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Linkers and agreement

Abstract: In many languages a linker element is inserted between a noun N and a modifier or a complement of N. We focus on Albanian articles and on Iranian ezafes, and we introduce comparison data from Aromanian. In section 2, we provide arguments as to why currently available formal theories of linkers (as copulas, as case assigners, as means for identity avoidance) face problems when applied to Albanian or Kurdish. In section 3 we argue, on the basis of morphological, syntactic and interpretive evidence, that linkers (at least in the languages considered) form a constituent with the A(P) that follows them and that their category is D. Section 4 contains the theoretical core of the discussion. A linker D and a determiner D have in common the fact that they are both able to satisfy argument slots of a predicative head (e.g. A). However a D closing off a DP is an operator, establishing a relation between a restrictor (the NP) and a domain of quantification (a VP). A linker D is a bound variable – it provides a satisfaction for a theta-role ultimately bound by the higher D. A cross-linguistic typology of determiners, linkers and pronominal clitics based on this analysis is provided. In section 5 we extend the analysis to pre-genitive linkers, treating genitive case as an elementary part-whole relation, of which the linker saturates the external argument (the possessum).

Keywords: agreement, linkers, genitive, Iranian ezafe, Albanian article

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1 Introducing the issue

In many languages a linker element is inserted between a noun N and an adjective or a complement of N (or a relative clause, not considered here because of its internal complexity). As for Indo-European languages (which will form our focus here), nobody seems to have any doubt that the Iranian ezafe is such an element.

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(1) exemplifies the phenomenon in Persian. Following Lazard’s traditional description (1992: 276 et seq.), when a noun is accompanied by a modifying element, it is followed by an enclitic unstressed vowel *-e* (the *ezafe*), which seems to indicate nothing about the precise semantic or syntactic nature of the relation holding between the modifier and the head noun.

(1)	PREDICATE	<i>asman-e abi</i>	‘blue sky’
	POSSESSOR	<i>ketab-e Hasan</i>	‘the book of Hasan’
	AGENT	<i>kar-e mardom</i>	‘the work of people’
	PATIENT	<i>qatl-e Hoseyn</i>	‘the murder of Hoseyn’
	GOAL	<i>rah-e Tehran</i>	‘the road of/to Tehran’
	LOCATION TIME	<i>mardom-e emruz</i>	‘people of today’
	SOURCE	<i>ab-e cesme</i>	‘water of/from well’
	SUBSTANCE	<i>gombad-e tala</i>	‘dome of gold’
	PART	<i>do najar-e an-ha</i>	‘two (persons) of them’
<i>Persian</i> (Windfuhr and Perry 2009: 473)			

Both typologists and formal linguists have been interested in the fact that in several Iranian languages, the *ezafe* agrees with the head noun. In (2)–(4) we provide data from Kurmanji Kurdish transcribed in a broad IPA from Leonardo Savoia’s (LMS) work with native informants. Similar data are provided by Haig (2011: 366 et seq.). (2) shows the bare form of the nouns ‘boy’ and ‘girl’ (singular and plural). In (3), the combination of the noun with an adjective (here ‘big’) requires a linker/*ezafe* – which is *e* for the masculine, *a* for the feminine and *et* for the plural. The same element, e.g. masculine singular *e*, appears when the noun is followed by a genitive modifier in (4). In order to process the data it is useful to keep in mind that Iranian languages commonly have overt indefinite markers, but not definite ones (see the discussion in section 3.3) so that the bare noun in (2) is interpreted as definite. In (3) the presence of the indefinite suffix *-ak* determines an indefinite reading, its absence a definite one.

- (2) a. ketʃek ja: de-het
girl F.SG PROG-come.3SG
‘The girl is coming’
b. kurek jet de-het
boy M.SG PROG-come.3SG
‘The boy is coming’
c. kurek/kutʃek jet he:n
boy/girl PL come.3PL
‘The boys/the girls are coming’

- (3) a. kurk-(ak)-e: mazən jet het
 boy-(one)-EZ.M big M.SG come.3SG
 ‘A/The big boy is coming’
- b. ketʃk-(ak)-a: mazən jat het
 girl-(one)-EZ.F big F.SG come.3SG
 ‘A/The big girl is coming’
- c. kurk-e:t/ketʃk-e:t mazən jet hen
 boy-EZ.PL/girl-EZ.PL big PL come.3PL
 ‘The big boys/girls are coming’
- (4) dest-e kurk-i/ketʃk-e
 hand-EZ.M boy-OBL.M/girl-OBL.F
 ‘the hand of the boy/girl’

Kurmanji Kurdish, Bahdînî dialect (LMS, field notes)

Apart from core case like the *ezafe*, theorists do not necessarily agree on what counts as a linker. For instance, den Dikken and Singhapreecha (2004: fn. 31) explicitly exclude Greek polydefiniteness from their inventory of linkers. On the other hand, Androutsopoulou and Español-Echevarria (2007) start from Greek in their survey of the phenomenon, and Larson and Yamakido (2008) also include Greek in theirs. The Greek linker (Campos and Stavrou 2004; Ramaglia 2011; Lekakou and Szendrői 2012) is morphologically identical to the definite determiner and to the pronominal clitic, and agrees in definiteness, number, nominal class (gender) and case with the head noun (or determiner). Syntactically, its basic distribution is similar to that observed in (1)–(4) for Iranian, since it appears before adjectives and genitives, as in (5), though with some additional restrictions. Morphologically, we already saw in Kurdish (2)–(4) that the lexicalization of the *ezafe* may agree with the phi-features of the head noun.

- (5) a. to spiti to megalo
 The-NOM.N house the-NOM.N big
 ‘the big house’
- b. i Melita i Stavrou
 the-NOM.F Melita the-NOM.F Stavros-GEN.M
 ‘Melita Stavrou (of Stavros)’

Greek (Stavrou 2013)

In Albanian, the article (as it is called in traditional grammars) has the same distribution observed for the *ezafe*, namely before adjectives and

genitives.¹ Albanian has a series of nominal endings, inflected for definiteness as well as for phi-features and case. Much formal literature treats these endings as post-nominal articles derived via movement of N to D (Dimitrova-Vulchanova and Giusti 1998; Turano 2002, 2003; cf. also Dobrovie-Sorin 1994 on Romanian).² The pre-adjectival/pre-genitival articles are related to these definite inflections/post-nominal articles with which they agree and also often coincide. This is illustrated in (6) for pre-adjectival contexts and in (7) for pre-genitival contexts with data taken from the Arbëresh (Italo-Albanian) variety of *Vena di Maida*.

- (6) a. $\varepsilon\theta$ dia*l*-i i ma*θ*
 came boy-NOM.M.DEF the.M big
 ‘The big boy came’
 b. $\varepsilon\theta$ vazd-a ε ma*ð*- ε
 came girl-NOM.F.DEF the.F big-F
 ‘The big girl came’
 c. $\varepsilon\theta\partial$ kriatura-tə tə mbi*ð* ε n-a
 came boy-NOM.PL.DEF the.PL big-PL
 ‘The big boys came’

Arbëresh (Savoia 2008: 89)

- (7) a. ku'tu ε bi*f*t-i i mat*ʃ* ε -sə
 here is tail-NOM.M.DEF the.M cat-OBL.F.DEF
 ‘Here there is the tail of the cat’
 b. k*j*ɔ ε kemb-a ε mat*ʃ* ε -sə
 this is leg-NOM.F.DEF the.F cat-OBL.F.DEF
 ‘This is the leg of the cat’
 c. kə'tɔ jan bi*f*t-ət tə mat*ʃ* ε -və
 these are tails-NOM.PL.DEF the.PL cat-OBL.PL
 ‘These are the tails of the cats’

Arbëresh (Manzini and Savoia 2011a: 263)

¹ To be precise, a lexically defined subset of adjectives takes the article (Camaj 1984; Solano 1972; Turano 2004; Campos 2008). We have nothing to say on those (fewer) adjectives that do not take it. If uniformity of structures is desired, article-less adjectives may be associated with an empty article, to be construed along the same lines as the overt article.

² Albanian also has prenominal articles with kinship terms, which combine with definite inflections, as in (16) below. If in (16) the prenominal article is in D, this seems to exclude that D is filled by the inflected N, as predicted by the N-to-D analysis. Therefore in our analysis we assume that the D inflection is first merged as a sister of N directly in the (morpho)syntax. In the resulting configuration, D c-commands N though it does not c-command other DP-internal material. Scope of D over the whole DP can be achieved by generating a silent copy of the overt D in the scope position – namely in the same position where it overtly occurs in kinship terms.

In the rest of this article we focus our discussion on Albanian articles and on Iranian ezafes, though we also introduce comparison data from Aromanian. In section 2, we provide arguments as to why currently available formal theories of linkers (as copulas, as case assigners, as means for identity avoidance) face problems when applied to Albanian or Kurdish. In section 3 we argue, on the basis of morphological, syntactic and interpretive evidence, that linkers (at least in the languages considered) are in fact closer to what is usually called agreement. Section 4 contains the theoretical core of the discussion; we raise the question why agreement structures would surface in the form of definiteness elements (as in Albanian articles, or Aromanian demonstratives). We argue that so-called agreement inflections are a morphological-level saturation of argument places. The Agree rule therefore matches pairs of interpretable elements concurring to the saturation of the same argument slot.

It is useful to be clear from the outset as to our goals and claims. To begin with, we certainly do not claim to be first in noticing that ezafes agree. We are also not first in shifting the characterization of linkers towards the agreement field. For instance, among the labels for the Albanian pre-adjectival article in the literature listed by Campos (2008: 1009), we find “agreement clitic” (Tomić 2006) which is a fair label for what we propose as well. Cross-linguistically, the conclusion that linkers are the counterparts of inflectional agreements in the domain of syntactic heads is found in work by Zwart (2006), Philip (2012, 2013).

However, for Philip (2012) linkers are “semantically vacuous functional heads” – and she extends linker status to a whole series of functional heads, including at least complementizers, prepositions like ‘of’ or ‘to’ and coordinations as well as linkers proper. The gist of her model is that the ezafe in [N-ez-AP/DP] or the preposition in [N-P-DP] or the complementizer in [V-C-IP] serve “only to mark the presence of an independently existing relationship – modification or θ -role assignment – between a head in one extended projection” (in the sense of Grimshaw 2005[1991]) “and a distinct dependent extended projection” (p. 64). In other words, semantic relations introduced by contentive categories are realized through purely syntactic connectives or PF material (our understanding of ‘markers’) devoid of independent meaning.

We take the view that both lexical and functional elements, including morphemes, externalize interpretive content (in the sense of Berwick and Chomsky 2011) and that they both concur to projecting interpreted syntactic relations. In this perspective, complementizers, *of*-like prepositions, and linkers all have an interpretive content. Recent literature (Manzini and Savoia 2003; Arsenijevic 2009; Kayne 2010; Roussou 2010; cf. also Franco 2012) takes complementizers to be bona fide *wh*-phrases (Romance) or demonstratives (Germanic); not only they are not uninterpretable, but they are in fact interpreted exactly as, say,

wh-phrases (relativizers of some sort).³ In the same vein, in section 5 we will discuss the preposition ‘of’ and impute to it (and to genitive case) an elementary predicative content (essentially inclusion, to be interpreted also as possession, cf. Belvin and den Dikken 1997). In the body of this article we aim to show that linkers like the Iranian *ezafe* and Albanian pre-adjectival/genitival articles are endowed with interpretive properties. Specifically, what linkers contribute to the structure is consistent with the fact that they morphologically coincide with determiners/pronouns, at least in the Indo-European languages we are studying (cf. fn. 8 for Sino-Tibetan languages). We agree with Zwart (2006), Philip (2012) that the difference between a so-called linker and a so-called agreement reduces to their structural position (head vs. inflection). However, the further conclusion we draw from this is that agreement inflections are themselves interpretable, at least within DPs, further reducing the role of uninterpretability in grammar.

2 Theoretical background: non-agreement theories of linkers

In English, given the lexical items *red* and *ball*, syntactic merger requires no extra material to be inserted, yielding *red ball*. Yet merger of *the book* and *John* does require an extra element to be inserted, namely *of*, as in *the book *(of) John*. For Chomsky (1981) *of* is inserted in order to assign case on *John* when governed by an N head (cf. Vergnaud 2008 [1978]). In later literature, the occurrences of *of* in contexts such as *that idiot of a student* (roughly ‘that idiotic student’) are taken to parallel that of the copula in sentential domains (Hoekstra 1999; den Dikken 2006). Other scholars emphasize the role of *of* in identity avoidance (breaking an *N-N string, Richards 2010). The range of most theoretical proposals on linkers closely reproduces the range of theories on *of* Insertion, as case assigners, as copulas, as means for identity avoidance. In this section we shall provide some evidence against these various approaches. On the contrary, we will not address recent models that recognize the theoretical connection between linkers and agreement (Zwart 2006; Philip 2012, 2013). We will return to these models in the

³ An anonymous reviewer points out the similarity between the present work and that of Philip (2012). Complementizers provide a first illustration of our rather different perspectives. In general, Philip does not consider literature we directly depend upon, such as the works just quoted on complementizers, or the literature on Albanian articles/linkers (Savoia 2008; Manzini and Savoia 2011a, 2011b).

second part of the paper, especially in sections 4–5 where we will address their empirical predictions.

The construal of linkers as copulas, proposed by den Dikken and Singhapreecha (2004) (cf. Stavrou 2013 on Greek, Karimi 2007 on Kurdish) originates from models of *of* as an inverse copula (*that idiot of John* like *John is an idiot*). In Albanian, however, the pre-adjectival article is not restricted to DP-internal contexts, but appears in copular constructions as well, as in (8). The obvious counterargument to treating the linker as a copula is that in (8) the copula is independently lexicalized. In fact, the article is as obligatory in the copular construction in (8) as in the complex DPs in (6)–(7).

- (8) a. φ t *(i) maθə/ *(ε) mað-ε
 s/he.is the.M big/ the.F big-F
 ‘S/he is big’
 b. jan *(tə) traɸ-a
 they.are the.PL fat-PL
 ‘They are fat’

Arbëresh (Savoia 2008: 88–89)

Note that (8) is a canonical copular sentence with the predicate to the right of (i.e. lower than) its subject; in other words no copular inversion of the type associated by den Dikken and Singhapreecha to linkers takes place in (8). The data in (8) also exclude that pre-adjectival articles can be treated as the result of the deletion of the head N in a [D [A N] underlying structure, as proposed by Lekakou and Szendrői (2012) on the basis of Greek (where the article is not found in predicative contexts). This cannot be the syntax of post-copular adjective in (8), because there would be no source for deletion either in the syntax (where there is no N antecedent) or in the pragmatic context – since the meaning of (8a) is not English ‘S/he is the/a big one’ but English ‘S/he is big’.

