

Linkers and agreement.

1. Introducing the issue

In many languages a linker element is inserted between a noun and an adjective or a complement that the noun embeds (Nikolaeva and Spencer, 2012 for a typological survey), as well as relative clauses (not considered here at all because of their internal complexity). As for Indo-European languages (which will form our focus here) nobody seems to have any doubt that Iranian ezafe is such an element. (1) exemplifies the phenomenon in Persian (Samiiian, 1994; Ghomeshi, 1997; den Dikken and Singhapreecha, 2004; Larson and Yamakido, 2008). Following Lazard's traditional description (1992: 276 et seq., cf. Parsafar 2010: 638), when a noun is accompanied by a modifying element, it is followed by an enclitic unstressed vowel *-e* (the ezafe). This element 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'

Persian (Windfuhr and Perry, 2009: 473)

Both typologists (Stilo, 2008; Haig, 2011) and formal linguists (Larson and Yamakido, 2006; Holmberg and Odden, 2008; Toosarvandani and Van Urk, 2012) have been interested in the fact that in several Iranian languages, the ezafe agrees with the head noun. Here we provide data from Kurmanji Kurdish transcribed in a broad IPA from our own 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). As shown in (3), their combination with adjectives (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).

- (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. korek/ kutʃek jet he:n
boy/girl pl come.3pl
‘The boys/the girls are coming’
- (3) a. kurk-(ak-)e: mazen jet het
boy-(one)-ez.m big m.sg come.3sg
‘A/The big boy is coming’
- b. ketʃk-(ak-)a: mazen jat het
girl-(one)-ez.f big f.sg come.3sg
‘A/The big girl is coming’
- c. kurk-e:t/ketʃk-e:t mazen 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

Since nobody has any doubts that the agreeing element in Kurmanji Kurdish and the invariable element in Persian are both ‘ezafe’s, any account of linkers must encompass a certain amount of variation. How much variation, and what kind, depends on the theory itself. For instance den Dikken and Singhapreecha (2004: fn. 31) explicitly exclude that Greek polydefiniteness counts as an instantiation of ‘linker’ structure. On the other hand, Androutsopoulou and Espanol-Echevarria (2007) start from Greek in their survey of the phenomenon, and Larson and Yamakido

(2008) also include Greek in theirs.

The Greek linker is morphologically identical to the definite determiner and to the pronominal clitic (Campos and Stavrou, 2004; Ramaglia, 2008; Lekakou and Szendroi, 2012), and agrees in definiteness, number, nominal class (gender) and case with the head noun (or determiner). Syntactically, its basic distribution does not differ from that observed in (1)-(4) for Iranian, since it appears before adjectives and genitives, as in (5). Morphologically, we already saw that in Kurdish (3)-(4) the lexicalization of the ezafe may depend on 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)

The link between Iranian and another Balkan language, namely Albanian, may be more evident (cf. Bubenik, 2009). Syntactically the Albanian article (as it is called in traditional grammars) has the same distribution observed for the ezafe and the Greek article, namely before adjectives and genitives.¹ Morphologically, Albanian has a specialized series of nominal endings, inflected for definiteness as well as for phi-features and case.² The pre-adjectival/pre-genitival articles are related to the definite inflections 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* (transcribed in a broad IPA from native informants; Savoia 2012).

¹ To be precise, it is a lexically defined subset of adjectives that takes the article (Camaj, 1984; Solano, 1972; Turano, 2004; Campos, 2008). We have nothing to say on those (relatively 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 The 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). However we will see in later discussion that Albanian also has a system of pronominal articles which can combine with definite inflections, e.g. (18). This makes the implementation of a movement analysis difficult. Therefore we assume direct Merge in inflectional position.

- (6) a. $\varepsilon\theta$ dia $\acute{\iota}$ - $\acute{\iota}$ $\acute{\iota}$ ma θ
 came boy-nom.m.def the.m big
 'The big boy came'
- b. $\varepsilon\theta$ vazd-a ε ma δ - ε
 came girl-nom.f.def the.f big-f
 'The big girl came'
- c. $\varepsilon\delta\theta$ kriatura-t θ t θ mbi δ ε n-a
 came boy-nom.pl.def the.pl big-pl
 'The big boys came'
- (7) a. ku'tu ε bi \acute{s} t-i $\acute{\iota}$ mat \acute{s} - ε s θ
 here is tail-nom.m.def the.m cat-obl.f.def
 'Here there is the tail of the cat'
- b. k $\acute{\jmath}$ θ ε k ε mb-a ε mat \acute{s} - ε s θ
 this is leg-nom.f.def the.f cat-obl.f.def
 'This is the leg of the cat'
- c. k $\acute{\varepsilon}$ t θ jan bi \acute{s} t- θ t t θ mat \acute{s} - ε v ε
 these are tails-nom.pl.def the.pl cat-obl.pl
 'These are the tails of the cats'

Arbëresh

In this article we focus our empirical discussion on Albanian articles and on Iranian ezafes (Kurdish, Persian). 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 morphology (as in Albanian articles, or Iranian familiarity enclitics). We argue that so-called agreement morphology is an inflectional-level saturation of argument places. The Agree rule therefore matches pairs of interpretable elements concurring to the saturation of the same argument slot. In section 5 we return to cross-linguistic comparison. Many linkers, also in non-Indo-European languages, display the same morphological, distributional and interpretive properties as Albanian/Iranian ones, suggesting a common treatment.

2. Theoretical background.

The formal literature is deeply influenced by the model of nominal embedding provided by the *of* Insertion rule (Chomsky, 1981). 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 theoretical proposals on linkers closely reproduces the range of theories on *of* Insertion, as case assigners, as copulas, as means for identity avoidance.

The construal of linkers as copulas, proposed by den Dikken and Singhapreecha (2004) (cf. Stavrou, 2013 on Greek)) originates from models of *of* as an inverse copula (*that idiot of John* like *John is an idiot* etc.). 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 counterargument to treating the linker as a copula is that in (8) the copula is independently lexicalized.

- (8) a. vʃt ɪ $\text{ma}\theta\text{ə}/$ ɛ $\text{ma}\delta\text{-}\text{ɛ}$
 s/he.is the.m big/ the.f big-f
 'S/he is big'
- b. jan tə traʃ-a
 they.are the.pl fat-pl
 'They are fat'

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In fact, (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 (cf. also Karimi, 2007 for a similar treatment of the (Sorani) Kurdish *ezafe*) 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 pragmatics – 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 Bahdînî dialect of Kurmanji Kurdish– documented with examples from the literature in (9) and from our own work with native informants in (10) – a linker *je(t)/ja*: agreeing with the subject precedes the sequence adjective - enclitic copula.³ The fact that in predicative contexts the linkers are not in complementary distribution with the copula but combine with it, is again an argument in favour of separating linkers from copulas.

- (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-yê me **ê** 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-I
‘I am Kurd’

(Haig, 2011: 371)

- (10) a. av Kamis-a **jet** fîft-ina
dem-pl shirt-pl ez.pl washed-are
‘These shirts are washed’
- b. au **je/ja** mazên-e
3sg ez.m/ez.f big-is
‘(s)he is big’
- c. au **jet** sur-ên
3pl ez.pl red-are
‘they are red’

³ Our informants give us the same forms as Haig’s for feminine singular and for plural; in the case of the masculine singular we obtained the form *jet*, as reported in some examples, differently from the only form *(y)e* registered in Haig (2011).

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 *-vɛ* for the plural. Such endings are phonologically robust (syllabic) and morphologically specialized, in the sense that they cover only the descriptive genitive and the descriptive dative (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 (‘everybody’). In (11) the genitive/dative case morphology of Albanian is perfectly sufficient to support the possession relation. What evidence is there, as Koontz-Garboden and Francez would have it, that it is the linker that corresponds to the elementary possession predicate in (7)?

- (11) a. ja ðɛ vafə-sə
 to.her-it I.gave girl-obl.f.def
 ‘I gave it to the teacher’
 b. ja ðɛ vafə-vɛ
 to.them-it I.gave girl-obl.pl
 ‘I gave it to the teachers’

Arbëresh

For Larson and Yamakido (2008, cf. Samiian 1994 on Persian) 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 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’

Albanian (Turano, 2004:31)

Contrary to Albanian, Larson and Yamakido’s construal of linkers as case licensors has a certain *prima facie* plausibility for Persian, where apart from the DOM marker *óra* for definite direct objects, there is no overt case morphology (cf. Mahootian, 1996; Karimi, 2003; Cagri, 2006, among others). Thus in (13) the dative is introduced by the overt preposition *be*. In possession relations the possessed head noun is followed by a possessor not marked for case, as in (14).

- (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

Nevertheless, in several West Iranian languages a direct *vs.* oblique distinction is available and the possessor is invariantly marked oblique; nevertheless 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).

