

common (Manzini & Savoia 2005; 2011) across Romance languages: these persons are more complex than other persons (Bobaljik 2008) because they involve a complex reference to the discourse participants (as with 1<sup>st</sup> and 2<sup>nd</sup> singular), to the plurality of participants and to the event participants. However, further analysis is needed in order to account for the nature of this person split: for present purposes, the complexity of the referentiality seems to pattern with certain aspectual interpretations (such as the inchoative interpretation attributed to (43-44) when the embedded verb is infinitival) linked to the complex referentiality, such as the inclusion/exclusion of the subject(s) within the complex locative/progressive constructions, which involve an event identification/change. In a lexical parametrization analysis (Manzini & Savoia 2011), languages involve a parametric distinction for plural persons: the difference between discourse participants and event participants found in the singular (1<sup>st</sup> and 2<sup>nd</sup> singular person vs. 3<sup>rd</sup> person) may not apply in the plural, but different overlapping referents may influence the status of the plural persons and imply their overt morphological realization as a parametric choice across languages.

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## Chapter 8

# Suffixaufnahme, oblique case and Agree

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The present contribution focuses on a set of phenomena which are unified by the typological literature under the label of Suffixaufnahme. The theoretical focus of the contribution is the minimalist rule of Agree and the notion of case, specifically oblique case. We question the necessity of [interpretable] and [valued] features for the formulation of Agree. We suggest that more primitive syntactic notions underlie the descriptive label ‘oblique’, specifically that of an elementary relator with a part/whole content. Thus, the DP embedded under a genitive case/adposition is interpreted as a possessor/whole with respect to a local superordinate DP (the possumum/part). We argue that case/agreement stacking corresponds to the presence of a partial copy of this second argument within the phrasal projection of the relator. In §2 we apply this analysis to linkers, using Albanian as a case study; we then go on to case/agreement stacking in Punjabi (§3) and in the Australian languages (e.g. Lardil), which are often taken as the core instantiation of the phenomenon.

## 1 The core phenomena and the role of Agree

### 1.1 Case/agreement stacking and linkers

A core instance of what the typological literature labels Suffixaufnahme (Plank 1995) is case stacking. Lardil is cited by Richards (2013) as a case in point, as in (1). In (1), the DP *marun-ngan-ku* ‘boy-GEN-INSTR’ is inflected both for genitive



and for instrumental cases, reflecting its status as the possessor (GEN) of the instrumental nominal *maarnku* ‘spear-INSTR’. For Merchant (2006: 62), case stacking amounts to the fact that “a single DP may be the goal for multiple probes.” Richards (2013) in turn speaks of ‘concord’ as the process responsible for case stacking configurations, where concord is “a series of Agree operations” with the same c-commanding probe. Thus, stacking implies that the same probe can attract several goals.

- (1) Lardil, Pama-Nyungam (Richards 2013: 43)  
 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.’

Plank (1995) points to a close similarity between case stacking and linkers – which have their own tradition of studies in the generative framework. The non-agreeing Persian *ezafe* is often at the center of discussions of linkers (den Dikken & Singhapreecha 2004; Larson & Yamakido 2008; Richards 2010). On the other hand, Franco et al. (2015) exemplify linkers with data from Albanian, where the pre-genitival linker varies according to the phi-features and also according to the case of the head DP. Agreement in phi-features is illustrated in (2a–2b), while (2c) illustrates agreement in case. Here and throughout we use data from the Geg (Northern Albanian) variety of Shkodër.

- (2) Shkodër, Geg Albanian (Manzini & Savoia 2011b: 105)
- a. libr-i i msus-εs  
 book-M.SG.NOM.DEF LKR.M.SG.NOM.DEF teacher-F.SG.OBL.DEF  
 ‘the book of the teacher’
- b. ka:m-a ε tʃɛn-it  
 paw-F.SG.NOM.DEF LKR.F.SG.NOM.DEF dog-M.SG.OBL.DEF  
 ‘the paw of the dog’
- c. para libr-it t msus-εs  
 before book-M.SG.OBL.DEF LKR.M.SG.OBL.DEF teacher-F.SG.OBL.DEF  
 ‘in front of the book of the teacher’

The examples of adnominal modification in (1–2) include essentially the same ingredients, though differently arranged. In (1) both genitive and instrumental are suffixed to the possessor. In (2) the possessor has a single genitive suffix and it is preceded by a head bearing a case agreeing with that of the possessum. As

it turns out, most of the generative theories of linkers do not extend to stacking. Theories of linkers are easily classified into a few major subtypes. Richards (2010) argues that the Persian *ezafe* is a PF device to ensure N-N identity avoidance (cf. Ghomeshi 1997). Stacked case could not be a means to the same end, since the instrumental N and the genitive N are adjacent in (1). Incidentally, this is an obvious demonstration of the lack of perceived unity between case stacking and linkers from the point of view of the same author, Norvin Richards. A second stream of theoretical literature (den Dikken & Singhapreecha 2004; Campos & Stavrou 2005) treats linkers as (the counterpart of) copulas in the DP domain. But it is hard to see how stacked case could fit into this definition. Larson & Yamakido's (2008) conclusion that linkers are to be explained in terms of case (cf. Samiiian 1994 on Persian) seems to hold some promise towards the unification of linkers with case stacking – except that these authors argue that linkers play a role as case assigners, allowing Ns, which do not normally license case, to be construed with DP complements and AP modifiers. On the other hand, a stacked case is a case being assigned on top of another.

This then leaves proposals (Philip 2012) that linkers should be understood as agreements, though represented by heads, rather than by agreement suffixes; if predication is involved, then linkers are subjects of predication (Franco et al. 2015), rather than copulas. Specifically, in Albanian (2) the linker agrees in case, as well as in phi-features, with the head of the possession construct, providing an obvious link with case stacking, described by Richards (2013) himself in term of 'concord'. Summarizing, we have on the one hand a typological similarity between case stacking in (1) and linkers in (2) and on the other hand a rough theoretical compatibility, at least for a particular subset of analyses of case stacking and linkers – treating both phenomena as connected to Agree.

Though stacking of suffixal material in Lardil (1) involves case, phi-features may also in principle be stacked. A clear example of this configuration is provided by Punjabi (Indo-Aryan). Punjabi Ns have phi-feature inflections sensitive to a direct/oblique case distinction in the masculine singular, followed by postpositions. In addition, possessor phrases in Punjabi require the phi-features of the head noun (the possessum) to be stacked on top of the genitive *d-* postposition. Thus, consider *munḍ-* 'boy' in (3), on which we find, from left to right, the oblique phi-feature inflection *-e*, the *d-* genitive postposition and finally a phi-feature inflection *-i/-ĩã* agreeing with the head noun. As we will see in §3, if the head noun is masculine, this outer inflection is also sensitive to the direct/oblique case distinction. At first sight, Punjabi (3) is essentially like Lardil (1), modulo the presence of stacked case in (1) and of stacked agreement in (3). It is also similar

to Albanian (2), modulo the fact that agreement with the head N is externalized by a head (the linker) in Albanian and by a postposition in Punjabi.

- (3) Punjabi (Manzini et al. 2015: 316)  
 munḡd- e- d- i / -ĩã kita:b / kitabb-a  
 boy- M.SG- GEN- F.SG / -F.PL book.ABS.F.SG / book-ABS.F.PL  
 ‘the book/the books of the boy’

The interest of an inquiry into (1–3) from a theoretical perspective is represented in part by the potential implications for Agree, one of the core rules of Minimalist syntax. A quick survey of the formalizations proposed for both stacking and linkers in terms of Agree reveals some potential difficulties for this rule. Recall that Merchant’s (2006) idea is that in case stacking the same set of interpretable nominal features are able to check more than one probe. For instance, in (1), ‘boy’ could check both a genitive case probe and an instrumental probe. In (3) then the agreement suffixes *-i/-ĩã* would have to be the result of checking some probe associated with the head noun ‘book(s)’, say an abstract D. Unfortunately they can’t be, because ‘boy’ has its own interpretable set of features, which definitely cannot be made to agree with the equally interpretable, different features of ‘book(s)’.<sup>1</sup> Next consider linkers. Suppose that the Albanian linker in (2) is an agreement head. Then, as discussed in particular by Philip (2012), we are forced to diverge from a standard tenet of Minimalism, namely that heads are contentive elements – since their deletion at LF under Full Interpretation would amount to the destruction of structure (contravening Inclusiveness; Chomsky 1995).

These problems may be taken to determine one of two logical outcomes. First, Suffixaufnahme cannot have any theoretical significance given that aligning it with Agree seems to involve difficulties for this rule. Alternatively, we will have to reconsider the formulations of Agree that are standardly used. In fact, the core context for Suffixaufnahme is adnominal modification – and we independently know that Minimalist Agree, developed by Chomsky (2000; 2001) for verb agreement, cannot straightforwardly be applied within DPs (Carstens 2001). In §1.2 we will argue for a retreat from rich current models of Agree to an impoverished model characterized by the absence of such constructs as multiple probes/goals or multiple directionality. In §2–3, we will address the evidence in (1–3) – shifting our theoretical focus to the nature of case, and specifically oblique case.

<sup>1</sup>The empirical evidence points to the agreeing feature sets being associated with the postposition, construed as a syntactic head (§3.1). We could then deny that stacking is involved at all in languages like Punjabi – except that the formal (not merely functional) continuity between the various phenomena here briefly introduced can in our view be modelled by (the appropriate version of) Agree.



## 1.2 Minimal Agree

The basic statement of Agree is provided by Chomsky (2000: 122) as follows: “Matching is a relation that holds of a probe P and a goal G. Not every matching pair induces Agree. To do so, G must (at least) be in the domain D(P) of P and satisfy locality conditions. The simplest assumptions for the probe-goal system are shown in (4).

- (4) a. Matching is feature identity.
- b. D(P) is the sister of P.
- c. Locality reduces to closest c-command.

Thus, D(P) is the c-command domain of P, and a matching feature G is closest to P if there is no G' in D(P) matching P such that G is in D(G').”

In the statement of the conditions for Agree in (4), the absence of any mention of [interpretable]/[valued] features is rather striking, when compared to current Minimalist practice. In the text surrounding (4) we are told, on the other hand, that “the erasure of uninterpretable features of probe and goal is the operation we call Agree” (Chomsky 2000: 122). It is in Chomsky (2001) that the (un)interpretability asymmetry takes on a paramount role in the definition of Agree: “uninterpretable features ... constitute the probe [K] that seeks a matching goal – another collection of features – within the domain of ... K. What is the relation Match? The optimal candidate is identity; we therefore take Match to be Identity” (5). The latter is the definition of Agree adopted as the Minimalist standard.

Furthermore “the natural principle is that the uninterpretable features, and only these, enter the derivation without values, and are distinguished from interpretable features by virtue of this property” so that a further probe/goal asymmetry in terms of the property [valued] is superimposed on the original [interpretable] one. As far as we can tell the two are equivalent in Chomsky’s work, though in the subsequent literature, they are sometimes treated as independent features (Pesetsky & Torrego 2007), or [interpretable] is abandoned in favour of [valued] (Preminger 2014).

