

Feature gluttony*

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This paper develops a new approach to a family of hierarchy effect-inducing configurations, with a focus on Person Case Constraint (PCC) effects, dative-nominative configurations, and copula constructions. The main line of approach in the recent literature is to attribute these hierarchy effects to failures of φ -Agree or, more specifically, failures of nominal licensing or case checking. We propose instead that the problem in these configurations is unrelated to nominal licensing, but is instead the result of a probe participating in more than one Agree dependency. Building on Béjar & Rezac (2009), according to which an articulated probe continues probing if at least some features are left unvalued after an Agree relation, we propose that what characterizes hierarchy configurations is that a probe agrees with multiple DPs, a configuration that we refer to as *feature gluttony*. Feature gluttony does not in and of itself lead to ungrammaticality, but rather can create conflicting requirements for subsequent operations. In the case of clitic configurations, a probe which agrees with more than one DP creates an intervention problem for clitic-doubling. In violations involving morphological agreement, gluttony in features may result in a configuration with no available morphological output. Important empirical motivation for this account includes (i) the different rescue strategies available, and (ii) the fact that hierarchy effects commonly disappear in the absence of an agreeing probe, as predicted under an account which attributes the problem to the probe.

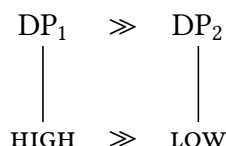
1 Introduction

This paper develops a new model of syntactic *hierarchy effects*, including those found in Person Case Constraint (PCC) effects (Perlmutter 1971, Bonet 1991, Anagnostopoulou 2003, Nevins 2007), Icelandic dative–nominative constructions (Sigurðsson 1996, Sigurðsson & Holmberg 2008), and German copula constructions (Coon et al. 2017, Keine et al. 2018). The distinguishing feature of hierarchy effects is that a configuration containing two DPs is grammatical or ungrammatical depending on the relative ranking of the two DPs with respect to some grammatical hierarchy—for example, 1>2>3 for person, or PL>SG for number. We follow previous work in taking these

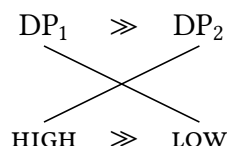
*This project grew out of collaborative work with Michael Wagner, who first suggested putting the problem in the probe. Thanks to Jon Ander Mendia for judgments and data help. For helpful discussion we would also like to thank David Adger, Mark Baker, Nico Baier, Kenyon Branan, Amy Rose Deal, Laura Kalin, Martha McGinnis, Roumi Pancheva, Ethan Poole, Omer Preminger, Betsy Ritter, Carson Schütze, and audiences at the Manitoba Workshop on Person, McGill, Cornell, Singapore, UCLA, Princeton, Maryland, UC Berkeley, Calgary, and MIT. Authors' names are listed in alphabetical order.

hierarchies to be not encoded directly in the grammar, but rather to emerge from the feature specifications of the DPs involved, discussed further below. Such configurations are grammatical if the structurally higher DP is ranked higher on these hierarchies than the structurally lower DP (as in (1); e.g. 1>3); but these configurations are ungrammatical if the structurally higher DP is ranked lower on these hierarchies than the structurally lower DP (as in (2); e.g. 3>1), a configuration that may be termed *inverse*. Hierarchy-violating inverse configurations commonly require a special form or rescue construction to obviate the violation.

(1) *Direct*



(2) *Inverse*



One of most well-studied instances of a hierarchy effect is the PCC, an example of which is provided in (3), from Basque.¹ Basque displays what is known as the Strong PCC. The Strong PCC rules out configurations in which a 1st or 2nd person direct object cooccurs with an indirect object (with some important qualifications to be discussed in section 2.3). In the ditransitive constructions in (3), the indirect object (italicized) structurally c-commands the direct object (boldfaced). The 3>3 and 1>3 configurations in (3a) and (3b) are grammatical, while the 3>1 combination in (3c) or the 1>2 combination in (3d) result in ungrammaticality.

(3) *Basque ditransitives*²

a. Zu-k *harakina-ri* **liburua** saldu d-i-o-zu.

you-ERG butcher-DAT book.ABS sold 3ABS-AUX-3DAT-2ERG

‘You have sold the book to the butcher.’

(✓ 3DAT > 3ABS)

¹ Abbreviations in glosses follow Leipzig glossing conventions, with the following additions: ADDR – addressee; CL – clitic; DO – direct object; IO – indirect object; PART – participant; SPKR – speaker. In some cases, glosses have been modified from the original sources for consistency.

² The examples in (3a,d) are due to Jon Ander Mendia (p.c.); (3b,c) are from Laka (1993: 27). Below, Basque examples not otherwise attributed are due to Jon Ander Mendia (p.c.).

- b. Zu-k *ni-ri* **liburua** saldu d-i-da-zu.
 you-ERG me-DAT book.ABS sold 3ABS-AUX-1DAT-2ERG
 ‘You have sold the book to me.’ (✓1DAT > 3ABS)
- c. *Zu-k *harakina-ri* **ni** saldu n-(a)i-o-zu.
 you-ERG butcher-DAT me.ABS sold 1ABS-AUX-3DAT-2ERG
 intended: ‘You have sold me to the butcher.’ (*3DAT > 1ABS)
- d. *Haiek *ni-ri* **zu** saldu z-ai-da-te.
 they.ERG me-DAT you.ABS sold 2ABS-AUX-1DAT-3ERG
 intended: ‘They have sold you to me.’ (*1DAT > 2ABS)

Much of the previous work has argued that these and other hierarchy-inducing configurations arise in environments in which two accessible DPs are found in the same domain as a single agreeing verbal head (e.g. Anagnostopoulou 2003, 2005, Béjar & Rezac 2003, Nevins 2007, Preminger 2014, to appear, Pancheva & Zubizarreta to appear, Oxford to appear, Stegovec to appear, among many others). This is schematized in (4). Descriptively, hierarchy violations emerge when the lower DP is featurally more highly specified or marked than the higher DP, as in (2) above.

$$(4) \quad [\text{Probe}^0 [\dots \text{DP}_1 \dots [\dots \text{DP}_2 \dots]]]$$

While such hierarchy effects have been productively approached from a considerable range of perspectives (see, e.g., Anagnostopoulou 2017 for an overview), many accounts share the basic analytical intuition that these effects are the result of *failed agreement*, whereby an obligatory Agree or movement dependency between DP₂ and a verbal head (Probe⁰ in (4)) is rendered impossible due to the presence of the higher DP₁ (Anagnostopoulou 2003, 2005, Béjar & Rezac 2003, Adger & Harbour 2007, Nevins 2007, Baker 2008, 2011, Richards 2008, Preminger to appear, Stegovec to appear). The necessity for this Agree or movement dependency can be framed in terms of case assignment and/or nominal licensing (Anagnostopoulou 2003, 2005, Béjar & Rezac 2003, Adger & Harbour 2007, Baker 2008, 2011, Richards 2008, Kalin to appear, Preminger to

appear) or in the need of the DP/clitic to acquire interpretable ϕ -features (Stegovec to appear). Despite significant differences in their technical underpinnings, scope, and execution, what these approaches share is the intuition that the PCC is due to the disruption of this Agree or movement dependency with DP_2 by the intervening DP_1 .

In this paper, we explore a new take on hierarchy effects, which does not view them as resulting from failed Agree or failures of nominal licensing. Rather, we propose that hierarchy effects are the result of having *too much Agree*. Specifically, we argue that in hierarchy-violating structures, a probe participates in more than one valuation relation, effectively “biting off more than it can chew,” a configuration that we refer to as *feature gluttony*. For example, in the structure in (4), feature gluttony (and hence hierarchy effects) arises when the probe enters into Agree with *both* DP_1 and DP_2 .

$$(5) \quad [\text{Probe}^0 [\dots DP_1 \dots [\dots DP_2 \dots]]] \quad \rightarrow \text{feature gluttony}$$

Feature gluttony—i.e. Agree between a single probe and multiple DPs—does not in and of itself cause ungrammaticality, but can create irresolvably conflicting requirements for subsequent operations, which gives rise to ineffability. The view that we are proposing thus amounts to a reversal of the standard explanation for hierarchy effects like the PCC: hierarchy effects do not arise if Agree between a probe and a DP is blocked by a higher DP; rather, they arise when such Agree takes place in addition to Agree with a higher DP.

In order to characterize the configurations in which double Agree as in (5) takes place, we draw on recent work on *Cyclic Agree* by Béjar (2003) and Béjar & Rezac (2009) (also see the distinction between *interaction* and *satisfaction* in Deal 2015). From these works, we adopt the idea that probes may consist of hierarchies of subfeatures, which can agree independently and with distinct DPs. Gluttony configurations such as (5) are characterized by DP_2 being *featurally more specified than* DP_1 relative to the specification of the probe. In such configurations, some segments of the probe will agree with DP_1 , while others will agree with DP_2 , giving rise to feature gluttony.

An important motivation for this shift in perspective on the syntax of hierarchy effects

comes from the observation that hierarchy effects (including PCC effects) frequently disappear in configurations in which no agreement or cliticization takes place (e.g., certain nonfinite clauses). In a nutshell, if hierarchy effects are due to failed Agree with a verbal head, then it is unexpected that they should disappear in configurations in which no Agree at all takes place with a verbal head. By contrast, on our proposal that hierarchy effects are the result of too much Agree with a verbal head, it follows directly that configurations that lack such Agree should not display hierarchy effects. Additional motivation comes from variation in the different possible effects of feature gluttony and the corresponding repair strategies used to circumvent them, discussed further below.

The rest of this paper is organized as follows. We begin in section 2 with an overview of licensing-based accounts of the PCC. This section provides necessary empirical and theoretical background, and also highlights some of the existing concerns raised by this family of accounts. Section 3 introduces our notion of feature gluttony. In PCC configurations, also discussed in 3, a probe which interacts with more than one DP creates an intervention problem for clitic-doubling. In violations involving agreement, examined for German copula constructions and Icelandic dative–nominative configurations in section 4, feature gluttony results in a configuration with no available morphological output. Section 5 concludes with a summary and possible extensions.

2 Against the PCC as failed Agree

As mentioned in section 1, many current accounts analyze the PCC in terms of failed Agree: an obligatory Agree relationship between a DP/clitic and a verbal head cannot be established, leading to ungrammaticality. Our goal here is not to give a comprehensive overview or assessment of such accounts, but rather to examine some of their core properties, and then to highlight a class of challenges to the broad view that PCC effects are due to failed Agree. In a nutshell, we show that PCC effects (and, as we will see, hierarchy effects more generally) disappear in environments that lack agreement or clitics, such as certain nonfinite clauses (Preminger to appear). This observation is surprising on a failed-Agree account.

To facilitate discussion, we will illustrate the challenge on the basis of highly influential licensing-based approaches to the PCC. On these approaches, failed Agree between a verbal head and a DP leads to ungrammaticality because it leaves the DP unlicensed/caseless (Anagnostopoulou 2003, 2005, Béjar & Rezac 2003, Adger & Harbour 2007, Baker 2008, 2011, Kalin to appear, Preminger to appear). Focusing on this family of accounts will allow us to demonstrate the key empirical challenge for failed-Agree accounts, and it provides some technical background that will play a role in our own account as well.

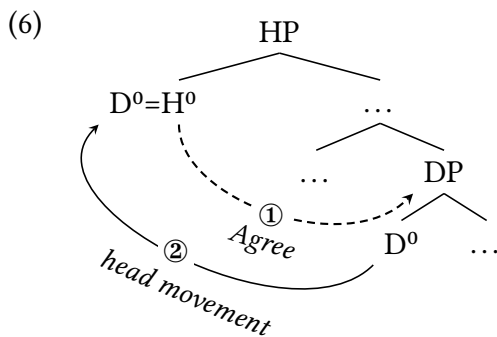
In section 2.1, we present some additional background on PCC effects; section 2.2 illustrates how a licensing-based account offers an elegant explanation of such effects. Section 2.3 lays out various empirical challenges for the view that PCC effects result from failures of nominal licensing or failed Agree more generally. These challenges then pave the way for our proposal in section 3 that PCC effects are the result of *too much* Agree, or in our terms, feature gluttony.

2.1 Some background on the PCC

The PCC bans certain combinations of person features across multiple arguments, most often described for combinations of internal arguments in ditransitive constructions (though we will see examples from other multiple-DP constructions below; see also Bonet 1991, Albizu 1997 for extension to ergative-absolutive configurations in Southern Tiwa). In the Basque example in (3) above, for example, a 1st or 2nd person direct object is banned in the presence of an indirect object. PCC effects have been documented in a wide range of unrelated languages, including Greek, Spanish, Basque, Passamaquoddy, Walpiri, Takelma, Kiowa, French, Nahuatl, Yimas, Georgian, and Albanian (e.g., Perlmutter 1971, Bonet 1991, Laka 1993, Anagnostopoulou 2003, Haspelmath 2004, Adger & Harbour 2007, Nevins 2007, Ormazabal & Romero 2007, Doliana 2013, Pancheva & Zubizarreta to appear, Stegovec to appear); see Anagnostopoulou (2017: 6) for an extensive list of languages and references.

Crucially, PCC effects arise for combinations of certain phonologically weak ϕ -exponents, most commonly pronominal clitics. While morphological agreement (discussed further in section 4)

is the morphological spell-out of valued ϕ -features, we follow much previous work which takes pronominal cliticization to be an instance of long head movement of a D^0 head, triggered by an underlying ϕ -Agree relationship between the probe (clitic host) and goal DP (e.g., Anagnostopoulou 2003), as shown in (6). Here the probe on the head H^0 enters into Agree with the DP, triggering movement of the D^0 head. The clitic is the realization of this D^0 head. The relevant agreeing probes are typically finite T^0/Infl^0 and v^0 . A number of specific implementations are conceivable, and the choice will not matter for our purposes here.³



Despite cross-linguistic commonalities, different “strengths” of PCC have been observed (e.g., Perlmutter 1971, Bonet 1991, 1994, Anagnostopoulou 2005, 2017, Bianchi 2006, Nevins 2007, Doliana 2013, Pancheva & Zubizarreta to appear, Stegovec to appear). The Strong PCC, instantiated, for example, by Basque in (3), bans any clitic combination in which the lower direct object is 1st or 2nd person. By contrast, the Weak PCC bans 1st or 2nd person direct objects only if the indirect object is 3rd person. Varieties of the PCC are represented in Table 1. Despite this variability, what they share in common is that violations arise when the lower direct object is 1st or 2nd person.⁴

³ One option is the *big-DP* analysis (Uriagereka 1995, Cecchetto 2000, Belletti 2005, Arregi & Nevins 2008, 2012, van Craenenbroeck & van Koppen 2008, Roberts 2010). Other examples of accounts that involve both Agree and movement in the derivation of clitic doubling include Harizanov (2014) and Preminger (to appear).

⁴ Here we set aside what Doliana (2013) labels the “Super-Strong PCC” and the “Giga PCC,” reported for Kambara (Malayo-Polynesian) and Cairene Arabic, respectively. The former is reported to rule out 3>3 in addition to 3>1/2, and the latter rules out *all* combinations of weak pronouns. Following others, we suggest that these less-common bans which do not involve hierarchies may be better suited to a morphophonological explanation (see e.g. Nevins 2007 on Spanish “spurious *se*” and Preminger to appear for discussion).

We also do not discuss here PCC effects related to animacy, as discussed for example in Ormazabal & Romero (1998) for certain dialects of Spanish. Following Richards (2008) and Adger & Harbour (2007), these may plausibly be connected to variation in specification of person features, and thus compatible with our feature-based account; see also Stegovec (to appear). See section 3.3.2 on predictions for gender in clitic combinations, as well as discussion of gender and agreement in section 4.1.

