Some call it article, some ezafe: "Linkers" as "agreement"
Ludovico Franco- Rita Manzini- Leonardo Savoia

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 (Samiian, 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 indicates nothing about the precise semantic or syntactic nature of the relation holding between the modifier and the head-noun.

(1)	PREDICATE	*asman-e abi*	'blue sky'
	POSSESSOR	*ketab-e Hasan*	'the book of Hasan'
	AGENT	*kar-e mardom*	'the work of people'
	PATIENT	*qatl-e Hoseyn*	'the murder of Hoseyn'
	GOAL	*rah-e Tehran*	'the road of/to Tehran'
	LOCATION TIME	*mardom-e emruz*	'people of today'
	SOURCE	*ab-e cesme*	'water of/from well'
	SUBSTANCE	*gombad-e tala*	'dome of gold'
	PART	*do najar-e an-ha*	'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, as in (4).

(2)   a.   ketʃek   jɑ: 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-)ɑ: mazen   jɑt   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 Kurdih and the invariable element in Persian are both =ezafe=, it is evident that a certain amount of variation must be encompassed by any account of linkers. How much variation, and what kind, depends on the theory itself. For instance den Dikken and Singhapreecha (2004: fn. 31) explicitly exclude that Greek polydefinitess counts as an instantiation of linkers 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 houseø
      b.   i   Melita   i   Stavrou
           the-nom.f   Melita   the-nom.f   Stavros-gen.m
           =Melita Stavrou (of Stavros)ø

<div align="right">*Greek* (Stavrou 2013)</div>

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).

(6)   a.   εrθ   diaʎ-i   i   maθ
           came   boy-nom.m.def   the.m   big

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[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 interesting to say on those adjectives that do not take it. If uniformity of structures is to be imposed on Albanian adjectives, then we must conclude that apparently article-less (postnominal) adjectives have an empty article.

[2] The formal literature treats these endings as postnominal 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 prenominal 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.

'The big boy came'

b. ɛrθ   vazd-a   ɛ   mað-ɛ

    came   girl-nom.f.def   the.f big-f

    'The big girl came'

c. ɛrðə   kriatura-tə   tə   mbiðɛɲ-a

    came   boy-nom.pl.def   the.pl big-pl

    'The big boys came'

(7) a. ku'tu ɐ   biʃt-*i*   i   matʃ-ɛsə

    here is   tail-nom.m.def   the.m cat-obl.f.def

    ⸗Here there is the tail of the catø

b. kjɔ   ɐ   kɐmb-a   ɛ   matʃ-ɛsə

    this is   leg-nom.f.def   the.f cat-obl.f.def

    ⸗This is the leg of the catø

c. kə'tɔ jan biʃt-ət   tə   matʃ-ɛvɛ

    these are tails-nom.pl.def the.pl cat-obl.pl

    ⸗These are the tails of the catsø

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. In section 4, we provide a theory of agreement whose main aim is to explain why agreement structures (which we claim our linkers to be) would surface in the form of definiteness morphology (as in Albanian articles). We argue that so-called agreement morphology is interpretable, namely as a low-level saturation of argument places. The Agree rule (minimal search and match) builds sets of elements concurring to the saturation of the same argument slot (i.e. effectively chains of sorts). 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.	Current analyses.

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 studentø) 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 preadjectival 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 obvious ó namely that the copula is independently lexicalized.

(8)	a.	ɐʃt	i	maθə/	ɛ	mað-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'

Arbëresh

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 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 Szendroi (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 is no source for deletion either in the syntax (where there is no N antecedent) or in the pragmatics ó 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-y   me   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   ʃiʃt-ina
          dem-pl   shirt-pl   ez.pl   washed-are
          "These shirts are washed'

      b. au   je/jɑ   mazən-e
          3sg   ez.m/ez.f   big-is
          "(s)he is big'

      c. au   jet   sur-ən
          3pl   ez.pl   red-are
          "they are red'

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)ø is associated with a case ending *-sə* for the singular (feminine) and *óvɛ* 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 (÷everybodyø). Evidently 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   vaʃə-sə

      to.her-it   I.gave girl-obl.f.def

      ÷I gave it to the teacherø

    b. ja   ðɛ   vaʃa-vɛ

      to.them-it   I.gave girl-obl.pl

      ÷I gave it to the teachersø

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 in a particularly obvious way 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 couldnøt itself solve?

