On feature sharing and feature transfer

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Feature sharing is a pervasive property of natural languages which has long been considered quite puzzling. Being the source of redundancy, it is potentially a major problem in the minimalist program which aims to reduce language to a conceptually necessary system (cf. Chomsky 2005). For this reason it has been the focus of so much literature in the last decade that it is impossible to mention even the most influential pieces of work. In this paper, I claim that feature sharing is a non-homogeneous phenomenon and should be analyzed as the result of three different processes Agreement, Concord, and Projection.

In current literature, feature transfer is reduced to checking and deleting uninterpretable features (Chomsky 1995). I adopt the mainstream hypothesis that Agreement arises from merger of a formal uninterpretable feature (a probe) and is checked against a constituent (the goal), in a lower specifier, which contains the interpretable counterpart of those features. This triggers movement (copy and re-merge) of the relevant features to obtain a Spec-Head configuration with the probe, resulting in either covert movement (only the feature moves) or overt movement (the moved feature pied-pipes the whole constituent which contains it). I claim that quite differently from Agreement, Concord arises from the first-merger of a modifier underspecified for uninterpretable features. In other words, Concord is directly enhanced by the Spec-Head configuration, it does not

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involve merger of a probe targeting a goal, and never triggers overt or covert movement. Finally, Projection is triggered by iterated internal merge of features that build a fully fledged constituent, an “extended projection” in the sense of Grimshaw (1991), as I already suggested in Giusti (2002).

This proposal motivates a well-known tripartition traditionally noticed for the clause in the late principles-and-parameters framework and best stated by Rizzi (1997), and its parallel in the nominal expression also well-known and stated a.o. by Cornilescu (1995). It also derives another often noticed and never motivated fact, namely that nominal expressions behave in a defective, more reduced fashion if compared to clauses. Together with these general results, it preserves the Agree relation which involves a probe and a goal only in the cases in which this is independently needed while it dispenses with such operations in the case of adjectival modification, where this is not motivated at all. Finally, it derives a number of differences between Agreement and Concord, among which the fact that subjects are unique, while modifiers are iterated.

The paper is structured as follows. Section one motivates the parallel between nominal expressions and clauses suggesting that the operation Merge is driven by three kinds of relation: selection, projection, and modification. The interaction of these three relations derives the tripartite form of these two syntactic constituents into an internal lexical layer, an intermediate functional layer and an external complementation layer. Section 2 takes the process of Agreement into the picture and argues that this is the only kind of process that involves a probe and a goal which moves to the Spec of the goal. Section 3 introduces a different kind of feature sharing which I name Concord and its interaction with the process of Projection. Concord is the result of modification which takes place in a straightforward Spec-head configuration and does not involve any movement.

Before proceeding to the discussion, let me first introduce a terminological distinction. Nominal structure is “almost” as complex as clausal structure and the labels NP, noun phrase, or DP are no longer suitable to refer to the whole nominal constituent, because these labels also refer to portions of structure, in turn assumed to consist in projections split in different fashions according to different theories. Competing analyses often differ on exactly one label or on the number of these split projections in one area or another. A term parallel to “clause” is therefore needed for us to formulate empirical generalizations without taking stand for a particular analysis. The fully spelled “noun phrase” is too reminiscent of the most internal projection for it to be apt to refer to the whole structure, while the label DP may refer to the highest constituent or to the whole highest layer, or even to a part of it, and would again lead to ambiguity. For these reasons, following a suggestion by Mila Dimitrova-Vulchanova (p.c.), I propose to use
“nominal expression” (or NE) to refer to the whole nominal constituent when we want to remain agnostic as regards the very nature of the topmost projection.

1. On motivating the parallels in clausal and nominal structure

In the generative tradition, the study of the nominal expression has always received an attention constantly mirroring the research done on the structure of the sentence. The nominal expression has been expanded to contain an indefinite number of functional heads, with their specifiers and adjuncts, obtaining a vast structure including “split projections” parallel to clausal ones: an NP-shell (or nP) parallel to the VP-shell (or vP), an intermediate functional area formed with an indefinite number of projections related to adjectival modification parallel to adverbial modification in the clause, and a split DP representing different interpretive features parallel to the split CP.