- (15) a. dest-e kurk-i/ ketʃk-e
 hand-ez.m boy-obl.m/girl-obl.f

- ‘the hand of the boy/girl’
- b. de qalam-ak-i dama ketʃk-e/kurk-i
 progr pen-one-obl give-1sg girl-obl.f/boy-obl.m
 ‘I give a pen to the girl/boy’

Bahdînî Kurmanji

The pattern in (15a) is widespread in West Iranian Languages, as shown in (16) for Hawrami Kurdish, and in (17) for Zazaki.

- (16) ya:næ-u žæn-ækæ-i
 house-ez.poss woman-def.art-obl
 ‘house of the woman’

Hawrami Kurdish (Holmberg and Odden, 2008: 139)

- (17) say-a çheleng-i
 apple-ez.f Cheleng-obl
 ‘Cheleng’s apple’

Zazaki (Todd, 2008: 93)

A final family of accounts for linkers not considered so far takes them to be means for identity avoidance (Ghomeshi, 1997 on Persian). This approach has recently been revived by Richards (2010) as part of a more general account of identity avoidance/ syntactic haplology in morphosyntax. We have no doubt that local anti-identity is widely attested in natural languages (Yip, 1998; Neeleman and van de Koot, 2006; van Riemsdijk, 2008; Manzini, to appear). However, 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.⁴ When kinship terms are embedded as genitives, structures of the type in (18) 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 (18). 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 (18) is problematic and not its insertion. But as before, the

⁴ This is part of a special system for expressing possessors of kinship terms, differentiating them from other common nouns.

burden of proof is on proponents of the theory we argue against.

- (18) mōra 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

In short, we believe that much of the theoretical literature about linkers briefly reviewed in this section provides important insights into the nature of the elementary components that enter into adjectival modification and predication and into possessor embedding, including such notions as the copula and oblique case (see section 5.1). However we conclude that 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.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 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.

3.1 Morphology and variation

In the Arbëresh varieties of Albanian, illustrated in section 2, 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 (19), or an oblique (dative) noun, as in (20). The definite or indefinite nature of the head noun is also irrelevant.

⁵ Campos (2008:1009) lists various labels for the Albanian pre-adjectival article in the literature, some of which, e.g. ‘agreement clitic’ (Tomić, 2006) are compatible with what we will ultimately propose. What we are interested in, however, is the cross-linguistic picture.

- (19) 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’
- (20) 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 vazd-əs 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’

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By contrast, the pre-adjectival article of standard Albanian is sensitive to the case and definiteness of the head noun. As it turns, Arbëresh and standard Albanian pattern alike with pre-genitival articles, which agree in phi-features, case and definiteness with the head noun in both varieties. Thus in Arbëresh, when the head noun is accusative, as in (21), the pre-genitival article is *ε* in the singular, independently of whether the head noun is masculine or feminine, as in (21a-b). In the plural the pre-genitival article is *tə* as in (18), reproduced as (21c).⁶ The pre-genitival article is sensitive to the definiteness of the head noun, since it always shows up as *tə* with indefinites, as in (22).

⁶ The kinship term embedded the genitive complement of a head noun, keeps its preposed article which is in turn embedded under the article agreeing with the head noun.

- (21) a. pε bifti-n ε matʃε-sə
 I.saw tail-acc.m.def acc.sg cat-obl.f.def
 ‘I saw the tail of the cat’
- b. pε kəmbə-nə ε ɲi-çə matʃε-jε
 I.saw leg-acc.f.def acc.sg one-obl.sg cat-obl.f
 ‘I saw the leg of a cat’
- b’. mɔra dɔrə-nə ε tə mɔtrə-sə
 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. mɔra kuputsə-tə tə tə 'nɪpi-tə
 I.took shoes-acc.pl.def acc.pl obl grandchild-obl.m.def
 ‘I took the shoes of the/his/her/their grandchild’
- (22) ɲə kəmb tə matʃε-sə
 a leg the cat-obl.f.def
 ‘a leg of the cat’

Arbëresh

Standard Albanian data are easily available from the literature (Camaj, 1984; Solano, 1972; Turano, 2004; Campos, 2008) and will not be reproduced here. In (23)-(25), however, we summarize the dialectal variation between standard Albanian and the Arbëresh of *Vena* (V). In essence Albanian linkers can either be sensitive to phi-features, as in (23), or to a more complex set of features including definiteness and case, as in (24)-(25).

(23) Pre-adjectival article in *Vena*

Sg.m	i
Sg.f	ε
Pl	tə

(24) Article with definite head noun (only pre-genitival 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

(25) Article with indefinite head noun (only pre-genitival 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), agrees with the head noun with respect to the same set of features (phi-features, case and definiteness) as Albanian (23)-(25). 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 (23). In Hawrami Kurdish in (26), the adjectival ezafe has different realizations, *-i*, *-æ*, *-e*, depending on the number and definiteness of the head noun, recalling Albanian (24)-(25). 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 (23) and the pre-genitival one in (24)-(25).

- (26) a. æsp-**i** sya:w
 horse-ez black
 'black horse'
- b. æsp-**æ** zɪl-ækæ
 horse-ez.def big-def
 'the big horse'
- c. due æsp-**e** zɪl-e
 two horse-ez.pl big-pl
 'two big horses'
- d. pæl-**u** haŋo-i
 feather-ez eagle-obl
 'eagle's feather'

Hawrami Kurdish (Holmberg and Odden, 2008: 132)

The morphological comparison between Albanian and Iranian varieties leaves hardly any room for doubting that the article and the ezafe have essentially the same internal 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’. In (27) we show that this is also true of genitives, where the pre-genitival article shows up as *tə* (the demonstrative triggers the same paradigm as the indefinite, cf. (25)). 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, is part of the structure of the AP/DP. 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.

- (27) a. *kjə* *ɛʃt* *tə* *ɲɛriu-tə*
 this is the man-obl.sg.def
 ‘This is of the man’s’
- b. *kjə* *ɛʃt* *tə* *ɲi-çə* *ɲɛriu-çə*
 this is the a-obl.sg man-obl.sg
 ‘This is of a man’s’

In other words, copular sentences allow us to establish that exactly as English Ns are in the scope of articles that precede them, so it is for adjectives in Albanian, as in (28) (cf. example (8a)). For the time being we make no commitment to the categorical signature of the ‘article’.

- (28) [*ɛ* [_A *maθ-ɛ*]

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). 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 (29), in Kurmanji Kurdish (30), and in Hawrami Kurdish (31), despite all other differences, for instance whether the *ezafe* agrees or not. In fact, according to Haig (2011), the Kurmanji *ezafe* can be used also as a stand-alone (i.e. non enclitic) particle when multiple modifiers are present in a noun

phrase, as in (30c). If the ezafe forms a constituent with the following modifier, as indicated, the last modifier of the sequence is correctly predicted to be ezafe-free.

- (29) 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)

- (30) 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)

- c. keçk-[a min [a piçûk]]
 daughter-EZ.F 1S:OBL EZ.F young(er)
 ‘my young(est) daughter’

Kurmanji (Haig 2011:366)

- (31) qrwa:q-ew-[î sawz-[î zîl]]
 frog-indef-ez green-ez big
 ‘a big green frog’

Hawrami Kurdish (Holmberg and Odden 2008:132, our brackets)

The constituent structure indicated in (29)-(31) is specifically supported by data like (30c) which show that phonological enclisis is a property that can be factored away. In other words, in Iranian adjectival modifiers have exactly the same structure as in Albanian, as shown in (32b) for (2b) above, repeated in (32a) for ease of reference. The categorical signature of the ‘ezafe’ is once again left open.

- (32) a. ketʃk-(ak-)a: mazen
 girl-(one)-ez.f big
 b. [ketʃkak] [a: [A mazen]]

Bahdînî Kurmanji

Further evidence in favour of the constituent structure in (32b) 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. In other words, the *ezafe* is integral part of the modifier, not of the modified noun.

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

Persian (Philip 2012:38)

2.3 Interpretation and categorization

In discussing Albanian, we stressed how the (non-syncretic) feminine singular oblique *së* occurs both as the pre-AP/DP article and as a nominal inflection. Crucially, as a nominal inflection, *së* is always interpreted as definite. The same is true of the other syllabic article of Albanian, *të*. As the pre-AP article, *të* can be seen both with definite and with indefinite head nouns in (34). As nominal inflection, however, it only appears on definites. Other articles, correspond to nominal class vowels (*i*, *e*) and we do not expect them to be intrinsically associated with (in)definiteness.

- | | | | | | | | | |
|------|-----|-----------------|-----------|------|--|------------------|-----------|------|
| (34) | | '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 |
| | | | | | | | | |
| | | 'the good girl' | | | | 'the good girls' | | |
| | | Sg | | | | Pl | | |
| | Nom | vajz-a | e | mirë | | vajza- t | e | mirë |
| | Acc | vajzë-n | e | mirë | | vajza- t | e | mirë |
| | Obl | vajzë- s | së | mirë | | vajza-ve | të | mirë |
| | | girl | art | good | | girls | art | good |

	'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

	'a good girl'				'some good girls'			
	Sg				Pl			
Nom	një	vajzë	e	mirë	disa	vajza	të	mirë
Acc	një	vajzë	të	mirë	disa	vajza	të	mirë
Obl	një	vajzë	të	mirë	disa	vajza-ve	të	mirë
	a	girl	art	good	some	girls	art	good

Albanian

Now, the definiteness properties of *të* or *së*, when appearing 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* (accusative singular ‘him/her’). In (35) we provide just one example for *Vëna*, where the same *ε* element appears as a pronominal clitic and as a pre-adjectival article.