(12) a. vajz-ës   së   bukur

      girl-obl.f.def the   nice

      ÷to the nice girlø

b.   ja   dhe   vajz-ës

it-to.him/her   I.gave   girl-obl.f.def

'I gave it to him/her'

Contrary to Albanian, Larson and Yamakido's construal of linkers as case licencers has a certain prima facie plausibility for Persian, where apart from the DOM marker *ra* for definite direct objects, there is no overt case morphology (cf. Mahootian, 1997; Karimi, 2003; Cagri, 2006). 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   ne-un bedæm.

        leave   this   picture-pl-acc   to-him   show.1sg

        'Let me show him these pictures'

(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'

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/girlꞋ

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/boyꞋ

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   flæn-ækæ-*i*

      house-ez.poss woman-def.art-obl

      ꞊house of the womanꞋ

Hawrami Kurdish (Holmberg and Odden 2008: 139)

(17)   say-a   çheleng-i

      apple-ez.f   Cheleng-obl

      ꞊Chelengʼs appleꞋ

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 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 additional 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 burden of proof is on

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

proponents of the theory we argue against.

(18) mɔra   kuputsə-tə   tə   tə   nipi-tə

  I.took shoes-acc.pl.def   the-acc.pl   the-obl grandchild-obl.m.def

  ‑I took the shoes of the/his/her/their grandchildø

<div align="right">*Arbëresh*</div>

In short, the data confirm that the linker is not a copula, nor a case assigner, nor does it introduce the possession predicate, nor is it an identity avoidance device.[5] A closer approximation to the analysis that we will propose here is Simpson (2001). While here we concentrate on Indo-European languages, Simpson is concerned mainly with Sino-Tibetan ones (Chinese, Burmese). Based also on the ‑definiteness agreementø of such languages as Greek and Albanian (but also Hebrew) ó he concludes that in Chinese õthe modificational element *de* found in relative clauses, possessor structures and nominalizations, and previously glossed simply as a ‑particleø should actually be analyzed as a *determiner*ö (130). However Simpsonøs theoretical claims relate to grammaticalization, specifically the determiner õhas over time undergone severe bleachingö (ibid). The core of the present theory is that the processes that Simpson talks about (or their counterparts in the languages we study) should be accounted as part of grammar not of grammaticalization (see section 5.2).[6]

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 differ from much formal literature in that we give weight not only to distributional evidence and interpretive evidence at the LF interface but also to morphological evidence at the PF/lexical interface. The latter plays a minor role in formal approaches ó and incorrectly so, we believe, since after all it represents the evidence through which the child accesses parametric settings. In essence, the typical LF issue takes the form of analyzing a complex structure (or rather a complex meaning, for instance possessive or modification) into its possible component pieces (typically elementary concepts, relations, operators). However a separate

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[5] Campos (2008:1009) lists various labels for the Albanian preadjectival article in the literature, some of which, e.g. ‑agreement cliticø (Tomi , 2006) are compatible with what we will ultimately propose. What we are interested in, however, is the crosslinguistic picture.

[6] In the same vein, Manzini and Savoia (2011a) reject Roussou and Robertsø (2003) grammaticalization approach to the identity of wh- pronouns and complementizers (e.g. in the Romance languages) arguing in favour of their identity in grammatical competence (cf. also Arsenijevic, 2009; Kayne, 2010).

question, pertaining to parametrization, is equally important, namely individuating which of those components is lexicalized and by which means in a given language. In this perspective, it is perfectly possible (in fact, necessary) to recognize the universal nature of a given structure ó or more likely of a given interpretation at the LF interface, here possession/ modification, while providing a non-uniform account of its lexicalizations cross-linguistically.

3.   Linkers as agreement: the core 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 which supports 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 preadjectival article takes the form *i* for the masculine singular, *ɛ* 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.

(19) a.   pɛ   diaʎi-n   i   vɔkiçə
            I.saw   boy-acc.m.def   the.m   small
            ꟷI saw the small boyø

      b.   pɛ   vazdə-nə   ɛ   vɔgiʎə
            I.saw   girl-acc.f.def   the.f   small
            ꟷI saw the small girlø

      c.   pɛ   kriatura-t   tə   vɔgəʎ-a
            I.saw   boys-acc.pl.def   the.pl small-pl
            ꟷI saw the small boysø

(20) a. j-a   ðɛ   diaʎi-t   i   vɔkiçə
him-it I.gave boy-obl.m.def   the.m small
‖I gave it to the small boyø

b. j-a   ðɛ   vazd-əs   ɛ   vogiʎə
her-it I.gave girl-obl.f.def   the.f small
‖I gave it to the small girlø

c. j-a   ðɛ   kriatura-vɛ   tə   vɔgəʎ-a
them-it I.gave boys-obl.pl   the.pl small-pl
‖I gave it to the small boysø

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 pregenitival article is ɛ 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).[7] 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).

