instead, we refer readers to Wechsler and Zlatić (2003) for a detailed look at various agreement phenomena in HPSG and Haug (to appear) for a recent overview of agreement in LFG.

The rest of this chapter is organized as follows. Section 2 summarizes the general analysis of agreement, based on the probe-goal system of Chomsky (1995, 2000). In Section 3, we overview the idea that agreement may be sensitive to the case of the nominal argument. As we progress through this chapter, we will come to see that case is just one of a larger set of properties that can be grouped under 'argument realisation'. In Section 4, we turn to how agreement may be shaped by whether a noun serves as an argument of the verb to begin with: this may correlate with the structural size of the argument and whether it is explicit or implicit. Section 5 discusses how agreement may be determined

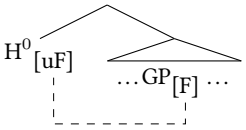
by the locus of an argument in a clause, whether in terms of structural position or linear adjacency. Section 6 then overviews a number of cases in which agreement may be affected if an argument bears additional features beyond ϕ-features, or has other distinct properties (e.g. being an anaphor or a pronoun). Finally, Section 7 concludes.

2 Agreement: Overview and assumptions

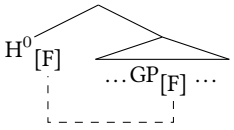
For the purposes of this paper, we adopt the analysis of agreement formalized in Chomsky (1995, 2000, 2001) and further developed over the last quarter century. We use this particular framework to illustrate the phenomena in an internally-consistent manner. Moreover, this framework takes agreement to be *asymmetrical* and *derived*, in that the agreement form's ϕ-feature value originates from the nominal, the controller of agreement; this asymmetrical property allows us to readily capture the observation that agreement morphology may be determined by various grammatical properties of the nominal argument beyond its ϕ-features. We emphasize that many of the case studies within this chapter may be analysable using other frameworks that do not share these base assumptions, and we believe that the basic interactions we illustrate should be of interest to linguists of any theoretical perspective.

Within the adopted framework, morphological agreement between a nominal and some other element in the clause is the result of an agreement operation, *Agree*, which takes features from the nominal and copies them onto a syntactic terminal outside the nominal. We assume that Agree takes place as a response to *unvalued features*, notated in (2a) as [uF]—i.e. features that are *present* but missing some crucial component.[2] Specifically, a syntactic terminal with unvalued features functions as a *probe*, compelled to search its c-command domain for a *goal*, a constituent bearing the right kind of features, such as GP in (2a). The probe's unvalued features are thus valued once the goal's features are copied back onto the probe, as in (2b). The precise nature of the unvalued features that a probe has may vary and may determine what features get copied back onto it.

(2) a.



b.



Therefore, for the Kutchi examples in (1), the features of the subject are copied onto the verb by an agreement operation taking place between a probe and a goal in its c-command domain (following Keine et al. 2014, the probe would be in T^0 and the goal would be in the *v*P-domain). This is reflected by the different suffixal forms that result when the features come to be morphologically realised.

Agree is constrained in a number of important ways. First, it is subject to *locality conditions*, meaning that the probe may only target the most local goal(s) within its c-command domain. Second, the probe may only look so far: for instance, except in special circumstances, a probe can't look inside an embedded finite clause, or inside a nominal. Finally, we assume, following Preminger (2011, 2014), that, in the event that a probe is

[2] Alternatively, [uF] could refer to *uninterpretable* features (Chomsky 1995, 2001), whereby the Agree dependency takes place for the derivation to be interpretable. However, this specific implementation is not compatible with the idea that Agree may fail to find a suitable goal, as we will also assume in this paper. See Preminger (2011, 2014) and Deal (to appear) for discussion.

unable to find an eligible goal, the probe simply remains not valued. Crucially, this does not lead to a derivational "crash", contrary to the model developed in Chomsky 2000, 2001. Instead, the failure of a probe to be valued by a goal may result in the occurrence of default agreement morphology (often identical to the 3SG agreement form in the relevant language); it may also be reflected by the absence of agreement morphology altogether (*pace* Preminger 2009).

The above-mentioned properties are abstract in nature, in that they are taken to be built into the nature of the Agree operation itself. In what follows, however, we turn to more surface-oriented factors that may further interact with agreement—whether by affecting the agreement morphology arising from successful Agree or by disrupting the Agree process altogether.

3 Agreement and case

One property of arguments that affects how they interact with agreement is *morphological case*. In this section, we overview such so-called case-discriminating agreement patterns, as developed by Bobaljik (2008) and others. We also evaluate recent proposals that agreement is actually sensitive to the abstract case features of the nominal argument, which need not have a morphological reflex. Finally, whereas the notion of case-discrimination presupposes that case is assigned prior to Agree, we also briefly discuss proposals wherein agreement with a nominal argument may determine its morphological case (Deal 2010).

3.1 Case discrimination

In many languages, the case of an argument determines whether it can serve as an agreement controller, as first described by Moravcsik (1978). For instance, in Hindi, only nominative (NOM) arguments may control agreement. Compare the two intransitive verbs in (3). In (3a), the subject is NOM and controls 3PL.M agreement on the verb. By contrast, in (3b), the subject is ergative (ERG), and cannot serve as an agreement controller. The morphological masculine 3SG agreement on the verb is default agreement, due to failure of the probe to find a potential goal for feature valuation.

(3) *Hindi: Agreement with NOM subjects*

a. kutte bhoNk-**e**
dog.M.PL.NOM barked-M.PL
'The dogs barked.'

b. kuttoN-ne bhoNk-**aa**
dog.M.PL-ERG barked-M.SG
'The dogs barked.' (Mahajan 1990:74)

In (4), the subject bears a case that prevents it from controlling agreement. Instead, the NOM object is the closest accessible goal to the probe, according to the locality principles outlined in §2.

(4) *Hindi: Agreement with NOM object*

Raam-ne roTii khaay-**ii**
Ram.M-ERG bread.F.NOM ate-F.SG
'Ram ate bread.' (Mahajan 1990:78)

Finally, (5), like (3b) above, again shows that default agreement arises if no arguments bear a case that permits them to control agreement. In (5), the object bears accusative (ACC) (via Differential Object Marking) rather than NOM case.

(5) *Hindi: Default agreement in absence of NOM argument*

Monane is kitaab-ko parh-**aa** **thaa**
Mona.F-ERG this.OBL book-ACC read-PERF.M.SG was.M.SG
'Mona had read this book.' (Bhatt 2005:768)

This phenomenon, where agreement targets require their agreement controller to have a particular case, can be accounted for with an extension of the probe-goal model in §2. This extension involves adding some notion of *morphosyntactic accessibility* (Moravcsik 1978, Bobaljik 2008, Preminger 2011, 2014). In languages like Hindi, the probe is searching not just for the most local argument within some local domain (e.g. its clause); it is searching for the most local *accessible* argument, whereby accessibility is defined in terms of case.

While in some languages just one case (for Hindi—nominative) is capable of rendering its bearer accessible for agreement, for other languages there may be multiple accessible cases where arguments bearing any of those cases can control agreement. In Nepali, both NOM and ERG arguments can control agreement, (6). However, as (6c) shows, *dative* arguments are still inaccessible. Here, as in the examples in (4), the verb agrees instead with the accessible object.

(6) *Nepali: Agreement with NOM and ERG arguments*

a. maile yas pasal-mā patrikā kin-**ē**
1SG.ERG DEM.OBL store-LOC newspaper.NOM buy-PST.1SG
'I bought the newspaper in this store.'

b. ma yas pasal-mā patrikā kin-ch-**u**
1SG.NOM DEM.OBL store-LOC newspaper.NOM buy-NPST-1SG
'I buy the newspaper in this store.'

c. malāī timī man par-ch-**au**
1SG.DAT 2M.HON.NOM liking occur-NPST-2M.HON
'I like you.' (Bickel and Yādava 2000:345, 348 in Bobaljik 2008:310-311)

These kinds of data, where some but not all of the cases in a language render its arguments (in)accessible to agreement, have motivated theorists like Bobaljik (2008) to establish an implicational hierarchy of accessibility. Arguments bearing the unmarked case (nominative or absolutive) are always accessible for agreement. In addition, languages such as Nepali allow arguments bearing the 'dependent' case (accusative or ergative) to control agreement. Finally, a subset of those languages allow oblique or lexically-case-marked arguments to control agreement as well. As illustrated in (7), Basque allows the agreement-bearing element in a finite clause (the auxiliary) to agree with the unmarked (ABS) argument, the ERG argument, and the DAT argument.