- (35) ϵ pε (vazdə-nə ϵ vɔgiʎə)
her I.saw girl-acc the small
‘I saw her (the small girl)’

Arbëresh

Suppose then we refine the structure in (28) as in (36), 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 object clitic *ε* in (35) – as well as to definite inflections *të*, *së* in table (34) (see section 4.2).⁷

⁷ Simpson (2001) - basing also on the ‘definiteness agreement’ of such languages as Greek and Albanian (and also Hebrew) - concludes that in Chinese the linker *de* “should actually be analyzed as a *determiner*” (130). However Simpson’s theoretical claims relate to grammaticalization, specifically the determiner “has over time undergone severe

(36) [D ε [A maθ-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), as ‘meaningless’. 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 Bahdînî Kurmanji (37). In (37) it appears that the *ezafe* does have an interpretation – and specifically an interpretation compatible with a D categorization.

- (37) a. **yê** Soro/min/te
ez.m Soro/me/you
‘Soros’s/mine/yours’ (lit: that-of Soro / that-of me / that-of you)
Bahdînî Kurmanji (Haig 2011:367)
- b. yê dwê ... **yê** sêyê
ez.m second... ez.m third
‘The second one ... the third one’
Bahdînî 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) ((10b) is reproduced in (38a) for ease of reference). MacKenzie (1961, cf. also Blau and Barak, 1999) was the first to note that there are certain kinds of verbal predicates (i.e. state, existential and locative predicates) which are also usually accompanied by a stand-alone *ezafe*. Haig (2011:370) has dubbed this particle the ‘tense *ezafe*’. Actually, Haig (2007, 2011) shows that in Bahdînî Kurmanji the tense *ezafe* does not occur only with stative-like predicates, but it is employed before finite verbal forms prefixed by the progressive aspectual morpheme *de-*. This is precisely what we see in the examples originally presented in (2)-(4), which we reproduce partially in (38b-c) for ease of reference. The stand-alone/tense *ezafe* agrees with the subject of the sentence.

- (38) a. (au) **je/ja** mazən-e
3sg ez.m/ez.f big-is
‘(s)he is big’

bleaching” (ibid) – which leaves us uncertain as to his proposal concerning the actual competence of Chinese speakers. We briefly come back to Simpson’s analysis of Chinese in section 5.2.

- b. ketʃek **ja:** de-het
 girl f.sg prog-come.3sg
 ‘The girl is coming’
- c. kurek **jet** de-het
 boy m.sg prog-come.3sg
 ‘The boy is coming’

Bahdîni Kurmanji

The distribution of the ezafe in (38) is consistent with its categorization as a D element. We know that other D elements cross-linguistically (for instance so-called subject clitics in Northern Italian dialects, Manzini and Savoia 2007 and references quoted there) agree with the finite verb and eventually doubling a lexical DP. An interesting question is how the presence of the sentence-level D morphology connects with the stative/progressive interpretation of the sentences in (38). Presumably progressive interpretation is not contributed by the ezafe/subject clitics but it simply correlates with its presence. For instance, independent morpho-syntactic constraints may prevent the ezafe/subject clitic from combining with participial (hence perfective) forms of the verb.

The ezafe of Bahdîni Kurmanji shares with Albanian articles the important property of bearing phi-features. Therefore one may want to investigate how our hypotheses fare in Persian, which has the invariable *-e* ezafe. Standard Persian does not have a definite determiner and noun phrases without a determiner are interpreted as definite or generic, as in (39).

- (39) a. mæjele ru-ye miz-e
 magazine on-ez table-is
 ‘The magazine is on the table.’ (definite)
- b. sib dust-næ-dar-æm
 apple friend-neg-have-1sg
 ‘I don’t like apples.’ (generic)

Persian (Mahootian 1996:203)

In Persian noun phrases, 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 *ói*, as in (40).

- (40) a. ye durbin
 a camera

- b. durbin-i
camera-indef
'a (certain) camera'
- c. ye durbin-i
one camera-indef
'a (certain) camera'

Persian (Mahootian 1996:203)

Nevertheless, Mahootian (1996:201; cf. Ghomeshi, 2003; Paul, 2008) describes a colloquial enclitic marker *óe* (homophonous to the *ezafe*), arguing that this item is: “*a discourse device to indicate that both speaker and hearer have mutual knowledge of the marked NP through recent mention*”. Consider (41). The example 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 (Ramchand and Svenonius 2008: 227-228).

- (41) *zæn-e* be *mæn* goft
woman-fam to me said
'The woman said to me...'

Persian (Mahootian 1996:201)

Our own data on Persian reveal that familiarity *-e* and *ezafe -e* do not distribute freely with respect to one another. Thus (42a) shows that the *ezafe* normally co-occurs with the indefinite determiner. It is also possible to have discourse marker *e* in the absence of an *ezafe* and vice versa as in (42b-c). However the co-occurrence of the *ezafe* and the marker of discourse familiarity is excluded as in (42d).⁸ We interpret this as evidence that the *ezafe* and the marker of discourse

⁸ 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 poetic register. In contemporary Persian, the indefinite marker and the *ezafe* are never adjacent either, but they did combine in Middle Persian, as in (ii).

- (i) ^(*)in *pesar-e-ye* *ahmaq*
this boy-def-ez silly
'this silly boy'
- (ii) *šamšer-ē* *i* *handuk*
sword-indef ez Indian
'An Indian sword'

familiarity are not merely homophonous but they are at some level the same element (so that different occurrences of it interfere with one another).

- (42) a. pesar-**e** bozorg-i zang zade
 boy-ez big-indef call.3sg
 ‘A big boy calls’
- b. pesar-**e** bozorg zang zade
 boy-ez big call.3sg
 ‘The big boy calls’
- e. pesar bozorg-**e** zang zade
 boy big-fam call-3sg
 ‘The big boy calls’
- d. *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* (originally glossed ‘disc’ by Paul; incidentally note that in (43) the familiarity enclitic has the same form of the distal 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 əm
 pvb-sat.astride-cop.pst.3sg dem_{prox} child-fam came.3sg and dem_{prox}
 merdak-**a** ne-vind-əš-a
 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 now is simply Masali is one more Iranian language where the same morphology 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 seems to lend some support to an analogous categorization of linker material for Albanian in (36) and for Iranian languages – namely as a D, as shown in (45) for Bahdînî Kurmanji (32b). This is consistent with demonstrative/ familiarity occurrences of the ezafe (effectively a determiner) – as well as its occurrences as tense morphology (a subject clitic).⁹

- (45) [D α: [A mazen]]

3.4 Linkers and agreement

Let us summarize the argument so far. The evidence reviewed in this section, while establishing the continuity between Albanian and Iranian varieties, provides a number of elements towards the analysis of linkers (in those languages). 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

⁹ From a historical-externalist 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; Samvelian, 2007; Franco, 2012). Sentences like (i) have been interpreted as instances of a phenomenon of *clause reduction* (Lehmann 1982), whereby a relative clause with a copular verb (i.e. *who is a magician*) has been reduced to an appositive construction (Fortson 2004:148) and the relative pronoun has been ‘reanalyzed’ as an article (Hudson-Williams 1963:12 translates *hya-* as ‘the’).

- (i) a. Gaumāta **hya** maguš adīnā Kambujiam
 Gaumata.nom art.nom magus.nom deprived Cambyses.acc
 ‘Gaumata the magus deprived Cambyses’

Old Persian (Estaji 2009:198)

as linkers/agreement also occur with pronominal/determiner interpretation. While this second fact led us to categorize them as Ds, the first fact suggests that, whatever else they may or may not be, they are agreement elements.

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 (46b). Note that plural *-an* ending on the head noun in (46) alternates with singular *-æ* in (46a) – which suggests that *-an* and *-æ* are agreement morphologies of the familiar kind.

- (46) a. kteb-a'k-æ -i korr-ak-æ
 book-def-agr ez boy-def-agr
 ‘the book of the boy’
- b. kteb-a'k-an (-i) korr-ak-æ
 book-def-pl ez boy-def-agr
 ‘the books of the boy’

Sorani Kurdish

According to Thackston (2006) the *-æ* morpheme that we have tentatively characterized as agreement in (46) occurs as an ezafe on definite noun, for instance in (47a), where definiteness is lexicalized by the *-ak* enclitic on the adjective and in (47b), where definiteness is lexicalized by the demonstrative *am* ‘this’. In the indefinites (47c-d), no *-æ* morphology is present. Though in the description provided by Thackston the nominal occurrence of *-æ* is classified as an ezafe and the adjectival occurrence remains unclassified, it seems to us that all that can be said is that the same element *-æ* occurs as the nominal and as the adjectival definite inflection. This distribution is what is ordinarily known as an agreement.