(1) a. [CP (Complementation layer) [IP (Inflectional layer) [VP (lexical layer)]]]
   b. [DP (Complementation layer) [AgrP (Inflectional layer) [NP (lexical layer)]]]

In the structures in (1), the internal layer establishes the selectional requirements of the lexical head (including theta relations) with its arguments, the highest of which is singled out to satisfy the an EPP feature (obligatory in the clause and optional in the NE) merged at the left edge of the intermediate layer. This layer is also available to merger of modifiers (adverbs or adjectives). The external layer hosts clausal complementizers and nominal determiners, it provides the landing site of operators that contribute to the interpretation of the whole constituent, the escape hatch position for extraction and optionally one or more position for movements producing marked orders. Despite these crucial parallels, NEs are known to display a “defective” behavior if compared to clauses summarized in (2):

(2) a. reduced capacity of expansion in each of the three layers,
   b. optionality of arguments (and in particular of the external argument),
   c. only one structural case, often none, very rarely two.
   d. highly restricted occurrence of pronominal clitics,
   e. lack of interrogative features
In a minimalist approach to language, both the necessity of a tripartition in the structure of nominal and clausal expressions and its imperfect realization in the former can either be viewed as an accident due to the biological nature of UG, or as a necessity due to its logical properties and interpretive features. The latter possibility is the null hypothesis. I suggest that the tripartition is due to three independently needed relations that govern merger in syntax: selection, modification, projection. Selection is the relation between a lexical head and its argument and is represented by the lower arrows. Modification is the relation between a fully fledged constituent and a lexical head and is represented by the superscripts. Projection is the relation between a lexical head and the formal features in its functional layers merged in functional heads and is represented by the upper arrow:

$$\text{projection}$$

(3)  
\[ \text{XP} \ X \ [\text{YP} \ LP^K_\text{Y} \ [\text{ZP} \ GP^K_\text{Z} \ [\text{KP} \ SP \ K \ [\text{WP} \ ..]\]]] \]

In (3), Selection merges a lexical head K which is specified in the lexicon for selectional feature) with a fully fledged constituent WP (or “perfect projection” in the sense of Grimshaw 1991) that can satisfy such selectional features. Projection merges the interpretable and uninterpretable features associated with the lexical item K in the lexicon into functional heads such as Z and Y (and as many as the structure building procedures requires). Modification merges a fully fledged constituent (e.g. LP, GP, or SP) with a projection of the head K. A modifier can directly merge with K’ (as is the case of SP) or to a projection of K (Y’, as is the case of GP, or Z’ as is the case of LP).

Each of the above operations involves feature transfer. Selection transfers selectional features (theta-roles, lexical case, etc.) from the lexical head K to the fully fledged constituent (its complement WP); projection copies (a bundle of) interpretable and uninterpretable feature of the head K to create a skeleton in which modifiers may be merged (if present) and these features are shared by all layers up to the external layer YP (namely, the constituent which satisfies the selectional requirement of the lexical head X). Modification transfers of the features of the lexical head onto the modifier.

Next section focuses on how mainstream literature captures the canonical case of feature transfer, namely the transfer of the person features of the subject onto the inflectional morphology of the predicate.
2. Agreement

Agreement in the clause is assumed to take place to satisfy an EPP feature of T (cf. Hornstein, Nunes and Grohman 2006, Pesetsky and Torrego 2001). In other words, to enhance predication in the clause an argument merged in the lexical layer must be promoted to the function of “subject”. The EPP feature is associated to the highest head in the intermediate layer (call it TP). Agreement is the result of a special kind of selection by this functional head T (the probe), which has an uninterpretable nominal feature (the EPP feature) to be deleted after targeting a fully fledged constituent with an interpretable counterpart. This feature matching results in (abstract) Case assignment onto the fully fledged constituent and may result in overt inflectional morphology for person features onto the verbal projection, according to specific inflectional properties of the probe. The movement that follows Agreement in some languages is also related to a specification of the probe and is independent of the Agreement process itself:

(4) a. TP
   Spec
   T’
   T°probe uφ
   vP
   Spec
   DPgoal iφ
   v°
   VP
   “Agree”

b. TP
   Spec
   T’
   T°probe uφ
   vP
   Spec
   (DP)iφ
   T° uφ
   DP
   “Move”

The EPP-feature on T is a defining property of the clause. I propose this is due to the interpretive properties of a clause, which can have a value only if the situation is true/false at a given TIME as predicated of a given SUBJECT. The interpretation of a clause must involves the intersection between the reference of the subject and the temporal reference of the situation. Nothing of the kind holds for NEs, whose reference
is obtained by insertion of a particular kind of specifier. If a NE is contained in a NE, the reference of the two expressions interact in a different fashion. For this reason I take Agreement in the NE to be of a different kind than the Agreement we find in clauses. Agreement in the NE is not related to Tense, and is not a constitutive part of NE.

