

Defective Agree, Case Alternations, and the Prominence of Person

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Abstract

This paper proposes a general analysis of Case alternations and other phenomena associated with nominal hierarchies of the Silverstein type. The analysis is based on the mechanism of defective probes (in the sense of Chomsky 2001), such that a defective head may value a different Case from its nondefective counterpart (cf. Rezac 2004). The resultant 'defective Case forms' are characterized by a range of well-known interpretive restrictions on argument encoding (definiteness-, animacy- and Person-Case-Constraint effects) - examples include Icelandic nominative objects, English expletive-associates, the Russian genitive of negation, and the absolutive in Mohawk. These interpretive restrictions, and their relation to the EPP (optional vs. obligatory), are shown to follow from the variable crosslinguistic association of the syntactic Person feature of a nominal with, for probes, the EPP-feature of Chomsky 2000, and, for goals, different degrees of prominence as defined on a referential scale. In this way, differences in form (Case-marking) have semantic consequences, with the various interpretive restrictions at the interface reducing to a single, common source: namely, formal violations of the Case Filter in the context of defective Agree.

1. Introduction: The person-animacy-definiteness connection

The properties of animacy and definiteness/specificity are implicated in the triggering of a number of (otherwise seemingly unrelated) morphosyntactic phenomena (see Aissen 2003 for a recent overview). Firstly, numerous case alternations have been identified that arise through the differential case-marking of arguments according to animacy and/or definiteness properties (thus animates and/or definites are overtly marked in languages such as Hindi, Persian, Turkish, Hebrew, Spanish and Romanian, contrasting with unmarked forms for inanimates and/or indefinites in these languages). Secondly, animate and/or definite arguments are prone to undergoing

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displacement out of their base positions across the world's languages (e.g. Germanic, Mayan, Niger-Congo, and object clitics in Romance), whereas inanimates and indefinites are more readily accommodated in situ. Finally, direct objects in ditransitive constructions are widely subject to a class of agreement restrictions often called the Person-Case Constraint (PCC), such that they may not be first- or second-person (e.g. French – the '*me-lui* constraint'), animate (Mohawk, Southern Tiwa), or definite/specific (Akan).

One way to approach these phenomena is in terms of a referential hierarchy or prominence scale of the kind illustrated in (1).

(1) Silverstein person/animacy scale (simplified) (Silverstein 1976, Dixon 1994):

1/2-person (pron.) > 3-person (pron.) > animate (3-person) > inanimate (3-person)

← *more likely agents/subjects* ... *more likely patients/objects* →
 ← *more likely definite* ... *more likely indefinite* →

The relevant factors, animacy and definiteness/specificity, are all 'high-ranked' (salient) properties occurring towards the left of the scale. As such, they correlate with a further property, local person (i.e. first-/second-person). In connecting these three properties, prominence scales allow us to attribute the aforesaid morphosyntactic phenomena (or their likelihood of occurrence) to hierarchical position, in formal or functional terms. Thus differential case-marking, for example, may be viewed functionally as the overt marking of noncanonical argument types, such as inanimate agents and definite objects (see Comrie 1989); formally, nominals towards the left of the scale might be attributed greater internal structure than items towards the right, which in turn can feed morphological differences (see, e.g., Déchaine & Wiltschko 2002, Harbour 2007).

However, as discussed in Brown, Koch & Wiltschko (2004), the explanatory status of such scales is questionable from the formal perspective. Should they be taken as primitives of the theory (attributable to UG), or as epiphenomena proceeding from deeper or independent principles (perhaps language-independent)? Related to this question is that of formal implementation: do we assume hierarchies (as in OT approaches based on harmonic alignment – see, e.g., Aissen 2003, Keine & Müller 2008 [this volume]), feature geometries (cf. Harley & Ritter 2002), or phrase structure (e.g. the sequence of functional heads) to be responsible? Are the scales universal, or are they open to language-specific variation? And how many

such scales must we recognize (e.g. perhaps (1) should be separated out into three separate scales for person, animacy, and definiteness)?

From the minimalist perspective of a blind, autonomous, local syntax and a maximally empty UG (in line with the Strong Minimalist Thesis as outlined in Chomsky 2004, 2005, 2006), the syntactic status of prominence hierarchies is dubious, as are the pseudo-semantic animacy and specificity features that might be postulated to derive their effects. The present paper thus seeks to answer two main questions: What is the syntactic source of the correlated phenomena outlined above – why do animates and definites pattern together in inducing PCC effects, case alternations and optional movements? And what is the formal relation between person, animacy and definiteness/specificity?

The strategy to be pursued in answering these questions is to take the correlations at face value, positing the simplest connection between them – that of identity. Our claim is that Person in the syntax just is animacy/definiteness at the (semantic) interface. That is, we assume that there is a single, discrete, binary property ([+/-Person]) whose presence vs. absence correlates with high- vs. low-prominence interpretations in the semantic component. Our goal is to show that these phenomena, or at least their core properties, may be amenable to an explanation in these simplest terms.

