

Chomsky's (2020) Links and linker phenomena

Abstract. In section 1, I present a recent formalisation of modification and conjunction structures by Chomsky (2020), in terms of sequences of pair merge units, each including a Link element identified with the nominaliser/verbaliser *n/v*. In sections 2-3, I argue that the Link element is overtly visible in many languages in the form of (nominal) linkers. In section 4, I suggest that case stacking and Concord may also be viewed as a manifestation of Links.

1. Introduction: coordination and modification according to Chomsky (2020).

Chomsky (2020: 49-52), addressing adjectival (adnominal) modification, considers examples like (1a). He remarks that “there’s an asymmetry between the two words, that’s clear. The element that’s formed is a noun phrase, not an adjective phrase. So *young* is an adjunct that’s not changing the category”. As for (1b), the issue is even worse, given that the Labeling Algorithm of Chomsky (2013) predicts that in X-YP mergers, it is the head X that provides the label. “*Portrait of John* is not a head, and could be arbitrarily complex, but it still provides the label of the whole unit. So there is a clear asymmetry”.

- (1) a. young man
- b. old portrait of John

For Chomsky, the way to a different analysis passes through “unbounded, unstructured coordinations” like (2). His idea is that “at some point in [the] generation of an interpretable structure, each of the adjective phrases in [2] will be predicated of *someone* with an asymmetric relation similar to *young man*, presumably pair-formation”. To formalize this relation “it seems we need an operation Pair-Merge, which will also apply to the simple adjunct case like *young man*”. Importantly, for the purposes of labelling – or more generally of projecting the structure, “*young* will be adjoined to *man*, but you don’t see it in the labeling because it’s off in some other dimension... It’s not two dimensional like a blackboard, but there’s no reason to suppose that mental representations are restricted this way”.¹

- (2) I met someone young, happy, eager to go to college, tired of wasting his time, ...

The next step is acknowledging that the structure formed by the modifiers in (1) is “not just a set of paired elements, it’s a sequence of paired elements”. The argument is that the order of the unstructured unbounded elements matters ... because of reasons that were pointed out by Jim McCawley over half a century ago, namely, notions like *respectively*. So in (3a) the order in which the coordinated elements appear “affects the semantic interpretation”. The same is true of adjuncts, as in (3b).

- (3) a. John and Bill saw Tom and Mary, respectively
- b. John and Bill are young and tall, respectively

Formally, “you generate syntactic objects in WS [Work Space], select a finite set of these, and from that set form a sequence S... and that sequence S is the syntactic object that you’re then going to merge into the construction”. As illustrated in (4), “we’re forming a sequence which begins with

¹ In fact, according to Chomsky “the unbounded unstructured cases like [2] show you in effect that there are unboundedly many dimensions as adjective phrases are independently adjoined to the host”.

some conjunction, and then contains elements, each of which is predicated of something. So we have a sequence of elements that looks like [4], with links L_i ". Of course, "when you get down to the limiting case, when $n = 1$, that's just plain adjunction. So *the young man*".

(4) $\langle \text{CONJ}, \langle S_1, L_1 \rangle, \dots, \langle S_n, L_n \rangle \rangle$

A number of interesting consequences follow from this treatment of modification and conjunction. Specifically "if you have the phrase *old man*, you can't extract *man* and leave *old*; you can't extract *old* and leave *man*. So the elements of the pairs are inaccessible... You have the coordinate structure constraint because every term is inaccessible. You have the adjunct island constraint because you can't pull the elements out of adjuncts".

What I am interested in is the next question, namely "what is L? What do things link to?" The suggestion is that "L for nominal sequences is just n , the categorizer of each of the coordinated phrases". As Chomsky points out, the basic nature of n and v is that of nominal and verbal categorizers, assuming that roots are themselves deprived of a category (Marantz 1997). Therefore, "the sequence S is actually a Root Phrase (RP) sequence which is categorized by linking to n , v , a , in the basic cases".

In a later passage, Chomsky (2020: 56) discusses a model of head raising by pair-merge attributed to H. Kitahara (see Epstein et al. 2016). T-to-C is the instance of head raising being considered and the result of the derivation is the structure in (5). The derivational steps listed in (6) provide a useful sketch of how set-merge and pair-merge are interwoven in the derivation.