The conclusions from Albanian are confirmed by Iranian languages. In the Bahdîni dialect of Kurmanji Kurdish – documented with examples from the literature in (9) and from our own field work in (10) – a linker *je(t)/ja*: agreeing with the subject precedes the sequence adjective – enclitic copula.⁴ The fact that in predicative contexts the linkers are not in complementary distribution with the

⁴ Our informants give us the same forms of the linker as Haig’s for feminine singular and for plural; in the case of the masculine singular we obtained the form *jet*, different from the only form *(y)e* recorded in Haig (2011).

copula but combine with it, is again an argument in favour of separating linkers from copulas.⁵

- (9) a. re-ya me a dur e
 road-EZ.F 1PL.OBL ez.F far is
 ‘Our road is long / is a long one’
 b. xani-yē me ē spî-ye
 house-EZ.M 1PL.OBL EZ.M white-is
 ‘Our house is white/is the white one’

(Bedir Khan and Lescot 1986: 198–199)

- c. ew (y)êt kurd-in
 dem-PL EZ.PL Kurd-are
 ‘They are Kurds.’
 d. ez ya/yê kurd-im
 1SG EZ.F/EZ.M Kurd-am
 ‘I am Kurd’

(Haig 2011: 371)

- (10) a. av kamis-a jet jifti-na
 DEM-PL shirt-PL EZ.PL washed-are
 ‘These shirts are washed’
 b. au je/ja mazən-e
 3SG EZ.M/EZ.F big-is
 ‘(s)he is big’
 c. au jet sur-ən
 3pl EZ.PL red-are
 ‘they are red’

Kurmanji Kurdish, Bahdîni dialect (LMS, field notes)

Another line of work takes linkers to semantically licence the possession relation (Koontz-Garboden and Francez 2010 on Ulwa). Here the problem posed by Albanian is another. In (7) the possessor noun phrase, namely ‘the cat(s)’ is associated with a case ending *-sə* for the singular (feminine) and *-və* for the plural. Such endings are phonologically robust (syllabic) and morphologically specialized, in the sense that they cover only the genitive and the dative, namely the core

⁵ A non Indo-European language where linkers are present both in attributive and predicative contexts is Pnar (Austro-Asiatic, Khasian), where adjectives following a noun are introduced by a linker *wa*, and the same element *wa* occurs in front of adjectives in copular sentences, where it bears agreement (Choudhary 2004: 14, 28).

oblique(s), to the exclusion of direct cases and other obliques, specifically a residual ablative. Now, consider their occurrence in dative contexts, for instance in (11). The second internal argument of ditransitives has been connected to possessives at least since Kayne (1984). For instance English *He gave a fright/ a book to everybody* corresponds to the attribution of a mental state or a material possession to the dative argument. In (11) the genitive/dative inflections of Albanian are perfectly sufficient to support the possession relation. Everything else equal, we expect that the same inflections should be able to lexicalize the possession relation when found on a complement of N in (7), cf. for instance the *-sə* ending of *matʃe* ‘cat’ in (7a–b). In other words, one may interpret the evidence as excluding that linkers correspond to the elementary possession predicate – since oblique case already plays this role.

- (11) a. j-a ðε vazdə-sə
 to.her-it I.gave girl-OBL.F.DEF
 ‘I gave it to the girl’
 b. j-a ðε vazda-vε
 to.them-it I.gave girl-OBL.PL
 ‘I gave it to the girls’

Arbëresh

For Larson and Yamakido (2008) (cf. Samiian 1994), linkers are necessary to case licence +N complements of N heads, including adjectives. Yet the Albanian linker reproduces the features of the head noun, or to be more precise of its inflection, as illustrated by standard Albanian (12a). The point here is that in (12a) the article replicates exactly the inflection of the head noun (not ambiguously a genitive/dative feminine definite). Why would the article solve any problem with +N embedding that the nominal inflection couldn’t itself solve?

- (12) a. vajz-ës së bukur
 girl-OBL.F.DEF the nice
 ‘to the nice girl’
 b. ja dhe vajz-ës
 it-to.him/her I.gave girl-OBL.F.DEF
 ‘I gave it to him/her’

Standard Albanian (Turano 2004: 31)

Larson and Yamakido’s construal of linkers as case licensors has a certain *prima facie* plausibility for Persian, where apart from the DOM marker *-ra* for definite direct objects, there are no overt case inflections (cf. Mahootian 1996; Karimi

2003, among others). In (13) the dative goal is introduced by the overt preposition *be*. In the DPs in (14) the head N is followed by a complement DP not marked for genitive case.

- (13) *bezar in æks-a-ro be-u nešun bedæm.*
 leave this picture-PL-ACC to-him show.1SG
 ‘Let me show him these pictures’

Persian (Mahootian 1996: 139)

- (14) a. *ketâb-e ali*
 book-EZ Ali
 ‘Ali’s book’
 b. *forunshande-ye ketâb*
 seller-EZ books
 ‘book seller’
 c. *del-e sang*
 heart-EZ stone
 ‘stone heart’

Persian

Now, in several West Iranian languages a direct vs. oblique case distinction is morphologically available and the possessor is marked oblique; despite this, the *ezafe* is still present. Thus Kurmanji Kurdish (15a) displays an oblique inflection on the possessor but still requires the linker in front of it. This is true, despite the fact that the oblique inflection alone is able to lexicalize the possessor in dative environments, as in (15b). The pattern in (15a) is widespread in West Iranian Languages, e.g. in Hawrami Kurdish (cf. section 3.1) and in Zazaki (cf. section 5).

- (15) a. *dest-e kurk-i/ketfʃk-e*
 hand-EZ.M boy-OBL.M/girl-OBL.F
 ‘the hand of the boy/girl’
 b. *de qalam-ak-i dama ketfʃk-e/kurk-i*
 PROGR pen-one-OBL give-1SG girl-OBL.F/boy-OBL.M
 ‘I give a pen to the girl/boy’

Bahdîni Kurmanji (LMS, field notes)

A final family of accounts for linkers not considered so far takes them to be means for identity avoidance (Ghomeshi 1997). This approach has recently been revived by Richards (2010) as part of a more general account of identity avoidance/syntactic haplology in morphosyntax. Although local anti-identity is

widely attested in natural languages (Yip 1998; Neeleman and van de Koot 2006; van Riemsdijk 2008; Manzini to appear), empirical reasons lead us to doubt that linkers are part of this phenomenon. In Albanian, there is a subclass of nouns – kinship terms – that are accompanied by preposed articles, in addition to their normal nominal inflections.⁶ When kinship terms are embedded as genitives, structures of the type in (16) are created, where the inflected kinship term is preceded by its own agreeing article, which is preceded in turn by the pre-genitival article agreeing with the head noun. The existence of syncretisms in the nominal inflections/articles paradigms leads to sequences of not only syntactically, but also morpho-phonologically identical elements, as in (16). Since syntactic haplology phenomena work on a strictly language-particular and item-particular basis, one could try to show that the absence of the linker in (16) is problematic and not its insertion. But the burden of proof is on proponents of the theory we argue against.

- (16) mɔra kuputsə-tə tə tə nipi-tə
 I.took shoes-ACC.PL.DEF the-ACC.PL the-OBL grandchild-OBL.M.DEF
 ‘I took the shoes of the/his/her/their grandchild’
Arbëresh (Manzini and Savoia 2011a: 263)

In short, we believe that much of the theoretical literature about linkers reviewed in this section provides important insights into the nature of the elementary components that enter into adjectival modification and into possessor embedding, including such notions as the copula and oblique case. However the linker itself is not a copula, nor a case assigner, nor does it introduce the possession predicate, nor is it an identity avoidance device. As already mentioned at the beginning, in this section we do not consider analyses of linkers that converge with our eventual conclusion in section 3.4 that linkers belong to the general domain of agreement phenomena, specifically Zwart (2006) and Philip (2012, 2013). We discuss their empirical predictions in sections 4 and 5.

3 Empirical evidence

In section 2, we used Albanian and Western Iranian data to call into question the major approaches to linkers available in the formal literature. In this section we

⁶ This is part of a special system for expressing possessors of kinship terms, differentiating them from other common nouns.

will review morphological, syntactic and interpretive evidence supporting the fundamental similarities between the Iranian ezafe and the Albanian article. In the process we shall establish some basic conclusions concerning the analysis of these elements. Comparison with Aromanian will also be briefly introduced.

3.1 Morphology and variation

In the Arbëresh variety of Albanian spoken in *Vena*, the pre-adjectival article takes the form *i* for the masculine singular, *ε* for the feminine singular and *tə* for the plural. This number and nominal class (gender) paradigm remains fixed, whether the adjective modifies a nominative noun, as in the examples in section 2, an accusative noun, as in (17), or an oblique (dative) noun, as in (18). The definite or indefinite nature of the head noun is also irrelevant.

- (17) a. pε diaʎi-n i vɔkiçə
 I.saw boy-ACC.M.DEF the.M small
 ‘I saw the small boy’
 b. pε vazdə-nə ε vɔgiʎə
 I.saw girl-ACC.F.DEF the.F small
 ‘I saw the small girl’
 c. pε kriatura-t tə vɔgəʎ-a
 I.saw boys-ACC.PL.DEF the.PL small-PL
 ‘I saw the small boys’

- (18) a. j-a ðε diaʎi-t i vɔkiçə
 him-it I.gave boy-OBL.M.DEF the.M small
 ‘I gave it to the small boy’
 b. j-a ðε vazdə-s ε vɔgiʎə
 her-it I.gave girl-OBL.F.DEF the.F small
 ‘I gave it to the small girl’
 c. j-a ðε kriatura-vε tə vɔgəʎ-a
 them-it I.gave boys-OBL.PL the.PL small-PL
 ‘I gave it to the small boys’

Arbëresh (Savoia 2008: 89–90)

By contrast with Arbëresh, the pre-adjectival article of standard Albanian is sensitive to the case and definiteness of the head noun. As it turns out, Arbëresh and standard Albanian pattern alike with pre-genitival articles, which agree in phi-features and case with the head noun and are also sensitive to its definite-

ness. Thus in Arbëresh, when the head noun is accusative, as in (19), the pre-genitival article is ε in the singular, independently of whether the head noun is masculine or feminine, as in (19a–b). In the plural the pre-genitival article is $t\grave{a}$ as in (16), reproduced as (19c). The pre-genitival article is sensitive to the definiteness of the head noun, since it always shows up as $t\grave{a}$ with indefinites, as in (20).⁷

- (19) a. $p\acute{e}$ $bifti-n$ ε $matf\acute{e}-s\grave{a}$
 I.saw tail-ACC.M.DEF ACC.SG cat-OBL.F.DEF
 ‘I saw the tail of the cat’
- b. $p\acute{e}$ $k\acute{e}mb\grave{a}-n\grave{a}$ ε $ni-\zeta\grave{a}$ $matf\acute{e}-j\acute{e}$
 I.saw leg-ACC.F.DEF ACC.SG one-OBL.SG cat-OBL.F
 ‘I saw the leg of a cat’
- b’. $m\acute{o}ra$ $d\acute{o}r\grave{a}-n\grave{a}$ ε $t\grave{a}$ $m\acute{o}tr\grave{a}-s\grave{a}$
 I.took hand-ACC.F.DEF ACC.SG the.OBL sister-OBL.F.DEF
 ‘I took the hand of the/his/her/their sister’
- c. $m\acute{o}ra$ $kuputs\grave{a}-t\grave{a}$ $t\grave{a}$ $t\grave{a}$ ‘ $nipi-t\grave{a}$
 I.took shoes-ACC.PL.DEF ACC.PL OBL grandchild-OBL.M.DEF
 ‘I took the shoes of the/his/her/their grandchild’
- (20) $n\grave{a}$ $k\acute{e}mb$ $t\grave{a}$ $matf\acute{e}-s\grave{a}$
 a leg the cat-OBL.F.DEF
 ‘a leg of the cat’

Arbëresh (Manzini and Savoia 2011a: 263–264)

Standard Albanian data are easily available from the literature (Solano 1972; Camaj 1984; Turano 2004; Campos 2008) and will not be reproduced here. In (21)–(23), however, we summarize the dialectal variation between standard Albanian and the Arbëresh of *Vena*. In essence Albanian linkers can either be sensitive to phi-features, as in (21), or to a more complex set of features including definiteness and case, as in (22)–(23).

(21) Pre-adjectival article in *Vena*

Sg.m i
 Sg.f ε
 Pl $t\grave{a}$

⁷ Other Arbëresh varieties are closer to the standard than *Vena*, since the pre-adjectival articles are also sensitive to case. Thus the pre-adjectival article is ε in the accusative/dative singular independently of gender.

(22) Article with definite head noun in Albanian

Pre-genitival article with definite head noun in *Vena*

	Sg.m	Sg.f	Pl
Nom	i	ε	ε/tə (V)
Acc	ε	ε	ε/tə (V)
Obl	tə	sə/tə (V)	tə

(23) Article with indefinite head noun in Albanian

Pre-genitival article with indefinite head noun in *Vena*

	Sg.m	Sg.f	Pl
Nom	i/tə (V)	ε/tə (V)	tə
Acc	tə	tə	tə
Obl	tə	tə	tə

Now, the Iranian *ezafe*, when not corresponding to an invariable morpheme (like Persian), co-varies with the head noun with respect to the same set of features (phi-features, case and definiteness) as Albanian (21)–(23). Even more significantly, the variation internal to Iranian languages follows the same parameters as the variation between Albanian dialects. Thus in Kurmanji (2)–(4), the linker has three realizations namely *e* for the masculine, *a* for the feminine and *et* for the plural, as in *Vena*'s (21). In Hawrami Kurdish in (24), the adjectival *ezafe* has different realizations, *-i*, *-æ*, *-e*, depending on the number and definiteness of the head noun, recalling Albanian (22)–(23). At the same time, Hawrami Kurdish distinguishes the adjectival *ezafe* from the genitival one, since the latter takes the invariable *-u* form; this is reminiscent of the split found in *Vena* between the pre-adjectival paradigm in (21) and the pre-genitival one in (22)–(23).

- (24) a. *æsp-i* *sya:w*
 horse-EZ black
 ‘black horse’
 b. *æsp-æ* *zıl-ækæ*
 horse-EZ.DEF big-DEF
 ‘the big horse’
 c. *due* *æsp-e* *zıl-e*
 two horse-EZ.PL big-PL
 ‘two big horses’
 d. *pæl-u* *hało-i*
 feather-EZ eagle-OBL
 ‘eagle’s feather’

Hawrami Kurdish (Holmberg and Odden 2008: 132)

Comparison between Albanian and Iranian varieties leaves hardly any room for doubting that the article and the ezafe have essentially the same morphological make-up, down to very fine parametrization.

3.2 Syntax: constituent structure

In Albanian, as discussed in section 2, the article-adjective sequence is not restricted to noun phrase internal contexts, but appears in predicative contexts with an overt copular ‘be’, as in (8a), reproduced in (26a) below. In (25) we show that this is also true of genitives (where the pre-genitival article shows up as *t* as with an indefinite head noun cf. (23)). Copular sentences provide us with a straightforward argument for constituency. The article that appears in front of the adjective or of the genitive DP, following the copula, must be part of the structure of the AP/DP, as shown in (26b) for the AP. Hence in complex nominals the article is not a functional projection of the head noun but rather of the modifier AP or of the genitive DP (cf. also Dimitrova-Vulchanova and Giusti 1998; Turano 2002, 2003; Giusti 2002). For the time being, in (26b) we make no commitment to the category label of the ‘article’.

- (25) a. *kjo është të njeriu-të*
 this is the man-OBL.SG.DEF
 ‘This is of the man’s’
 b. *kjo është të një-çë njeriu-çë*
 this is the a-OBL.SG man-OBL.SG
 ‘This is of a man’s’

Arbëresh (Savoia 2008: 83–84)

- (26) a. *është e madh-e*
 she.is the.F big-F
 ‘She is big’
 b. [*e* [_A *madh-e*]]

The Persian and Kurdish ezafe, despite conventional orthography, also forms a constituent with the following adjective or genitive DP, as independently concluded at least by Larson and Yamakido (2008). One argument in favour of these structures is that in sequences of more than one modifier, modifiers internal to the sequence are associated with an ezafe enclitic, which is absent from the last modifier. This is true in Persian (27) and in Kurmanji Kurdish (28), despite other differences, for instance whether the ezafe agrees or not. 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.