Table 1. Types of the PCC

	IO	>	DO	Examples
<i>Strong:</i>	*X	>	1/2	e.g., Basque (Laka 1993), Greek (Anagnostopoulou 2003), Kiowa (Adger & Harbour 2007)
<i>Weak:</i>	*3	>	1/2	e.g., varieties of Catalan (Bonet 1991) and Italian (Bianchi 2006)
<i>Me-First:</i>	*X	>	1	e.g., Romanian (Nevins 2007), Bulgarian (Pancheva & Zubizarreta to appear)
<i>Ultra-Strong:</i>	$\begin{Bmatrix} *3 \\ *2 \end{Bmatrix}$	$\begin{Bmatrix} > \\ > \end{Bmatrix}$	$\begin{Bmatrix} 1/2 & \& \\ 1 \end{Bmatrix}$	e.g., Classical Arabic (Fassi Fehri 1988, Nevins 2007)

While some accounts focus on only one version of PCC, a common desideratum in the recent literature has been to attribute the different flavors of the PCC in Table 1 to a unified account that incorporates suitable parametrization (see, e.g., Nevins 2007 and Pancheva & Zubizarreta to appear). The account that we propose below also subscribes to this desideratum.

2.2 PCC effects as licensing failures

One strand of research treats the PCC as morphological in nature (e.g., Perlmutter 1971, Bonet 1991, 1994, Arregi & Nevins 2012), but subsequent work has provided evidence that the phenomenon is syntactic. One particularly clear argument is presented by Rezac (2008) for Basque. He shows that dative experiencer verbs, like ‘like’ in (7a), exhibit hierarchy effects (e.g., *3_{DAT}>1_{ABS}). He provides independent evidence that for such predicates the dative argument is structurally higher than the absolutive one, just like in ditransitive configurations. In contrast, certain other verbs like the motion construction in (7b) involve a structure in which the absolutive is structurally higher than the dative. Such structures do not display hierarchy effects, and the 1_{ABS}>3_{DAT} configuration as in (7b) is grammatical.⁵ Crucially, the morphological form of the auxiliary (*n-atzai-o*) is identical in the two examples, as both involve a 3rd person dative and a 1st person absolutive—that is, the central difference in the hierarchical arrangement of these DPs is not reflected in the morphology. Rezac (2008) concludes that the problem in (7a) cannot be morphological in nature given that the form of the auxiliary is clearly possible in light of (7b).

⁵ A contrast analogous to that in (7) has also been noted by Albizu (1997: 9n16).

(7) *Basque DAT>ABS verbs vs. ABS>DAT verbs* (Rezac 2008: 63)

- a. *Ni Itxaso-ri gustatzen n-atzai-o.
 me.ABS Itxaso-DAT like.IPFV 1ABS-AUX-3DAT
 intended: ‘Itxaso likes me.’ (*3DAT > 1ABS)
- b. Ni Itxaso-ri etortzen n-atzai-o.
 me.ABS Itxaso-DAT come.IPFV 1ABS-AUX-3DAT
 ‘I am coming to Itxaso.’ (✓1ABS > 3DAT)

We return to the details of this construction below, for now focussing on syntactic accounts of the PCC. As noted in section 1, many current accounts of the PCC attribute the restriction to failed Agree and in particular failures of nominal licensing. We illustrate this line of approach with the Person Licensing Condition (PLC) from Béjar & Rezac (2003), which is stated in (8) (also see Béjar & Rezac 2009). It is possible to analyze (8) in terms of the Case Filter (Anagnostopoulou 2003), but we will abstract away from the relationship between the two here (see also Baker 2008, 2011 and Preminger 2014).

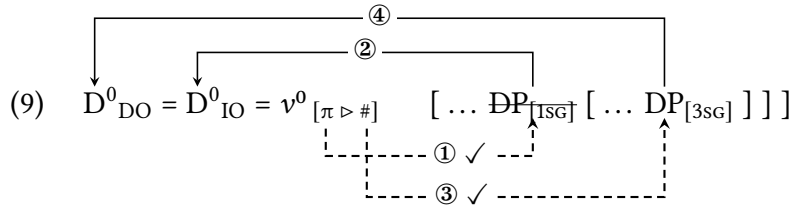
(8) *Person Licensing Condition (PLC; adapted from Béjar & Rezac 2003: 53)*

An interpretable [PARTICIPANT] feature must be licensed by entering into an *Agree* relation with a functional category.

The feature [PART] is borne by 1st and 2nd person DPs, but not by 3rd person DPs. Individual analyses differ as to whether only 1st and 2nd person DPs need to be licensed (Béjar & Rezac 2003, also see Ormazabal & Romero 1998), or whether all DPs require licensing (i.e. abstract Case), but 1st/2nd person DPs must receive it in a special way (Baker 1996, Anagnostopoulou 2003); see Rezac (2008) for discussion. What licensing accounts of the PCC share in common is the proposal that there is something special about 1st and 2nd person DPs, to the exclusion of 3rd (see also for example Nichols 2001 and work discussed there), and that this property requires special licensing through ϕ -Agree. This is what (8) encodes.

Under this line of account, PCC violations then arise when the higher DP *intervenes* between

the probe and a lower [PART] DP, preventing licensing of the [PART] DP. Béjar & Rezac’s (2003) licensing account relies on the following three ingredients. First, the functional heads responsible for licensing DPs (v^0 and T^0) are made up of distinct probes, at least person (π) and number ($\#$), which probe separately (Laka 1993, Taraldsen 1995, Béjar 2003, Rezac 2003, Sigurðsson & Holmberg 2008, Kalin to appear). Furthermore, these two probes are universally ordered such that π probes before $\#$ (also see Preminger 2011). Second, 1st/2nd person DPs must be licensed through Agree with the π -probe (per (8)), while 3rd person DPs may be licensed by $\#$. Finally, pronominal cliticization of a DP removes that DP as an intervener for subsequent operations (Anagnostopoulou 2003, Preminger 2009). The derivation of a PCC-compliant configuration under this model—for example the Basque 1>3 configuration in (3b) above—is shown in (9). The notation “ $\pi \triangleright \#$ ” represents that π probes before $\#$.



In (9), v^0 contains two ϕ -probes: π and $\#$, which probe in this order. π enters into an Agree relationship with the closest DP, here the indirect object (①), successfully licensing its 1st person feature as required by the PLC in (8). The indirect object is clitic-doubled (②) as a result, and thus removed as an intervener for later operations (indicated as a strikethrough in (9)). Next, $\#$ probes, entering into an Agree relationship with the lower 3rd person DP (③), again triggering cliticization (④). Because the direct object is 3rd person, Agree with $\#$ is sufficient to license it.

This contrasts with the PCC-violating configurations like the 3>1 configuration in (3c), as illustrated in (10). Here, the π probe is blocked from agreeing with the lower, 1st person DP due to the intervening higher DP. Being 1st person, Agree with $\#$ does not suffice to license the direct object, resulting in a violation of the PLC in (8). The structure is therefore ungrammatical.⁶

⁶ This system accounts straightforwardly for the Strong PCC, which consistently rules out 1st and 2nd person DPs in the lower direct object position (see Table 1 above). For other varieties of PCC, more needs to be said (see, e.g., Anagnostopoulou 2005 and Nevins 2007 for relevant proposals and discussion, and also section 3.3.1 below).

- (10) * [$v_{[\pi \triangleright \#]}$ [... DP_[3SG] [... DP_[1SG]]]] \rightarrow licensing failure for DP_[1SG]
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In addition to offering an explanation of the core PCC facts in terms of independently motivated syntactic principles, the licensing account also provides an explanation for certain repair strategies for PCC-violating configurations (see, e.g., Bonet 2008 and Rezac 2010, 2011 for insightful discussion of such repair strategies). A French PCC-violating 3>1 configuration is shown in (11a). The intended meaning can instead be expressed in French if the indirect object is realized not as a pronominal clitic, but as a full PP, as in (11b). On a licensing account, because the higher PP does not have φ -features which are visible to the probe, this PP does not intervene for Agree between π and the direct object, and the direct object is successfully licensed. A similar strategy for circumventing PCC effects is employed by Catalan and Spanish (see Bonet 1991, Anagnostopoulou 2003).

(11) *French PCC and repair* (Anagnostopoulou 2003: 311)

- a. *Paul **me** *lui* présentera.
 I CL.1SG CL.3SG will.introduce
 intended: ‘Paul will introduce me to him.’ (*3DAT > 1ACC)
- b. Paul **me** présentera à lui.
 Paul CL.1SG will.introduce to him
 ‘Paul will introduce me to him.’ (✓3DAT > 1ACC)

While French-type repairs like (11b) are easily understood on a licensing-based account, a different strategy for rescuing PCC-violating configurations is used by Greek. In Greek, clitic doubling of the direct object DP is optional. When the lower DP is not clitic doubled, no PCC violation arises. The sentence in (12a) shows that 3>2 configurations are ungrammatical if the 2nd person direct object is cliticized. By contrast, in (12b), the direct object is not cliticized, and no PCC violation arises.

(12) *Greek PCC and repair* (Anagnostopoulou 2017: 3004, 3006)

- a. *Tha *tu* **se** stilune.
 FUT CL.GEN.3SG.M CL.ACC.2SG send.3PL
 intended: ‘They will send you to him.’ (*3DAT > 2ACC)
- b. Tha *tu* stilune **esena**.
 FUT CL.GEN.3SG.M send.3PL you.ACC
 ‘They will send you to him.’ (✓ 3DAT > 2ACC)

From the point of view of the PLC, (12) poses an interesting challenge. Because the 2nd person direct object in (12b) is neither agreed with nor cliticized, the PLC in (8) would, all else being equal, predict it to be unlicensed, and hence that (12b) should be ungrammatical. Such facts have led Anagnostopoulou (2003) and Preminger (to appear) to a weakening of the licensing requirement, a discussion of which we turn to now.

2.3 Caveats for licensing accounts

While a licensing-based approach elegantly captures many of the special properties of [PART] DPs in hierarchy-violating configurations, recent work has shown that it can’t be the case that *all* [PART] DPs need licensing through ϕ -Agree, as in the original formulation in (8) above. Instead, additional caveats are required, and these caveats pose an analytical challenge to licensing-based accounts of the PCC. The most explicit exploration of such caveats is Preminger (to appear), who argues that the PLC needs to be reformulated as in (13). This revised PLC specifies that only [PART] DPs which are also “canonical agreement targets” require licensing. What counts as a “canonical agreement target” is defined in (14). We examine each condition in turn below.

(13) *Person Licensing Condition (PLC; Preminger to appear)*

A [PART(ICIPANT)] feature on a DP that is a canonical agreement target must participate in a valuation relation.

(14) *Canonical agreement target* (Preminger to appear)

A given DP x is a canonical φ -agreement target **iff** there is at least on φ -probe y such that:

- a. x and y are clausemates;
- b. x meets the CASE-DISCRIMINATION requirements of y .

First, according to (14a), a [PART] DP need only be licensed if there is a probe in the same clause which can license it (see Preminger 2011). Crucial evidence for the need for this caveat comes from Basque. Here, PCC effects disappear in nonfinite (i.e. probeless) environments (Laka 1993: 27, Albizu 1997: 5, Arregi & Nevins 2012: 65–69). Recall from (3) above that Basque exhibits PCC effects in ditransitive constructions, such that inverse ‘indirect object>direct object’ combinations such as 3>1 are ruled out (see (15a)). Surprisingly, if the same argument configuration appears in a nonfinite clause, no PCC effect obtains, as illustrated for case-marked infinitival clauses in (15b) (based on Laka 1993: 27; using Preminger’s (2009) terminology), and for adpositional clauses in (15c). Arregi & Nevins (2012: 65–69) show that the same asymmetry holds for agentless predicates like ‘like’ in (7a). If these are embedding inside a nonfinite clause, PCC effects disappear.

(15) *Basque PCC effects disappear in nonfinite clauses*

- a. *Zu-k *harakina-ri* **ni** saldu **n-(a)i-o-zu**.
you-ERG butcher-DAT me.ABS sold 1ABS-AUX-3DAT-2ERG
‘You have sold me to the butcher.’ (*3DAT > 1ABS)
- b. Gaizki iruditzen \emptyset -zai-t [zu-k *harakina-ri* **ni** sal-tze-a].
wrong look.IPFV 3ABS-AUX-1DAT you-ERG butcher-DAT me.ABS sold-NMLZ-ART.ABS
‘It seems wrong to me for you to sell me to the butcher.’ (✓3DAT > 1ABS)
- c. Zu-k [*harakina-ri* **ni** sal-tze-n] probatu d-u-zu.
you-ERG butcher-DAT me.ABS sold-NMLZ-LOC attempted 3ABS-AUX-2ERG
‘You have attempted to sell me to the butcher.’ (✓3DAT > 1ABS)

Why is it that the same combination of verb, indirect object, and direct object results in a PCC violation in finite clauses (15a), but not in nonfinite clauses (15b,c)? An important difference between (15a) on the one hand and (15b,c) on the other is that the direct and indirect objects in (15b,c) are not clitic-doubled or agreed with in either the embedded clause or the matrix clause. Following Preminger (to appear), we take this to mean that no φ -Agree with these objects has taken place (also see Anagnostopoulou 2003: 315, 320 for an analogous interpretation of the Greek example in (12b)). It seems to be the absence of this φ -Agree that underlies the absence of PCC effects in these configurations.⁷

Effects like those in (15) are not limited to Basque. The disappearance of hierarchy effects in environments that lack φ -agreement or cliticization has also been documented for nominalized clauses in Georgian (Bonet 1991: 189–191, Béjar & Rezac 2003: 50; Léa Nash, p.c.), Icelandic (Sigurðsson & Holmberg 2008), and German (Keine et al. 2018).

The observation that hierarchy effects like the PCC disappear in configurations in which no Agree takes place should find an explanation in the analysis of hierarchy effects. But as Preminger (to appear) points out, a blanket licensing requirement on [PART] DPs such as the PLC in (8) does not lend itself to such an explanation. Recall that the standard PLC in (8), which requires all [PART] DPs to be licensed through φ -Agree, explains the ungrammaticality of (15a) as a licensing failure because the direct object *ni* cannot be agreed with. However, given that the direct object is not agreed with in (15b,c) either, the original PLC in (8) would predict (15b,c) to also give rise to a licensing failure, contrary to fact.⁸ Conversely, given that the direct object is clearly licensed in (15b,c), whatever licensing mechanism applies in (15b,c) should also be available in (15a). But this would undermine the licensing-based account of the ungrammaticality of (15a). The original PLC in (8) therefore leaves the crucial contrast in (15) unaccounted for.⁹

⁷ Correspondingly, not all languages show PCC obviation in nonfinite clauses. In languages in which nonfinite clauses retain clitics (e.g., Spanish), PCC effects remain as well. This is consistent with the caveat in (14a), which suspends the licensing requirement only in nonfinite clauses that do not contain a φ -probe and hence no agreement or clitics, as is the case in Basque. See fn. 14 for further discussion.

⁸ In fact, in (15b,c), neither the direct nor the indirect object is agreed with. To the extent that we might expect a contrast between the two cases, a PLC account would predict the licensing problem to be *worse* in (15b,c) than in (15a), exactly the opposite of what we find.

⁹ In order to account for the obviation of PCC effects with the use of a strong pronoun in, e.g., Greek (see (12b)),

The first caveat in Preminger’s (to appear) revised PLC in (13) is designed to resolve this paradox within the confines of a licensing account. It does so by stipulating (in (14a)) that only [PART] DPs that have a clausemate φ -probe need to be licensed through φ -Agree. Because the direct object in (15b,c) does not have a clausemate φ -probe, it is exempted from the licensing requirement, and no PCC effect arises. A related proposal is advanced by Anagnostopoulou (2003, 2005), who appeals to a default licensing mechanism to account for the Greek example in (12b). Applied to the Basque facts in (15), her proposal would require that such default licensing be available in nonfinite clauses, but not in finite clauses. Another related suggestion is made by Pancheva & Zubizarreta (to appear: 31–32), who stipulate that their “P-Constraint” only targets agreeing DPs, exempting the object in (15b,c).

Turning next to Preminger’s (to appear) second condition in (14b), a [PART] DP need only be licensed if it is in the right case form—specifically, if it is a viable target for agreement. We know from Bobaljik (2008) that φ -agreement can be *case-discriminating* in the sense that crosslinguistically, DPs with certain cases are not viable agreement targets. Preminger (to appear) points out that such DPs can still be 1st or 2nd person. Against the background of a more general argument that there is no morphologically invisible φ -agreement, Preminger (to appear) concludes that such 1st and 2nd person DPs cannot have their [PART] features licensed via φ -Agree, as the original PLC (8) would require. Preminger’s (to appear) PLC in (13) accommodates this complication by allowing DPs that are not viable agreement targets to go unlicensed.