(5) $\{ \langle C, T \rangle \{ T, VP \} \}$

- (6) a. you generate $\{ T, VP \}$.
 b. Then you pair-merge C and T, yielding $\langle C, T \rangle$.
 c. The workspace now contains $\langle C, T \rangle$ and $\{ T, VP \}$.
 d. you now merge $\langle C, T \rangle$ to $\{ T, VP \}$, yielding $\{ \langle C, T \rangle \{ T, VP \} \}$.

My topic here is modification, especially adnominal modification (hence neither coordination, nor head raising per se). I will address a very narrow question, though one with potentially wide ranging empirical consequences. In its general form, the question is whether one might see a morphological realization of the link in modification structures like (4). More specifically, a possible candidate is what is known in the literature as a linker (whether the assonance is intended by Chomsky, I don't know). Linkers include the pre-adjectival and pre-genitive articles of Balkan languages (Greek, Albanian, Romanian, Aromanian), on which I base my discussion in sections 2-3, given the relatively familiar nature of the constructs and of the morphology involved. In section 4, I briefly turn to a number of descriptive and theoretical issues that are raised by the present discussion of linkers, which I leave largely open for future research.

2. Linkers

In many languages, belonging to diverse families, direct modification of an N by adjectives, PPs (oblique case NPs) or relative clauses is not possible. Rather it is necessary to introduce the modifier by means of a functional element which we agree to generically call a linker. These languages are therefore different from English (1a) or (2) where *man* or *somebody* are directly merged with *young* (preminally or postnominally), and the same in fact holds of PP (oblique case) modifiers, for instance the genitive PP *of John* in (1b). In Albanian, modification by an adjective or genitive PP implies the presence of an extra element with which the adjective or PP is merged, namely the linker. The syntactic object so created is then merged with the noun it modifies. Some examples of adjectival modification are provided in (7)-(8).

- (7) a. një dialë i bukur
a boy lkr good-looking
‘a good looking boy’
- b. disa djem të bukur
some boys lkr good-looking
‘some good looking boys’
- c. djali i bukur
boy-def lkr good-looking
‘the good looking boy’
- d. djemtë të bukur
boys-def lkr good-looking
the good looking boys’
- (8) a. një vajzë e bukura
a girl lkr good-looking
‘a good looking girl’
- b. disa vajza të bukura
some girls lkr good-looking
‘some good looking girls’
- c. vajza e bukura
girl-def lkr good-looking
‘the good looking girl’
- d. vajzat të bukura
girls-def lkr good-looking
‘the good looking girls’

Let me briefly comment some salient properties of the data. Nominal inflections (on ‘boy’, ‘girl’) differentiate indefinite Ns (7a, b), (8a, b) from definite Ns. This phenomenon (also found in Romanian, South Slavic) is traditionally analyzed as a postnominal definite article, often derived by N to D head movement by generative scholars (Turano 2002 on Albanian). I follow Manzini and Savoia (2011, 2018) in assuming that definiteness is a property of Albanian inflections, like ϕ features (cf. also Chomsky 2020: 51). Preadjectival linkers are sensitive to the ϕ properties of N. The contrast between singular and plural is seen in (7a) vs. (7b) and (7c) vs. (7d) and similarly in (8). As for gender, compare (7a) to (8a), (7c) to (8c). Further data, illustrating sensitivity to definiteness and case, are available in the formal literature (Campos 2009, Manzini and Savoia 2011, 2018, Franco et al. 2015).

Linkers have nothing to do with adjectives *per se*, but rather are devices that enable adnominal modification. Thus, they are obligatorily merged with a genitive NP before the resulting syntactic object can modify N. The genitive NP can be definite or indefinite, as can be the head N. In (9) I exemplify the paradigm for nominative singular heads; all data here and above are from Turano (2004).

- (9) a. një mur i shtëpisë/ një shtëpje
a wall lkr house-gen.def/a house-gen
‘a wall of the/a house’
- b. një dhomë e shtëpisë/ një shtëpje
a room lkr house-gen.def/a house-gen
‘a room of the/a house’
- c. muri i shtëpisë/ një shtëpje
wall-def lkr house-gen.def/a house-gen
‘the wall of the/a house’
- d. dhoma e shtëpisë/ një shtëpje

room-def lkr house-gen.def/a house-gen
 ‘the room of the/a house’

The examples in (9) highlight a further important property of linkers in Albanian. The linker is sensitive to the ϕ features, definiteness and case of the modified N but not of the modifier NP. Thus in (9a) vs. (9b) or (9c) vs. (9d) the linker varies according to the gender of the head noun. In (9a) and (9c), where the genders of the head N and of the genitive NP are mismatched, the linker reflects the gender of the head N (masculine). Similar observations hold for all other relevant features, as again discussed by the literature (especially Franco et al. 2015, Manzini and Savoia 2018).