- (27) in ketâb-[e kohne-[ye bi arzeš-[e maryam]]]
 this book-EZ ancient-EZ without value-EZ Maryam
 ‘this ancient worthless book of Maryam’s’

Persian (Samvelian 2007: 606, our brackets)

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

(Pikkert 1991 in Yamakido 2005: 121, our brackets)

Further evidence in favour of the constituent structure in (27)–(28) 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 (29). In other words, the ezafe is integral part of the modifier, not of the modified noun.

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

Persian (Philip 2012: 38)

Therefore in Iranian adjectival modifiers have exactly the same structure as in Albanian, as shown in (30b) for (2a) above, repeated in (30a) for ease of reference. The categorical signature of the ‘ezafe’ is once again left open.

- (30) a. kurk-(ak)-e: mazən
 boy-(one)-EZ.M big
 b. [kürkak] [e: [_A mazən]]

Bahdînî Kurmanji

3.3 Interpretation and categorization

In Albanian, the (non-syncretic) feminine singular oblique *së* occurs both as the pre-AP/DP article and as a nominal inflection. Crucially, as a nominal inflec-

tion, *së* is always interpreted as definite, as in (31b). The same is true of the other syllabic article of Albanian, *të*. As the pre-AP article, *të* has a distribution which is sensitive to the (in)definiteness of the head noun, but it can be seen both with definite and with indefinite head nouns. As nominal inflection, on the other hand, it only appears on definites in (31a–b). Other articles, correspond to nominal class vowels (*i*, *e*) and we do not expect them to be intrinsically associated with (in)definiteness.

(31) a.	‘the good boy’				‘the good boys’			
	Sg				Pl			
Nom	djal-i	i	mirë		djem-të	e	mirë	
Acc	djali-n	e	mirë		djem-të	e	mirë	
Obl	djali-t	të	mirë		djem-ve	të	mirë	
	boy	art	good		boys	art	good	
b.	‘the good girl’				‘the good girls’			
	Sg				Pl			
Nom	vajz-a	e	mirë		vajza-t	e	mira	
Acc	vajzë-n	e	mirë		vajza-t	e	mira	
Obl	vajzë-s	së	mirë		vajza-ve	të	mira	
	girl	art	good		girls	art	good	
c.	‘a good boy’				‘some good boys’			
	Sg				Pl			
Nom	një	djalë	i	mirë	disa	djem	të	mirë
Acc	një	djalë	të	mirë	disa	djem	të	mirë
Obl	një	djal-i	të	mirë	disa	djem-ve	të	mirë
	a	boy	art	good	some	boys	art	good
d.	‘a good girl’				‘some good girls’			
	Sg				Pl			
Nom	një	vajzë	e	mirë	disa	vajza	të	mira
Acc	një	vajzë	të	mirë	disa	vajza	të	mira
Obl	një	vajzë	të	mirë	disa	vajza-ve	të	mira
	a	girl	art	good	some	girls	art	good

Standard Albanian

The definiteness properties of *të* or *së* as nominal inflections, make them natural candidates for the category D. This conclusion is strengthened by the observation that the pre-adjectival/pre-genitival article set, also overlaps with the pronominal object clitic set which includes *i* (oblique singular ‘to him/her’ and

accusative plural ‘them’) and *e/ε* (accusative singular ‘him/her’). In (32) we provide just one example for *Vena*, where the same *ε* element appears as a pronominal clitic and as a pre-adjectival article.

- (32) *ε pε (vazdə-nə ε vɔgiɬə)*
 her I.saw girl-ACC the small
 ‘I saw her (the small girl)’

Arbëresh

Suppose then we refine the structure in (26b) as in (33), assigning the D category to the linker head taking the adjective in its immediate scope. In the same way, we presumably want to assign the D category to the object clitic *ε* in (32) – as well as to the definite inflections *të, së* in table (31).⁸

- (33) [_D *ε* [_A *mað-ε*]]

The problem is that linkers, for instance the Persian *ezafe*, are often characterized in the literature, from Lazard (1992) to den Dikken and Singhapreecha (2004) to Philip (2012), as semantically vacuous. Despite this, in typological studies there are observations as to the fact that the so-called *ezafe* can occur independently of a head noun in a demonstrative/anaphoric ‘function’, as in Bah-dîni Kurmanji (34). In (34) it appears that the *ezafe* does have an interpretation – and specifically an interpretation compatible with a D categorization.⁹

⁸ Simpson (2001) – based in part on the ‘definiteness agreement’ of such languages as Greek and Albanian – concludes that in Chinese the linker *de* “should actually be analyzed as a *determiner*” (130). However Simpson’s theoretical claims relate to grammaticalization, which leaves us uncertain as to his proposal concerning the actual competence of Chinese speakers: “although one cannot be fully sure about the early history of *de*, it is widely speculated that *de* in fact developed from the earlier classical Chinese element *zhi* which had a distribution largely parallel with modern Chinese *de*” (135). Other Sino-Tibetan languages are also quoted in support of his analysis. Specifically, he argues that “in the literary style [of Burmese] the element *thii* occurs clause-finally [...] and [...] marking relative clauses (and with adjectives, PPs, etc. [...])” besides being the demonstrative of the system. “Possession structures are marked with the morpheme *i*, but this element is significantly found to be in free variation with *thii* sentence- or clause-finally” (132).

⁹ In the discussion surrounding (8) we rejected the N ellipsis analysis of linker structure (proposed by Lekakou and Szendrői 2012 for Greek). An anonymous reviewer notes that examples like (34) are compatible with such an analysis, as suggested by the English translations involving the pro-NP element *one*. However this does not weaken the earlier argument against the deletion analysis in the general case. In other words, the fact that some linker structures may involve N deletion does not mean that all of them may involve it.

- (34) a. yê Soro/min/te
 EZ.M Soro/me/you
 ‘the one of Soros/ of mine/ of yours’

Bahdîni Kurmanji (Haig 2011: 367)

- b. yê dwê ... yê sêyê
 EZ.M second ... EZ.M third
 ‘The second one ... the third one’

Bahdîni Kurmanji (MacKenzie 1961 in Haig 2011: 367)

The stand-alone ezafe of Kurmanji is in fact regularly employed in predicative contexts, as in the copular sentences in (10), partially reproduced below in (37) for ease of reference. Haig (2011: 370) dubbed this preverbal particle the ‘tense ezafe’. Haig (2007, 2011) shows that in Bahdîni Kurmanji, the preverbal ezafe is also employed before finite verbal forms prefixed by the progressive aspectual morpheme *de-*. This is what we see in the examples originally presented in (2)–(3), which we also partially reproduce in (35)–(36).

- (35) a. ketjek ja: də-het
 girl F.SG PROG-come.3SG
 ‘The girl is coming’

- b. kurek jet də-het
 boy M.SG prog-come.3SG
 ‘The boy is coming’

- (36) kurk-e:t/ketjk-e:t mazən jet hen
 boy-EZ.PL/girl-EZ.PL big PL come.3PL
 ‘The big boys/girls are coming’

- (37) (au) je/ja mazən-e
 3SG EZ.M/EZ.F big-is
 ‘S/he is big’

The distribution of the ezafe in (35)–(37) is consistent with that of so-called subject clitics in Romance, hence ultimately with its categorization as a D element. As indicated in (37), it can occur alone or it can double a lexical subject; in other words, the subject clitic/preverbal ezafe itself is obligatory, though a lexical subject may or may not be expressed, reproducing in particular the distribution of subject clitics in Northern Italian dialects (Manzini and Savoia 2007, and references quoted there). The data in (38) provide us with further interesting clues as regards the nature of preverbal ezafe. In particular, (38c) shows that the linker precedes the reflexive element *χu*, suggesting that its place is within the pronominal clitic

string. Analogously the examples in (38d)–(38f), in which the linker precedes the (preverbal) lexical object, seem to confirm the identification of the linker with a pronominal category generated in a specialized clitic domain higher than the predicative domain where the lexical object occurs (cf. Sportiche 1996).

- (38) a. au je kafti
 he EZ.M fall.PART
 ‘He has fallen/burned’
- b. εz je hati-m
 I EZ.M came-1SG
 ‘I came’
- c. au je xu də-ʃot
 he EZ.M REFL PROG-wash.3SG
 ‘He is washing himself’
- d. zənək ja kamisi də-ʃot
 woman EZ.F shirt.ACC PROG-washed.3SG
 ‘the woman was washing the shirt’
- e. εz je zənək-e də-binəm
 I EZ.M women.OBL PROG-see.1SG
 ‘I am seeing the woman’
- f. au je wi də-binit
 he EZ.M him PROG-see.3SG
 ‘He is seeing him’
- g. εz je rinəfti-bum
 I EZ.M sit.PART-was
 ‘I was seated’

Bahdîni Kurmanji (LMS, field notes)

Contrary to what we just concluded, Haig (2011) connects the phenomenon of the preverbal ezafe to the expression of tense/aspect, on the basis of the observation that “there are certain types of predicate which, in present tenses, are generally associated with the Tense Ezafe: state, existential and locative predicates (BE THERE, EXIST, HAVE)” (p. 371), cf. MacKenzie (1961), Blau and Barak (1999). The preverbal ezafe combines with predicates that have a stative interpretation in our examples as well, for instance the adjective in (37) and the past participle in (38a). In general, however, it can combine with different aspectual forms of the verb, excluding a specialized contribution of its own to the aspectual interpretation of the verb. In particular, it cooccurs with different aspectual forms of the verb – namely the progressive in (35)–(36) and (38c–f), where it combines with the proclitic aspectual element *də*, but also the pluperfect in (38g) and the simple

past (aorist) in (38b).¹⁰ Indeed the spectrum of data concerning ‘truly verbal predicates’ induces Haig to admit that “... little more can be said with certainty on the semantics of the Tense Ezafe” (p. 372) and that “formulating a formal analysis in terms of discrete category membership for this kind of in-between element is thus often extremely problematic” (p. 371).

A line of explanation based on grammaticalization is equally hard to pursue. Associating ostensibly phi-features content with T, and defining a semantic shift from ostensibly (pro)nominal to aspectual content appear less than straightforward operations, even assuming that one could conclude in favour of the temporal/aspectual nature of the preverbal ezafe (denied above). Haig (2011: 370) himself notes that the crossing from the D domain to the T domain is not predicted under the restrictive approach to grammaticalization of Roberts and Rousou (2003). In conclusion, it seems more profitable to continue the parallel with Romance subject clitics, by assuming that the preverbal ezafe lexicalizes phi-features fixing reference to the subject. Under this account, the so-called tense ezafe maintains the same categorial signature D as other stand-alone ezafes.

Next, one may want to investigate how our hypotheses fare in Persian, which has an invariable *-e* ezafe, rather than the agreeing ezafe of Kurmanji Kurdish. In Persian, indefiniteness is marked by the determiner *ye(k)* ‘a, one’ or by the suffix *-i*, or by the co-occurrence of both *ye(k)* and *-i*, as in (39). On the other hand, Persian does not have a definite determiner and noun phrases without a determiner are interpreted as definite or generic, as in (40).

- (39) a. *ye durbin*
 a camera
 b. *durbin-i*
 camera-INDEF
 ‘a (certain) camera’
 c. *ye durbin-i*
 one camera-INDEF
 ‘a (certain) camera’

- (40) a. *mæjele ru-ye miz-e*
 magazine on-EZ table-is
 ‘The magazine is on the table.’ (definite)

10 An interesting question is why preverbal linkers combine with present forms associated with the progressive morpheme *dā*, as in (35), or without it, as in (36). The possibility of leaving out the progressive morpheme could in fact depend on the contribution of the preverbal ezafe to the interpretation of the event.

- b. sib dust-næ-dar-æm
 apple friend-neg-have-1SG
 ‘I don’t like apples.’ (generic)

Persian (Mahootian 1996: 203)

The closest thing to a definiteness marker in Persian is the colloquial enclitic marker *-e*, which according to Mahootian (1996: 201) is “a discourse device to indicate that both speaker and hearer have mutual knowledge of the marked NP through recent mention” (cf. Ghomeshi 2003; Samvelian 2007; Paul 2008). For instance, (41) is grammatical only if a given woman (*zæn*) entered the discourse prior to this mention. In other words, *-e* is a marker of discourse familiarity which according to Ramchand and Svenonius (2008: 227–228) is one of the properties grouped around the category D.

- (41) *zæn-e* be *mæn* goft
 woman-FAM to me said
 ‘The woman said to me ...’

Persian (Mahootian 1996: 201)

The familiarity marker and the *ezafe* are not homophonous, since the familiarity marker is stressed, while the *ezafe* is an enclitic. However familiarity *-e* and *ezafe -e* do not distribute freely with respect to one another. As shown in (42a–b), it is possible to have the discourse marker *e* in the absence of an *ezafe* and vice versa. However the co-occurrence of the *ezafe* and the marker of discourse familiarity is excluded as in (42c).¹¹ Since complementary distribution is a classical argument in favour of two elements sharing the same position/category, we interpret the evidence in (42) as supporting our thesis that the familiarity marker and the *ezafe* share a D categorization.¹²

¹¹ Samvelian (2007: 619–620) reports that familiarity *-e* may combine with the *ezafe*, illustrating this fact with (i). Our five Persian informants from Tehran (age range 14–66) find this combination ungrammatical or, at most, confined to a literary register.

(i) ‘in *pesar-e-ye* *ahmaq*
 this boy-DEF-EZ silly
 ‘this silly boy’

¹² Further evidence comes from relative clauses. In (i) the ‘relative marker’ *-i* is attached to the head noun. This can be analyzed as an allomorph of the *Ezafe* marker, possibly conditioned by the presence of the complementizer *ke* ‘that’ (Kahnemuyipour 2006). Crucially, as noted by Hedberg et al. (2009), the familiarity marker *-e* can replace *-i* when the referent of the (complex) DP is familiar to the hearer, as shown by (ii).

- (42) a. *pesar-e bozorg zang zade*
 boy-EZ big call.3SG
 ‘The big boy calls’
 b. *pesar bozorg-e zang zade*
 boy big-FAM call.3SG
 ‘The big boy calls’
 c. **pesar-e bozorg-e zang zade*
 boy-EZ big-FAM call.3SG
 ‘The big boy calls’

Persian

An enclitic marker of discourse familiarity *-a* (indicating that an element of discourse has been previously mentioned) also shows up in Masali, a southern Taleshi dialect (Paul 2011: 74–75). In (43) the subject noun phrase takes the indefinite determiner(s) when introduced for the first time. When retrieved for a second time, it takes the definite/familiarity enclitic *-a* (incidentally note that in (43) the familiarity enclitic has the same form as the demonstrative).

- (43) i *xərdan-i a sar-dəre kə uma carx*
 a child-INDEF DEM_{DIST} direction-SOURCE COMP came.3SG bicycle
 da-nəšt-â əm xərdan-a uma u
 PVB-sat. astride-COP.PST.3SG DEM_{PROX} child-FAM came.3SG and
 əm merdak-a ne-vind-əš-a
 DEM_{PROX} man-FAM NEG-saw-3SG-TR
 ‘A child came from that direction, sat on a bicycle. The child came and the man did not see.’

Masali (adapted from Paul 2011: 74–75)

The same enclitic *-a* is attached to adjectives, when modifying nouns as in (44). Note that Masali is a language, where, contrary to the Iranian varieties considered so far, adjectives precede nouns. Therefore the *-a* suffix, appearing on the adjective is what Stilo (2004) calls a ‘reverse ezafe’. What matters here is that

-
- (i) in *javân-i [ke az suis bargashte]*
 this young-REL that from Switzerland returned
 ‘this young man who has returned from Switzerland’
 (ii) in *javân-e [ke az suis bargashte]*
 this young-FAM that from Switzerland returned
 ‘this young man who has returned from Switzerland’ (familiar to the hearer)

Persian

Masali is one more Iranian language where the same element occurs in linker contexts (44) and with a referential value (43).

