

Giuliana Giusti

Adjectival Concord in Romance and Germanic

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Abstract

This chapter provides a unified analysis of adnominal and predicate adjectives in Romance and Germanic by distinguishing three types of feature sharing: agreement, concord and projection, along the lines of Giusti (2015). It claims that in both Romance and Germanic, an uninterpretable feature of N agrees with possessive adjectives, while adnominal adjectives concord with N in a Spec-Head configuration checking an uninterpretable feature bundle on A. Romance and Germanic only differ in how concord is spelled out. Romance adjectives (with the exception of Walloon) are inflected for nominal features and concord with null head. German adjectives are uninflected and concord with an overt N-segment. The proposal argues against a unification of concord and agreement and in favour of an autonomous category adjective crosslinguistically.

key terms: predicate adjectives, adnominal adjectives, possessives, noun phrase, concord, projection, Italian, German, Walloon, Romanian

short bio:

Giuliana Giusti is professor of Linguistics at Ca' Foscari University of Venice and honorary professor of the University of Bucharest. She has published over 100 works on formal and applied linguistics, with a focus on the comparative syntax of nominal expressions in Germanic, Romance, Slavic and Balkan languages, on Latin and Italo-Romance varieties. She is active in disseminating linguistic education and language awareness for inclusive gender identity and accessible teaching of modern and classical languages.

1. The category “adjective” in a comparative perspective

Adjectives are a matter of debate in typological and comparative linguistics to the extent that many linguists doubt their existence in many languages (Dixon 1977, 1982). What is claimed for languages 'without adjectives' is that properties, such as 'red' can be expressed by verbs 'be-red' or nouns 'redness'. These proposals are grounded on verbal or nominal functional morphemes associated to the words expressing properties.¹ In European languages, adjectives have apparent nominal morphology but certainly have semantic properties of their own. Unlike nouns, they do not display independent reference; rather, they denote properties that are attributed to individuals either by predication over the referent (predicate function) or by modification of the intension of the individual (adnominal function). In languages like German, in which adjectives display different inflection in the two functions, many linguists propose to take one form as basic and the other as derived. However, there is no consensus on which form derives from which (cf. Hamann 1991; van de Velde, Sleeman and Perridon 2014; Demonte 2019).

In a Minimalist framework that takes morphosyntax to satisfy lexical-semantic requirements and create structures to be interpreted at Logical Form, an analysis of the morphosyntactic properties of predicate and attributive adjectives becomes urgent in a comparative perspective. Among European languages, Romance and Germanic present some similarities and interesting differences that may shed some light on these issues.

Let us take Italian and German as representative examples. The main similarity is that in both Romance and Germanic, adnominal adjectives display nominal morphology, that is a bundle for gender and number and case (if present in the language). In (1), the adjectives *kluge* and *scaltra* ('smart')

¹ Cf. Dixon 1977, 1982 for the original proposal and Norris 2017a for an overview of the verbal and nominal properties of adjectives across languages.

display an inflection that can be glossed as feminine singular, in contrast, for example, to the feminine plural in (2):

- (1) a. die kluge Frau
DEF.ART.F.SG smart.F.SG woman.F.SG
- b. la donna scaltra
DEF.ART.F.SG woman.F.SG smart.F.SG
- 'the smart woman'

- (2) a. die klugen Frauen
DEF.ART.F.PL smart.F.PL woman.F.PL
- b. le donne scaltre
DEF.ART.F.PL woman.F.PL smart.F.PL
- 'the smart women'

Unlike noun phrases, which can be determined by person pronouns (*viz. we teachers / you students*) or have a third person default feature (*viz. the students*) and unlike verbs, which may inflect for the person features of their subject, adjectives (even predicate adjectives) do not inflect for person. This is not just a common property of Romance and Germanic but is observed crosslinguistically (Baker 2008: 56-60).

A first morphological difference is that in some Germanic languages predicate adjectives do not inflect (3a)-(4a), while in Romance they have the same inflection as adnominal adjectives (3b)-(4b):

- (3) a. Diese Frau ist klug(*e).
b. Questa donna è scaltr*(a).

'This woman is smart'

- (4) a. Diese Frauen sint klug(*en).
b. Queste donne sono scaltr*(e).

'These women are smart'

A second morphological difference is that adnominal adjectives display weak/strong morphology in German (5), while Romance adjectives have the same inflection irrespective of what determiner precedes them (6):

- (5) a. der kluge Mann
DEF.ART.M.SG smart.M.SG.WK man.M.SG
b. ein kluger Mann
IND.ART.M.SG smart.M.SG.STR man.M.SG

- (6) a. lo scaltro uomo
DEF.ART.M.SG smart.M.SG man.M.SG
b. uno scaltro uomo
IND.ART.M.SG SMART.M.SG. man.M.SG
'the/a smart man'

A third syntactic difference is the prenominal position of adjectives in German (cf. (5) vs. ungrammatical (7)), as opposed to the quite free prenominal or postnominal position in Romance (cf. (6) vs. (8)):

- (7) a. *der Mann klug(e)
 b. *ein Mann klug((e)r)
- (8) a. l'uomo scaltro
 b. un uomo scaltro
 'the/a smart man'

The semantic and morphological properties listed above support the hypothesis that adjectives build an autonomous category. They inflect for given nominal features according to the language and the syntactic environment, but crucially excluding person, unlike nouns (which can be determined by person pronouns) or verbs (which inflect for person features). They cannot therefore be reduced under the category noun or verb. Another reason for the autonomy of the category adjective from the category noun is the observation that the nominal features (number, gender, and case) are not interpretable on adjectives but signal the modification relation between the adjective and the nominal expression. In other words, the adjectives in (3)-(8) are not interpreted as feminine or masculine singular but only as having a modification / predication relation with a feminine or masculine singular referent. In this respect, the nominal features on A are uninterpretable like the uninterpretable ϕ -features on Tense.

In the minimalist framework, the mechanism that triggers feature transfer from the subject to the inflected verb is traditionally called 'agreement' while feature transfer from a noun onto an adjective is called 'concord' (Baker 2008, Norris 2017a,b). It is highly debated whether concord should be unified with agreement. Some linguists such as Bosque and Piccolo (1996), Carstens (2000), Baker (2008), Leu (2008) unify concord with agreement, crucially assuming a functional head or feature AGR intervening in the configuration. On the opposite side, Kester (1996), Wechsler and Zlatic (2000),

Giusti (2008, 2015), and Landau (2016), among others, claim that concord is a different, simpler configuration.

The aim of this chapter is to provide a unified analysis of predicate and adnominal adjectives in Romance and Germanic. It will be shown that this is possible if adjectives are considered an autonomous category with an autonomous uninterpretable feature bundle that is satisfied *via* concord in a Spec-Head configuration with N. The differences between Italian and German are related to the realization of the concurring nominal head, which is silent in Romance and realized in German. In the course of the paper, it will be argued that concord and agreement have different properties and involve different features. The chapter will also make relevant comparisons with some other Romance languages. Space reasons do not unfortunately allow a comprehensive treatment of the Germanic family.