(5) a. 
\[ \begin{array}{c}
\text{Spec} \\
\text{FP} \\
\text{F'} \\
\text{nP} \\
\end{array} \]

b. 
\[ \begin{array}{c}
\text{Spec} \\
\text{DP} \\
\text{F'} \\
\text{nP} \\
\end{array} \]

In (5) FP is the highest projection in the intermediate layer. This is clear in Hungarian (6) which also shows that person features transfer from the possessor onto the noun:

(6) a. az en kalapom  
the I-Nom. hat-1 pers. sing  

b. a te kalapod  
the you-Nom hat -2 pers. sing  

c. a Mari kalapja  
the Mari-Nom hat -3 pers. sing  

And it can also be claimed for Italian, as shown in the following examples which I take from Giusti 2008. In (7) we observe that while for full possessors the unmarked order is NSO but the order NOS is marginally possible, with a possessive adjective the unmarked order is SNO, and the possible marked order is NSO, but no NOS. Furthermore, if a possessive adjective co-occurs with a full NE, the possessive adjective must receive the external theta role (7b). Finally, only one possessive adjective is possible in a NE (7c):
(7) a. la vecchia fotografia sbiadita di Gina di Mario

   the old faded picture of Gina of Mario
   “Gina’s old faded picture of Mario/#Mario’s old faded picture of Gina”

b. la {sua} vecchia {*sua} fotografia sbiadita di Mario

   “her old faded picture of Mario”/ *”Mario’s old faded picture of her”

c. *la mia {tua} fotografia {tua} / la mia fotografia di te

   “my picture of you”

In (8) the intermediate layer FP is associated with AGREE which targets the FF features of NE (DP or pronoun) merged in the internal layer. (8) does not explain what these features are and why adjectival possessives are moved out of the lexical layer while full DPs (embedded into a PP) cannot:

![Diagram](attachment:image.png)

A plausible reason for movement of a possessive adjective to the specifier of FP could prima facie be its adjectival nature. If the possessive adjective is merged in NP (or nP), one may suppose that this position does not allow for adjectival Concord and the possessive adjective must move to a Specifier in which such concord takes place. This would however lead to unwelcome empirical and theoretical results. From the latter point of view, I want to keep Concord as a relation between a Spec and a head, without any further specification. This is a good result in the minimalist perspective and should not be dispensed with without strong reasons to the contrary. The empirical side is independent of this theory-internal reason.

First of all, let us observe that relational adjectives, which also receive a theta-role, never move and are always postnominal (9), while possessive adjectives, which can be postnominal in the marked order, are moved in the unmarked case (10):

(9) a. la vecchia opinione razzista italiana

   the outdated opinion racist Italian

b. *L’italiana vecchia opinione razzista

   the Italian outdated opinion racist
   “the outdated Italian racist opinion”
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(10)  
a. ?la vecchia opinione razzista tua
   the outdated opinion racist your
b. la tua vecchia opinione razzista
   the your old opinion racist
   “your outdated racist opinion”

If adjectival concord can be satisfied in the postnominal position for relational adjectives, it should be so for possessive adjectives, as probably is in (10a).

A second piece of evidence is the observation that the third person possessive loro, with no adjectival concord, has the same distribution as possessive adjectives (11a):

(11)  
a. la {loro} vecchia {*loro} fotografia sbiadita {?loro}
   the {their} old {*their} picture faded {?their}
   “their old faded picture”
b. la {loro} vecchia {*loro} opinione razzista {?loro}
   the {their} old {*their} opinion racist {?their}
   “their old racist opinion”

Final counterevidence is the fact that in special formal, bureaucratic, or playful registers mimicking Old Italian, personal pronouns appear in the high position even embedded in a diPP (12), while full DPs cannot (13):