Now, life may be simpler without [interpretable]/[valued] features, as in (4), but as Chomsky (2001: 4) points out “the existence of these features is a question of fact: does L have these properties or not? If it does (as appears to be the case), we have to recognize the fact and seek to explain it.” In other words, the question is whether there is independent evidence for these features – or, to be more precise, for their negative value, given that we take it for granted that there are interpretable, valued features (e.g. 1P, plural, etc.).

For Chomsky (1995) the crucial empirical argument in favor of uninterpretability is that while verbs are routinely associated with singular or plural features, there is no sense in which the event they denote is singular or plural. However, Manzini & Savoia (2007: 21) argue “that the so-called agreement inflection of the verb is categorized exactly as a subject clitic; what is more, it bears a structural relation to the verb root which parallels that of a subject clitic (or any other subject) to the verb.” Therefore, Manzini & Savoia’s counterargument is that inflections can in fact be interpreted if construed as (EPP) arguments of the verb/event. As they emphasize, two different conceptions of the syntax-morphology interface are implied by the two views of the verb inflection. For Chomsky (1995) syntactic Merge takes entire words labelled by categories and sets of features. For Manzini & Savoia Merge takes morphemes as its input and single morphemes are visible to syntactic computation.<sup>2</sup>

Baker (2008: 4) is generally critical of “the Chomskyan tradition,” where “the (often tacit) state of the art has been simply to stipulate which feature slots are present but unvalued on a particular lexical item, thereby specifying explicitly its agreement potential (Chomsky 2000, Chomsky 2001).” As he notes, “the idea behind this is that the probe has certain predefined feature slots that need to receive a value from some other phrase in the structure that has specified values for those same features ... Instead, I am foregrounding the idea that all Fs are potential agreeers and they agree with whatever features they can find in their environment according to structural principles” (Baker 2008: 44).

Nevertheless, Baker’s concern is that “stipulating what unvalued features a given head has on a case-by-case basis does not capture the systematic differences in how verbs, adjectives, and nouns behave with respect to agreement” – they do not have to do with the notion of valuation itself. Thus he adopts the principle in (5), which, as he notes, is simply a rather more explicit version of what Chomsky assumes. However, (5) does not change the empirical picture. The question concerning the status of the verb inflection is still in the same terms posed by Manzini & Savoia (2007). If the verb inflection is a pronominal realization (or a pronominal copy) of the EPP argument, then it is referential and will carry interpretable/valued features.

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<sup>2</sup>Distributed Morphology (Halle & Marantz 1993) strikes a somewhat intermediate position, since it adopts the view that morphological structures are formed by Merger of morphemes, but at the same time it insulates Morphological Structure from syntax. Incidentally the notion of word can only be reconstructed in these frameworks as a derived notion, for instance through the notion of a word phase (Marantz 2007); the visibility of agreement morphology suggested in the text could mean that it sits in an edge position.

- (5) XP can have intrinsic  $\varphi$ -features (pre-specified values for person, number, and gender) only if XP has a referential index.

In fact, the transition from (4) to standard Minimalist Agree involves two steps. The first step involves introducing the [interpretable]/[valued] properties – and proposing that they pair up with phi-feature sets in the sentential domain as just discussed. The second step is that probes are uninterpretable/unvalued – though for Chomsky (2001) goals must also be ‘active’ (i.e. have an uninterpretable case feature). Most of the issues connected with Agree discussed in the Minimalist literature do not stem from any of the core properties in (4), namely identity, c-command and locality, nor do they interact with such properties – rather, they are connected with the [interpretable]/[valued] properties and the identification of probes with uninterpretable/unvalued feature sets.

First, pre-encoding of probes allows for both downward and upward Agree to be expressed (probe higher than goal or lower than goal; cf. Zeijlstra 2012); the two directions are not expressible in the absence of pre-encoding. Thus, consider  $\alpha$  and  $\beta$  such that  $\alpha$  c-commands  $\beta$ ; if there is no pre-encoding of probe/goal status on them, then it is logical to enforce the general direction of operations/relations defined by c-command, creating an ordered pair  $(\alpha, \beta)$ . However, only c-command orders the two elements, and independently of c-command the Agree relation is perfectly symmetric. In other words, not only is the original statement in (4) simpler than standard versions of Agree – it is also more restrictive, in the sense that it has less expressive power than a theory inclusive of [interpretable]/[valued] properties.

Similarly, pre-encoding probes and goals allows many-to-one or one-to-many Agree to be expressed (one probe, many goals – or many probes, one goal); in the absence of pre-encoding, a set of features  $\alpha$  simply acts as a probe on a set of features it immediately c-commands  $\alpha$  and  $\beta$ . If  $\beta$  in turns acts as a probe for  $\gamma$ , then, we have a sequence of agreement pairs  $(\alpha, \beta)$ ,  $(\beta, \gamma)$  and so on. It is only the pre-encoding of probe-goal status that allows the issue of multiple Agree to be defined (one goal, several probes – cf. Carstens 2001 – or vice versa). Again, (4) not only is simpler than its current versions in cutting out certain extra assumptions – it also has less expressive power; i.e. it is more restrictive.

These apparently abstract questions take on empirical significance when we consider agreement within the DP – which is what concerns us here directly. Having a concrete example at hand, for instance Italian (6), may help here.

- (6) l-e      molt-e      bell-e      region-i      italian-e  
       the-F.PL many-F.PL nice-F.PL region-PL Italian-F.PL  
       ‘the many nice Italian regions’

A preliminary question is whether what is sometimes called concord (DP-internally) is in fact the same phenomenon/rule as (sentence-internal) Agree. Some theorists recognize two separate phenomena, subject to two different rules: sentential agreement is deemed to fall under Chomskyan (probe-goal) Agree, while DP-internal concord responds to different processes; see for instance Giusti (2008). However, sentential and DP-internal agreement proper obviously share what Chomsky calls Matching – i.e. ‘the identity relation’ – and the locality conditions on it – indeed as laid out in (4). In this sense, it goes against commonly held measures of simplicity to postulate separate processes.

Nor is there much PF evidence for the separation. Consider Punjabi. In this language, verbs are participial forms agreeing in number and gender/nominal class. Therefore, morphologically it is impossible to separate agreement proper from concord (contrary to English). The same is true for nominal class agreement in Bantu (Baker 2008). Even in familiar Western European languages, where it would appear that there is a strong realizational asymmetry between agreement on verbs and nouns, it can be shown that, given a statistically significant sample of varieties, (pro)nominal and verbal inflections admit of common lexicalizations (Manzini & Savoia 2007 on Italo-Romance).

Nevertheless, theorists arguing for a single Agree process are faced by the issues of multiple probes/goals and directionality. First, while canonical sentential agreement involves one probe and one goal, DP-internal agreement may involve *n* categories, for arbitrary *n* (the head noun, its determiner, its quantifier, its adjectival modifier in (6)). Carstens (2001) argues that this type of agreement should be modelled by allowing one goal – i.e. N – to check several probes – i.e. the set of determiners and modifiers of N. This incidentally maintains the correct directionality of Agree, with the probe higher than the goal. However, Carstens’ analysis meets considerable difficulties when we consider that if we take interpretable features to be associated with N, we are forced to conclude that features associated with D are non-interpretable. Yet Ds alone appear perfectly capable of reference, implying the interpretability of their features (see Danon 2010 for more problems with D-N configurations). We may want to correct this state of affairs by changing the direction of agreement – i.e. having the goal higher than the probe – but then we are facing a further enrichment of the model, plus potential empirical problems having to do with the fact that gender/nominal class is clearly determined by N.

If we eliminate the [interpretable]/[valued] properties, or in any event we eliminate their pre-encoding on probes and goals, many potential problems are automatically eliminated, though we otherwise keep to the Chomskyan formulation of Agree in (4) in all of its aspects. Put simply, each category within the DP in

(6) acts as a probe for the immediately c-commanded category, all the way down from D to N and to the postnominal A. In other words, we surmise that Minimal Search and Match (the Agree computation), as in (7a), should be retained, but its connections with [interpretable]/[valued] features should be severed, as in (7b).

- (7) a. Agree is the Minimal Search and Match operation formalized by Chomsky (2000) – cf. (4).
- b. Further stipulations about  $\pm$ interpretable and  $\pm$ valued features, and their pre-encoding on probe/goals (Chomsky 2001) are eliminated.

For present purposes, we are interested in the fact that (7) facilitates the discussion of agreement in DP-internal contexts. In other words, in addressing the core concerns of this article – i.e. the unification of *Suffixaufnahme* phenomena and the nature of oblique case – we will abstract away from any pre-encoding of features and of probe/goal status. Thus, in (6) Agree creates pairs (*regioni, italiane*), (*belle, regioni*), etc., where the c-commanding element and the c-commanded element serve as probe and goal respectively and their phi-feature sets are identified. We have already provided the reasons why we consider it unlikely that DP-internal ‘concord’ is separate from sentential Agree – and why we believe that (7) extends to subject-verb agreement. However, as far as we can tell, the discussion in this article goes through even if something like (7) holds only for DP-internal positions.

The main remaining problem is that in terms of Chomsky (2000; 2001), [interpretable] properties interact not only with the computational component, as we have been discussing, but also with the LF interface. In Chomskyan terms, the deletion of uninterpretable features is necessary because their permanence at the LF interface would violate Full Interpretation. But there is another reason why Agree is crucial to Full Interpretation, namely that at the LF interface there is a single interpreted copy of any phi-feature set, potentially identifying a referential argument; what is more, that copy is associated with the element that is capable of reference (cf. (5)).

Preminger (2014) points out that it is frequent to find default inflections on verbs capable in principle of agreement – which it is natural to construe as those verbs not entering into Agree at all. In Chomskyan terms, this would mean the survival of uninterpretable features and the violation of Full Interpretation – which leads Preminger to reject the [interpretable] feature. He therefore depends only on [valued] features for his formulation of Agree – i.e. find(f): “Given an unvalued feature *f* on a head *H*<sub>0</sub>, look for an XP bearing a valued instance of *f* and

assign that value to H0.”<sup>3</sup> But this means that we are in the dark as to what the Full Interpretation algorithm does with all those valued feature sets. It appears that information about which sets are and are not interpretable is relevant for LF after all – however it is formulated (for instance in terms of (5), from Baker 2008).

Manzini & Savoia (2007), by contrast, are quite explicit about the interaction of their proposal with Full Interpretation at the LF interface. They propose that Agree is a syntactic means for establishing equivalence classes between two or more copies of the same phi-feature material – to be interpreted at the interface as individuating a single referent. In other words, Agree establishes that two sets of phi-features in fact reduce to two occurrences of the same set. Manzini & Savoia speak of chain-formation. In reality, the notion of chain is unnecessarily rich – all that is needed is an unordered set. If Agree is identity, its representational counterpart is an equivalence class. This equivalence class achieves roughly the same result as the survival of a single phi-feature set in Chomsky (2000; 2001).<sup>4</sup>

In the discussion that follows we will consider data of the type presented in §1.1 on the basis of the ‘minimal’ theory of Agree that we have sketched here. In essence the simplified version of the standard model in (7) allows us to tackle the empirical evidence without paying attention to matters such as the (un)interpretable nature of an agreeing node or to the direction of the Agree operation. The emphasis will be on: (i) establishing the formal similarity of the internal structure of linkers and stacking; (ii) explaining their characteristic distribution in contexts (roughly) of adnominal modification.