So far, then, I have highlighted the fact that the Albanian linker, whatever its nature may be, co-varies with the inflection of the modified N. In fact, a stronger generalization emerges, namely that the linker has (roughly) the same morphological shape as the definite nominal inflection. See for instance the nominative masculine singular (-)i definite inflection and linker or the plural (-)t(ë) definite inflection and linker. This generalization motivates the traditional label of linkers as articles; that they are not articles, or rather determiners, in the sense of referential operators is quite straightforwardly indicated by the fact that they combine with the indefinite article in various examples in (7)-(9) (see Manzini and Savoia 2011, 2018 for further examples).

Familiar languages like Romanian, Greek also have article-like linkers. In Greek the relevant phenomenon is restricted to definite head nouns and is mostly studied under the label of polydefiniteness (Campos and Stavrou 2005, Lekakou and Szendroi 2012, Guardiano and Stavrou 2014). In Eastern Romance the phenomenon is also limited to definite Ns and more robust in Aromanian (Campos 2005, Manzini and Savoia 2018) than in Romanian. In the Iranian languages, linkers are traditionally known as *ezafe*. They have similar distribution to Balkan linkers in front of adjectives and oblique modifiers (Larson and Yamakido 2008). While the Persian *ezafe* is invariable, it is sufficient to turn to other Western Iranian languages, like Kurdish, to find the familiar patterns of sensitivity to ϕ features, definiteness and case of the modified N (Holmberg and Odden 2008, Franco et al. 2015). The continuity of these various phenomena, concealed by traditional labels is endorsed by typological studies, see especially Plank (1995), also for the discussion of different language families.

In short, Albanian provides a robust example of a phenomenon which is widespread in the Indo-European family, whereby nominal modification by direct merge of N(P) with an adjective or an oblique NP (Possessor) is impossible, unlike in English. Rather merger requires the presence of a linker, which is either an invariable element or an element with the same morphology as nominal (D) inflections. Given the co-occurrence of modification and coordination in Chomsky’s (2020) discussion of Links, we may wonder how linkers behave under coordination. The linker can be repeated in every member of the coordination, and in Albanian (or Greek) it must, as in (10) (from Campos 2009: 1015, 1017).

- (10) a. Vajza e mire (dhe) e sjellshme studion shumë
 girl-def lkr good and lkr well behaved studies much
 ‘The good (and) well behaved girl studies a lot’
 b. Studentja më e urtë e klasës është Linda
 student-def most lkr quiet lkr class-gen.def is Linda
 ‘The quietest student of the class is Linda’

The English examples in (1)-(2) suggest a further test, namely whether linkers are equally found with attributive adjective (prenominal in English) and with predicative ones (postnominal in English). Here, as for every other property discussed so far, there is a certain range of variation but Albanian linkers are in fact obligatory in postcopular position, as in (11).

- (11) a. Vajza është e bukura

- girl-def is lkr good looking
 ‘The girl is good looking’
- b. Ky është i djalit
 this is lkr boy-gen.def
 ‘This is of the boy’

Before I consider the question that I set myself, namely whether linkers are exponents of the syntactic objects that Chomsky (2020) calls Links I will first review the main analyses of linkers available within formal approaches; further details can be found in Franco et al. (2015). One approach, notably endorsed by Richards (2010), construes linkers (e.g. the Persian *ezafe*) as means for identity avoidance. Thus N N adjacency (also including N A adjacency) is avoided by inserting the linker. This approach is rather trivially called into question by the obligatoriness of linkers in postcopular (predicative) position, as in (11), where N/A is adjacent to V. Another approach which can fairly easily be discarded is Larson and Yamakido’s (2008), treating the linker as a case marker (again also for adjectives). It is perhaps not unnatural to propose this role for the *ezafe* in Persian, a language lacking other case morphology. Yet it difficult to see how this could be extended to robustly case inflected languages like Albanian, where the linker clearly reflect the case of the modified noun, not of the modifier.