The chapter is structured as follows. Section 2 introduces the framework and analyses the common properties of German and Italian (with a view on Spanish and Romanian). Section 3 focalizes on the different ways in which concord interacts with projection in German, Italian and Walloon. Section 4 draws the conclusions and the perspectives for future research.

2. Three types of feature sharing

The most studied form of feature sharing is the transfer of the features of the subject onto a verb or auxiliary carrying Tense. The structural representation of this process is formalized by Chomsky (2000, 2001) as involving a Probe (T) with an uninterpretable feature $u\phi$ and a Goal (the DP external argument of the predicate) with a parallel interpretable feature $i\phi$, as in (9). The Probe targets the Goal in its c-command domain and triggers movement (re-merger) of the $i\phi$ or of the entire DP Goal to its specifier. In this way, the $u\phi$ on T is checked and deleted before the CP is sent to the interpretive

principle legitimate to pursue a unitary analysis for feature sharing inside the nominal expression.

However, there are many differences between adjectival concord and Subject-T agreement that would be obscured by a unitary analysis.⁴

First of all, while agreement is symmetric in that it satisfies uninterpretable ϕ -features on T and at the same time uninterpretable T-features on DP, concord is asymmetric, in that it only checks uninterpretable features on A. Unlike V+T, N does not require to merge with an AP and has no uninterpretable adjectival feature. Second, as already noted, agreement targets ϕ -features which include person, while concord never does, as noted by Baker (2008), Danon (2011), Norris (2017a) among many others.

Furthermore, as noted by Danon (2011), most attempts unifying concord with agreement are in contrast with the notion of phi-completeness (cf. Chomsky 2000, 2001), which requires the highest head of the Goal to bear the full set of interpretable features in order for the Probe to check and delete its uninterpretable feature bundle. In other words, in (9) the highest nominal head D in DP must carry the full bundle of nominal features, which include interpretable Person and uninterpretable T (that is Case), as well as gender and number that are usually taken to be intermediate functional projections in the nominal spine. This requirement is necessary in a theory of phases, which assumes that the DP is a phase and only its left edge (DP) is transparent to the outer head T. Danon's solution is a feature-spreading mechanism among the heads in the nominal spine that spreads gender and number features up to D. In a mirror-image fashion, Norris (2014) claims that features percolate top-down through the nominal spine and are realized post-syntactically.

⁴ There are many more aspects that we cannot review for space reasons, I refer the interested reader to Giusti (2015: 35-47) and Norris (2017a,b).

Norris (2017b) also observes that unification approaches must revise the notion of adjectival agreement in one way or another. In the frameworks that assume that APs are specifiers of functional projections, the Probe triggering agreement is a nominal functional head F that transfers its features to AP (Cinque 1994) or a nominal head Agr that triggers movement of a portion of NP containing the AP, thereby producing 'roll-up' effects (Laenzlinger 2005, Cinque 2010). In the frameworks assuming that APs are adjuncts, the Probe / Goal roles are reversed. Again, there have been two proposals: either the c-command relation between the Probe (the adjective) and the Goal (the head N) is also reversed and the Probe is c-commanded by the Goal (Baker 2008), or the Probe-status is extended to maximal projections (APs) if the head cannot find a Probe in its c-command configuration (Carstens 2016).

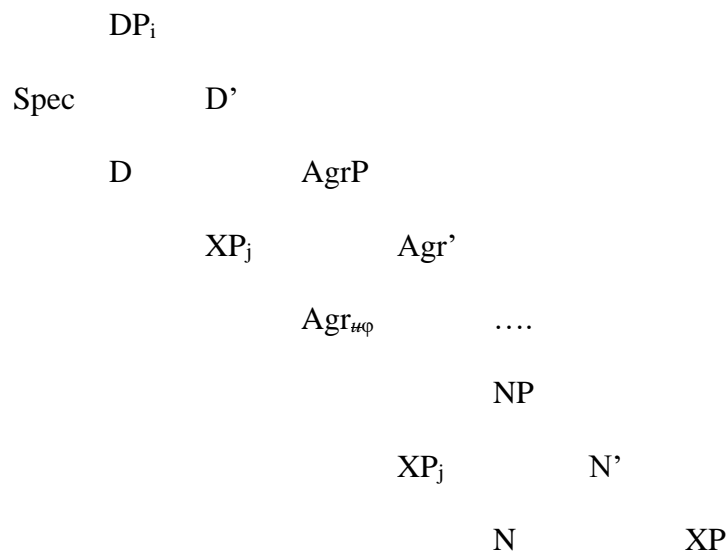
To conclude, despite their popularity, unification approaches have empirical and theoretical drawbacks. In the rest of this section, I present Giusti's (2008, 2015) proposal, which not only distinguishes concord from agreement, but also introduces the notion of "projection" to formalize the feature spreading phenomenon among nominal functional heads. In this section, the proposal will be applied to German and Italian, which are taken to be representative of Germanic and Romance patterns.

2.1 Agreement

Giusti (2015) takes agreement in the nominal expression to be symmetric, along the lines of clausal agreement. As represented in (10), agreement involves a $u\phi$ associated to a nominal functional head, the Probe (call it Agr for the moment). This nominal Agr targets the $i\phi$ of the possessor phrase (here labelled as XP), which can be a pronoun DP, a possessive adjective AP, or a prepositional possessor PP. The possessor phrase (the Goal) is an independent phase and needs (abstract) Case in order to be sent to the interfaces and re-enter the computation before the phase of the possessee is completed. The remerger of the $i\phi$ of the possessor in SpecAgrP may be overt (XP moves), or covert (XP remains in

the low position and only its *iφ* is moved). This operation may have consequences on the spell-out of the left edge of the possessee (call it DP for the moment):⁵

(10) “Agreement”



The structure in (10) predicts that possessors, like subjects, have a dual position: an internal position where they receive a thematic role from N and an external position where they receive Case from Agr. If movement can be covert (or delayed), we expect a possessive to be found in either position according to parametrized properties of the language.