(7) *Basque: Agreement with ABS, ERG, and DAT arguments*

Guraso-e-k niri [belarritako ederr-ak] erosi d- i-
parent-ART.PL-ERG me.DAT earring beautiful-ART.PL bought 3.ABS- have-
zki- da- te.
PL.ABS- 1SG.DAT- 3PL.ERG

'(My) parents have bought me beautiful earrings.' (Laka 2005:(52) in Preminger 2009:624)

3.2 Case-discriminating agreement without morphological case distinctions?

While Bobaljik's notion of accessibility is framed as a purely morphological device, evaluated after the narrow syntax, Preminger (2011, 2014) argues that the same mechanism (discrimination among NPs according to accessibility) regulates which arguments can undergo A-movement to the subject position. Accordingly, he argues that morphosyntactic accessibility is indeed syntactic, and cannot be purely morphological (though this syntactic interaction may nonetheless correspond to the morphological cases found on an argument).

One notable syntactic implementation of this idea is that inaccessible arguments are encased inside a larger functional shell, which the probe cannot see inside (Abels 2003, Rezac 2008, Bjorkman and Zeijlstra 2019). This proposal dovetails with Bobaljik's typological observation that accessible cases tend to be morphologically unmarked, while inaccessible cases tend be marked. This extra morphology, which renders an argument inaccessible, can be identified as the PP/KP functional shell.[3] Beyond restricting possible agreement controllers, KP/PP functional shells have also been put to use in explaining the nominal-edge position of case-markers (Bittner and Hale 1996b), deriving partial agreement (Atlamaz and Baker 2018), ensuring that nominals bearing certain cases do not enter into the calculation of dependent case (Baker 2015, Baker and Bobaljik 2017), and explaining the Anaphor Agreement Effect (see §6.1).

The case studies illustrated above are fully compatible with this syntactic approach to case discrimination as well, since the languages surveyed show a close correspondence between abstract case features and morphological case distinctions. However, a purely syntactic approach to the case-discriminating property of agreement may in principle account for agreement in languages that *lack* morphological case distinctions altogether (see especially Coon (2013, 2017) for recent discussion), whereas it is less clear how a purely morphological treatment could capture such patterns. On the other hand, it is not immediately obvious if the agreement patterns in such languages actually reference case features to begin with.

Consider, for instance, Guaraní, which displays a split-intransitive agreement system, as shown in (8). Intransitive subjects that are broadly agentive are indexed on the verb with 'active' agreement, while intransitive subjects that are broadly patientive are indexed with 'inactive' agreement. Crucially, the subjects in both examples below are morphologically unmarked.

(8) *Guaraní: Split-intransitive agreement system*

a. (Che) a-guata.
(I) 1SG.ACT-walk
'I walk.'

b. (Che) che-rasy.
(I) 1SG.IN-sick

[3] To account for languages like Nepali in which both nominative and ergative (but not dative) arguments are equally accessible, one would need to make further structural distinctions; see Caha (2009) for a nanosyntactic approach along these lines.

'I am sick.' (Velázquez-Castillo 2002:138)

While one can assume that active-indexed subjects have one underlying case feature (ERG), while inactive-indexed subjects have a different one (ABS or NOM) (Coon 2010, 2013 et seq.), and that the differing agreement forms track the case features of the arguments, it is also possible to analyse these data without making direct reference to case. The agreement difference could be derived from the basic bifurcation of intransitive subjects posited by the Unaccusative Hypothesis, into unergative subjects and unaccusative subjects (Perlmutter 1978), each occupying different syntactic positions (e.g. Spec-vP and complement of V^0, respectively). For instance, in their theory of Cyclic Agree, Béjar and Rezac (2009) argue that a single probe in v^0 may have different morphological forms depending on whether v^0's goal is in its c-command domain or in Spec-vP (termed 'second cycle effects').

Further discussion of case-discriminating agreement based on abstract case features comes from Coon (2017), on the Mayan language Ch'ol, which does not have morphological case, (9). Coon extensively argues that ERG agreement in Ch'ol results from an Agree relation between v^0 and its specifier (the transitive subject).

(9) *Ch'ol: ERG-ABS agreement alignment*

a. Tyi **k**-chuk-u-y=**ety**.
PERF 1ERG-carry-TV-EP=2ABS
'I carried you.' (Clemens and Coon 2018:239)

b. Tyi ts'äm-i-y=**ety**.
PERF bathe-ITV-EP=2ABS
'You bathed.' (Coon 2017:102)

Coon (2017:133-134) briefly suggests, based on typological considerations, that ERG agreement is parasitic on an earlier step of inherent *ERG case assignment* from v^0 to its specifier (Woolford 2006, Legate 2008). This would therefore be another example of case-discriminating agreement based on abstract case features. However, it is not clear whether there is empirical evidence internal to Ch'ol that may help motivate this idea.

More generally, an approach to abstract case-discriminating agreement may run into complications when the language *does* have an overt case-marking system, but that case-marking seems to follow a different set of rules from the agreement system. One language that works this way is Choctaw. Choctaw has a split-intransitive agreement system (which distinguishes agentive Class I arguments from patientive Class II arguments), but a nominative-accusative case-marking system. With the 'fix' outlined above, where agreement probes discriminate arguments based on unrealised case features, we would have to say that the two subjects in (10) have different underlying case features, *in addition* to the overtly-realised nominative feature that they both share.[4]

(10) *Choctaw: Distinct case and agreement alignment patterns*

a. Chishnaak-**oosh** chi-nokhą́klo-h.
you.FOC-NOM 2SG.II-sad-TNS
'YOU are sad.' (Tyler 2019:1155)

[4] Tyler (2020) analyses the Choctaw pattern by allowing multiple case features to be 'stacked' a single noun.

b. Chishnaak-**oosh** taposhshik ish -ikbi-h.
you.FOC-NOM basket 2SG.I-make-TNS
'YOU make the baskets.' (Tyler 2020:14)

3.3 Case arising from agreement

Thus far, we have treated agreement as a process that takes place only *after* the nominal arguments have each been assigned case, following Bobaljik (2008) and others. However, there are also alternative perspectives, of which we detail two below.

The first predates this one: the idea that agreement and case are simultaneous, and both involve the same syntactic relation. The idea is essentially that when a functional head H probes for a goal XP, there is a bidirectional transfer of features. Features from the goal XP (e.g. ϕ-features) end up on the probe H, but in addition, an abstract case feature ends up on the goal. This model is generally paired with a constraint on syntactic representations known as the *Case Filter*: every nominal needs to have a Case value. A language like English is canonically analysed along these lines, given that NOM case assignment, subject agreement, and finiteness generally go together, suggesting that these have a single source, T^0 (Vergnaud 1977, Chomsky 1981).

The second is the idea that case assignment is (unidirectionally) the product of ϕ-agreement. This has been proposed by Deal (2010) for the related Sahaptian languages Nez Perce and Sahaptin.[5] In Nez Perce, which displays a tripartite case system, ERG transitive subjects and ACC objects are obligatorily indexed by agreement, as shown in (11a). However, the ERG-ACC construction in (11a) may alternate with a caseless variant, the antipassive construction, in which both arguments are unmarked, (11b). Crucially, in the antipassive construction, only the subject may be targeted by agreement, while the object is not cross-referenced; Deal posits that this is because antipassive objects are structurally reduced (as indicated by their indefinite interpretation).

(11) *Nez Perce: ERG vs. NOM alternation on Nez Perce transitive subjects*

a. Cáan-**nim** páa -'yaxˆ-na 'iníi-**ne**
Caan-ERG 3:3-find-PERF house-ACC
'John found the house.'

b. Caan hi -'yáaxˆ-na 'iníit
Caan 3SUBJ-find-PERF house
'John found a house.' (Deal 2010:85)

In Sahaptin, the distribution of ERG case is more constrained than in Nez Perce, but is similarly determined by the morphosyntactic properties of the object. ERG case marks 3SG subjects and only arises when the object is simultaneously ACC-marked (agreed with by v^0) and 1st/2nd person; otherwise, the subject is unmarked.[6]

(12) *Sahaptin: ERG requires 1st/2nd person object in Sahaptin*

a. x̣ʷɨsaat-**nɨm**=naš i-ní-ya **ináy** k'úsi
old.man-ERG=1SG 3SUBJ-give-PAST 1SG.ACC horse
'The old man gave me a horse.' (Rigsby and Rude 1996:674 in Deal 2010:113)

[5] See also Clem (2019) for an extension of this analysis to the Panoan language Amahuaca.

[6] In (12a), the 1SG argument is doubled by a second-position clitic, but this is not analysed by Deal (2010) as object agreement, since it also doubles subjects.

b. ɨwínš i-q'ínun-a miyánaš-na
man 3SUBJ-see-PAST child-ACC
'The man saw the child.' (Rude 1997:ex 26 in Deal 2010:113)

To account for these facts, Deal (2010) proposes that the appearance of ERG case assignment should be understood as essentially the portmanteau of the valued ϕ-features collected by v^0 and T^0 and morphologically copied onto the external argument. This captures the fact that the occurrence of ERG case in both Nez Perce and Sahaptin seems to require the presence of subject and object ϕ-agreement, plus the fact that it is sensitive to the person specification of the object in the latter language.