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<sup>3</sup>Preminger (2014) proposes that when an unvalued probe fails to find a suitable goal, values are simply filled in by default in the morphology. It is worth pointing out that this may be necessary, but it is empirically insufficient. For instance, it has been known for a long time (Kayne 1989) that in French or Italian the perfect participle agrees with the internal argument of unaccusatives (eventually left in situ in Italian) but does not agree with the internal argument of transitives, surfacing in the default masculine singular form. Evidently, in the second case it is not sufficient to say that there is no possible goal for the perfect participle probe – because there is one, namely the internal argument.

<sup>4</sup>The results are not exactly the same. For instance, as already discussed, in DPs it is far from clear whether N or D ought to have the unique set of interpretable phi-features at LF predicted by Chomsky (2001). No such issue arises under the present proposal.

## 2 Linkers

### 2.1 Introduction

The very fact that case stacking and linkers are differently named points to the existence of surface dissimilarities between them, beyond the fact that the canonical environment for both of them is DP DP<sub>Gen</sub>, when the genitive DP is a modifier of the head DP. Case stacking has the case of the head DP realized as an extra suffix on DP<sub>Gen</sub> as in Lardil (1); cf. (8) below. The linker, realizing case and phi-feature agreement with the head DP, is an independent morpheme (a clitic of sorts) preceding DP<sub>Gen</sub> as in Albanian (2); cf. (12ff.) below. Morphologically, the stacked case in Lardil is a pure copy on DP<sub>Gen</sub> of the instrumental case realized on the DP head, while in Albanian the linker is sensitive to case and to phi-features as well. Importantly, however, the morphological differences cross-cut the basic syntactic difference between suffix (stacking) vs. independent morpheme (linker). Thus, in Punjabi, the stacked morphology is sensitive to phi-features and case, rather like the Albanian linker.

There are also considerable distributional similarities between stacking and linkers. First, the two phenomena have the same distribution, hinted at in (2) by the fact that a ‘primary’ and a ‘dependent’ are mentioned. Here is what Richards (2013: 46–47) has to say about Lardil: “In general, morphology that appears on a nominal is realized not just on the head noun but on everything dominated by the DP, including possessors, demonstratives, and adjectives”, as in (1), repeated here as (8a), and in (8b). “Similarly, the Case of the head noun is realized on relative clauses modifying that noun”, as in (8c).

(8) Lardil (Richards 2013: 47)

- a. 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.’
- b. Kara nyingki kurri kiin-i     mutha-n thungal-i.  
    Q    you     see    that-ACC big-ACC tree-ACC  
    ‘Do you see that big tree?’
- c. Kara nyingki kurri kiin-i     mutha-n thungal-i, ngithun-i  
    Q    you     see    that-ACC big-ACC tree-ACC I.GEN-ACC  
    kirdi-thuru-Ø.  
    cut-FUT-ACC  
    ‘Do you see that big tree, which I am going to cut down?’

Adjectival modification, genitives and relative clauses are also the three core contexts for the insertion of linkers, as illustrated in (9) with the Persian *ezafe*. In standard Persian, relative clauses in (9c-d) are introduced by the morpheme *-i*, which is considered to be an allomorph of the *ezafe* morpheme *-e* introducing adjectives and genitives in (9a-b) (Samvelian 2007).

(9) Persian

- a. asman-**e** abi  
sky-LKR blue  
'blue sky'
- b. ketab-**e** Hasan  
book-LKR Hasan  
'the book of Hasan'
- c. zæn-**i** [ ke mæn dust daræm ]  
woman-LKR that I love give.1SG.PRS  
'the woman I love'
- d. bæcce-**i** ke lebas-a-ro be-heš dad-æm  
child-LKR that clothes-PL-DOM to-him gave-1SG  
'the child that I gave the clothes to'

In the West Iranian language Kurmanji Kurdish, the same set of phi-feature-inflected linkers are realized in front of adjectives, genitives, and relative clauses, as in (10–11).

(10) Kurmanji Kurdish, Bahdini dialect (Franco et al. 2015: 279)

- a. kurk-(ak-)**e**: mazæn  
boy-(one)-LKR.M big  
'a big boy'
- b. dest-**e** kurk-i  
hand-LKR.M boy-OBL.M  
'the hand of the boy'

(11) Kurmanji Kurdish (McKenzie 1961: 203)

- aw kas-**e**: (ku) awwili b-e:-t  
DEM person-LKR.M (that) first SUBJ-come-3SG.PRS  
'that person who shall come first'



The constituent structure of linkers is of particular importance in establishing that they are structurally related to stacking. The literature is unanimous in concluding that the linker, while eventually agreeing with the head noun in a modification structure, forms an immediate constituent with the modifier (genitive, adjective, relative clause). In Albanian, linkers appear in front of genitives (adjectives, etc.) in predicative contexts with an overt copular ‘be’, as in (12). Copular sentences provide us with a straightforward argument for constituency, since the linker that appears in front of the genitive DP, following the copula, must be part of the structure of the DP, as shown in (13). For the time being, in (13) we make no commitment to the category label of the ‘article’.

(12) Shkodër, Geg Albanian

- a. Ky qft i dial-i-t.  
 this is LKR boy-OBL.SG-DEF  
 ‘This is of the boy’s.’
- b. Ky qft i n-i dial-i.  
 this is LKR a-obl.sg boy-OBL.SG  
 ‘This is of a boy’s.’

(13) [<sub>Lkr</sub> t [<sub>DP</sub> n-i dial-i ]]

The Iranian *ezafe*, despite conventional orthography associating it with the head noun of a complex DP, also forms a constituent with the following modifier adjective or genitive DP, as concluded by Larson & Yamakido (2008) and Philip (2012) among others. One argument in favour of this structure is that in sequences of more than one modifier, the last modifier bears no *ezafe*, while other modifiers are obligatorily associated with it. This is true in Persian (14) and in Kurmanji Kurdish (15), despite other differences, for instance the fact that the *ezafe* is invariable in Persian and agrees with the head noun in Kurdish. If the *ezafe* forms a constituent with the following modifier, as indicated by our brackets, the last modifier of the sequence is correctly predicted to be *ezafe*-free.

- (14) Persian (Samvelian 2007: 606, our brackets)  
 in ketâb-[e kohne-[ye bi arzeš-[e maryam]]]  
 this book-LKR ancient-LKR without value-LKR Maryam  
 ‘this ancient worthless book of Maryam’s’

(15) Kurmanji (Yamakido 2005: 121, our brackets)

- a. kitêb-ek-[e        bas-[e     nû]]  
    book-INDEF-LKR good-LKR new  
    ‘a good new book’
- b. xani-yek-[î        bas-[î     nû]]  
    house-INDEF-LKR good-LKR new  
    ‘a good new house’

Further evidence comes from coordination. Philip (2012: 37ff.) shows that in Persian, when the head noun is coordinated, there can only be one *ezafe* on the coordinated head, next to the modifier, as in (16). In other words, the *ezafe* is an integral part of the modifier, not of the modified noun. Therefore in Iranian, adjectival modifiers have the same structure as in Albanian, namely the one indicated in (16) for Persian.

(16) Persian (Philip 2012: 38)

- [kolâh(\*-e) va    lebâs][-e Maryam]  
    hat-LKR        and dress-LKR Maryam  
    ‘Maryam’s hat and dress.’

The languages exemplified, namely Albanian, Kurdish and Persian, all display the head-complement/modifier order, at least within the DP; they also uniformly have head-final (i.e. suffixal) morphological structures. Therefore we know that the linker structure with an independent head in (13) differs from the suffixed structure of Lardil. Leaving this aside, linkers and stacking structures involve the presence of a copy of the phi-feature/case specifications of a head DP within the projection of a modifier DP/AP/CP.

It is also worth returning briefly to the question of morphological differences. Franco et al. (2015) have access to dialect variation data within Albanian (Manzini & Savoia 2011a,b), as well as within Kurdish. In the Shkodër Geg Albanian variety in (12) the pre-adjectival linker varies according to the gender, number and case of the head noun; specifically, it takes the form *i* for the nominative masculine singular, *ε* for the nominative feminine singular and for the accusative, and *t* for the oblique, as in (17–18) (cf. Solano 1972; Camaj 1984; Turano 2004; Campos 2008 for standard Albanian).

(17) Shkodër, Geg Albanian

- a. dial-i                    i                    mað  
    boy-NOM.M.DEF LKR.NOM.M grown-up.M

- b. diali-n                    e    mað  
 boy-ACC.M.DEF LKR grown-up.M
- c. diali-t                    t            mað  
 boy-OBL.M.DEF LKR.OBL grown-up.M  
 ‘(to) the big boy’
- a’. vaiz-a                    ε    maðε  
 girl-NOM.F.DEF LKR grown-up.F
- b’. vaizə-n                ε    maðε  
 girl-acc.f.def LKR grown-up.F
- c’. vaiz-əs                t            maðε  
 girl-OBL.F.DEF LKR.OBL grown-up.F  
 ‘(to) the big girl’

## (18) Shkodër, Geg Albanian

- a. diem-t                    e    maði  
 boys-DIR.PL.DEF LKR grown-up.M.PL
- b. diem-vε                t            maði  
 boys-OBL.PL LKR.OBL grown-up.M.PL  
 ‘(to) the big boys’

In the Arbëresh (Italo-Albanian) varieties discussed by Manzini & Savoia (2011a), on the other hand, the pre-adjectival linker only agrees with the head noun in phi-features (number, gender) and displays no sensitivity to case. The variation internal to Iranian languages follows the same parameters as the variation between Albanian dialects. The Persian *ezafe* is a non-agreeing morpheme *e/i*. In Kurmanji Kurdish (19), the linker has three realizations, namely *e* for the masculine, *a* for the feminine and *et* for the plural. In Hawrami Kurdish in (20), the adjectival *ezafe* has different realizations, *-i*, *-æ*, *-e*, depending on the number and definiteness of the head noun. At the same time, Hawrami Kurdish distinguishes the adjectival *ezafe* from the genitival one, since the latter takes the invariable *-u* form.

## (19) Kurmanji Kurdish (Franco et al. 2015)

- a. kurk-(ak-)e:            mazən  
 boy-(one)-LKR.M big  
 ‘a/the big boy’

- b. ketʃk-(ak-)ɑ:    mazən  
girl-(one)-LKR.F big  
‘a/the big girl’
- c. kurk-e:t    / ketʃk-e:t    mazən  
boy-LKR.PL / girl-LKR.PL big  
‘the big boys/girls’

(20) Hawrami Kurdish (Holmberg & Odden 2008: 132)

- a. æsp-i    sya:w  
horse-LKR black  
‘black horse’
- b. æsp-æ    zɪl-ækæ  
horse-LKR.DEF big-DEF  
‘the big horse’
- c. due æsp-e    zɪl-e  
two horse-LKR.PL big-PL  
‘two big horses’
- d. pæl-u    haɫo-i  
feather-LKR eagle-OBL  
‘eagle’s feather’

In conclusion, stacking (involving a suffix as in (8)) and linkers (involving a head) display the same syntactic distribution (roughly, adnominal modification). Constituency tests also show that the linker is internal to the structure of the modifier – no less than stacked suffixes. Finally, linkers can display agreement in phi-features or in case or an invariant form – providing no basis for differentiating them from stacked morphology, which also may involve case (Lardil) and/or phi-features (Punjabi, cf. §1.1).