We conclude with Preminger (to appear) that facts like the above cast doubt on the original version of the PLC in (8)—or any account that attributes the PCC to failed obligatory φ -Agree with a DP. Preminger’s (to appear) weakened version of the PLC is empirically more adequate because it exempts a DP from the licensing requirement if either (i) there is no clausemate probe (14a) or (ii) if it is invisible to the licensing probe (14b). While these exemptions derive the empirical

Béjar & Rezac (2003: 54–55) propose that the strong pronoun is part of an (adpositional) FP, which licenses it. Such an account does not seem to extend to Basque (15), however. First, there is no evidence that either object DP has a different internal structure in (15b,c) than in (15a). Second, if the object could be an FP in (15b,c), then it should also be able to be an FP in (15a). This would undermine the licensing-based explanation for the ungrammaticality of (15a).

facts, they raise important new questions. As they stand, these caveats are successful because they effectively restate the empirical puzzle as part of the analytical constraint. As such, they do not provide an explanation for *why* a nominal’s licensing needs should be suspended in contexts in which a licensing probe is absent.

Rather than maintaining the PLC and supplementing it with these caveats, we take the empirical evidence to suggest that an altogether different approach is warranted, one that severs PCC effects from nominal licensing altogether. If [PART] DPs may go unlicensed in environments in which the probe either cannot access them or is simply absent, then it seems fair to conclude that the problem in PCC configurations is not due to nominal licensing in the first place. Rather, we take the discovery that PCC effects disappear in the absence of φ -Agree to suggest that *the problem lies with the probe*. That is, we propose a significant shift in perspective on hierarchy effects. Rather than attributing them to failures of nominal licensing or failed Agree more generally, we will explore the view that these effects arise from a problem associated with the φ -probe. We develop this proposal in the following section and show that by focusing on the probe instead of the DP, this account offers a principled reason for why PCC effects should disappear in the absence of an Agree relation.

3 Gluttony and clitics

In this section, we lay out an alternative means of deriving the PCC effects examined in section 2. We attribute PCC and other hierarchy effects to what we term *feature gluttony*. Because our account is not based on nominal licensing, no caveats to it are necessary. We begin by developing our account for clitic doubling and the PCC in this section; section 4 then applies the proposal to hierarchy effects in the domain of agreement.

3.1 Ingredients of the account

As foreshadowed at the outset, while licensing-based approaches attribute hierarchy violations to a failure of Agree and hence failed nominal licensing, we argue that the problem results instead

from an *overapplication* of Agree. Specifically, we propose that PCC effects—along with other hierarchy-violating configurations discussed below—are the result a probe entering into Agree with too many DPs.

While we reverse the nature of the problem, our proposal retains many of the key insights from the recent PCC literature described in section 2.1 above. First, we maintain the basic view that effects arise when two accessible DPs are present in the domain of a single φ -probe. Second, the φ -probe is articulated minimally into a person probe π and a number probe $\#$ (Laka 1993, Taraldsen 1995, Béjar 2003, Rezac 2003, Sigurðsson & Holmberg 2008), and these are universally ordered such that π probes first (Béjar & Rezac 2003, Preminger 2011). Third, we treat cliticization as an instance of long head-movement of a D^0 element, triggered by a φ -Agree relationship between the probe (clitic host) and goal DP, along the lines laid out in section 2.1. Finally, cliticization of a DP removes that DP as an intervener to subsequent probes because it makes this DP behave like the trace of A-movement (see Anagnostopoulou 2003, Béjar & Rezac 2003 and Preminger 2009 for discussion and empirical justification).

To this backdrop, we add the following independently-motivated assumptions. First, we take person and number features to be arranged in feature geometries (Harley & Ritter 2002, Béjar 2003, among many others), shown in (16) and (17) for person and number, respectively.

$$(16) \quad \left[\begin{array}{c} \text{PERS(ON)} \\ | \\ \text{PART(ICIPANT)} \\ / \quad \backslash \\ \text{SPKR (=SPEAKER)} \quad \text{ADDR(ESSEE)} \end{array} \right] \quad (17) \quad \left[\begin{array}{c} \text{NUM(BER)} \\ | \\ \text{PL(URAL)} \end{array} \right]$$

These geometries encode entailment relations among features, such that features on lower nodes entail the features on higher nodes. For example, the specification for 1st person is internally complex, containing not only the feature [SPKR], but the full set of entailed features, [PERS [PART [SPKR]]]. A 2nd person DP is specified as [PERS [PART [ADDR]]], while 3rd person DPs are specified simply as [PERS] (i.e., they are characterized by the absence of the three other features; see Nevins 2007 for arguments that 3rd person does not simply correspond to the absence of person features). The situation is analogous for number: singular is characterized by the feature [NUM], whereas plural

consists of $[\text{NUM}[\text{PL}]]$. More complex specifications are possible, but not discussed here.

Finally, φ -probes themselves may vary as to the degree to which they are articulated. In Deal's (2015) terms, they may vary as to what kinds of features they are *satisfied by*, in other words what kinds of features have to be matched in order for the probe to stop searching for a goal (Béjar 2003, Béjar & Rezac 2009, Preminger 2014, Oxford to appear). Specifically, we assume that probes may consist of hierarchically organized *segments* (adopting terminology from Béjar & Rezac 2009). Examples are provided in (18). The probe in (18a), for example, is fully satisfied by any DP with person features. The probes in (18b) and (18c) are pickier: the probe in (18b) is fully satisfied by 1st and 2nd person DPs, while the probe shown in (18c) is fully satisfied only by 1st person DPs.

- (18) a. $\left[\begin{array}{c} u\text{PERS} \end{array} \right]_{\pi}$ – fully satisfied by any person-bearing DP
- b. $\left[\begin{array}{c} u\text{PERS} \\ | \\ u\text{PART} \end{array} \right]_{\pi}$ – fully satisfied by 1st and 2nd person DPs
- c. $\left[\begin{array}{c} u\text{PERS} \\ | \\ u\text{PART} \\ | \\ u\text{SPKR} \end{array} \right]_{\pi}$ – fully satisfied by 1st person DPs

A probe will agree with the closest accessible DP which matches some of its segments. If there are remaining segments that are not matched, the probe is not satisfied, in Deal's (2015) terms, and the remaining segments continue probing. We formalize this as in (19).

(19) *Agree*

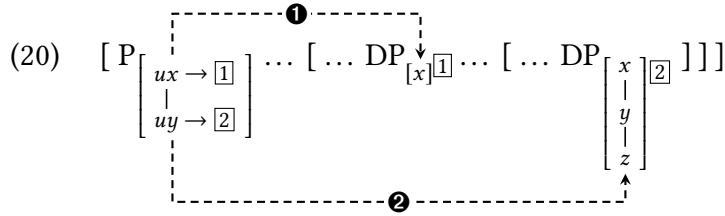
Given a probe P with a hierarchy of unchecked feature segments $[uF]$,

- a. P searches the closest accessible DP in its domain such that this DP contains feature set $[G]$, with $[G] \cap [F] \neq \emptyset$;
- b. the feature hierarchy containing $[G]$ is copied to P;
- c. $[G]$ is removed from $[uF]$;
- d. iterate over steps a.–c. until $[uF] = \emptyset$ or search fails.

We walk through each step in (19) in turn. First, (19a) specifies that Agree is triggered by the

presence of unchecked feature segments on a probe, and that it targets a DP whose features match these unchecked segments. Note that (19a) only requires that there be some overlap between the unchecked segments on the probe and the corresponding segments on the goal. In principle, either can be a superset of the other. When Agree is established, the entire feature geometry that contains the matched segment on the DP is copied over to the probe (19b), and the matching segments on the probe are deleted (19c). As will become important in section 4, the feature copying step in (19b) is *coarse* in the sense that the entire feature geometry of a DP is copied, even if only a segment of it undergoes Agree (see Béjar & Rezac 2009: 45–46 for a similar view). Finally, if Agree between a probe and a DP leaves some featural residue on the probe (because not all segments were matched by the DP), the remaining segments continue probing (19d).

To illustrate this system using a schematic example, consider the structure in (20).



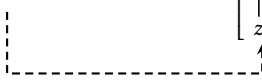
Here, an articulated probe P comprising the unchecked segments $[ux [uy]]$ probes a structure that contains two DPs. The higher DP contains only the feature $[x]$; the lower DP contains the feature hierarchy $[x [y [z]]]$. In accordance with (19a), P agrees with the higher DP, as this DP matches some of its unchecked segments (namely, $[ux]$). This is step ❶. As a result of this Agree relationship, the feature hierarchy containing $[x]$ —which, in this case, is just $[x]$ —is copied over to the probe (see (19b)), deleting $[ux]$ (see (19c)). For ease of notation, we depict feature copying by means of the identifiers $\boxed{1}$ and $\boxed{2}$. For example, “ $ux \rightarrow \boxed{1}$ ” in (20) expresses that Agree for segment $[ux]$ leads to copying of the feature hierarchy $\boxed{1}$ (which in this case is just $[x]$) and to deletion of $[ux]$. Crucially, because the DP lacks $[y]$, the segment $[uy]$ on the probe is not deleted, and in accordance with (19d), it continues probing. The closest DP that matches $[uy]$ is the lower DP, whose feature structure is $[x [y [z]]]$. Accordingly, $[uy]$ agrees with this DP (❷). This Agree relationship leads to the entire feature geometry $[x [y [z]]]$ being copied over to the probe, and to

deletion of $[uy]$ (notated as “ $uy \rightarrow \boxed{2}$ ”).

As a result of the derivation in (20), the probe P has agreed with both DPs, and as a result, the feature geometries of both DPs have been copied over to the probe. The content of the probe after both Agree relations have been established is given in (21). P in (21) is *gluttonous* because it has agreed with, and hence acquired values from, two DPs.

$$(21) \quad P = \left\{ [x] \boxed{1}, \left[\begin{array}{c} x \\ | \\ y \\ | \\ z \end{array} \right] \boxed{2} \right\}$$

As a second example, consider the structure in (22). Here the higher DP is featurally more specified than the lower DP. The higher DP matches both $[ux]$ and $[uy]$ on the probe, leading to Agree. As a result, the DP’s entire feature geometry containing $[x[y[z]]]$ is copied over onto the probe. Because both $[ux]$ and $[uy]$ have been matched, both are deleted. No residual segments remain on the probe, and consequently, no second Agree relation is established.

$$(22) \quad [P \left[\begin{array}{c} ux \\ | \\ uy \end{array} \right] \rightarrow \boxed{1}] \dots [\dots DP \left[\begin{array}{c} x \\ | \\ y \\ | \\ z \end{array} \right] \boxed{1} \dots [\dots DP \left[\begin{array}{c} x \\ | \\ y \end{array} \right]]]]$$


The content of P that results from (22) is given in (23). In this case, P is not *gluttonous*, as it has only agreed with a single DP.

$$(23) \quad P = \left\{ \left[\begin{array}{c} x \\ | \\ y \\ | \\ z \end{array} \right] \boxed{1} \right\}$$

Finally, gluttony also does not arise if the two DPs are equally specific. This is illustrated in (24), where both DPs bear only $[x]$. The probe hence agrees with the higher DP, leading to copying of $[x]$ and deletion of $[ux]$. While $[uy]$ remains on the probe, neither DP contains a matching feature $[y]$, and so search fails and no further Agree is established. The resulting probe bears the specification in (25).

$$(24) \quad [\text{P} \left[\begin{array}{c} \text{ux} \rightarrow \boxed{1} \\ \text{uy} \end{array} \right] \dots [\dots \text{DP}_{[x]} \boxed{1} \dots [\dots \text{DP}_{[x]}]]]$$

$$(25) \quad P = \left\{ [x]^{\boxed{1}} \right\}$$

We assume, following Preminger (2014), that a probe with unvalued features must initiate a search operation, but failure to enter into Agree does not cause the derivation to crash. Consequently, the fact that $[uy]$ is left over in (24) is not fatal.

In general, because unchecked feature segments instigate probing, and because segments are deleted when matched under Agree, a probe which has already entered into Agree with one DP will only agree with a subsequent DP that possesses *more* features than the higher DP relative to the probe (assuming that the relevant features are hierarchically organized and thus not entirely disjoint). This is the case in (20), but not in (22) or (24). The result is that such “double Agree” will only arise in inverse configurations, for principled reasons.

We also note that while our account may at first glance appear to bear some resemblance to Multiple Agree (Hiraiwa 2001, 2005, Anagnostopoulou 2005, Nevins 2007), in the system proposed here every individual Agree operation is strictly limited insofar as each *segment* of a complex probe agrees with (at most) one DP. As such, our proposal is much closer to the segment-based theory of Agree in Béjar & Rezac (2009) than to traditional Multiple-Agree accounts. Multiple Agree in this traditional sense is ruled out on our account.

Finally, as will become clear as we proceed, gluttony also does not, in and of itself, cause the derivation to crash. Rather, a probe which has entered into multiple Agree relationships may precipitate other independently motivated problems, to which we turn next.

3.2 How this works for the PCC

Above we laid out a system of feature gluttony, and demonstrated that under this account gluttony is expected to occur only in inverse environments—that is, configurations in which the lower of two DPs in a certain domain has more highly-specified features than the higher DP (see section 1). Thus, while feature structures may vary in their degree of articulation from language to language

(Harley & Ritter 2002), in any given language our system derives the overarching generalization that hierarchy effects are found in inverse environments.

We begin by illustrating how this system derives ungrammaticality for clitic combinations, returning to the PCC effects from section 2. Our initial illustration of the system will focus on the Weak PCC, which bans [PART] DPs from appearing in direct object position when the indirect object is 3rd person (*3>[PART]); all other combinations are grammatical (see Table 1 above). An ungrammatical inverse form is shown in (26a); unlike in the Strong PCC, combinations of [PART] DPs are grammatical, as in (26b).

(26) *Weak PCC in Catalan* (Bonet 1991: 179)

- a. *A en Josep, **te** **li** va recomanar la Mireia.
 to the Josep, 2ACC.CL 3DAT.CL recommended the Mireia
 intended: ‘Mireia recommended you to him (Josep).’ (*3 > 2)
- b. **Te’m** van recomanar per a la feina.
 2CL.1CL recommended for the job
 ‘They recommended me to you for the job.’/ (✓2 > 1)
 ‘They recommended you to me for the job.’ (✓1 > 2)

For the Weak PCC, we propose that v^0 contains a person probe π and a number probe #, specified as in (27). As before, will use the notation “ $\pi \triangleright \#$ ” to express that π probes before #.¹⁰

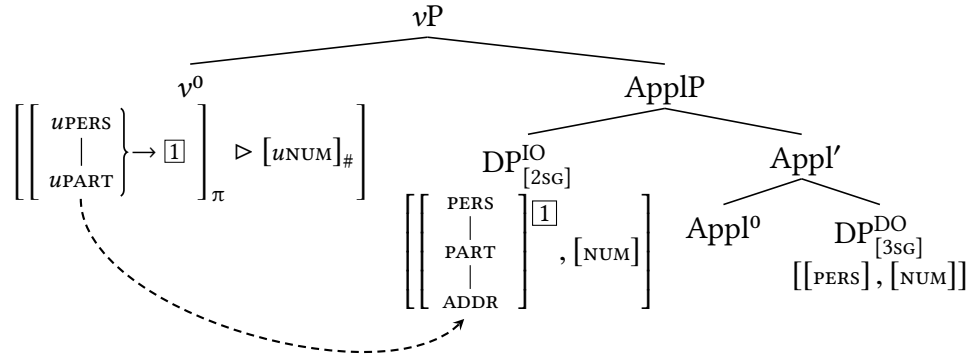
$$(27) \quad v^0 \left[\left[\begin{array}{c} u_{\text{PERS}} \\ | \\ u_{\text{PART}} \end{array} \right]_{\pi} \triangleright [u_{\text{NUM}}]_{\#} \right]$$

First, a PCC-compliant 2>3 configuration is shown in (28). The π -probe probes first and enters into Agree with the 2nd person indirect object DP; the indirect object’s full set of person features (1) are copied back to the probe, and [u_{PERS}] and [u_{PART}] on the probe are deleted under matching. The indirect object is then clitic-doubled as a result of this Agree relation (see section 2.1) and

¹⁰ This might be implemented as extrinsic ordering of features on a head. See, e.g., Müller (2010) and Georgi (2017) for proposals in a variety of domains.