- (44) az sər-a bar-i vind-əm-a
 1SG red-EZ door-OBL saw-1SG-TR
 ‘I saw the red door.’

Masali (Paul 2011: 175)

In short, the evidence reviewed supports a categorization of linkers in Iranian languages as Ds, as shown in (45) for Bahdînî Kurmanji (30).¹³

- (45) a. kurk-(ak-)e: mazən
 boy-(one)-EZ.M big
 b. [kurkak] [_D e: [_A mazən]]

Bahdînî Kurmanji

Further support for the identification of linkers with D elements comes from Aromanian (Romance).¹⁴ Aromanian pre-adjectival linkers agree with the head noun in gender, number, and case, as shown in (46) for direct cases and in (47) for oblique cases. They differ from the Albanian article in other respects; in particular, they are excluded in contexts with an indefinite noun, cf. (46c), making them more similar to Greek polydefiniteness. What we are interested in is that in Aromanian the linker takes the full form of the demonstrative.

- (46) ar vənît/am vəzut
 has come/I.have seen
 a. fitfor-u (a)tse-u mar-u
 the boy that-M big-M

¹³ From an historical viewpoint it has been argued that the ezafe morpheme in Persian originated from the Old Persian demonstrative pronoun *hya-* (*tya-*) (Meillet 1931; Haider and Zwanziger 1984; Franco, 2012). Sentences like (i) have been interpreted as instances of a phenomenon of clause reduction, whereby a relative clause with a copular verb (i.e. *who is a magician*) has been reduced to an appositive construction and the relative pronoun has been ‘reanalyzed’ as an article.

(i) a. Gaumāta hya maguš adinā Kambujiam
 Gaumata.NOM art.NOM magus.NOM deprived Cambyses.ACC
 ‘Gaumata the magus deprived Cambyses’

Old Persian (Estaji 2009: 198)

¹⁴ We consider the Aromanian varieties spoken in the towns of Diviakë and Fier, in Southern Albania.

b. fet-a ats-ε mar-ε
 the girl that-F big-F

c. un fitfor mari/ un fetə mari
 a boy big a girl big

‘There has come/I have seen the big boy/the big girl/a big boy/a big girl’

(47) i o m datə
 him-her it I.have given

a. o fitfor-u ats(-uy)ui mar-u
 to the boy that-OBL.M big-M

b. a li fet-i ats-jei mari
 to the girl that-OBL.F big-OBL

‘I have given it to the big boy/to the big girl’

Aromanian (Manzini and Savoia 2013)

The linkers *atse-u*, *ats-ε* *ats-uyui*, *ats-jei* can clearly be analyzed as consisting of a base *ats*-independently known for the demonstrative, and of a full case and phi-features (as well as definiteness) inflection. In other words, it seems to be even harder than in the case of Albanian to ignore the fact that phi-features and other inflectional properties attach to a lexical base with definiteness properties.

3.4 Linkers and agreement

Let us summarize the evidence so far. First, linkers often vary according to the phi-features, case and definiteness properties of the head noun being modified. Second, the same elements that appear as linkers/agreement also occur with pronominal/determiner interpretation. The first fact suggests that they are agreement elements, while the second fact leads us to categorize them as Ds.

Sorani Kurdish provides different evidence in favour of identifying linkers with agreement elements; see Thackston (2006) for slightly different data with respect to ours, cf. also Karimi (2007). The *-i* ezafe occurs in genitive constructions where it introduces the possessor, as in (48). Note that the plural *-an* ending on the head noun in (48b) alternates with singular *-æ* in (48a) – which suggests that *-an* and *-æ* are agreement morphologies of the familiar kind. Quite relevantly for the line of argument developed in previous sections, *-i* is also interpreted when occurring without a postnominal genitive, namely as a 3rd person possessive pronoun, alternating with *-m* for 1st person and *-n* for 2nd person, as in (48c).

- (48) a. kteb-ak-æ -i kur-ak-æ
 book-DEF-AGR EZ boy-DEF-AGR
 ‘the book of the boy’
 b. kteb-ak-an (-i) kur-ak-æ
 book-DEF-PL EZ boy-DEF-AGR
 ‘the books of the boy’
 c. kteb-ak-æ -i/m/n
 book-DEF-AGR 3P/1P/2P
 ‘his/her/my/your book’

Sorani Kurdish (field notes, LMS and LF)

According to Thackston (2006), the -æ morpheme that we have tentatively characterized as agreement in (48a) occurs as an ezafe on definite nouns, for instance in (49a), where definiteness is lexicalized by the -ak enclitic on the adjective and in (49b), where definiteness is lexicalized by the demonstrative *am* ‘this’. In the indefinites (49c–d), no -æ inflection is present. Though in the description provided by Thackston the nominal occurrence of -æ in (49) is classified as an ezafe and the adjectival occurrence is not, it seems to us that this distribution of -æ is what is ordinarily known as an agreement between and adjective and a noun.

- (49) a. kteb-æ sur-a'k-æ
 book-SG red-DEF-SG
 ‘the red book’
 b. am kteb-æ taz-æ
 this book-SG new-SG
 ‘this new book’
 c. jek kteb sur
 a book red
 ‘a red book’
 d. kteb-ek sur
 book-INDEF red
 ‘a red book’

Sorani (field notes, LMS and LF)

The pregenitival -i ezafe of Sorani also shows a distribution similar to the preverbal (stand-alone/tense) ezafe of Kurmanji. In the progressive tenses, as in (50a), *i* lexicalizes a 3rd person object agreement, alternating with *m* for 1st person, etc. In the perfective (50b) a different agreement patterns prevails and *i* for 3rd person picks up the subject.

- (50) a. kor-ak-æ a -i/m/t binet
 boy-DEF-EZ PROGR 3P/1P/2P see.3PSG
 ‘The boy sees him/me/you’
 b. au to -i bini
 s/he you.OBJ 3P seen
 ‘S/he has seen you’

Sorani (field notes, LMS and LF)

A final parallel between linkers and more familiar agreement systems is offered by the reverse *ezafe*, a phenomenon which is widespread in North Western Iranian languages, illustrated above for Masali in (44).¹⁵ Compare the ‘reverse *ezafe*’ and what is commonly known as agreement in a language like German. In German the adjective occurs in a bare (uninflected) form in predicative contexts of the type in (51a). When a complex nominal is formed, whereby ‘man’ is modified by ‘young’, the prenominal adjective is obligatorily inflected, as in (51b). This is called an ‘agreement’ – but its distribution, at least with adjectives, is not obviously distinct from that of the ‘reverse *ezafe*’. This is all the more true in that the ‘agreement’ of German, exactly like the ‘article’ of Albanian and the ‘*ezafe*’ of Hawrami Kurdish (cf. section 2.1), is sensitive to the (in)definiteness properties of the head noun. As an anonymous reviewer points out, the Iranian *ezafe* has a wider distribution than the adjectival agreement in German, since it introduces a wide array of complements and modifiers of N, e.g. in (1). However, this does not prevent us from recognizing that in other respects (DP-internal only, definiteness sensitive, and of course agreement) they may form a natural class. This obviously poses the question whether linkers and agreement can be unified.¹⁶

¹⁵ The reverse *ezafe* construction is marginally attested also in Persian. According to Mahootian (1996) the adjective *pir* ‘old’ when used with the nouns *zæn* ‘woman’ or *mærd* ‘man’ as part of a [+specific] definite or indefinite noun phrase allows the reverse *ezafe* construction, as in (i).

(i) *pir-e mærd*
 old-ez man
 ‘the old man’

Persian (Mahootian 1996: 63)

¹⁶ In Lithuanian, adjectives in definite DPs have an extra syllable *-j/i*, as in (i). Interestingly, traditional Lithuanian grammars call them ‘pronominal’ adjectives (cf. Mathiassen 1996: 65), since the suffix (*j*)/(*i*)(*s*) is a pronominal clitic.

(i) *naūjag-jī varḑa*
 new-PRO name
 ‘the new name’

Lithuanian (Fortson 2004: 148).

- (51) a. Der Mann ist jung
 The man is young
 b. Der jung-e Mann
 the young-AGR man
 c. Ein jung-er Mann
 a young-AGR man

German

Suppose we indeed pursue a line of explanation based on the unification of linkers and agreement (cf. also Zwart 2006; Philip 2012). We follow the view, standardized by Distributed Morphology (Halle and Marantz 1993) that morphology is structured by the same fundamental operation of merge as syntactic structure, though we adopt a projectionist, rather than a realizational view of the lexicon; in other words the morphosyntax is projected by lexical elements consisting of an LF and a PF (Chomsky 1995) – as opposed to consisting of abstract nodes realized by exponents at the PF interface (Late Insertion). Under this view it is in principle perfectly possible for the same categories to commute between head status (linkers) and affixal status (agreement).

We face the problem that in Albanian, in Iranian and in Aromanian linkers are Ds, on the evidence of their occurring also as determiners/demonstratives and/or as stand-alone pronominal clitics, while this categorial property is apparently not shared by agreement inflections. Yet we note that definite reference and so-called agreement are carried out by the same lexical items across many languages and structures. For instance, many Romance languages have clitics with a dedicated *l*-base, which occur as referring pronouns and determiners, but also as agreement elements, namely in Spanish clitic doubling, in Northern Italian subject clitics, or in Italian clitic left dislocation (52).

- (52) La ragazza bionda, la vedo
 The girl blonde her I.see
 ‘The blonde girl, I see (her)’

Italian

It is important to note that we are not interested in a weak thesis put forth by an anonymous reviewer, in recapitulating the proposal of Philip (2012), namely that “linkers share the *same function* as agreement, namely marking head-dependent relations in the syntax” [our emphasis]. Philip’s core idea is that morphological affixes (hence agreement) and syntactic heads (hence linkers) are both semantically vacuous markers for independently established relations. The latter are therefore primitive with respect to the morpholexical elements that re-

alize them – so that it makes sense to speak of linkers and agreement as having the same function, essentially as varying lexical realizations of deeper invariant structures.

The conception of linkers as semantically vacuous heads forces Philip to diverge from a standard tenet of minimalism, namely that heads are contentive elements (unlike inflections) – since their deletion at LF under Full Interpretation would amount to the destruction of structure (contravening Inclusiveness, Chomsky, 1995). It seems to us that this divergence is symptomatic of deeper divergence between Philip's mode of analysis and an important conclusion present in Chomsky's (1981, 1986) discussion of grammatical 'functions' like subject and object, or grammatical 'rules' like passive. According to Chomsky there is no subject relation, to be marked by head (agreement) or dependent (case) morphology (Nichols, 1986), and to be targeted by promotion phenomena (passive). The primitives of the system are atomic concepts and non-construction specific operations and it is not even clear that they can define a notion of subject, or of passive, equivalent to the functional, relational ones. Similarly, here we assume that in linker languages there are no functions or relations for which linkers merely provide a surface realization. Rather linkers and agreement have largely identical properties (including interpretive ones), triggering identical operations, and therefore project structures with identical interpretations. We will return to this point in section 4.2 and especially in the final section (section 5), where we shall try to highlight different empirical predictions issuing from the two approaches.

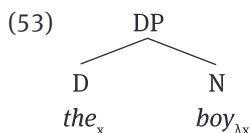
4 Analysis

In this section we will provide our analysis of Albanian and Iranian linkers, beginning with Albanian in section 4.1 and going on to cross-linguistic comparison and a proposal for a theory-driven typology in section 4.2. In section 4.3 we will address the relation between linkers and agreement inflections.

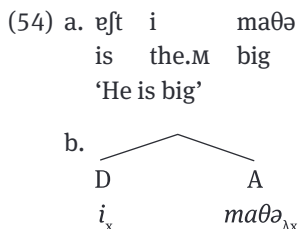
4.1 Albanian articles (determiners, linkers) and clitics

Consider the English DP *the boy* in (53). The N *boy* is a predicate denoting the set of individuals with the property 'boy'. The assumption that non-eventive nouns are predicates and have an argumental slot (called the R-role) is fairly standard in the literature (cf. Higginbotham 1985; Williams 1994). The saturation of the R-role in English requires a Determiner. We notate the theta-slot (i.e. the argument of

the predicative base) as a (lambda) variable and we understand that D binds this variable fixing its reference.



Suppose we mechanically apply the analysis we just adopted for (53) to Albanian (8a), repeated in (54a) for ease of reference. The predicate *maθə* ‘big’ must be satisfied by an argument, which is provided by the D element in (51b). This is also the construal provided for Greek pre-adjectival determiners by Lekakou and Szendrői (2012), again based on the parallel with English (53). However Lekakou and Szendrői ultimately propose an NP ellipsis analysis of polydefinites, which cannot apply in simple copular structures like (54) for the reasons discussed in section 2.



Lekakou and Szendrői do not identify the English D in (53) with the Greek determiner, though they label it D; instead they argue that in Greek, definiteness corresponds to an abstract head Def. Again we substantially agree with their conclusions, namely that the English D in (53) and the Albanian D in (54) cannot be identified.¹⁷ We furthermore agree that D(AP) is lower than D(NP). However we do not model this conclusion in terms of a cartographic ranking of Def over D. Distributionally, the high position of the determiner within the noun phrase in languages like English leads Szabolcsi (1992) to the conclusion that the determiner has an affinity with the C position of the sentence. D precedes all material with

¹⁷ The linker/article in Greek and Albanian also differ from English in displaying agreement. A closer parallel may be run between Greek/Albanian and Romance. The Romance determiner, e.g. *la* in (52) (*la ragazza bionda* ‘the blonde girl’) has the same properties as the English determiner, in particular the distributional properties to be briefly reviewed below. At the same time it does show agreement.

which it can co-occur, including quantifiers, as in *the three/many/few children* – or is in complementary distribution with other operators of the C field, as in *the/every/no child*. On the contrary, in Albanian, elements quantifying over the adjective precede D, as in (55).

- (55) *ɸft mə/ɸum ε maðε*
 she.is more/much the big
 ‘She is bigger/very big’

Arbëresh (Savoia 2008: 88)

This suggests that the Albanian adjectival determiner is inserted in a position lower than the one it fills within English noun phrases. Given a rough organization of the DP/AP into the same three fields as the sentence (namely C, I, predicate), the natural candidate to host the Albanian low determiner is the inflectional I field, immediately below the C field hosting the high determiner. This is compatible also with Dimitrova-Vulchanova and Giusti’s (1998) characterization of the adjectival determiner of Albanian as an agreement element (here an I-field element) – as well as with the positioning of clitic pronouns within the I-field of the sentence (Manzini and Savoia 2007, 2011a).

The distinction between higher/operator Ds, as in English (53), and lower/inflectional Ds, as in Albanian (54) is supported by further evidence internal to Albanian. Recall that in Albanian, there is a particular subset of nouns, namely kinship terms, which occur with a preposed article. The article of kinship terms precedes numerals, as in (56a) – and is mutually exclusive with other operators, as in (56b), behaving in both respects like the prenominal D of English and Romance – and unlike the adjectival D of Albanian. Note in particular the minimal pair in (55) vs. (56b), where the same element *ɸum* ‘much, many’ occurs before the adjectival D in (55) and is mutually exclusive with the prenominal D in (56b).