(21) a. pɛ   biʃti-n   ɛ   matʃɛ-sə
I.saw tail-acc.m.def   acc.sg cat-obl.f.def
‖I saw the tail of the catø

b. pɛ   kʋmbə-nə   ɛ   ɲi-çə   matʃɛ-jɛ
I.saw leg-acc.f.def   acc.sg one-obl.sg   cat-obl.f
‖I saw the leg of a catø

bø   mɔra   dɔrə-nə   ɛ   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 sisterø

c. mɔra   kuputsə-tə   tə   tə   'nipi-tə
I.took shoes-acc.pl.def   acc.pl obl   grandchild-obl.m.def

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[7] 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.

'I took the shoes of the/his/her/their grandchild'

(22) ɲə kʊmb tə matʃɛ-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 ɛ

Pl tə

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

	Sg.m	Sg.f	Pl
Nom	i	ɛ	ɛ/tə (V)
Acc	ɛ	ɛ	ɛ/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)	ɛ/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*ɟs (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 *óu* form; this is reminiscent of the split found in *Vena* between the preadjectival paradigm in (23) and the pregenitival 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   hało-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

An apparent difficulty for any unification of the Albanian article and the Iranian ezafe comes from the fact that the very label article points to a self-standing element proclitic to the following nominal constituent. On the contrary, the traditional notation of ezafe morphology treats it as an enclitic on the head noun (we adhered to this convention in our own transcription of Kurmanji).

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. Evidently 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.   kjɔ   ɐʃt   tə   ɲɛriu-tə
          this   is   the   man-obl.sg.def
          ='This is of the man'
     b.   kjɔ   ɐʃt   tə   ɲi-çə   ɲɛriu-çə
          this   is   the   a-obl.sg   man-obl.sg
          ='This is of a man'

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).

(29)   in   ketâb-e   kohne-ye   bi arze–e   maryam
       this   book-EZ   ancient-EZ   without value-EZ   Maryam
       ='this ancient worthless book of Maryam'

Persian (Samvelian 2007:606)

(30) a.   kitêb-ek-[e   bas-[e   nû
          book-indef-EZ   good-EZ   new

15

＝a good new bookø

b.   xani-yek-î   bas-î   nû

house-INDEF-ez   good-EZ   new

＝a good new houseø

(Pikkert 1991, in Yamakido 2005: 121)

c.   keçk-[a   min   [a   piçûk

daughter-EZ.F   1S:OBL   EZ.F   young(er)

my young(est) daughterø

Kurmanji (Haig 2011:366)

(31)   qrwa:q-ew-i   sawz-i   zɪl

frog-indef-ez green-ez   big

＝a big green frogø

Hawrami Kurdish (Holmberg and Odden 2008:132)

The obvious syntactic sequencing of the morphemes in (29)-(31) has the ezafe forming a constituent with the following modifier, as indicated, so that the last modifier of the sequence is of course ezafe-free. This is further 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 ＝ezafeøis once again left open.

(32) a.   ketʃk-(ak-)ɑ: mazen

girl-(one)-ez.f   big

b.   [ketʃkak]   [ɑ: [A mazen]]

Bahdînî Kurmanji

Further evidence in favour of the constituent structure in (32b) comes from coordinations. Philip (2012:37ff.) shows that when the head noun is coordinated in Persian, 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

＝Maryamøs hat and dress.ø

2.3 Interpretation and categorization

In discussing Albanian (1e), 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'

Sg

Nom	djal-i	i	mirë	
Acc	djali-n	e	mirë	
Obl	djali-t	të	mirë	
	boy	art	good	

'the good boys'

Pl

Nom	djem-të	e	mirë
Acc	djem-të	e	mirë
Obl	djem-ve	të	mirë
	boys	art	good

'the good girl'

Sg

Nom	vajz-a	e	mirë
Acc	vajzë-n	e	mirë
Obl	vajzë-s	së	mirë
	girl	art	good

'the good girls'

Pl

Nom	vajza-t	e	mirë
Acc	vajza-t	e	mirë
Obl	vajza-ve	të	mirë
	girls	art	good

'a good boy'

Sg

Nom	një	djalë	i	mirë
Acc	një	djalë	të	mirë
Obl	një	djal-i	të	mirë
	a	boy	art	good

'some good boys'

Pl

Nom	disa	djem	të	mirë
Acc	disa	djem	të	mirë
Obl	disa	djem-ve	të	mirë
	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 preadjectival/pregenitival 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 *Vena*, where the same ɛ element appears as a pronominal clitic and as a preadjectival article.

(35) ɛ   pɛ   (vazdə-nə   ɛ   vɔgiʎə)
      her   I.saw   girl-acc   the   small
      ‗I saw her (the small girl)‖

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 ɛ in (35) ó as well as to definite inflections *të*, *së* in table (34) (see section 4.2).

(36) [D ɛ   [A maθ-ɛ]]

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‖ Nevertheless 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 ó and specifically an interpretation compatible with a D categorization.