## 2.2 Analysis

As already mentioned in §1, only a few theorists see linkers as agreement heads, most recently Philip (2012) and Franco et al. (2015); cf. also Zwart (2006). Franco et al. provide a detailed survey of why the other construals of linkers proposed in the literature meet empirical difficulties in accounting for linker phenomena crosslinguistically. Consider the idea that linkers are a means for avoiding NN

sequences, embraced by Richards (2010) for Persian. Franco et al. note that in Albanian linkers create obvious identical sequences of their own. Thus, consider the oblique singular in (17c), *djali-t t mað* ‘the boy LKR big’; the linker reproduces the definiteness, case and phi-features of the head noun, yielding a morphological copy of the N’s ending. It is far from clear in what sense the linker would contribute to identity avoidance.

Case theories of linkers (Larson & Yamakido 2008) construe the linker as a way of assigning case to adnominal modifiers, both DPs and APs, which could not be assigned case by the head N. Again, this idea is difficult to transpose from a language like Persian which has very little inflectional morphology (and no inflectional case) to a morphologically rich language like Albanian. To take up *djali-t t mað* ‘the boy LKR big’ in (17c) again – it is unclear why a linker which exactly reproduces a piece of the head N would be able to assign case while the head N is not able to do so.

Finally, den Dikken & Singhapreecha (2004) take linkers to be copulas – effectively the counterpart of the verb ‘be’ in the DP domain. It appears, however, that the fact that linkers can be found in predicative contexts, such as Albanian (12), weakens this theory considerably; since the copula is already lexicalized, it is hard to see what role the linker could play. In fact, the (typologically rare) occurrence of linkers in predicative position provides counterexamples to the theory of linkers as breaking identical \*NN sequences – or as assigning case in the presence of an N head.

We conclude in favour of the construal of linkers as agreement heads – which is interesting in the context of the present discussion because case stacking is also essentially an agreement phenomenon. As also mentioned in §1, linkers present the standard theory of Agree with a considerable challenge. Consider for instance Albanian (2b), repeated here as (21a) – with the structure in (21b).

- (21) a. Shkodër, Geg Albanian (Manzini & Savoia 2011b: 105)
- |                  |                  |                  |
|------------------|------------------|------------------|
| ka:m-a           | ε                | tʃɛn-it          |
| paw-F.SG.NOM.DEF | lkr-F.SG.NOM.DEF | dog-M.SG.OBL.DEF |
- ‘the paw of the dog’
- b. [<sub>DP</sub> ka:ma [<sub>LKR</sub> ε [<sub>DP</sub> tʃɛnit ]]]

Within a standard Minimalist framework, it is assumed that phi-features are interpretable on nouns, and uninterpretable on functional heads acting as probes for the Noun (Carstens 2001). Therefore in (21a) *ka:ma* ‘the paw’ is the goal for a probe associated with the linker, conceived of as a pure bundle of phi-features

and case.<sup>5</sup> Probe status in standard Minimalist theory is associated with uninterpretability. Therefore, there is a syntactic head, namely the linker, that entirely consists of uninterpretable features. This is actually predicted to be impossible by Chomsky (1995). For, under Full Interpretation at the C-I interface, we expect uninterpretable material to be deleted; but if a head consists of uninterpretable material, then this leads to the deletion of structure – which violates Inclusiveness. In other words, classical Minimalism requires heads to be interpretable – but linker heads must be probes and hence uninterpretable.

This leaves the approach taken here in (7) and embraced by Franco et al. (2015), who assume that Agree works on sets of features which are uniformly interpretable. Their approach is best appraised starting with the simpler linker structure involving adjectival modification. Consider for instance Albanian (17a), repeated as (22) for ease of reference.

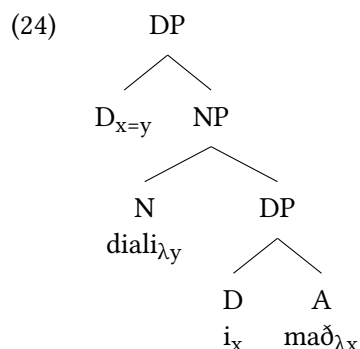
- (22) Shkodër, Geg Albanian  
 dial-i                      i                      mađ  
 boy-NOM.M.DEF LKR.M grown-up.M  
 ‘(to) the grown-up boy’

Franco et al. (2015) for Albanian, as well as Lekakou & Szendrői (2012) for Greek, take the category of the linker to be D, based (among other things) on its morphological identity with the definite article (Greek) or the definite inflection (Albanian; cf. table (18)). They further adopt Higginbotham’s (1985) proposals as to the interpretation of D-N sequences such as English *the boy*. The N *boy* is a predicate denoting the set of individuals with the property ‘boy’; its argumental slot (called the R-role; cf. Williams 1994) needs to be saturated by the determiner. Suppose we mechanically apply this analysis to Albanian (22). The predicate *mađ* ‘small’ must be satisfied by an argument, which is provided by the D element, as in (23).

- (23)
- $$\begin{array}{cc}
 & \diagup \quad \diagdown \\
 D & A \\
 i_x & ma\check{d}_{\lambda x}
 \end{array}$$

<sup>5</sup>In (21b) the potential goal – i.e. ‘paw’ – c-commands the potential probe – i.e. the linker structure. This change in directionality is allowed under certain models. Furthermore, the literature on languages with ‘post-nominal Ds’ (or definite inflections) consistently assumes that the noun (e.g. ‘paw’) moves from a lower (post-modifier) position to a higher (pre-modifier) position; see Turano (2002), Dimitrova-Vulchanova & Giusti (1998) for different implementations. Under this analysis, in (21b) there is a copy of ‘paw’ lower than the linker structure.

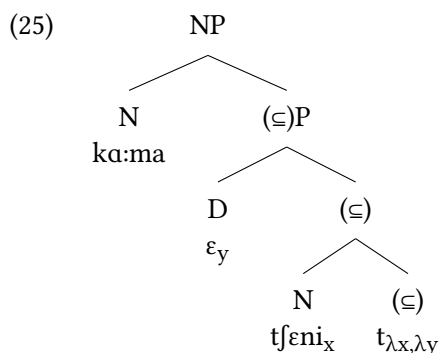
This is also the construal provided for Greek pre-adjectival linkers by Lekakou & Szendrői (2012), who distinguish the D category assigned to linkers from the Def category assigned to the definite operator. Franco et al. (2015) maintain the same label D for both, further assuming that all Ds have definiteness properties, besides being associated with nominal class (gender) and number features. Consider their structure (24) for example (22) (slightly simplified). The lower D simply values the argument slot of A, awaiting further quantificational closure. The higher D differs from it in that it is interpreted as a quantifier; i.e. as indicating that there is an individual (or set of individuals, or a unique/familiar etc. individual, and so on) to which the properties of the NP predicate and those of the sentential predicate both apply (or not). Following Higginbotham (1985), adjectival modification involves the identification of the theta-role of the adjective with the R-role of the noun (here  $x=y$ ); the same argument (the noun phrase's determiner, according to Higginbotham) satisfies both – whence the intersective reading of adjective modification. As a result, the linker D in (24) is essentially a bound variable of the operator D – much like a resumptive clitic may be a bound variable of a higher definite description.



Syntactically, theta-unification depends on Agree. Recall that following §1, phi-features are not precompiled as uninterpretable or interpretable (valued/unvalued etc.) on certain heads; thus, probe and goal status depend only on the syntactic configuration (ultimately c-command). In (24) the N *diali* ‘the boy’, in virtue of the phi-features associated with its D inflection, acts as a probe for the embedded pre-adjectival D linker *i*, its (closest) goal – in (24). Under Agree, phi-features must be matched; if they are not matched then Agree fails – and so ultimately does the interpretation at the LF interface, which returns no single argument satisfying both N and A.

Adjectival modification, as in (24), is not directly relevant to stacking, but genitival modification is at the core of it. With the background we have now established on pre-adjectival linkers, we are ready to tackle pre-genitival linkers. The latter are more complex, because they involve an analysis of genitive case. The standard Minimalist approach to case, namely that case is parasitic on agreement, is formulated by Chomsky (2000; 2001) for direct cases; i.e. nominative and accusative. We assume that this view is fundamentally correct (notwithstanding Baker & Vinokurova 2010). Nevertheless, it does not have any immediate implications for oblique case, of which genitive is an example (on morphological grounds, among others). To be more precise, an Agree approach could be made to work, at least within the sentential domain, by postulating Appl heads corresponding to dative and instrumental case (Pylkkänen 2008) – yet we are not aware of this approach being pursued at all DP-internally.

Following in essence the theory of obliques originally suggested by Fillmore (1968), we assume that oblique case inflections, like Ps (prepositions or postpositions), have a relational content. ‘Possessor’ in turn is the traditional characterization of genitives. Following Belvin & Dikken (1997), writing on the verb ‘have’, we take the relevant characterization of possession to involve ‘inclusion’. Following Manzini & Savoia (2011b), we notate it as  $(\subseteq)$ , to suggest that a part/whole interpretation is involved. Putting together this proposal with the proposal on linkers in (24), we obtain the representation in (25) for Albanian (21). The genitive noun is formed by the base *tʃɛni* ‘dog’ merged with the case ending *-t*. The latter encodes a relational part/whole content  $(\subseteq)$ , which projects a  $(\subseteq)P$  complement of the head noun *ka:ma* ‘paw’. In imputing a relational content to *-t*, we imply that it connects two arguments. One is the possessor ‘dog’ – namely the noun to which the oblique inflection attaches. The other argument is ultimately the possessum ‘paw’.





What is the status of the linker  $\varepsilon$  in (25) and of the agreement it enters into with the head noun? We assign to the linker the same D categorization that we adopted for the pre-adjectival context in (24), where we saw that the linker provides a partial discharge of the argumental role of the adjectival predicate. We have just proposed that an oblique case, specifically the genitive, is an elementary predicate, connecting two arguments (possessor and possessum) via a part/whole relation. As already stated, *tʃeni* ‘dog’ is the internal argument of the ( $\subseteq$ ) case relation (i.e. the possessor or ‘whole’); the linker provides a partial saturation of the ( $\subseteq$ ) predication inside the ( $\subseteq$ )P projection. Recall that the correct (intersective) interpretation of the adjectival modification structure in (24) depends on agreement between the head N and the linker, ultimately establishing that there is a single argument satisfying both the N’s and the A’s argumental slot. Similarly, in (25), the head N in virtue of its phi-features acts as a probe for the embedded D linker. This allows *ka:ma* ‘paw’ to be ultimately interpreted as the external argument of ( $\subseteq$ ).