The remerger of a possessor is supported by the mobile position of the pronominal possessor in Italian (11) and of the genitive possessor in German (12). In (11a) the possessive adjective *sua* as well as the genitive pronoun *loro* are pronominal in the unmarked reading but can be postnominal in case

⁵ In (10), I use conventional labels, such as DP for the phasal projection, AgrP for this highest non-phasal projection and NP for the lexical projection of N. This terminology will be reformulated in 2.3 below.

they are focused. In (11b) a prepositional pronominal possessive is postnominal in the unmarked reading, but it is acceptable in prenominal position in the bureaucratic register. The prenominal position is banned to any possessor that is 'heavier' than just a pronoun in Italian, as in (11c):

- (11) a. la {sua/loro} pronta risposta {SUA/LORO} alle domande degli studenti
 the {her/their} ready answer {her/their} to-the questions of-the students
 'her ready answer to the students' questions'
- b. la {#di lei} pronta risposta {di lei} alle domande degli studenti
 the {of her} ready answer {of her} to-the questions of-the students
- c. la {*della professoressa} pronta risposta {della professoressa} alle domande
 the {of-the professor.F.SG} ready answer {of-the professor.F.SG} to-the questions
 degli studenti
 of-the students
 'the professor's ready answer to the students' questions'

Mutatis mutandis, German displays the same tendency with a slightly stronger preference than Italian for the prenominal position. Note that unlike Italian, a prenominal possessive dispenses with the overt realization of the (definite) article. In (12a), the possessive adjective can only be prenominal. In (12b), a full genitive noun phrase can be prenominal, provided it is as 'light' as a proper name. In (12c) the postnominal position is disfavoured for the proper name, while it is the only possibility for the full DP:

- (12) a. ihre schnelle Antwort auf die Nachfragen der Studenten
 her ready answer to the questions of-the students
 'her ready answer to the students' questions'

- b. Marias /*der professorin schnelle Antwort auf die Nachfragen der Studenten
 Maria.GEN /the.GEN professor ready answer to the questions of-the students
- c. die schnelle Antwort der professorin / ?Marias auf die Nachfragen der Studenten
 the ready answer of-the.F.SG professor / Maria.GEN to the questions of-the students
 'the professor's / Maria's ready answer to the students' questions'

The parallel with Subject-T agreement is clear. Like subjects, nominal possessors and person pronouns receive structural Case (genitive), which is assigned in a high position of the nominal structure (the highest non-edge specifier position) by a Probe targeting the possessor Goal in its c-command domain. The Goal is first-merged in a lower position, where it receives a theta-role. The remerged position is favoured when the Goal is 'light', that is phonologically and/or featurally poor.

Possessive adjectives and genitive pronouns are made of an indexical, which only has functional features (person, number and gender); they are therefore the lightest type of nominal expressions. Proper names, being rigid designators, are semantically and syntactically simpler than referential expressions (cf. Giusti 2015:159-164); they are therefore the second best candidates for movement. Languages vary with respect to the preferred spell-out position of the possessor, but the structure is common to Romance and Germanic, and supposedly to all languages.

If possessives are not in DP, why are they often in complementary distribution with D-fillers? We can answer this question by assuming that the checked feature in Agr (the highest non-edge head) has a consequence on the spell-out of the edge head (D) above it and this has a consequence on what can fill its specifier, parallel to the consequences that the features in T can have in the spell-out of C (the clausal edge). Note that the correlation between the spell-out of a possessor in the remerged

position and lack of an overt article is not a Germanic property, as this is also the case of prenominal possessives in Portuguese, Spanish and French (13) while Catalan and Romanian⁶ are like Italian (14):

- (13) a. (*a) minha amiga Portuguese
b. (*la) mi amiga Spanish
c. (*la) mon amie French
(the) my friend
- (14) a. *(la) mia amiga Italian
b. *(la) meva amiga Catalan
(the) my friend
c. prietena/*ă mea Romanian
friend-*(the) my
'my friend'

Note that complementary distribution of a prenominal possessive and an article is also found in Italian kinship nouns (15a), which are parallel to common and kinship nouns in most Western Romance (13) and (16a). In all Romance languages, when the possessive is postnominal, that is when it does not move to SpecAgrP (15b), the article is mandatory, as exemplified here by Spanish (16b):

⁶ Note that the postnominal position of the possessor in Romanian is a high position, as it is immediately adjacent to the lexical item that carries the suffixal article. This could also be a prenominal adjective as in *frumoasa mea prietenă* (beautiful-the my friend, 'my beautiful friend').

(15) a. (*la) sua figlia (vs. (14b))

b. *(la) figlia sua

(16) a. (*la) su hija (cf. (13b))

b. *(la) hija suya

the daughter her

‘her daughter’

The data in (13)-(16) suggest that the presence or absence of an article with a pronominal possessor cannot be captured by assuming that the possessor competes for the determiner position. As is claimed in section 2.3 below, the overt realization of the highest head in the nominal spine can be set according to the properties of the immediately lower head (the Probe) and its specifier (the remerged possessor) and according to the properties of the projecting N (kinship vs. common nouns).

Even if no overt person agreement on N is generally found,⁷ the probed feature of the remerged possessor must include person or a feature that allows for the possessor to refer independently from the possessee (cf. Giusti (2008, 2015:95-98)). This is supported by the observation that possessors, including possessive adjectives, can bind an anaphor, as in (17a-b) and (18a-b), unlike relational

⁷ Overt agreement with the possessor is claimed by Szabolcsi (1987, 1994) to appear in Hungarian.

Note however that the Hungarian person morpheme on the noun could be a clitic pronominal doubling the possessor. This would make it similar to other cases of possessor doubling found in Balkan languages (cf. Dimitrova-Vulchanova and Giusti 1998; Giusti and Stavrou 2008 and the references quoted there). Nothing in our discussion here hinges on this.

adjectives, which are interpreted as carrying the same agent role, as shown by the sharp ungrammaticality of the anaphor in (17c) and (18c):

- (17) a. la loro rappresentazione della situazione economica / di se stessi
the their representation of-the situation economic / of themselves
'their representation of the economic situation / of themselves'
- b. ?la rappresentazione degli italiani della situazione economica / di se stessi
the representation of-the Italians of-the situation economic / of themselves
'the Italians' representation of the economic situation / of themselves'
- c. la rappresentazione italiana della situazione economica / *di se stessi
the Italian representation of-the of-the situation economic / of themselves
'the Italian representation of the economic situation / of themselves'
- (18) a. ihre Darstellung der wirtschaftlichen Situation / von sich selbst
'their representation of the economic situation / of themselves'
- b. die Darstellung der Deutschen (von) der wirtschaftlichen Situation / von sich selbst
the representation the.GEN.PL Germans (of) the.DAT.PL economic situation / of themselves
'the Germans' representation of the economic situation / of themselves'
- c. die deutsche Darstellung der wirtschaftlichen Situation / *von sich selbst
'the German representation of the economic situation / of themselves'

The Case assigned to the Goal is structural genitive. Unlike what is proposed by Pesetsky and Torrego for subjects and objects, it cannot be a *uT* or *uAsp*. As observed by Giusti (2015: 90-91), genitive establishes a relation between the referent of the possessor and the referent of the possessee

(Higginbotham's 1985, 1987 R-relation) that is unrelated to Aspect or Tense, which are absent in the nominal phase in Romance or Germanic.⁸ Structural genitive must therefore be a μR feature that matches the indexical of the possessor as specifying the indexical of the possessee.

