Since Szabolcsi 1981, 1983 and Abney 1987, it has been widely accepted that (a) agreement of nominal elements with possessors (or thematic subjects) in the domain of the nominal phrase is structurally parallel to agreement of verbal elements with subjects in the domain of the clause, involving a set of agreement features often notated as \("Agr\)" and (b) the nominal phrase is headed by a determiner element just as the clause is headed by a tense element.\(^1\) On Abney's version of this account, D includes Agr, which assigns genitive case to the possessor in Spec(DP) (see Abney 1987:81-85).

In the framework of Chomsky 2000, 2001 (below, the "Agree framework"), which assumes a general distinction between theta-positions and case positions, this analysis assumes the following form. D has uninterpretable agreement features ("\(\phi\)-features"). When it is merged, it probes its c-command domain for an agreement controller. On finding one, its \(\phi\)-features are valued by those of the controller and the controller is assigned structural genitive case; as part of the same operation, the controller moves to Spec(DP) to satisfy D's EPP feature.

Either of the two analyses of agreement in the DP just surveyed generates the prediction that the agreement features of the possessor/subject should show up on D. The Agree framework, since it takes agreement, case assignment, and movement to be three aspects of a single unitary operation, predicts more generally that any phrase moved to satisfy an EPP feature will occupy the specifier position of the same head that hosts the \(\phi\)-features of that phrase. Within the nominal phrase, however, this prediction is not borne out cross-linguistically. While it is common for the \(\phi\)-features of the possessor to be realized on N, it is not clear that they are ever realized on D instead; this contrasts with the situation in the clause, where the \(\phi\)-features of the subject are quite typically realized on T to the exclusion of V.

In this paper, assuming the Agree framework and using data from Hungarian, I will argue that the agreement features of the possessor or thematic subject are merged as part of the same functional head Num that hosts the possessed noun's plurality feature. Given that the possessor or subject, when it moves from its thematic position, raises quite generally to the specifier position of a determiner element, this conclusion will entail that agreement and case-marking, taken in the Agree framework and elsewhere to be two aspects of a single operation, are in fact sharply dissociated from each other within the nominal phrase.

1. Case and Agreement in the Hungarian DP

The realization of the possessor's \(\phi\)-features on N to the exclusion of determiner elements is illustrated for Hungarian by the examples of (1).\(^2\)

\[(1)\]
\[\begin{align*}
\text{a. } & \text{az } \text{én } \text{ezen kalap-ja-i-m } & \text{"these hats of mine"} \\
& \text{the I this hat-Pl-1sg} \\
\text{b. } & \text{a } \text{te } \text{ezen kalap-ja-i-d } & \text{"these hats of yours"} \\
& \text{the you this hat-Pl-2sg} \\
\text{c. } & (a) \text{Mari ezen kalap-ja-i-\(\phi\) } & \text{"these hats of Mary's"} \\
& \text{the Mary this hat-Pl-3sg}
\end{align*}\]

In (1), the word-final suffix of N shows agreement with the possessor, but both the article (= D) \(a(z)\) and the demonstrative (= Det) ezen are invariable.

Both Abney (1987) and Szabolcsi (1994) propose mechanisms that will bring about the association of N with agreement features in Hungarian. Abney (1987:274) suggests that Agr (which he identifies with concrete suffixal material) occupies D at s-structure, casemarking the possessor from that position, and lowers to N before PF—that is, as the result of a morphophonological operation.\(^3\)
In the absence of a general account of which “clumpings” or associations of features result from syntactic operations and which result from morphophonological ones, however, appeal to PF is ad hoc. Here, I will assume that in the absence of compelling counterevidence, all associations of features with syntactic nodes are to be accounted for in the syntax.