(37) a.   yê   Soro/min/te
             ez.m   Soro/me/you

=Sorosøs/mine/yoursø (lit: that-of Soro / that-of me / that-of you)ø

Bahdînî Kurmanji (Haig 2011:367)

b.　　y　　dw ...　　　y　　s y

　　　　ez.m　second...　　ez.m　third

　　　=The second one ... the third oneø

Bahdînî Kurmanji (MacKenzie 1961 in Haig 2011:367)

The self-standing 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 ezafeø 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 clearly agrees with the subject of the sentence.

(38)　a.　　(au)　je/jɑ　　　mazən-e

　　　　　　3sg　ez.m/ez.f　　big-is

　　　　　　=(s)he is bigø

　　　b.　　ketʃek　jɑ:　　de-het

　　　　　　girl　　f.sg　　prog-come.3sg

　　　　　　=The girl is comingø

　　　c.　　kurek　jet　　de-het

　　　　　　boy　　m.sg　　prog-come.3sg

　　　　　　=The boy is comingø

Bahdînî 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 of course 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 Bahdînî 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 *óe* ezafe. 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.'ø (definite)

       b.   sib   dust-næ-dar-æm
            apple   friend-neg-have-1sg
            ='I don't like apples.'ø (generic)

Persian (Mahootian 1996:203)

In Persian noun phrases, indefiniteness is marked by the determiner *ye(k)* ='a, one'ø 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
            ='a camera'ø

       b.   durbin-i
            camera-indef
            ='a (certain) camera'ø

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

Persian (Mahootian 1996:203)

Nevertheless, Mahootian (1997:201; cf. Ghomeshi, 2003; Paul, 2008) describes a colloquial enclitic marker *óe* (homophonous to the ezafe), arguing that this item is: õ*a discourse device to indicate that both speaker and hearer have mutual knowledge of the marked NP through recent mention*ö. Consider (41). The example is grammatical only if a given woman (*zæn*) entered the

discourse prior to this mention. In other words, *óe* 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 meí ø

<div align="right">*Persian* (Mahootian 1997:201)</div>

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 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 callsø
      b.   pesar-e   bozorg   zang zade
            boy-ez   big   call.3sg
            =The big boy callsø
      e.   pesar bozorg-e   zang zade
            boy   big-fam   call-3sg

---

[8] Samvelian (2007: 619-620) reports that familiarity *óe* 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 boyø

<div align="right">*Persian*</div>

(ii)   =am=er=   i   handuk
       sword-indef   ez   Indian
       =An Indian swordø

<div align="right">*Kârnâme* (Farahvashi 1999, in Estaji 2009:202)</div>

‛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 *ó a* (originally glossed ‛disc› by Paul).

(43)   I   x rdan-i   a   sar-d re   k   uma   carx

        a   child-indef dem_{dist} direction-source   comp came.3sg   bicycle

        da-n t-â   m   x rdan-a   uma   u   m

        pvb-sat.astride-cop.pst.3sg dem_{prox} child-fam   came.3sg   and dem_{prox}

        merdak-a   ne-vind- 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 *ó 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 *ó 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   s r-a   bar-i   vind- m-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 ó 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) ó as well as its occurrences as tense morphology (a subject clitic).[9]

(45) $[_D$ ɑ: $[_A$ mazen]]

3.4   Linkers as agreement

Let us summarize the argument so far. In section 2 we argued that many analyses for linkers available in the formal literature meet empirical problems with respect to Albanian (not a core language for this literature) and more importantly with Iranian languages. Interestingly all of the theories considered essentially take English *of* to be a linker ó which leads them to a characterization of the linker as a predicative element (copula, case assigner). The evidence reviewed in this section, while establishing the continuity between Albanian and Iranian varieties, provides a number of elements in favour of a different conception of linkers. In particular, while linkers can be invariant, they very often vary according to the phi-features, case and definiteness properties of the head noun being modified. This immediately suggests that the macrosystem they enter into is not that of predication ó but of agreement.

Sorani Kurdish provides different evidence yet in favour of identifying linkers with agreement elements (see Thackston 2006 for slightly different data with respect to ours). The *-i* ezafe occurs in genitive constructions where it introduces the possessor, as in (46b). Note that plural ó*an* ending on the head noun in (46) alternates with singular *-æ* in (46a) ó which suggests that ó*an* and *-æ* are agreement morphologies of the familiar kind.

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[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 ̶reanalyzedø as an article (Hudson-Williams 1963:12 translates *hya-* as ̶theø).