Implicational links between person and animacy, on the one hand, and person and definiteness/specificity, on the other, have already been drawn in the recent literature. Thus Adger & Harbour (2007) propose that the presence of a [Participant] feature on an argument implies animacy, and Richards 2004, 2008 argues that the presence of a Person specification on a nominal implies definiteness. Such claims would seem semantically well motivated. After all, local-person nominals, i.e. those at the leftmost end of the scale in (1), are always animate (Adger & Harbour 2007: 20) and always definite (Dixon 1994: 91). Furthermore, nominals at the rightmost end of the scale (non-specific indefinites, inanimates) are always third person (Richards 2004, 2008) – there are no semantically first- or second-person indefinites or inanimates. We thus identify two implications: (i) from 1/2-Person to [+animate] and [+definite]; and (ii) from [-animate] and [-definite] to 3-person. These are illustrated in the tables in (2) and (3).

(2) *Person-animacy*

	Animate	Inanimate
1	✓	✗
2	✓	✗
3	✓	✓

(3) *Person-definiteness*

	Definite	Indefinite
1	✓	✗
2	✓	✗
3	✓	✓

As can be seen, only [+animate/+definite] nominals have an indeterminacy for Person, i.e. may be first- or second- or third-person. Only animates and definites, then, require a person specification (the person of inanimates and indefinites can be filled in by default to {3}). On grounds of avoiding redundancy, we can assume that Person is a (syntactic) property of definite and animate nominals only: a person specification on indefinites and inanimates is redundant and thus plausibly left unspecified. If correct, then indefinites and inanimates will bear only number (and gender) features – they are thus ‘defective’ in the agreement system (in the sense of Chomsky 2001).¹ This lends partial support to the common claim that “third person is absence of person” (cf. Kayne 2000, Sigurðsson 2001, Anagnostopoulou 2003, 2005; see Nevins 2006 for criticism): Third-person is indeed absence of Person (in the syntax), but only on indefinites and inanimates.

Further, given that bare nouns, too, are always inherently third-person (thus there is no first-person form of *cat*, no second-person form of *dog*, and so on), we can make the reasonable assumption that Person is a property of the category D, not N. Therefore, if indefinites and inanimates lack Person (as claimed above), then this equates syntactically to their lacking DP structure – that is, they are bare NPs. First- and second-person nominals, by contrast, will always be DPs, whereas third-person nominals may be either DPs or NPs, depending on whether they are animates/definites or not (i.e.

¹This is not to deny that indefinites and inanimates may still appear with apparently agreeing verbs – thus, e.g., there is no difference between *A man is in the garden* and *The man is in the garden*. However, any apparent [3-person] agreement of this kind with inanimates and indefinites must be the result of a default realization in the morphology (of features that fail to receive a value through Agree(ment) in the syntax). The lack of syntactic Person, then, does not entail the lack of a Person exponent in the morphology; this exponent should just be the default form.

depending on whether their Person feature is syntactically specified or not). The D head, then, can be thought of as contributing such interpretive properties as definiteness, animacy, and referentiality, yielding the following implications: a DP (i.e. [+Person] nominal) entails animacy/definiteness (cf. Adger & Harbour 2007, Heck & Richards 2007); inanimacy/indefiniteness entails an NP (i.e. [-Person]). Consequently, animate/definite NPs are still a logical possibility (see Heck & Richards 2007 for relevant evidence from Southern Tiwa incorporation, and footnote 2 below).

Returning to prominence scales, the above proposals can be (roughly) expressed as follows: Firstly, there are (just) two scales: person/animacy and person/definiteness. Person belongs to both scales, as the formal correlate of animacy and/or definiteness. Secondly, languages may differ as to whether they associate the presence of Person (i.e. a syntactic Person specification) on a nominal with animacy or definiteness (or both). If Person is a property of D and not N, as we have suggested, then this translates to whether a language interprets DPs (as opposed to NPs) as animate or definite (or both). Finally, the discrete, binary feature [+/-Person] (i.e. [+/-D]) is then associated with the two scales as shown in (4) and (5), perhaps with crosslinguistic variation as to the exact ‘cut-off point’ (see section 3 below).

- (4) Person/animacy scale
 [+ Person] (= DP) | [-Person] (= NP)
 1/2-person pron. > animate (3-person, pron./noun) > inanimate (3-person, pron./noun)
 ← (likelihood/obligatoriness of) animacy

- (5) Person/definiteness scale
 [+Person] (= DP) | [-Person](= NP)
 1/2-person (pron.) > 3-person (pron.) > definite > specific > nonspecific
 ← (likelihood/obligatoriness of) definiteness

In the remaining sections of this paper, we illustrate how the simple presence vs. absence of Person (i.e. of D), and thus of animacy and/or definiteness, might provide a syntactic basis for the various phenomena listed above. In section 2, agreement restrictions of the PCC kind, as well as associated interpretive restrictions, are shown to follow from the above proposal that a Person specification implies an animate and/or definite

(‘prominent’) interpretation at the interface. Section 3 sketches an approach to case alternations (differential case-marking) in terms of defective Agree, in particular the idea that a defective (i.e. Person-less) probe may assign (value) a different case from its nondefective (+Person) counterpart in the Probe-Goal-Agree system of Chomsky 2000, 2001. Section 4 turns to Object Shift and optional movements, arguing that the EPP-feature of a probe may be associated with the entire probe (i.e. Person + Number) or else with just the Person feature of the probe, yielding differential argument movements. Section 5 provides a brief summary.

