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NOTES AND DISCUSSION

Not all phi-features are created equal: A reply to Hartmann & Heycock 2018

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In Béjar & Kahnemuyipour (2017) (hereafter B&K), we develop an analysis of agreement in binominal copular clauses [NP1 BE NP2] for two languages which show variation with respect to which NP controls agreement. Our analysis relies on phi-sensitivity in a probe–goal Agree system with articulated probe structures. In this system, NP2 agreement arises whenever the probe with an articulated phi-structure cannot find a match in NP1, leading to agreement with a matching NP2. Crucially, B&K show that contrary to what had been previously suggested, NP2 agreement is not limited to specificational (i.e. inverted) contexts. In a language like Eastern Armenian, agreement with NP2 can arise even in an equative (i.e non-inverted) context, if NP1 is third person and NP2 is first or second person. This pattern can be captured if we take the probe phi-structure to include the feature [participant], in which case a third person NP1 will fail to match the probe. This account is shown schematically in (1), where [n] is the minimal feature every nominal has and [*d*] stands for a deictic feature that all referential noun phrases have.

(1) *Equative context in Eastern Armenian*

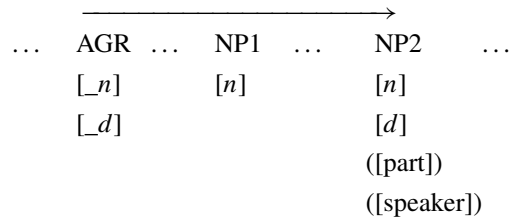
		$\longrightarrow$				
…	AGR	…	NP1(3)…	NP2(1/2)	…	(NP2 agreement)
	[_n]		[n]	[n]		
	[_*d*]		[*d*]	[*d*]		
	[_part]			[part]		
				([spkr])		

Unlike Eastern Armenian, NP2 agreement in Persian conforms to a more familiar pattern and is available only in specificational clauses. B&K extend the

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phi-sensitivity analysis to this pattern by suggesting that the phi-probe in Persian lacks the [part] feature but has [*d*]. As a result, a referential NP1 as in (1) will control agreement even if it is 3rd person, but the subject of a specificational clause, an intensional NP (Romero 2005, Heycock 2012), will not. This is because we take the intensional NP subject to be a defective noun phrase lacking the feature [*d*]. Our account of NP2 agreement in Persian specificational clauses is shown schematically in (2).

(2) *Specificational context in Persian*



(B&K: ex. (58))

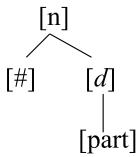
In B&K, we attributed the impoverished feature structure of intensional subjects to their being concealed questions, following Romero (2005) and Heycock (2012). Going one step further, we took the concealed question to be syntactically instantiated as a concealed (reduced) CP modifying a null nominal head (see also den Dikken (2006). Hartmann & Heycock (2018; hereafter H&H) take issue with this association of the absence of NP1 agreement in specificational clauses with the impoverished feature structure of intensional subjects. H&H note that if specificational subjects are inaccessible for agreement due to their syntactic structure as claimed by B&K, it should follow that we should never find true agreement with them. They broaden the empirical domain under discussion to include languages like English and Icelandic which, as is well known, clearly (can) show number agreement with specificational subjects. Furthermore, they show that Icelandic exhibits intriguing speaker variation with respect to agreement in specificational clauses, an important contribution revealed by their carefully designed studies.

We focus here on the key point of H&H's critique of B&K, namely the possibility of agreement with a specificational NP1. This pattern was outside the scope of B&K's analysis, which focused on NP2 agreement languages. In NP2 agreement languages, the specificational NP1 is always transparent for agreement, and as such the possibility of number agreement with it never arises. However, we argue below that with further elaboration of the relevant feature structures, in particular, attending to the distribution of number [#] features relative to [n] and [*d*], the availability of NP1 agreement tracking number can be accounted for without compromising B&K's analysis of NP2 agreement, which had the advantage of capturing the clearly person-sensitive agreement pattern in Eastern Armenian.

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For present purposes we take for granted that the fundamental difference between NP1 and NP2 agreement in specificational structures reduces to whether the probe seeks [n] or [*d*] as outlined above. To begin, we address the question of how phi-feature valuation happens as a reflex of [n] or [*d*] agreement in general. We assume that phi-features can be valued parasitically on [n]–[*d*] probes because they belong to the same feature structures. For example, in (2) when the [n]–[*d*] probe finds a match on NP2 it is also valued for [part] which is dependent on [*d*]. In fact, although it is not apparent in (2), both person and number are valued in such contexts (see B&K: exx. (10d–f)). In the diagrams in (1) and (2) above, taken from B&K, [#] was not shown as part of the feature structure as we were concerned with the features that affect matching outcomes and not valuation which is simply parasitic. However, for clarity we can add number to our feature structure as in (3) (see also Harley & Ritter 2002) in which it is clear that [#] will be parasitic on [n]–[*d*] probes in the same way that [part] is.