(i)	a.	Gaum ta	hya	magu–	ad n	Kambujiam
		Gaumata.nom	art.nom	magus.nom	deprived	Cambyses.acc
		̶Gaumata the magus deprived Cambysesø				

Old Persian (Estaji 2009:198)

(46)   a.   kteb-aˈk-æ   -i   korr-ak-æ

               book-def-agr ez   boy-def-agr

               =the book of the boyø

      b.   kteb-aˈk-an   (-i)   korr-ak-æ

               book-def-pl   ez   boy-def-agr

               =the books of the boyø

Sorani Kurdish

According to Thackston (2006) the -æ morpheme that we have tentively characterized as agreement in (46) occurs as an ezafe on definite noun, for instance in (47a), where definiteness is lexicalized by the ó*ak* enclitic on the adjective and in (47b), where definiteness is lexicalized by the demonstrative *am* =thisø 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-aˈk-æ

               book-sg   red-def-sg

               =the red bookø

      b.   am   ktjeb-æ   taz-æ

               this   book-sg   new-sg

               =this new bookø

      c.   jek   kteb   sur

               a   book   red

               =a red bookø

      d.   kteb-ek   sur

               book-indef   red

               =a red bookø

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, e.g. (48a), *i* lexicalizes

3rd person sentential 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 internal argument.[10]

(48) a. kor-ak-æ   a   -i/m   binet
          boy-def-ez   progr 3p/1p 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 zari (Lecoq 1989:301), Gilaki (Rastorgueva et al. 2012: 68-69) Xoʒni, Southern Tati (Yarshater 2002:89), Velātru (Borjian 2012:236).[11] Larson (2009) has argued that reverse ezafe is nothing else than a prenominal genitive marker (exactly like English *-s*). 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.

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[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 (1997) 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'

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

Persian (Mahootian 1997:63)

Now, somebody with no familiarity with traditional linguistic classifications would have a hard time figuring out the difference between the ÷inverse ezafeø 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 ÷manø is modified by ÷youngø the prenominal adjective is obligatorily inflected, as in (49b). This is of course called an ÷agreementø ó but its distribution is exactly that of the ÷reverse ezafeø As is well know, the ÷agreementø of German, exactly like the ÷articleø of Albanian and the ÷ezafeø 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 subsuming linkers under the general heading of agreement phenomena. We still need to be able to account for the variation internal in particular to Iranian languages (e.g. ezafe vs. reverse ezafe vs. what Thackston calls open ezafe in Sorani). More importantly, recall that in Albanian and in Iranian the same elements that appear as linkers/agreement also occur with pronominal/determiner interpretation. The fact that agreement and referential systems systematically intermix must somehow also be captured by the model. Bother of these issues will be considered in the next section.

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[12] In Lithuanian, adjectives in definite DPs have an extra sillable *ój/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)   na j g-j va d ÷
       new-pro name
       ÷the new nameø

Lithuanian (Fortson 2004:148).

4.   The core analysis

4.1   Agreement and reference: the issue and the assumptions

There is considerable hybridation between the agreement morphology and the pronominal/ determiner series cross-linguistically. Romance languages are the obvious example. For instance the same element *la* appears twice in (50), once as the determiner for the topicalized DP, and once as a clitic. The second *la* doubles the DP without contributing anything more to the interpretation. However in the absence of the DP is has a deictic/anaphoric interpretation, and suffices to satisfy the argument slot of the verb by itself. Determiner *la* furthermore contributes definiteness to the DP *la ragazza* ='the girl'

(50)   (La ragazza),   non la vedo
        The girl   neg it   I.see
        ='I don't see her/ the girl'

Italian

In fact, *l-* clitics in Romance are occasionally found as inflectional agreement elements. For instance in the Italian variety of *Urbino*, predicative adjectives and participles bear a full *ól* enclitic where other Romance languages (e.g. Italian) have just vocalic morphology, as in (51) (Manzini and Savoia 2011b).

(51)   a.   en   brev-le
                they.are good-fpl
                ='They are good'

Urbino

        b.   Sono   brav-e
                they.are good-fpl
                ='They are good'

Italian

The prevailing sentiment in the current literature seems to be that the solution to this overlapping of agreement and reference in Romance languages resides in a reduction of apparently

referential occurrences of clitics to agreement ones. Sportiche (1996) models clitics as agreement heads; they never really stand alone, since when they apparently do, they are doubled by silent *pro*. Note that if clitics are further to be unified with determiners, the latter must also be agreement heads. This position has in fact been occasionally taken by the generative literature, for instance by Giusti (1995), according to whom the D of Romance is systematically empty.

Generative models and silent categories (to use Kayne's 2010 term) go therefore hand in hand. But once empty pro-forms are allowed, it is difficult to see how to restrict them to Ds; restricting them generically to functional categories does not seem to make much headway into the issue (see Manzini and Savoia 2010 vs. Kayne 2010). This adds to the complexities, or ‑imperfections‑ (Chomsky 1995, Brody 2003) of agreement itself, specifically the crucial role played by uninterpretable features. Though in principle any property has its negative counterpart (i.e. the complement to that property) and each interpretable property therefore has its uninterpretable match, why are only some of them (here phi-features) relevant to linguistic computation?