2. Defective (partial) Agree and interpretive restrictions

2.1. Person restriction (Person-Case Constraint, PCC)

Let us first consider the relation between Person and (syntactic) Agree. As is well known, Icelandic Quirky Subject (QS) constructions involving agreement with a nominative object across a dative subject are subject to two restrictions. These are given in (6) and illustrated in (7) for dative experiencers, in (8) for raising predicates, and in (9) for dative subjects of ditransitive passives (cf. Sigurðsson 1990, 1996, 2001, Taraldsen 1995, Boeckx 2000, Anagnostopoulou 2003, 2005, Rezac 2004 and many others).

- (6) a. The nominative object can only be third person.
 b. Agreement with the nominative object is partial (number only).
- (7) a. Henni leiddust strákar / þeir
 Her_{-DAT} bored_{-3pl} the-boys_{-NOM} / they_{-NOM}
 b. * Henni leiddumst við
 Her_{-DAT} bored_{-1pl} we_{-NOM}
 c. * Henni leiddust við
 Her_{-DAT} bored_{-3pl} we_{-NOM}
 d. * Henni leiddist við
 Her_{-DAT} bored_{-3sg} we_{-NOM}
- (8) a. Mér höfðu fundist þær vinna vel
 Me_{-DAT} had_{-3pl} found they_{-NOM} to-work well

- b. * MÉR höfðum fundist við vinna vel
 Me-_{DAT} had-_{1pl} found we-_{NOM} to-work well
- (9) a. Henni voru sýndir þeir
 Her-_{DAT} were-_{3pl} shown they-_{NOM}
- b. * Henni vorum sýndir við
 Her-_{DAT} were-_{1pl} shown we-_{NOM}

Boeckx (2000) equates (6a) with Person-Case Constraint (PCC; Bonet 1991/4), sometimes also dubbed the *me-lui* constraint on the basis of familiar French examples such as (10a-b). Essentially, in double object constructions, local-person direct objects are barred. Such effects are pervasive across the world's languages; English, too, shows a similar restriction on weak (unstressed) object pronouns, (10c).

- (10) a. Jean le/*me lui a recommandé [French]
 Jean it/me him has recommended
- b. I showed them it/*you/*me ['you'/'me' = weak]
- c. *He showed you me

An influential class of analyses within the minimalist literature propose that PCC effects arise where two arguments (goals) relate to the same functional head (probe; here, T), as in (11) – see Anagnostopoulou 2003, Rezac 2004.

- (11) PCC: single probe, multiple goals
 [P ... G_{DAT} ... G_{NOM/ACC}] → *NOM/ACC-_{1/2}

In terms of the hierarchies of section 1, the generalization to be derived is that the second argument cannot be more prominent (higher on the scale in (1)) than the first (cf. Haspelmath 2007). As analysed in Anagnostopoulou 2003, 2005, this effect follows from the multiple Agree (one probe—multiple goals) context in (11) if the first argument ‘consumes’ the Person feature of the probe, leaving only Number for the second argument. The second argument must therefore be ‘personless’ (equated with third person), i.e., it must bear only a number-feature.

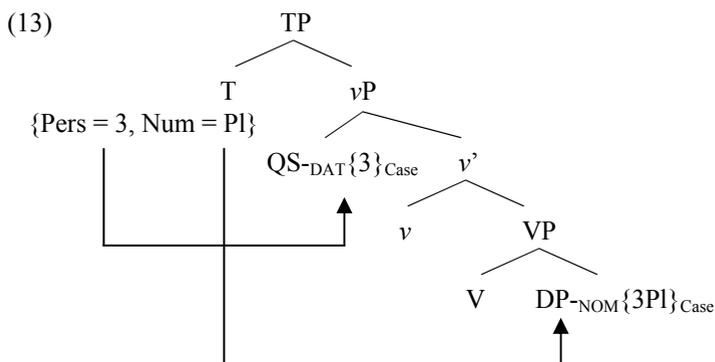
Richards 2004, 2008 offers an analysis of the Icelandic restrictions in (6) along similar lines, starting from the hypothesis that quirky case (Icelandic dative) is “inherent case with an additional structural Case feature” (Chomsky 2000:127; 2001:43, note 8). Assuming that Case

features cannot be added in isolation (Case being simply an activating diacritic on goals (interpretable φ -sets)), the added Case feature must be attached to its own φ -set. Minimally, this dummy φ -substrate will be a defective and default φ -set, i.e. [3Person]. This means that QS should be characterized as in (12).

- (12) QS = inherent case + [3Person]_{Case}

Taking the added Case feature to be formally identical to an expletive (expletives, too, are minimal goals, i.e. a Cased default Person feature), we can think of the reactivating ‘shell’ on QS as a ‘quirky expletive’.

The derivation of (7a) then proceeds as in (13).