- (47) a. kteb-æ sur-a'k-æ
 book-sg red-def-sg
 ‘the red book’
- b. am ktjeb-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

Recall that in Bahdînî Kurmanji, the *ezafe* forms also appear as stand-alone elements lexicalizing the EPP argument in copular and progressive sentence, e.g. (38). Something similar happens with the pregenitival *-i* *ezafe* of Sorani. In the progressive tenses, as in (48a), *i* lexicalizes 3rd person object agreement, alternating with *m* for 1st person, etc. In the perfective (48b) a different agreement patterns prevails, essentially ergative, and *i* for 3rd person picks up the subject.¹⁰

- (48) a. kor-ak-æ a -i/m/t binet
 boy-def-ez progr 3p/1p/2p sees
 ‘The boy sees him/ me’
- b. au to -i bini
 s/he you.obj 3p seen
 ‘S/he has seen you’

Sorani

A final parallel between linkers and more familiar agreement systems is offered by the reverse *ezafe*, illustrated above for Masali in (44). The phenomenon is widespread in North Western Iranian languages, occurring among others in Āzari (Lecoq 1989:301), Gilaki (Rastorgueva et al. 2012: 68-69) Xo’ini, Southern Tati (Yarshater 2002:89), Velātru (Borjian 2012:236).¹¹ Larson

¹⁰ The perfective tenses are associated with an ergativity split, whereby a 2nd person external argument triggers agreement, as in the nominative progressive pattern, cf. (i).

- (i) to kor-ak-æ -t bini
 you boy-def-ez 2p seen
 ‘You have seen the boy’

Sorani

¹¹ 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) a. pir-e mærd
 old-ez man
 ‘the old man’

(2009) has argued that reverse ezafe is nothing else than a prenominal genitive marker (exactly like English \rightarrow). However note that the existence of a reverse ezafe (as a case marker) is not predicted by Larson and Yamakido (2008) ‘postnominal’ case-checking/licensing mechanism: without case, adjectives would be obliged to move to a prenominal position.

Now, somebody with no familiarity with traditional linguistic classifications would have a hard time figuring out the difference between the ‘reverse ezafe’ of Masali 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 (49a). When a complex nominal is formed, whereby ‘man’ is modified by ‘young’, the prenominal adjective is obligatorily inflected, as in (49b). This is called an ‘agreement’ – but its distribution is exactly that of the ‘reverse ezafe’. As is well known, the ‘agreement’ of German, exactly like the ‘article’ of Albanian and the ‘ezafe’ of Hawrami Kurdish, is sensitive to the (in)definiteness properties of the head noun, cf. (49c).¹²

- (49) 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 are on the right track in unifying linkers with agreement morphology. We still need to account for the fact that in Albanian and in Iranian, linkers are Ds, on the evidence of their occurring also as determiners and/or as stand-alone pronominal clitics. Interestingly, definite

-
- b. pir-e zæn-i
old-ez zæn-indef
‘a (specific) old woman’

Persian (Mahootian 1996:63)

¹² In Lithuanian, adjectives in definite DPs have an extra syllable *ó/j/i*, as in (i). Interestingly, traditional Lithuanian grammars call these kind of definite adjectives ‘pronominal’ adjectives (cf. Mathiassen 1996: 65), referring to the mechanisms of suffixing (*j*)/*i*(*s*), a pronominal clitic, onto the short form of the adjective. A similar pattern is attested in other Balto-Slavic languages (e.g. Latvian, Comrie 1981: 143).

- (i) naũjag-jĩ vařda ‘
new-pro name
‘the new name’

Lithuanian (Fortson 2004:148).

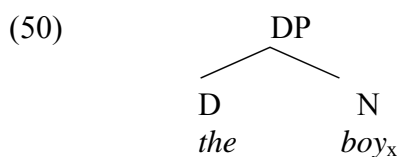
reference and so-called agreement are carried out by the same lexical items across many languages and structures. For instance, Romance clitics occur as deictic/anaphoric pronouns and as determiners, but also as agreements/inflections, for instance in Spanish clitic doubling or in Northern Italian subject clitics (cf. Renzi, 1997; Giusti, 1997; Manzini and Savoia, 2007; Ormazabal and Romero, 2013, among many others). In the next section, we will provide a model of Albanian/Iranian linkers with a view to contributing to this more general issue as well.

4. Analysis

In this section we will provide an analysis of Albanian linkers as Ds saturating the argument of the adjectival head, exactly as D saturates the argument of N in Higginbotham (1985). This lays the bases for their common lexicalization with nominal Ds – and also with pronominal clitics, i.e. D arguments saturating verbal predicates. At the same time agreements on Ns and Ds can be analyzed in the same way as linkers, i.e. as saturations of the N/A predicative base. In other words at least with respect to argument saturation, linkers=determiners/pronominal clitics – but also linkers=agreement.

4.1 Albanian articles

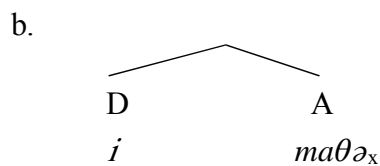
Consider the English DP *the boy* in (50). The N *boy* is a predicate denoting the set of individuals with the property ‘boy’. The assumption that non-eventive nouns are predicates and have an argumental slot (called the R-role) is fairly standard in the literature (cf. Higginbotham, 1985; Williams, 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 variable and we understand that D binds this variable in virtue of its referential properties.



Suppose we mechanically apply the analysis we just adopted for (50) to Albanian (8a), repeated in (51a) for ease of reference. The predicate *madə* ‘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 (so-called ‘polydefinites’) by Lekakou and Szendrői (2012), based on the parallel with English (50). However Lekakou and Szendrői ultimately propose an NP ellipsis analysis of polydefinites, which cannot apply in simple copular structures like (51) for the reasons discussed in section 2.

- (51) a. ϵft i $ma\theta\alpha$
 is the.m big
 ‘He is big’



Lekakou and Szendrői do not identify the English D in (50) 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(NP) in (50) and the Albanian D(AP) in (51) cannot be identified. We furthermore agree that D(AP) is lower than D(NP). However we do not think about this in terms of a cartographic ranking of Def over D.

The high position of the determiner within the noun phrase in languages like English has led Szabolcsi (1994) to the conclusion that the determiner has an affinity with the C position of the sentence. D precedes all material with 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 (52).

- (52) ϵft $m\alpha/\text{fum}$ ϵ $ma\delta\epsilon$
 she.is more/much the big
 ‘She is bigger/ very big’

Arbëresh

This suggests that the adjectival determiner is inserted in a position lower than the one it fills within 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 (Manzini and Savoia 2011a, 2011b), 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).

The distinction between C-level Ds, as in English (50), and I-level Ds, as in Albanian (51) 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 (53a) – and is mutually exclusive with other operators, as in (53b), 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 (52) *vs.* (53b), where the same element *shumë* ‘much, many’ occurs before the adjectival D in (52) and is mutually exclusive with the prenominal D in (53b).

- (53) a. *tə* *katra* *kuḡiriç-ətə*
 the four cousins
 ‘his/her/their four cousins’
- b. *shum* *kuḡiriç*
 many cousins
 ‘many cousins (of his/her/theirs)’

Arbëresh

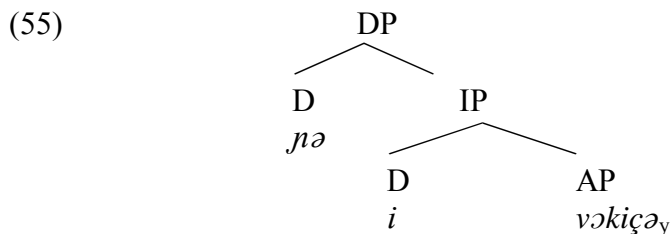
More evidence as to the low position of the pre-adjectival D comes from instances where the same lexical bases that we have considered so far as adjectives (predicates, modifiers) are nominalized. As other nouns, they are inflected for case and definiteness, displaying the full system of nominal inflections tabulated in (34). At the same time they are also preceded by the determiner, as in (54). When we consider the interaction between this determiner and other quantifiers, we observe that the latter combine with it and precede it, as in (54b-c). Thus in (54c) the low adjectival D combines with, and is preceded by, the high indefinite determiner.