Possessive adjectives, *prima facie*, do not display genitive inflection. On the contrary, they concord for the nominal features of the possessee. There are two ways to accommodate this. One is to claim that agreement in the nominal expression may be asymmetric, that is genitive Case is not assigned to a possessive adjective. An alternative is to claim that the root of the possessive adjective has inherent genitive Case, which needs to be checked in the same way as genitive possessive pronouns. The concord features on possessive adjectives are captured by the proposal that agreement and concord, being different processes, may involve the same lexical item at different steps of the derivation, as we will see in the next section.

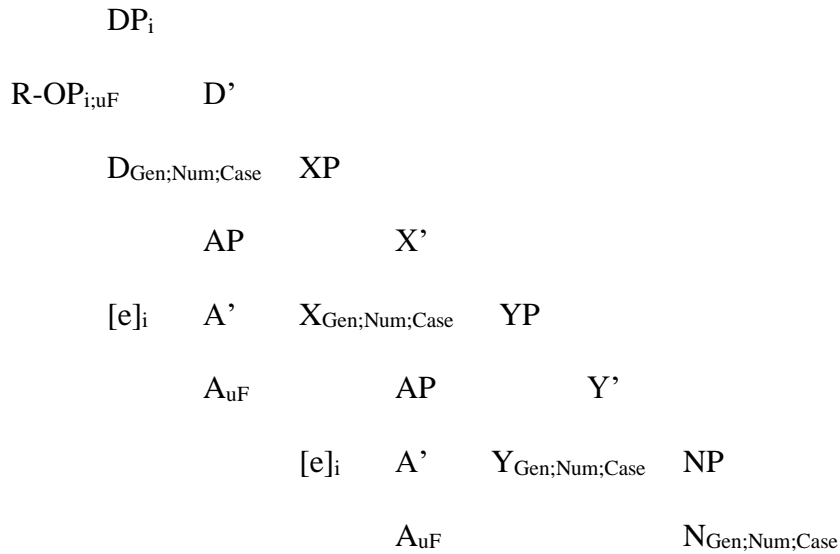
2.2. Concord

Concord is asymmetric. It satisfies an open position of the argument structure of the adjective. The adjective has an external argument [e], a silent constant, which is anaphoric to the referential Operator (R-OP) that is merged at the left edge and provides the referential index of the nominal expression. The Operator and the constant both have Person features, expressed here with the index i , but the uninterpretable features (uF) on the head A only regard number, gender and case, namely the same features that are spread in the nominal spine created by D+X+Y+N in (19). Note that in this proposal, only definite articles are in D, the other determiners, which provide a referential index, are in

⁸ Giusti (2015:144-155) claims that this holds cross-linguistically (*pace* Lecarme 1996, 2004 and Nordlinger & Sadler 2004, 2008; cf. Tonhauser 2007, 2008). Since this issue is not relevant to the syntax of adjectives, I refer the interested reader to Tonhauser's and Giusti's works.

complementary distribution with the silent R-OP in Spec DP and concord with D:⁹

(19) “Concord”



Concord can be overt or covert. The overt marker can be on the adjective, as in Romance, or on the functional head with which the adjective concords, as claimed for German in section 3.1. In Italian, adjectives inflect for number and gender (20), or only number (21), or neither (22), according to their inflectional class:

(20) a.	la	comoda	valigia	italiana
	the.F.SG	comfortable.F.SG	bag.F.SG	Italian.F.SG
b.	le	comode	valigie	italiane
	the.F.PL	comfortable.F.PL	bag.F.PL	Italian.F.PL

⁹ The different labels uF in (19) and uφ in (9)-(10) distinguish two types of uninterpretable features; only uφ has Person, searches for an indexical (a R-OP) and triggers agreement for its complete bundle.

- c. il comodo baule italiano
 the.M.SG comfortable.M.SG trunk.M.SG Italian.M.SG
- d. i comodi bauli italiani
 the.M.PL comfortable.M.PL trunk.M.PL Italian.M.PL
- 'the comfortable Italian bag(s)/trunk(s)'

- (21) a. la grande valigia inglese
 the.F.SG large.SG bag.F.SG English.SG
- b. le grandi valigie inglesi
 the.F.PL large.PL bag.F.PL English.PL
- c. il grande baule inglese
 the.M.SG large.SG trunk.M.SG English.SG
- d. i grandi bauli inglesi
 the.M.PL large.PL trunk.M.PL English.PL
- 'the big English bag(s)/trunk(s)'

- (22) a. (*l') una valigia blu
 (the) one.F.SG bag.F.SG blu
- b. le tre/quattro valigie blu
 (the) three/four bag.F.PL blue
- c. (*l') un baule blu
 the.M.SG one trunk.M.SG blue
- d. i tre/quattro bauli blu
 the.M.PL three/four trunk.M.PL blue

'the (one/three/four) blue bag(s)/trunk(s)'

The inflectional class does not influence the prenominal vs. postnominal position. In (22) the postnominal colour adjective *blu* 'blue' is uninflected on a par with the prenominal uninflected cardinal adjective *tre* 'three'.

The only Romance language with case morphology is Romanian, which distinguishes oblique (genitive and dative) from direct (nominative and accusative) Case. Oblique case morphology on adjectives and nouns is only detectable in the feminine singular of As and Ns ending in *-ă*. It is phonologically weaker (*-e*) than the morphology found on determiners (*-ei*). Note that oblique case on determiners is present in both feminine and masculine, singular and plural as shown by the different forms of the indefinite determiner *un* in (23). Interestingly, in (23a) concord for Case on adjectives is optional in every-day speech and needs to be recommended by normative grammar (cf. Pană Dindelegan et al. 2019:156-157):

- (23) a. I-am scris **unei** fete cunoscută (correct: cunoscute)
I-have written a.DAT.F.SG girl.DAT.F.SG met.F.SG (correct: met.DAT.F.SG)
în tabără și foarte simpatică (correct: simpatice)
at camp and very nice.F.SG (correct: nice.DAT.F.SG)
'I wrote to a girl [who I] met at the camp and [who is] very nice'
- b. I-am scris **unui** băiat cunoscut în tabără și foarte simpatic
I-have written a.DAT.M.SG boy.M.SG met.M.SG at camp and very nice.M.SG
'I wrote to a boy [who I] met at the camp and [who is] very nice'
- c. I-am scris **unor** fete cunoscute în tabără și foarte simpatice
I-have written a.DAT.PL girl.F.PL met.F.PL at camp and very nice.F.PL

‘I wrote to girls [who I] met at the camp and [who are] very nice’

d. I-am scris un**or** băie**ți** cunoscu**ți** în tabără și foarte simpatici

I-have written a.DAT.M.PL boy met.M.PL at camp and very nice.M.PL

‘I wrote to boys [who I] met at the camp and [who are] very nice’

As suggested for Italian adjectives, the adjective concords with the full nominal bundle but the actual inflection on it ultimately depends on its inflectional class. Feminine adjectives in *-ă* residually retain an oblique case ending *-e*, but in the spoken language case morphology on adjectives is bleaching.