First the T probe meets (the quirky expletive on) QS, which values T’s person as {3} via Agree. T’s φ -set is then {Pers=3, Num= \emptyset } at this point of the derivation. The PCC effect (6a) now follows simply from nondistinctness (“Match is non-distinctness rather than identity”, Chomsky 2004:13). An object with first- or second-person is distinct from the probe’s third-person, hence fails to be matched by T. As a consequence, the object DP fails to enter Agree with T. The PCC effect in Icelandic thus reduces to a Case Filter effect: the object’s Case goes unvalued, yielding a crash at the semantic interface.

The above analysis of the Icelandic PCC reduces it to the class of ‘weak’ PCC effects in terms of Anagnostopoulou’s (2005) Multiple Agree analysis: previously valued Person features ‘count’ for Matching of the second argument, which must therefore have a noncontradictory Person specification (third-person in Icelandic, due to the inherent third-person

specification on the quirky expletive in (12); first-/second-person in Spanish, Italian, Catalan, etc.). We might therefore think of the weak PCC as the ‘like with like’ PCC.

However, more interesting for our present purposes is the existence of a stronger form of the PCC in which no direct object of any person is allowed (i.e. no matter whether it matches the person specification of the dative argument or not). Such cases of ‘strong PCC’ can be modelled in this system by assuming that previously valued Person features, here, do **not** count, so that Number acts as a solo probe for the second argument. In such cases, the second argument must indeed lack Person (i.e. be NP, and thus third-person) in order for Match and Agree to obtain. Given the ‘Person=Animacy/Definiteness’ proposal in section 1, this now makes the further prediction that the second argument in strong PCC environments will be subject to extra interpretive restrictions (in addition to the Person-agreement restriction). The type of restriction (animacy or definiteness) will depend on whether the language in question associates Person with animacy (cf. scale (4)) or with definiteness (scale (5)), or both. The following two subsections illustrate each of these two possibilities in turn.

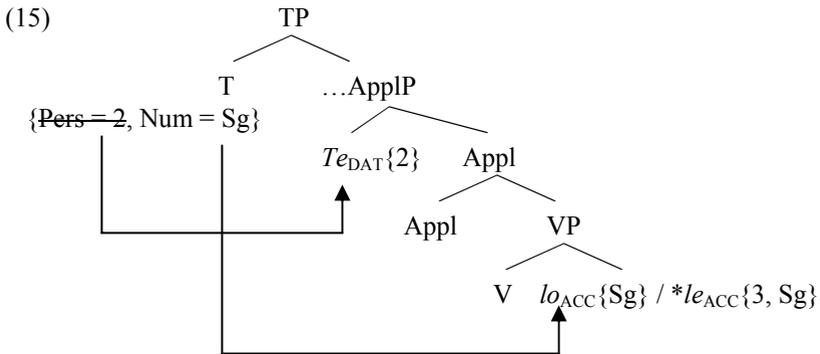
2.2. Animacy restriction

Strong PCC effects in languages of the (4)-type are predicted to include an animacy restriction on the second (defective) goal. Certain dialects of Spanish, namely the *leísta* dialects, bear this out (Ormazabal & Romero 2007, Adger & Harbour 2007). In these dialects, the pronominal paradigm exhibits a dative-accusative syncretism for animate referents: *le* expresses third-person animates in dative and accusative alike, whereas inanimates have a distinct accusative form *lo/la* (3 ACC INANIM MASC/FEM). Given (4), the presence of Person is associated with [+animate]. Therefore, the agreement-restricted (third-person) direct object in a ditransitive PCC configuration is predicted to be subject to an animacy restriction: it must be inanimate, by virtue of having to lack Person.

PCC effects are thus predicted to occur not only with first- and second-person direct objects in such languages, but additionally with animate third-person direct objects too. This is indeed what we find:

- (14) a. *Te lo di*
 2DAT.SG 3ACC.[-ANIM] gave.1SG
 ‘I gave it to you.’
 b. **Te le di*
 2DAT.SG 3ACC.[+ANIM] gave.1SG
 ‘I gave him to you.’

The relevant derivation is given in (15). The Number-probe left over after valuation of T’s Person (here, to {2}) can only match a personless goal. In these languages, this means not only that that goal must lack Person (i.e. be third-person), but also that it must be inanimate (since Person implies animacy).



Another well-known example of a language that exhibits an animacy restriction accompanying direct objects in ditransitives is Mohawk (Ormazabal & Romero 2007, Baker 1996). As shown in (16), the theme may be the inanimate *car* but not the animate *girlfriend*.

- (16) *Ká'sere' / *Káskare' Λ-hi-tshΛry-a'-s-e'*
car / girlfriend FUT-1.SG.A/SG.MASC.O-find-BEN-PUNC
 ‘I will find him a car / girlfriend.’