(12)  
a. con una nuora autoritaria e le di lei tre figlie
   with a bossy daughter-in-law and the of her three daughters
   (http://www.pannostrale.it/scheda.php?compagnia=I+TEATRANTI (march 2007)
b. Applausi scroscianti in sala e sorriso stellare sulle labbra del protagonista, mentre il di lui cane - di nome Pinocchio - zampetta giocoso sul palco del Teatro dell’Arte, e la di lui figlia - Teresa - abbozza un accenno di pianto fra le braccia di mamma Francesca, e la di lui band - Saturnino in primis - osserva l’intera scena ...
   the of him dog ... the of him daughter ... the of him bad
   http://www.mybestlife.com/ita_anima/Jovanotti_Autobiografia_di_una_festa_sito.htm
   (march 2007)
c. Allora i de Cristofaro scaricano i di loro schioppi contro Ramaglia
   Then the de Cristofaro’s fire the of them rifles against Ramaglia
(13) a. *le di sua nuora tre figlie  
   the of his daughter-in-law three daughters  
b. *i dei de Cristofaro schioppi  
   the of the De Cristofaro rifles  
c. *il di Jovanotti cane / la di Jovanotti figlia /*la di Jovanotti band  
   the of Jovanotti dog/daughter/band

These facts support the proposal that what triggers raising of the possessive adjective in Italian is not its adjectival nature but its pronominal reference. In other words, the movement of possessive adjectives and pronouns is independent of the Concord which the former undoubtedly display, and is triggered by Agreement, parallel to what happens to subjects in the clause. More precisely Nominal Agreement targets the Person features of the possessor in order to put the NE in the Spec of the left edge of the external layer (DP), where the R-relation established in nP is interpreted al LF.

I propose that possessive adjectives and pronouns move because they uniquely consist in person features, targeted by AGREE. Person features in Italian are supposedly not strong enough to pied-pipe the whole NE, but if there is nothing to pied-pipe (as is the case of the personal pronoun loro and possessive adjectives) the unmarked choice is to realize the upper copy. Notice that the possessive pronouns embedded in a PP in (12) can, in particular registers, pied-pipe the PP. The structure in (8) must therefore be reformulated as in (14):

(14) [DP D [FP Personi [F=AGREE] …. [NP [DPgoal Personi [ ] ]] …. N]]

If it is a matter of strength, we expect variation across languages. Germanic languages obligatorily move both pronominal and DP possessors, but not PPs. Hebrew seems to leave open the possibility of moving both pronominal and DP possessors in construct state or merging both pronominal and DP possessors in a PP in free state. (cf. Ritter 1991, Siloni 1997 a.o.). Romance languages other than Italian only move pronominal possessives which are defective in nature (cf Cardinaletti 1998, Giusti 2002). An different case is found in Romanian genitive construction which present apparent similarities to Hebrew but with interesting differences, as discussed by Dobrovie-Sorin (2000). For space reasons we refer the reader to Giusti (2008) on how to accommodate Romanian in this proposal.
3. Projection and Concord

In this section I reformulate what is suggested in Giusti 2002. I follow Cinque’s (1994, 1999) seminal idea of a functional hierarchy of modifiers but I depart from Cinque’s proposal in two respects. I propose that the hierarchy of modifiers is not the result of projection. Functional heads in the inflectional layer are not labeled for these semantic features but are trivial copies of the φ-features of the head noun (i.e. number and gender or word class and case). The features are bundled together in the sense of Matushansky (2006). I follow Giorgi and Pianesi’s (1997) proposal that functional features are ordered hierarchically by the Universal Ordering Constraint, but the hierarchy is not violated if two or more features are bundled in one and the same head, as stated by the Feature Scattering Principle.

(15) a. Universal Ordering Constraint
Features are ordered so that given \( F_1 > F_2 \), the checking of \( F_1 \) precedes the checking of \( F_2 \).

b. Feature Scattering Principle
Each feature can head a projection.

This proposal is that it can dispense with empty (or inert) functional heads and specifiers. A head is projected only if needed and more features can be bundled in one and the same head provided they do not violate the hierarchy. Projection simply copies the bundle of nominal features in a bottom-up fashion to build the extended constituent.

(16) Economy in projection. Copies can be silent (and therefore must, due to economy) if the uninterpretable features of the Specifier are erased.

(17) \[
\begin{array}{c}
\text{NP} \\
\text{F} \\
\text{iφ} \\
\text{Nιφ}
\end{array}
\]

“projection”

The interpretable features in NEs identify the referent while the uninterpretable feature regards the selectional relation of an external head, namely the theta role assignment and consequent Case assignment to the NE, and can regard the AGREE head above.
(18)  a. Gender is specified on N in the lexicon, or derived in distributed morphology.
   b. Number is projected in the inflectional field.
   c. Person/Deixis/definiteness (a referential index) is interpreted at the left edge of
   the NE (possibly merged lower, in nP).
   d. Case is uninterpretable but allows for a the theta-role assigned externally to be
   interpreted on NE.
   e. An AGREE head with an EPP Person feature is merged if needed to establish a
   Modification relation with a NE with a different index.