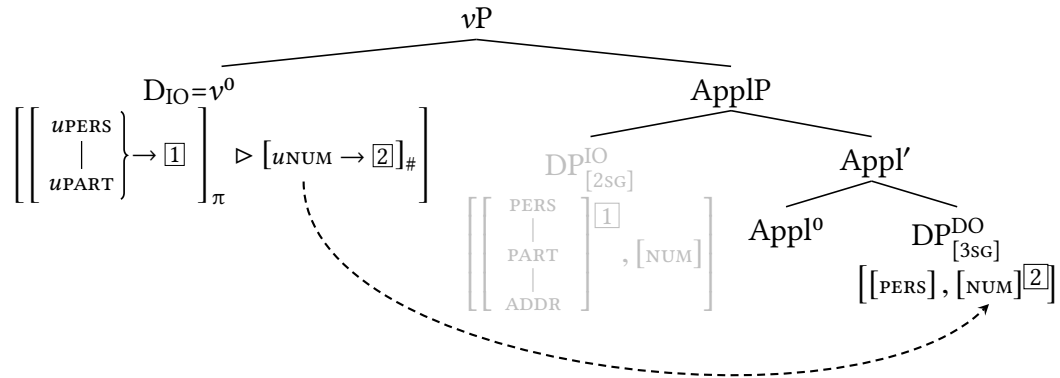
removed as an intervener.

(28) π -Agree in 2>3 configurations



In the next step, shown in (29), # probes. Because the indirect object has been clitic-doubled as a result of π -Agree, it no longer intervenes (Anagnostopoulou 2003, Béjar & Rezac 2003, Preminger 2009); # thus locates the lower direct object, agrees with its [NUM] feature, and clitic-doubles the direct object.

(29) #-Agree in 2>3 configurations



Because the probe on v^0 have thus agreed with both objects and both have been clitic-doubled, the resulting configuration contains two clitics on v^0 :¹¹

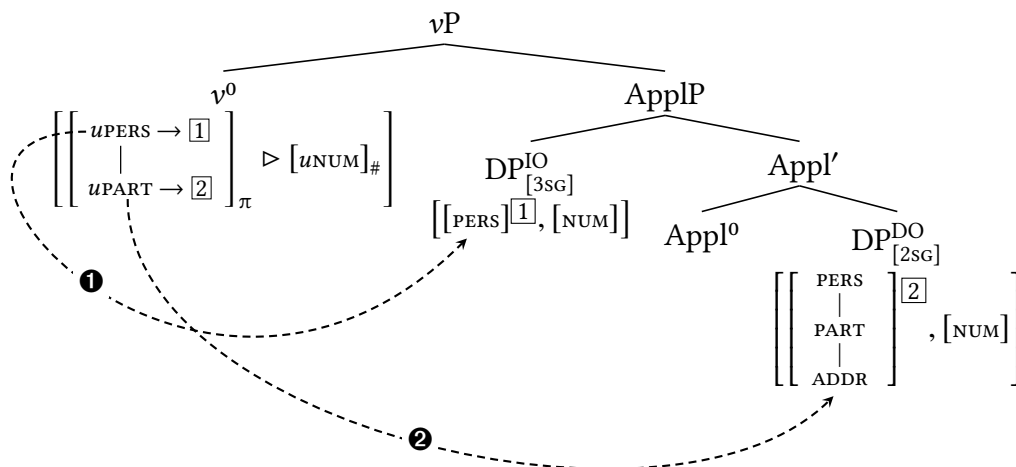
(30) $D_{DO}=D_{IO}=v^0$

Next, we turn to a PCC-violating 3>2 configuration like (26a) above, illustrated in (31). As

¹¹ Note that on our proposal the direct-object clitic is the result of #-Agree, whereas the indirect-object clitic results from π -Agree. Because clitic doubling involves movement of a D^0 head (see section 2.1 above), both clitics nonetheless express person and number features. On this “featural coarseness of clitic doubling,” see Preminger 2014: 50–54.

above, the articulated π -probe first reaches the indirect object DP, which—being 3rd person—bears only a [PERS] specification. This [PERS] feature matches [u PERS] on the probe, leading to Agree and deletion of [u PERS] (❶). At this point, the probe still retains [u PART], which is not matched by the indirect object. [u PART] thus initiates a second search process, agreeing with the 2nd person direct object (❷).

(31) π -Agree in 3>2 configurations



The two Agree steps in (31) give rise to gluttony: a single probe (i.e., π) has agreed with two DPs. After these Agree relations have been established, clitic doubling must take place. Taking clitic-doubling to be an instance of movement, we propose the ungrammaticality of gluttonous PCC configurations like the one in (31) results from conflicting requirements on movement brought about by the fact that π has agreed with two DPs. Specifically, we invoke two independently-motivated general constraints on movement, namely *Best Match* and the *Attract Closest*. *Best Match* requires movement of the DP that matches the most features of the probe. Precedents for this constraint include van Urk & Richards' (2015) *Multitasking*, Coon & Bale's (2014), van Urk's (2015) and Oxford's (to appear) *Best Match*, and Lahne's (2012) *Maximize Matching* (building on Chomsky 2000, 2001). The second constraint *Attract Closest* (also known as the *Minimal Link Condition* or *Closest*) dictates that the probe move the highest or *closest* eligible DP (e.g., Chomsky 1995, Kitahara 1997, Müller 1998, Fitzpatrick 2002, Rackowski & Richards 2005).

These two constraints apply in tandem when a probe agrees with only a single goal. But in

feature-gluttony configurations, where a single probe agrees with two DPs, they give rise to a conflict. On the one hand, Best Match requires clitic doubling of the lower DP, which matches both $[uPERS]$ and $[uPART]$. On the other hand, Attract Closest requires clitic doubling of the higher DP. We propose that these two constraints are *unranked* and *inviolable*. This give rise an irresolvable conflict: First, clitic-doubling the higher DP satisfies Attract Closest, but it violates Best Match. Second, doubling the lower DP satisfies Best match, but it violates Attract Closest. Third, doubling neither DP violates both constraints. Fourth, assuming a Markovian syntax without simultaneous syntactic operations, doubling both DPs would require doubling one of them first. But this would likewise violate one of the two constraint (depending on which one is doubled first). In a Markovian system without look-ahead, where every step of the derivation must be well-formed, this is sufficient to exclude such a derivation. As a consequence, every potential clitic-doubling operation (including the absence of clitic doubling) leads to a fatal violation of at least one of the two constraints. In other words, the two constraints impose mutually incompatible requirements on clitic doubling. Both constraints being inviolable, there is simply no way to proceed from the structure in (31). This renders the structure ineffable, and hence ungrammatical.¹²

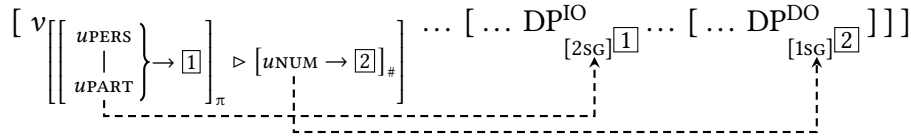
One final possibility that we need to consider is to initiate clitic doubling of the indirect object *before* π enters into Agree with the direct object (hence, after step ❶ in (31)). This option is ruled out due to the granularity of Agree (19). Specifically, while the definition of Agree in (19) is defined in terms of sub-procedures, (19) as a whole qualifies as a single syntactic operation. It is consequently impossible to intersperse parts of it with clitic doubling. Put differently, because ❶ and ❷ in (31) are sub-steps of a single operation, it is impossible to apply clitic doubling after step ❶ but before step ❷.

We now consider combinations of two $[PART]$ DPs—i.e., $1>2$ and $2>1$ —which are grammatical in Weak-PCC languages (see (26b)). As shown in (32), π is fully matched by the indirect object,

¹² Note that we do not have anything new to add to the question of why clitic-doubling should be required in certain configurations in the first place; see discussion in Preminger (to appear). However, given the independently-attested requirement of clitic-doubling, our account explains why inverse configurations result in ungrammaticality. We correctly predict that where clitic-doubling is *optional*—as for example with Greek direct objects in section 2.2 above—ungrammaticality should not arise if clitic-doubling does not take place.

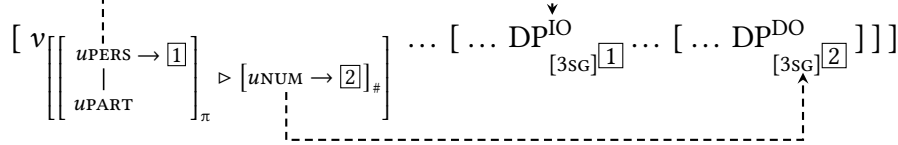
leading to deletion of both [*uPERS*] and [*uPART*]. Thus, no second Agree between π and the direct object takes place, and clitic doubling of the higher DP proceeds as in (28). Subsequently, # agrees with and clitic-doubles the direct object, ignoring the already clitic-doubled higher DP, as in (29).¹³

(32) *Agree in 2SG>1SG:*



Finally, the structure for grammatical 3>3 configurations is provided in (33). Here, the indirect object only matches π 's [*uPERS*], and [*uPART*] is hence not deleted. But because the direct object (being 3rd person) lacks a matching [*PART*] counterpart, it does not constitute a goal for [*uPART*]. As a result, no second Agree dependency between π and the direct object is established. As before, the indirect object is clitic-doubled, and # subsequently agrees with the direct object across it.

(33) *Agree in 3SG>3SG:*



In sum, a gluttonous probe arises only if the direct object is more specific than the indirect object relative to the specification of the probe. As we saw, this is the case in 3>1 and 3>2 configurations, but not in any other configuration. Consequently, it is in precisely these two configurations that an irresolvable conflict arises with respect to the movement operation necessary to create pronominal clitics. This derives the Weak PCC.

3.3 Consequences and variation

The analysis just developed derives Weak-PCC effects without resorting to nominal licensing or its caveats. As noted above, in several respects, a gluttony account is the opposite of a licensing account. On a gluttony account, problems arise as a result of the probe, not due to the licensing

¹³ In the interest of space, we will not show ϕ -features on DPs as full-blown feature structures from now on, though this is a notational simplification. Thus, [2SG] in (32) is an abbreviation for a [PERS [PART [ADDR]]] feature structure for person and a [NUM] feature structure for number.

needs of the DP. Furthermore, the hierarchy effect is due to too much Agree, rather than too little. In section 3.3.1 we discuss how these differences directly capture the empirical facts which required weakening the original PLC. Furthermore, we show below that a gluttony-based approach allows us to account for the crosslinguistic variation in PCC patterns based on independent grammatical factors, discussed in 3.3.3 and 3.3.4.

3.3.1 Gluttony vs. licensing. The analytical shift from nominal licensing to gluttonous probes enables an immediate explanation of the observation that PCC effects disappear in nonfinite environments that lack agreement and clitic doubling (see (15)). As discussed in section 2.3, this pattern makes it necessary to weaken the PLC such that a DP that normally requires licensing through φ -Agree no longer requires such licensing if it is not clausemate to a φ -probe (i.e., Preminger’s caveat in (14a) above), an ad hoc stipulation. A gluttony account offers a more principled way of understanding this complication: Because the PCC arises when a *probe* enters into φ -Agree with more than one DP, we immediately predict that the PCC disappears in environments that lack this probe. This illustrated in (34), which represents the structure of a 3>1 or 3>2 configuration in a probeless nonfinite clause. Due to the absence of a φ -probe, no gluttony arises, and the structure emerges as wellformed.¹⁴

¹⁴ Importantly, we do not predict that all non-finite environments give rise to PCC obviation. The crucial prediction is that PCC effects should disappear in the absence of an agreeing probe. Thus, in languages in which arguments in nonfinite clauses are still associated with clitics, PCC effects are predicted to remain. This prediction is exemplified for Spanish in (i)–(iii). Here, PCC effects such as (i) do not disappear in nonfinite clauses, irrespective of whether these clitics appear on the nonfinite verb, as in (ii), or whether they undergo clitic climbing onto the matrix verb, as in (iii). (i) is taken from Ormazabal & Romero (2007: 316); (ii) and (iii) are due to Jon Ander Mendia (p.c.).

- | | | | | | | | | | |
|----------|--------|------|------|----------|----------|---------|--------|----------|--------------------|
| (i) a. | Pedro | te | lo | envía. | | (ii) a. | Pedro | quiere | enviár=te=lo. |
| | Pedro | 2DAT | 3ACC | send.3SG | | | Pedro | want.3SG | send.INF=2DAT=3ACC |
| b. | *Pedro | te | me | envía. | | b. | *Pedro | quiere | enviár=te=me. |
| | Pedro | 2DAT | 1ACC | send.3SG | | | Pedro | want.3SG | send.INF=2DAT=1ACC |
| (iii) a. | Pedro | te | lo | quiere | enviar. | | | | |
| | Pedro | 2DAT | 3ACC | want.3SG | send.INF | | | | |
| b. | *Pedro | te | me | quiere | enviar. | | | | |
| | Pedro | 2DAT | 1ACC | want.3SG | send.INF | | | | |

The presence of the clitics in (ii) and (iii) reveals the presence of a φ -probe, either in the embedded clause or in the matrix clause. This φ -probe then leads to gluttony in the (b) examples above. The crucial difference between Basque and Spanish with respect to the obviation of PCC effects in nonfinite clauses thus correlates with whether or not these clauses contain a φ -probe. The gluttony account derives this correlation, and it predicts that such

(34) *Licit hierarchy configuration with no probe \rightarrow no gluttony*

$$\checkmark [\dots \text{DP}_{[3\text{SG}]} \dots [\dots \text{DP}_{[1/2\text{SG}]} \dots]]$$

Because our account does not rely on special licensing requirements for 1st and 2nd person DPs, no caveat that specifically exempts such DPs from the licensing requirement in structures that lack a clausemate φ -probe is necessary. Rather, the contrast between finite and nonfinite clauses in Basque in (15) follows immediately from the independently observable contrast as to whether clitic doubling takes place. Another consequence of the analytical shift away from nominal licensing is that there is no need to say anything special about whether or how DPs in inaccessible case forms are licensed (cf. (14b)).

In addition to resolving the puzzle of PCC obviation in non-agreeing configurations, another important difference between a gluttony account and a traditional licensing account involves the derivation of $[\text{PART}] > [\text{PART}]$ configurations. Recall that such configurations are grammatical in Weak-PCC languages, unlike ungrammatical $3 > [\text{PART}]$ configurations (see (35)).

(35) *Weak PCC*

- a. $\checkmark [\text{PART}] > [\text{PART}]$
- b. $*3 > [\text{PART}]$

On a licensing account, which requires $[\text{PART}]$ DPs to be licensed through π -Agree, this contrast requires that a $[\text{PART}]$ direct object can be targeted by π -Agree across a $[\text{PART}]$ intervener, but not across a 3rd person intervener, as schematized in (36).

(36) *Agree requirements on a licensing-based account*

- a. $[\pi \dots [\dots \text{DP}_{[\text{PART}]} [\dots \text{DP}_{[\text{PART}]}]]]$
 $\text{-----} \checkmark \text{-----}$
- b. $[\pi \dots [\dots \text{DP}_{[3]} [\dots \text{DP}_{[\text{PART}]}]]]$
 $\text{-----} \times \text{-----}$

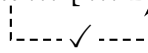
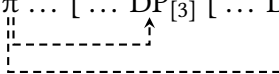
Anagnostopoulou (2005) and Nevins (2007) develop a licensing-based account for the Weak

effects hold more generally across PCC languages.

PCC that incorporates Multiple Agree (Hiraiwa 2001, 2005). Nevins’ (2007) account relies on *Contiguous Agree*: a condition on Multiple Agree that permits the probe to license contiguous DPs with *marked* (i.e. [+PART]) features. Contiguous Agree allows both DPs to be licensed by a single probe in [PART]>[PART] configurations, but rules out 3>[PART] configurations, in which an unmarked (i.e. [−PART]) feature intervenes. The upshot is that Agree is blocked by unmarked features, but not by marked features. While this restriction on Multiple Agree achieves the desired contrast, it is worth noting that it seems to be at odds with established locality principles like Relativized Minimality (Rizzi 1990). From the point of view of such principles, we might expect Agree in [+PART] to be blocked across another [+PART] DP, but not across a [−PART] DP, exactly the opposite of what an account like Nevins’ (2007) requires.