- (56) a. *tə katra kuɸiriç-ətə*
 the four cousins
 ‘his/her/their four cousins’
 b. *ɸum kuɸiriç*
 many cousins
 ‘many cousins (of his/her/theirs)’

Arbëresh (Manzini and Savoia 2011a: 270)

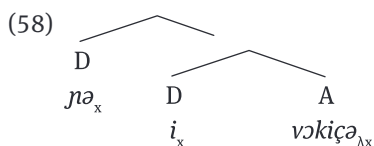
More evidence as to the low position of the pre-adjectival D comes from instances where the same lexical bases that we have considered so far as adjectives

(predicates, modifiers) are nominalized. As other nouns, they are inflected for case and definiteness, displaying the full system of nominal inflections tabulated in (31). At the same time they are also preceded by the determiner, as in (57). When we consider the interaction between their determiner and other quantifiers, we observe that the latter combine with it and precede it, as in (57b–c). Thus in (57c), the low adjectival D combines with, and is preceded by, the high (indefinite) D.

- (57) a. $\varepsilon\theta$ i $v\theta g\alpha\lambda-i/$ ε $v\theta g\alpha\lambda-a$
 came the little-NOM.M.DEF/ the little-NOM.F.DEF
 ‘The little one came’
 b. $\varepsilon\theta$ $m\alpha$ i $ma\delta-i$
 came more the big-NOM.M.DEF
 ‘The bigger one came’
 c. $\varepsilon\theta$ $n\alpha$ i $v\theta ki\zeta\alpha/\varepsilon$ $v\theta gi\lambda\alpha$
 came a the little.M/ the little.F
 ‘A little one came’

Arbëresh (Manzini and Savoia 2011a: 272–273)

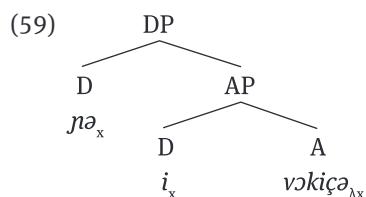
The structure of a DP like (57c) can be schematized as in (58). In (58), the article is in the inflectional D position, where it is preceded by the operator of the nominal C-field, namely the indefinite article. We understand that the lower D saturates the internal argument of the adjective. The referential properties of the DP (roughly existential quantification) are determined however by the higher D.



It will be noted that in (58) we have only indicated constituent structure and the labels for the terminals. In a cartographic mode, we may want to adopt Lekakou and Szendrői distinction between an agreement D and a contentive Def projection so that the sequence in (58) is [_{DefP} $n\alpha$ [_{DP} i [_{AP} $v\theta ki\zeta\alpha$]]. Nothing in the data or in the assumptions introduced so far prevents us from adopting this approach. In reality the fact we want to capture is not that the same lexical material projects two slightly different contents (D and Def) – but rather that the same identical material occurs in two different positions and the different position of

occurrence (i.e. the interaction of identical lexical material with different syntactic contexts) determines the different interpretation.

As discussed by Chomsky (2013), what labels are projected at the constituent level is a separate problem, and a far from trivial one, at least if one abandons X-bar theory or other principles directly or indirectly constraining phrase structure, such as Kayne's (1994) LCA as embraced by cartographic studies. We assume, as is routinely done, that the highest D in (58) projects, rather than its XP sister. In the [D A] constituent, either head could project. If A projects, as in (59), then the inflectional D and the operator D are structurally different. Since Chomsky's (2013) core idea is that labelling is an interpretive algorithm, we note that the AP label in (59) returns a well-formed interpretation, namely that the phrase is of predicative type, AP (rather than of referential type DP, as under the alternative labelling).¹⁸



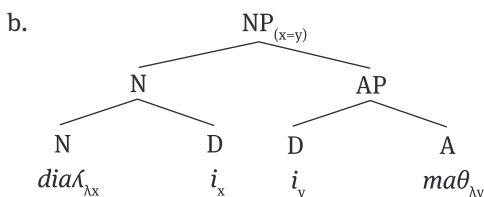
Recapitulating, we maintain that the pre-adjectival article, the article in front of kinship terms and the postnominal definiteness inflections of Albanian not only share the same PF form, but also the same content, including the categorial label. When two Ds are present, as in (59), both of them have (in)definiteness properties, besides being associated with nominal class (gender) and number features. When they are instantiated in the highest position of the DP (which they project) they are interpreted as indicating that there is an individual (or set of individuals, or unique/familiar/etc. individual, and so on) on which the properties

18 An anonymous reviewer states that “there is no evidence that the higher D and the lower D are on the same projection line. More likely the lower D is on the adjectival projection and the higher D is the D of the nominalised adjectival projection”. Presumably the notion of extended projection (Grimshaw 2005[1991]) is being referred to here. As it turns out, the view espoused here, that there is a single set of functional projection, supported by the same lexical head (the adjective) appears to be the default assumption. For instance what kind of lexical head would support the nominalization projections? Presumably the reviewer has in mind an empty N head – but with which content? In the absence of empirical arguments one way or the other, we stick therefore to the simpler structure in (55). Nominalized adjectives in Germanic or Romance are equally compatible with it.

of the NP predicate and those of the sentential predicate overlap (or not) – i.e. as quantifiers in generalized quantifier theory (Barwise and Cooper 1981; Keenan and Stavi 1986). When they are in the inflectional position, i.e. the lower position in (59), they simply value the argument slot of A, awaiting further quantificational closure (namely by the higher D).

Let us consider the embedding of an AP under a larger DP, for example in (6a) repeated here as (60a), with the structure in (60b).¹⁹ Recall from the discussion at the end of section 3 that we adopt a unified model of morphosyntax, where conventionally syntactic (phrasal) categories and conventionally morphological ones (heads) are structured by the same operation of merge. The same categorizations can attach to independent heads, for instance the pre-adjectival D, seen on the right branch of (60b), and to affixes, for instance the D inflection of N, which carries the definiteness properties of the whole DP.²⁰

- (60) a. *diaʎ-i* *i* *maθ*
 boy-NOM.M.DEF the.M big
 ‘The big boy’



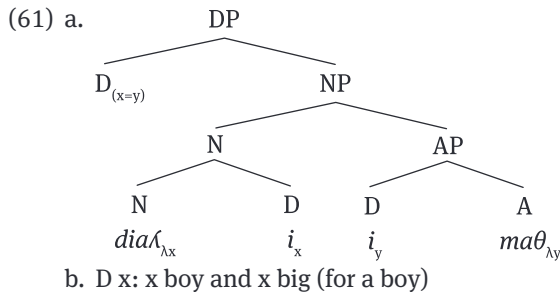
Two predicative bases are present in (60b), namely the adjective *maθ* ‘big’ and the head noun *diaʎ* ‘boy’, with an argument slot each. Higginbotham (1985) proposes that adjectival modification involves the identification of the theta-role of the adjective with the R-role of the noun; the same argument (the noun phrase’s determiner, according to Higginbotham) satisfies both. In other words, in (60b) there is ultimately a single argument, satisfying both the predicate ‘boy’ and the

¹⁹ Turano (2002; 2003), following Cinque (1999), argues that the adjective is generated in the Spec of a functional projection dominating the noun, and that the Noun-Adjective order in (60) is derived by movement of N to D. Based on similar premises, Dimitrova-Vulchanova and Giusti (1998) derive the order Noun-Adjective in (59) by movement of N to a Focus position, licensing the D position of the DP. However, following Abels and Neeleman (2012), we also see no empirical reasons why the noun-adjective order (60) should require movement.

²⁰ In labelling we have adopted the conventional assumption that an inflected N is an N, while an articulated A is an AP (but see the problems with internally branching lexical items in Chomsky 2013).

predicate ‘big’; the referent denoted by the complex DP correspondingly must have both the ‘big’ and the ‘boy’ properties.²¹

Following Higginbotham, the referential reading of the structure in (60), as of any DP requires that it should be embedded under a D operator. The most conventional way of achieving this is inserting an empty element with the relevant D properties directly in scope position, as in (61a) (this is also the line adopted by Lekakou and Szendrői (2012) with their Def head).²² Theta-unification of the arguments of the adjectival and nominal predicative bases can then be understood as binding of the argument slots of both predicates (the noun and the adjective) by the same D operator. In other words, the full picture emerging from (61a) is that the two predicative bases *diaλ* and *maθ* have their argument slot satisfied by nominal material – which is represented by the postnominal inflection and by the preadjectival article. Such nominal material is ultimately bound by the same operator. This yields the LF in (61b).²³



Let us finally go back to the Albanian copular structure in (54), reproduced in (62). Within the DP in (60), the adjectival D is construed as inflectional, since modification depends on it being in the scope of a higher D. Similarly, copular

²¹ The intersective reading is more obvious with non scalar adjective, e.g. *Italian*, as in *the Italian boy*. As an anonymous reviewer points out, the intersective reading with scalar adjectives involves a contextual restriction of the latter, hence *the big boy* is a boy ‘big for being a boy’ (cf. Higginbotham 1985). Another issue regards non intersective modification, e.g. *the alleged thief*. See Larson (1998) for an approach to the latter that is expressible within the present set of assumptions (as far as we can tell).

²² Alternatively we may want to say that the post-N D inflection in (60) projects DP so that the whole constituent in (60) is DP in turn, as in (i), without having recourse to empty heads (Manzini and Savoia 2011a); see also fn. 20.

(i) [_{DP} [_{DP} diaλ-i] [_{AP} i maθ]]

²³ In other words, it is not the AP that is predicated of the DP, but rather the AP and the N(P) that are both predicated of the D argument.

sentences involve not only the AP and the copula, but also binding of the linker D by a higher D(P), namely the EPP argument, notated as *pro* in (62b).²⁴ In (62), therefore, the EPP argument (the *pro*) binds the preadjectival linker, exactly like the determiner D binds the linker D in (61).²⁵

- (62) a. *ɛft i maθə*
 is the.M big
 ‘He is big’
 b. *pro* [_{IP} *ɛft* [_{AP} *i maθə*]]

We are now in a position to draw our conclusions on the relation of determiners and linkers. Their relation is essentially the same as between pronominal clitics and doubling clitics within the sentential domain. In the discussion surrounding (32), reproduced in (63) for ease of reference, we noticed that in Albanian not only articles are a subset of nominal inflections – but pronominal clitics are a subset (*i*, *e*) of articles. Two interpretations are available to pronominal clitics. In non-doubling contexts the clitic has referential import, and is capable of deictic (definite) interpretation, as well as of anaphoric interpretation (depending on a linguistic antecedent in sentence or in the discourse). Thus in (63), in the absence of the lexical DP, the clitic allows for a deictic or anaphoric pronominal reference.

- (63) *ε pε (vazdə-nə ε vɔgiλə)*
 her I.saw girl-ACC the small
 ‘I saw her/the small girl’

On the other hand when the doubling DP is present in (63) the clitic is interpreted as a bound variable of it – and in fact as forming a chain with it. Similarly full pronouns, besides referring deictically and anaphorically can also double referential DPs (e.g. *Mary, I don’t know what she said*). Therefore the relevant range of interpretations does not depend on the categorization of the pronoun (functional head or argumental head), but only on its syntactic position. We know that anaphoric pronouns are read as bound variables in the scope of quantifiers (*Every student believes that I like him*). We assume that the

²⁴ Under an alternative view of the null subject parameter, the finite inflection of the verb could be taken to lexicalized the EPP argument (not *pro*, cf. Manzini and Savoia 2007).

²⁵ An anonymous reviewer raises the issue of the semantic type of the embedded AP. It is a predicate to the extent that the linker D is in fact a variable.

bound variable reading in turn allows them to form lower links in an argumental chain.

Let us run through the structures in (61)–(62) one final time. All syntactic heads are interpreted. Specifically the D linkers are interpreted in (60) and (62), as saturating the internal argument slot of the adjectival predicate. This could in principle close the predicate preventing further composition (theta-unification) with the nominal predicate in (61) or the predicative reading of the adjective in the copular sentence in (62). However D elements are independently known to be available for bound variable reading within a chain; this is the reading (akin to that of a doubling clitic) that they receive in (61)–(62). At this point of the discussion we are ready to define a linker (or at least the Albanian linker). What a linker D and a determiner D have in common is that they are both able to satisfy argument slots. What they do not share depends on their different position of merger. A D closing off the DP is an operator, establishing a relation between a restrictor (the NP) and a domain of quantification (a VP). A linker D is a bound variable of the higher D – it provides a satisfaction for a theta-role ultimately bound by the higher D. In other words, it has a meaning, namely that of a bound pronominal that satisfies the adjectival role, prior to the introduction of higher operators. We return to the cross-linguistic typology of determiners, linkers and pronominal clitics in the next section.

4.2 Linkers, determiners, clitics: a cross-linguistic typology

There are two parameters in terms of which the various descriptive categories of determiner, linker and pronominal clitic (referential or doubling) can be systematized. One parameter is interpretive and we notate it as free (chain operator) vs. bound (chain variable) in (64). Determiners and referential pronouns are free in the relevant sense of the terms. Linkers and doubling pronouns are bound. However this parameter is not sufficient. In Albanian there is semantically free material (pronominal clitics) that is lexicalized by syntactic-level heads, while other semantically free material (the definiteness and case inflection) is lexicalized by affixes. Therefore a second parameter is introduced in (64), notated as infl(ection) vs. (independent) head. Crossing our parameters we also predict the existence of elements that are inflectional and serve as bound copies. They correspond to what is ordinarily called agreement, as will be discussed in section 4.3 for Albanian. Since head and inflections admit of common lexicalizations (see the discussion in section 4.3) – and so do referring and bound pronominal material, we expect that the series of descriptive elements listed on the right-hand side in (64) overlap lexically, as they indeed do.

(64)	<i>Albanian</i>
bound, infl	agreement (cf. §4.3)
free, infl	definite inflection
bound, head	linker, doubling clitic
free, head	clitic, determiner (definite in kinship terms, indefinite)

Linkers and agreement are brought together by other recent work, in particular Zwart (2006), Philip (2012). The convergence of several lines of research towards this conclusion is worth stressing, to the extent that it shifts the theoretical perspective away from the models reviewed in section 2. In other respects, the present analysis and that of Philip diverge considerably. As an anonymous reviewer notes, the core of Philip's (2012) proposal is that "linkers are syntactic heads marking the presence of a relation between a modifier and its modified element". In the present framework, heads do not merely 'mark' an interpreted relation – they form meaningful building blocks of that interpretation.

Importantly, the two approaches do not differ only conceptually, but also empirically; they are not simply notational variants. In the words of Philip (2012: 26) "it is predicted that the linker – as a semantically vacuous independent syntactic word serving to mark a relationship – must be a Dependent-marker. More concretely, it is predicted ... that the linker will be the highest head in the extended projection of this Dependent". As far as we can tell, the second prediction is falsified by the Albanian data in (55), where the pre-adjectival linker is embedded under the adjectival quantifier.²⁶ As for the wider generalization (dependent-marking only), linkers in Albanian introduce adjectives in copular constructions, e.g. (62), where it is not evident what head they would be dependent of. We will discuss further problems, once we introduce pre-genital linkers in section 5.

If we are on the right track with the schema in (64), we expect that Iranian languages will fit the picture drawn in (64). Kurmanji Kurdish and Persian share the same format for linkers/ezafe as Albanian. As in Albanian, they form a constituent with the following adjective, as schematized in (45); we assume that the interpretation of (45) follows the interpretation of the corresponding Albanian structures in section 4.1. Therefore in (65) we classify the Kurmanji and Persian ezafes as syntactic heads with semantically bound interpretation. In Kurmanji, the data in our possession are sufficient to establish that the morphological se-

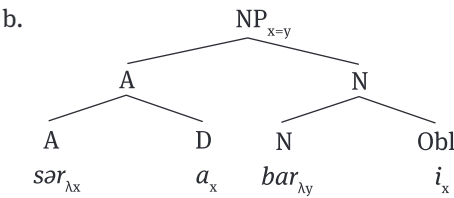
²⁶ This is independent of whether the two Ds are or are not in the same extended projection in (59), cf. fn. 18.

ries, *je, ja, jet*, appears not only as a linker/ezafe, but also as a subject clitic of sorts (the preverbal ezafe) as well as a determiner (the stand-alone ezafe with demonstrative reading), cf. section 3.