Other approaches contain more useful insights. Den Dikken (2006), den Dikken and Singhapreecha (2004) proposes

that linkers should be conceptualised as copulas (see Campos and Stavrou 2005 for an application to Balkan languages). This brings to the fore an important conceptual theme, namely the fact that linkers involve predication environments. Yet the predicate-like treatment of the linker is once again undermined by the fact that linkers are found in postcopular contexts like (11) where a predicate is independently present (though see the discussion of (19)). More generally, linkers do not at all have verbal-like morphology, but are rather nominal-like. Philip (2012) indeed raises the issue of the connection between linkers and agreement. She concludes that they are essentially Agr heads. Some technical difficulties with this proposal arise because of Chomsky’s (1995, 2000) arguments against Agr(P). Leaving this aside, it seems to me that the real question is why an extra Agr element would be present, especially considering that adjectives already have an agreement inflection. For instance *bukur* ‘good looking-M’ in (7) contrasts with *bukura* ‘good looking-F’ in (8).

Finally, some authors take at face value the fact that linkers, at least in I-E languages, share the same morphology as determiners and/or as pronominal clitics. Lekakou and Szendrői (2012) ultimately endorse a slightly different categorisation for D (the linker) and Def (the determiner), somewhat defeating the purpose of explaining one on the basis of the other. Franco et al. (2015), Manzini and Savoia (2018) propose that linkers are Ds. As for the reason why such elements would be generated, they resort to an interface explanation, namely that in linker languages the subject of the predication needs to be represented within the maximal projection of the predicate. For instance, in (11a) the linker provides a partial saturation of the argument of ‘good’ within the AP projection, prior to saturation by ‘the girl’. The same is true in (11b), assuming that the genitive is a two place relation (Manzini and Franco 2016) where the internal argument is satisfied by the genitive NP itself and the external argument is the modified NP. In (11b), then, the linker provides a local saturation of the external argument of the genitive relator prior to saturation by ‘this’. The problem is that it is not obvious why the relevant constraint (here local satisfaction of the valence) would hold.

In the next section, I will consider whether Linkers, as illustrated in this section, can and should be modelled by Chomsky’s (2020) Links, as introduced in section 1. This means answering two questions. First, do Links adequately model the properties of linkers reviewed above? Second, does the modelling by Links improve our understanding, with respect to the various analyses reviewed?

3. Linkers and Links

As already mentioned Albanian has been chosen as a language of exemplification because of the richness and regularity of the linkers phenomenon. Not all of the properties of Albanian that I have listed occur in all linker languages, but subsets of them typically do. The first important property is that linkers in adnominal modification are nominal; concretely, they are neither prepositions/case marker nor copulas, but rather article- or clitic-like. From a theoretical point of view, if we want to identify linkers with Links in pair merge sequences, the question is whether it is plausible to categorise them as *n*.

In order to answer this question, I need to take a detour into the nature of *n*. Chomsky simply identifies *n* with the nominal categoriser and phase head. In Distributed Morphology (DM), *n* is identified with the lowest of the features of the nominal root *R*, namely gender in IE languages, or more generally nominal class (Kramer 2015 for an overview). IE nouns have a tripartite morphological structure, consisting of a root followed by a thematic vowel which generally conveys nominal and inflectional class (and sometimes number) and a higher slot associated with number, case, definiteness (Halle and Vaux 1998). In Albanian, the three constituents can be clearly seen for instance in the (regular) definite plural *vajzat* ‘the girls’ in (8d), associated with the structure in (12) (Manzini and Savoia 2011, 2018).

(12) $[[[\text{vaiz } _R] \quad \text{a}_{\text{Class}}] \quad \text{t}_{\text{D(Num)}}]$ cf. (8d)

As already mentioned, DM theorists consistently identify the lower Class node in a structure like (12) with *n*. Déchaine et al. (2014), working on Shona (Bantu), however take *n* to be separate from nominal class morphology, whose exponents they conceive of as Asp categories, with different flavours. I propose here that *n* is to be understood as distributed over the complex of inherent features of Ns that contribute its nominal character to the root, namely ϕ , definiteness D as well as (inherent) case (in practice oblique case). In other words, (12) is shorthand for (13).