By contrast, the gluttony account argued for here does not rely on the need for unmarked features to intervene in probing. On our account, the direct object in Weak-PCC languages does not enter into Agree in [PART]>[PART] contexts.

(37) *Agree on gluttony account*

- a. $[\pi \dots [\dots \text{DP}_{[\text{PART}]} [\dots \text{DP}_{[\text{PART}]}]]]$ (see (32))

- b. $*[\pi \dots [\dots \text{DP}_{[3]} [\dots \text{DP}_{[\text{PART}]}]]] \rightarrow \text{gluttony}$ (see (31))


Thus, on a gluttony account, Agree between a single probe and two DPs arises only in 3>[PART] configurations in Weak-PCC languages, and this is fully consistent with general locality principles like Relativized Minimality. We take this as a conceptual advantage of a gluttony account over a licensing account; the Strong PCC is discussed in section 3.3.3.

Important further evidence comes from Stegovec’s (to appear) work on the “Inverse PCC” in Slovenian. In Slovenian, the order of the dative and accusative clitics is variable, which Stegovec attributes to optional reordering of the direct object DP to a position just above the indirect object, but still below the probe on v^0 . Crucially, when the order of the clitics is flipped, so is the PCC effect. In standard configurations in which the dative outranks the accusative, 3>[PART]

configurations are ungrammatical, as shown in (38a). When the accusative is higher than the dative, it is not the case values of the DPs that matter, but rather their structural configuration. As shown in (38b), in DAT>ACC configurations, the person restriction now targets the dative.

(38) *Slovenian* (Stegovec to appear: 4)

- a. Mama *mu* **ga**/**me*/**te* bo predstavila.
mom 3M.DAT 3M.ACC/1ACC/2ACC will introduce
‘Mom will introduce me/you to him.’ (3DAT > 3ACC/1ACC/2ACC)
- b. Mama **ga** *mu*/**mi*/**ti* bo predstavila.
mom 3M.ACC 3M.DAT/1ACC/2DAT will introduce
‘The sister will introduce him to me/you.’ (3ACC > 3DAT/1DAT/2DAT)

Stegovec (to appear) argues in detail that effects like these prove problematic for standard licensing accounts of the PCC in terms of case. While the gluttony system differs substantially from Stegovec’s (to appear) proposal, it too severs PCC effects from case (and DP licensing more generally). As such, it has the right properties to extend to the Inverse PCC. Following Stegovec (to appear), we assume that the direct object can undergo optional movement above the indirect object, but still below v^0 . If the π -probe first encounters a 3rd person DP (either the indirect object as in (39a) or a reordered direct object as in (39b)) and the lower DP is 1st or 2nd person, the probe then agrees with the [PART] feature of the lower DP, causing gluttony and hence ungrammaticality.

- (39) a. $^*\pi \dots \text{DP.DAT}_{[3]} \dots \text{DP.ACC}_{[1/2]}$ b. $^*\pi \dots \text{DP.ACC}_{[3]} \dots \text{DP.DAT}_{[1/2]}$
-

The existence of the Inverse PCC is therefore clearly consistent with the shift in perspective away from nominal licensing to feature gluttony.¹⁵

Finally, the gluttony account preserves the basic explanation of repair strategies. As we

¹⁵ While Stegovec (to appear) argues that the PCC should be severed from abstract case assignment, the model he proposes instead still instantiates a failed-Agree account in the sense that it requires a DP (here, a weak object clitic) to enter into Agree with a verbal head, and that PCC effects result from this Agree failing to be established. In this respect, it differs from the perspective taken here.

illustrated on the basis of French in (11), PCC effects disappear if the indirect object is a PP. Given that PPs are inaccessible to a φ -probe, the only viable goal is the direct object DP, as shown in (40). It then follows immediately that no gluttony could possibly arise in such a configuration.

$$(40) \quad \left[v \left[\left[\begin{array}{c} u_{\text{PERS}} \\ | \\ u_{\text{PART}} \end{array} \right] \rightarrow [1] \right] \triangleright [u_{\text{NUM}}]_{\#} \right]_{\pi} \dots [\dots \boxed{\text{PP}} \dots [\dots \text{DP}_{[1\text{SG}][1]}]]]$$

Similarly, given the independent optionality of clitic-doubling the direct object in Greek (see (12b) above and fn. 12), our account correctly predicts that configurations in which the direct object is not clitic-doubled should be grammatical. The absence of a clitic entails the absence of a second Agree relation, and no gluttony arises.

3.3.2 The absence of a “Number Case Constraint”. Finally, our account derives the crosslinguistic generalization that the PCC applies only to person features—there is no analogous “Number Case Constraint” effect (Nevins 2011). Building on insights by Béjar & Rezac (2003), also discussed in Coon et al. (2017), this asymmetry follows because (i) the π -probe agrees first, and (ii) clitic doubling of a DP renders this DP invisible to subsequent probing. Because the indirect object is thus invisible to the $\#$ -probe, this probe can only agree with a single DP, namely, the direct object. This is shown in (41). As a consequence, no gluttony is possible for $\#$ -probing.

$$(41) \quad \left[v \left[\left[\begin{array}{c} u_{\text{PERS}} \rightarrow [1] \\ | \\ u_{\text{PART}} \end{array} \right] \right]_{\pi} \triangleright [u_{\text{NUM}} \rightarrow [2]]_{\#} \right] \dots [\dots \overline{\text{DP}}_{[3\text{SG}][1]} \dots [\dots \text{DP}_{[3\text{SG}][2]}]]]$$

This line of explanation does not attribute the person–number asymmetry in this domain to ontological differences between person and number features (contra Nevins 2011). Furthermore, it predicts that number effects should arise if the higher DP is not removed as an intervener. Evidence from German discussed, in section 4.1 below, suggests that this prediction is borne out.¹⁶

¹⁶ Predictions for gender effects vary depending on where and how gender is represented in the grammar. If we assume that gender may be part of the φ -probe complex, ordered $\Gamma \triangleright \# \triangleright \pi$ (see Preminger 2012), then we would similarly expect the absence of a Gender Case Constraint. While Stegovac (to appear) lists a “Gen-CC” alongside Num-CC as nonexistent, Toosarvandani (2017) and Foley et al. (to appear) discuss what they call a “Gen-CC” in

3.3.3 Weak vs. Strong PCC. Section 3.2 illustrated the gluttony account for a Weak-PCC system. Recall from Table 1 in section 2.1 that there is some crosslinguistic variation in the precise set of configurations that is ruled out. In this section, we consider how the gluttony account applies to the Strong PCC, which rules out not only 3>[PART] configurations but also [PART]>[PART] structures. One example of a Strong-PCC language is Basque, a relevant 1>2 configuration is repeated from (3d) in (42) (cf. the Weak-PCC configuration in Catalan (26b)).

(42) *Strong PCC in Basque*

*Haiek *ni-ri* **zu** saldu z-ai-da-te.
 they.ERG me-DAT you.ABS sold 2ABS-AUX-1DAT-3ERG
 intended: ‘They have sold you to me.’ (*1DAT > 2ABS)

We propose that the difference between Weak-PCC and Strong-PCC languages coincides with an independently-proposed point of cross-linguistic variation: some dative DPs behave syntactically as 3rd persons, regardless of their actual interpretation (see e.g. Boeckx 2000, Richards 2008, Sigurðsson & Holmberg 2008, also discussed for Icelandic in section 4.2). We thus suggest that dative DPs in Basque do not have all of their φ -features visible from the outside, and that they behave externally as 3rd person DPs. A number of implementations of this claim are possible. For example, dative DPs could be encapsulated under a K(ase)P shell, which is formally 3rd person, and which insulates the interpreted person features of the dative DP from outside probing (see Atlamaz & Baker 2018 for a related proposal along these lines for Icelandic datives). As a consequence, [PART]>[PART] configurations will then behave formally as 3>[PART] *inverse* configurations as far as the agreeing φ -probe is concerned, again resulting in gluttony. This is schematized in (43), in which the internal [PART] feature of the dative DP is invisible to π , and π consequently agrees with [PERS] only. As a result, [*u*PART] on the probe remains and agrees with the direct object, leading to gluttony and hence ungrammaticality. The structure of π -Agree in (42) is given in (43).

Zapotec. Nonetheless, the relevant Zapotec features involve *animacy*. See Ritter 2014, to appear for arguments that animacy contrasts are distinct from gender, and see fn. 4 above on possible treatments of animacy.

$$(43) \quad \left[v \left[\left[\begin{array}{c} u_{\text{PERS}} \rightarrow [1] \\ u_{\text{PART}} \rightarrow [2] \end{array} \right]_{\pi} \triangleright [u_{\text{NUM}}]_{\#} \right] \dots \left[\boxed{\text{DP.DAT}_{[\text{PART}]}}_{[\text{PERS}][1]} \dots \left[\text{DP}_{[\text{PART}][2]} \right] \right] \right] \rightarrow \text{gluttony}$$

Independent evidence for our proposal that dative DPs in Basque are formally 3rd person comes from the contrast in (44). Recall from (3) above that hierarchy effects are found in Basque dative experiencer verbs like (44a), repeated from (7a) above. However, in configurations in which the *higher* DP is absolutive and the *lower* DP is dative, no hierarchy effects appear, as in (44b). If Basque dative DPs behave formally as 3rd person DPs, we correctly predict the absence of gluttony in (44b): effectively it is a 3>3 configuration, as shown in (45).

(44) *Basque*

- a. ***Ni** *Itxaso-ri* gustatzen n-atzai-o.
 1SG.ABS Itxaso-DAT like.IPFV 1ABS-AUX-3DAT
 intended: ‘Itxaso likes me.’ (*3DAT > 1ABS)

- b. **Itxaso** *ni-ri* etortzen Ø-zai-t.
 Itxaso.ABS 1SG-DAT come.IPFV 3ABS-AUX-1DAT
 ‘Itxaso comes to me.’ (✓3ABS > 1DAT)

$$(45) \quad \left[v \left[\left[\begin{array}{c} u_{\text{PERS}} \rightarrow [1] \\ u_{\text{PART}} \end{array} \right]_{\pi} \triangleright [u_{\text{NUM}}]_{\#} \right] \dots \left[\text{DP}_{[\text{PERS}][1]} \right] \dots \left[\boxed{\text{DP.DAT}_{[\text{PART}]}}_{[\text{PERS}]} \right] \right] \rightarrow (44b)$$

The *presence* of a PCC effect in (43) (hence in the example in (42)) as well as the *absence* of a PCC effect in (45) (as in the example in (44b)) now receive a unified account: dative DPs only have a [PERS] feature visible from the outside, and so they behave like 3rd person DPs. This leads to gluttony in (43) but prevents gluttony in (44b). We predict more generally that for languages (or speakers) with Weak-PCC effects, 1st and 2nd person datives have visible [PART] features, stopping the probe from entering into gluttony in [PART]>[PART] configurations.¹⁷ Strong-PCC

¹⁷ Note that a good deal of inter- and intra-speaker variation has been described for the [PART]>[PART] combinations involved in the distinction between Weak- and Strong-PCC varieties; see e.g. Bonet (1991) and Nevins (2007).

effects occur when the higher dative DP does not have visible [PART] features.¹⁸ We leave as a topic for future work independent evidence for a distinction between dative indirect objects in Weak- and Strong-PCC variants outside of Basque, noting for now that the Strong PCC seems to be the more common variety cross-linguistically, and that datives also frequently do not have accessible 1st and 2nd person features.

3.3.4 Other PCC and clitic patterns. As we just saw, variation in the nature of dative DPs can affect the grammaticality of [PART]>[PART] configurations. Here we show that by modulating the specifications of the feature probe, the same basic mechanisms of the gluttony approach laid out in section 3.2 can be used to capture other types of PCC effects (see Table 1), including the possible absence of PCC effects altogether.¹⁹ The organization of feature geometries independently rules out unattested patterns.

An overview of possible variation in probe articulation is given in (46). (46a) shows a probe structure that gives rise to the Weak PCC, discussed in detail in section 3.2. The Ultra-Strong PCC, which rules out the same combinations as the Weak PCC, but additionally bans 2>1 configurations, follows from the more articulated probe in (46b). Like the probe in (46a), (46b) will result in gluttony in 3>[PART] configurations, but additionally gluttony will also arise in 2>1 configurations (as [*uSPKR*] is matched only by a 1st person DP). The Me-First PCC, which bans all 1st person direct objects, regardless of the features of the higher DP, is the result of the probe in (46c). This probe results in gluttonous configurations only when the lower DP has [*SPKR*].²⁰ Finally, an unarticulated [*uPERS*] probe, as in (46d), never initiates a second Agree relationship, resulting in the absence of PCC effects altogether.²¹

¹⁸ Also see fn. 21 below for a second way in which a Strong-PCC pattern may emerge on our account.

¹⁹ See also Yokoyama (2017) for a licensing-based approach which seeks to capture variation in PCC varieties by modulating feature specifications in a similar manner, but *on the DP*.

²⁰ We predict the possibility of a “You-First” PCC, which would rule out all X>2 combinations, as well as a variant of the Ultra-Strong PCC which would rule out 3>1/2 and 1>2. Though we are unaware of such systems at this time, their existence is predicted by the possibility of replacing [*uSPKR*] with [*uADDR*] in (46b) and (46c).

²¹ Note that there is at least one more possibility: a highly articulated probe as in (i). This probe would provide another means to derive Strong PCC effects, since the presence of both [*uSPKR*] and [*uADDR*] nodes would ensure gluttony in [PART]>[PART] combinations:

(46) *PCC probe variation*

- a. $\left[\begin{array}{c} uPERS \\ | \\ uPART \end{array} \right]_{\pi} = \text{Weak PCC}$
- b. $\left[\begin{array}{c} uPERS \\ | \\ uPART \\ | \\ uSPKR \end{array} \right]_{\pi} = \text{Ultra-Strong PCC}$
- c. $\left[\begin{array}{c} uPERS \\ | \\ uSPKR \end{array} \right]_{\pi} = \text{Me-First PCC}$
- d. $[uPERS]_{\pi} = \text{No PCC}$

Importantly, universal restrictions on the arrangement of feature geometries, combined with the system of gluttony proposed here, immediately rule out certain unattested patterns. For example, a hypothetical language that banned only $[PART]>3$ combinations would require gluttony in such configurations. But given the independently motivated feature geometry in (16), this is impossible. The gluttony account therefore derives that no such PCC pattern exists. Similarly, we correctly predict that a language which rules out $[PART]>[PART]$ must *also* rule out $3>[PART]$, again due to the nature of feature geometries.

3.4 Interim summary

In sum, hierarchy effects arise due to a system of feature gluttony. Our proposed model of Agree in (19) above ensures that multiple Agree relations are established only when two DPs are found in the domain of a single articulated probe, and the lower DP has *more* of the features sought by the probe than the higher DP—exactly inverse configurations. For PCC (as well as other possible effects involving clitics), we propose that once a probe has established more than one

(i) $\left[\begin{array}{c} uPERS \\ | \\ uPART \\ / \quad \backslash \\ uSPKR \quad uADDR \end{array} \right]_{\pi} = \text{Strong PCC}$

With this probe, however, the question of what rules out clitic creation becomes more complex. Since both 1st and 2nd person DPs are equally good matches for the probe, Best Match no longer favors one DP over the other, and we might expect Attract Closest to favor the higher DP (see § 3.2). Such a probe structure could be maintained if Best Match could only be satisfied by a decisively better (not equal) match. In light of the independent need for an external 3rd person specification for datives in at least some Strong-PCC languages, it is at present an open question whether (i) is required as a second source for Strong-PCC effects or whether it can be dispensed with.

Agree relationship, an irresolvable conflict occurs for the movement operation necessary to create clitics. For constructions which independently require clitics, this then results in ungrammaticality. Conversely, in configurations that lack clitics (and hence a φ -probe), gluttony—and hence PCC effects—does not occur. This account avoids the need for the caveats required for licensing-based approaches (§2.3), and also predicts variation based on independently-motivated parameters and restrictions. While the probe may vary as to its exact feature specifications, this variation is constrained by the universal organization of features (e.g. Harley & Ritter 2002). Similarly, the independent observation that datives may behave formally as 3rd person DPs derives differences between Weak and Strong PCC systems. Next, we turn to another domain in which hierarchy effects are found: φ -agreement.