A less direct example may be provided by the Tanoan language Southern Tiwa, which exhibits strong PCC effects in ditransitives: *DAT_{1/2/3} – ABS_{1/2}. Rosen (1990), in her analysis of these restrictions, postulates a referential category HiSpec (‘high specificity’) which she claims is associated with definite, specific and animate arguments – i.e. the very

kinds of high-prominence arguments to which we have attributed a Person feature (see section 1 and Heck & Richards 2007). This now predicts that the agreement-restricted, third-person direct object in a ditransitive should lack the HiSpec property, by virtue of lacking Person. We concomitantly predict that it must be an NP, not a DP. These predictions are easily tested, since non-HiSpec absolutes (personless NPs) must obligatorily incorporate in Southern Tiwa. The agreement-restricted (third-person) absolute in a ditransitive is this predicted to obligatorily incorporate, as is borne out:²

- (17) a. *Ka-'u'u-wia-ban*
 1SG:A:2SG-baby-give.PAST
 'I gave you the baby.'
 b. **'U'ude ka-wia-ban*
 baby 1SG:A:2SG-give.PAST [Rosen 1990: 687]

2.3. Definiteness restriction

Turning now to strong PCC effects in languages of the (5)-type; here we expect to find a *definiteness/specificity* restriction associated with the second (defective) goal. One candidate for such a language is Akan (Sááh & Ézè 1997, Haspelmath 2007). Given (5), the presence of Person is associated with [+definite]. Therefore, the agreement-restricted (third-person) direct object in a ditransitive is predicted to be subject to a definiteness restriction: it must be indefinite, by virtue of having to lack Person. As shown in (18), PCC effects on definite third-person direct objects are indeed attested in this language.

- (18) a. *Ámá màà mè síká*
 Ama gave 1SG money
 'Ama gave me money.'

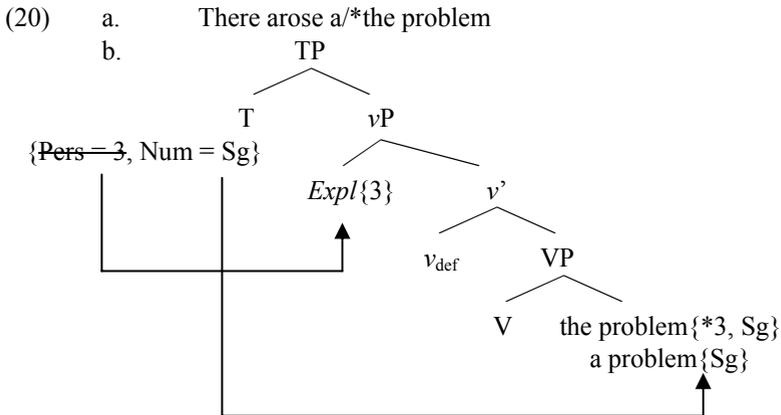
²Recall that the implication drawn out in section 1 is from [+Person] (DP) to animacy, not vice versa (cf. Adger & Harbour 2007). Animate NPs are thus a logical possibility, as the incorporated (NP) *baby* in (17a) now attests. Ormazabal & Romero make the related point (2007: 337, note 30) that there is a distinction to be drawn between 'real', 'biological' animacy and the formal, grammatical notion. The incorporated *baby* in (17a) is simply not formally, grammatically animate (cf. Baker (1996:316) on the dehumanized, objectified interpretation of incorporated animates in Mohawk).

- b. **Ámá màà mè síká nó*
 Ama gave 1SG money the
 ‘Ama gave me the money.’

More generally, we can extend this analysis to the classical definiteness effects found in existential expletive constructions such as English (19). These now emerge as simply the ‘pure expletive’ counterpart of the Icelandic ‘quirky expletive’ PCC effect in (13).

- (19) a. There arrived a / *the man
- b. There arose a / *the problem
- c. There appeared a / *the face at the window
- d. There was heard an / *the almighty explosion
- e. There seems to be a / *the man in the garden

The relevant derivation is given in (20). The second goal (here, the associate of the expletive) must be personless, and thus indefinite. The definiteness restriction in (19) can thus be given a formal syntactic explanation along the same lines as (13), i.e. it too reduces to a Case Filter violation, with Case going unvalued under partial Agree with a definite object (i.e. an object with a syntactic Person specification, which fails to be matched by the Number probe that remains after Agree between T and the expletive):



Conversely, weak PCC effects such as the Icelandic PCC in (7)-(9) can be characterized on this approach as a person-sensitive ‘definiteness’ effect.

A third potential example of a definiteness restriction that emerges under partial Agree with a defective probe is the Russian genitive of negation (GN), which exhibits all the hallmarks of a Person-related case alternation (see also next section).³ Russian famously exhibits genitive case alternations on underlying internal arguments in the presence of sentential negation (see, e.g., Babby 1980, Pesetsky 1982, Franks 1995, Abels 2002, Harves 2001, 2002, 2004, 2005, and many others), picking out the direct object of transitives (yielding a genitive-accusative alternation) and the subject of passives and unaccusatives (yielding a genitive-nominative alternation): (21)-(23). It fails to obtain on true external arguments (i.e. the subjects of transitives and unergatives) or lexically/inherently case-marked objects: (24)-(26).

- (21) Mal'čik ne čitaet knigi / knigu
 boy not reads book-GEN / book-ACC
 'The boy isn't reading a book / the book.'
- (22) a. Otveta ne prišlo
 answer-GEN not came-3NS⁴
 'There was no answer.'
 b. Otvet ne prišel
 answer-NOM not came-3MS
 'The answer didn't come.'
- (23) a. Ne bylo polučeno gazet
 not was-3NS received-3NS newspapers-GEN
 'No newspapers were received.' [Brown 1999: 47]
 b. Gazeta ne byla polučena
 newspaper-NOM not was-FS received-FS
 'The newspaper wasn't received.'
- (24) *Mal'čika ne čital / čitalo knigu
 boy-GEN not read / read-3NS book-ACC
 'A boy didn't read the book.'