(3)

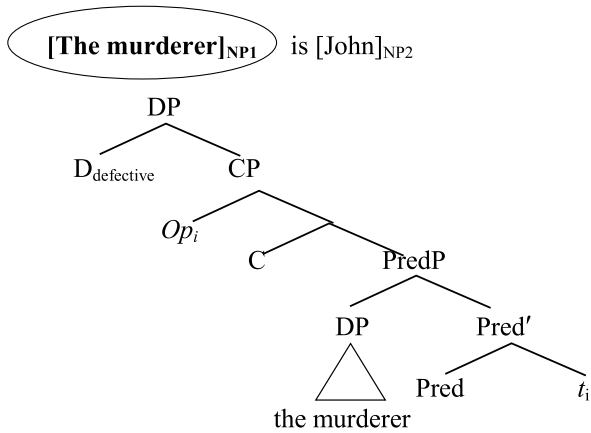


B&K deal with the existence of languages that show agreement with specificational subjects only in passing, suggesting that these can be captured by a simple [n] probe, which would be matched by the [n] feature of the specificational subject.[1] We emphasize here that, given (3), an [n] probe is sufficient to enable parasitic [#] valuation. This in itself would capture the availability of number agreement with specificational subjects, the challenge presented by H&H, if specificational subjects were simply extended projections of NP with the relevant phi-structure. However, we are left with the question of how the concealed CP structure in (4) adopted by B&K fares with this state of affairs. We turn to this next.

[1] As discussed briefly in B&K, two possible scenarios can be considered for a consistently NP1 agreement language such as English. The first possibility is that the probe in this language is different in the first place, lacking [*d*]. Alternatively, the inclusion of [*d*] in the probe structure can be taken as a universal property, with consistent NP1 agreement arising because NP2 is outside the domain of the probe (possibly for reasons related to being accusative in English), leading to a reduction of the probe from [*d*] to [n]. (For a discussion of probe reduction see B&K.) Either way, at the time of agreement, the only probing feature is [n].

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(4) *Structure for NP1 in specificational clauses* (B&K: ex. (57))



B&K make three assertions about the DP that contains the concealed CP: (i) that the D itself is defective insofar as it cannot host [*d*] features; (ii) that the defectivity of D correlates with the reduced CP structure that in turn contains the overt nominal itself; (iii) that the phi-features of the overt nominal are inaccessible because they are contained in the reduced CP. The assertion in (i) fits very well with the picture presented above. The defectivity of D means that the [*d*] feature cannot be valued contextually/deictically. For our purposes that translates into the absence of [*d*] and the presence of [n] as the sole matching feature. Assertion (ii) may merit closer attention, but for present purposes we will focus on (iii), which is the crux of H&H's challenge. What is needed is a system where number features but not person features can present themselves on the defective D. Let us see how we can reconcile this with the structure in (4).

To begin, note that as a nominalized CP, the extended functional sequence of the specificational subject in B&K is that of a DP, albeit a defective one. Crucially, the defectivity noted above is with respect to the [*d*] feature and its dependents, but not [n]–[#], which we assume to be on the defective D itself (or on some other appropriate functional projection between D and CP). This implies that such nominalized CP structures can in principle be plural, a fact that H&H note and illustrate with Dutch free relatives.

Having established that the defective DP can be specified for number, H&H's challenge reduces to the question of how the [#] features of the DP relate to the [#] features of the overt nominal contained inside the concealed CP, an issue that was overlooked in B&K. Clearly they cannot be independent of one another in (4) or we would incorrectly predict that they could mismatch. We suggest here that the relation is mediated by the operator introduced by the reduced CP. Note that the gap position with which this operator is construed in B&K is the copular complement, as in (4). This position is known to be a target of number concord with the copular subject (Bejar et al., forthcoming), as is evident from examples like (5), (6):

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(5) (a) [$_{NP1}$ **Mary**] is [$_{NP2}$ **a violinist** in two orchestras]

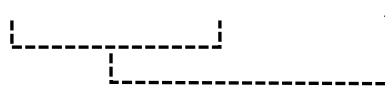
(b) *[$_{NP1}$ **Mary**] is [$_{NP2}$ **violinists** in two orchestras]

(6) (a) [$_{NP1}$ **Mary and Jane**] are [$_{NP2}$ **violinists** in two orchestras]

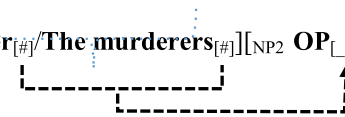
(b) *[$_{NP1}$ **Mary and Jane**] are [$_{NP2}$ **a violinist** in two orchestras]

In (5) and (6), the number of NP1 is obligatorily transmitted to NP2, a feature valuation process that Bejar et al. (forthcoming) argue to hold in the base positions of NP1 and NP2.[2] Following standard assumptions, they take the base position to involve a small clause introduced below the copula as in (7), where NP1 is the small clause subject and NP2 is the small clause complement. Similarly, a small clause structure is presumed to introduce the subject and operator inside the embedded CP in (4). We take for granted here that same number matching process applies between the subject and the operator, which likewise undergoes [#] valuation as in (8).