The Vocabulary Items for the ergative case morpheme in Nez Perce and Sahaptin may thus be stated, as follows:

(13) *Vocabulary Items for ERG across Sahaptian*
a. Nez Perce: [ϕ-T], [ϕ-v] $\rightarrow$ /nm/
b. Sahaptin: [3sg-T], [+participant-v] $\rightarrow$ /nɨm/

On this account, case is asymmetrically dependent on ϕ-agreement—the opposite order of interactions from the case discrimination patterns shown above.

3.4 Interim summary

In this section, we have shown that agreement may be sensitive to the case of a nominal argument, and have raised various issues relating to whether this should be understood as morphological case or as abstract case features. We have also demonstrated that case may be (in some contexts) analysed as the realisation of agreement itself. In the next sections, we demonstrate that an argument's case specification is only one way in which the morphosyntactic properties of an argument may control the agreement patterns that result.

4 Agreement and argument status

We now show that agreement morphology may be shaped by whether a nominal serves as an argument of the verb to begin with. To illustrate, we highlight two general phenomena. First, *argument demotion* (e.g. object demotion) may prevent agreement from taking place. Second, we show that *implicit argumenthood* may have morphological reflexes that could be framed in terms of agreement.

4.1 Antipassivisation, incorporation, and pseudo-incorporation

We start by discussing cases in which an argument—specifically, an internal argument of the verb—may be *demoted*, such that it is no longer considered a core argument of the verb. Antipassivisation is a commonly cited example of this phenomenon. In many languages, antipassive objects are marked with oblique case (rather than an unmarked case such as NOM/ABS), which may prevent them from being agreed with; this can be straightforwardly analysed as case-discrimination (§3.1). An example of antipassivisation via oblique case is provided below in (14).[7]

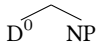
[7] See Polinsky 2017 for a recent overview of the properties of antipassives found cross-linguistically.

(14) *Chukchi: Antipassivisation involves oblique case on object*

a. ʔətt-e melotalɣ-ən piri-nin
dog-ERG hare-ABS catch-AOR.3SG:3SG
'The dog caught a/the hare.'

b. ʔətt-ən **ine**-piri-ɣʔi (melotalɣ-**t**ə)
dog-ABS AP-catch-AOR.3SG (hare-DAT)
'The dog caught a/the hare.' (Polinsky 2016:23)

However, antipassivisation may take place without case-marking the demoted object. Earlier in our discussion of Nez Perce (§3.3), we mentioned that antipassive objects may be analysed as *structurally reduced*, one consequence being their inability to be targeted by agreement. Indeed, since Baker (1988), a common analysis of antipassive objects is to take them to be syntactically smaller than their non-antipassive counterparts (see also Levin 2015 for recent cross-linguistic discussion).[8] The idea is that a nominal may be 'too small' to be targeted by agreement. For instance, an agreement probe may be specified to agree only with elements of category D. If nominals in a given language may be DPs *or* NPs, as in (15), then we might expect to see the presence of ϕ-agreement covarying with the presence of the D-layer. See also Franks and Pereltsvaig (2004) and Pereltsvaig (2006) for an application of this idea to agreeing vs. non-agreeing nominals in Russian.

(15) a. 

b. NP

In addition to Nez Perce, the structurally reduced nature of antipassive objects can be seen with the Q'anjob'al (Mayan) examples below. In (16a), the transitive subject and transitive object are indexed by ERG and ABS agreement, respectively, and both arguments contain a classifier. In (16b), an antipassive construction, the classifier on the object is optional; its absence may reflect the object's reduced size. Crucially, in the latter construction, the ABS agreement marker indexes the transitive subject, while the object is not cross-referenced at all (although (16b) additionally displays a word order difference, we set this aside here).

(16) *Q'anjob'al: Antipassive object without oblique case*

a. Max-o s-tx'aj ix ix an pichilej.
COMPL-ABS3 ERG3-wash CLF woman CLF clothes
'The woman washed the clothes.'

b. Max-o tx'aj-**w**-i (an) pichilej ix ix.
COMPL-ABS3 wash-AP-INTR (CLF) clothes CLF woman
'The woman washed (the) clothes. (Polinsky 2017)

As also noted by Baker (1988), antipassivisation seemingly has much in common with (pseudo) noun incorporation, which are other constructions in which the object appears to be structurally reduced (see also Foley and van Valin 1984 and Van Geenhoven 1998, among others). As shown in the Mapudungun examples in (17), incorporating a (bare) object into the verb complex may result in the loss of ϕ-agreement with the object (Baker et al.

[8] Note, however, that not all approaches to antipassive objects take them to be structurally reduced or even demoted. For instance, some research on Inuktitut (Inuit) has instead suggested that the language's antipassive construction simply amounts to an alternative means of licensing an internal argument (Bok-Bennema 1991, Spreng 2012, Yuan 2018).

2005). Similarly, in (18), pseudo noun incorporation (indicated by the loss of determiner) in Tamil may yield a similar result. Tamil is case-discriminating in that only NOM arguments may be indexed by ϕ-agreement; the 3.N.SG agreement morpheme in (18b) is default agreement, reflecting the lack of a possible goal for the agreeing probe.

(17) *Mapudungun: Noun incorporation bleeds object agreement*

a. Ngilla-**fi**-ñ ti waka.
buy-3OBJ-IND.1SUBJ the cow
'I bought the cow.'

b. Ngilla-waka-**(*fi)**-n.
buy-cow-(*3OBJ)-IND.1SUBJ
'I bought a cow.' (Baker et al. 2005:141)

(18) *Tamil: Pseudo noun incorporation bleeds object agreement*

a. en-akku anda ponnu teve-ppaḍ-r-**aa**
I-DAT the girl need-suffer-PRES-3.F.SG
'I need the girl.' (one out of a specific group)

b. en-akku ponnu teve-ppaḍ-**itu**
I-DAT girl need-suffer-PRES.3.N.SG
'I need a girl (a bride).' (no specific one in mind) (Baker 2014:33-34)

However, object agreement is not blocked in all antipassivisation and incorporation contexts. In Warlpiri, the antipassive triggers a difference in case morphology on the demoted object, but agreement is not disrupted:

(19) *Warlpiri: Antipassive without change in agreement*

a. Njuntulu-lu npa-tju pantu-nu ŋatju.
2SG-ERG 2SG-1SG spear-PST 1SG.ABS
'You speared me.'

b. Njuntulu-lu npa-tju-**la** pantu-nu ŋatju-ku.
2SG-ERG 2SG-1SG-AP spear-PST 1SG-DAT
'You speared at me.' (De Hoop and Malchukov 2008, citing Hale 1973)

Similarly, some languages, such as Southern Tiwa, permit incorporated nouns to still be indexed by agreement:

(20) *Southern Tiwa: Noun incorporation need not bleed object agreement*

a. Wisi seuan-in bi-mu-ban.
two man-PL 1s.S/B.O-see-PST
'I saw two men.'

b. Bi-seuan-mu-ban.
1s.S/B.O-man-see-PST
'I saw men.' (Baker 1988:77)

For noun incorporation, at least, Baker et al. (2005) propose a parameter that may delete the ϕ-features of the trace of the incorporated nominal (assuming that incorporation involves N^0-to-V^0 head movement, per Baker 1988). Thus, object agreement may still take

place in the languages in which such features are *not* deleted (Baker 2014 also extends this idea to pseudo noun incorporation). Under this approach, it can still be assumed that incorporated nouns are structurally reduced (NPs, whose heads undergo N^0-to-V^0 head movement to incorporate).

4.2 Implicit argumenthood

In the previous section we discussed structures in which a core argument is demoted yet still projected in the syntax. More extreme than this are structures in which a core argument appears to be removed entirely, and survives only as an 'implicit' argument. Implicit arguments are generally not taken as capable of controlling agreement, but nonetheless, some potential counterexamples have been identified, and these have implications for the way that these implicit arguments should be analysed. In the two cases discussed here, both of Austronesian languages, the implicit argument is the demoted logical subject of a passive.

In Chamorro, there are two ways to mark passive voice on verbs. The form of the passive covaries with the number of the agent: the prefix *ma-* is used when the implicit agent is unspecified or plural, (21a), and the infix *-in-* is used when it is singular, (21b). In these examples, the agent is implicit, but it may also be realised in an oblique phrase—the facts about the form of the passive remain the same.