³For further details of the analysis of Russian genitive of negation proposed here, please see Richards 2008.

⁴3NS = third-person neuter singular. Similarly, MS = masculine singular, FS = feminine singular, etc.

- (25) *Ni odnogo mal'čika ne rabotalo
 not one-GEN boy-GEN not worked-3NS
 'Not a single boy was working.' [Neidle 1988: 75]
- (26) Ja ne zvonil moej sestre / *moej sestry
 I not called [my sister]-DAT / [my sister]-GEN
 'I didn't call my sister.' [Brown 1999: 3]

Further, as indicated in the glosses for (21)-(23), GN correlates with an indefinite/nonreferential/existential reading of the GN-marked argument (i.e. the denial of its existence), whereas the respective nominative/accusative alternant is associated with definite/referential/presuppositional semantics (the existential presupposition of the argument; cf. "individuation" in terms of Timberlake 1975; see also Pereltsvaig 1999, Harves 2001, Richards 2001 for discussion).

In sum, like Icelandic PCC-restricted nominative objects, GN is an unexpected Case form on internal arguments, and like expletive-associate constructions, it is associated with an unexpected interpretive restriction (indefiniteness/nonreferentiality) – the hallmark of partial-Agree-induced Case Filter effects, as we have seen.

The interpretive restriction is traditionally captured by the claim that GN-marked objects are interpreted within the scope of negation (cf. Babby 1980 and many others), as corroborated by quantified objects: GN-marking correlates with narrow scope ($\neg \dots \forall$) in (27a), and accusative-marking with wide scope ($\forall \dots \neg$) in (27b). (Examples from Neidle 1988: 39-40.)

- (27) a. On ne rešil vsex zadač
 He not solved [all problems]-GEN PL
 'He didn't solve all the problems.'
 [= at least one problem remained unsolved]
- b. On ne rešil vse zadači
 He not solved [all problems]-ACC PL
 'He solved none of the problems.'
 [= no problem was solved]

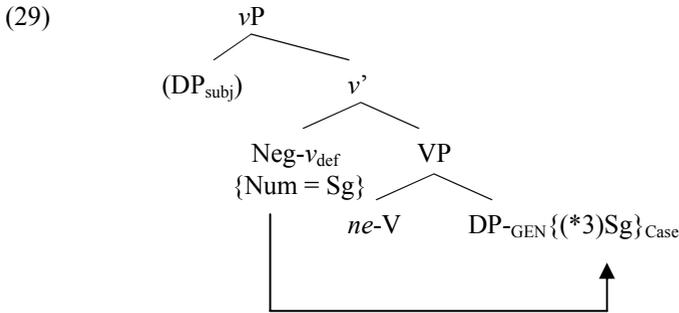
Given the Probe-Goal system assumed here, Case is valued as part of ϕ -Agree. Thus a different Case form implies a different probe. This means that the presence of negation must affect v 's case-valuing property by affecting its probe/ ϕ -set. Following Rezac (2004: Chapter 5), we might

expect a partially deactivated (i.e. defectivized) probe to value a different case from a full (ϕ -complete) one. Let us therefore propose the simple GN analysis in (28).

(28) Defective v values genitive in Russian.

Assuming that negation (which we might take to be a separate head, Neg) can select either a defective or a nondefective (ϕ -complete) v as its complement (since both unaccusative and transitive v -types, of course, may appear in negative clauses, i.e. under sentential negation), then selection of the former will now yield a genitive object; selection of the latter will yield an accusative object.

Valuing of genitive Case by defective v as in (28) and the concomitant interpretive restrictions (definiteness effects) now emerge as two sides of the same coin, instantiating the same syntactic scenario as English expletive-associate configurations (albeit with valuation by v instead of T):



The ‘negation-defectivized’ v head can only Agree partially with the direct object (i.e. for Number only; it lacks Person as a defective head). Therefore, only personless objects (indefinite, bare NPs) can be fully matched and thus Case-valued (deactivated) by this defective GN probe. In effect, genitive emerges as the case of bare nouns, as independently proposed by Pesetsky (2007). Definite, specific (+Person) objects, on the other hand, require a ϕ -complete probe for convergence – either T or v , yielding nominative (cf. (22-23)) and accusative (cf. (21)), respectively. Further, the narrow-scope (with respect to negation) of GN-nominals now follows from the Person-Specificity connection (cf. section 1). Weak, narrow-scoping quantifiers such as nonspecific indefinites lack Person (i.e. they are not DPs) and thus may be valued genitive by defective v ; strong, wide-scoping quantifiers

such as specific indefinites, however, are [+Person] and thus can only be valued accusative, by nondefective *v*.

In short, GN thus falls into place as another Case Filter effect in the context of defective Agree.