Departing from current minimalist practice, we assume that there are only positive properties in language (privative features, no underspecification) and we crucially understand that this restriction applies to the meta-feature of interpretability. In other words, there are no uninterpretable properties; all lexical material is interpreted at LF. Despite the perceived monolithic nature of the current minimalist model, the existence of uninterpretable features and the operation of Agree are logically independent. Suppose we renounce the distinction between elements that are always attractors (uninterpretable) and elements that are always attractees (interpretable). Still we can say that an argument agrees with the predicate, in the sense that the identity relation holds of them. If there are locality effects on Agree (minimal search) these can further be incorporated as properties of the identity relation. In other words Agree, qua minimal search and match, does not depend on uninterpretability, but only on Minimality and on the identity relation ó which are of course defined independently of unintepretability.

Granting for the sake of the argument that all lexical elements are interpretable ó the question is what the interpretation of a so-called agreement inflection may be. Chomsky (1995) argues that the phi-features inflection on finite verbs are uninterpretable in the sense that for instance plurality cannot be said to be a property of predicates (events). There is however a different way of understanding what the so-called agreement inflection may be, which is quite traditional, even in formal linguistics when addressing pro-drop languages. In essence the inflection of the finite verb is pronominal-like (Rizzi, 1982); Manzini and Savoia (2007) explicitly argue that it is interpretable and that it can satisfy the EPP. In the following sections we will assume that all so-

called agreement morphology is an elementary satisfaction of a predicate (an elementary argument) ó and therefore linkers are. ‒Determinerø/‒cliticø and ‒agreementø are not told apart by their intrinsic properties ó but correspond to different construals of the very same lexical material, with the very same properties, in the syntax/LF.

4.2   Albanian articles

Consider Albanian (6b), repeated in (52a) for ease of reference. The adjective in (52a) consists of a lexical base *mað-* denoting the content of the predication (the set of ‒bigø individuals), followed by a nominal class and number inflection. The predicate *mað-* ‒bigø is a property, i.e. has a single, obligatory argument position. The reference of the argument to which the property applies co-varies with the properties of the inflection; so it is singular feminine with the inflection óε in (52a), but plural with the inflection -*a*, for instance in (6c). If we assume that the phi-features of the inflection are interpretable, their obvious interpretation is a morphological level satisfaction of the argument slot of the predicate. In the structure in (52b) we follow ideas of Distributed Morphology (Marantz, 1997) in identifying the lexical base simply as a root √. The óε inflection is identified with the N category because of its Nominal class denotation (the traditional gender, cf. Harris 1990). The N inflection values the x variable introduced by the predicate (its theta-role).


(52)   a.   vazd-a ε mað-ε

                girl-nom.f.def   the   big-f

                ‒the big girlø

      b.
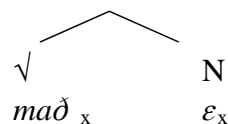
The internal structure of a noun (phrase) follows similar lines. Consider for simplicity (no case properties) the Italian noun phrase *la ragazza* ‒the girlø in (50). The noun *ragazz-a* is formed by a predicative base *ragazz-* ‒kidø and by a singular, feminine singular inflection ó*a*, which we again take to be a morphological level satisfaction of the argument of the predicative base. The assumption that non-eventive nouns are predicates and have an argumental slot (called the R-role) is fairly standard in the literature, cf. Higgimbotham, 1985; Williams, 1994. The saturation of the R-role in Italian requires however a D layer of structure, as illustrated in (53). In the present

perspective, Agree, applying between D and the N inflection, is not a computational rule with the sole interpretive import of preventing violations of Full Interpretation at the LF interface (via deletion of unintepretable features). Rather, it is the basic instrument for the implementation of the theta-calculus, matching discontinuous occurrences of argumental material (*la, -a*) that concur to the satisfaction of the same theta-slot.

(53)

```
              DP
           /      \
         D          NP
        la_x      /     \
                 √         N
              ragazz_x    a_x
```
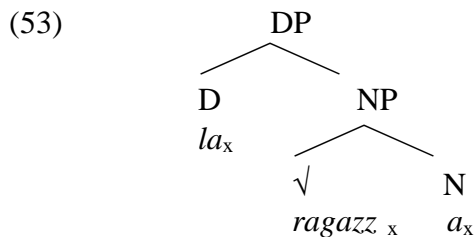
In order to avoid any possible ambiguity, let us provisionally label AGREE the minimal search + match operation, once uninterpretability is eliminated. AGREE defines sets of locally identical feature clusters. We suggest that these sets are necessary at the LF interface in order to individuate multiple occurrences of the same referent, potentially satisfying the same theta role. Thus the absence of AGREE, Full Interpretation (and specifically the theta-calculus) fails at the LF interface. If we are right in suggesting that Agree and AGREE are empirically equivalent (allowing us to freely use the label Agree for both), then the decision whether grammar includes only interpretable properties or also uninterpretable ones can be decided entirely on the basis of empirical and theoretical considerations pertaining to (un)interpretability itself. It is perhaps worth pointing out that simplicity measures favour the interpretable only choice.