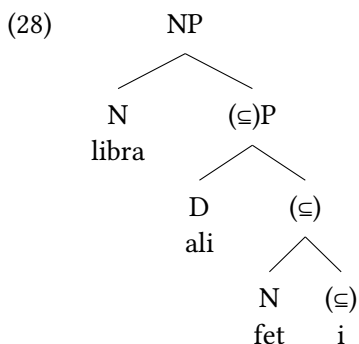
A considerable number of questions are raised by the account of linkers in (24–25). One which is of particular interest here regards the agreement relation between the head N and the linker in (25). The fact is that the configuration in (25) is equally compatible with a different derivation, under which the linker probes for the embedded N *tʃeni* agreeing with it. Full Interpretation at the interface should be achieved anyway, interpreting the linker as doubling the genitive – and the head noun as before as representing the other argument in the ( $\subseteq$ ) relation. Interestingly, we can show that this configuration, though impossible in Albanian, is attested in other languages. A case in point is Aromanian, which differs in this respect even from its closest cognate, Romanian.<sup>6</sup> Aromanian has pre-adjectival linkers, which are not present in Romanian (Campos 2008; Cornilescu & Giurgea 2013). On the other hand, in both Romanian and Aromanian the linker *al* is a form of the definite article (cf. Latin demonstrative *ille*) (Giurgea 2012), as in (26–27). While the linker agrees with the head noun in Romanian (26), it agrees with the embedded genitive in Aromanian (27).

- (26) Romanian  
 două kămăș-i    ale băiat-ul-ui  
 two    shirts-F.PL LKR boy-DEF-OBL.M.SG  
 ‘two shirts of the boy’

<sup>6</sup>Our data are from varieties of Aromanian spoken in South Albania (in the towns of Fier, Divi-ake and Libofshe).

- (27) Aromanian (Franco et al. 2015: 324)  
 libr-a            o    fit or-u / ali   fet-i  
 book-DEF.F.SG LKR boy-M.SG / LKR girl-OBL.F.SG  
 ‘the boy’s/the girl’s book’

We can assign to the Aromanian linker in (27) the same constituent structure assigned to Albanian (25), as shown in (28). Interpretively, on the other hand, the Albanian pre-genitival linker provides a lower-level satisfaction for an argument slot ultimately bound by the N head of the DP. The pre-genitival linker of Aromanian, by contrast, is a copy of the phi-features of the genitive itself. Recall now that under our proposed formulation of Agree, any phi-feature set can act as a probe or as a goal, according simply to the c-command configuration. In principle, it is therefore possible that the phi-feature set corresponding to the linker head acts as a probe for the embedded phi-feature set. This configuration appears to be realized in Aromanian (28).



Suppose we precompile (un)interpretability on lexical and functional heads in the sentence and in the DP. Then it stands to reason that the same element will have interpretable or uninterpretable status cross-linguistically (especially if lexical identity is involved, as in Romanian and Aromanian *ale/ali*). Thus, suppose the pre-genitival linker is uninterpretable, acting as a probe; everything else being equal, we expect its goal to be uniformly the genitive or the head noun. This is the position argued for by Philip (2012), for whom linker configurations must involve agreement with the head of the DP. According to Philip (2012) there are hardly any known exceptions to the predicted state of affairs – yet Aromanian (a relatively familiar language) must be added to her list.

On the present view, (un)interpretability is not essential to the working of Agree. Therefore, in the absence of pre-encoded features on the linker, we allow it to act as a probe for the lower genitive (Aromanian) – as we also allow the

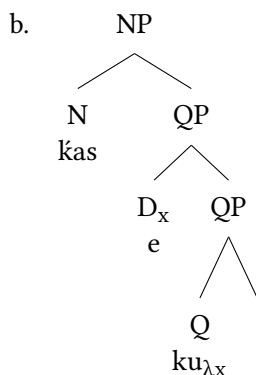
more frequently observed configuration where the N head of the DP acts as a probe for the linker. The parametric choice ultimately depends on the fact that the ( $\subseteq$ ) elementary predicate has two possible arguments; the linker may match the genitive and agree with it or introduce an instance of the external argument and agree with the head N. We assume, as is generally done, that the phasal organization of grammar prevents the phi-features of the higher N from probing into the lower N; in other words, assuming that a DP is a phase, the two N heads (overtly or covertly closed by a D operator) are in two separate phases, preventing Agree from applying.

Finally, besides pre-adjectival and pre-genitival contexts, linkers are found in relative clauses. We exemplified this context with Kurmanji Kurdish in (11), repeated in (29a) for ease of reference, where the linker agrees in phi-features (masculine singular) with the head noun and precedes the relative pronoun *ku*. We construe it in the same manner as both pre-genitival and pre-adjectival linker structures, as in (29b). In fact, adjectival modification bears a particularly close relation to modification by a relative clause. Both contexts involve the conjunction of two predicates, one represented by the predicative content of the head noun and the other represented by the adjective or the relative clause. Indeed, wh-relative pronouns are lambda operators turning the embedded sentence into a predicate with an open slot. In the spirit of our proposal concerning pre-adjectival linkers in (24), the linker *e* in (29b) introduces a partial saturation of the relative clause predicate. Agree applies between the embedded linker and the N head of the relative and ensures that the open slot of the relative clause is ultimately bound by the N head.<sup>7</sup>

<sup>7</sup>Albanian has two separate strategies for the formation of relative clauses. One involves the relative pronoun *që*, comparable to the English ‘that’ used to relativize direct arguments. A second strategy uses the relative expression *i cili* etc. inflected for phi-features and case and introduced by an article, namely *i* in the masculine singular nominative, *e* in the feminine singular nominative and *të* elsewhere. This way of forming relative clauses is disfavoured when relativizing direct arguments, as in (i), but is obligatory when obliques are relativized, as in (ii); note also the obligatory presence of a resumptive clitic. The question is whether the article in (i–ii) is a linker in the sense of (29b), or whether it forms part of a complex relative pronoun, on the model of French *lequel*, Italian *il quale*, etc. There are indications that the latter is correct, for instance the occurrence of the entire phrase under prepositions: *burrin prë të cilit* ‘the man for whom ...’.

- (i) ?Kam parë burrin të cilin e thirre  
I.have seen the.man ART whom him you.called  
‘I saw the man whom you called’
- (ii) Kam parë burrin të cilit i ke dhënë librin  
I.have seen the.man ART to.whom him you.have given the.book  
‘I saw the man to whom you gave the book’

- (29) a. Kurmanji Kurdish (McKenzie 1961: 203)  
 aw kas-e: (ku) awwilî b-e:-t  
 DEM person-LKR.M (that) first SUBJ-come-3SG.PRS  
 ‘That person who shall come first.’



As indicated at the outset, the empirical focus of the present article is not linkers per se, but rather their unification with case/agreement stacking. We now have an analysis of linkers. If we are correct, Agree can achieve descriptive adequacy without employing any assumptions about features being interpretable or not interpretable, valued or not valued. Specifically, Agree can remain a simple one probe, one goal relation, without having to have access to multiple probing and/or multiple goals. Furthermore, there is no reason to modify the simplest c-command configuration of probe and goal in order to account for the variation between Albanian (25) and Aromanian (28). More importantly, from the point of view of a unification of linkers and stacking, accounting for linkers implied providing a baseline account of oblique case – or at least of genitive case. As we will see in §3, the basic descriptive problem of case/agreement stacking is that the inner case must always be an oblique. Our account will build on the treatment of obliques as elementary relations developed in this section in relation to linkers.

### 3 Case/agreement stacking

#### 3.1 Punjabi

In order to understand the Punjabi data, it is useful to have a sketch of Punjabi morphosyntax at hand (Bhatia 2000).<sup>8</sup> In Punjabi, there are two genders, mas-

<sup>8</sup>Our Punjabi data come from the Doabi variety spoken in the Indian town of Hoshiarpur. The genitival construct illustrated in (32) below for Punjabi characterizes several Indo-Aryan and Dardic languages (Payne 1995).

culine and feminine. A subset of masculine nouns present the inflection *-a* in the non-oblique singular form (30a) and *-e* in the oblique singular, i.e. when it is followed by a postposition, and in the non-oblique plural (30b). The oblique plural masculine, i.e. followed by a postposition, is in turn realized as *-ea* (31c). The feminine does not display a specialized oblique form. At least some feminine nouns present the inflection *-a* in the plural, as in (31a–a’); another subset of them alternates between a singular form with final *-i* and a plural with *-iã*, as in (31b–b’).

- (30) a. *muṇḍ-a*  
           ‘boy-M.SG’  
       b. *muṇḍ-e*  
           ‘boy-M.SG.OBL/boy-M.PL’  
       c. *muṇḍ-ea*  
           ‘boy-M.PL.OBL’
- (31) a. *kita:b*  
           ‘book-F.SG’  
       a’. *kitabb-a*  
           ‘book-F.PL’  
       b. *kur-i*  
           ‘girl-F.SG’  
       b’. *kur-iã*  
           ‘girl-F.PL’

A genitive modifying a noun bears its own (oblique) phi-feature inflection, followed by the case postposition *d-* and then by a phi-feature inflection agreeing with the modified noun.<sup>9</sup> In (32a) *muṇḍ-* ‘boy’ (in the absolutive case, or absolute

<sup>9</sup>Genitive in Punjabi yields a person split of sorts, since it is realized as *d-* on lexical nouns, but as *r-* on Participant (1/2 person) pronouns, as in (i). In either instance, the genitive postposition is followed by an inflection agreeing with the head noun.

(i) *te-r-i/-iã*                    *kəmidɖz/kəmidɖz-a*  
       you-GEN-F.SG/-F.PL shirt.F.SG/shirt-F.PL  
       ‘your shirt(s)’

Apart from dative *nu*, genitive *de/re* and ergative *ne*, other postpositions in Punjabi do not attach directly to the oblique form of the noun, but rather to the noun followed by genitive

form; cf. Bailey 1904) bears the masculine plural inflection *-ea*, followed by the genitive *-d*, followed in turn by a masculine singular inflection *-a*, which agrees with *darwaddz-a* ‘door’. In (32b-b’) the inflection following *-d* varies according to whether *kita:b* ‘book’ is in the singular or plural.

(32) Punjabi

- a. mund-*ea*-      d-*a*      darwaddz-*a* nam-*a*      a  
 boy-M.PL.OBL- GEN-M.SG door-M.SG new-M.SG be  
 ‘The boys’ door is new.’
- b. mund-*e*-      d-*i*      kita:b      nam-*i*      a  
 boy-M.SG.OBL- GEN-F.SG book(F.SG) new-F.SG be  
 ‘The boy’s book is new.’
- b’. mund-*ea*-      d-*ia*      kitabb-*a* nam-*ia*      a  
 boy-M.PL.OBL- GEN-F.PL book-PL new-F.PL be  
 ‘The boys’ books are new.’