4 Gluttony and agreement

In this section, we zoom in on the feature structure of gluttonous probes themselves by looking at hierarchy effects in the domain of morphological agreement. As outlined above, when a probe enters into an Agree relationship with more than one DP, φ -features from each DP are copied to the probe. Here we show how problems can then arise when (i) each value on the probe demands a different Vocabulary Item (VI), and (ii) only a single VI can be inserted. The basis for this investigation is hierarchy effects in German copular constructions in section 4.1 and Icelandic dative–nominative constructions in section 4.2. We discuss possible extensions in section 5.

4.1 German copular constructions

Coon et al. (2017) and Keine et al. (2018) investigate a curious person and number restriction in so-called “assumed-identity” sentences in German. In such sentences, one DP is assigned the role of another DP (e.g., in a play; see Heycock 2012 and Béjar & Kahnemuyipour 2017). Examples are provided in (47a) and (48a). For example, (47a) conveys the meaning that the speaker is assigned the role of some third person individual; analogously, (48a) conveys that a group of people are playing the role of an individual (e.g., multiple people in one costume playing a giant). Coon

et al. (2017) and Keine et al. (2018) present experimental evidence indicating that these types of sentences display restrictions akin to hierarchy effects. For example, while the 1>3 configuration in (47a) is grammatical, the 3>1 configuration in (47b) is severely degraded. In addition, there is a number hierarchy effect such that the PL>SG configuration in (48a) is possible, but the SG>PL configuration in (48b) is not.

(47) *Person hierarchy*

a. *Ich bin er.*

I.NOM am he.NOM

‘I am him.’ (✓ 1 > 3)

b. *?*Er ist ich.*

he.NOM is I.NOM

cf. ‘He is me.’ (*3 > 1)

(48) *Number hierarchy*

a. *Sie sind er.*

they.NOM are he.NOM

‘They are him.’ (✓ PL > SG)

b. *?*Er ist die Bäume.*

he.NOM is the trees.NOM

cf. ‘He is the trees.’ (*SG > PL)

Coon et al.’s (2017) and Keine et al.’s (2018) experimental evidence suggests that the ungrammatical configurations are those in (49). That is, an assumed-identity sentence in German is grammatical if it violates one of the two hierarchies. They also provide evidence that the effect is not present in English, and hence that it is not plausibly merely pragmatic in nature.

(49) *Hierarchy effects in German copular constructions*

a. *3 > [PART]

b. *SG > PL

The person-hierarchy effect in (49a) bears a clear resemblance to the PCC (in particular the Weak PCC), with the notable exception that the person restriction is accompanied by a number restriction (i.e., (49b)), a restriction that is absent in the PCC (see section 3.3.2). Coon et al. (2017) and Keine et al. (2018) set out to unify the person restriction in (49a) with the PCC, adopting a Nevins (2007)-style licensing account. While we will follow their basic analytical intuition that the two effects should be unified, the licensing account that they propose encounters the same obstacles as licensing-based accounts of the PCC. The most severe problem is that, like PCC effects

in Basque (see (15)), these effects disappear in nonfinite clauses, as in (50) (Keine et al. 2018).

- (50) a. *Er* scheint **ich** zu sein.
 he.NOM seems I.NOM to be
 ‘He seems to be me.’ (✓ 3 > 1)
- b. *Er* scheint **die Bäume** zu sein.
 he.NOM seems the trees.NOM to be
 ‘He seems to be the trees.’ (✓ SG > PL)

As was the case for the PCC, these data are difficult to handle on a licensing account because on such an account the licensing requirement of a DP would need to be suspended if that DP occurs inside a nonfinite clause, by stipulation. A second challenge for Coon et al.’s (2017) and Keine et al.’s (2018) licensing-based account of the German copula facts is that—like on Nevins’ (2007) account of the Weak PCC—Multiple Agree in [+PART] would need to be possible across another [+PART] DP, but not across a [−PART] DP, arguably in violation of standard principles like Relativized Minimality (see section 3.3.1).

A gluttony account allows us to understand these facts in a more principled manner. First, we note that what distinguishes the copular constructions in (47)–(48) from regular transitive predicates in German is that both DPs are nominative, hence accessible to the verbal φ -probe, which as a matter of principle only agrees with nominative DPs in German (see e.g. Heycock 2012). It is thus precisely in these copula constructions that the φ -probe could agree with two DPs, giving rise to gluttony. Second, in English, where these hierarchy effects are absent, the second DP is accusative, hence invisible to the φ -probe. In English, then, there is never a risk of gluttony, as the φ -probe is only ever able to see a single DP.

To develop this account in greater detail, we propose that the German π -probe and #-probe located on finite T^0 are articulated as in (51), again with π probing before #.²²

²² Note that the specification of π in (51) does not reflect the morphology of verb agreement. In particular, despite the fact that π is specified only up to [uPART], verb agreement morphologically distinguishes between 1st and 2nd person agreement. This follows from the coarseness of feature copying, whereby the entire feature geometry that contains the matching segment is copied over to the probe (see (19b) and also Béjar & Rezac (2009: 45–46)).

$$(51) \quad T^0 \left[\begin{array}{c} uPERS \\ | \\ uPART \end{array} \right]_{\pi} \triangleright \left[\begin{array}{c} uNUM \\ | \\ uPL \end{array} \right]_{\#}$$

We first look at an ungrammatical person-hierarchy effect in a 3>[PART] configuration, as in (49a), exemplified in (47b). The relevant steps of the derivation are given in (52). As before, π searches first and enters into Agree with the higher 3rd-person DP, which matches [*uPERS*] in π . This Agree copies [PERS] (indicated via [1]) onto the probe, removing [*uPERS*] from π . Because [*uPART*] on π is not matched by the DP and hence not removed, [*uPART*] agrees with the lower predicate nominal, which (being 1st person) bears [PART]. Consequently, the lower DP's entire person-feature hierarchy ([2]) is copied over onto π , and [*uPART*] is removed from π .

(52) π -Agree in *3>1 configurations:

$$\left[T \left[\begin{array}{c} uPERS \rightarrow [1] \\ | \\ uPART \rightarrow [2] \end{array} \right]_{\pi} \triangleright \left[\begin{array}{c} uNUM \\ | \\ uPL \end{array} \right]_{\#} \dots [DP.NOM_{[3SG]}[1]] \dots [DP.NOM_{[1SG]}[2]] \right]$$

As a result of (52), two person hierarchies have been copied over to π , in accordance with the definition of Agree in (19): [PERS] from the higher DP (i.e., [1]), and [PERS [PART [SPKR]]] from the lower DP (i.e., [2]). π has thus acquired a *pair of values*, as shown in (53). (Subsequent Agree by # establishes number agreement, not illustrated here for reasons of space.)

(53) *Gluttonous π -probe in (52):*

$$\pi = \left\{ [PERS][1], \left[\begin{array}{c} PERS \\ | \\ PART \\ | \\ SPKR \end{array} \right][2] \right\} \Rightarrow \text{CONFLICT}$$

ist
(3SG)

↑

bin
(1SG)

↑

The problem here, we argue, is not the double Agree itself (just as in the clitic-doubling cases), but rather in the morphological realization of the feature structure in (53). The 3rd-person feature [PERS] calls for the vocabulary item (VI) for 3rd-person agreement in German, which is *ist*. By contrast, the 1st-person feature [PERS [PART [SPKR]]] requires the 1st-person agreement marker *bin*.

Assuming, as is standard in Distributed Morphology (Halle & Marantz 1993, 1994, Arregi & Nevins 2012), that only a single VI may be inserted into a given head, it is impossible to insert both VIs. Furthermore, because each VI is the best candidate for one of the two values, neither is a better fit than the other. The result is ineffability in the morphological insertion process: the process of vocabulary insertion is unable to pick a VI for the multi-valued probe in (53). The syntactic structure containing this head thus cannot be morphologically realized, ruling out configurations that give rise to it, such as (47b).

There is independent evidence for morphological ineffability of this sort. Case-matching effects in ATB movement provides one such piece of evidence. Citko (2005) shows that ATB movement is possible only if the two gaps are associated with the same case form. While Citko's (2005) evidence is drawn primarily from Polish, the effect also holds in German, as shown in (54). In (54a), the ATB-moved element *wen* 'who.ACC' is associated with the object position of the two verbs *hasst* 'hates' and *mag* 'likes'. Both verbs assign accusative case to their objects, and the resulting structure is well-formed. In (54b), on the other hand, the two verbs are *vertraut* 'trusts' and *mag* 'likes'. As before, *mag* assigns accusative case to its object, but crucially *vertraut* assigns dative case. As shown, the resulting structure is ungrammatical, regardless of whether the ATB-moved DP appears in its accusative or dative form (or any other case form).

(54) *Case-mismatch effects in German ATB movement*

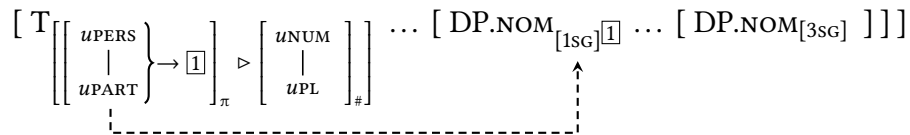
- a. Ich weiß [**wen** Jan ____ hasst und Maria ____ mag]
 I know **who.ACC** Jan _____.ACC hates and Maria _____.ACC likes
 'I know who Jan hates and Maria likes.'
- b. *Ich weiß [**wen/wem** Jan ____ vertraut und Maria ____ mag]
 I know **who.ACC/who.DAT** Jan _____.DAT trusts and Maria _____.ACC likes
 'I know who Jan trusts and Maria likes.'

Assuming a multidominance structure for ATB movement, Citko's (2005) explanation for this restriction is that the ATB-moved DP is assigned two distinct case values in (54b), and these then

create a morphological conflict: the morphology fatally cannot determine which VI to insert, leading to ineffability. This line of account clearly parallels our explanation for the ungrammaticality of person-hierarchy violations in German copula constructions, hence (53). A similar line of reasoning is also employed by Kratzer (2009) in order to account for morphological restrictions on the availability of fake indexicals in German, and by Schütze (2003) for free relatives in German. We take these clear parallels in other domains to indicate that the crucial ingredient of our account—morphological ineffability due to overvaluation—is justified on independent grounds. Because overvaluation is the result of gluttony, our account assimilates the restriction in copula clauses to this range of other phenomena.²³

Let us now compare this state of affairs with configurations that do not display hierarchy effects. (55) provides the schematized structure for π -Agree in a grammatical 1>3 configuration (such as (47a)). Here, π agrees with the 1st person subject, copying that subject's person hierarchy over to the probe ($\bar{1}$). Because this hierarchy contains both [PERS] and [PART], both [*u*PERS] and [*u*PART] on π are removed. π then no longer contains unchecked features, and no second Agree dependency is established.

(55) π -Agree in 1>3 configurations:



π then has the resulting specification in (56). Because π only contains a single value, vocabulary

²³ The assimilation of the German hierarchy effects to the ATB-movement facts in (54) makes an interesting prediction. Citko (2005) observes that case-mismatching effects disappear if the two case forms are *syncretic*, because in this case both case values demand the same VI and no conflict arises. While the judgments are not entirely clear-cut, there is evidence to suggest that this prediction is borne out for German. As (i) shows, 3>1 combinations are much improved in the past tense or the subjunctive, where the form of the verb is syncretic between 1SG and 3SG agreement.

<p>(i) a. ?Er war ich. he.NOM was.3SG/1SG I.NOM ‘He was me.’</p>	<p>b. ?wenn er ich wäre, ... if he.NOM I.NOM were.3SG/1SG ‘If he were me, ...’</p>
--	--

Filipe Hisao Kobayashi (p.c.) also reports hierarchy effects in Brazilian Portuguese copular constructions to be improved for syncretic copula forms. See section 4.2 for discussion of an analogous amelioration in Icelandic dative–nominative constructions.

insertion is straightforward, yielding the structure in (47a).

(56) *Non-gluttonous π -probe in (55):*

$$\pi = \left\{ \left[\begin{array}{c} \text{PERS} \\ | \\ \text{PART} \\ | \\ \text{SPKR} \end{array} \right] \boxed{1} \right\} \Rightarrow \text{VI: } bin \text{ (1SG)}$$

The situation is analogous for π -agreement in grammatical 3>3 configurations. As shown in (57), π agrees with the higher DP, leading to deletion of [*uPERS*] on π . [*uPART*] remains on π , but is not matched by the lower, 3rd person DP. Consequently, no second Agree step takes place and no morphological conflict arises.

(57) *π -Agree in 3>3 configurations:*

$$\left[T \left[\left[\begin{array}{c} \text{uPERS} \rightarrow \boxed{1} \\ | \\ \text{uPART} \end{array} \right]_{\pi} \triangleright \left[\begin{array}{c} \text{uNUM} \\ | \\ \text{uPL} \end{array} \right]_{\#} \right] \dots \left[\text{DP.NOM}_{[3\text{SG}]} \boxed{1} \dots \left[\text{DP.NOM}_{[3\text{SG}]} \right] \right]$$

The same line of account extends to the number hierarchy effect. We saw on the basis of (48) that SG>PL configurations are ungrammatical, whereas PL>SG configurations are grammatical. This pattern is the result of the specification of the #-probe in (51). In an ungrammatical 3.SG>3.PL configuration, number agreement is established as in (58) (note that π has already agreed with the higher DP as in (57)). # first agrees with the higher DP. This DP being singular, only [NUM] is copied over and only [*uNUM*] is deleted on #. [*uPL*] remains and agrees with the lower DP, which is plural. This copies [NUM [PL]] from the lower DP ($\boxed{2}$) onto the probe.

(58) *#-Agree in *3SG>3PL configurations:*

$$\left[T \left[\left[\begin{array}{c} \text{uPERS} \rightarrow \boxed{1} \\ | \\ \text{uPART} \end{array} \right]_{\pi} \triangleright \left[\begin{array}{c} \text{uNUM} \rightarrow \boxed{1} \\ | \\ \text{uPL} \rightarrow \boxed{2} \end{array} \right]_{\#} \right] \dots \left[\text{DP.NOM}_{[3\text{SG}]} \boxed{1} \dots \left[\text{DP.NOM}_{[3\text{PL}]} \boxed{2} \right] \right]$$

Because the gluttonous number probe in (58) carries two number values as a result, an irresolvable conflict arises again in the morphological realization of the probe, schematized in (59). Just as in (53), this conflict leads to ineffability, and the resulting structure crashes in the morphology. This rules out (48b).

(59) *Gluttonous #-probe in (58):*

$$\# = \left\{ \left[\begin{array}{c} \text{NUM} \\ \boxed{1} \end{array} \right], \left[\begin{array}{c} \text{NUM} \\ | \\ \text{PL} \\ \boxed{2} \end{array} \right] \right\} \Rightarrow \text{CONFLICT}$$

ist
(3SG)

sind
(3PL)

No such gluttony arises in SG>SG, PL>PL, or PL>SG configurations, because here the lower DP is not more specific than the higher DP.

Because gluttony for either π or $\#$ leads to ineffability, these structures are well-formed only if neither π nor $\#$ are gluttonous. Consequently, structures are ungrammatical if they violate either the person hierarchy (49a) or the number hierarchy (49b), as desired. Note further that we predict that the person effect should mirror the Weak-PCC pattern in permitting combinations of 1st and 2nd person arguments. On our account in section 3.3.3 above, the Strong variant of the PCC arises when the higher DP is a dative argument with inaccessible person features (and thus formally 3rd person). Given that the copular subjects are always nominative, we predict the Weak version here.