(65)	<i>Persian</i>	<i>Kurmanji</i>
bound, infl		
free, infl	indefinite inflection	indefinite inflection
bound, head	ezafe	ezafe
		preverbal ezafe
free, head		stand-alone ezafe (demonstrative)
		preverbal ezafe

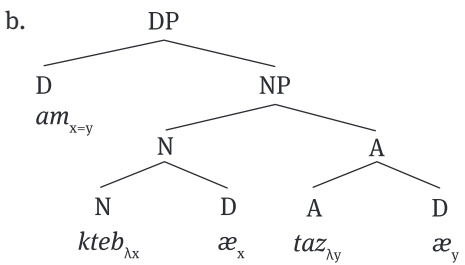
We now turn to Sorani and Masali, which have a different distribution of the ezafe with respect to Kurmanji (or Persian). Let us briefly consider the ‘reverse ezafe’ of Masali, as seen in (44), repeated here as (66a). Suppose we keep assuming that the ‘reverse ezafe’, like the other ezafes considered so far, is a D element and that it forms a constituent with the adjective, whose argument it saturates. Combining these various assumptions, the ezafe turns out to be a D inflection of the adjective, as in (66b).

- (66) a. *sər-a bar-i*
red-EZ door-OBL
‘the red door’



Consider then Sorani. In Sorani a definite determiner triggers the presence of *-æ* on the noun and on the adjective, as seen for instance in (49b), repeated in (67a). Though it is traditionally described as the ezafe (‘open ezafe’), *-æ* does not depend on the joining of an adjective and a noun; so the definite DP without an adjectival modifier in (50a) presents the *-æ* inflection on N. If, following previous literature, we nevertheless identify *-æ* as a linker, hence D in present terms, we obtain the structure in (67b). (67b) says that both the adjectival and the nominal predicate have D inflection *-æ*, which saturates their internal arguments, eventually identified and ultimately satisfied by the D determiner (here the demonstrative).

- (67) a. am kteb-æ taz-æ
 this book-SG new-SG
 ‘this new book’



At this point of the discussion, the ‘open ezafe’ of Sorani and the ‘reverse ezafe’ of Masali appear to be instances of an inflectional lexicalization combined with a bound copy interpretation – filling the missing cell in tables (64)–(65). Importantly, we have evidence that in Sorani, as in Kurmanji, the pregenitival ezafe (the ‘close ezafe’ of Sorani literature) also turns up as a clitic doubling one of the arguments of the sentence or providing a stand-alone lexicalization for them. Therefore we can provide the summary table in (68) for Sorani and for the schematic data we have considered in Masali.

(68)	<i>Sorani</i>	<i>Masali</i>
bound, infl	open ezafe	reverse ezafe
free, infl		familiarity
bound, head	close ezafe	
free, head	close ezafe (preverbal clitic)	

4.3 Linkers and agreement

At this point the question we asked at the end of section 3, concerning the relation between linkers and agreement is still open. What we are interested in is not a functional equivalence between agreement and linkers – we are interested in whether they overlap or identify in formal terms. We turn to this in the present section, which represents the more speculative and exploratory part of this article.

One of the central tenets of current minimalist theory is that agreement on predicate heads is uninterpretable, a mere probe for valuation by an identical interpretable set on an argument head (Chomsky 1995). Yet, quite independently of linkers data, there are reasons to be wary of the standard minimalist concep-

tion of agreement, at least within DPs/APs. As far as we can tell, Chomsky (1995 and following works) only discusses agreement involving verbal predicates, never considering agreement in DPs and APs. Consider the Italian DP in (69). Applying ordinary morphological analysis the noun *ragazz-a* is formed by a predicative base *ragazz-* ‘girl’ and by a feminine singular inflection *-a*. So is the adjective *biond-a* and the determiner *l-a*, as in (69b).

- (69) a. *la ragazza bionda*
 the blonde girl

Italian

- b. [_{DP} l-a [_{NP} [ragazz-a] [biond-a]]]

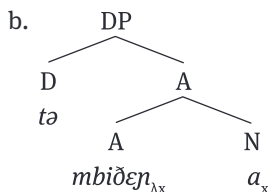
How is agreement between the various *-a* inflections (or the major categories carrying them) derived in minimalist terms? D would be expected to be a probe in (69) on c-command grounds; but D is argumental according to the view of Higginbotham (1985), adopted here – and phi-features are always interpretable on arguments. Vice versa, if we associate the N head with uninterpretable features, we are faced with a probe that looks upwards rather than downwards – and the same applies if the adjective probes for the referential D. An added consideration is that nominal class inflections select for lexical bases in languages where they are present; therefore nominal class should be interpretable on N, if it is interpretable at all. This type of difficulties is well-understood (starting at least with Carstens 2003) and has recently given rise to an interesting literature about multidirectional probing/agreement (cf. Baker 2008; Béjar and Rezac 2009; Zeijlstra 2012; Preminger 2013) – we will see an example of this in the work of Toosarvandani and van Urk (section 5).

Nevertheless, notice that this kind of technical answer (probing indifferently upwards and downwards) weakens the original minimalist conception of agreement. As outlined by Brody (2006), minimalist agreement differs from other treatments of agreement (including generative ones) in introducing a probe-goal asymmetry. In other words, agreement becomes like movement. If transferred to the domain of movement, the option of probing upward or downward would mean that movement can go down as well as up, an option not normally entertained (though see Bošković 2007). Therefore everything that weakens the asymmetry of agreement, weakens the case for the minimalist account of it (uninterpretable goal – probe relation).

If there are no advantages (and possibly some disadvantage) in reducing agreement to uninterpretable probes, a logical option is to capture its continuity with linkers by treating agreement inflections as interpretable – namely as bound

variables. Consider Albanian again. The Albanian masculine adjectives that appear in the structures in section 4.1 are reasonably construed as bare adjectival bases. This is not true of feminine or plural adjectives, which have an *-ε* or *-a* ending respectively, specialized for feminine and for plural. For instance, the adjective in (6c), repeated below as (70a), consists of a lexical base *mbiðeɲ*- denoting the content of the predication (the set of ‘big’ individuals), followed by an agreement inflection *-a*. In the structure in (70b) the *-a* inflection is identified with the N category because of its phi-features, hence Nominal class properties (the traditional gender, cf. Harris 1994) – though it does not overtly display any definiteness properties (cf. the table in (31)).

- (70) a. *kriatura-tə* *tə* *mbiðeɲ-a*
 boy-NOM.PL.DEF THE.PL big-PL
 ‘The big boys’

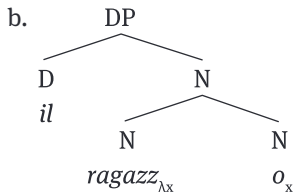


In (70b) the predicate *mbiðeɲ*- ‘big’ is a property, i.e. has a single, obligatory argument position. Following the discussion in section 4.1, we assume that the pre-adjectival linker *tə* provides a satisfaction of the argument slot of the predicate. The possibility that we suggest here, as a venue for further research, is that the N inflection *-a* in (70) is like the linker in that it provides a saturation of the argument slot of the nominal predicate. The relation between the D linker and the agreement inflection in (70) is similar to that between the Determiner and the linker in Albanian (59), in that the agreement in (70) acts as a bound variable of the higher D saturating the same argument (cf. also fn. 25). The relation (D, N) in (70), like the relation (D, D) in (59) can be expressed by the notion of chain, i.e. an ordered set of non-distinct (or eventually identical) elements yielding a single argument at the LF interface.

To provide a parallel from more familiar languages, suppose that instead of beginning our discussion with English *the boy* in (53), we had introduced it with its Italian counterpart in (71a) to which we associate the structure in (71b). As we know from English ‘the boy’, the predicate *ragazz-* has an argument slot to be satisfied, namely the so-called R-role (see the discussion surrounding (53)). D (‘the’ or *il*) ultimately concurs to its satisfaction; but so does the inflection in (71)

(-o, not present in English) – which in this particular instance conveys gender (cf. *la ragazz-a* ‘the girl’ in (69)).²⁷

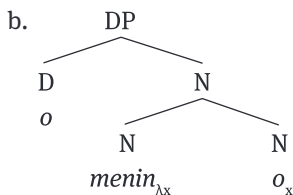
(71) a. *il ragazzo*
the boy



In short, we suggest that all DP/AP internal phi-feature sets are essentially to be given the same construal, without any asymmetries between them (interpretable vs. uninterpretable), except those deriving from the different positions they fill (higher vs. lower copy). The agreement inflection and the determiner also have an identical lexicalization in many Romance languages, including for instance Portuguese (72) (Hutchinson and Lloyd 2003).

(72) a. *o menino-o, os menino-os,*
the boy-MSG, the boys-MPL

Portuguese



In the structure in (72b) the same lexical material, for instance *o* fills both the inflectional N position and the operator D position. The same is true of an Albanian AP like *ε mað-ε* ‘big (fem sg)’, where the inflection and the article coincide on *ε*. Under Chomsky’s (1995) very restrictive approach to labelling under which what projects is the entire lexical content of the terminal – in (72b) we just have

²⁷ For ease of exposition, the structures in (70)–(72) abstract from an important insight of Distributed Morphology, namely that lexical bases have no category (Marantz 1997) and they get one only via syntactic Merge. This insight interacts with present ideas about N agreements; Manzini and Savoia (2007, 2011a) propose that N categories are projected from N inflections and not from predicative roots (if so, N and A categories would have the same projection, N).

two *o* phrases (ε phrases, etc.) with two different scopes. Using conventional categorial labels, we can express the same fact in slightly more complex terms. Though the intrinsic categorial signature of *o* is N (i.e. a bundle of phi-features), the higher *o* combines with an abstract D operator [D [*o*]] which allows it to take the higher operator/scope position.

The final conclusion we reach is that at least in the domain of DPs/APs, taking agreement to result from interpretable-uninterpretable pairs of features imposes a partition between phi-feature sets that is not evident in the interpretation, where it is hard to determine whether (un)interpretable properties reside on the nominal head or on its determiners – and is even less evident in the lexicon/ at the PF interface, where agreement inflections and determiners are often identical. It seems to us that no changes need to be introduced in minimalist theory if all phi-feature bundles are interpretable at least within DPs/APs – except changes concerning Agree itself. Specifically, agreement would no longer be Match of uninterpretable features with interpretable ones, but rather Match of two interpretable feature sets within a chain.

5 Pre-genitival linkers

So far, in detailing the structure and interpretation of linkers and their cross-linguistic variation, we concentrated on adjectival linkers – leaving genitival linkers aside. In this section we indicate how genitival linkers fit in with the model in section 4, including the proposed parameters in section 4.2. In fact, the most complex issue involved in dealing with genitival linkers concerns the nature of the genitive category – which implies taking sides on the question of what case is. We will do so only briefly, given limitations of space.

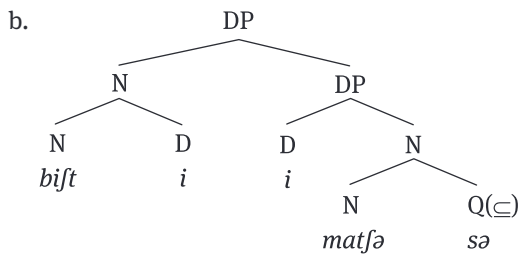
5.1 Albanian and Iranian

Recent literature (Baker and Vinokurova 2010; Baker 2013; Manzini and Savoia 2007, 2011b) points to empirical problems with the minimalist reduction of case to agreement (Chomsky 2001). We adopt the view that at least for oblique case, a more transparent and adequate theory is obtained if we treat case inflections as having a relational content, of the type imputed to it traditionally. Specifically, ‘possessor’ is a quite traditional characterization of genitives. As already discussed in relation to (11), it is equally natural to construe ditransitive verbs as events causing a possession to hold (‘I give the book to John’ as ‘I cause the book to be in John’s possession’ cf. Kayne 1984). We take this to be the origin of the

widespread so-called syncretism between genitive and dative – holding in Albanian and in those Iranian languages (e.g. Kurmanji Kurdish) which still have a case declension. In these languages a single oblique case covers both genitive contexts (DP embedding) and dative contexts (sentential embedding); in Iranian languages specific objects are also marked oblique, because of Differential Object Marking (DOM).

Following Belvin and den Dikken (1997), writing on the verb ‘have’, we take the relevant characterization of possession to be an ‘inclusion’ one. Following Manzini and Savoia (2011a), Manzini and Franco (to appear), we notate it as $(\subseteq)$. Since relational content inside DPs is carried by Q elements (as in generalized quantifier theory) we further adopt the label $Q(\subseteq)$ for the oblique case ending. Nothing hinges on this precise category. Under this proposal, and adopting for pre-genitival linkers the same position as for pre-adjectival ones, the schematic representation for the Albanian Noun-genitive DP in (7a), reproduced in (73a) for ease of reference, is as in (73b). The head noun *bifti* consists of the predicative base *bift-* ‘tail’ combined with the definite inflection *-i*. In turn, the genitive noun is formed by the predicative base *matf-* ‘cat’ merged with the $Q(\subseteq)$ ending *-sə*. What the latter does is establish a possessor/inclusion relation between the noun to which it attaches and the head noun, so that ‘the cat’ possess/zonally includes ‘the tail’.

- (73) a. *bift-i* *i* *matfɛ-sə*
 tail-NOM.M.DEF the.NOM.M. cat-OBL.F.DEF
 ‘the tail of the cat’



Recall that in present terms, the pre-adjectival article of Albanian satisfies the theta-role of the adjective. In (73b) we expect the article to do exactly the same. In this instance the predicate of which it satisfies an argument is ‘inclusion’ $Q(\subseteq)$. In calling $Q(\subseteq)$ a relation, we imply that it connects two arguments. One is the possessor ‘cat’ – which is provided by the noun (phrase) to which the oblique inflection attaches. The other argument is ultimately the possum ‘tail’. In the genitive structure of Albanian however it is necessary to

provide also an inflectional saturation of the external argument of $Q(\sqsubseteq)$, namely by D .²⁸

Consider then Iranian languages. Kurmanji Kurdish and Persian have essentially the same structure as Albanian in adjectival contexts, as schematized above (see the tables in (65) and (68)). Both languages are also like standard Albanian in presenting a single ezafe or a single series of agreeing ezafes for both adjectival and genitive contexts. We may illustrate this parallelism with reference to Kurmanji Kurdish, which like Albanian has overt oblique case. The structure in (74) is parallel to that in (73) and can be similarly interpreted. The $Q(\sqsubseteq)$ oblique inflection introduces a possession/inclusion relation between the noun to which it attaches (the possessor) and an external argument (the possessum, ultimately satisfied by the head noun). In Kurmanji Kurdish, as in Albanian, an inflectional satisfaction of this argument is also necessary, provided by the D linker.