(21) *Chamorro: Passive voice morphology encodes implicit agent features*

a. **Ma**-tutuhun man-**ma**-tunu todu i guäha na guihan.
3PL.PASS-begin AGR-**3PL.PASS**-broil all the WH.NOM.exist L fish
'All the fish that there were began to be broiled.' (Cooreman 1987:24 in Chung 1998:38)

b. Kao pära infan-k**<in>**enni' na tres pära i sho?
Q FUT AGR-**<SG.PASS>**take L three to the show
'Are the three of you going to be taken to the movies (by him)?' (Chung 1998:37-38)

Another instance of a verb co-varying with the features of an implicit argument comes from passives in Acehnese. In (22a), a prefix on the verb identifies the passive agent (which again may be realised as an optional oblique phrase) as 3rd-person familiar. By contrast in (22b), a different prefix identifies the optional agent as 2nd-person.

(22) *Acehnese: Passive voice morphology encodes implicit agent features*

a. Aneuk nyan **di**-kap (lé uleue nyan).
child DEM 3FAM-bite LE snake DEM
'The child was bitten (by the snake).' (Legate 2014:26)

b. Aneuk miet nyan **ta**-pu-proh kanöt nyan.
child small DEM 2-CAUS-break pot DEM
'The child was let break the pot by you.' (Legate 2014:133)

At least superficially, the Acehnese examples do appear to show agreement with an implicit argument. The same prefixes that index the implicit agent are used in active clauses to index the subject, as in (23).

(23) *Acehnese: Implicit argument "agreement" also indexes subjects*

a. Uleue nyan **di**-kap lôn.
snake DEM 3FAM-bite 1SG
'The snake bit me.' (Legate 2014:4)

b. Gata bek **ta**-galak keu dara nyan.
2 NEG.HORT 2-like to girl DEM
'Don't you take a fancy to that girl.' (Durie 1985:57 in Legate 2014:32)

However, it is far from clear that this is true agreement. Legate (2014) presents several arguments that it is *not* agreement, and she instead proposes that the ϕ-realising prefix on the verb is the spellout of interpretable ϕ-features merged with v^0, which restrict the interpretation of the implicit argument introduced there. No syntactic Agree relation is involved, and the standard analysis that implicit arguments are indeed absent from the syntax can be maintained. This kind of 'agreement' with implicit arguments is instructive, since it shows that agreement *morphology* can be found in the absence of the syntactic Agree relation.

4.3 Interim summary

In this section, we have shown that the extent to which an argument is targetable by agreement can be affected by the extent to which it has undergone some form of demotion. We looked first at antipassives and (pseudo) noun incorporation structures, in which a usual core argument of the verb (the internal argument) is made non-core, and we saw that this may prevent it from controlling agreement. We then discussed the possibility that implicit arguments—arguments that are not projected in the syntax but which nonetheless still have some kind of semantic footprint—may also control agreement, though the evidence that this is 'true' agreement is inconclusive.

5 Agreement and the syntactic position of arguments

The syntactic position of an argument offers yet another way in which the surface realisation of an argument may determine the agreement pattern that arises. Many though not all of the case studies to be shown below involve syntactic movement vs. lack thereof; we will see that this is often due to a broader interaction with the notion of *locality*. However, locality may also be defined structurally or morphologically (e.g. linearly), depending on the phenomenon in question.

Note that we limit our discussion to relatively simple position-based effects which illustrate the general principle. We set aside more complex configurations, like those that involve multiple possible agreement controllers (e.g. dative intervention, the Person Case Constraint), or those which involve agreement across a clause boundary.

5.1 Movement of argument feeds agreement

In our discussion of word order differences and agreement below, we focus on two general phenomena: (i) movement that permits an argument (e.g. an object) to be sufficiently local to an agreeing head, and (ii) VS and SV word order alternations, which generally result in partial vs. full agreement, respectively. The effect that locality may have on agreement will

then be further explored in §5.2, in which we discuss cases in which argument movement may *bleed* agreement instead.

5.1.1 Movement and locality

In many cases, syntactic movement of an argument feeds agreement by placing that argument sufficiently local to a higher ϕ-probe. For cohesiveness, we focus on the clause-internal movement of objects, but the general interaction sketched here could be extended to cross-clausal long-distance agreement (e.g. Polinsky and Potsdam 2001, Branigan and MacKenzie 2002, Bhatt 2005).

Many languages display *object shift*, a phenomenon wherein an object argument undergoes A-movement from its base-generated position to Spec-*v*P or some structural equivalent.[9] In some languages, it can be concluded that object shift feeds agreement, e.g. Zulu as shown in (24). Although there is no word order difference in the examples below, there is an interpretive difference: in (24b), the applied argument (the highest internal argument) is understood as specific. Moreover, the presence of the disjoint prefix *ya-* has been argued to reflect an empty *v*P, due to the occurrence of object movement out of that domain (van der Spuy 1993, Halpert 2012, 2015, Halpert and Zeller 2015).

(24) *Zulu: Object shift feeds object agreement*

a. Ngi-leth-el-a umfundisi incwadi.
1S.S-bring-APPL-FV 1.teacher book
'I am bringing a teacher a book.'

b. Ngi-ya-**m**-leth-el-a umfundisi incwadi.
1S.S-DISJ-1.O-bring-APPL-FV 1.teacher book
'I am bringing the teacher – the one who told me to do so – a book.' (Baker 2013:622)

This pattern fits with the idea that *v*P bifurcates a clause into two distinct domains, for morphosyntactic processes such as case and agreement and for semantic interpretation (cf. Diesing 1992, Bittner and Hale 1996b, Chomsky 2000, 2001, López 2012, Baker 2015). Moving a *v*P-internal argument to Spec-*v*P allows it to be accessible to a probe in the *v*P-external domain.

Object shift may also feed the occurrence of *participle agreement*, particularly in certain Romance languages. While it is well-known that participle agreement may arise with preverbal pronominal object clitics, we focus here on a lesser-studied interaction with object shift, as discussed by Obenauer (1994) and Déprez (1998) on French. As shown in (25a)-(25b), a wh-object that moves to Spec-CP may trigger participle agreement—but, if so, it is necessarily interpreted as *specific*.

(25) *French: Participle agreement with specific wh-phrases*

a. Combien de fautes a-t-elle fait?
how.many of mistake.F.PL has she made
'How many mistakes has she made?'

b. Combien de fautes a-t-elle fait**es**?
how.many of mistake.F.PL has she made.PL.F

[9] See Vikner (2017) for a recent overview from a Scandinavian perspective.

'How many (among a known set of) mistakes has she made?' (Déprez 1998:11)

Déprez (1998) proposes that, in (25b), the wh-phrase must first undergo object shift before reaching its final landing site. If the head realising participle agreement is also the head triggering object shift to its specifier (for Déprez, this is AgrO^0), this would explain the correlation between agreement and movement. In contrast, in (25a), no object shift has taken place.

Object movement may also permit the object to *bypass* an intervening DP (e.g. the subject) that would otherwise serve as the goal for an agreeing head. That is, if the object raises to a position *above* the subject, yet is still c-commanded by the agreeing head, then what is typically "subject agreement" should target the object just in these configurations. This can be seen with person-sensitive object movement in Quechua. As discussed by Myler (2017), pronominal objects bearing an [ADDRESSEE] feature (e.g. 1PL.INCL and 2) are indexed by *two* distinct agreement markers: an object-indexing agreement form and, crucially, the agreement morpheme that normally targets the subject. In (26a), neither argument is an addressee; subject agreement targets the subject and object agreement targets the object. However, in (26b), the addressee object is indexed by both agreement forms, while the subject is not indexed at all.

(26) *Quechua: Addressee objects are indexed by subject agreement*

a. maylla-wa-rqa-n
wash-1O-PST-3S
'S/he washed me.'

b. maylla-rqa-su-nki
'wash-PST-2O-2S
'S/he washed you.' (Myler 2017:753)

Myler argues that (i) the object markers are pronominal clitics, and (ii) [ADDRESSEE] clitics raise *above* the subject, allowing them to be indexed by subject agreement. This accounts for a number of properties of the object markers that parallel the behaviour of clitics cross-linguistically (not shown here). It also captures the morpheme order difference when the object is an addressee: the object marker appears to the right of tense, suggesting that it is higher than T^0 (and thus higher than the subject in Spec-TP). Under this approach, the double agreement pattern in (26b) is reducible to standard minimality effects on Agree.

In sum, movement (or lack thereof) may affect agreement in a wide range of ways, including allowing an agreement form that is not otherwise present to surface, and replacing one agreement trigger with another.

5.1.2 VSO vs. SVO alternations

Many languages that permit subjects to occur preverbally or postverbally display an agreement alternation, in that subject agreement is *fully specified* in the preverbal configuration but is *impoverished* when the subject is postverbal (e.g. Brandi and Cordin 1989, Fassi Fehri 1993, Aoun et al. 1994, Samek-Lodovici 2002).