The internal merge procedure may involve the lexical head bundled with all its
projection, or just part of the bundle, but always in compliance with the feature
scattering principle. For example the bundle of \{N, [Masch], [Sing], [3rdP], [nominative
Case]\} can be realized as a unique word in Romanian or Danish (19a) or can be split in
two heads in Italian and German (19b):

(19)  a. băiatul / gutten “the boy”
   b. il ragazzo / der Jung

If it is realized in two different words (19b), some of the features (in this case \{[Masch],
[Sing]\}) can appear twice. In Italian it is once bundled with N ragazzo and once
bundled with the article il. In German, the N Jung is intrinsically \{[Masch], [Sing]\} and
these features are overtly realized bundled with Case only on the article der. Notice that
in one and the same language the possibility of overt realization depends on the value of
a single feature of the bundle. For example, if Case is partitive, also Romanian and
Danish realize the features as split:

(20)  a. un băiat / en gutt “a boy”
   b. un ragazzo / ein Jung

In the cases (19)-(20) above, the highest copy is the article in D. If SpecDP contains a
determiner which in turn inflects for the same features, the article is non overt. (Cf.
This is due to the fact that determiners such as demonstratives are modifiers and behave
parallel to other modifiers of the NE, as will be argued for in a moment.
In many languages, including Romance, most Germanic (with the exclusion of English)
and Slavic, adjectives are associated with a number of uninterpretable features. For
example in German, Adjectives have two possible declensions (weak and strong) that are sensitive to gender, number, case, and definiteness. Let’s assume that adjectives are associated in the lexicon with an uninterpretable specification of such features. I propose that such u-features are deleted when they are merged in the specifier of a head containing a copy of a bundle of the same features which are interpretable in the nominal expression:

(21) $\begin{align*}
F' & \rightarrow F^\circ \ \phi \\
& \rightarrow \text{Spec} \ AP \ \phi \\
& \rightarrow F^' \ \phi \\
& \rightarrow \text{F°} \ NP \ \phi \\
& \rightarrow \text{“Concord”} \ N \ \phi
\end{align*}$

This proposal captures the fact that ordered adjectives display concord for the same bundle of formal features, and not for separate features (such as gender, number, or speaker-orientation, size, etc.). It also captures the observation, also made by Carstens (2001), that agreement in the clause results in sharing the features of the subject with the inflectional morphology of the verb (the lexical head in the clause), while nominal concord is quite the opposite in that it consists in sharing the features of the lexical head N with its modifiers. Carstens (2001:332, ex.(28)) unifies the two procedures by assuming that also adjectival agreement is triggered by targeting a lower element (AP or DP merged inside NP) and attracting it to its Spec. I take the opposite direction here. While for possessives we have evidence for a base and a derived position, there is no such evidence for other adjectives. Furthermore, apart from possessive and relational adjectives, adjectives do not saturate the thematic requirements of N. Finally, in the perspective of a parallelism with the clause, adjectives are to be compared to adverbs, which never (need to) A-move. I therefore propose that the feature sharing resulting from Concord is not obtained by movement but is the result of external merge of a modifier in a functional Specifier. The Spec-Head configuration transfers the uninterpretable features of N moved onto the functional structure of the Adjective (its external layer, which is not represented here for practical reasons).

An Italian NE with two prenominal and one postnominal adjective is given in (22) as an example. The lexical N *ragazze* with its \{[Fem], [Sing]\} features moves out of NP (i.e.,
it is copied and re-merged as F1°. In this way, it instantiates the first FP, in whose Spec an AP is merged. The values for Num and Gen are transferred to the first modifiers, as in (22a). In Romance, the bundle {N [iNum], [iGen]} ragazze is projected (internal merge) in F1°. If more than one adjectival modifier is present in the lexical array, merger of other APs proceeds in the same fashion, subject to the universal hierarchy of adjectival modifier. In (22b), the evaluative adjective belle is inserted in SpecFP1 and the features bundled with N is transferred to it. The head N in Romance does not move any further (for reasons that are not completely clear), but silent copies of the bundle keep moving creating as many FPs as needed for the merging of the adjective phrases present in the lexical array as is the case of FP2 in (22c). When the last FP containing the hierarchically higher adjective is merged, the highest layer is created to host the edge of the NE where the reference features of NE are merged. If these features are covert, as is the case of the operator R in (22d), its interpretable features are overtly realized on a dummy head, namely the definite article:

\[(22) \textit{le altre belle ragazze italiane} \]