The structure illustrated in (32) is recursive, as witnessed by the examples in (33). Thus, in the sequence of two genitives ‘the sister of the friend of the boy’ in (33a), the most embedded genitive ‘the boy’ bears the *-d* postposition followed by a feminine singular *-i* inflection, agreeing with the feminine singular ‘the friend’ – just as ‘the friend’ in turn bears a feminine singular *-i* agreement with ‘the sister’. Recall from the declension schemas in (30–31) that in the feminine, the noun is only inflected for phi-features; in the masculine, however, direct case is differentiated from oblique – i.e. the form of the noun which co-occurs with postpositions. This case distinction is in fact recorded by the feature set which inflects the genitive postposition. Consider for instance the examples in (33b-b’). The most embedded genitive, i.e. ‘of the boy’, agrees with the head it modifies, which is in turn a genitive, i.e. ‘of the brother(s)’. Therefore, the inflection on the genitive postposition *d-* is oblique masculine *-e*. This contrasts with (32a),

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morphology, which surfaces in the invariable form *de/re*, as in (ii). This ‘case compounding’ phenomenon is consistent with Svenonius (2006), who brings out the existence in the internal structure of PPs of both case components (here the genitive *de/re*) and of components with lexical/interpretive affinity to nouns, namely Axial Parts (here the embedding preposition).

- (ii) o-*de*-*nal*  
 him-GEN-with  
 ‘with him’

where the masculine singular head of the construction is in the absolute form (direct case) and the agreement following *d-* is therefore the masculine singular non-oblique *-a*.

## (33) Punjabi

- a. *munḍ-e-d-i*                      *dost-d-i*                      *pen-ne*  
 boy-M.SG.OBL-GEN-F.SG friend(F.SG)-GEN-F.SG sister(F.SG)-ERG  
*kitt-a*              *a*  
 done-M.SG be  
 ‘The sister of the friend of the boy did it.’
- a'. *munḍ-e-d-i*                      *dost-d-i*                      *pen-nu*                      *me*  
 boy-M.SG.OBL-GEN-F.SG friend(F.SG)-GEN-F.SG sister(F.SG)-DAT I  
*kita:b*              *ditt-i*              *a*  
 book(F.SG) given-F.SG be  
 ‘I gave the book to the sister of the friend of the boy.’
- b. *munḍ-e-d-e*                      *pra-d-i*                      *kita:b*  
 boy-M.SG.OBL-GEN-M.OBL brother(M.SG)-GEN-F.SG book(F.SG)  
*nam-i*              *a*  
 new-F.SG be  
 ‘The book of the brother of the boy is new.’
- b'. *munḍ-e-d-e*                      *prama-*                      *d-i*                      *kita:b*  
 boy-M.SG.OBL-GEN-M.OBL brother(M.PL)- GEN-F.SG book(F.SG)  
*nam-i*              *a*  
 new-F.SG be  
 ‘The book of the brothers of the boy is new.’

From a typological point of view, the fact that agreement on *d-* is sensitive to direct vs. oblique features establishes the continuity between the phenomena we are describing in Punjabi and the prototypical *Suffixaufnahme* of Australian languages, as discussed in §3.1 – as well as with linkers in languages like Albanian. Here, however, we are not interested in the functional equivalence between these various phenomena – but rather in whether they share formal properties, including their constituent structure and the rules that apply to it.

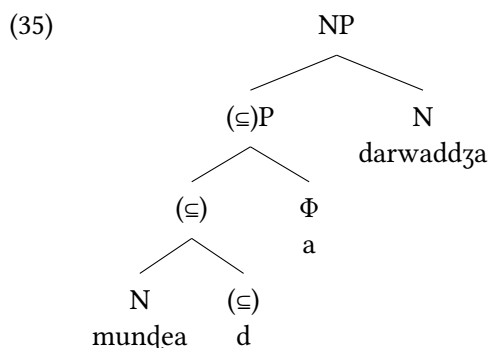
Following the discussion of Albanian (25), we take genitive case in Punjabi to correspond to the part-whole elementary predicate, notated ( $\subseteq$ ). The only difference is that, as argued by Payne (1995), oblique cases in Indo-Aryan correspond to postpositions, as opposed to inflections. Thus, in the coordination in (34a), the

*d*-genitive postposition takes a coordination of two DPs as its complement. This shows that the nature of *d*- is phrasal, akin to English -'s, rather than inflectional. A similar argument can be built from genitive nouns modified by an adjective. As can be seen in (34b), the *d*- case postposition appears only once in the structure, embedding the whole genitive NP 'open door'.

(34) Punjabi

- a. rami e    ran d-a        pra  
     Rami and Ran gen-M.SG brother(M.SG)  
     'Rami and Ran's brother'
- b. kull-e            darwadd3-e    d-i        tfabb-i    lend-i        a  
     open-M.SG.OBL door-M.SG.OBL GEN-F.SG key-F.SG taking-F.SG be  
     'I(F) am taking the key of the open door.'

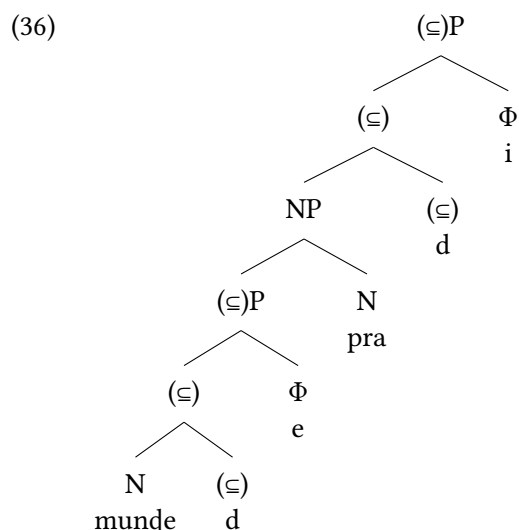
Next, Albanian is head-initial, while Punjabi is head-final; thus, in structure (35) for example (32a), the N *darwadd3-a* 'door' follows its genitive modifier. Second, recall that in Albanian (25), we categorize the inflections on N as D, as they carry not only phi-features and case, but also definiteness. In Punjabi, the inflections on N are compatible with both a definite and an indefinite reading, and do not therefore have D content. Because of this, we assign them the  $\Phi$  category in (35). The interpretation of (35) is the same as in Albanian (25) – namely that a ( $\subseteq$ ) relation, lexicalized by the postposition *d*, holds between the argument to which the genitive morphology attaches, i.e. *munḑea* 'the boys' (the whole or possessor), and the head DP *darwadd3a* 'the door' (the part or possessum).



The ( $\subseteq$ )P structural cell in (35) can of course be embedded under another oblique, yielding recursive structures of the type illustrated in (36) for example



(33b). Recall that in the masculine, what we have called a  $\Phi$  inflection in (35) displays sensitivity to direct vs. oblique case. Importantly, the oblique inflection of the masculine never appears as a stand-alone form of the noun. In other words, its only occurrences are as a bound form selected by a postposition. Based on this observation, we conclude that the oblique masculine inflections *-e* and *-ea* do not bear ( $\subseteq$ ) content, but instantiate  $\Phi$  – with the proviso that it is sensitive to selection by a ( $\subseteq$ ) case element, or to agreement with an element selected by ( $\subseteq$ ). Specifically, in (36), the *-e* oblique inflection is triggered by agreement with the oblique inflection of the N, selected by *d-*.



In copular sentences, including most of the examples in (33–34), the predicative adjective agrees with the DP subject. On the basis of the parallelism observed so far between adjectives and genitives, we expect that the postcopular genitives will present the same agreement structure as genitives embedded in DPs. This prediction is verified by the data in (37).

(37) Punjabi

- a. mund-e-d-i                      kita:b-d-e                      paper  
 boy-M.SG.OBL-GEN-F.SG book(F.SG)-GEN-M.PL sheets(M.PL)  
 me-r-e                      a  
 me-GEN-M.PL be  
 ‘The sheets of the boy’s book are mine.’

- b. ghar-d-e                      darwaddʒ-ea-d-ia                      tʃabb-ia me-r-ia  
 house-GEN-M.PL.OBL door-M.PL.OBL-GEN-F.PL key-F.PL me-GEN-F.PL  
 ‘The keys of the house’s door are mine.’

Payne (1995: 295) reports the existence of reduced relative clauses headed by perfect participles, where the external argument of the perfect participle surfaces in the genitive and agrees with the head noun. In our corpus, this pattern is attested by data like (38). Recall that Punjabi is a head-final language. The fact that ‘meat’ in (38a) follows the participle ‘done’, of which it is the object, suggests that ‘meat’ heads a DP, modified by the participle and by the genitive that precedes the participle – i.e. by a reduced relative. On the other hand, sentences like (38b) are also possible, where ‘the meat’ precedes the participle ‘done’ and is in turn preceded by the genitive. In both environments the genitive alternates with the ergative.

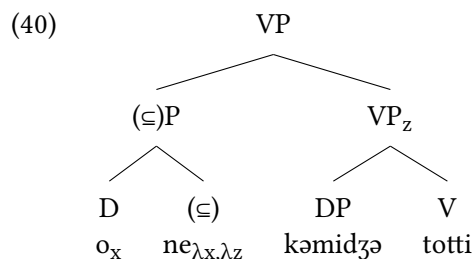
- (38) a. mɛ kur-i-d-a                      / kur-i-ne                      bəna-ea                      mi:tə  
 I(F) girl-F.SG-GEN-M.SG / girl-F.SG-ERG done-M.SG meat.M.SG  
 khan-d-i                      a  
 eat-PROGR-F.SG be  
 ‘I am eating the meat cooked by the girl.’  
 b. mɛ kur-i-d-a                      / kur-i-ne                      mi:tə                      bəna-ea  
 I(F) girl-F.SG-GEN-M.SG / girl-F.SG-ERG meat.M.SG done-M.SG  
 khan-d-i                      a  
 eat-PROGR-F.SG be  
 ‘I am eating the meat cooked by the girl.’

Main sentences constructed with a participle, an absolute argument and a genitive argument, as in (39a), yield a meaning that Stroński (2013) characterizes as resultative for a range of Indo-Aryan languages. For ease of comparison, (39b) displays an ordinary perfective sentence, with the internal argument in the absolutive form and the external argument in the ergative. As again highlighted by Stroński, the resultative form requires the presence of the participle of ‘be’, *o* in Punjabi, which we also see in the stative predication in (39c).

- (39) a. o-d-i                      kəmidʒə                      tott-i                      o                      a  
 he-GEN-F.SG shirt.F.SG wash.PERF-F.SG been be  
 ‘He has the shirt washed.’

- b. o-ne/mə kəmidʒə tott-i (a/si)  
 he-ERG/I shirt.F.SG wash.PERF-F.SG be/be.PST  
 ‘He has washed the shirt.’
- c. eval-i kəmidʒə tott-i (o) a  
 this-F.SG shirt.F.SG wash.PERF-F.SG been be  
 ‘This shirt is washed.’

There is an important stream of literature connecting ergative subjects, as seen in Punjabi (39b), with possession. Benveniste (1966: 176–186) concludes that “the Old Persian [ergative] structure ... is intrinsically possessive in its meaning” (cf. Butt 2006 on the dative-ergative connection in Indo-Aryan). For Manzini et al. (2015), the ergative case in sentences like (39b) has the same ( $\subseteq$ ) content reviewed here for genitives/datives; specifically, it introduces a relation between the DP it embeds ‘he’ and a nominal-like participial predicate, ‘washed the shirt’. In essence, the ( $\subseteq$ ) relation lexicalized by the ergative says that the state/event denoted by the VP (the perfect and its internal argument) is included by/located at the external argument.<sup>10</sup> In other respects, the ergative structure in (40) is characterized by agreement of the perfect participle with the internal argument, corresponding in Minimalist terms to a probe on  $v/V$ .