(13) $[[[\text{vaiz } _R] \quad \text{a}_{n(\text{Class})}] \quad \text{t}_{n(\text{Def/Num})}]$ cf. (8d)

We are now in a position to consider whether linkers can be identified with *n*, which is Chomsky’s (2020) proposed categorisation for the Links in adjectival sequences. Since *n* is identified with the collection of the inherent properties of N, it is evident that the Albanian linker can be construed as an exponent of *n*. Categorisations of the linker as Agr (i.e. ϕ , Philip 2012) or as Def (Lekakou and Szendrői 2012) or as D (Franco et al. 2015) can be seen as precursors of the more general *n* categorisation, conceived as in (13). Formally, then, in Albanian the adjectival modifier, for instance *të bukura* ‘good looking-FPL’ in (8d) results from pair merge of an (agreeing) adjective *bukura* and of a Link *të* of category *n*, as in (14).

(14) $\langle [n \text{ të}], [A \text{ bukura }] \rangle$ cf. (8d)

The adjectival pair merge structure in (14) is then merged with the N in (13) to form the A, N modification structure in (15). The structure of merger (set merge and pair merge) is the same as in Chomsky’s English structures in section 1, though to facilitate comparison with the actual example (8d), I linearize the modifier to the right

(15) $[_{\text{NP}} [_{\text{N}} \text{vaizat}] \langle [n \text{ të}], [A \text{ bukura }] \rangle]$ cf. (8d)

Another properties of linkers mentioned in section 2 is that they are found not only with adjectival modification, but also with modification by an oblique case NP/a PP. Specifically, in Albanian, linkers are present when N is modified by a genitive, which is the only oblique in the

language. Modification of N by PPs does not involve linkers (one of many points that are left for future research). The structure of genitive modification is exactly parallel to that proposed for adjective modification, as illustrated in structure (16) for example (9c).

(16) [NP [N muri] < [_n i], [NP shtëpisë] >] cf. (9c)

Next, recall that Chomsky (2020) treats coordinations of modifiers as sequences of pair merge couples, each consisting of a Link and of a modifier. Given this, we expect that it should be possible (and perhaps necessary) to find linkers repeated in front of each modifier. This is clearly the case in Albanian, as illustrated in structure (17) for example (10a) above.

(17) [NP [N vaizat] << e, mire >, < e, sjellshme >>] cf. (10a)

As expected, when several modifiers are present they receive a coordinated reading. The referent of the nominal expression is at the intersection of the various predicates involved, namely ‘the x: x girl and x good and x well behaved’ for (17). The content of the definite operator is provided by the definite feature of the head noun. The x variable in turn is restricted by the ϕ features of *n*, in this instance, plural and (redundantly) feminine. Recall that Franco et al (2015), Manzini and Savoia (2018) propose that the linker provides a local argument for each individual predicate. Yet the reason why this should be so ultimately eludes them. Link structures like (17) provide the required explanation, since they connect linkers to the universal structure for modification (and/or coordination), namely pair merge. In this sense linker languages like Albanian do not instantiate any special construct. If anything, it is languages like English, which do not have any element externalising linkers that represent a special case.

Various empirical challenges remain open. To begin with, linkers are not simply copies of the *n* inflection of the modified N. In Albanian the linker for a modified definite N, as in (15), (16) is in fact a copy of the inflection of N. But this is not true in examples where the modified N is indefinite for instance (7a, b) or (8a, b), while the linker still belongs to the definite morphological series. In order to discuss this point, one additional fact about Albanian morphosyntax needs to be introduced, namely that Ns with so called indefinite endings can be found in combination not only with (indefinite) quantifiers but also with demonstratives. Perhaps, it would be more appropriate to speak of a weak inflection, where an overt D is present, vs. a strong inflection, conveying definiteness in the absence of a definite article. In this perspective, the strong form of linkers could reflect some morphosyntactic property, for instance their autonomous (clitic) head status. Evidently, all of this remains to be worked out. In other languages, we know that linkers are invariable (e.g. the Persian *ezafe*), hence possibly a default *n*. A descriptively adequate theory must ultimately take this range of variation into account.

This is also true of the constraints that restrict the overt presence of linkers in some languages. For instance, in Greek, linkers only surface when a definite N is modified. In this case, we could assume that the modification of indefinite Ns also involves linkers, except that they are not externalised. The evidence comes in part from the comparison with languages like Albanian, where linkers have a less differentiated lexicalisation when a definite N is modified. Romanian also provides an example of missing linkers dictated by externalisation and not by the absence of linker structures. Thus, Romanian genitives are preceded by the linkers *al, a, ai, ali* which nevertheless do not surface when the modified N is definite and crucially is linearly adjacent to the modifying genitive, as shown in (18a) (no linker) vs. (18b-d) (obligatory linker, Dobrovie Sorin et al. 2013).