- (54) a. *εrθ* **i** *vɔgəɫ-i/* *ε* *vɔgəɫ-a*
 came the little-nom.m.def/ the little-nom.f.def
 ‘The little one came’
- b. *εrθ* *mə* **i** *mað-i*
 came more the big-nom.m.def
 ‘The bigger one came’

- c. $\epsilon r\theta$ $\eta\alpha$ i $v\alpha ki\zeta\alpha / \epsilon$ $v\alpha gi\lambda\alpha$
 came a the little.m/ the little.f
 ‘A little one came’

Arbëresh

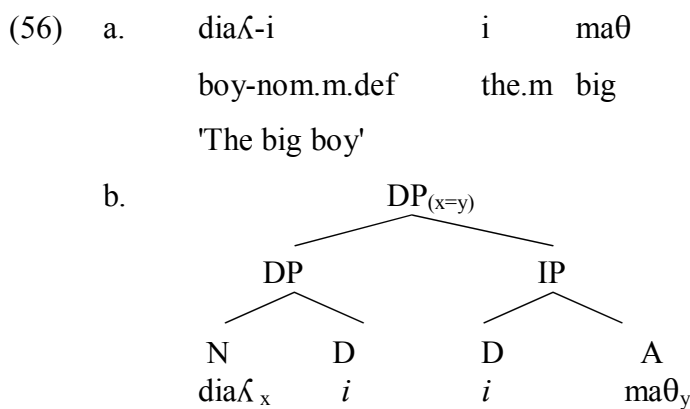
The structure of a DP like (54c) can be schematized as in (55). In (55), the article is in the inflectional D position, where it is preceded by the operator of the nominal C-field, namely the indefinite article. We understand that the I-level D saturates the internal argument of the adjective. The referential properties of the DP (roughly existential quantification) are determined however by the C-level D.



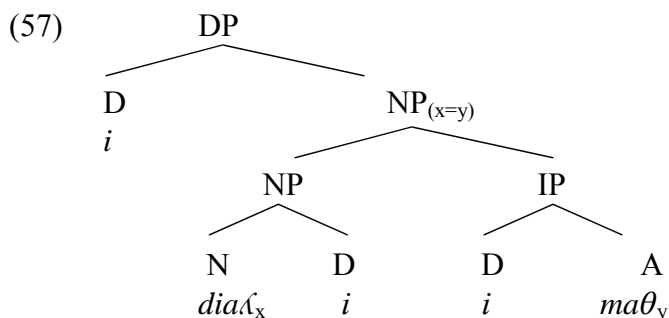
Crucially, the same elements that lexicalize I-level Ds in structures like (55), lexicalize C-level Ds, with definite denotation, in front of kinship terms (cf. (53)) – and are a subset of definite inflectional endings on nouns (cf. table (34)). Lekakou and Szendrői argue that Greek adjectival Ds predict Def, because they occur in front of an adjective only in definite DPs (whence the name ‘polydefinites’); in other words, they are never definite, they are only licenced by Def. However Albanian is less constrained than Greek, and an I-level D is perfectly compatible with an indefinite C-level D, as in (55). Therefore we must find another explanation for the lexical coincidence of the pre-adjectival article with the prenominal definite article (e.g. (53)) and the postnominal definite inflection (e.g. (54a-b)). Def is not sufficient.

We correspondingly abandon Def, though we maintain that the pre-adjectival article, the article in front of kinship terms and the postnominal definiteness inflections of Albanian share the same PF form, and the same LF content. Specifically, we propose that all of them, besides being associated with nominal class (gender) and number features, are definite. Their different interpretation depends on their different point of merger within the DP/AP. When they are instantiated in the C domain of the DP, they are interpreted as indicating that there is a unique/familiar/etc. individual (or set of individuals) on which the properties of the NP predicate and those of the sentential predicate coincide (as in generalized quantifier theory, Barwise and Cooper, 1981; Keenan and Stavi, 1986). The question is how they are interpreted in (51).

Before addressing this question, let us consider briefly the embedding of the Albanian AP (actually an IP) under a DP, for example in (6a) repeated here as (56a). Two predicative bases are present in (56a), namely the adjective *maθ* 'big' and the head noun *diaλ*- 'boy'. According to the discussion so far, they both have an argument slot. 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 and the reading that results is *intersective*. In other words, in (56b) there is ultimately a single argument, satisfying both the predicate 'boy' and the predicate 'big'; the referent denoted by the complex DP correspondingly lies at the intersection of the 'big' and 'boy' properties.¹³



A more transparent LF representation of (56) can be obtained if we assume that the inflectional ending of *diaλ*- 'boy' in (56), takes scope over the entire DP, as in (57). This high D binds the argument slots of both predicates (the noun and the adjective).



¹³ 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 (59) is derived by movement of N to D. Based on the 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 Chomsky (2001) excludes movement of heads on principled grounds. Following Abels and Neeleman (2012), we also see no empirical reasons why the noun-adjective order (59) should require Cinquean movement.

At this point of the discussion we are ready to define a linker (or at least the Albanian linker) in structural terms, with reference to (57). A linker is an I-level D. A C-level D is what is ordinarily known as a determiner. What they 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 C-level D is an operator, establishing a relation between a restrictor (the NP) and a domain of quantification (a VP). An I-level D is a bound variable of the higher D – it provides a lower level satisfaction for a theta-role ultimately bound by the higher D. In other words, exactly as is normally said of linkers, it contributes nothing to the interpretation – but in the present version of facts it is anything but meaningless. It has a meaning, namely that of a bound pronominal copy that satisfies the adjectival role, prior to the introduction of higher level operators.

What holds of the more complex structure in (57) can be said of the simpler structure in (51). Following Moro (1997) we may assume that copulas embed predicative small clauses, from which raising to the EPP position takes place. The linker is a bound pronominal copy, in this instance of the *pro* subject of the predication, raised to the EPP argument position. As such it provides a satisfaction of the same thematic slot in a lower structural position.

(58) *pro* [vʃt [~~pro~~ [i maθə]]]

The theoretical construct that is best adapted to analyzing the relation of linker Ds to determiner Ds is that of a *chain*. In order to simplify the discussion we assume that chains are primitives, as in so-called representational frameworks (Brody 2003). Chains are sequences of copies/partial copies; each link obeys c-command and minimality, i.e. the first element of the pair c-commands the second and they are local (in the sense defined by Minimality, phases, or whatever the relevant definition of locality is). A determiner is a D head of a chain, a linker D is a bound copy. The formation of the linker chain is forced by Full Interpretation at the LF interface; in its absence, there would be more potential arguments that argument slots.

The relation of Determiners and linkers within the DP is essentially the same as between stand-alone clitics and doubling clitics within the sentential domain, as in the Albanian example in (35), reproduced in (59) for ease of reference.¹⁴ In pronominal, non-doubling contexts the clitic heads its own chain. We must independently assume that whatever allows for the anaphoric reading of pronouns, also allows for their bound variable reading – and their reading as a chain copy. In clitic doubling, i.e. when the full DP is lexicalized in (59), clitics are indeed partial copies in a

¹⁴ Clitics are introduced here only for the sake of comparison – and we correspondingly avoid getting into the details of their treatment.

chain.

- (59) ε pε (vazdə-nə ε vɔgiλə)
 her I.saw girl-acc the small
 ‘I saw her/the small girl’

There are two parameters in terms of which the various descriptive categories of determiner, linker and now pronominal clitic can be systematized. One parameter is distributional and has to do with whether the relevant element is an inflection or a clitic, i.e. a syntactic head; this parameter is notated as *infl vs. head* in the table in (60).¹⁵ The other parameter is interpretive and we notate it as *free (head of a chain) vs. bound (a copy)* in (60). On the basis of their properties, taken pairwise, all of the elements in the table admit of common lexicalizations.

(60)	<i>Albanian</i>
bound, infl	
free, infl	definite inflection
bound, head	linker, clitic (in doubling)
free, head	clitic

Crossing our parameters we also predict the existence of elements that are inflectional and serve as bound copies. We turn to whether these exist next, in providing a systematization of the Iranian data on the basis of the parameters in (60).

4.2 Variation in the Iranian ezafe

If we are on the right track, we expect that Iranian languages will fit the picture drawn in (60). Kurmanji Kurdish and Persian share the same format for linkers/ezafe as Albanian (51) and (56)-(57). As in Albanian, they form a constituent with the following adjective, as schematized in (45); correspondingly we assume that the interpretation of (45) follows the interpretation of the Albanian structures in section 4.1. Therefore in (61) we classify the Kurmanji and Persian ezafes as an instance of syntactic head with bound copy interpretation. In Kurmanji, the data in our possession

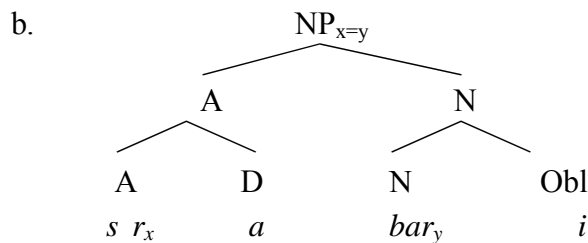
¹⁵ Zwart (2006), Toosarvandani and van Urk (2012), describing Zazaki, use Nichols’s (1986) categories of dependent marking *vs.* head marking, more or less equivalently.

are sufficient to establish that the morphological series, *je, ja, jet*, appears not only as a linker/ezafe, but also as a subject clitic of sorts (the so-called tense ezafe) as well as a determiner (the stand-alone ezafe with demonstrative reading), cf. section 3. In standard Persian, the ezafe, beside its linker distribution and interpretation, also appears postnominally as a familiarity suffix — which is one of the fundamental denotations of definite determiners.