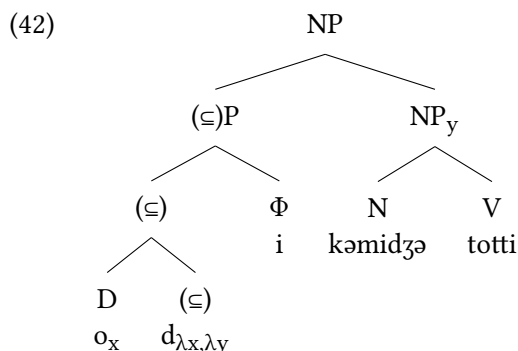
In the generative literature, the existence of a connection between ergative structures and nominalizations – hence between ergative subjects and possessors – is proposed by Johns (1992; cf. Yuan 2013 for a Minimalist update). In the words of Johns (1992: 61), the Inuktitut sentence in (41) “is constructed syntactically along the lines of ‘The bear is the man’s stabbed one’”. Thus, in Johns’ proposal the verb is a nominalization, which is first merged with the genitive/ergative

<sup>10</sup>Though a bare VP structure for Punjabi perfects is proposed by Manzini et al. (2015), in frameworks which distinguish a  $vP$  projection for transitivity from a VoiceP for introducing external arguments (Harley 2013), it is equally possible to characterize the predicate as  $vP$  (see Nash 2014). More descriptive labels such as PerfP are also possible.

possessor; the structure is then completed by the logical object of the verb in the absolutive. The verb agrees with the genitive/ergative; the morphology of the agreement suffix on the verb is exactly the same found on nouns agreeing with a possessor.

- (41) Inuktitut (Johns 1992: 61)  
anguti-up nanuq kapi-ja-nga  
man-ERG polar bear.ABS stab-PERF.PRT-3SG/3SG  
‘The man stabbed the bear.’

Punjabi (39a) matches quite closely the Inuktitut example in (41).<sup>11</sup> We take our bearings from Johns’ treatment of Inuktitut and treat the internal argument-participle complex as a nominalization. To be more precise, in the structure in (42) we advance the hypothesis that the noun ‘shirt’ heads the embedded predicate. Following our established practice, we treat the genitive as an elementary ( $\subseteq$ ) predicate – which implies that the argument it embeds is interpreted as a possessor. The reading is akin to that indicated by Johns for Inuktitut, namely a possession predication between ‘he’ and ‘the shirt washed’ – of the type rendered by the possession verb ‘have’ in English ‘He has the shirt washed’.



<sup>11</sup>There is another possible parallel between reduced relatives of the type in (38a) and structures in Japanese (Miyagawa 2011 and references quoted there), Turkic languages (Kornfilt 2008), Dagur (Mongolian; Hale 2002) and Polynesian (Herd et al. 2011), where (reduced) relatives also present a genitive subject. In several of these languages, though not in all (for instance not in Japanese or in standard Turkish) the genitive agrees with the head noun of the relative. Dagur in (i) illustrates the agreement between the head of a relative and the embedded genitive subject.

- (i) Dagur, Mongolian (Hale 2002: 109-110)  
[[mini au-sen] mer<sup>y</sup>-min<sup>y</sup>] sain  
1S.GEN buy-PERF horse-1S.GEN good  
‘The horse I bought (bought by me) is good.’

In (42) the outer  $\Phi$  slot of the genitive registers agreement with the nominal predicate. We take it that what we have described as reduced relatives in (38) involve the embedding of the structure in (40) or in (42), depending on the presence of a genitive or of an ergative.

### 3.2 Lardil and the crosslinguistic distribution of stacking

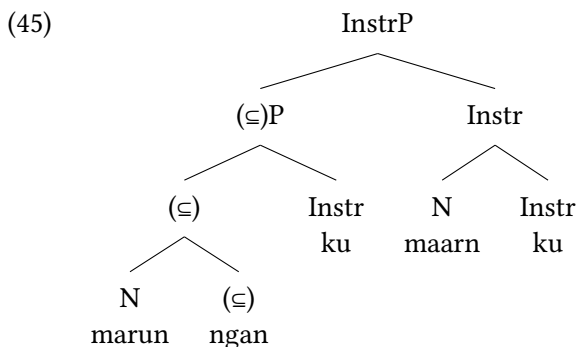
The question now arises whether canonical case stacking of the type seen in Pama-Nyungan languages, for instance Lardil in (1), can be unified with the Punjabi stacking and ultimately with Albanian linkers. While the discussions of Albanian and Punjabi that precede are based on primary data, in the discussion of Pama-Nyungan languages we depend entirely on data and generalizations provided by the literature. As before, our interest is not descriptive, but theoretical – i.e. considering whether, and how, the approach that we have taken to agreement and to oblique case leads to unified structures and derivations.

Let us begin with examples of adjectival modification, such as (8b), repeated below for the relevant part in (43). Adjectival structures in Lardil do not appear dissimilar from what one would observe in more familiar languages, where Agree applies between the adjective and the noun, as well as with the determiners and quantifiers of the DP. Thus, the demonstrative acts as a probe for the adjective and the noun, ultimately ensuring agreement all the way through. The only notable property of Lardil is that *n*, A and D inflections do not appear to have any phi-feature content, but only case content.

- (43) Lardil  
 kiin-i    mutha-n thungal-i  
 that-ACC big-ACC tree-ACC  
 ‘that big tree’

Adnominal modification by a genitive, as in example (1), is partially reproduced below in (44). The internal structure of the genitive phrase is the same as proposed for Albanian or Punjabi, as in (45). Following the parallel with Albanian and Punjabi, we take it that so-called genitive case introduces the ( $\subseteq$ ) elementary predicate. Agree is responsible for the presence of a partial copy of the possesum, i.e. the external argument of the ( $\subseteq$ ) elementary predicate, within the genitive phrase ( $\subseteq$ )P. In this instance, the inflectional properties that copy under Agree are oblique case ones, which we provisionally notate Instr(umental).

- (44) Lardil  
 marun-ngan-ku maarn-ku  
 boy-GEN-INSTR spear-INSTR  
 ‘with the boy’s spear.’

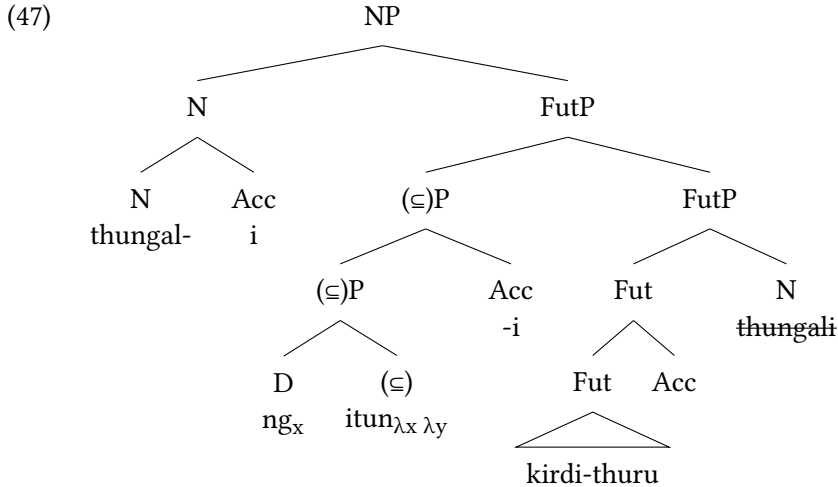


For the sake of completeness, we consider relative clause modification as well. The relevant portion of the example in (8c) is reproduced in (46), where the Acc case of the relative clause head is copied on all constituents of the relative clause. We tentatively propose that the state of affairs just observed is due to the fact that the verb is a participial form (here a future participle). Evidence for this claim is found in the Ngarna languages (Pama-Nyungan), as discussed by Breen (2004: 234–236).

- (46) Lardil  
 thungal-i, ngithun-i kirdi-thuru-Ø  
 tree-ACC I.GEN-ACC cut-FUT-ACC  
 ‘...tree, which I will cut down (for me to cut down)’

If the future form in (46) is participial, we expect it to agree with the head of the relative clause. More interestingly, the embedded subject is in the genitive case; this confirms the construal of the embedded form as a nominalization of sorts (what we have called a participle) – and leads to case stacking. Following the discussion of Punjabi, the  $(\subseteq)$  relation is maintained as the content of the genitive case, where the external argument of  $(\subseteq)$  in (47) is FutP. Thus the event ‘cut down (the tree)’ is interpreted as included by/located at the speaker ‘I’, which fills the internal argument slot of  $(\subseteq)$ . As for the extra argument slot available in linker/stacking languages in the projection of  $(\subseteq)P$ , the closest probe it can enter an agreement relation with is the relative clause. Hence the left edge of the  $(\subseteq)P$

is taken up by a copy of the inflectional properties of the head of the relative clause, namely the Acc case.



Let us go back to the simple case of stacking in adnominal modification of the type in (45). So far, we have only seen stacking configurations where a genitive is involved. The outer case/agreement can correspond to any direct or oblique case, as can be seen in (44), where it is instrumental vs. (46), where it is accusative – but the inner case is genitive. In fact, the former condition appears to be too restrictive – the inner case can be any oblique, though it cannot be a direct case.<sup>12</sup> This generalization can be illustrated in a particularly clear way in Pama-Nyungan languages. For instance, Dench & Evans (1988) and Dench (1995) consider in detail the Western Australian language Martuthunira. Three typical case stacking configurations where the inner case is not genitive are provided in (48). In (48b), the inner case on ‘spear’ is proprietive, essentially the equivalent of English ‘with’ (comitative/instrumental). In (48a), the inner case is privative – i.e. the negation of ‘with’ (‘without’). In (48c) the inner case is locative.

<sup>12</sup>Pesetsky (2013) draws a parallel between overt case stacking as described by Richards (2013) and case inflections in Russian, which according to him result from the stacking of several cases and deletion of all but the outermost case. Specifically, Pesetsky argues that the innermost case in Russian is always genitive. Under the present view, however, cases are stacked, recursively, when the outer case lexicalizes agreement with another argument, excluding unification with Pesetsky’s Russian case stacking.

(48) Martuthunira, Pama-Nyungan (Dench & Evans 1988: 7ff.)

- a. ... ngurnu-marta kanyara-marta tharnta-wirriwa-marta  
... that.OBL-PROP man-PROP kangaroo-PRIV-PROP  
'... the man without a kangaroo'
- b. nhawu-layi ngurnaa kurryarta-marta-a-rru  
see-FUT that.ACC spear-PROP-ACC-now  
'I'll see that one with a spear now.'
- c. ngali panyu-ngka-a warra kalyaran-ta-a thuur.ta-a manku-layi  
1DU.INCL good-LOC-ACC CONT tree-LOC-ACC fruit-ACC get-FUT  
'We'll get fruit in a better tree.'