This alternation is exemplified below with Fiorentino (Northern Italian) and Modern Standard Arabic, respectively. In (27), default (3SG.M) agreement arises when the subject is postverbal. In (28), partial agreement arises in this context, as indicated by preservation

of gender agreement despite the loss of number agreement. Thus, in these languages, full agreement is only concomitant with movement of the subject (presumably to Spec-TP).

(27) *Fiorentino: Default agreement with postverbal subject*

a. Delle ragazze **le** **hanno** telefonato.
some girls 3PL.F have.3PL phoned
'Some girls have telephoned.'

b. **Gli** **ha** telefonato delle ragazze.
3SG.M have.3SG.M phoned some girls
'Some girls have telephoned. (Barbosa 1995:30)

(28) *Modern Standard Arabic: Partial agreement with postverbal subject*

a. ʔal-fatayaat-u qaraʔ-**na** d-dars-a
the-girls-NOM read-3PL.F the-lesson-ACC
'The girls read the lesson.'

b. qaraʔa-**t** ə-fatayaat-u d-dars-a
read-3SG.F the-girls-NOM the-lesson-ACC
'The girls read the lesson.' (Soltan 2006:240-241)

Many authors have linked this pattern to the phenomenon of *anti-agreement* found in Ā-extraction contexts (Ouhalla 1993:a.o.). Setting these aside until §5.2, there are also analyses that focus specifically on the SV vs. VS alternation. In this body of work, the full agreement pattern has been analysed in terms of *Spec-Head agreement*, in that a ϕ-probe in T^0 agrees with an element in Spec-TP (Benmamoun 1992, Roberts 1993, Soltan 2006). The status of the impoverished agreement pattern is somewhat murkier, however. Some analyses have posited that the impoverished morphology arises from agreement between T^0 with a null expletive in Spec-TP, rather than the postverbal subject (e.g. Brandi and Cordin 1989, Mohammad 1990); others have suggested that the *v*P-internal argument is the true target of agreement, but is probed by a different (featurally-deficient) agreeing head, distinct from T^0 (e.g. Roberts 1993, Shlonsky 1997).

5.2 Movement of the argument bleeds agreement

While movement may facilitate agreement, it is also known that movement may *bleed* agreement, whether partially or fully. In many languages, local (clause-internal) subject Ā-extraction results in the loss of canonical subject-verb agreement in T^0—this is known as *anti-agreement*. Anti-agreement is illustrated below in (29) and (30), from Bemba (Bantu) and Berber (Semitic), respectively. The (a) examples display the anti-agreement pattern that surfaces when a local subject is Ā-extracted and moves a short distance to Spec-CP. In contrast, (b) show that this effect does not arise when the argument is extracted a further distance, whether from a clausemate object position or from an embedded subject position into a higher clause.

(29) *Bemba: Anti-agreement in subject Ā-extraction*

a. umulumendo ú-$\boxed{\text{u}}$-ka-belenga ibuku
1.boy 1.REL-AAE-FUT-read 5.book
'the boy who will read the book'

b. ibuku ilyo umulumendo **a**-ka-belenga
5.book 5.REL 1.boy 1.SM-FUT-read
'the book that the boy will read' (Cheng 2006:197)

(30) *Berber: Anti-agreement in subject Ā-extraction*

a. man tamghart ay **yzrin** Mohand
which woman C see.PTCP Mohand
'Which woman saw Mohand?'

b. man tamghart ay nna-n [qa **t-zra** Mohand]
which woman C say.PFV-3PL C 3SG.F-see.PFV Mohand
'Which woman did they say saw Mohand?' (Ouhalla 1993:479-480)

There are many approaches to anti-agreement, all of which leverage the idea that anti-agreement arises only with *local subject extraction* (see Baier 2018 for a synthesis of previous accounts). One popular line of inquiry takes moving an element from Spec-TP (assumed to be the launching site of subject Ā-extraction) to Spec-CP to be 'too local' (Grohmann 2003, Cheng 2006, Schneider-Zioga 2007, Erlewine 2016). Due to this restriction, such arguments are forced to move from alternative (e.g. lower) positions, thus bleeding regular subject-verb agreement. Other accounts take anti-agreement to arise from a Principle B violation, assuming that the agreement morphology in T^0 is pronoun-like in these languages (Ouhalla 1993, Schneider-Zioga 1995). Finally, yet others tie anti-agreement to a Criterial Freezing effect constraining subject extraction (Rizzi 2006, Diercks 2010, Shlonsky 2014).

As mentioned above, some researchers have sought to unify anti-agreement with the full vs. impoverished agreement alternation arising in subject-verb vs. verb-subject word order. Not only do these seem conceptually similar, but there are languages in which both patterns occur. Fiorentino is one such language. Indeed, in (31), the same default agreement form seen in (27) above surfaces when the subject undergoes Ā-movement. One account is to take subject Ā-extraction to necessarily come from the *v*P-internal position, assuming that this movement step is not possible from the preverbal Spec-TP position (Brandi and Cordin 1989, Ouhalla 1993).

(31) *Fiorentino: Anti-agreement with subject Ā-extraction*

Quante ragazze **gli** **ha** parlato con te?
how.many girls 3SG.M have.3SG.M spoken with you
'How many girls have spoken to you?' (Brandi and Cordin 1989:124-125)

5.3 The role of adjacency

In contrast to the above, there are also cases in which linear (or structural) adjacency between the verb and an argument has an effect on the morphological form of the verb. It is not always clear whether this kind of interaction should be analysed as involving a syntactic Agree relation or as another phenomenon, such as contextual allomorphy. If contextual allomorphy provides a better analysis, then we should be wary of drawing conclusions from such cases about the behavior of Agree.

For instance, verbs in Welsh, a VSO language, can agree only with the pronominal DP that immediately follows them. The example in (32) shows that a verb does not agree with a fronted subject (see also §6.2 for discussion of possible agreement controllers in Welsh);

(33) shows that a verb *does* agree with the first conjunct in a coordinated subject (Sadler 2003, Borsley 2009).

(32) *Welsh: No agreement with displaced subjects*

a. Gwel-**on nhw** ddafad.
saw-3PL they sheep
'They saw a sheep.'

b. **Nhw** wel-**odd**/*-**on** ddafad
they saw-3SG/*-3PL sheep
'It's them that saw a sheep.' (Borsley 2009:249–250)

(33) *Welsh: Agreement with first conjunct of a coordinated subject*

a. Daeth-**ost ti** a minnau.
came-2SG you and me
'You and I came.'

b. Roedd-**wn i** a Mair i briodi.
was-1SG I and Mair to marry
'Me and Mair were to marry.' (Sadler 2003:3)

Based on such data, Borsley (2009) argues that Welsh agreement requires the agreeing element to precede and be immediately adjacent to the agreement controller. C-command between probe and goal (or the trace of the goal) is not relevant (Adger 2003 makes a similar claim for Scots Gaelic).

Generalising from this, various other apparent instances of agreement have been argued to result not from Agree, but from (morphologically-conditioned) *contextual allomorphy*.[10] Contextual allomorphy is the morphological phenomenon in which the form of a word or morpheme may change when adjacent to a particular trigger. The scope of the term 'adjacent' is subject to much debate (cf. Embick 2010, Bobaljik 2012, Merchant 2015), but crucially it is a more stringently local relation than the c-command relation implicated in Agree. For example, Bobaljik and Harley (2017) argue that verbal root suppletion in Hiaki, conditioned by the number value of the internal argument, is contextual allomorphy rather than agreement. Weisser (2019) provides several further case studies, and proposes some diagnostics for telling the two phenomena apart. One diagnostic is adjacency: if the form of a target only changes when adjacent to the trigger, then an allomorphy analysis should be preferred. The Welsh data in (32)-(33) thus support a contextual allomorphy analysis.

If Borsley and Weisser's claims are correct, then there could be a wealth of 'agreement' phenomena that are better analysed as contextual allomorphy, and thus are unable to tell us very much about agreement (or Agree). A related family of analyses argues that agreement between two elements may be regulated not by adjacency but by prosody. Ackema and Neeleman (2003, 2004) argue that some instances of agreement require the target and controller to be in the same prosodic phrase, and Richards (2010) makes the claim that this holds more generally. In this way, the 'syntactic position' of an argument *is* important in determining whether or not it can serve as an agreement controller, but

[10] It may be that all morphologically-realised agreement involves contextual allomorphy in some way: the ϕ-features copied onto a probe P by the Agree operation condition a particular morphological realisation of P. Therefore it may be more accurate to describe Welsh-style 'agreement' as involving contextual allomorphy *alone*.

that determination is based on prosodic structure, not syntactic structure.

5.4 Interim summary

So far we have considered how several different properties of an argument might affect its interaction with agreement: what case it has (§3), the extent to which it is a core vs. non-core argument (§4), and where it is in the syntactic structure (§5). Next, we consider four further properties of arguments that may affect their interaction with agreement.