The assumptions of the Agree framework have further consequences for the way in which the association between the possessor’s φ-features and N must be effected. In that framework, agreement features, like uninterpretable features generally, enter the computation unvalued and are valued under Agree by an agreement controller in their c-command domain, as we noted above. The agreement features of the possessor must therefore originate on a functional head F that c-commands the possessor. Further, since N will not have copies of the possessor’s φ-features as a lexical property (not all nouns have possessors, and even if N did have such copies, they could only be unvalued), it will have to raise overtly to F so that those features will be available to the morphophonological component after spellout. Accounting for the association between N and the possessor’s φ-features by covert raising of N to (say) D is thus no more an option than accounting for it by lowering (syntactic or phonological) of D to N: the association in question must be effected by overt raising. Szabolcsi (1994) provides us with a first approximation to what such an account would look like for Hungarian examples like those of (1).

In fact, Szabolcsi (1994) puts forth two accounts of agreement and casemarking in such examples. She initially (1994:191-193) proposes an analysis in which N raises overtly to Agr and the possessor raises to Spec(DetP) from a thematic position below Det. Ultimately, however, claiming that the rigid wide scope of the possessor with respect to the determiner in examples like few men’s every step argues against such a raising analysis for the possessor, she opts (1994:194-198) for an account in which N has agreement features from the beginning and the possessor is introduced above the determiner in Spec(NP) and casemarked in situ by the inflected N. Here, noting that scope rigidity is also characteristic of raising examples like Few boys seem to every girl to be intelligent, I will not take the absence of scopal ambiguity in few men’s every step to be decisive evidence against Szabolcsi’s first analysis. (2) below, based on Szabolcsi’s (1994:192) (24), shows the structure of az én ezen kalapjaim “these hats of mine” and represents the essential aspects of that analysis.4

(2)         DP
            D           AgrP
              az
            DP          Agr’
              én
            Agr          DetP
              -m
            Det          NumP
              ezen
            Num          PossP
              -i-
            Poss          NP
              -ja-
          kalap-

The noun stem kalap- left-adjoins successively to -ja- (which indicates that the noun stem has a possessor), -i- (the plural suffix of possessed nouns), and -m (the first person singular agreement suffix) to produce the inflected form kalapjaim. The recognition of an Agr head means that Abney’s PF operation lowering Agr from D (here, Det) to N will be obviated.
There are two problems that are immediately apparent with (2), however. The first is that the wrong word order will be produced: if kalap-ja-i- adjoins to -m, N will end up preceding Det, contrary to fact. Szabolcsi's analysis deals with this problem by taking PossP, NumP, and AgrP, but not DetP, to be head-final, so that the three suffixes the noun stem must pick up are positioned on the right-hand side of the tree and the highest of them, Agr, follows its complement DetP. The second problem, related to the first, is that movement of kalap-ja-i- from Num to Agr violates the head-movement constraint. This is a problem that remains even if PossP, NumP, and AgrP are taken to be head-final; Szabolcsi (1994:270(fn.6)) notes it, but concludes that there is "no way to overcome [it]."

Szabolcsi's reason for taking the head-movement constraint violation to be unavoidable in the derivation of kalapjaim is that "the surface positions of the nominative possessor and the determiner firmly establish the hierarchy of DetP and AgrP" (1994:270(fn.6)). The background assumption here is that "The raising of DP into the specifier of AgrP position is forced by the fact that nominative case is assigned by the agreement portion of inflection." (Szabolcsi 1994:192) Agr assigns case, in other words, to its specifier. As a result, the position of the casemarked DP relative to Det is diagnostic of the position of Agr with respect to Det as well.

The conception of casemarking and agreement expressed here reflects contemporary assumptions, under which "both agreement and structural Case [are] manifestations of the Spec-head relation (NP,Agr)." (Chomsky 1995:174). Under this conception, the three phenomena of case, agreement, and movement to specifier position are linked by definition. The same is essentially true in the Agree framework (Chomsky 2001, 2001), as indicated above: "the composite operation Move" (Chomsky 2000:122) involves agreement (valuation/erasure of the probe’s φ -features), casemarking (valuation/deletion of the goal’s case feature), and movement (erasure of the probe’s EPP feature).

The Agree framework, however, countenances one crucial case of dissociation of the three phenomena in question from one another. In accordance with an assumed preference of the computational system for (pure) Merge over Move (Chomsky 2000:104), an expletive may be merge to satisfy T’s EPP feature, with Agree (agreement and casemarking) taking place between T and the expletive’s associate. The possibility of dissociation of one of the three phenomena in question from the other two opens the way toward a solution of the problems associated with structure (2) above.