(61)	<i>Persian</i>	<i>Kurmanji</i>
bound, infl		
free, infl	familiarity inflection	
bound, head	ezafe	ezafe
		tense ezafe (clitic doubling)
free, head		stand-alone ezafe (demonstrative)
		tense ezafe (clitic)

We turn now to the ‘open ezafe’ of Sorani and the ‘reverse ezafe’ of Masali, which have a different distribution from the Albanian article and Kurdish ezafe. Let us briefly consider the ‘reverse ezafe’ of Masali, as seen in (44), repeated here as (62a). 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 (62b).

- (62) a. *sər-a* *bar-i*
 red-ez door-obl
 ‘the red door’



Consider then the so-called ‘open ezafe’ of Sorani. In Sorani a definite determiner triggers the presence of *-æ* on the noun and on the adjective, as seen for instance in (47b), repeated in (63a). Though it is traditionally described as the ezafe, *-æ* depends only on the co-occurrence with a definite determiner, not on the joining of an adjective and a noun; so the definite DP without an adjectival modifier in (48a) presents the *-æ* inflection on N. If, following previous literature, we

nevertheless identify *-æ* as a linker, we obtain the structure in (63b). (63b) 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).

- (63) a. am ktjeb-æ taz-æ
 this book-sg new-sg
 ‘this new book’
- b.
-
- ```

graph TD
 DP --> D1[D
am]
 DP --> NP[NPx=y]
 NP --> N1[N]
 NP --> A1[A]
 N1 --> N2[N
ktjebx]
 N1 --> D2[D
æ]
 A1 --> A2[A
tazy]
 A1 --> D3[D
æ]

```

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 (60)-(61). Importantly, recall from the discussion in section 3 that the Masali ‘reverse ezafe’ also shows up as a familiarity morpheme, exactly like the Persian ezafe. Furthermore we have evidence that in Sorani, as in Kurmanji, the ‘close ezafe’ also turns up as a sentential clitic/agreement doubling one of the arguments of the sentence or providing a stand-alone lexicalization for them. Therefore we can provide the summary table in (64) for Sorani and for the schematic data we have considered in Masali.

| (64)        | <i>Sorani</i>           | <i>Masali</i> |
|-------------|-------------------------|---------------|
| bound, infl | open ezafe              | reverse ezafe |
| free, infl  |                         | familiarity   |
| bound, head | close ezafe             |               |
| free, head  | close ezafe (as clitic) |               |

The question we asked at the end of section 3, concerning the relation between linkers and agreement, can now finally be addressed. What we are interested in is not a genetic/typological continuity or 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 next section.

### 4.3 Linkers and agreement

In the analysis we have been developing, linkers play a role in the saturation of predicates – and are therefore interpreted at LF, specifically as part of chains. On the contrary, 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; Preminger, 2011). Yet in section 3.4 we argued that at least in the surface, the borders between linkers can become quite blurred. The question then arises whether this goes further than a surface similarity – so that one of the two sets of assumptions (about linkers or about minimalist agreement) could or should be modified.

Minimalist treatments are available for agreeing linkers, for example Toosarvandani and van Urk (2012) on the Iranian language Zazaki, examined in section 5 in connection with pre-genitival linkers. These authors adopt the view that agreeing linkers are probes, i.e. they are associated with uninterpretable phi-features. This captures the connection between linkers and familiar agreement morphology, in terms of the notion of probe – and correspondingly excludes the present view of linkers.

We believe this may not be the right way to go. One reason for this has been stressed throughout, namely that we want to explain why linkers overlap (non casually) with definite determiners and pronouns. Though Toosarvandani and van Urk do not notice it, in Zazaki the *ezafe* is identical to the demonstrative and to the third person singular agreement marker, as highlighted by our shadings in (65), exactly as in Kurmanji or in Sorani.

- (65) a. [DP **a** bız-**a** rindek-**a** qışqek-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. [DP **o** ga[-wo sur][-**o** girs]] mı 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.’

*Zazaki* (Toosarvandani and van Urk 2012:1)

As briefly mentioned at the end of section 3, many Romance languages also have forms with dedicated *l-* morphology, which appears as pronominal clitics, as determiners but also as mere agreements under so-called clitic doubling. For instance the same element *la* appears twice in (66), once as the determiner for the topicalized DP, and once as a clitic. The determiner *la* contributes

definiteness to the DP *la ragazza* ‘the girl’. The second *la* doubles the DP without contributing anything more to the interpretation. However in the absence of the DP it has a deictic/anaphoric interpretation, and suffices to satisfy the argument slot of the verb by itself.

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

*Italian*

A further set of considerations leads us away from the standard minimalist conception of agreement. 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 *la ragazza bionda* ‘the blonde girl’ in (66). Applying ordinary morphological analysis the noun *ragazz-a* is formed by a predicative base *ragazz-* ‘girl’ and by a feminine singular inflection *óa*. So is the adjective *biond-a* and the determiner *l-a*.

- (67) [<sub>DP</sub> l-a [<sub>NP</sub> [ragazz-a] [biond-a]]]

*Italian*

How is agreement between the various *-a* inflections (or the major categories carrying them) to be derived in minimalist terms? D would be expected to be a probe in (67) 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 morphology selects for lexical bases in languages where it is present; therefore it 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; Carstens, 2013, Preminger, 2013) allowing the predicative base to probe upwards – 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). One does not expect two processes completely assimilated in minimalism, like movement and agreement, to display different empirical properties. Therefore everything that weakens the asymmetry of agreement, weakens the case for the minimalist proposal.

If there are no advantages (and possibly some disadvantage) in reducing linkers to uninterpretable probes, the other logical option is to capture their continuity with agreement by treating agreement inflections as interpretable – namely as bound copies, not very different from the Masali or Sorani ezafes in (64). 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  $-\epsilon$  or  $-a$  ending respectively, specialized for feminine and for plural. For instance, the adjective in (6b), repeated below as (68a), consists of a lexical base *mað-* denoting the content of the predication (the set of ‘big’ individuals), followed by an agreement inflection  $-\epsilon$ . In the structure in (68b) we follow ideas of Distributed Morphology (Marantz, 1997) in identifying the lexical base simply as a root  $\sqrt{\phantom{x}}$ . The  $\epsilon$  inflection is identified with the N category because of its Nominal class denotation (the traditional gender, cf. Harris 1994).

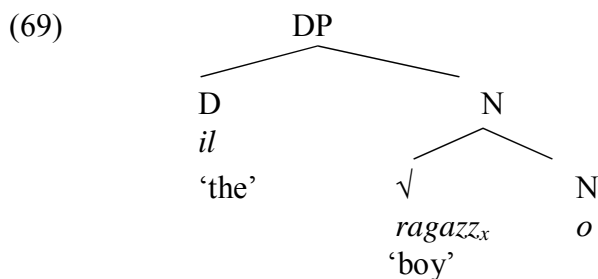
- (68) a.      *vazd-a*                       $\epsilon$       *mað-ε*  
                  girl-nom.f.def          the      big-f  
                  ‘the big girl’
- b.
- ```

graph TD
    IP --> D
    IP --> AP
    D --> epsilon["ε"]
    AP --> root["√"]
    AP --> N
    root --> mað["maðλx"]
    N --> epsilon_x["εx"]
  
```

In (68b) the predicate *mað-* ‘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 ϵ 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 nominal class inflection $-\epsilon$ in (68) is like the linker in that it provides a (partial) saturation of the argument slot of the nominal predicate. The relation between the D linker and the agreement inflection in (68) is similar to that between the Determiner and the linker in Albanian (55), in that the agreement in (68) acts as a bound variable (a ‘copy’) of the

higher D saturating the same argument. In a representational grammar, the relation (D, N) in (68), like the relation (D, D) in (55) can be expressed by the notion of chain, i.e. an ordered set of non-distinct (or eventually identical) copies yielding a single argument at the LF interface. The same conditions hold of chains as of derivations, fundamentally c-command and locality (minimality, phases, or other).

To provide a parallel from more familiar languages, suppose that instead of beginning our discussion with English *the boy*, we had introduced it with Italian *il ragazzo* ‘the boy’, to which we associate the structure in (69). As we know from ‘boy’ in (50), the predicate *ragazz-* has an argument slot to be satisfied. D (‘the’ or *il*) ultimately concurs to its satisfaction; but so does the inflection in (69) (*-o*, not present in English) – which in this particular instance conveys not only nominal class but also gender (cf. *la ragazz-a* ‘the girl’ in (66)).



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). It may be noted that the article and the inflection are lexically identical in Albanian (68). The agreement inflection and the determiner also have an identical lexicalization in many Romance languages, including for instance Portuguese (70) (cf. Hutchinson and Lloyd, 2003).