2.4. Section summary

In this section we have developed an approach to strong PCC effects that makes a strong connection between Person-related agreement restrictions and animacy/definiteness-related interpretive restrictions. Since defectiv(iz)e(d) heads can only value (fully match) a defective argument (i.e. one that lacks a Person specification), defective heads will have the effect of forcing particular semantic/interpretive restrictions on their goals: non-specific indefiniteness/nonreferentiality in (5)-type languages; inanimacy in (4)-type languages. These restrictions reduce to Case Filter effects, in that the unvalued Case feature on a [+Person] nominal, i.e. on animate/definite DPs, cannot be valued by a defective, personless head. The effects of the Case Filter are thus pervasive and fundamental under defective Agree: they now include Icelandic (and other) PCC effects, Mohawk animacy effects, expletive-associate definiteness effects, and Russian GN.

3. Case alternations (differential case-marking)

As we just saw with Russian GN, Person-agreement (Agree-DP) may result in a different case form from non-Person (e.g. Number-only) agreement (Agree-NP); the latter case forms ('defective cases') are associated with the interpretive restrictions that we argued in the previous section to result from defective (personless) agreement, namely PCC, animacy, and definiteness effects. We turn now to differential case-marking, the morphological consequence of differential (defective vs. nondefective, complete vs. noncomplete) Agree.

Russian GN provides our first example of differential case-marking according to a nominal hierarchy (of the kind in (5) – nominals occurring towards the right of the hierarchy in (5) are 'more likely' to be marked genitive than accusative, as analysed in the previous section). This is a case

The uniform \emptyset -form found with intransitives (i.e. all S-arguments, regardless of Person) falls out easily on this approach (unlike many others, including Aissen 1999, 2003), due to the defective status of intransitive v , which lacks Person (cf. Chomsky 2000, 2001). Due to the defectivity of the probe in this case, the ‘marked’ rules (32a) and (32b) can never apply. Any defective, personless goal (i.e. low-prominence, third-person) will be a match for the defective v probe and thus be valued at the v -level, yielding the feature bundle [v , -Person], which only rule (32c) can realize. By contrast, any nondefective, [+Person] goal (i.e. high-prominence, first-/second-person) will only be matched and thus valuable by a nondefective, [+Person] probe, of which T is the only candidate. Valuation of [+Person] S-arguments thus takes place at the T-level, yielding the feature bundle [T, +Person], which again only rule (32c) can realize.

Perhaps more interesting is the split in related Djapu (Aldridge 2007), since this involves animacy as well as person: here, human nominals additionally follow the nom-acc pattern. This follows from the same system as (31) if in this language the [+Person]/[-Person] split occurs lower than in Dyrbal, i.e. between the animate and inanimate nouns, as in (33).

(33)	[+Person]	[-Person]
	1/2-person pron. > animate (3-person, pron./noun)	> inanimate (3-person, pron./noun)

Whilst more complex splits (such as three-way splits) have yet to be investigated within this model, and its applicability to aspectual splits of the Hindi kind is unclear, the approach would seem straightforwardly extensible to other well-known alternations (such as Hindi *-ko* marking on animate and definite objects, Spanish ‘animate datives’, etc.; see also Adger & Harbour 2007 for an analysis of the Kiowa high tone as the realization of a [Participant] specification, in much the same spirit as the above). I leave these questions and extensions for further research.

4. EPP: Optional vs. Obligatory

In the previous sections, we have examined the relation between Person and Agree and seen how the variable association of Person with nominals (DPs vs. NPs) can yield agreement restrictions and case alternations. However, as Carnie (2005) remarks in an insightful critique of markedness hierarchies,

many languages differentiate between types of objects not through overt morphological marking, but through overt movement. Thus just as animates and definites receive differential morphological marking in languages with case splits, so animates and definites undergo differential syntactic placement (surface order) in other languages.

These optional movement operations, often termed *scrambling* in the literature, are pervasive across the world's languages, and are illustrated for all three argument roles (O, A, S) by familiar examples in (34)-(36).

(34) Germanic Object Shift/Scrambling (*O-arguments*)

- a. Er hat oft ein Buch gelesen [German]
 he has often a book read
 'He often read a (non-specific) book.'
- b. Er hat ein Buch oft gelesen
 he has a book often read
 'There's a book that he often read.'

(35) Icelandic 'optional EPP' effects (*A-arguments*)

- a. Í fyrra luku þrjú stúdentar [_{VP} víst öllum
 last year finished three students apparently all
 prófunum]
 exams-the
 'Three [=specific] students apparently finished all the
 exams last year.'
- b. Í fyrra luku [_{VP} víst þrjú stúdentar öllum
 last year finished apparently three students all
 prófunum]
 exams-the
 'Last year, there were three students [=existential] who
 finished all the exams.' [from Bobaljik & Thráinsson
 1998]

(36) Mandarin objects (*S-arguments*)

- a. Kèren lái-le [Mandarin Chinese]
 guest come-PFV
 '(The) guests came.'

- b. Lái-le kèren
 come-PFV guest
 ‘There came (some) guests.’ [Li 1990:136]

Crucially, movement to the relevant specifier positions (spec-*vP* for objects, spec-*TP* for subjects) is in each case associated with particular semantic effects (old, specific, and/or presuppositional readings), i.e. those that we have been associating with the presence of [Person] (cf. section 1).