6 Other agreement-affecting properties of arguments

Here we consider additional factors which may trigger a change in the way an argument interacts with agreement: whether the argument is an anaphor (§6.1); whether the argument is a (null or overt) pronoun (§6.2); whether the argument has an 'Ā' property (§6.3), and whether the argument has one of the properties implicated in *differential object marking* alternations (§6.4). Each of these factors can be assimilated to one of the broad kinds of analyses sketched in the preceding sections. A nominal's Ā status or anaphoricity can be encoded as a featural or structural difference that distinguishes them from other nominals, and ϕ-probes may then discriminate between anaphoric or non-anaphoric nominals, or Ā-bearing vs. non-Ā-bearing nominals, just as they can discriminate among nominals bearing different cases. And a nominal's pronominal status may cause it to move into a position where it is visible to a ϕ-probe.

6.1 Anaphoricity

In many languages, ϕ-agreement is not possible with anaphoric arguments. Since Rizzi (1990), this has been known as the *Anaphor Agreement Effect* (see also Woolford 1999, Haegeman 2004, Sundaresan 2016, Murugesan 2019). Languages employ a diverse range of strategies to circumvent this effect, including default (i.e. 3SG agreement), as in (34) in Italian, and no agreement at all, as in (35) in Inuktitut. The Inuktitut pattern may be analysed in terms of *case discrimination* (§3.1), since only ERG and ABS arguments are accessible to agreement in Inuit (Bobaljik 2008); as Yuan (to appear) demonstrates, anaphors in Inuktitut are obligatorily marked with oblique case, such that they may not be targeted by ϕ-agreement operations.[11]

(34) *Italian: Default agreement with anaphors*

a. *A loro interess-**ano** solo se-stessi.
to them interest-3PL only themselves.NOM
Intended: 'They are interested only in themselves.' (Rizzi 1990:(15b))

b. ?A loro interess-**a** solo se-stessi.
to them interest-3SG only themselves.NOM
'They are interested only in themselves.' (Sundaresan 2016:(3))

[11] Earlier approaches to Inuktitut have instead analysed the oblique-marked anaphor in terms of argument demotion (Woolford 1999).

(35) *Inuktitut: No agreement with anaphors*

a. Taiviti-up Kiuru nagli-gi-**janga**
David-ERG Carol.ABS love-TV-3SG.S/3SG.O
'David loves Carol.'

b. Taiviti immi-nik nagli-gi-**juq**
David.ABS self-OBL love-TV-3SG.S
'David loves himself.' (Yuan to appear)

In addition, there exist more complex agreement patterns that arise due to the Anaphor Agreement Effect. In Kutchi, ϕ-agreement in certain perfective contexts target the object, rather than the subject (in contrast to what was shown in (1)). Strikingly, when the object is an anaphor, *agreement displacement* occurs—ϕ-agreement may target the subject (the antecedent) instead. While this is not immediately obvious, since the antecedent and anaphor match in ϕ-featural specifications, the agreement displacement pattern may be detected when the subject antecedent is coordinated. This is shown below in (36): in (36a), agreement tracks the M.PL object, while in (36b), it switches to F.SG, now indexing the *first conjunct* of the subject.

(36) *Kutchi: Anaphors trigger agreement displacement*

a. Bill [John ane Mary]-ne jo-y-**o**
Bill John and Mary -ACC see-PFV-M.PL
'Bill saw John and Mary.'

b. [Mary ane John] pot-potha-ne jo-y-**i**
Mary and John themselves-ACC see-PFV-F.SG
'Mary and John saw themselves.' (Patel-Grosz 2014)

There are two general accounts of the Anaphor Agreement Effect. One approach takes anaphors to lack ϕ-features altogether, as proposed by e.g. Shiraki (2004) and Murugesan (2019); therefore, anaphors may not value a ϕ-probe. Another way to derive the Anaphor Agreement Effect is to take anaphors to contain additional syntactic structure, thus *blocking* the ϕ-probe from accessing the anaphor itself; this is the approach taken by Preminger (2019), Rudnev (2020), and Yuan (to appear). The analysis by which a functional shell renders an anaphor inaccessible to a probe is similar in spirit to some analyses of case discrimination (§3.1).

Finally, there are languages in which anaphors may apparently be targeted by ϕ-agreement, thus constituting possible exceptions to the Anaphor Agreement Effect. Below, we offer a particularly interesting case study from Tenyidie (Sino-Tibetan), based on Murphy and Meyase (2020). As shown in (37)-(38) below, *only* anaphors are ever indexed by ϕ-agreement in Tenyidie.

(37) *Tenyidie: Anaphors may be targeted by ϕ-agreement*

a. Á āthuó ***(ā-)**tshē bǎ.
I myself *(1SG-)praise PROG
'I am praising myself.'

b. Nó nthuó ***(n̄-)**tshē bǎ.
you yourself *(2SG-)praise PROG
'You are praising yourself.'

c. Puō puōthuó ***(puō-)**tshē bấ.
he himself *(3SG-)praise PROG
'He is praising himself.' (Murphy and Meyase 2020:3)

(38) *Tenyidie: Non-anaphors may not be targeted by ϕ-agreement*

a. Á Kēví **(*ā-)**tshē bấ.
I Kevi (*1SG-)praise PROG
'I am praising Kevi.'

b. Á Kēví **(*puō-)**tshē bấ.
I Kevi (*3SG-)praise PROG
'I am praising Kevi.' (Murphy and Meyase 2020:3)

As argued by Murphy and Meyase (2020), the presence of agreement in (37) actually morphologically encodes the anaphoric binding relation taking place in the language. Building on Heinat (2006) and Kratzer (2009), binding involves the transfer of ϕ-features from antecedent to anaphor via Agree, mediated by a functional head such as v^0. If the antecedent is Merged in Spec-vP, then Agree between v^0 and the anaphor ensures that the features are passed on. Thus, the presence of agreement morphology in (37) may not be genuine ϕ-agreement, but is rather a morphological reflex of binding via Agree.

6.2 Pronominality and covertness

Pronominal or null arguments sometimes interact with agreement differently from overt lexical arguments (we have seen examples of this from Welsh in §5.3, and will revisit Welsh below).[12] For instance, Breton displays what is known as the *Complementarity Effect*, whereby null arguments (which are interpreted anaphorically) can control ϕ-agreement but overt arguments cannot (Anderson 1982, Stump 1984). The subjects in (39) are null and control agreement; the subjects in (40) are overt and cannot control agreement.

(39) *Breton: Null subjects control agreement*

a. Levrioù a lenn**an**
books PCL read.1SG
'I read books.'

b. Levrioù a lenn**ont**
books PCL read.3PL
'They read books.' (Stump 1984:290–292)

(40) *Breton: Overt subjects cannot control agreement*

a. Levrioù a **lenn/*lennont** ar vugale.
books PCL read/*read.3PL the children
'The children read books.' (Stump 1984:292)

b. Gant o mamm e **karfe/*karfent** Azenor ha Iona bezañ.
with their mother PCL would.love/*would.love-3PL Azenor and Iona be.INF
'Azenor and Iona would like to be with their mother.' (Jouitteau and Rezac 2006)

[12] Note also that some authors have argued that entering an Agree relation prevents an argument from undergoing argument ellipsis, as briefly mentioned in §1. We do not discuss this proposal here.

Stump (1984) divides analyses of Complementarity into two broad camps. In one kind of analysis, proposed for Breton by Stump (1984, 1989), and applied to Irish by McCloskey and Hale (1984), the Complementarity Principle follows from a stipulation that the agreement controller must be phonologically null, overlaid onto an otherwise typical ϕ-agreement system. In the other kind of analysis, proposed by Anderson (1982), extended to Irish by Pranka (1983) and Ackema and Neeleman (2003) and to Scottish Gaelic by Adger (2000), verbal agreement morphology is itself the realisation of the pronoun, which undergoes some kind of incorporation into the verb. In this latter analysis, the Breton 'agreement' in (39) would not be probe-goal ϕ-agreement in the sense discussed in §2. Notably, Jouitteau and Rezac (2006) propose an alternative analysis of Complementarity that combines features of both previous kinds of analysis. The complementary agreement pattern is derived from *movement of the pronoun* to a position where it is accessible to ϕ-agreement, while full DP subjects stay in a position from which they are inaccessible. Concretely, they propose that pronominal subjects raise to T^0 to incorporate into the verb, while full DP subjects stay within vP. T^0 then probes for ϕ-features, and will find as its goal *either* the incorporated pronoun, if present, *or* the vP itself, which, in Breton, is sufficiently 'nominal' to carry 3SG features, whatever the ϕ-specification of its subject.