We want to revise (2) so that the Agr head, realized as -m, is below the Det head, realized as ezen. At the same time, we want the possessor én to occupy the specifier position not of Agr, but of Det, so that én will precede ezen. (3) below reflects these two revisions.
Let us examine the assumptions that we must make about agreement, casemarking, and the EPP in order to account for the observed distribution of features in (3).

First, the fact that the possessor must occupy Spec(DetP) means that it will have to be Det rather than Agr that has an EPP feature. This might suggest the same dissociation between the EPP feature and case/agreement that we saw above to be characteristic of expletive constructions. But while it would be unproblematic for the possessor to value the φ-features of Agr without moving from its theta-position Spec(PossP), if it is casemarked in that position, it will cease to be active (Chomsky 2001:6) and will thus be unable to move later to satisfy Det’s EPP feature. As a result, the structure (3) forces us to conclude that the possessor must value the φ-features of Agr without being casemarked as a result.

The ability of a DP to enter successively into multiple Agree relations, being casemarked only as a result of the last of them, has been established by Carstens (2001:150-152) in a discussion of Bantu compound tense formations. This phenomenon entails, as Carstens notes, that casemarking, rather than being an automatic concomitant of agreement (Chomsky 2000:123-124, 2001:6), must be the result of a casemarking feature. In the situation under examination here, this will be a feature that Det has but Agr does not.

The derivation of (3) in the Agree framework, then, will proceed in the following way after the merger of én in Spec(PossP) and the merger of the [Plural] Num head, the latter accompanied by head movement of N(P) to Num. Agr, consisting of unvalued φ-features (Person, Number, Gender), is merged with NumP (triggering another instance of head movement) and probes for an agreement trigger. Since partial agreement is impossible, Agr requires a goal valued for all three features, and the only candidate is the possessor in Spec(PossP). The φ-set of Agr and that of the possessor match (Chomsky 2001:5), and the latter is valued and (in principle) deleted. Det, including a case-assigning feature and an EPP feature, is then merged with AgrP and probes, I will assume, for a goal with an unvalued case feature. At this point, there is the potential of ambiguity, since both the possessor and the possessed N presumably include such a feature. I will assume that the object of casemarking must be an argument—that is, a full DP. The case-assigning feature of Det and the case feature of the possessor thus match; the latter is valued under Agree and both (in principle) delete. As part of the same operation, the possessor moves to Spec(DetP) to satisfy Det’s EPP feature.

It seems clear, then, that there is a derivation of the essential elements of the distribution of case and agreement features in Hungarian az én ezen kalapjaim “these hats of mine” that eschews lowering (and covert raising) and respects both the basic principles of the Agree framework—in particular, the activity condition—and (in contrast to the analysis of Szabolcsi (1994) embodied in (2)) the head-movement constraint. It is equally clear, however, that this analysis forces the dissociation of agreement and casemarking. We have assumed as well that it involves the recognition of an Agr head, contrary to the conclusions of Chomsky (1995:355). In the next section, while maintaining the dissociation of agreement and casemarking, I will argue that this second conclusion is unfounded, and that Agr should be reassociated with a head that has interpretable features—in particular, the head Num.

2. Numerals and Adjectives

Above, we have considered nominal phrases consisting of possessed nouns cooccurring with articles and determiners/demonstratives. Numerals (and quantifiers more generally) and adjectives are also universally available components of nominal phrases: in Hungarian (as in many other languages regardless of word order in the VP and PP), they occur in that order between articles or determiners and N. This is illustrated first with examples involving unpossessed nouns:
Cooccurrence of a possessor with a numeral and/or adjective is also unproblematic, as illustrated by the examples of (5) (in (5c), e is a Det (Szabolcsi 1994:271 (fn.12)), a variant of the ezen of (2) and (3)).