The contrasts in (24) show that Romanian adjectives can inflect for definiteness (24b), but never concord for definiteness (24c):

- (24) a. filmul interesant, copilul dulce, cartea frumoasă,
film-the interesting, boy-the sweet, book-the nice
- b. interesantul film, dulcele copil, frumoasea carte,
interesting-the film, sweet-the boy, nice-the book
- c. *filmul interesantul, *copilul dulcele, *cartea frumoasa,
film-the interesting-the, boy-the sweet-the, book-the nice-the
- ‘the interesting film, the sweet boy, the nice book’

This is expected if definiteness is a feature associated to the referential index (in SpecDP) and is not part of the nominal bundle.

An apparent counterargument to this proposal is the weak / strong inflection found in German, which is often analysed as concord for definiteness. The correlation between weak inflection and definite interpretation on the one hand and strong inflection and indefinite interpretation on the other

hand is apparent if one only considers (25a) and (25b). It is however contradicted by (25c), where the possessive adjective induces a definite interpretation, as in very many languages that dispense with the insertion of a definite article before a demonstrative:

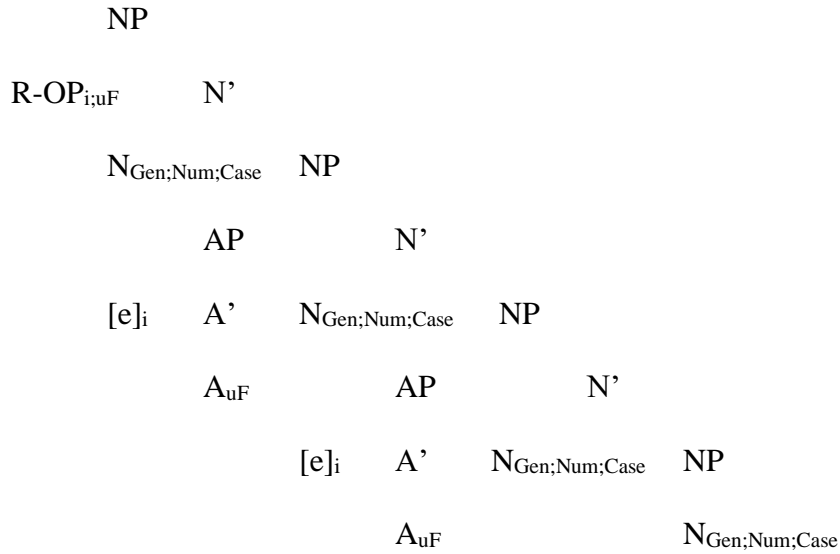
(25) a.	der	kluge	Italienische	Mann
	the.STR	smart.WK	Italian.WK	man
b.	ein	kluger	Italienischer	Mann
	a	smart.STR	Italian.STR	man
c.	dein / ihr	kluger	Italienischer	Mann
	your / her	smart.STR	Italian.STR	man

The next subsection will argue that the strong/weak inflection of German is not part of the inflectional morphology of the adjective, which is uninflected in this language.

2.3 Projection

The fact that articles and other functional heads in the extended projection of N display redundant features is problematic for the proposals that must pin down which features are interpretable and which are uninterpretable on which head (Danon 2011; Norris 2017b:10). This problem does not arise in Giusti's (2015) projection proposal, according to which N is bundled with all its interpretable and uninterpretable features at first Merge and is remerged to satisfy one feature at a time obeying the internal hierarchy of the bundle. This remerger operation creates a spine of identical copies of N (a 'scattered' head, in Giorgi and Pianesi's (1997) terms). Each copy of N is a 'segment' of the scattered N. The structure given in (19) is consequently relabelled as in (26):

(26) “Projection”



The identity of the feature bundle in the N-segments predicts low segments to share high values (e.g. Case, which can only be established at the left edge, can also appear on the lexical N), eliminating the problem with phi-completeness highlighted by Danon (2011). The segments of N are identical bundles and for economy reasons only few of them are spelled out (cf. Nunes 2004).

Variation is expected on how scattered heads are spelled out. Some languages realize the entire bundle as one item and, in this respect, variation is expected as to which segment in the spine is spelled-out. An article-less language with case morphology, such as Latin, displays a large freedom of spelling N out. As claimed by Giusti and Iovino (2014, 2016), the noun can appear very high, higher than a possessive adjective and an ordinal cardinal (27a), or higher than a descriptive and a relational adjective (27b). It can be intermediate, between a descriptive and a relational adjective (27c) or very low after a relational adjective (27d):

- (27) a. *consulatu* *suo* *nono* (Suet. *Vesp.* 24, 1)
 consulate.M.SG.ABL *his.M.SG.ABL* *ninth.M.SG.ABL*

'during his ninth consulate'

b. vocabulum anticum graecum (Gell. 1, 18, 2)

word.NT.SG.NOM old.NT.SG.NOM greek.NT.SG.NOM

'an old greek word'

c. illo communi dolore muliebri (Cic. *Cluent.* 13)

that.M.SG.ABL common.M.SG.ABL pain.M.SG.ABL feminine.M.SG.ABL

'that common feminine pain'

d. meae forenses artes (Cic. *Orat.* 148)

my.F.PL.NOM forensic.F.PL.NOM art.F.PL.NOM

'my forensic arts'

The apparent optionality of the position of N above (27c) or below (27d) a relational adjective is problematic in a theory of head-movement or roll-up triggered by the strength of a given feature placed at a given position.¹⁰ In such theories, the value for the feature would have to be optionally weak or strong. In the present approach, the problem does not arise, languages may have a fixed or a liberal realization of N-segments. Richly inflected languages tend to have a more liberal realization. Note that they also tend to be more economical, in that they spell-out N as a single segment.

¹⁰ Head movement has been considered as spurious by many linguists (cf. Kayne 1994; Chomsky 2000; Koopman and Szabolcsi 2000), forcefully for theory-internal reasons as well as to explain the 'roll-up' effects in some languages. Other linguists as Matushansky (2006) and Roberts (2011) have advocated for the maintenance of head-movement. Giusti's (2008, 2015) projection proposal is an independent way to solve the problems of head-movement, whilst maintaining its structural effects.