(18) a. casa vecinului
house-def neighbour-def.gen
‘the neighbour’s house’
b. o casă a vecinului

- a house lkr neighbour-def.gen
 ‘a house of the neighbour’s/a neighbour’s’
- c. casa frumoasă a vecinului
 house-def beautiful lkr neighbour-def.gen
 ‘the beautiful house of the neighbour’
- d. Casa este a vecinului
 house-def is lkr neighbour-def.gen
 ‘The house is the neighbour’s.’

The final potential difficulty I consider here has to do with predicative modifiers in postcopular position, preceded by the linker in Albanian (11), Romanian (18d). The question is how this can be reconciled with the *n* nature of the linker. The simplest answer lies in the analysis of copular constructions proposed by Moro (1997). At first merge, a predication is created directly between NP and an adjective, or possessor, or a set of such modifiers. In other words, the underlying structure of (11a) contains the substructure in (19) which is just a normal nominal modification structure. Merger of the copula then forces *vajza* to raise, stranding the linker structure.

(19) [NP [N *vajza*] < [n e], [A *bukura*] >] cf. (11a)

In short, the identification of linkers in nominal modification with Chomsky’s (2020) Links is consistent with empirical evidence and resolves the long standing issue of the underlying motivation for linker structures. In the construal suggested here, linkers are an overt reflection of the ordinary structure of nominal modification, covertly present in languages like English as well. Apart from its intrinsic interest, this conclusion opens the way for studying pair merge structures on the basis of their overt linker manifestations. Several avenues of further research open up. I will briefly mention some of them in the next section.

4. Link(er)s: Further prospects

Work by Collins (2019) on Khoisan languages shows the existence of verbal linkers, introducing a variety of arguments and modifiers of the verb other than the direct object. Various questions arise: first of all whether these are instantiations of the *v* linker, and next how this complies with the coordination semantics of Link sequences. In fact, in at least one IE, Romance language, namely Aromanian, the same linker element that precedes genitives in adnominal modification also precedes datives in ditransitive or other environments (Manzini and Savoia 2018). Interestingly, the Aromanian linker agrees with the genitive or dative, unlike all genitives seen so far.

- (20) a. i o am datə o fitforu/ ali feti
 him/her it I.have given LKR boy-DEF/LKR girl-DEF
 ‘I gave it to the boy/the girl’
- b. libr-a o fitforu/ali fet-i
 book-DEF LKR boy-DEF/LKR girl-DEF
 ‘the boy’s/the girl’s book’

The matter of verbal linkers is left completely open. Collins (2019) himself points to the possible connection with adnominal linkers dropping the issue immediately afterwards. The Link analysis of linkers may lead to a profitable reopening of this longstanding question.

On a different track, typological work (Plank 1995) draws together linkers and other phenomena which like linkers, characterise adnominal modification and involve the surfacing of a partial copy of the modified N on the modifier (adjective, genitive). The most notable such

phenomenon is case stacking, instantiated for instance in Australian languages. In the Lardil (Pama Nyungam) example in (21) (Richards 2013: 43) the modified N is in the instrumental case ‘with the spear’. Its genitive modifier ‘the boy’s’ bears not only its own case (genitive), but also a copy of the instrumental case of the modified N.

- (21) Ngada latha karnjin-i marun-ngan-ku maarn-ku
 I spear wallaby-acc boy-gen-instr spear-instr
 ‘I speared the wallaby with the boy’s spear.’

Manzini and Savoia (2018), Manzini et al. (2019) argue that case stacking responds to the same generalization that they propose for linkers, namely that the external argument of the elementary relator ‘of’/Gen must have an instantiation within the relator’s maximal projection, i.e. PP or (oblique) KP. As before, the issue arises why the grammar would enforce such a requirement. If the present discussion is correct, case stacking could be conceptualised as a different realisation of the *n* linker considered in the previous section. Thus *marun-ngan-ku maarn-ku* ‘with the boy’s spear’ would have a structure like (22) with the head *maarn-ku* ‘with the spear’ modified by the genitive *marun-ngan* ‘the boy’s’ via pair merge of the latter with a Link *n*, represented in this instance by a case inflection, *ku*. This analysis however clearly requires a more sustained discussion of case than has been provided here, and again I leave this for future research.