(7) … T … BE [$_{SC}$ [$_{NP1}$ **Mary**$_{[\#]}$/**Mary and Jane**$_{[\#]}$][$_{NP2}$ **violinist**$_{[_\#]}$]] …



(8) … D… [$_{SC}$ [$_{NP1}$**The murderer**$_{[\#]}$/**The murderers**$_{[\#]}$][$_{NP2}$ **OP**$_{[_\#]}$]] …



The number value transmitted to the operator will become accessible to the D domain when the operator fronts to CP as in (9).

(9) [$_{DP}$ D$_{[\#]}$ [$_{CP}$ OP$_{[\#]}$ [$_{C'}$ C […[the murderers]$_{[\#]}$ … t$_{[\#]}$ …]]]]



Recall that the D domain also has a [#] feature (as discussed above).[3] A matching mechanism that ensures D$_{[\#]}$ and OP$_{[\#]}$ share the same value must be supposed to hold but this seems entirely natural given the more generally attested phenomenon of matching effects in relative clause structures and especially free relatives, which these plausibly are (see the large literature on case matching, category matching, etc, much studied since Groos & van Riemsdijk 1981). Moreover, if the syntax of such structures is reminiscent of free relatives then some analyses would posit that the operator is in fact in the nominalized portion of the structure,

[2] Note that feature transmission of this sort cannot involve [*d*] or person features, a point we return to below.

[3] Here again, for convenience, we situate the [#] feature in the nominalized portion of the structure on D (but it is possible that another head between D and CP would be more appropriate).

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rather than in the CP, in which case the matching requirement can be conceived of as a consequence of both [#] features specifying the same nominal domain.[4]

Note that this story does not predict generalized transmission of phi-features from the small clause subject in the concealed CP to the higher D domain. This is because feature transmission from the small clause subject to its complement is itself restricted to a subset of features, specifically number (and possibly some kinds of gender). Person, for example, is never transmitted in this way (Baker 2008), as is familiar from English, where the copular complement never covaries with the person of the subject (10). Likewise, [*d*] features cannot be transmitted in this way, or we would incorrectly predict [*d*] matching, and hence a non-defective D on the specificational subject in examples like (4) above. Recall that the defective D is the basis for B&K's analysis of NP2 agreement in specificational clauses.

(10) {I am/she is/you are} the doctor.

To conclude, in this response to H&H, we have reiterated B&K's claim that the specificational subject, which lacks the feature [*d*], is transparent to the agreement process when the probe contains [*d*]. This is what leads to NP2 agreement, the focus of B&K. Meanwhile, when the probe is minimal, containing only an [n] feature, it finds a match in the specificational subject and [#] agreement follows. This is because the specificational subject's defective D lacks a [*d*] feature but it contains [#] features which can parasitically value an [n]. Also, given the assumption that specificational subjects involve a concealed CP structure, we have elaborated on how the [#] features of the defective DP relate to the [#] features of the overt nominal contained inside the concealed CP. We have thus shown how number agreement with specificational subjects in languages such as English and Icelandic, the challenge raised by H&H, can be captured in the system developed in B&K. This system has the added advantage of capturing agreement facts in a language such as Eastern Armenian, where person-sensitive NP2 agreement extends beyond the more established specificational context, and is found in equatives as well. In the absence of an independently motivated inversion operation in this context, a system along the lines supported by H&H which relies solely on the structural height of the agreeing NP would seem to face serious problems in trying to account for the Eastern Armenian facts. We contend

[4] Citko 2002 argues for a head analysis of free relatives, as in (i), for various reasons, including the fact that the operator does not exhibit the same reconstruction effects observed with other kinds of RCs.

(i) $[_{DP}D{+}OP_{[\#]}\ [_{CP}\ C\ [\ldots[\text{the murderers}]_{[\#]}\ldots t_{[\#]}\ldots]]]$

Under the head analysis, the operator would be in the nominalized portion of the structure and not in the embedded CP, as in (i).

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that the system developed in B&K and elaborated on here can capture the cross-linguistic variation in agreement in copular clauses in a more unified and plausible manner.

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