(5) a. (a) Péter piros kalap-ja-φ "Peter's red hat" (Laczkó 1995:43)
the Peter red hat-Ps-3sg
b. ez a három nagy kulcs-o-m "these three big keys of mine" (Abondolo 1998:450)
this the three big key-Ps-1sg
c. e három nagy kulcs-o-m "these three big keys of mine" (Abondolo 1998:451)
this three big key-Ps-1sg

Factoring numerals and adjectives into our picture of the nominal phrase necessitates substantial revision of the structure postulated in (3).

Consider first numerals. As (5b) and the examples of (4) illustrate, the expression of plurality on N is suppressed in the presence of a numeral, where numerals are taken to include a set of quantificational items such as néhány "some", minden "every", kevés "few", sok "many", számos "several", and hány "how many" (Kiss 2002:153, Szabolcsi 1994:194). It would seem natural to treat the complementary distribution of numerals and plural marking internal to a single syntactic projection, and Plural, of course, is a feature of Num. It is therefore typically proposed that numerals occupy Spec(NumP) (see e.g. Kiss 2002:152), although the precise mechanism by which the spillout of Plural (an interpretable feature) is suppressed remains an open question.

Since numerals precede the inflected noun, their placement in Spec(NumP) is inconsistent with having AgrP above NumP, as in (3). On the other hand, since agreement morphology appears outside the plural marker, placing AgrP below NumP appears not to be a viable option either. The indicated conclusion would seem to be that the agreement features do not constitute a separate head after all, but are part of the Num head, since this is the only way they can be neither above nor below the Num projection. On this account, the relative position in which the Number feature of the possessor (= possessee) and the Person and Number features of the possessor are spelled out in the inflected noun, rather than being dictated by the syntax, will be a matter for the morphophonological component.

Moving now to adjectives, it is clear that whether they are adjoined elements or specifiers of abstract functional heads (Cinque 1994:95ff.), the fact that they occur between numerals and inflected nouns will necessitate abandoning the conclusion that numerals and the noun's inflectional features stand in a specifier-head relationship. This will in turn require abandoning the project of accounting for the complementary relationship of numerals and overt plural marking within the NumP. I will take this to be an acceptable conclusion: absent an understanding of the mechanism involved, there is little evidence for just how local we must assume the phenomenon to be.

The picture that emerges from the considerations of this section is that of a nominal phrase in which the agreement features of the possessor not only occur below the Det head in whose specifier position the possessor resides, as is the case in (3) above, but are separated from that head by projections whose specifier positions host quantifiers (including numerals) and adjectives. With regard to the relation of Agr and Num, the recognition of distinct projections for numerals and the plurality feature means that we are no longer forced to the conclusion that the two must constitute a single head, as we seemed to be when we took numerals to occupy Spec(Num). For two reasons, however, I will retain the conclusion that Agr is part of Num. The first is that that
assumption allows us to maintain the position that syntactic heads must have interpretable features (Chomsky 1995:349). The second is that crosslinguistically, there is little uniformity in how the Number feature of the possessum and the Person and Number features of the possessor are spelled out. Let us examine this second point in a bit more detail.

In Hungarian, as we have seen, one suffix position in a possessed noun represents the number of the possessum; another, appearing further from the stem, represents the person and number of the possessor. In other languages, however, the number of affixes may be different, the ordering of affixes may be different, and a single feature may be relevant to the form of more than one affix—the phenomenon, ubiquitous in inflection, of "extended exponence" (Matthews 1974:149). Even setting the last problem aside, it is clear that attempting to write the order and feature consistency of individual morphemes into the syntax for each language would result in introducing unsystematic language-specific elements into a syntactic computation that is in principle universal.

I will thus take the $\phi$-features of the possessor to belong to Num. Assuming for concreteness a "Quantity Phrase" $QuP$ whose specifier position hosts numerals and other quantifiers and a "Size Phrase" $SizeP$ whose specifier position hosts size adjectives, the structure of an example like *az én ezen három nagy kalap-ő-m* "these three big hats of mine" will then be as in (6).

In order to account for the fact that agreement features occur in Num just when there is a possessor or thematic subject, we must assume a selectional relationship between Num[Agr] and PossP or $nP$ (where Spec($nP$) is the theta-position of thematic subjects) and between plain Num and NP.