A similar approach has been taken by Merchant (2011) and Woolford (2017) for a full vs. pronominal asymmetry seen with (3rd person) objects in Unangam Tunuu (Aleut): the difference is again derived by movement of the pronoun (in this case an object pronoun) to a ϕ-accessible position.[13] In Unangam Tunuu, while all subjects are uniformly able to be indexed by agreement, only *3rd person pronominal objects* may also be indexed, as shown in (41).[14] Evidence that the 3rd person pronominal object in (41c) has undergone movement (object shift) comes from comparisons with other Inuit-Yupik-Unangan languages, in which the presence of ERG case on the subject is commonly analysed as dependent on the presence of a structurally high object (e.g. Bittner and Hale 1996a,b, Woolford 2017).

(41) *Unangam Tunuu: Agreement with 3rd person pronominal objects*

a. Piitra-x̂ tayagu-x̂ kidu-ku-**x̂**
Peter-ABS man-ABS help-PRES-3SG.S
'Peter is helping the man.'

b. Viira-x̂ ting achixa-ku-**x̂**
Vera-ABS 1SG.ABS teach-PRES-3SG.S
'Vera is teaching me.'

c. Piitra-m kidu-ku-**u**
Peter-ERG help-PRES-3SG.S/3SG.O
'Peter is helping him/her.' (Bergsland 1997:126,139)

However, a movement-based analysis is not viable for every pronoun vs. full-DP agreement asymmetry. Recall our discussion of putative agreement in Welsh in §5.3. An additional fact about Welsh is that only pronominal arguments can control agreement to begin with—compare the pronominal subjects in (42) with the DP subjects in (43). The fact that

[13] Alternatively, Yuan (2018) proposes that pronoun movement in Unangam Tunuu is essentially movement-derived pronoun incorporation, realised as putative object ϕ-agreement.

[14] The presence of object agreement also corresponds to a change in the case of the transitive subject: in (41c), the transitive subject is ERG, rather than ABS. This is known in the prior literature as the Aleut Effect (Sadock 2000).

Welsh allows *overt* pronouns to control agreement (rather than only null pronouns, as in Breton) shows that, at least in Welsh, the agreement system is sensitive to pronominality, and not to phonological overtness.[15] Some scholars have proposed a partial incorporation analysis, whereby part of the pronoun incorporates into the verb and part of it remains in-situ, resulting in two separate ϕ-realising elements (Koopman 1999, Sichel 2002).

(42) *Welsh: Pronouns as agreement controllers*

a. Gwel-**odd** hi ddraig.
see-3SG.PST she dragon
'She saw a dragon.'

b. Gwel-**on** nhw ddraig.
see-3PL.PST they dragon
'They saw a dragon.' (Borsley 2009:227)

(43) *Welsh: No agreement with non-pronouns*

a. Gwel-**odd** y bachgen/bechgyn ddraig.
see-3SG.PST the boy/boys dragon
'The boy/boys saw a dragon.'

b. *Gwel-**on** y bechgyn ddraig.
see-3PL.PST the boys dragon
('The boys saw the dragon.') (Borsley 2009:227)

A final interesting twist on the same theme is found in Chamorro: any pronoun cross-referenced by person agreement must be null (Chung 1998:29-32). In (44a), the verb agrees with the subject only in number, so overt pronouns are permitted. By contrast in (44b), the verb agrees with the subject in number *and person*, and the overt pronoun is banned.

(44) *Chamorro: Overt pronouns banned in the presence of person agreement*

a. **Um**-ä-kumprendi hit.
DU-RECIP-understand we
'We understand each other.'

b. **Hu**-fahan **(*yu)** i lepblu.
1SG.REAL.TR-buy (*I) the book
'I bought the book.' (Chung 2003:550–552)

There is a clear conceptual connection here with the idea that *rich agreement*—that is, agreement which allows the ϕ-features of a null controller to be fully recovered—is in some way connected with the ability to license a null pronoun (Taraldsen 1978, Chomsky 1981, Rizzi 1986). But what's different about the Chamorro pattern is the prohibition on overt pronouns in the presence of the richer agreement, setting it apart from the Indo-European languages on which the idea was initially based.

6.3 Ā-status

In this subsection and the next, we discuss cases where arguments may bear additional grammatical features (beyond their ϕ-featural specifications) that allow them to be acces-

[15] Breton overt subject clitics co-occur with agreement, but they have obligatory emphatic interpretations, and Stump (1984:302) argues at length that they do not have argument status.

sible to an agreement probe seeking such features. In this subsection we focus on features implicated in Ā-dependencies, which we refer to below as [WH] as a catch-all feature (even though the relevant pattern may surface in a wider range of constructions than only wh-questions). Although in §5.1 we discussed how agreement may interact with syntactic movement, we show below that movement need not take place for agreement to be sensitive to Ā-features. Then, in section 6.4, we discuss those features that are typically involved in *differential object marking* alternations, such as definiteness and specificity. These features can analysed along the same lines as [WH] features.

In many languages, wh-movement triggers a special agreement form that is distinct from the standard morphology that surfaces in ϕ-agreement. As extensively discussed by Chung (1994, 1998), Chamorro is such a language. In (45), the verb form tracks not only whether there has been wh-extraction, but also the grammatical function of the wh-phrase (note that Chamorro has base verb-initial word order).

(45) *Chamorro: Wh-agreement with fronted wh-elements*

a. Ha-fa'gasi si Juan i kareta.
AGR-wash Juan the car
'Juan washed the car.'

b. Hayi f<**um**>a'gasi i kareta?
who WH.wash the car
'Who washed the car?'

c. Hafa f<**in**>a'gasese-nna si Henry para hagu?
what WH.wash.PROG-AGR Henry for you
'What is Henry washing for you?' (Chung 1998:236)

The pattern extends to other Ā-extraction contexts, as shown in (46) with a cleft construction (see Chung 1994, 1998 for discussion of other extraction types).

(46) *Chamorro: Wh-agreement in Ā-extraction configurations*

Lao unu giya siha **mu**li'i'
but one LOC them WH.see
'But it was one of them who saw it.' (Chung 1994:6)

Whereas Chamorro is argued by Chung to have dedicated wh-agreement (exponing the [WH] feature on the relevant agreeing heads), there are also languages that display ϕ-agreement with wh-arguments. In many Bantu languages, wh-movement is often accompanied by either complementizer agreement (e.g. Ngonyani 1999, Schneider-Zioga 2007) or the presence of "pre-prefix" on the verb (e.g. Kinyalolo 1991, Carstens 2005, Zentz 2016), Both of these patterns are illustrated below, in (47) and (48), from Kinande and Shona, respectively.

(47) *Kinande: Complementizer agreement with wh-movement*

a. Kambale a-alangira Marya.
1.Kambale 1.SM-saw 1.Mary
'Kambale saw Mary.'

b. iyondi **yo** Kambale a-alangira?
1.who 1.COMP 1.Kambale 1.SM-saw
'Who did Kambale see?' (Schneider-Zioga 2007:404, 408)

(48) *Shona: Pre-prefix agreement marker with wh-movement*

a. V-aka-teng-er-a ∅-Thandi ∅-**rowke** ku-chi-toro nezuro.
2SM-TA-buy-APPL-FV 1a-Thandi 5-dress 17-7-store yesterday
'They bought Thandi a dress at the store.'

b. **Chí-í** **cha**-v-aka-teng-er-a ∅-Thandi ku-chi-toro nezuro?
NI.7-what 7.NSE-2SM-TA-buy-APPL-FV 1a-Thandi 17-7-store yesterday
'What did they buy Thandi at the store yesterday?' (Zentz 2016:42, 170)

In these examples, wh-agreement (or ϕ-agreement with wh-phrases) goes hand-in-hand with wh-movement. Indeed, wh-agreement may become unavailable if the wh-phrase remains in situ (in the languages that permit it as an option), as shown in (49).

(49) *Shona: No wh-agreement with wh-in situ*

V-aka-teng-er-a ∅-Thandi **chi-i** ku-chi-toro nezuro?
2SM-TA-buy-APPL-FV 1a-Thandi 7-what 17-7-store yesterday
'What did they buy Thandi at the store yesterday?' (Zentz 2016:43)

However, there also exist wh-agreement patterns that arise *without* wh-movement, suggesting that it is truly the [WH] feature that triggers the agreement pattern. An especially clear example of this can be seen in the Northwest Caucasian language Abaza, as discussed by Baier and Yuan (2017) and Baier (2018) (citing data fromy O'Herin 2002). Abaza displays wh-agreement not only with wh-phrases but also with *in situ pronouns bound by wh-phrases*, such as bound possessive pronouns. The example in (50a) establishes that possessees within complex DPs may display ϕ-agreement with possessors. In (50b), we find that, if the possessor is bound by a higher element, and if the binder is a wh-phrase, the DP-internal agreement surfaces as the wh-agreement form *z*. Thus, (50b) contains two instances of the wh-agreement morpheme: one within the verb complex, agreeing with the wh-phrase, and another on the possessee, indexing the bound pronoun. Finally, (50c) demonstrates that using the regular, non-wh agreement form to index the possessor pronoun yields only a *non-bound* reading.