“the other nice Italian girls”

a. \[[F_{1'} \text{[F}_1 \text{ragazze[iFem, iPl]] \text{[NP \text{[AP italiana}[uFem, uPl]] \text{[N'} \text{ragazze[iFem, iPl]] \text{]]}]]}

b. \[[F_{P1} \text{[AP belle[uFem, uPl]] \text{[F}_{1'} \text{ragazze[iFem, iPl]} \text{[NP \text{[AP italiana[uFem, uPl]] \text{[N'}} \text{ragazze[iFem, iPl]] \text{]]}]]})

c. \[[F_{P2} \text{[AP altre[uFem, uPl]] \text{[F}_{2'} 0[iFem, iPl]] \text{[FP}_{1'} \text{[AP belle[uFem, uPl]} \text{[F}_{1'} \text{ragazze[iFem, iPl]} \text{[F}_{P1} \text{[AP italiane[uFem, uPl]] \text{[F}_{1'} \text{ragazze[iFem, iPl]] \text{[NP \text{ragazze[iFem, iPl]]}]]}]]}] \text{n]]}

d. \[[D_{P} \text{R}_u[uFem, uPl] \text{[D'} \text{le[iFem, iPl, uCase]} \text{[F}_{P3} \text{[AP altre[uFem, uPl]} \text{[F}_{P3} 0[iFem, iPl]} \text{[FP}_{2} \text{[AP belle[uFem, uPl]} \text{[F}_{P2} \text{ragazze[iFem, iPl]} \text{[FP}_{1} \text{[AP italiane[uFem, uPl]} \text{[F}_{P1} \text{ragazze[iFem, iPl]] \text{[NP \text{ragazze[iFem, iPl]]}]]}]]}]]\]

In Giusti 1997, 2002, I proposed that the position relevant for the interpretation of the NE is not D° but its specifier, in the present terms the left edge of NE. D° is the head in which Case is assigned. And the different articles (definite/indefinite) are bundles of Case Number and Gender features which licences an empty operator (as proposed in Campbell 1996). The present proposal is in the same spirit. Concord features are merged to allow for what is merged in the Specifier (the edge of the NE) to copy the features of NE. I will next claim that the reference features of NE are merged at the left
edge and combine with the reference features of NE_{goal} merged in the immediately lower specifier.

I have assumed in (14) above that the Referential operator of NE is in SpecDP while the Person feature of NE_{goal} is in the highest specifier of the intermediate layer. However, at some point in the derivation, these two features must interact, to the extent that the Reference of the NE is interpreted as having a relation to the Person of the possessor. I propose that this is obtained by covert movement of the Person features of the possessor to merge in a bundle with the Reference features of the possessed as in (23). In (24) the English counterpart is given, in which the possessor moves to SpecDP overtly:

(23) le sue altre belle amiche italiane
the of him / his other nice friends Italian

\[ \text{DP-NE } R_j [\#Fem, \#PI]+ \text{Person}_i \ [D^o \ \text{le}[iFem, iPI] \ [FP4 \ [AP \ \text{sue[Person, } \#Fem, \#PI]], \ [F4^o \ 0[\text{AGREE, } iFem, iPI] \ [FP3 \ [AP \ \text{alte}[\#Fem, \#PI]] \ [F3^o \ 0[iFem, iPI]] \ [FP2 \ [AP \ \text{belle}[\#Fem, \#PI]] \ [F2^o \ \text{amiche}[iFem, iPI]] \ [FP1 \ [AP \ \text{italiane}[\#Fem, \#PI] \ [F1^o \ \text{amiche}[iFem, iPI]] \ [NP [AP \ \text{sue}], \ \text{amiche}[iFem, iPI]]]) \]