Our account thus unifies the hierarchy effects in German copula constructions with more familiar PCC effects. But this unification gives rise to an immediate question. We saw that the German evidence displays a number-hierarchy effect. However, no parallel number effect arises for the PCC, which is only for person (see section 3.3.2). This contrast might be taken to cast doubts on the unification just proposed. However, following Coon et al. (2017), we suggest that this difference is in fact predicted. An important distinction between German and PCC languages is that German lacks clitic doubling. Recall from the discussion in section 3.2 that we assumed—following Anagnostopoulou (2003), Béjar & Rezac (2003), and Preminger (2009), and others—that clitic doubling of a DP removes that DP as an intervener for subsequent Agree operations. In PCC languages, this has the effect that π -Agree with the indirect object removes it as an intervener for subsequent $\#$ -Agree. As a result, the $\#$ -probe probes past the indirect object, agreeing only with the lower direct object (see (60)). Consequently, there is no possibility for gluttony in $\#$ -Agree, and number hierarchy effects are correctly predicted to be absent.

$$(60) \quad [{}_{\text{VP}} \nu_{[\pi \triangleright \#]} \dots [{}_{\text{ApplP}} \boxed{\text{DP}_{\text{IO}}} \dots [{}_{\text{VP}} \dots \boxed{\text{DP}_{\text{DO}}} \dots]]] \quad \text{Ditransitive PCC}$$

Contrast this to the situation in German. Because German lacks clitic doubling, π -Agree with the higher DP does not remove it as an intervener for subsequent $\#$ -Agree. The $\#$ -probe thus also agrees with the higher DP, giving rise to gluttony in SG>PL configurations, as in (58). This is schematized in (61).

$$(61) \quad [{}_{\text{TP}} \text{T}_{[\pi \triangleright \#]} \dots [\dots \text{DP} \dots [\dots \text{DP} \dots]]] \quad \text{German copula}$$

If this reasoning is on the right track, the crucial contrast with respect to the presence or absence of number hierarchy effects follows from an independently motivated difference, and is hence in line with our unification of the two phenomena.²⁴

4.2 Syncretism and Icelandic dative–nominative constructions

The final phenomenon for which we develop a gluttony account in some detail is the well-known agreement restrictions in Icelandic dative–nominative (DAT–NOM) constructions (see Sigurðsson 1991, 1996, Taraldsen 1995, Holmberg & Hróarsdóttir 2003, Sigurðsson & Holmberg 2008). They bear a clear resemblance to PCC effects, which has been taken to suggest a uniform account (see, e.g., Boeckx 2000, Anagnostopoulou 2003, 2005, Béjar & Rezac 2003, Richards 2008, Walkow 2012).

In what follows, we will focus on a person restriction in these environments. There is also a number restriction, though for the number effect, the pattern is subject to considerable inter-speaker variation, and the relevant generalizations are less well-understood (see Holmberg & Hróarsdóttir 2003, Sigurðsson & Holmberg 2008, Kučerová 2016, Ussery 2017). We will therefore put the number effect aside here in the interest of space, though we see no principled reason why

²⁴ As above, predictions with respect to gender effects depend on the representation of gender in the grammar (see fn. 16). In languages which show gender-based agreement, if gender belongs to the set of φ -probes, and the higher DP is not clitic-doubled, we might expect hierarchy effects for gender as well. Kanien'keha (Mohawk), in which [MASC]>[NEUT] configurations trigger “direct” verb forms, while [NEUT]>[MASC] trigger “inverse” (Baker 1996, discussed in Béjar & Rezac 2009), may be a candidate.

the feature-gluttony account would not be extendable to the number effect as well.

An example of an Icelandic DAT–NOM construction is given in (62). It is well-established that the dative DP in these constructions occupies the true subject position and that the nominative DP is a true object (see Zaenen et al. 1985). For many speakers, the verb then agrees with the nominative object, as shown in (62), from Sigurðsson (1996: (3)).

- (62) Henni leiddust strákar.
her.DAT bored.3PL the.boys.NOM
‘She found the boys boring.’ (✓3 > 3PL)

But as Sigurðsson (1996), Sigurðsson & Holmberg (2008) and others have shown, agreement with the lower nominative is subject to the restriction in (63).

- (63) *Person restriction* (Sigurðsson & Holmberg 2008: 254)

In DAT–NOM constructions, only 3rd person NOM may control agreement.

Consequently, verb agreement with 1st and 2nd person nominatives is impossible, as shown in (64), from Sigurðsson & Holmberg (2008: 270) and Sigurðsson (1996: (68b)).

- | | |
|---|--|
| <p>(64) a. *Henni leiddumst við.
 her.DAT bored.1PL we.NOM
 intended: ‘She found us boring.’
 (*3 > 1PL)</p> | <p>b. *Henni líkaðir þú.
 her.DAT like.2SG you.SG
 intended: ‘She likes you.’
 (*3 > 2SG)</p> |
|---|--|

Taraldsen (1995), Sigurðsson (1996), Schütze (1997, 2003), and Sigurðsson & Holmberg (2008) demonstrate that the problem is not the 1st or 2nd person object itself, but rather the fact that the verb agrees with it. Important evidence comes from configurations like (65), in which the DAT–NOM configuration is inside a nonfinite clause. Because nonfinite verbs do not agree in Icelandic, there is no agreement with the nominative object in (65), and this configuration is judged as minimally “quite acceptable” (Sigurðsson & Holmberg 2008: 271, who cite other potential factors for the “?” judgment); also see Sigurðsson (2004: 155n14).

(65) *Non-agreement fix* (Sigurðsson & Holmberg 2008: 271)

?Hún vonaðist auðvitað [til að leiðast **við/pið/þeir** ekki mikið].
 she hoped of.course for to find.boring.INF **we/you/they.NOM** not much
 ‘She of course hoped not to find us/you/them very boring.’

The sentence in (65) involves a control structure. In light of evidence that PRO bears dative case in configurations like (65) (see Sigurðsson 1991, 2008), (65) involves a DAT–NOM configuration just like (64). The crucial distinguishing factor is that the infinitival verb in (65) does not agree with the nominative object.

Further evidence supporting (63) comes from configurations like (66), which involve a matrix verb that takes a dative subject and embeds a nonfinite clause, the subject of which bears nominative case. As (66a) demonstrates, it is possible, all else being equal, for the matrix verb to agree with the embedded subject. This is not possible, however, if the embedded subject is 1st or 2nd person, and verb agreement would therefore involve person agreement. In (66b), the agreeing form *þyki* is ruled out. Significantly, agreement is optional in these constructions. The verb may also agree with the embedded clause as a whole instead of the nominative DP (the form *þykir* in (66b)). In this case, the structure is grammatical regardless of the person of the nominative DP (Sigurðsson 1996, Schütze 1997, Hrafnbjargarson 2002, Sigurðsson & Holmberg 2008).²⁵

(66) *Non-agreement fix* (Hrafnbjargarson 2002: 2)

- a. Mér **þykja** **þau** góð í fótbolta.
 me.DAT think.3PL they.NOM good in football
 ‘I think they are good at football.’
- b. Ykkur **þykir** / ***þyki** ég góður í fótbolta.
 you.PL.DAT think.3SG / *think.1SG I.NOM good in football
 ‘You think I am good at football.’

²⁵ In addition, Sigurðsson (1996) shows that at least some speakers allow 1st and 2nd person nominative objects if the verb shows default agreement, which Sigurðsson (1996) proposes involves an inherent nominative invisible to verb agreement. The judgments of these speakers are of course compatible with the person restriction in (63).

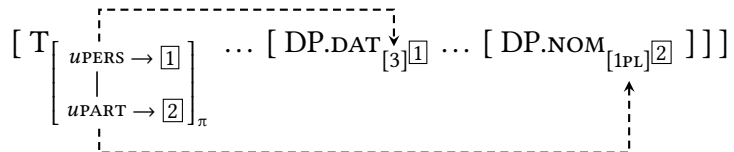
The generalization that the person restriction disappears in the absence of agreement is strikingly parallel to the situation we observed for PCC effects and German copula clauses. It therefore seems natural to extend the gluttony account to the Icelandic restriction. We propose that the Icelandic π -probe is articulated as in (67).

$$(67) \quad \left[\begin{array}{c} u\text{PERS} \\ | \\ u\text{PART} \end{array} \right]_{\pi}$$

We furthermore follow recent proposals that dative DPs in Icelandic behave externally as 3rd person DPs (Chomsky 2000: 128, 149n90, Boeckx 2000, Richards 2008, Sigurðsson & Holmberg 2008; also see Atlamaz & Baker 2018 for another proposal that Icelandic datives are featurally deficient from the outside)—regardless of their internal person features—paralleling a similar behavior we observed for Basque dative DPs above.

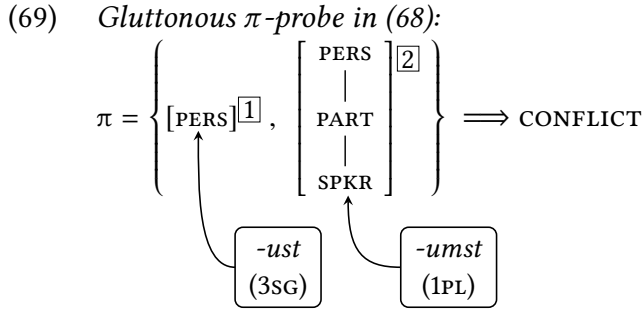
A schematic π -Agree structure for (64a) is provided in (68). π first agrees with the dative subject, which bears an external 3rd person specification, hence [PERS]. This person feature is copied onto π , deleting [uPERS]. Because [uPART] on π remains and is matched by the 1st-person object, π agrees with the 1st person nominative object, resulting in a gluttonous probe.

(68) π -Agree in (64a):



The situation that results from (68) is analogous to what we saw for German in section 4.1. Because π has acquired two values (3rd person and 1st person, respectively), the two values impose conflicting demands on morphological realization, leading to ineffability and hence ungrammaticality. The core idea that the what underlies the ungrammaticality of (64) is a morphological conflict that results from attempting to agree with both DPs was first proposed by Schütze (2003), though he leaves open what the syntactic derivation that results in this conflict is. Our gluttony proposal can thus be seen as providing the syntactic underpinning for Schütze’s (2003) proposal. Other proposals that invoke a morphological conflict are proposed by Sigurðsson & Holmberg (2008) and

Atlamaz & Baker (2018), but the specifics of their proposals differ significantly from our account.²⁶



Recall that the restriction on the person of the nominative DP disappears if no verb agrees with it (i.e., if it is inside a nonfinite clause, see (66) and (68)). This follows naturally from our account. Without an agreeing probe, there is no gluttony, and as a result, the morphological-realization problem does not arise in the first place. The structure is therefore grammatical regardless of the person of the nominative DP.

A second important configuration that leads to obviation of the person restriction is the following: In environments where agreement with a 1st or 2nd person DP is syncretic with 3rd person agreement, the restriction is lifted for many speakers (Sigurðsson 1991, 1996, Taraldsen 1995, Schütze 2003, Thráinsson 2007, Sigurðsson & Holmberg 2008; also see fn. 23 above for German). An example is provided in (70). In (70a), the nominative DP is *þið* ‘you.PL’ and the embedding verb is *virtust* ‘seems’. It is an idiosyncratic fact about the conjugation paradigm of this verb that the 2PL form is syncretic with the 3PL form. In this case, the 2PL nominative DP is grammatical. A relevant minimal pair is provided in (70b), where the nominative DP is *við* ‘we’. Importantly, the 1PL form of the verb is not syncretic with 3rd person agreement, and the structure is ungrammatical.

²⁶ Atlamaz & Baker’s (2018) account invokes Multiple Agree in the traditional sense, whereby a probe agrees with all accessible DPs in its domain (see also Sigurðsson & Holmberg 2008, who propose that the Person probe agrees with both the dative and the nominative DP). As a consequence, their account does not straightforwardly extend to hierarchy effects, as Multiple Agree arises regardless of whether the two DPs stand in a 1>3 or a 3>1 configuration. Our gluttony account derives the fact that 1>3 and 3>1 configurations are not symmetrical.

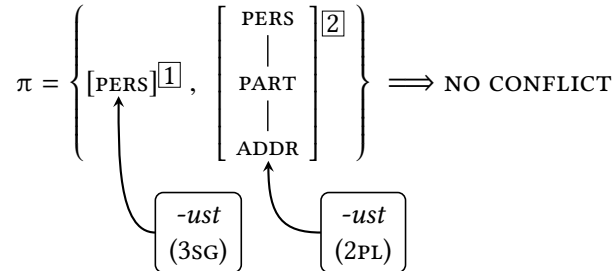
(70) *Syncretism fix* (Sigurðsson & Holmberg 2008: 270)

- a. Henni virtust þið eitthvað einkennilegir.
 her.DAT seemed.2PL/3PL you.PL.NOM somewhat strange
 ‘You seemed somewhat strange to her.’
- b. *Henni virtumst við eitthvað einkennilegir.
 her.DAT seemed.1PL we.NOM somewhat strange

Note that grammaticality is improved for all configurations that display the relevant syncretism, including simple transitive clauses and also including both main verbs and auxiliaries (Sigurðsson 1996, Schütze 2003, Thráinsson 2007, Sigurðsson & Holmberg 2008, Atlamaz & Baker 2018).

Because our account does not attribute the ungrammaticality of 1st/2nd-person nominative objects to gluttony itself, but rather its morphological aftermath, the rescuing effect of syncretism receives a principled account. Syntactically, (70a) results in a gluttonous π -probe, which acquires both a 3rd person value and a 2nd person value. In combination with plural agreement by the number probe, the person probe and its morphological realization are schematized in (71). Due to the syncretism pattern of the verb, *both* 3rd-person and 2nd-person agreement call for the vocabulary item *-ust*. This has the important consequence that there is no conflict between the morphological demands of each value. It is therefore possible to simultaneously satisfy both by inserting the vocabulary item *-ust*.

(71) *Gluttonous π -probe in (70b):*



Citko (2005) demonstrates that analogous obviation effects under syncretism arises in ATB extraction (see (54)), and Kratzer (2009) shows the same for fake indexicals in German. This is of course

consistent with our claim in section 4.1 that what underlies hierarchy effects is the same general restriction that also governs the case restriction in ATB movement configurations.

To summarize, gluttony—and hence hierarchy effects—are found in Icelandic exactly in those environments in which (i) two φ -accessible DPs are located in the domain of a single agreement probe and (ii) the lower DP is more specified than the higher one. In Icelandic, this is the case only in configurations in which the lower DP is nominative. In NOM-ACC or NOM-DAT constructions, the lower DP maximally bears a [PERS] feature, and it is hence never more specific than the higher DP. As a result, no gluttony can arise in such configurations. Combined with the gluttony system, the assumption that dative DPs have only [PERS] visible not only yields a unified account of (i) the person effect, (ii) the non-agreement fix, and (iii) the syncretism fix, but also (iv) the fact that these restrictions are limited to DAT-NOM constructions, in which the lower DP is in an accessible case form.

5 Summary and extensions

In this paper, we have proposed a new approach to hierarchy effects. The central difference between this approach and more traditional accounts is that we do not attribute hierarchy effects to failed Agree or a failure of nominal licensing. Rather, we suggested that hierarchy effects are due to *too much* Agree in the sense that a single probe agrees with more than one DP. Such feature-gluttony configurations are not syntactically ill-formed as such, but they may give rise to irresolvable conflicts for subsequent operations, be it syntactic (in the case of clitic-doubling; §3) or morphological (in the case of agreement; §4).

The crucial motivation for this departure from nominal licensing came from the observation that hierarchy effects commonly disappear in environments in which the clitic-doubling or agreement associated with them does not arise. This is most directly the case in nonfinite clauses that lack clitics or agreement, and we have shown that PCC effects as well as the agreement restrictions in German and Icelandic disappear in such environments. We argued that such effects present difficulties for a licensing-based approach: If hierarchy effects are due to licensing failures

resulting from insufficient Agree, then having less Agree should not rectify these failures. While it is possible to complicate the definition of the licensing condition in a way that exempts DPs from the licensing requirement in precisely such cases—as, e.g., Preminger (to appear) does—such complication remain stipulated on a licensing account and hence do not offer an explanation for why obviation should occur in these configurations.

We suggested that a more principled explanation of these obviation effects becomes available if the burden of the account is shifted away from nominal licensing and towards verbal probes. If it is gluttonous probes that underlie hierarchy effects, it follows immediately that hierarchy effects should disappear in structures that do not contain gluttonous probes. We are then in a position to dispense with the added caveats of the revised licensing condition, while still accounting for the range of facts that motivated these caveats. Furthermore, to the extent that the gluttony account is on the right track, no appeal to nominal licensing is necessary anymore in at least this domain.