- (22) [NP <[_{KP} marun-ngan], [_n ku]> [_{KP} maarn-ku]]

As a final illustration I go back to the relation of linkers to agreement, a topic raised before, but not further explored. I will begin with some simple examples from Italian, a language which has direct modification of Ns by adjectives, differing from English only in that adjectives agree with the N they modify, as in (23).

- (23) a. la bella casa
 the.fsg nice.fsg home.fsg
 ‘the nice home’
 b. le belle case
 the.fpl nice.fpl home.fpl
 ‘the nice homes’

A considerable amount of discussion in generative work of the last two decades has been devoted to the question whether the agreement phenomenon in (23), often referred to as concord, is or is not to be assimilated to subject, verb agreement, hence accounted for by (a suitable version of) the minimalist rule of Agree. There are *prima facie* overwhelming reasons to assimilate concord and verbal agreement, see Baker (2008). At the same time, Agree, beginning with Chomsky (2001) is characterised as being fundamentally asymmetrical, namely a relation between an element needing to be checked (interpreted, evaluated, deleted, etc.) and an element able to check it. If this conception is imported into concord, a number of difficulties arise, since an example like (23) seems entirely symmetrical: every member of the NP must agree with any other member, overtly. Ways have been suggested to avoid this difficulty. In one of the first approaches to the issue, Carstens (2000) proposes checking multiple categories (A, D) by means of N. Other theorists have preferred defining separate rule (Giusti 2008 for an early proposal) or simply ignore Concord when discussing Agree.

Here I would like to add linkers and/or Links to the Agree vs Concord equation. The Romance languages have possessive (genitive) pronouns. These pronouns of course have their own inherent ϕ features, including person and number as English *my*, *his*, *their* etc. In addition, however, they also bear an inflection agreeing with the N they modify, as shown in (24).

- (24) a. la mia casa
the.fsg my.fsg home.fsg
‘my home’
b. le mie case
the.fpl my.fpl home.fpl
‘my homes’

Because of the discussion of Albanian, we know that in (23a) *bella casa* ‘nice home’ has the structure of embedding in (25a). We also know that genitive modifiers have a similar structure, so that *mia casa* ‘my home’ in (24a) corresponds roughly to (25b).

- (25) a. $[\text{NP} < n, [\text{A } \textit{bella}] > [\text{N } \textit{casa}]]$
b. $[\text{NP} < n, [\text{NP } \textit{mia}] > [\text{N } \textit{casa}]]$

The problem with (25b) is the stacking of φ features on the possessive pronoun, namely their own intrinsic features, and on top of those a copy of the features of N. Now, recall from the discussion of Albanian that the *n* linker is literally meant as an iteration of the *n* nominalising category of N, in practice its inflection. The representation in (25b) suggests that the stacked agreement could be another externalisation yet of the *n* Link, this time via agreement, as in (26b).

- (26) $[\text{NP} < n, [\text{NP } \textit{mi-a}] > [\text{N } \textit{casa}]]$
|_____|

What is especially interesting is that one could extend the same treatment to adjectival concord, along the lines of (27). If so, the dissimilarities between subject/verb Agree and concord would not be a consequence of different rules applying, or of Agree applying in a different way. Rather I am suggesting that it may be construed as regular Agree between an *n* phase head probe and a goal, except that *n* is the Link in a modification pair merge structure.

- (27) $[\text{NP} < n, [\text{A } \textit{bell-a}] > [\text{N } \textit{casa}]]$
|_____|

In fact, the connection between linkers, case stacking and what we may call agreement stacking is clearly perceived by the typological literature (Plank 1995). In the theoretical literature, Manzini et al. (2019) discuss in detail Punjabi where genitive PPs bear agreement with the N they modify. If (27) is correct, then a further important consequence follows from the pair merge construct involving Links (and hence linkers).

5. Conclusion

In this note, I have first presented a recent formalisation of modification and conjunction structure by Chomsky (2020) in terms of sequences of pair merge units, each units created by means of a Link element identified with the nominaliser/verbaliser *n/v*. I have argued that the Link element is overtly visible in languages with linkers, to be more precise nominal linkers, while for verbal linkers I have left the question open. I have suggested that typologists are rights in regarding case stacking and linkers as essentially the same phenomenon. I have further suggested that concord may be another manifestation of Link structures, solving the longstanding issue of Concord vs Agree.

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