- (74) a. *dest-e kurk-i*
 hand-EZ.M boy-OBL.M
 ‘the hand of the boy’
- b.
-
- ```

graph TD
 NP --> N1[N]
 NP --> DP[DP]
 N1 --> dest[dest]
 DP --> D[D]
 DP --> N2[N]
 D --> e[e]
 N2 --> N3[N]
 N2 --> Q["Q(⊆)"]
 N3 --> kurk[kurk]
 Q --> i[i]

```

Recall that several languages have distinct linkers for pre-adjectival and pre-genitive contexts. Arberesh is such a language, cf. (21)–(23), as is Sorani Kurdish, cf. (48)–(50). In the recent formal literature, the varying forms of the ezafe in adjectival and genitive contexts have been considered for the Iranian language Zazaki, by Toosarvandani and van Urk (2012). The Zazaki ezafe has the same distribution as the Persian or Kurmanji ezafe. The parallel with Kurmanji is particularly close, since the Zazaki ezafe also presents different forms for the

<sup>28</sup> An anonymous reviewer observes that in terms of the notion of ‘extended projection’ (Grimshaw 2005[1991]), one could say that the linker belongs to the extended projection of the adjective, with which it agrees, in (61) – while this would seem to be hardly the case in (73b), where the linker resumes the fundamental properties of the head noun (as an anonymous reviewer observes). However extended projections play no role here, where the only relevant parallel between pre-adjectival and pre-genitive linkers is that they serve as arguments of a lower predicate and as bound variables of the head determiner.

masculine, the feminine and the plural, agreeing with the head noun, as illustrated in (75a,b) for the feminine vs. masculine. (75c) illustrates the genitive, where the *ezafe* introducing the possessor DP agrees in phi-features with the head noun *kutik*. The constituent structure in (75) is that provided by Toosarvandani and van Urk – and is compatible in all respects with the one proposed here. Incidentally, Toosarvandani and van Urk do not notice that the *Zazaki*’s *ezafe* is identical to the demonstrative (not illustrated here) and to the 3<sup>rd</sup> person singular agreement marker (as highlighted by our shadings) – making it parallel to *Kurmanji* in this respect as well.

- (75) a. [<sub>DP</sub> **a**      biz-**a**      rindek-**a**      qisqek-e]    vas    wen-**a**.  
that.F   goat-EZ.F   beautiful-EZ.F   little-F   grass   eat-3SG.F  
‘That beautiful little goat is eating grass.’
- b. [<sub>DP</sub> **o**              ga[-w**o**              sur][-**o**              girs]]    mî      vinen-**o**.  
that.M.NOM   ox-EZ.M.NOM   red-EZ.M.NOM   big   1SG.OBL   see-3SG.M  
‘That big red ox (m.) sees me.’
- c. kutik-ê              Alik-i-o              girs  
dog-EZ.M.OBL   Alik-obl.m-ez.m.nom   big  
‘Alik’s big dog’

*Zazaki* (Toosarvandani and van Urk 2012)

The interesting property of *Zazaki* is that pre-genitival *ezafe*s are a subset of pre-adjectival ones, as seen in table (76). In particular, pre-adjectival *ezafe*s agree with the head noun not only in phi-features, but also in direct vs. oblique case. However pre-genitival *ezafe*s come in a single series, coinciding with the oblique (cf. also Todd 2008).

| (76)       | Adjective |    |    | Genitive |    |    |
|------------|-----------|----|----|----------|----|----|
|            | M         | F  | Pl | M        | F  | Pl |
| nominative | <b>o</b>  | -a | -ê | <b>ê</b> | -a | -ê |
| oblique    | <b>-ê</b> | -a | -ê |          |    |    |

Toosarvandani and van Urk avoid altogether the question asked here, as to the nature of the *ezafe*, assuming simply that the *ezafe* is a functional head (Ez). In general, their idea is that Agree not only is bi-directional (cf. the discussion in section 4.3), but also uses an optimization device, of the type proposed by Bejar and Rezac (2009). They posit two sets of features on Ez: unvalued phi-features and an unvalued case feature. Consider first the preadjectival Ez, as schematized on the left of (76). When Ez is merged with AP, it first probes downward into AP.

But since adjectives have neither phi- nor case features (or so they assume), Ez must probe upward. When EzP merges with the head N, it Agrees in Number and Gender with it. When Ez merges with a possessor, Toosarvandani and van Urk assume the structures in (77), where Ez successfully Agrees downward with the case feature on the otherwise empty P introducing the possessor; hence the form of the ezafe is invariantly oblique with possessors. Nevertheless, Ez must probe upward to Agree in Gender and Number, so that it still co-varies with the phi-features of the head noun N.

(77) N [Ez [P<sub>obl</sub> DP]]

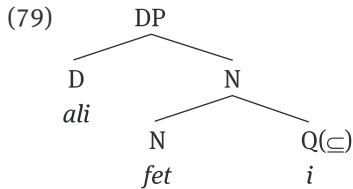
Now, minimalist theory (to which the authors adhere) envisages no case features on predicative heads like P; recall that for Chomsky (2001), Case is just a reflex on a DP of the agreement in phi-features of that DP with a functional head. Unfortunately, the problem cannot be solved by having Ez Agree with the oblique DP (i.e. there is no empty P), since if the possessor DP is accessible to the Ez probe, its phi-features ought to be accessible as well, implying that Ez should agree with the possessor. We conclude that the Zazaki pattern in (77) has less than a perfect fit to standard minimalist theory, even if one wanted to adopt some form of cyclic Agree as part of it.

## 5.2 Aromanian

In Aromanian, the introducers of genitives are also different from pre-adjectival linkers. Furthermore they agree with the possessor, not only in case (as argued for Zazaki by Toosarvandani and van Urk) but also in phi-features, as in (78).<sup>29</sup> The agreement with the complement noun forces the linker to be inside the maximal projection of the complement DP, where it lexicalizes a D position, as in (79).

- (78) a. libr-a        o fitfor-u/ali fet-i  
          the book   of the boy/of the girl  
          ‘the boy’s/the girl’s/his/her book’  
       b. libr-a        o fitfor- ju/o fet- uyu  
          the book   of the boys/of the girls  
          ‘the boys’/the girls’/their book’

<sup>29</sup> The connection of these elements to an etymology from the Latin demonstrative *ille* is discussed and motivated by Giurgea (2012).



The same elements *o* and *ali* that precede the genitive in (78) precede the dative in examples like (47). Yet dative introducers agreeing with the dative have been assimilated to linkers before. Baker and Collins (2006) call linker a particle which appears between the direct object and an indirect (i.e. dative) object in Kinande, a Bantu Language, as shown in (80), where the linker *y'* agrees in noun class with the dative object *omukali* (woman).

- (80) Mo-n-a-h-ere                      omukali    y'        eritunda.  
 AFFIRM-1SG-PST-give-PRF   woman.1   LK.1-   fruit.5  
 'I gave a fruit to a woman'

*Kinande* (Baker and Collins 2006: 308)

As part of her treatment of linkers as semantically void markers of head-dependent relations, Philip (2012: 49–50) states that “where the sole purpose of a morpheme is to mark a syntactic relationship between two distinct extended projections – that is, a Head-Dependent relationship, we would expect the primary agreement on this morpheme to cross-reference features not of the projection of which it is a part, but of the projection with which it serves to establish a relationship. Therefore ... the primary agreement in Dependent-marking should cross-reference features of the head (cf. Nichols 1986: 58, also Zwart 2006: 56–57)”. When taken together with the conclusion that linkers mark only the dependent (cf. section 4.2 here), the prediction emerges that the linker will always agree with the head. In other words, the Zazaki *ezafe* and even more clearly the Aromanian *o/ali* introducer or Kinande (80) do not fall under her definition of linkers, since they do not agree with the head of the complex nominal.<sup>30</sup> This seems a limit of her approach, to the extent that there seems to be no independent, empirical reason to draw such a divide.

<sup>30</sup> Philip reports the existence of languages where, as in Zazaki, the linker “can in some sense be regarded as marking properties of both Head and Dependent” (pp. 53–54), for instance Lagwan (Chadic), with respect to which she concludes that “this marking cannot be taken as evidence for either head-marking or Dependent-marking”. She further quotes Lendu (Sudanic) as a language “where the linker appears to agree exclusively with the Dependent”.

The present model is based on atomic properties and relations such as D (definiteness etc.), bound vs. free, head vs. inflection. In this, and in other ways it is much more restrictive than Head-Dependent models; it does not allow for complex unanalysable primitives such as Head-Dependent relations (hence striking out innumerable potential primitives of the same size) nor does it allow for semantically empty structure (which restricts its generative power considerably). Despite this, and in fact because of this, it is better suited to account for variation.

To return to the analogy with Romance pronominal clitics, which we exploited more than once, we know that doubling clitics can not only be a lower position in the structure (e.g. resumptive clitics), but also in a higher position (e.g. subject clitics agreeing with postverbal subjects, cf. Manzini and Savoia 2007). By analogy, what is actually relevant for the definition of linker is that the linker is a bound variable of the referential element in a chain. Normally the linker will be c-commanded by the referential argument, corresponding to the canonical spell-out configuration with referential argument higher than its bound variables. However the reverse configuration of spell-out is also attested (e.g. expletive chains). If the pre-adjectival linker is a bound variable of the higher N, the pre-genitive linker of Aromanian is an expletive of the embedded genitive. Nothing in the theory prevents either configuration, and both of them are found in Aromanian, yielding the overall picture in (81).

|             |                                               |
|-------------|-----------------------------------------------|
| (81)        | <i>Aromanian</i>                              |
| bound, infl | agreement                                     |
| free, infl  | definite inflection                           |
| bound, head | linker (pre-A, pre-genitive), doubling clitic |
| free, head  | clitic, determiner (indefinite)               |

On the other hand, according to the discussion of genitive/oblique case in this section, English *of* or French *de* cannot be called linkers. In fact, ‘of’ and similar prepositions are essentially instantiations of the  $P(\subseteq)$  relation on a P head – i.e. they are  $P(\subseteq)$ . Their place in a genitival construction is altogether different from that of the Albanian article or the Iranian *ezafe* – though they do have a counterpart in Iranian or Albanian, namely in the oblique case  $Q(\subseteq)$ .<sup>31</sup>

**31** An interesting issue arises with respect to expressions like *the city of Rome*, *that idiot of John* that are at the core of den Dikken and Singhapreecha’s (2004) discussion, namely whether *of* can still be characterized as  $P(\subseteq)$  in present terms. We note that the  $P(\subseteq)$  characterization for *of* is not incompatible with it embedding a small clause from which either the possessum/subset argument or the possessor/superset predicate raises. In other words, it seems to us that the whole

## 6 Conclusions

Our basic theoretical claim in this work is that the linker of Albanian (6)–(7) or of Kurmanji (2)–(4) is what its lexical specifications, for phi-features (nominal class and number), case and definiteness lead us to expect – namely a D argument, satisfying a predicate (the adjective). In this sense, it functions as an inflectional/pronominal double of the head noun, or rather of the determiner closing off the DP.

What holds for adjectival modification, holds in a slightly more complex form for possessor modification. The possessum-possessor relation is a primitive relation of grammar, here tentatively identified with the part-whole relation, notated  $Q(\subseteq)$  and lexicalized in Albanian or Kurmanji by oblique case. The two arguments of the relation are the possessor (the ‘whole’) and the possessum (the ‘part’). The linker plays the same role as in adjectival constructions, providing an inflectional-saturation for the external argument of  $Q(\subseteq)$ . Importantly, the rich morphosyntax of Albanian allows us to distinguish between two components of nominal embedding, namely a lexicalization of the part-whole relation (the oblique case) and an inflectional lexicalization of its external argument (the linker) – though many languages have at most one (for instance the *of* preposition of English).

Not all elements that have been called linkers are necessarily Ds – within familiar Indo-European languages the French *de* or English *of* are instantiations of the same  $Q(\subseteq)$  relation that is lexicalized in Albanian by case endings (see Fillmore 1968 for the original statement of this analysis). Within the class of linkers as understood here, descriptive terminologies such as article (Albanian) and *ezafe* (Iranian) capture differences concerning inflectional or clitic status, lexical identity with other agreement/clitic elements in the language, etc. These are lexical differences – as we might independently surmise on the basis of minimalist ideas about parameterization.

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issue of copular inversion is orthogonal to the issue of obliques (and even more so the issue of linkers, as construed here).

## References

- Abels, Klaus & Ad Neeleman. 2012. Linear Asymmetries and the LCA. *Syntax* 15(1). 25–74.
- Androutsopoulou, Antonia & Manuel Espanol-Echevarria. 2007. Attributive modification and definiteness. Hand-out of a talk given at Biolinguistic perspectives on language evolution and variation, 4–6 June 2007, Ca' Foscari University, Venice.
- Arsenijević, Boban. 2009. Clausal complementation as relativization. *Lingua* 119(1). 39–50.
- Baker, Mark. 2008. *The syntax of agreement and concord*. Cambridge: Cambridge University Press.
- Baker, Mark. 2013. On agreement and its relationship to case: Some generative ideas and results, *Lingua* 130. 14–32.
- Baker, Mark & Chris Collins. 2006. Linkers and the internal structure of vP. *Natural Language & Linguistic Theory* 24(2). 307–354.
- Baker, Mark & Nadya Vinokurova. 2010. Two modalities of case assignment in Sakha. *Natural Language and Linguistic Theory* 28(3). 593–642.
- Barwise, Jon & Robin Cooper. 1981. Generalized quantifiers and natural language. *Linguistics and Philosophy* 4(2). 159–219.
- Bedir Khan, Emir Djeladet & Roger Lescot. 1986. *Kurdische Grammatik. Kurmancî Dialekt*. Bonn: Verlag für Kultur und Wissenschaft.
- Béjar, Susana & Milan Rezac. 2009. Cyclic Agree. *Linguistic Inquiry* 40(1). 35–73.
- Belvin, Robert & Marcel den Dikken. 1997. *There, Happens, To, Be, Have*. *Lingua* 101(3–4). 151–183.
- Berwick, Robert & Noam Chomsky. 2011. The biolinguistic program: The current state of its evolution and development. In Anna Maria Di Sciullo & Cedric Boeckx (eds.), *The Biolinguistic Enterprise*, 19–41. Oxford: Oxford University Press.
- Blau, Joyce & Veysi Barak. 1999. *Manuel de kurde kurmanji*. Paris: L'Harmattan.
- Bošković, Željko. 2007. On the locality and motivation of Move and Agree: an even more minimal theory. *Linguistic Inquiry* 38(4). 589–644.
- Brody, Michael. 2006. Syntax and symmetry. Available at: <http://ling.auf.net/lingbuzz/000260>.
- Camaj, Martin. 1984. *Albanian Grammar*. Wiesbaden: Harrassowitz.
- Campos, Héctor. 2008. Some notes on adjectival articles in Albanian. *Lingua* 119(7). 1009–1034.
- Campos, Héctor & Melita Stavrou. 2004. Polydefinites in Greek and Aromanian. In Olga Miseska Tomić (Ed.), *Balkan syntax and semantics*, 137–173. Amsterdam: John Benjamins.
- Carstens, Vicki. 2003. Rethinking Complementizer Agreement. *Linguistic Inquiry* 34(3). 393–412.
- Chomsky, Noam. 1981. *Lectures in Government and Binding*. Dordrecht: Foris.
- Chomsky, Noam. 1986. *Barriers*. Cambridge, MA.: MIT Press.
- Chomsky, Noam. 1995. *The minimalist program*. Cambridge, MA.: MIT Press.
- Chomsky, Noam. 2001. Derivation by Phase. In Michael J. Kenstowicz (Ed.), *Ken Hale: A Life in Language*, 1–54. Cambridge, MA.: MIT Press.
- Chomsky, Noam. 2013. Problems of projection. *Lingua* 130. 33–49.
- Choudhary, N. K. 2004. Word Order in Phar. MA thesis, Jawaharlal Nehru University, New Delhi.
- Cinque, Guglielmo. 1994. On the evidence for partial N movement in the Romance DP. In Guglielmo Cinque, Jan Koster, Jean-Yves Pollock, Luigi Rizzi & Raffaella Zanuttini