(50) *Abaza: Wh-agreement without wh-movement*

a. **aphas**$_i$ **l**-qas'a
woman 3SG.F.POSS-man
'the woman's husband' (Baier 2018:159)

b. [$_{DP}$ (***pro***$_i$) **z**$_i$-qk^{w}marga] ayʃa ac'axk^{j} **dəzda**$_i$ yə-qa-**z**-chwaxəz
WH-toy table under who 3SG-PV-WH-hide
'Who$_i$ hid his$_i$ toy under the table?' (Baier 2018:162)

c. $[_{DP}$ (***pro***$_{k/*i}$) **y**$_{k/*i}$-qk^{w}marga] ayʃa ac'axk^{j} **dəzda**$_i$ yə-qa-**z**-chwaxəz
POSS.3SG.M-toy table under who 3SG-PV-WH-hide
'Who$_i$ hid his$_{k/*i}$ toy under the table?' (Baier 2017)

To capture this pattern, Baier and Yuan (2017) argue that the bound pronoun receives [ϕ,WH] features from its binder through the operation of Feature Transmission, as developed by Kratzer (2009).[16] Setting aside the specifics of the proposal, the crucial point is that the wh-agreement on the possessee truly indexes the in situ pronoun, and does not form a dependency with the wh-phrase. Therefore, it is clear that, in Abaza, the [WH]-feature itself may trigger wh-agreement.

There are also reported cases of Ā-features on an argument interacting with agreement by *blocking* agreement with that argument—again, without Ā-movement. As discussed by Matic and Nikolaeva (2014) and Baier (2018), objects in Tundra Nenets may generally be optionally indexed by agreement. Crucially, this is not possible if such objects bear the feature [FOC], e.g. if the object is a wh-phrase, the answer to an object wh-question, or otherwise focused. The baseline agreement pattern is provided in (51a) below, with the loss of agreement in focused contexts further demonstrated in (51b)-(51d).

(51) *Tundra Nenets: No agreement with [FOC]-feature bearing object*

a. Wera-h ti-m xadaə**(-da)**
Wera-GEN reindeer-ACC kill.3SG(-SG.OBJ)
'Wera killed a/the reindeer.'

b. ŋəmke-m xada-sa**(*-da)**
what-ACC kill-INTERR.3SG(*-SG.OBJ)
'What did he kill?'

c. ti-m xada-sa**(*-da)**
reindeer-ACC kill-INTERR.3SG(*-SG.OBJ)
'He killed a REINDEER.'

d. te-r'i-m xada-sa**(*-da)**
reindeer-only-ACC kill-INTERR.3SG(*-SG.OBJ)
'He only killed a REINDEER.' (Matic and Nikolaeva 2014:303-304)

Matic and Nikolaeva (2014) provide several pieces of evidence (e.g. from island-sensitivity and scope) that foci (including wh-phrases) in Tundra Nenets are in situ, and should not be analysed as undergoing focus fronting. Thus, these data further demonstrate that the relevant features on the arguments themselves may have an effect on agreement morphology. This does not mean that movement may never play a role in shaping the surface agreement patterns—only that, for some languages, it *need not* do so.

6.4 Properties implicated in differential object marking

Finally, we discuss the phenomenon where an argument controls agreement only if it sits at the upper end of some scale that is implicated in the phenomenon of *differential object marking*. This scale can be definiteness, specificity, animacy, or a handful of other less common properties. This phenomenon, which can be analogously termed 'differen-

[16] Under this view, bound elements lack such features to begin with, and receive them from a Λ-introducing head such as v^0.

tial object agreement', is instructive because it can be assimilated to case discrimination (§3), position-based discrimination (§5), or (non-case) feature discrimination (discussed previously in this section). And (borrowing a term from Polinsky and Preminger 2019) it thus illustrates the large amount of 'analytical slack' available when discussing phenomena in the domain of argument-agreement interactions, and the importance of developing and refining diagnostics that will allow researchers to distinguish between the analytical options.

Senaya displays a differential object agreement pattern with imperfective verbs, conditioned by specificity, shown in (52).

(52) *Senaya: Agreement with specific objects*

a. āna ō ksūta kasw-an-**ā**
I that book.F write.IMPF-1SG.F.SUBJ-3SG.F.OBJ
'I will write that book.'

b. āna (xa) ksūta kasw-an
I (a) book write.IMPF-1SG.F.SUBJ
'I will write a book.' (Kalin 2018:119)

One approach to this alternation is to assimilate it to a covert case alternation, like those discussed in §3.2. Objects that control agreement would have a different covert case specification from those that do not. Kalin (2018) provides one formal implementation of this, proposing that nominals at the top end of the relevant scale (definiteness, specificity, etc.) can have a requirement to be assigned Case, which nominals at the bottom end of the scale lack. Coupled with the assumption that Case can only be assigned under a syntactic Agree relation, Kalin effectively ties together differential object case-marking and differential object agreement. Evidence for the involvement of Case in differential object agreement comes from languages such as Ge'ez, where the presence/absence of object (case)-marking on a noun is accompanied by the presence/absence of object-targeting agreement on the verb:

(53) *Ge'ez: case-marking and agreement with definite objects*

a. rɨʔɨyä bɨʔɨse
he.saw man
'He saw a man.'

b. rɨʔɨy-o lä-bɨʔɨse
he.saw-him DOM-man
'He saw the man.' (Coghill 2014:342, citing Givón 1976:164)

Related approaches to differential object agreement employ similar mechanics, but without invoking abstract Case: the idea is that some arguments have a syntactic property which affects both their interpretation (definiteness, specificity, etc) *and* their visibility to agreement probes. For instance, in §4.1 we discussed the proposal that antipassive objects lack a DP layer. In addition to accounting for their non-participation in agreement, this would also account for their tendency to be interpreted as indefinites (though there are numerous complexities and counterexamples to this association)—see Danon (2006) for a proposal regarding non-agreeing indefinites in Hebrew.

However. it is also possible to instead view differential object agreement alternations like (52) as derived from a difference in syntactic position instead. Recall from §5.1.1 that

some scholars have proposed that differential agreement with certain objects should be derived from object shift—which is very often conditioned by the same kinds of features (definiteness and specificity). It is therefore a delicate task to determine whether a feature-based or a position-based analysis (or a hybrid) is the most appropriate for a given language.

Whatever the correct analysis of true differential object agreement (and see Kalin 2018 and Kalin and Weisser 2019 for some reasons to prefer a feature-based account over a position-based account), it has an important analytical competitor: object clitic-doubling. Clitic-doubling is viewed, at least within the generative tradition, as a distinct morphosyntactic phenomenon from genuine ϕ-agreement, with various recent analyses modeling it as syntactic movement of the clitic-doubled argument to the position where the clitic is realised (Nevins 2011, Harizanov 2014, Baker and Kramer 2018). Crucially, the presence vs. absence of clitic-doubling is often conditioned by the same kinds of factors that condition differential object agreement, such as definiteness and specificity. The sentences in (54) show that clitic-doubling in Macedonian is conditioned by the definiteness of the object, but it's worth noting that examples like (52) look quite similar on the surface, and could be analysed in the same way without rigorous investigation.

(54) *Macedonian: clitic-doubling of definite objects*

a. Mira **ja** donese tetratka-ta
Mira it.CL.ACC brought notebook-ACC
'Mira brought the notebook.'

b. Mira donese edna tetratka
Mira brought a notebook
'Mira brought a notebook.' (Coghill 2014:338)

Somewhat circularly, sensitivity to a factor like specificity or definiteness is sometimes used as an argument that a particular argument-indexing morpheme is clitic-doubling rather than agreement. So now we have at least two analytical options for deriving very similar surface phenomena. And object clitic-doubling is itself notoriously hard to tell apart from object agreement (see Kramer 2014, Yuan 2021 among others). Ultimately, this diverse set of analytical possibilities for very similar-looking empirical phenomena highlights that there is still much work to do in establishing diagnostics which will allow researchers to attribute the correct mechanism to non-trivial agreement-argument interactions like those discussed here.

7 Concluding remarks

In sum, we have covered a variety of ways in which the surface realisation of an argument may have an effect on ϕ-agreement, and we divided the interactions into two broad camps: those where the relevant factor is the structural or featural specification of the argument (including its case), and those where the relevant factor is the syntactic position of the argument. Both kinds of interactions implicate the syntactic operation Agree, but we have seen that the decision to attribute a given interaction to structure vs. surface form is not always an easy one, and some phenomena have been analysed along both lines. Along the way, we have also shown that some apparent instances of ϕ-agreement may not necessarily involve the syntactic Agree relation, and are better analysed with other

technology (e.g. merging of bare ϕ-features in §4.2, linear adjacency in §5.3).

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