Carnie (2005) then makes an important point, namely that a complete theory of the role of animacy and definiteness in differential case-marking should also be able to account for the role of these factors in differential (‘optional’) movement. Theories of hierarchy-based splits in the behaviour of nominals, then, have to take into account more than just overt morphology (case alternations and differential case-marking); overt position is the equivalent syntactic phenomenon, with the same conditioning factor, and so a unified approach should be sought.

The question therefore arises as to whether the current analysis has anything to say about the relation between Person and Move, in addition to Person and Agree. Specifically, can it give us any insight into why [+Person] nominals, i.e. DPs, have a higher propensity to shift (e.g. undergo Object Shift) than [–Person] ones, i.e. NPs?

In fact, the link between Person and movement is one that has already been noticed and established by a number of authors, including Boeckx (2006) and Sigurðsson (2002, 2007). Thus Boeckx (2006) suggests that EPP-effects (i.e. movement to spec-*T*) reduces to Person-valuation, on account of a number of special properties that single out Person and Person-agreement from other (φ -)features. These include the fact that Person-agreement is restricted to finite verb-agreement, being absent from participial and adjectival concord (see also Baker 2007); it is absent with in-situ (long-distance) subject-agreement, such as that found in expletive constructions of the kind exemplified in (19); and, as we have also seen, it is implicated in PCC effects. Boeckx proposes that what makes Person special is its anaphoric, context-dependent property, as a result of which it must be licensed by binding, not by Agree per se. This yields the Person-Move (EPP) connection: *c*-command by the goal is required for Person-binding, with valuer (goal) thus raising to bind the valuee (*T*).

However, Boeckx’s central concern here, as noted, is the traditional, obligatory EPP characteristic of English (i.e. *T*’s filled-specifier requirement). This raises two questions: why must this movement to spec-*T*

be overt if only binding is at stake (covert binding at LF would seem equally appropriate)? And more pressingly, what about optional EPP languages, those in which T's specifier may or may not be filled, with attendant extra semantic consequences (cf. (35))? Shouldn't Person on T require obligatory binding in these languages too?

As the examples in (34)-(36) indicate, the role of Person (its presence versus absence, with the attendant semantic consequences identified in section 1) correlates precisely with the presence versus absence of movement, yielding optionality. This suggests that Person's role as a movement trigger is in fact to be found precisely in cases of optional, 'discourse-driven' movement of the illustrated kind. By contrast, obligatory EPP of the English, spec-T kind is precisely the case where *all* arguments are attracted to T, regardless of featural specification – i.e. both [+Person] DPs and [-Person] NPs alike. Since the latter (NPs) are Number-only on present assumptions (section 1), Number must in fact be involved in obligatory EPP no less than Person.

We can therefore model the difference between optional and obligatory EPP in a maximally simple manner, making use of the generalized EPP-features (movement triggers) that are associated with probes in the Probe-Goal-Agree system of Chomsky 2000, 2001. The difference results from exactly which probe-features the EPP-feature is associated with. Optional EPP effects (e.g. Object Shift) result from the association of a probe's EPP-feature with just the Person feature of the probe. Obligatory EPP, on the other hand, is the association of a probe's EPP-feature with the entire probe (Person+Number).

- (37) a. Obligatory EPP = [uPerson, uNumber]_{EPP}
 b. Optional EPP = [uPerson]_{EPP}

The EPP is thus centrally linked, but only partially reducible to, Person-valuation (since obligatory EPP involves Number-valuation too).

It now follows from (37), without any further ado, that English T (= (37a)) attracts all nominals with which T agrees into T's specifier (including expletives; cf. (20)), whereas, for example, Icelandic T (= (37b)) attracts to spec-T only those nominals with which T's Person feature agrees, i.e. those with a Person specification – animate, definite, [+Person] DPs. Where a probe/head is of the (37b) type, then, definites and animates ([+Person] DPs) shift, whereas indefinites and inanimates ([-Person] NPs) remain in situ.

The simple, binary approach to hierarchy-based case/agreement phenomena proposed in the earlier sections thus extends simply and naturally to hierarchy-based displacement and information-structural phenomena too, a notable advantage if Carnie's (2005) critical observations are correct.

5. Conclusions

This paper has proposed a simple, binary approach to phenomena that distinguish among arguments according to a Silverstein prominence hierarchy (differential case-marking, differential displacement, agreement restrictions on certain argument types). The syntactic basis of these phenomena has been argued to be a single syntactic feature: Person. This feature is specified only on animate and/or definite arguments (since inanimates and indefinites are always inherently third-person), as part of the D head. Inanimates and indefinites are thus NPs, not DPs. The essential properties of the various hierarchy-based phenomena can be reduced to this single, binary syntactic source: the presence vs. absence of a Person specification (i.e. DP vs. NP). Where Person is absent, only defective Agree is possible, and this, in turn, yields 'unexpected' (alternative) Case forms and/or syntactic immobility, correlating with 'unexpected' interpretive restrictions: PCC, animacy and definiteness restrictions. These latter restrictions all reduce to violations of the Case Filter: [+Person] goals cannot be valued by personless, defective probes.

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