- (Eds.), *Paths Toward Universal Grammar*, 85–110. Georgetown: Georgetown University Press.
- Comrie, Bernard. 1981. *The Languages of the Soviet Union*. Cambridge: Cambridge University Press, Cambridge.
- Dikken, Marcel, den. 2006. *Relators and linkers*. Cambridge, MA.: MIT Press.
- Dikken, Marcel, den & Pornsiri Singhapreecha. 2004. Complex Noun Phrases and linkers. *Syntax* 7(1). 1–54.
- Dimitrova-Vulchanova, Mila & Giuliana Giusti. 1998. Fragments of Balkan nominal structure. In Artemis Alexiadou & Chris Wilder (Eds.), *Possessors, predicates and movement in the determiner phrase*, 333–360. Amsterdam: John Benjamins.
- Dobrovie-Sorin, Carmen. 1994. *The syntax of Romanian*. Berlin: Walter De Gruyter.
- Estaji, Azam. 2009. Morphosyntactic changes in Persian and their effects on syntax. In Vít Bubeník, John Hewson & Sarah R. Rose (Eds.), *Grammatical Change in Indo-European Languages: Papers presented at the workshop on Indo-European Linguistics at the XVIIIth International Conference on Historical Linguistics, Montreal*, 195–206. Amsterdam: John Benjamins.
- Fillmore, Charles J. 1968. The Case for Case. In Emmon Bach & Robert T. Harms (Eds.), *Universals in Linguistic Theory*, 1–88. New York: Holt, Rinehart, and Winston.
- Fortson, Benjamin W. 2004. *Indo-European language and culture: an introduction*. Malden, MA.: Blackwell.
- Franco, Ludovico. 2012. Against the identity of complementizers and (demonstrative) pronouns. *Poznań Studies in Contemporary Linguistics* 48(4). 565–596.
- Ghomeshi, Jila. 1997. Non-Projecting nouns and the Ezafe construction in Persian. *Natural Language and Linguistic Theory* 15(4). 729–788.
- Ghomeshi, Jila. 2003. Plural Marking, Indefiniteness, and the Noun Phrase. *Studia Linguistica* 57(1). 47–74.
- Giurgea, Ion. 2012. The origin of the Romanian “possessive-genitive article” *al* and the development of the demonstrative system. *Revue Roumaine de Linguistique* LVII(1). 35–65.
- Giusti, Giuliana. 1995. Heads and Modifiers among Determiners. In Guglielmo Cinque & Giuliana Giusti (Eds.), *Advances in Romanian Linguistics*, 103–125. Amsterdam: John Benjamins.
- Giusti, Giuliana. 2002. The functional structure of determiners. A bare phrase structure approach. In Guglielmo Cinque (Ed.), *Functional Structure in DP and IP. The cartography of Syntactic Structure vol. 1*, 54–90. Oxford: Oxford University Press.
- Grimshaw, Jane B. 2005 [1991]. Extended Projection. In Jane B. Grimshaw (Ed.), *Words and Structure* (CSLI Lecture Notes), 1–70. Stanford: Center for the Study of Language and Information.
- Haider, Hubert & Ronald Zwanziger. 1984. Relatively attributive: The “ezafe”-construction from Old Iranian to Modern Persian. In Jacek Fisiak (Ed.), *Historical Syntax*, 137–172. Berlin: Mouton.
- Haig, Geoffrey. 2007. The emergence of the Tense Ezafe in Bahdîni Kurdish. Paper presented at the Second International Conference on Iranian Linguistics, University of Hamburg, August, 17–19.
- Haig, Geoffrey. 2011. Linker, relativizer, nominalizer, tense-particle: On the Ezafe in West Iranian. In Foong Ha Yap, Karen Grunow-Härsta & Janick Wrona (Eds.), *Nominalization in Asian Languages: Diachronic and Typological Perspectives*, 363–390. Amsterdam: John Benjamins.

- Halle, Morris & Alec Marantz. 1993. Distributed morphology and the pieces of inflection. In Kenneth Hale & Samuel J. Keyser (Eds.), *The view from Building 20*, 111–176. Cambridge, MA.: MIT Press.
- Harris, James. 1994. The syntax-phonology mapping in Catalan and Spanish clitics. In Andrew Carnie and Heidi Harley (Eds.), *Papers on Phonology and Morphology*, 321–353. MIT Working Papers in Linguistics 21.
- Higginbotham, James. 1985. On semantics. *Linguistic Inquiry* 16(4). 547–621.
- Hedberg, Nancy, Emrah Görgülü & Morgan Mameni. 2009. On definiteness and specificity in Turkish and Persian. In Proceedings of the 2009 Annual Meeting of the Canadian Linguistic Association.
- Hoekstra, Teun. 1999. Parallels between nominal and verbal projections. In David Adger, Susan Pintzuk, Bernadette Plunkett & George Tsoulas (Eds.), *Specifiers: Minimalist Approaches*, 163–187. Oxford: Oxford University Press.
- Holmberg, Anders & David Odden. 2008. The noun phrase in Hawrami. In Simin Karimi, Vida Samiian, Donald Stilo (Eds.), *Aspects of Iranian Linguistics*, 129–151. Newcastle: Cambridge Scholars Publishing.
- Hutchinson, Amelia & Janet Lloyd. 2003. *Portuguese: An Essential Grammar*. London: Routledge.
- Kahnemuyipour, Arsalan. 2006. Persian ezafe construction: Case, agreement, or something else. In Proceedings of the 2nd Workshop on the Persian Language and Computer. Tehran: University of Tehran.
- Karimi, Simin. 2003. Object positions, specificity and scrambling. In Simin Karimi (Ed.), *Word Order and Scrambling*, 91–125. Oxford: Blackwell.
- Karimi, Yadgar. 2007. Kurdish Ezafe construction: implications for DP structure. *Lingua* 117(12). 2159–2177.
- Kayne, Richard. 1984. *Connectedness and Binary Branching*. Dordrecht: Foris.
- Kayne, Richard. 1994. *The Antisymmetry of Syntax*. Cambridge, MA.: MIT Press.
- Kayne, Richard. 2010. *Comparison and contrasts*. New York: Oxford University Press.
- Keenan, Edward & Jonathan Stavi. 1986. A Semantic Characterization of Natural Language Determiners. *Linguistics and Philosophy* 9(3). 253–326.
- Koontz-Garboden, Andrew & Itamar Francez. 2010. Possessed properties in Ulwa. *Natural Language Semantics* 18(2). 197–240.
- Larson, Richard K. 1998. Events and modification in nominals. In Devon Strolovitch & Aaron Lawson (Eds.), *Proceedings from Semantics and Linguistic Theory (SALT) VIII*, 145–168. Ithaca, NY: CLC Publications.
- Larson, Richard K. & Hiroko Yamakido. 2008. Ezafe and the deep position of nominal modifiers. In Louise McNally & Christopher Kennedy (Eds.), *Adjectives and adverbs. Syntax, Semantics, and Discourse*, 43–70. Oxford: Oxford University Press.
- Lazard, Gilbert. 1992. *Grammar of Contemporary Persian*. Costa Mesa, CA.: Mazda Publisher.
- Lekakou, Marika & Krista Szendrői. 2012. Polydefinites in Greek: Ellipsis, close apposition and expletive determiners. *Journal of Linguistics* 48(1). 107–149.
- McKenzie, David N. 1961. *Kurdish Dialect Studies, I*. Oxford: Oxford University Press.
- Mahootian, Shahrzad. 1996. *Persian*. London: Routledge.
- Manzini, M. Rita. To appear. Unifying Minimality and the OCP: Local Anti-identity as Economy. In Kuniya Nasukawa & Henk van Riemsdijk (Eds.), *Identity*. Berlin: Mouton de Gruyter.
- Manzini, M. Rita & Ludovico Franco. To appear. Goal and DOM datives. *Natural Language & Linguistic Theory*.

- Manzini, M. Rita & Leonardo M. Savoia. 2003. The nature of complementizers. *Rivista di Grammatica Generativa* 28. 87–110.
- Manzini, M. Rita & Leonardo M. Savoia. 2007. *A Unification of Morphology and Syntax. Investigations into Romance and Albanian dialects*. London: Routledge.
- Manzini, M. Rita & Leonardo M. Savoia. 2011a. *Grammatical Categories*. Cambridge: Cambridge University Press.
- Manzini, M. Rita & Leonardo M. Savoia. 2011b. Reducing ‘case’ to denotational primitives: Nominal inflections in Albanian. *Linguistic Variation* 11(1). 76–120.
- Manzini, M. Rita & Leonardo M. Savoia. 2013. Linkers in Aromanian: a comparison with Albanian. Hand-out, Workshop on Balkan Romance Contacts, November 25–26 2013. Università Ca’ Foscari, Venice.
- Marantz, Alec. 1997. No escape from syntax: Don’t try morphological analysis in the privacy of your own lexicon. *University of Pennsylvania Working Papers in Linguistics* 4(2). 201–25.
- Mathiassen, Terje. 1996. *A Short Grammar of Lithuanian*. Columbus, OH.: Slavica Publishers.
- Meillet, Antoine. 1931. *Grammaire du vieux-perse*. Paris: Honoré Champion.
- Neeleman, Ad & Hans van de Koot. 2006. Syntactic Haplology. In Martn Everaert & Henk van Riemsdijk (Eds.), *The Blackwell Companion to Syntax, Vol. IV*, 684–710. Oxford: Blackwell.
- Nichols, Johanna. 1986. Head-marking and dependent-marking grammar. *Language* 62(1). 56–119.
- Paul, Daniel. 2008. The Individuating Function of the Persian ‘Indefinite’ Suffix. In Simin Karimi, Vida Samiiian, Donald Stilo (Eds.), *Aspects of Iranian Linguistics*, 309–328. Newcastle: Cambridge Scholars Publishing.
- Paul, Daniel. 2011. *A Comparative Dialectal Description of Iranian Taleshi*. PhD thesis, University of Manchester.
- Philip, Naomi Joy. 2012. Subordinating and coordinating linkers. PhD thesis. UCL, London.
- Philip, Naomi Joy. 2013. (Dis)harmony, the Head-Proximate Filter, and linkers. *Journal of Linguistics* 49(1). 165–213.
- Pikkert, Peter. 1991. *A Basic Course in Modern Kurmanji*. Genk: Alev Books.
- Preminger, Omer. 2013. That’s not how you agree: A reply to Zeijlstra. *The Linguistic Review* 30(3). 491–500.
- Ramaglia, Francesca. 2011. *Adjectives at the Syntax-Semantics Interface*. LINCOM: München.
- Ramchand, Gillian & Peter Svenonius. 2008. Mapping a Parochial Lexicon onto a Universal Semantics. In Theresa Biberauer (Ed.), *The Limits of Syntactic Variation*, 219–245. Amsterdam: John Benjamins.
- Richards, Norvin. 2010. *Uttering Trees*. Cambridge, MA.: MIT Press.
- Riemsdijk, Henk, van. 2008. Identity Avoidance: OCP-effects in Swiss Relatives. In Robert Freidin, Carlos P. Otero, Maria Luisa Zubizarreta (Eds.), *Foundational Issues in Linguistic Theory. Essays in Honor of Jean-Roger Vergnaud*, 227–250. Cambridge, MA.: MIT Press.
- Roberts, Ian & Anna Roussou. 2003. *Syntactic Change. A Minimalist Approach to Grammaticalization*. Cambridge: Cambridge University Press.
- Roussou, Anna. 2010. Selecting complementizers. *Lingua* 120(3). 582–603.
- Samiiian, V., 1994. The Ezafe Construction: Some Implications for the Theory of X-bar Syntax. In: Marashi, M. (Ed.), *Persian Studies in North America*, 17–41. Bethesda, MD.: Iranbooks.
- Samvelian, Pollet. 2007. A (phrasal) affix analysis of the Persian Ezafe. *Journal of Linguistics* 43(3). 605–645.
- Savoia, Leonardo M. 2008. *Studi sulle varietà arbëreshe*. Rende: Università della Calabria.

- Simpson, Andrew. 2001. Definiteness agreement and the Chinese DP. *Language and Linguistics* 2(1). 125–156.
- Solano, Francesco. 1972. *Manuale di lingua albanese*. Corigliano Calabro: Arti Grafiche Ioniche.
- Sportiche, Dominique. 1996. Clitic constructions. In Johan Rooryck & Laurie Zaring (Eds.), *Phrase structure and the lexicon*, 213–276. Dordrecht: Kluwer.
- Stavrou, Melita. 2013. The fine(r) ingredients of adjectival modification in Greek: the Romance connection. Hand-out of a talk given at 39° Incontro di Grammatica Generativa, Modena, 23th February, 2013.
- Stilo, Donald. 2004. Coordination in Three Western Iranian Languages: Vafsi, Persian and Gilaki. In Martin Haspelmath (Ed.), *Coordinating Constructions*, 269–330. Amsterdam: John Benjamins.
- Szabolcsi, Anna. 1992. Subordination: Articles and complementizers. In István Kenesei & Csaba Pléh (Eds.), *Approaches to Hungarian, Vol. 4: The structure of Hungarian*, 123–137. Szeged: JATE.
- Thackston, Wheeler M. 2006. *Sorani Kurdish: A Reference Grammar with Selected Readings*. Harvard University.
- Todd, Terry Lynn. 2008. *A Grammar of Dimili also known as Zaza*. Stockholm: Iremet Förlag (electronic edition).
- Tomić, Olga Miseska. 2006. *Balkan Sprachbund Morpho-syntactic Features*. Dordrecht: Springer.
- Toosarvandani, Maziar & Coppe van Urk. 2012. Directionality and intervention in nominal concord: Evidence from Zazaki ezafe. Poster presented at the 43rd Annual Meeting of the North East Linguistic Society (NELS), City University of New York, Graduate Center, October 19th.
- Turano, Giuseppina. 2002. On modifiers preceded by the article in Albanian DPs. *University of Venice Working Papers in Linguistics* 12. 169–215.
- Turano, Giuseppina. 2003. Similarities and differences between standard Albanian and Arbëresh numerals. A case of microparametric variation. *University of Venice Working Papers in Linguistics* 13. 155–177.
- Turano, Giuseppina. 2004. *Introduzione alla grammatica dell'albanese*. Firenze: Alinea.
- Vergnaud, Jean-Roger. 2008 [1978]. Letter to Noam Chomsky and Howard Lasnik on “Filters and Control”. In Robert Freidin, Carlos P. Otero, Maria Luisa Zubizarreta (Eds.), *Foundational issues in linguistic theory. Essays in Honor of Jean-Roger Vergnaud*, 3–15. Cambridge, MA.: MIT Press.
- Williams, Edwin. 1994. *Thematic Structure in Syntax*. Cambridge, MA.: MIT Press.
- Windfuhr, Gernot & John R. Perry. 2009. Persian and Tajik. In Gernot Windfuhr (Ed.), *The Iranian Languages*, 416–544. London: Routledge.
- Yamakido, Hiroko. 2005. The Nature of Adjectival Inflection in Japanese. PhD Dissertation. Stony Brook University.
- Yip, Moira. 1998. Identity Avoidance in Phonology and Morphology. In: Stephen G. Lapointe, Diane K. Brentari & Patrick M. Farrell (Eds.), *Morphology and Its Relation to Phonology and Syntax*, 216–246. Stanford, CA.: Center for the Study of Language and Information.
- Zeijlstra, Hedde. 2012. There is only one way to agree. *The Linguistic Review* 29(3). 491–539.
- Zwart, Jan-Wouter. 2006. Complementizer agreement and dependency marking typology. *Leiden Working Papers in Linguistics* 3. 53–72.