(24) his other nice Italian friends

\[ \text{DP-NE } R_j [\#PI]+[\text{NE}_{goal} \ \text{Person}_i[\text{his}]] \ [D^o \ 0[\text{AGREE, } iPI] \ [FP3 \ [AP \ \text{altre}[\#PI]] \ [F3^o \ 0[iPI]] \ [FP2 \ [AP \ \text{nice[\#PI]]} \ [F2^o \ 0[iPI]] \ [FP1 \ [AP \ \text{Italian[\#PI]]}, \ [F1^o \ 0[iPI]] \ [NP [\text{NE}_{goal} \ \text{his}], \ \text{friends[iPI]]}]) \]

Notice that the possessive adjective sue is at the same time agreeing and concording with F4^o in (23), while a pronoun di lui or loro would only Agree with the head, due to its own inflectional properties. This is the case of the personal pronoun his in (24), while it is probably not the case of possessive adjectives such as my, your, our, their which also concord (even if non-overtly) for the number feature of N in English.

The hierarchy of R features NE > NE_{goal}, namely R_j > Person, is respected at all levels in (23) and in (24) as the required by the Universal Ordering Constraint (15b). Overt Reference items such as demonstratives also come with uninterpretable features to be deleted against the interpretable copy in D. As a consequence, according to (16b), in a language like Italian they are in complementary distribution with an article. Notice that in this proposal nothing special is stipulated to capture the non-overt nature of an intermediate functional projection as opposed to the overt nature of D. In both cases the realization of a functional head is a last resort.
Cardinaletti and Giusti (to appear) present cases in which a functional head is realized if the modifiers merged in its specifier does not have an inflectional morphology that requires feature transfer. This is shown to hold in Italian for the demonstrative quel, for the partitive determiner del (all merged at the left edge) and also for the prenominal adjective bel, which is merged high in the intermediate layer. What is interesting is that in Anconetano, such functional dummies are subject to an particular phenomenon of optionality. In (25b-c) and (26b-c), either the higher or both heads are silent, with grammatical result, but if the silent option is chosen in the internal projection, the higher copy must also be silent, as shown by the ungrammaticality of (25d) and (26d):

\[(25)\]
\[
\begin{align*}
\text{a. } & \text{dei bei fioli} \\
\text{b. } & \text{de be\textit{i} fioli} \\
\text{c. } & \text{de b\textit{e} fioli} \\
\text{d. } & *\text{dei b\textit{e} fioli} \\
\text{Part-art nice boys}
\end{align*}
\]

\[(26)\]
\[
\begin{align*}
\text{a. } & \text{quei bei fioli} \\
\text{b. } & \text{que be\textit{i} fioli} \\
\text{c. } & \text{que b\textit{e} fioli} \\
\text{d. } & *\text{quei b\textit{e} fioli} \\
\text{those nice boys}
\end{align*}
\]

These facts suggest on the one head that Concord defines the (c)overt realization of the functional head in which it takes place; on the other hand, that projection is a the locus of genuine optionality in feature realization, something to be carefully investigated in future research.

4. Conclusions

In this paper I made two major claims:

(i) Feature sharing is the result of three different processes Agreement, Concord, and Projection.

(ii) The features projected by nominal expressions are Gender, Number and Person. None of these features is associated to an EPP feature.

The first claim has a number of welcome consequences. First of all, it derives the tripartition observed in the structure of clauses and NEs and opens up the possibility of extending it to other lexical categories. It reduces the Agree relation (involving a probe targeting a goal) where it is independently motivated while dispensing with such an operation in the case of adjectival modification. It can also derive a number of differences
between different kinds of feature sharing. For example, Projection may give rise to genuine optionality of phonological merger (as claimed by Cardinaletti and Giusti (to appear)), and the two different relations of Agreement and Concord may be present in one and the same element, as is clear in possessive adjectives in Italian, which not only agree (they are the subject of the NE) but also display concord, parallel to other adjectives.

The second claim derives a number of well-known imperfect parallels between Nominal Expressions and Clauses such as those mentioned in (2). Lack of argument structure and of a SUBJECT position in NEs is directly related to the fact that NEs do not need to have a subject to be interpreted. Defectiveness of structural case assignment (only one genitive at most in the European languages), lack of pronominal clitics, of wh-features checking, and of most discourse related movements inside the NE are related to lack of an interpretable T feature in NE, which in the sentence is not only associated with EPP but is also bundled with Force and with Discourse features. Lack of subject raising, ECM complements, and other clausal transformations (Heageman and Guéron 1999:439-446) may also be derived by the assumption that multiple occurrences of AGREE must involve EPP features of the same kind, and the kind of EPP associated to T in the clause is different from the EPP which may be associated to the NE.

References