- (70) o menin-o, os menin-os,
 the boy-msg, the boys-mpl

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 either in the lexicon (the PF/morphological interface) nor in the interpretation, since there both the phi-features on the nominal head and on the determiner(s) provide interpreted properties. It seems to us that no changes need to be introduced in minimalist theory (or at least its representational versions) if all phi-feature bundles are interpretable at least

within DPs/APs – except changes concerning agreement itself. Specifically, agreement would no longer be deletion of uninterpretable features by interpretable ones, but rather chain formation, whereby non-distinct phi-feature bundles are taken to correspond to a single argument.

5. Pre-genitival linkers; comparison with other languages

5.1 Genitival linkers and genitive case

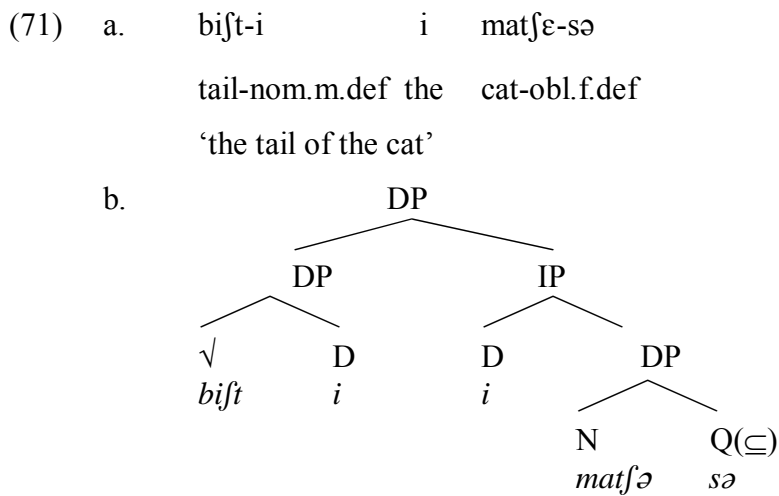
In section 4, in detailing the structure and interpretation of linkers and their cross-linguistic variation, we concentrated on adjectival linkers – leaving genitival linkers aside. In this section we indicate how genitival linkers fit in with the model in section 4, including the proposed parameters 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.

Recall that we assume that phi-features are always interpretable, as is all lexical material. If so, the minimalist conception of case as radically uninterpretable (Chomsky, 1995; Chomsky, 2001) is excluded. Independently of present proposals, recent literature (Baker and Vinokurova, 2010) also points to empirical problems with the reduction of case to agreement. We adopt the view that at least for oblique case, directly relevant here, a more transparent and adequate theory is obtained if we treat case morphology as having a relational content, of the type imputed to it by the descriptive tradition.

‘Possessor’ is the 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 ‘obl’ case covers both genitive contexts (DP embedding) and dative contexts (sentential embedding); in Iranian languages specific objects are also marked oblique, because of DOM (Franco and Manzini 2013 and references quoted there).

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) we notate it as (\subseteq). Since relational content inside DPs is generally 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 notation. 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 (71a) for ease of reference, is as in (71b). 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'.

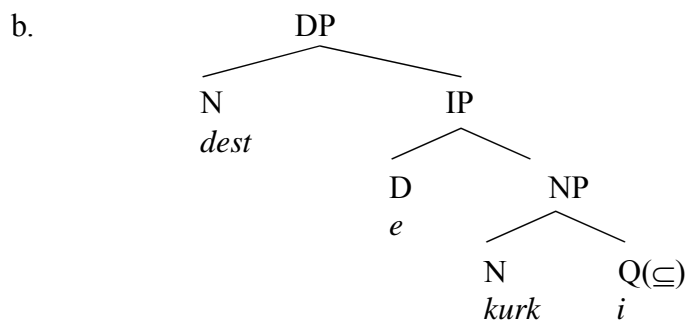


Recall that in present term the pre-adjectival article of Albanian satisfies the theta-role of the adjective. In (71b) we expect the article to do exactly the same. In this instance the predicate of which it satisfies an argument is ‘inclusion’ $Q(\subseteq)$. In calling $Q(\subseteq)$ a relation, we imply that it connects two arguments. One is the possessor ‘cat’ – which is provided by the noun (phrase) to which the oblique morphology attaches. The other argument is ultimately the possessum ‘tail’. In the genitive structure of Albanian however it is necessary to provide also an inflectional-level saturation of the external argument of $Q(\subseteq)$, namely by D.

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 (61) and (64)). 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 (4), repeated as (72a) for ease of reference, which like Albanian as overt case. The structure in (72b) is parallel to that in (71b) and can be similarly interpreted. The $Q(\subseteq)$ oblique inflection introduces a possession/inclusion relation between the noun to which it attaches (the possessor) and an external argument. In Kurmanji Kurdish, as in Albanian, an I-level

satisfaction of this argument is necessary, provided by a D head agreeing with the head noun, which provides a higher level satisfaction of the same argument.

- (72) a. dest-e kurk-i
 hand-ez.m boy-obl.m
 'the hand of the boy'



Recall that Arbëresh has two distinct series of pre-adjectival and pre-genitival articles, as summarized in tables (23)-(25). Similarly, Sorani Kurdish has a different form of ezafe for genitival contexts, namely what Thackston (2006) calls the close ezafe (also seen as a sentential 3rd person agreement/clitic in (48)), as opposed to the open ezafe of adjectival contexts, as schematized in table (64). Specifically, unlike the adjectival ezafe, seen in (63), which is an inflectional bound variable (an agreement in the classical sense of the term), the genitival ezafe *-i* has the same distribution as the Persian or Kurmanji one – and hence we assume has the same structure.

In the recent formal literature, the varying forms of the ezafe in adjectival and genitival contexts have been considered for the Iranian language Zazaki, by Toosarvandani and van Urk (2012), briefly mentioned in section 4.3 in relation to the directionality of agreement. 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 masculine, the feminine and the plural, agreeing with the head noun, as illustrated in (73a,b) for the feminine *vs.* masculine. (73c) illustrates the genitive, where the ezafe introducing the possessor DP again agrees in phi-features with the head noun *kutik*. The constituent structure in (73) is that provided by Toosarvandani and van Urk – and is compatible in all respects with the one proposed here. Incidentally, as already pointed out in (65) (and repeated below for ease of reference), Toosarvandani and van Urk do not notice that the Zazaki's ezafe is identical to the demonstrative and to the 3rd person singular agreement marker (as highlighted by our shadings) – making it parallel to Kurmanji in this respect as well.

- (73) a. [DP a bız-a rindek-a qısqek-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. [DP o ga[-wo sur][-o gırs]] mı 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 Alık-i-o gırs
dog-ez.m.obl Alık-obl.m-ez.m.nom big
‘Alık’s big dog’

Zazaki (Toosarvandani and van Urk 2012:1,4)

The interesting property of Zazaki is that pre-genitival ezafes are a subset of pre-adjectival ones, as seen in table (74). In particular, pre-adjectival ezafes agree with the head noun not only in phi-features, but also in case; thus there are two series of pre-adjectival ezafes, one for direct case head nouns and one for oblique head nouns. However pre-genitival ezafes come in a single series; specifically, since feminine and plural forms are fixed, the relevant pattern is seen only in the masculine.

(74)	Adjectival			Genitival		
	M	F	PL	M	F	PL
nominative	-o	-a	-ê			
				-ê	-a	-ê
oblique	-ê	-a	-ê			

Toosarvandani and van Urk assume that the ezafe is a functional head (Ez) that takes an AP or a PP (the oblique possessor) as its complement; the resulting EzP merges with (or adjoins to) a nominal projection. This avoids altogether the question asked here, as to the nature of Ez, and correspondingly fails to recognize the lexical overlapping of Ez with determiner D and sentential clitic/agreement D. They posit two sets of features on Ez: unvalued phi-features and an unvalued case feature. 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. Once EzP merges with the N head, it can Agree in Number and Gender with N itself, as schematized on the left-hand columns of (74).

A crucial point is that in contexts where Ez merges with a possessor, Ez seems to show a

split in agreement. It lexicalizes the phi-features of the head noun while bearing the oblique case. Toosarvandani and van Urk assume structures like (75), where Ez can successfully Agree downward with the case feature on the P introducing the possessor, so that the form of 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.

(75) N [Ez [P_{Obl} DP]]

In general, Toosarvandani and van Urk's idea is that Agree uses an optimization device, of the same type proposed by Bejar and Rezac (2009), as well as being bi-directional. In section 4.3 we have discussed why at least this second assumption is far from uncontroversial. More to the point, apart from the fact that no P_{Obl} is visible in Iranian languages, minimalist theory (to which the authors purportedly 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 is not merely technical, since if oblique is made into a property of the possessor DP and this is accessible to the Ez probe, then the phi-features of the DP ought to be accessible as well, implying that Ez should agree with the possessor, rather than the possessum. We conclude that the Zazaki pattern in (75) cannot be fully explained in standard minimalist terms and that further research into the matter is required.