A consequence of eliminating uninterpretability is that Agree becomes a symmetric rule/relation ó rather than an asymmetric one. But as far as we can tell, the asymmetric nature of agreement (which runs counter much of the descriptive tradition in linguistics) has simply been assumed without empirical motivation (on the theoretical side of the issue, see Brody 2006). In fact, the adoption of an analysis predicated on uninterpretability and directionality quickly leads into trouble (Carstens 2003). Consider for instance Italian (53). On the asymmetric view it should be the higher functional category D that has uninterpretable features ó and therefore work as an attractor. Yet we know that Ds in Romance can be found without a predicative restrictor as so-called pronominal clitics, cf. (50). Therefore there is no choice but to assume that their phi-features are interpretable. On the present symmetric view this kind of potential contradictions avoided ó at no extra cost.

Now, suppose we mechanically apply what we just proposed for (53) to (52a). The predicative base *ma*ð- ‡bigø must be satisfied by an argument. An elementary lexicalization (by

nominal class/ number properties) is provided by its óε inflection, as already detailed in (52b). However in Albanian the latter is not sufficient and must be supported by the extra-specifications provided by a D element, yielding (54).

(54)

```
          _____
         /           \
        D           _____
        εx         /         \
                  √           N
                 mað x        εx
```
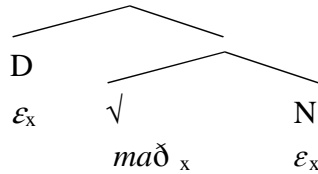
This is not to say that the internal structure of Romance D-NP in (53) and of the Albanian D-AP in (54) are actually identical. The high position of the determiner within the noun phrase in languages like Italian and English has led Szabolcsi (1994) to the conclusion that the determiner has an affinity with the C position of the sentence. D precedes all material with which it can cooccur, including quantifiers, as in *the three/many/few children* ó 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 its D, as in (55). This suggests that the determiner is inserted in a lower position than it is within noun phrases, the obvious candidate being the inflectional I field of the noun phrase (see Manzini and Savoia 2011a). This is presumably also the sense of Dimitrova-Vulchanova and Giustiøs (1998) characterization of the preadjectival determiner of Albanian as an agreement element.

(55) ɐʃt   mə/ʃum   ε   maðɛ
      she.is more/much the   big
      'She is bigger/ very big'

Arbëresh

The distinction between C-level Ds, as in Romance (53) (or its English counterpart) and I-level Ds, as in Albanian (54) is further supported by evidence internal to Albanian. Recall that in Albanian, there is a particular subset of nouns, namely kinship terms, which occur with a preposed article. The article of kinship terms precedes numerals, as in (56a) ó and is mutually exclusive with other operators, for instance in (56b), behaving in both respects like the prenominal D of English and Romance ó and unlike the preadjectival D of Albanian. Note in particular the minimal pair in (55) vs. (56b), where the same element *ʃum* =much, manyø occurs before the preadjectival D in (55) and is mutually exclusive with the prenominal D in (56b).

(56) a. tə   katra   kuʃiriç-ətə
          the   four   cousins
          ＝his/her/their four cousinsø

      b. ʃum   kuʃiriç
          many   cousins
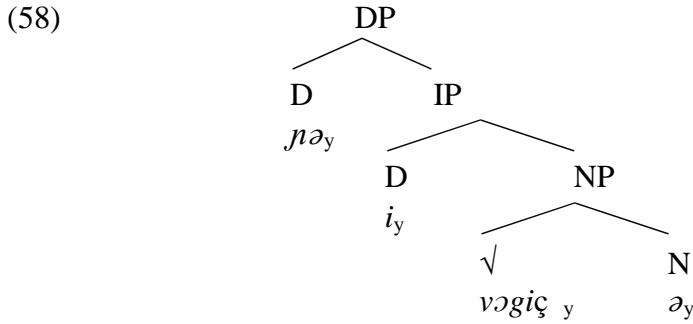   ＝many cousins (of his/her/theirs)ø