If we contrast the Latin examples in (27) with their Italian parallels in (28), we first observe that Italian requires the highest reprojection to be spelled-out as an article, even in the presence of a possessive adjective (28a,d). In (28a), we observe that the relative order POSSESSIVE > ORDINAL is the same as Latin (27a) but the noun must follow the cardinal. In (28b), we observe again the same relative order DESCRIPTIVE > RELATIONAL, but the noun is mandatorily between the adjectives. The intermediate position of N is confirmed by the contrasts in (28c,d):

- (28) a. il suo nono consolato / *il consolato suo nono / *il suo consolato nono
 the his ninth consulate / the consulate his ninth / the his consulate ninth
 ‘his ninth consulate’
- b. un antico vocabolo Greco /*un vocabolo antico Greco
 an old word Greek / a word old Greek
 ‘an old Greek word’
- c. quel comune dolore muliebre / *quel comune muliebre dolore
 that common pain feminine / that common feminine pain
 ‘that common feminine pain’
- d. le mie arti forensi /*le mie forensi arti
 the my arts forensic / the my forensic arts
 ‘my forensic arts’

Latin and Italian have the same projection process, merging the adjectives as left-branching specifiers. The parametric choices regard the spell-out of the left edge and of the segments of N. The left edge may have a silent specifier (definite or indefinite) and a silent head in Latin, while in Italian either the specifier or the head must be overt.

In Latin, N is spelled-out as a single segment in any position of the spine. In Italian, N is spelled out in an intermediate position. When N is modified by a single adjective, descriptive adjectives are preferably postnominal, as in (29) to be contrasted with (28b,c):

- (29) a. un vocabolo Greco / un vocabolo antico cf. (28b)
a word Greek / a word old
'a Greek word / an old word'
- b. quel dolore muliebre / quel dolore comune cf. (28c)
that pain feminine / that pain common
'that feminine pain / that common pain'

The highest segment (the head of the phrase) is spelled-out only if the phasal phrase has the covert determiner R-OP, which conveys a definite interpretation (cf. in (19) and (26)). Indefinite determiners (singular *un(o/a)* 'one' and plural/mass *del*) and demonstratives (*questo* 'this' and *quello* 'that') are overt and concord for the relevant features, thereby dispensing with the realization of the head. The indefinite null determiner does not require an overt head, giving rise to bare nouns.

Italian thus spells out N in more than one segment.¹¹ As observed, economy prevents the multiple spell-out of full copies but allows for partial realization of the bundle at different positions. Partial realization complies with the hierarchical structure of the head. Some features however overlap.

¹¹ A notable exception is the case of bare nouns. The alternation of zero morphemes with overt morphemes is expected in inflectional systems. The null article that is found on bare nouns is therefore no counterexample to the generalization that Italian and all Romance languages have developed a segmented noun in the change from Latin.

In Italian, the lower segment realizes the lexical N bundled with gender and number, the upper segment realizes Case (the article¹²), which is also bundled with gender and number.

German also realizes N in more than one segment. The lowest segment is lower than what in Italian and below any adjective. In both languages, a higher segment is necessarily overt (the article). In German (30a) the article displays overt Case features, which I propose to be covert in Italian (30b), also cf. fn. 12:

- (30) a. der kluge italienische Mann
 the.NOM.M.SG smart Italian man
- b. lo scaltro uomo italiano
 the smart man Italian
- ‘the smart Italian man’

The structures of (30) are given in (31), where [\mathbb{N}] is a silent copy of the noun bundled with all its features. The spelled-out segments of N have different forms because they realize different parts of the bundle. In both languages, the definite interpretation attributed to an NP with an article is due to the covert operator R-OP and not to the article itself:

¹² Giusti (2002, 2015) takes articles to be markers of abstract Case. The only variation in Italian full noun phrases would therefore be the partitive vs. direct Case. The former realized with a null high segment, a residue of the Latin parametric choice. Direct Case (nominative, accusative and prepositional) require an overt high segment, which can be null if the determiner is overt and concurs for the appropriate features.

- (31) a. [NP R-OP_[+def] [N der] [NP kluge [~~N~~] [NP Italienische [N Mann]]]]
 b. [NP R-OP_[+def] [N lo] [NP scaltro [N uomo] [NP italiano [~~N~~]]]]

2.4. Interim summary

This section has reached the following conclusions. (i) Possessive adjectives are at the same time arguments and modifiers of N. As arguments they agree (and may reach a high position); as modifiers they concord with N. (ii) Concord is feature transfer from an N-segment to the AP merged in its specifier. The morphological realization of such features depends on the properties of the adjective, which may inflect for the full bundle of nominal features: gender, number, and case (as in Latin and standard Romanian) or for a subset of it (as in colloquial Romanian). (iii) Projection creates a spine of N segments that are overt or covert according to the properties of the head N (viz. Italian kinship vs common nouns), and to the requirements of the merged modifiers. More precisely, a prenominal possessive adjective in German and Spanish requires the highest projection of N to be covert and merged with a null definite operator. In Spanish, however, the adjective may remain postnominal and in that case any determiner can be merged in the highest nominal projection. (iv) Germanic and Romance differ as regards the spell out position of the lexical N, which is rather low in German (above a prepositional possessor and below any adjectival modifier); intermediate in Italian (above the lower adnominal adjective) and quite free in Latin.

3 The interaction of concord and projection

It is well known that German adjectives have weak and strong inflection. This is a major difference from Romance, where adjectives inflect independently from the form of the determiner. This contrast allows us to explore the effect of concord (the satisfaction of uF on the adjective in SpecNP) and the spell-out of the segments created by the projection of N.

3.1. Two types of concord

In both German and Italian, the plural indefinite determiner dispenses with the realization of the highest N-segment. This is apparent in (32), where no determiner is present in the plural; but can also be argued for (33), if the indefinite singular determiner is taken to be in the Specifier of the edge, cooccurring with a null N:

(32) a. Dann wurden $[_{NP} 0_{[-def]} [_{\mathbf{N}}] [_{NP} \text{gute} [_{\mathbf{N}}] [_{NP} \text{italienische} [_N \text{Mitarbeiterinnen}]]]]]$
then were good Italian assistants
angenommen
hired

b. Poi furono assunte $[_{NP} 0_{[-def]} [_{\mathbf{N}}] [_{NP} \text{brave} [_N \text{collaboratrici}]] [_{NP} \text{italiane} [_{\mathbf{N}}]]]]]$
then were hired good assistants Italian
'Then good Italian assistants were hired'

(33) a. Dann wurde $[_{NP} \text{ein}_{[-def]} [_{\mathbf{N}}] [_{NP} \text{guter} [_{\mathbf{N}}] [_{NP} \text{italienischer} [_N \text{Mitarbeiter}]]]]]$
then was a good Italian assistant
angenommen.
hired

b. Poi fu assunto $[_{NP} \text{un}_{[-def]} [_{\mathbf{N}}] [_{NP} \text{bravo} [_N \text{collaboratore}]] [_{NP} \text{italiano} [_{\mathbf{N}}]]]]]$.
then was hired a good assistant Italian
'Then a good Italian assistant was hired'