A gluttony-based account furthermore makes principled predictions about the kinds of structures that give rise to hierarchy effects. First, because gluttony by definition only arises if a probe agrees with more than one DP, hierarchy effects are expected to be limited to such environments. Second, a probe must be articulated (i.e., “picky”) enough to not be completely satisfied by the first DP that it encounters. Third, the lower DP must have more features than the higher DP in order to be able to value features of the probe that have not been valued by Agree with the higher DP. This last property is of course the defining characteristic of hierarchy effects.

In this final section, we discuss several extensions and predictions of our account. Section 5.1 briefly surveys other patterns and repairs in the domain of ϕ -feature gluttony. In 5.2 we discuss prospects for extending gluttony to the \bar{A} -system.

5.1 More gluttony repairs

Above we focused primarily on gluttony which arises in particular corners of certain grammars: ditransitives, copulas, and DAT–NOM constructions. For many languages of the world, however, hierarchy effects appear to play a more widespread role in the system. Our account predicts that

the factors which contribute to gluttony (i.e. two accessible DPs in the domain of a single agreeing probe), might be especially prevalent in languages which (i) are agreement rich and (ii) for which the *lower* of two DPs is typically in a case form accessible to the relevant agreeing probe (i.e. in caseless languages, or in ergative-absolutive languages in which the ergative has at least [PERS] visible and the lower absolutive is accessible, on par with Icelandic DAT–NOM constructions).

Though space prevents a detailed look at such systems, hierarchy-based restrictions in transitives are attested in many languages which fit this description (see e.g. Klaiman 1992, Aissen 1999, Zúñiga 2006, Bliss et al. to appear).²⁷ Languages of the Algonquian family, for example, require special inverse verb forms in hierarchy-violating transitives. In Lummi (Salish), transitive sentences with 3rd person subjects and participant objects are ungrammatical (Jelinek & Demers 1983). In Chukchi (Chukotko-Kamchatkan), certain inverse configurations are similarly banned in transitives, requiring instead a “spurious antipassive” (Bobaljik & Branigan 2006). In keeping with our system, Algonquian languages are caseless and head-marking, Lummi is a head-marking ergative language, and Chukchi has ergative case marking and unmarked absolutes.

While some languages with hierarchy effects require alternative constructions in order to express what in our system would be a gluttony configuration, others employ morphological strategies predicted on our account to result in grammaticality. We already saw on the basis of Icelandic in section 4.2 that conflicts in the domain of gluttonous agreement do not arise in cases of syncretism in which both values on the probe demand the same vocabulary item. More generally, given the nature of the gluttony problem—i.e. two conflicting VIs compete for insertion into a single head—we predict three possible morphological resolutions to feature gluttony, which we show in this section to be empirically attested: (i) the head hosting the gluttonous probe splits into two (fission), (ii) the absence of a VI, and (iii) a single VI realizes features of both DPs (portmanteau agreement).

²⁷ Klaiman (1992) explicitly discusses the prevalence of inverse systems in head-marking languages; namely, languages which mark grammatical relations via morphological agreement and lack nominal case. He also lists ergativity as a factor contributing to inverse systems.

5.1.1 Fission and Nez Perce complementizer agreement. Deal (2015) analyzes a complex complementizer-agreement pattern in Nez Perce. She shows that when a complementizer embeds a transitive clause, its morphological form depends on the ϕ -features of both the subject and the object of that clause, as shown in (72).

(72) *Nez Perce omnivorous complementizer agreement*

Subj>Obj	Complementizer form
3>3	<i>ke</i>
1>3	} <i>ke-x</i>
3>1	
2>3	} <i>ke-m</i>
3>2	
1>2	<i>ke-m-ex</i>
2>1	<i>ke-m</i>

In configurations with a 3rd person DP (above the horizontal line), the complementizer *ke* agrees with a 1st person DP (realized as *-x*) or a 2nd person DP (*-m*), regardless of whether this DP is the subject or object of the clause. This person agreement is thus *omnivorous* in Nevins' (2011) sense insofar as it is not specifically tied to agreement with the subject or object. The lower part of the paradigm in (72) shows agreement in configurations that contains two participant DPs. Interestingly, there is an asymmetry: in 1>2 configurations, the complementizer agrees with both DPs, whereas in 2>1 configurations, it only agrees with the 2nd person subject. We focus on the 1>2/2>1 alternations here, returning to the top half of the table in section 5.1.2.

Deal (2015) proposes that C's ϕ -probe is *satisfied* only by a 2nd person DP, but that it *interacts* with all DPs until it is satisfied. Thus, in 1>2 configurations, the ϕ -probe first interacts, and hence agrees with, the 1st person subject. Because the probe is not satisfied, it continues probing and agrees with the 2nd person object. In the inverse 2>1 configuration, Agree with the 2nd person subject satisfies the probe, obviating subsequent Agree with the object. On our approach, Deal's (2015) insight can be expressed by specifying C's ϕ -probe as in (73).

(73) *Nez Perce complementizer probe*

$$\begin{bmatrix} u\text{PERS} \\ | \\ u\text{PART} \\ | \\ u\text{ADDR} \end{bmatrix}$$

Like Deal's (2015) account, the probe specification in (73) leads to Agree with both the subject and the object in 1>2 (i.e. inverse) but not in 2>1 configurations. But rather than ungrammaticality in 2>1 combinations, we find separate agreement with both DPs. We suggest that the Nez Perce facts present one general response to gluttony configurations: morphological fission. Fission rules are a standard type of operation in Distributed Morphology that splits a single head into two heads (Noyer 1992, Halle 1997). Crucially, fission applies after syntax, but before vocabulary insertion. We thus propose that Nez Perce has access to the fission rule in (74).

(74) *Nez Perce fission rule*

$$\begin{aligned} & \left[\left[\{ \varphi_1, \varphi_2 \} \right]_{\pi}, \dots \right]_{C^0}, \text{ where both } \varphi_1 \text{ and } \varphi_2 \text{ are 1st/2nd person} \\ \Rightarrow & \left[\varphi_1 \right]_{C'} \left[\varphi_2 \right]_{C''} \left[\dots \right]_{C^0} \end{aligned}$$

This rule splits a gluttonous φ -probe on C into two heads, each bearing one of the φ -values. Vocabulary insertion then applies separately to each head. In a 1>2 configuration, fission produces one head bearing a 1st person specification (which is realized by *-x*), and a second head bearing a 2nd person specification (realized by *-m*). No ineffability arises because these two vocabulary items are inserted into distinct heads, and hence they are not in competition. Fission hence presents one way in which a language might resolve a gluttony configuration, with the observable consequence that two distinct agreement morphemes are spelled out.²⁸

²⁸ While this section has drawn on Deal's (2015) work, our proposal is different from hers in a number of respects. First, on our account, feature gluttony often results in ungrammaticality; on Deal's (2015) account, multiple Agree leads to multiple agreement, but not ungrammaticality. As a result, the analytical connection between Nez Perce complementizer agreement and hierarchy effects that a gluttony account gives rise to is not available to Deal (2015). Second, on our account, double Agree arises only if the second DP has more feature than the first DP. This is not the case on Deal's (2015) account. For example, our account rules out double Agree in 1>3 configurations, but Deal's (2015) account does not. Relatedly, Deal's (2015) account gives rise to "insatiable" probes, i.e., probes that are never satisfied. Our gluttony account does not allow for such probes. In this respect, the gluttony account is more restrictive.

5.1.2 Absence of a Vocabulary Item. In Nez Perce, fission resolves the morphological problem created in 1>2 configurations due to the articulated probe in (73) agreeing first with a 1st person subject, and then again with a 2nd person object. Note, however, that given this probe structure, gluttony must *also* arise in grammatical 3>1 and 3>2 configurations. We propose that here the resolution is different. In Nez Perce, 3rd person singular is the *absence* of a VI, as seen in the top row of the table in (72) above. Our system predicts that there should be no morphological conflict created in spelling out a combination of values if one value lacks a VI altogether.

More generally, the absence of a VI for a given feature specification—frequently 3rd person singular—allows the gluttony system to capture omnivorous or “hierarchical” agreement patterns found for both person and number in a variety of languages (see e.g. Béjar 2011, Nevins 2011, Woolford 2016). As seen in the Nez Perce 1/2>3 and 3>1/2 pairs, omnivorous agreement is characterized by a particular agreement morpheme indexing features of a more highly-ranked DP, regardless of that DP’s position. In a Nez Perce 1>3 combination, the probe agrees only with the 1st person DP and spells out the suffix -x. In a 3>1 configuration, the probe agrees with the 3rd person DP, and then again with the more highly specified 1st person DP. Although the probe is now gluttonous, no conflict arises in the morphology because 3rd person has no VI, again resulting in the spell out of -x. An analogous account is available for omnivorous number morphology in languages in which an articulated number probe may realize plural morphology of either a higher or lower DP, so long as there is no competing singular form.²⁹

5.1.3 Portmanteau. Finally, though space prevents a detailed discussion, we suggest that a third resolution of gluttonous configurations is portmanteau morphology. In this case, a special vocabulary item is inserted that realizes the features of both agreed-with DPs (see e.g. Heath 1991, 1998, Woolford 2016, Georgi 2013). Georgi (2013) develops a formal account of person portmanteaux that relies on now-familiar mechanisms. She proposes that portmanteau forms may arise when

²⁹ An additional possibility for explaining omnivorous number would be the absence of [+sg] specifications on non-plural DPs. If in a given language, non-plural DPs are simply unspecified for number features, then no gluttony will occur in configurations in which a probe agrees with a lower plural DP across a higher non-plural DP. See for example Corbett (2000) and Wiltschko (2008) on “number-neutral” or “general number” systems.

more than one DP is in the domain of a single articulated probe. Features from the multiple Agree operations undergo morphological *fusion* (Noyer 1992), and a single portmanteau vocabulary item is inserted.

Under the gluttony system developed here, portmanteau forms emerge as another possible solution for a gluttonous probe. Adopting the basic insights of Georgi’s (2013) account, we suggest that portmanteau morphology may arise when a φ -probe agrees with multiple DPs and then must spell out two sets of features.³⁰ Just as with the syncretic forms discussed in section 4 above, the existence of a portmanteau vocabulary item resolves this competition. Because this vocabulary item simultaneously realizes the features of *both* DPs, it is more specific than any vocabulary item that only realizes one of the two values. As a result, no conflict arises, and ineffability is averted. Our proposal therefore has the potential to connect portmanteau agreement and hierarchy effects on an abstract level.

5.2 \bar{A} -gluttony?

As we have emphasized throughout, our account in terms of feature gluttony differs from more standard approaches to hierarchy effects in that it does not invoke nominal licensing. This change in perspective gives rise to a further interesting prediction. If the underlying problem is due to Agree between a single probe and multiple goals, then we might expect similar effects to arise in the \bar{A} -system. On a licensing-based account, by contrast, such effects should be limited to configurations that involve nominal licensing, hence the A-system.

It is not easy to find a clear answer to whether hierarchy-like effects arise in the \bar{A} -system as well, not least of all because the hierarchical organization of \bar{A} -features is far less clear than it is for φ -features. But we would nonetheless like to briefly explore one specific domain on

³⁰ Georgi (2013) accounts for the prevalence of portmanteau in combinations of 1st and 2nd person DPs by proposing that only DPs with positive feature [+1] or [+2] feature specifications may enter into Agree; 3rd person is the absence of positive features, and thus may not Agree. Our system avoids the concern of how Agree operates in languages with overt 3rd person agreement morphology. An alternative path to portmanteau forms involving multiple [PART] DPs would be through a highly articulated probe, as discussed in fn. 21 above; see also Oxford (to appear) who proposes that an articulated [u PART] probe simultaneously agrees with equidistant 1st and 2nd person DP goals in Algonquian languages.

which a gluttony account might shed new light, namely *focus intervention effects* or *Beck effects* (see Beck 1996, 2006, Beck & Kim 1997, Pesetsky 2000, Kim 2006, Miyagawa 2010, Kotek 2014). Roughly speaking, focus intervention effects arise in configurations in which an in-situ wh-phrase is separated from its licensing C head by a quantificational or focusing element, as in (75).

(75) *Focus intervention*

*[C₁ [... [intervener [... wh-phrase₁ ...]]]]

An illustrative example of a focus intervention effect from Hindi-Urdu is provided in (76). Hindi-Urdu is a wh-in-situ language that allows fairly liberal scrambling of wh-phrases (Mahajan 1990, Dayal 1996, Kidwai 2000). In (76a), the negative polarity item *kisi-bhii laṛke-ne* ‘some-NPI boy’ intervenes between the wh-object *kis-ko* ‘who-ACC’ and the licensing C head, violating (75). In (76b), the object is scrambled over the NPI and the intervention effect is obviated.

(76) *Focus intervention in Hindi-Urdu* (Keine 2016: 118)

a. ?? *Kisi-bhii laṛke-ne kis-ko nahī dekhaa?*

some-NPI boy-ERG who-ACC not saw

‘Who did no boy see?’

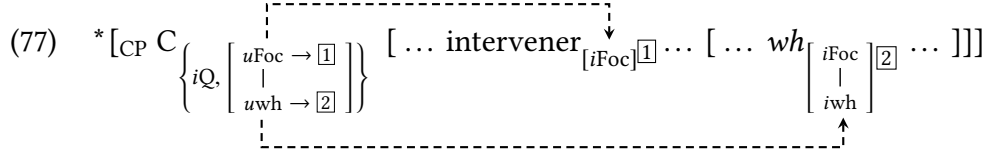
b. *Kis-ko₁ kisi-bhii laṛke-ne t₁ nahī dekhaa?*

who-ACC some-NPI boy-ERG not saw

‘Who did no boy see?’

Focus intervention effects have been productively approached from both syntactic (e.g., Beck 1996, Pesetsky 2000, Miyagawa 2010) and semantic angles (e.g., Beck 2006, Kotek 2014). Our goal here is not to construct an empirical argument for or against specific approaches, but rather to suggest that focus intervention provides one additional domain to which our gluttony account can be fruitfully applied. Building on Kim (2006) (see also Miyagawa 2010), a gluttony-based account would attribute to focus intervention configurations the syntactic structure in (77). In this structure, the interrogative C head contains (at least) the unvalued features [*uwh*] and [*uFoc*].

The *wh*-element matches both features; the intervening focused DP (the NPI in (76a)) matches only [*uFoc*]. In this configuration, the \bar{A} -probe on C first agrees with the intervener DP, which deletes [*uFoc*] but leaves [*uwh*] intact. This Agree step is followed by Agree between [*uwh*] on C and [*iwh*] on the *wh*-phrase.



The result is a by-now familiar gluttony configuration, where a single probe agrees with more than one DP. Assuming that long-distance *wh*-licensing involves covert movement in Hindi-Urdu (Mahajan 1990, Srivastav 1991, Dayal 1996), the \bar{A} -probe on C induces covert movement of the agreed-with DP. But due to gluttony, there are two such DPs in (77). As in the case of clitic doubling discussed in section 3.2, this situation gives rise to an irresolvable conflict between two constraints. On the one hand, Best Match requires movement of the *wh*-DP, because it matches more features (i.e., both [*uFoc*] and [*uwh*]). On the other hand, Agree Closest mandates movement of the closer intervener DP. Because, by assumption, both constraints are inviolable, the result is again ineffability, and hence ungrammaticality.³¹

If this account is on the right track, it indicates that a feature-gluttony account is able to unify traditional hierarchy effects with parallel restrictions in the \bar{A} -system, which are not amenable to an account in terms of nominal licensing. This prospect in turn suggests that our departure from nominal licensing as the locus of hierarchy effects broadens the empirical reach of the resulting account.

³¹ As in the case of clitic doubling, it must also be ensured that moving both DPs in (77) does not offer a way out. We appeal here to the same kind of reasoning we employed in section 3.2 above: Assuming that parallel operations are ruled out, one of the two DPs would need to move first. The Markovian character of a strictly derivational syntax then proscribes that each step of the derivation has to obey all relevant constraints (and hence that it is not possible to temporarily violate certain constraints). Movement of either DP in (77) would violate either Best Match or Attract Closest and is hence ruled out, as desired.

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