We can find evidence for the same distribution in other language families. Of particular interest here are Indo-Aryan languages. As shown by Payne (1995), in Kashmiri (Dardic) the benefactive postposition *k'ut* 'for' has the same agreement behaviour as the genitive postposition, agreeing with 'house' in (49a) and with 'horses' in (49b). Payne (1995) further reports the existence of agreeing locative postpositions in Punjabi such as *vicc* 'in' in (50) and *əndər* 'inside'. In other words, case/agreement stacking is supported by locatives and by high applicatives (benefactives) in the sense of Pylkkänen (2008).

(49) Kashmiri (Payne 1995: 293)

- a. [ paranas k'ut] gari  
reading.OBL.I for.DIR.M.SG house.DIR.M.SG  
'house for reading'
- b. [ cur'an k'it'aw] gur'aw  
thieves.OBL.I for.OBL.II.F.PL horse.OBL.II.F.PL  
'horses for thieves'

(50) Punjabi (Payne 1995: 289)

- [ pənjāb vicl-ī] hālət  
Punjab in-F.SG situation.F.SG  
'the situation in the Punjab'

Let us then assume that any case can be stacked on top of an oblique – but no case can be stacked on top of a direct case, as in (51). In morphological terms, the generalization is that direct cases can only be stacked as outermost in a stacking configuration – which is Richards's (2013) formulation: "if a structural case



morpheme is to appear, it must be on the periphery of the DP's inflection".<sup>13</sup> Nevertheless it is hard to believe that such a strong cross-linguistic generalization reflects some morphological quirk, and not some deeper syntactic property – which the morphology of course externalizes.

- (51) Case/phi-feature stacking (by affixes or linker heads) is restricted to oblique DPs (genitives, datives, instrumentals, locatives).

A possible way to conceptualize this state of affairs in (51), suggested by the typological literature, is that case/agreement stacking is restricted to structure involving adnominal modifiers. Dench (1995: 386) expresses essentially this generalization by saying that “The NP is defined as a sequence of adjacent nominals over which some nominal suffix is distributed” – in other words, the spreading of nominal suffixes (case stacking) is possible to the extent that a nominal constituent underlies it. The canonical example of adnominal modification is by genitives – but instrumentals/ comitatives or locatives are equally possible adnominal modifiers. However, this characterization is arguably insufficient. For instance, while the adnominal modification relation is generally clear with genitives, it is much laxer with other obliques; specifically, it seems from examples like (48c) that the notion of adnominal modification must be stretched to cover environments where the noun and its modifier do not form a constituent. The same point in fact can be made with genitives in postcopular position, such as

<sup>13</sup>Richards (2013) does not derive the generalization that we are interested in. Rather, he discusses in detail a different restriction on case stacking, illustrated in (i–ii). In (ii), both Instr and Fut surface on ‘spear’ – but in (i) only Instr surfaces on ‘spear’ and not Acc. This is an instance of blocking an outer Acc – i.e. one that is expected to have the same position in (ii) as the outer Fut in (i).

- (i) Ngada latha liban-i                      kurrumbuwa-r.  
 I        spear pumpkinhead-ACC multi.pronged.spear-INSTR  
 ‘I speared the pumpkinhead with a multi-pronged spear.’
- (ii) Ngada la-thur    liban-kur                      kurrumbuwa-ru-r.  
 I        spear-FUT pumpkinhead-FUT multi.pronged.spear-INSTR-FUT  
 ‘I will spear the pumpkinhead with a multi-pronged spear.’

These examples also raise the problem of agreement in Fut features. Richards observes that “the future suffix is morphologically identical to the instrumental suffix, with all the same allomorphs”. We in turn note that future/irrealis in a language like English can be introduced by a preposition “morphologically identical” to the high applicative/benefactive, namely *for* (e.g. *I desire for John to win*). These are all possible cues towards the conclusion that the content ‘future/irrealis’ need not necessarily be conveyed by an exponent of T.

Punjabi (37) or Albanian (12); one would need to argue that the subject of the copula is raised from within a complex DP of which the genitive is a modifier. This is unlikely, to the extent that the copula is deemed to embed a predicative small clause, not a DP.

More to the point, Dench's suggested generalization does not really explain (51) in terms of more primitive notions, but rather substitutes for the descriptive notion of 'oblique' in (51) the equally descriptive notion of 'adnominal modification'. In present terms, explaining (51) amounts to providing a theoretical content for the notion 'oblique'. The approach we have adopted here to genitive, beginning with the analysis of Albanian linkers in §2.1, leads us in the direction of assuming that what sets oblique cases apart from direct case is their relational nature. Specifically, in their investigation of the case system of Albanian, Manzini & Savoia (2011a,b) propose a construal of the genitive/dative syncretism 'oblique' and of the residual ablative (locative) in terms of the relation ( $\subseteq$ ) introduced in §2 for the genitive. Franco et al. (2015) argue in turn that instrumentals/comitatives instantiate the reverse relation ( $\supseteq$ ), where the DP bearing the DP case is to be construed as 'included by'/'possessed by' the DP head of the complex nominal.

This conceptualization of oblique case is easily explained with examples from familiar Western European languages, including English, which use Ps as externalizations of the relevant relations. In present notation, in (52a) the English preposition *of* relates the head and the modifiers of the DP by introducing a ( $\subseteq$ ) part/whole relation between them. The English preposition *to* introduces exactly the same ( $\subseteq$ ) relation in (52b) – holding between the argument embedded by *to* and the theme of the ditransitive predicate (Kayne 1984; Pesetsky 1995; Harley 2002; Beck & Johnson 2004; Manzini & Franco 2016). Languages like English which have distinct genitive and dative prepositions or cases simply have different externalizations for the ( $\subseteq$ ) content when embedded in nominal contexts (52a) or verbal contexts (52b). Languages like Albanian (Aromanian, etc.) which have the same morphological realization for genitive and dative simply have a non-context-sensitive externalization for the ( $\subseteq$ ) content.

- (52) a. the hat [ $_{(\subseteq)}$  of [the girl]]  
 b. I gave [the hat [ $_{(\subseteq)}$  to [the girl]]]]

In turn, the comitative/instrumental preposition *with* may reverse the relation conveyed by the genitive (Levinson 2011). This is illustrated by the comparison between English (52a) and (53a). English *with* in (53a) introduces a possessum of the head noun of the DP (the possessor); following Franco & Manzini (2017), we notate the relevant relation with ( $\supseteq$ ). They further argue that the comitative

and instrumental values also associated with English ‘with’ are contextual manifestations of the same ( $\supseteq$ ) relation. Thus in (53b), *with the hat* has the canonical possession interpretation already noted for (53a); *with John* is a comitative, to the extent that ‘John’ carries the same degree of animacy/intentionality as ‘the girl’ of which it is predicated. Finally, in (53c) the instrumental reading of *with the hat* depends on it being a concomitant of ‘the girl’ in the role of causer of the event. In this sense, Franco & Manzini (2017), following in part Bruening (2012), propose that the ( $\supseteq$ ) relation applies between the instrumental (the part) and the subevent represented by the VP (‘chasing the fly’).

- (53) a. the girl [ $\supseteq$ ] with [the hat]  
 b. The girl left [ $\supseteq$ ]with [the hat/John]  
 c. The girl chased the fly away [ $\supseteq$ ]with [the hat]

Recall that our goal here is explaining the generalization in (51) restricting case/agreement stacking to oblique arguments. What we have now proposed is that there is a common denominator in the oblique system (genitive-dative-instrumental). In terms of this proposal, the generalization in (51) can be restated as in (54). If oblique is seen as the ( $\subseteq$ )/( $\supseteq$ ) elementary relator, then it supports – and in fact it requires (in the languages where the relevant parameter is active) – a lexicalization of both its arguments within its maximal projection. The internal argument is its complement, the external argument is introduced as a linker or a stacked affix.

- (54) The external argument of the ( $\subseteq$ )/( $\supseteq$ ) relator (part/whole) is instantiated within the relator’s maximal projection (phase).

In evaluating the proposal in (54), it is worth keeping in mind what the range of possible alternatives is. The Distributed Morphology literature that endeavours to decompose traditional cases into a system of elementary features recognizes [obl] as a primitive (Halle & Vaux 1998; Calabrese 2008). However, in terms of [obl], the best generalization we can reach about Suffixaufnahme is indeed (51). The formal syntax literature, in turn, focuses on Chomsky’s (1986) distinction between structural case (depending on a syntactic configuration) and inherent case (depending on the selection properties of a predicate). Though the canonical structural cases are the direct cases, genitive is also typically treated as structural by the generative literature. Indeed, in present terms, this means that the ( $\subseteq$ )/( $\supseteq$ ) content does not necessarily depend on the inherent properties of the predicate head, but rather on a structural configuration. Therefore, the

structural/inherent distinction has no relevance for the Suffixaufnahme generalization. Case/agreement stacking examples may involve selected, i.e. inherent, obliques or what would count as structural obliques – the distinction is irrelevant to the distribution of Suffixaufnahme.

We thus revert to the possibility that there is no syntactic substance to Suffixaufnahme. And yet, this makes it extremely difficult to capture the formal (not merely functional) overlapping of affixation and linker phenomena – where by common consent linkers involve phrasal syntax. In other words, Suffixaufnahme provides an argument in favour of the syntactic relevance of the notion of oblique. The latter in turn suggests that more primitive syntactic notions may underlie the descriptive ‘oblique’. Here we have suggested that the relevant notions are that of elementary relator (with the part/whole content) and the case/agreement stacking corresponds to the presence of complete or partial copies of the arguments satisfying the relator within its phrasal projection.

## 4 Conclusions

In this paper, we have shown that stacked suffixes and linker heads display the same syntactic distribution, roughly adnominal modification. Furthermore, constituency tests show that linker heads, no less than stacked suffixes, are internal to the projection of the modifier phrase (an AP, a genitive phrase, a relative clause). From a morphological point of view, linkers can display agreement in phi-features or in case or in both, generally with the modified noun; similarly, stacked suffixes may involve agreement in case (Lardil) and/or in phi-features (Punjabi).

We have argued that Agree can achieve descriptive adequacy without making reference to features being [interpretable] or [valued]. In fact, at least in the DP domain, taking agreement to result from interpretable-uninterpretable (valued-unvalued) pairs of features imposes partitions between phi-feature sets that are not evident in the interpretation, where it is hard to determine whether (un)interpretable properties reside on N rather than on Q/D – or vice versa. In our conception, each category within the DP acts as a probe for the immediately c-commanded category, all the way down from D to N. Agree is necessary for the establishment of equivalence classes between two or more copies of the same phi-feature material – to be interpreted at the interface as individuating a single referent.

Furthermore, stacking and linkers provide an argument in favour of the syntactic relevance of the notion of oblique. We have argued that more primitive syntactic notions underlie the descriptive label ‘oblique’. We have proposed that there is

a common denominator in the oblique system (genitive-dative-instrumental) of natural languages. Specifically, obliques are elementary predicates/relators with a part/whole content, whose internal argument is the DP/AP/CP they embed (the modifier) and whose external argument is the modified D/NP. Stacked morphemes and linkers introduce partial copies of the external argument (the modifiee) at the edge of the relator phrase.

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