When the highest segment is null, the inflection of the adjective is strong. In (34)-(37), strong endings are in bold and weak endings are in italics. Note that the strong/weak distinction is not a matter of definiteness but a matter of overt / covert features on the highest N-segment.¹³ As observed in 2.1 above the possessive adjective *mein* induces definite interpretation but requires the highest N-segment to be covert. On the one hand, *mein* gives the same effect as the indefinite determiner *ein* in (35)-(37). On the other hand, strong inflection on *ein* or *mein* in the dative singular masculine or feminine triggers weak inflection on the following adjectives (36)-(37):

- | | | | |
|---------|------------------|---------------------|---|
| (34) a. | gute | italienische | Mitarbeiterinnen / Mitarbeiter |
| | good.STR | Italian.STR | assistant.NOM.PL.F/M |
| b. | <i>diese</i> | <i>guten</i> | <i>italienischen</i> Mitarbeiterinnen /Mitarbeiter |
| | these.STR | good.WK | Italian.WK assistant.NOM.PL.F/M |
| (35) a. | (m) ein | guter | italienischer <i>mitarbeiter</i> |
| | my/a | good.STR | italian.STR assistant.NOM.SG.M |
| b. | dieser | <i>gute</i> | <i>italienische</i> mitarbeiter |
| | this.STR | good.WK | italian.WK assistant.NOM.SG.M |
| (36) a. | (m) einem | <i>guten</i> | <i>italienischen</i> <i>mitarbeiter</i> |
| | my/a.STR | good.WK | italian.WK assistant.DAT.SG.M |

¹³ For an overview of the long-standing debate on whether the weak / strong inflection has a semantic import and for the difficulty of unifying predicate and adnominal adjectives in Germanic, cf. van de Velde, Sleeman and Perridon (2014).

- b. **diesem** *guten* *italienischen* *mitarbeiter*
 this.STR good.WK italian.WK assistant.DAT.SG.M
- (37) a. (m)**einer** *guten* *italienischen* *mitarbeiterin*
 my/a.STR good.WK italian.WK assistant.DAT.SG.F
- b. **dieser** *guten* *italienischen* *mitarbeiterin*
 this.STR good.WK italian.WK assistant.DAT.SG.F

Giusti (2015:206-210) proposes to analyse the inflection found on adjectives in German not as part of the adjectival inflectional spine, but as part of the nominal inflectional spine. The proposal is extended here to determiners, including the definite article. The structure of (31a) with a definite article is therefore revised as (38a), parallel to (38b) with a demonstrative and (38c-d) with an indefinite determiner:

- (38) a. [NP d-[N **er**] [NP klug-[N *e*] [NP Italienisch-[N *e*] [NP Mann]]]] cf. (31a)
- b. [NP dies-[N **er**] [NP gut-[N *e*] [NP Italienisch-[N *e*] [NP Mitarbeiter]]]] cf. (35b)
- c. [NP ein [N 0] [NP gut-[N **er**] [NP Italienisch-[N **er**] [NP Mitarbeiter]]]] cf. (35a)
- d. [NP ein-[**em**] [NP gut-[N *e*] [NP Italienisch-[N *e*] [NP Mitarbeiter]]]] cf. (36a)

In (38) the segments of N are phonetically realized as enclitic on the adjectival head. This correctly predicts that the adjectival head is never separated from the nominal segment, thereby deriving the Complement–A order in adnominal position (39a) vs. the A–Complement order in predicate position (39b):

- (39) a. eine auf ihre Tochter stolze Mutter
 a.F.SG of her daughter proud.F.SG mother
 ‘a mother proud of her daughter’
- b. Die Mutter ist stolz auf ihre Tochter.
 ‘The mother is proud of her daughter.’

It also derives the different nature of the article. In Italian, the article is a weak morpheme proclitic to the next word. In an elliptic noun phrase Italian merges a stronger determiner, which is homophonous to the distal demonstrative *quello* in (40a). In some varieties of Italian, the article can appear in elliptic NPs but only if a modifier is also present (40b):

- (40) a. Quale vestito vuoi? Quello lì /**il lì.
 ‘Which dress would you like? That one there.’
- b. Ho un vestito nuovo e uno vecchio. Oggi indosso quello nuovo /%il nuovo
 ‘I have a new and an old dress. Today I will wear the new one.’

In German (41), the *d-* determiner can combine with the locative adverb and can appear in elliptic nominal expressions, suggesting that it is not just a reprojection of N but an autonomous lexical item:

- (41) a. Welches Kleid magst du? Das da.
 ‘Which dress would you like? That one there.’
- b. Ich habe ein neues und ein altes Kleid. Heute trage ich das neue.
 ‘I have a new and an old dress. Today I will wear the new one.’

Thus, adjectives and determiners are uninflected in German but set requirements on the head they concord with. The definite determiner *d-* and demonstrative *dies-* in (38a-b) require that the N-segment with which they concord be overt (*-er*) in the nominative masculine singular. The indefinite determiner *ein* concords with a null head in the nominative singular masculine (and neuter) and with an overt head in other combinations. These are clearly morphological properties associated to precise lexical items and are expected to present the highest degree of variation across varieties and stages of the language.

Considering what was observed in section 2.2 for adjectival inflection in Italian and adjectival vs. determiner inflection in Romanian, we are not surprised to find such variation. Note that the proposal that adnominal adjectives are uninflected in German and that the weak / strong morphology is a bound morpheme realizing an N-segment correctly predicts that in German adjectives do not build inflectional classes, unlike nouns.

The analysis has so far established that while in Romance the nominal spine can be realized in two segments: the article which is proclitic to the next word and the lexical N, in German the nominal spine can be realized in multiple segments, which are enclitic to the element (adjective or determiner) in their specifier. The proposal naturally unifies adnominal and predicate adjectives in German and takes the basic form to be the one in predicate function. Notably, it establishes a diagnostic for adjectival concord. If adjectives are uninflected in predicate position but display inflection in adnominal position, as in German, the adnominal inflection (if present) is the realization of an N-segment. *Vice versa*, if predicate adjectives are inflected, adnominal adjectives are expected to dispense with the overt realization of the N-segment. Space limits do not allow us to apply this diagnostic to all Romance and Germanic languages. In the rest of this section, we observe the lesser known case of Walloon, a Romance language with uninflected predicate adjectives.