3. Conclusion

While the dissociation of casemarking and agreement in the clause has been contemplated in the recent literature (see Chomsky 1995:213 (fn.11) and references cited there), the Agree framework, as indicated above, takes the two phenomena to be indivisible aspects of a single operation. I have
argued here that this view cannot be maintained for casemarking and agreement in the nominal phrase—for Hungarian, and plausibly in general. Specifically, I have suggested that while the possessor or thematic subject triggers agreement low in the structure, it is casemarked (and in some languages moved) only after the introduction of a determiner head later in the derivation.

I have also argued that the possessor’s agreement features, rather than constituting a syntactic head in themselves, are part of the Num head that also contains the Number feature of the possessum. Against this proposal it might be objected that Num will consequently have to have two Number values, one for the possessor and one for the possessum, and that keeping them separate will require otherwise unmotivated machinery. In fact, however, there are examples of a single DP–internal element, evidently corresponding to a single syntactic head, showing agreement with both the possessor and the possessum, strongly suggesting that this problem cannot be avoided in any case. In particular, adjectives in Tundra Nenets (Samoyedic) may agree in Person and Number with the possessor as well as in Number and (optionally) Case with the possessum (Nikolaeva 2003:7; cf. Salminen 1998:544; for a parallel phenomenon in Hungarian, see Szabolcsi 1994:184). In conclusion, then, the proposal that Num contains the agreement features of the possessor may indicate a potentially fruitful direction for further research on the mechanisms of agreement in the DP.

Notes

1 See Abney 1987:77 for references to other predecessors of the view that the nominal phrase involves a head that is to be identified with agreement features and/or with determiners.

2 The morpheme glossed “Ps”, for “possession”, marks the noun as possessed. (1) consists of examples from (17), Szabolcsi 1994:186–187, supplemented with the Det ezen on the model of (24), Szabolcsi 1994:192 (for an example with all four elements, see (67), Szabolcsi 1994:210). Pronominal possessors are subject to pro-drop and must in fact be omitted unless focused (Szabolcsi 1994:187–188, Kenesei et al. 1998:215); they are included here to maximize the number of overt elements. In addition to the two types of determiners exemplified in (1), Hungarian has demonstratives ez/az “this/that” that appear before the article and agree with N in number and case; for the most part, we will not be concerned with them here (for discussions of the phrase-structural position of these demonstratives, see Szabolcsi 1994:272 (fn. 12) and Kiss 2002:163–164).

3 On the other hand, in the discussion of a Yup’ik example with null D, he suggests that N raises to D to pick up the agreement features of the possessor—again, “possibly at PF” (1987:40).

4 (2) differs from Szabolcsi’s (24) in being consistently right-branching, in including D, and in dispensing with specifier positions unmotivated in a Bare Phrase Structure (Chomsky 1995:241–249) account.

5 Equivalently, on the assumption that Person is a feature of D (we/you/those linguists), we could require the object of casemarking to be specified for Person as well as for Number and Gender.

6 While we have seen no examples, the suffixes for plural possessors are unrelated to those for singular possessors, meaning that each suffix does in fact express both features.

7 As exemplification, consider the following two forms (Pers = [+Person], Inan = [−Animate]):

(i) diş-ler-im-iz  “our teeth” (Turkish)
    tooth-Pl-1-Pers.Pl

(ii) n-ipit-ano-l “our (excl.) teeth” (Maliseet-Passamaquoddy)
     1-tooth-1Pl-Inan.Pl

Both forms display three affixes against the two of Hungarian for the case where both possessum and possessor are plural. One affix ("1") reflects the number of the possessum, a second ("2") the person of the possessor, and a third ("3") both the number and the person of the possessor. Finally, morpheme order is [stem-1–2–3] in Turkish, but [2–stem-3–1] in Maliseet-Passamaquoddy.
The example in question can be constructed from (1a) by intercalating between Det and N the numeral and adjective of (5b)/(5c) and adjusting the form of N or by preposing the article and possessor of (1a) to (5c) and adjusting the Det and noun stem (the factors conditioning the variation among e, eme, and ezen are not discussed by Szabolcsi (1994) or Kiss (2002)).

References