Finally, according to the brief discussion of genitive/oblique case in this section, English *of* or French *de* cannot be called linkers – or to be more precise why they do not fall under the class of linkers unified here with agreement. In fact, ‘of’ and similar prepositions are essentially instantiations of the (\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).¹⁶

5.2 Agreeing linkers in a cross-linguistic perspective

¹⁶ 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 issue of copular inversion is orthogonal to the issue of obliques (and even more so the issue of linkers, as construed here).

In the discussion that precedes, we concentrated on Indo-European linkers, specifically articles in Albanian and the *ezafe* of Iranian. As is well-known from both the typological and the formal literature, phenomena with the same overall distribution as Indo-European linkers, appear in very many language families. Languages often mentioned by the formal literature in the same bracket as the Persian *ezafe* are Far East Asian languages (Mandarin Chinese, Thai in den Dikken and Sighpreecha 2004; Japanese in Larson and Yamakido 2008). As already mentioned in fn.7, these languages are given a treatment consonant with present conclusions by Simpson (2001).

In Mandarin Chinese, the linker *de* occurs with adjectives and possessors, as in (76). According to Simpson (2001:135), Chinese *de* is a D. “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*”, but crucially also appeared as the demonstrative, for example in (77) (cf. fn. 9 on the formation of Persian *Ezafe* from the Old Iranian /Avestan demonstrative pronoun).¹⁷

- (76) a. hao **de** shu
 good lnk book
 ‘good books’
 b. wo **de** shu
 I lnk book
 ‘my book’

Mandarin Chinese (Simpson 2001:131)

- (77) zhi er chong you he zhi
 these two worm again what know
 ‘And what do these two worms know?’

Classical Chinese (Simpson 2001:137)

¹⁷ The sentence final position of *de* in (i) is also potentially relevant, recalling sentential level occurrences of linkers as object clitics (Albanian) or so-called ‘tense *ezafe*’ (Kurmanji). According to Simpson, the ‘genitive’ marker *-no* in Japanese (a linker introducing also relative clauses, cf. Larson and Yamakido 2008) can similarly occur as a sentence final free morpheme in classical/ dialectal varieties.

- (i) wo zuotian lai de
 I yesterday come lnk
 ‘I arrived yesterday.’

Chinese (Simpson 2001:131)

Simpson provides evidence in favor of the D analysis for *de*, based on comparison with other Sino-Tibetan languages. 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. [...]). 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). Here we illustrate the possessor construction in (78a), the sentence-final position (78b) and the demonstrative (78c). On the basis of the parallelism with the stand-alone/tense *ezafe* of the typological literature on Iranian languages (e.g. Kurmanji in section 3), we expect the same analysis to apply.

- (78) a. U-Win-Win **i** sa-ouq
 U-Win-Win lnk book
 ‘U-Win-Win’s book’
 b. U-Win-Win-thii laa **thii/i**
 U-Win-Win-lnk come lnk
 ‘U-Win-Win came.’
 b. thii sa-ouq
 this book
 ‘This book’

(literary) Burmese (Simpson 2001: 132, 136)

In what follows we have chosen four more examples of languages, from three different macro-families plus an isolate, whose linkers seem to easily fit in with the analysis provided here for Albanian and Iranian. All of these languages are in fact described by the literature in terms that are highly compatible with the present discussion.

In Hausa (Afroasiatic, Chadic), adjectives in prenominal position are suffixed by a linker, agreeing in phi-features with the head noun (masculine and plural *-n*, feminine *-r̃*), as in (79). The same suffixes *-n* and *-r̃* appear as ‘genitive linkers’ (Newman 2000: 216; cf. also Creissels, 2009) in (80a-b). According to Creissels (2009) these suffixes result from the cliticization of a pronoun *na/ta*, co-referent with the head noun in examples like (79c-d). In other words the linker and the pronominal systems overlap in Hausa as well, making the linkers into candidates for the D treatment.¹⁸

¹⁸ In many other Afro-Asiatic languages we can find agreeing linkers, for instance Zina Kotoko (Demeke 2002:89-98; cf. also Philip, 2012).

- (79) a. fari-**n** gidā
 white-lnk.m house
 ‘white house’
- b. fara-**r̃** mōtā
 white-lnk.f car
 ‘white car’
- c. farare-**n** hūlunà
 white-lnk.pl caps
 ‘white caps’

Hausa (Newman 2000:22)

- (80) a. kàre-**n** Daudà
 dog-lnk.sg.m Dauda
 ‘Dauda’s dog’
- b. saaniya-**r̃** Daudà
 cow-lnk.sg.f Dauda
 ‘Dauda’s cow’
- c. kàree na Daudà
 dog that.one.sg.m Dauda
 ‘Dauda’s dog’
- d. saaniyaa ta Daudà
 cow that.one.sg.f Dauda
 ‘Dauda’s cow’

Hausa (Creissels 2009:77)

In Pnar (Austroasiatic, Khasian), adjectives are attached to the head noun, which they follow, by means of a linker *wa* (Choudhary, 2004), as in (81), analysed by Sutradhar (2005) as a (relative) pronoun. The same element *wa* occurs in front of adjectives in copular sentences, and in this context it bears agreement, as in (82). Thus, Pnar reproduces the pattern of Albanian (and Kurmanji) whereby linkers are present both in attributive and predicative contexts, playing a role not dissimilar to that of subject clitics in the latter instance.

- (81) a. ka-snam wa so
 f.sg-blood lnk red

- ‘red blood’
- b. u-kɔmbo wa ɛmsalɔn
 m.sg-child lnk innocent
 ‘the innocent child’

Pnar (Choudhary 2004: 14, 28)

- (82) a. u-kɔmbo tɔʔ u-wa ɛmsalɔn
 m.sg-child cop m.sg-lnk innocent
 ‘the child is innocent’

(Choudhary 2004: 14)

- b. ka-kangka tɔʔ ka-wa khat
 f.sg-ganga cop fsg-rp clean
 ‘the Ganga water is clean/the cleanest’

Pnar (Sutradhar 2005:3,5)

In Tsakhur (Northeast Caucasian, Lezgetic) “a pervasive feature [...] is the use of the so-called attributive form which is required for almost all modifiers of the lexical head in a noun phrase” (Polinsky 2002: 409). The ‘direct attributive’ suffix, which occurs on adjectives modifying absolutive head nouns (cf. Kibrik and Testelec 1999: 193), is *-n* for a singular head noun of class IV (83a) or a plural head noun, and *-na* for a singular head noun of gender/class I/II/III (83b). The oblique attributive *-ni*, as in (83c) occurs with oblique head nouns. According to Kibrik (1995) Tsakhur lacks a genitive and expresses nominal and adjectival attributes identically, as in (84). Though the literature does not seem to perceive the continuity of the Tsakhur facts with the cross-linguistic phenomenon of linkers, it is interesting to note that the shape of the relevant paradigm is very closely reminiscent of Albanian or Kurdish, where articles/ezafes are sensitive to the phi-features and case of the head noun.¹⁹ On the other hand, since in Tsakhur the genitive DP precedes its head noun, while other instances of genitival DPs considered so far are postnominal, we have a pattern not instantiated before, whereby the linker agreeing with the head noun occurs as an inflection of the modifying DP.

- (83) a. dʒag^wara-**n** daftar
 white-lnk.direct._{iv} notebook.abs._{iv}
 ‘white notebook’

¹⁹ In the Caucasus, most language of the Tsez group show similar agreeing patterns, influenced by the head noun being in the direct case or in an oblique case (Plank 1995: 71).

(van der Berg, 2005:161)

- b. č'ek'-**na** čoʒ
elder-lnk.direct.i brother.abs.i
'the elder brother'
- c. č'ek'-**ni** čoʒ-u-s
elder-lnk.obl brother-obls-dative
'to/for the elder brother'

Tsakhur (Polinsky, 2002:410)

- (84) a. xunaše-**na** čoʒ
woman-lnk.direct.i brother.abs.i
'the woman's brother'
- b. xunaše-**ni** kitab-e
woman-lnk.obl book.iv-in (ess)
'in the woman's book'
- c. xunaše-**n** kitab
woman-lnk.direct.iv book.abs.iv
'the woman's book'

Tsakhur (Kibrik 1995: 225)

Finally Mosetén, an isolate language spoken in Bolivia, has a 'macrofunctional marker' (Sakel 2004:14), namely *-tyi'* (masculine)/*-si'* (feminine), occurring as a suffix on prenominal adjectives, as in (85), and genitive, as in (86). In both instances, it agrees with the head noun. This yields a pattern similar to that of Tsakhur, closing a potential gap in our parametric schema.

- (85) a. jaem'-**si'** shish
good-lnk.f meat(f)
'good meat'
- b. jaem'-**tyi'** tyärä'
good-lnk.m maize(m)
'good maize'

Mosetén (Sakel 2004: 145)

- (86) a. Martin-**si'** aka'
martin-lnk.f house(f)
'Martin's house'

- b. Martin-tyi' jen'
 martin-lnk.m father(m)
 'Martin's father'

Mosetén (Sakel 2004: 64-65)

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 its determiner closing off the complex 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-level 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 level 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 morphology 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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