3.2. A Romance language with Germanic concord

Following Remacle (1952) and Marin (1986), Bernstein (1991: 108) reports that in Walloon predicate adjectives are uninflected (42a), unlike Walloon adnominal adjectives (42b) and unlike predicate adjectives in other Romance languages. This is detectable on the feminine plural inflection that has a pronounced unstressed vowel in adnominal position but not in predicate position. If the following word begins in a vowel the plural -s ending is also realized by *liason* as in (42c):¹⁴

- (42) a. Èle sont ~~totes~~ pitites.
they.F.PL are all small
'They are very small'
- b. ~~dès~~ totès p'titès cromptîres
some F.PL all F.PL small F.PL potatoes
'some very small potatoes'
- c. ~~dès~~ neûrè-z-amonnes
'some black.F.PL berries'

According to Bernstein, the plural in Walloon is not a suffix on N but a free morpheme in an intermediate functional head (Num). This captures the fact that Walloon lacks any kind of plural marker on nouns, including irregular plural morphology and plural marking in *liason* contexts (examples are however not given). Furthermore, unlike what is generally found in Romance, adjectives

¹⁴ The double strike on the plural ending indicates that the ending is not pronounced but usually appears in written text. Bernstein only strikes the unpronounced morphemes that are relevant to the discussion. I preferred to generalize the double striking to all cases, to avoid misinterpretation.

in Walloon must precede the noun, as can be seen in (42b-c). For Bernstein, this is evidence that the noun does not move to the intermediate head Num. In our framework, this is evidence that the lexical N is realized rather low as in Germanic.

Note that the plural marker does not occur on the adnominal adjective in elliptic contexts (43) suggesting that the morpheme is not enclitic on the previous word (as in German) but proclitic on following word (as the Italian article).

- (43) C'è dè~~s~~ bèlè~~s~~.
it is some nice
'They are nice ones'

Interestingly, only one plural morpheme appears after a coordination of adjectives, further supporting the proposal that the ending on the second adjective is not the adjectival inflection but a free morpheme in the functional head (Num, according to Bernstein) in whose specifier the coordinated adjectives appear:

- (44) a. dè~~s~~ beles-èt bounè~~s~~ bièssè~~s~~
some F.PL nice and good.F.PL animals
b. *dè~~s~~ belèz-èt bounè~~s~~ bièssè~~s~~
some.F.PL nice.F.PL and good.F.PL animals
'some nice and good animals'

Assuming a single Num head, however, Bernstein also expects to find a single Num morpheme when adjectives are stacked, as is in fact the case in another French dialect, Boulogne Picard (45a). However,

as she herself admits, in Liège Walloon each adjective must display its own morpheme, as in (45b). (cf. Bernstein 1991: 123, examples from Morin 1986: 213):

- (45) a. deux bell'grandès femmes (Boulogne Picard)
 'two nice big women'.
 b. dès bèlès fwètès djonès fèyes (Liège Walloon)
 'some nice strong young girls'.

Bernstein accommodates stacked adjectives as stacked elliptic constructions with a bare noun following each adjective. This is, however, at odds with her analysis of elliptic constructions in (43), which do not allow a phrase-final plural morpheme, because the plural morpheme is proclitic and is deleted if it is not followed by a word in the same nominal expression.

The problem is solved if Bernstein's proposal is reformulated in the projection hypothesis. The plural morpheme is not the realization of a single feature Num projecting autonomously because there is no single head Num but only N-segments with full feature bundles. Boulogne Picard spells out only the first N-segment above the lexical head, whereas Liège Walloon spells out all segments, like German. The structures of (45) are given in (46):

- (46) a. [NP deux [N 0] [NP bell [N 0] [NP grand[N ès] [NP femmes]]]] cf. (45a)
 b. [NP d[N ès] [NP bèl[N ès] [NP fwèt[N ès] [NP djon[N ès] [NP fèyes]]]] cf. (45b)

The reformulation also captures the fact that Walloon places nationality adjectives in postnominal position, like the rest of Romance languages and unlike Germanic (cf. Bernstein 1991: 118, data from Remacle 1952: 154-155):

- (47) a. lu peûpe italyin
the people Italian
‘the Italian people’
- b. one clé anglèse
a key English
‘an English key’

In Bernstein’s framework, there is no space for N movement if Num cannot host N. For this reason Bernstein proposes that the lower SpecNP is right-branching, an *ad hoc* proposal for a language that has all other left-branching specifiers. In our framework, the head N reprojects as many times as needed. Nationality adjectives need to be in Spec head configuration with a null segment dominated by an overt segment, as Italian (32b), (33b). The structures of (47) are given in (48):

- (48) a. [NP [N lu] [NP [N peûpe] [NP italyin [N ~~N~~]]]]
b. [NP on[N e] [NP [N clé] [NP angles[N e]]]]

To conclude, Walloon has uninflected adjectives, like German, which concord with an overt nominal head. The morpheme that fills such nominal head can only be detected in the feminine plural, as in the other feature combinations it undergoes phonological deletion. The position where the lexical noun is realized is lower than in Romance, but still higher than in Germanic, in that it is found at the left of nationality adjectives.

4. Conclusions

This chapter has proposed a unified analysis of predicate and adnominal adjectives in Romance and Germanic, focussing on Italian and German but also accounting for Romanian and Walloon. It has argued against a unification of concord with agreement, showing that they are two different processes that apply to possessive adjectives at different times of the derivation. It has also introduced the notion of “projection”, a mechanism that builds the nominal spine and creates a number of N segments which can be overt or covert according to properties of the noun and of the modifiers (notably, adjectives and determiners). In Romance, the lexical noun is realized in the intermediate segment while in Germanic it is realized in a low segment, below all adjectives and above a possessive PP.

Another important difference between Romance (represented by Italian) and Germanic (represented by German) is in the interaction of concord with projection. German adjectives lack inflection, as is apparent in predicate position. In adnominal position, they concord with an overt N-segment, which is enclitic on A and has therefore been traditionally mistaken to be adjectival morphology. Italian adjectives inflect for the nominal features of the N-segment, which remains covert, presumably for economy reasons. An interesting case is provided by Walloon, a Romance variety in contact with Germanic. In Liège Walloon, stacked adjectives behave exactly like in German, with the only difference that the overt N-segment is proclitic to the next word and cannot appear on the last adjective in elliptic constructions.

The analysis has promising perspectives on synchronic and diachronic variation. It predicts the possibility of four language types. (i) Languages with uninflected A and a multiply segmented N, like German and Walloon. (ii) Languages with inflected A and a poorly segmented N, like Italian. (iii) Languages with uninflected A and poorly segmented N, like English, where uninflected adjectives felicitously concord with null N-segments. (iv) Languages with inflected A and multiply segmented N, as could be the case of modern Greek *afto to oreo to vivlio* (lit. this the nice the book, ‘this nice book’).

The obvious limit of this work is to have left other Germanic varieties out of the discussion, notably Scandinavian and Dutch. The intricacies of these languages, however, merit a chapter of their own and limitations of space did not permit an adequate treatment here.

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