Arbëresh

More evidence as to the low (inflectional) position of the preadjectival D comes from instances where the same lexical bases that we have considered so far as adjectives (predicates, modifiers) appear as arguments, i.e. 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 (57). In reality, when we consider the interaction between this determiner and other quantifiers, we observe that the latter combine with D and precede it, including the indefinite determiner as in (57b-c).
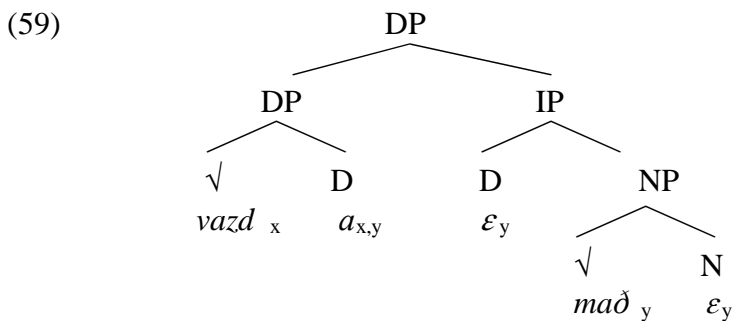

(57) a. εrθ   i   vɔgəʎ-i/   ε   vɔgəʎ-a
          came   the   little-nom.m.def/ the   little-nom.f.def
          ＝The little one cameø

      b. εrθ   mə   i   mað-i
          came   more   the   big-nom.m.def
          ＝The bigger one cameø

      c. εrθ   ɲə   i   vɔkiçə /ε   vɔgiʎə
          came   a   the   little.m/ the little.f
          ＝A little one cameø

Arbëresh

Therefore, the structure of a DP like (57c) can be schematized as in (58). In (58), the article is in the inflectional D position, where it is preceded by the operators of the nominal C-field, namely the indefinite article.
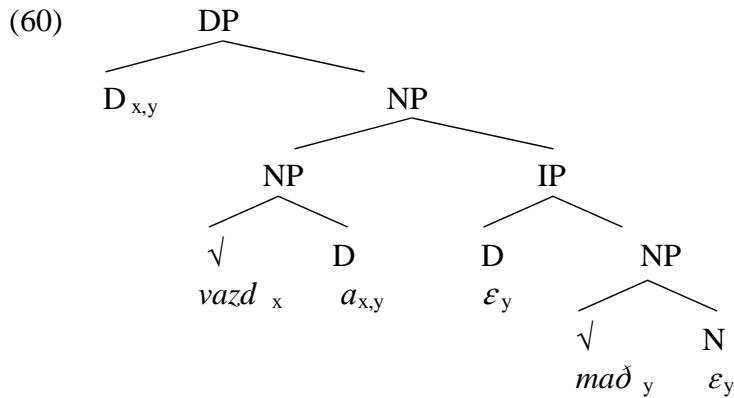
(58)

$$\begin{array}{c}\text{DP}\\[2pt]\diagup\quad\diagdown\\[2pt]\text{D}\qquad\text{IP}\\\text{\textipa{\textltailn}\textschwa}_{\text{y}}\quad\diagup\quad\diagdown\\\qquad\text{D}\qquad\text{NP}\\\qquad i_{\text{y}}\quad\diagup\quad\diagdown\\\qquad\qquad\sqrt{}\qquad\text{N}\\\qquad\qquad v\text{ɔ}gi\text{ç}_{\text{y}}\quad\text{ə}_{\text{y}}\end{array}$$

Consider next the embedding of the Albanian AP (actually an IP) in (54) under a DP, for example in (52a). Two predicative bases are present in (52a), namely the adjective *mað-* 'big' and the head noun *vazd-* 'girl'. 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 the structural analysis in (59), the unification of theta-roles is achieved by having the D operator that closes the DP, binds both. In other words, in (59) there is ultimately a single argument, the nominal D satisfying both the predicate 'girl' and the predicate 'big', the referent denoted by the complex DP correspondingly lies at the intersection of the 'big' and 'girl' properties. [13]

(59)

$$\begin{array}{c}\text{DP}\\[2pt]\diagup\qquad\diagdown\\[2pt]\text{DP}\qquad\qquad\text{IP}\\\diagup\ \diagdown\qquad\qquad\diagup\ \diagdown\\\sqrt{}\quad\text{D}\qquad\text{D}\qquad\text{NP}\\vazd_{\text{x}}\ a_{\text{x,y}}\quad\varepsilon_{\text{y}}\quad\diagup\ \diagdown\\\qquad\qquad\qquad\sqrt{}\quad\text{N}\\\qquad\qquad\qquad ma\eth_{\text{y}}\ \varepsilon_{\text{y}}\end{array}$$

The difference between the nominal D and the linker D in (59) is that in essence the linker D is a bound variable of the nominal D. Lekakou and Szendroi (2012) share our basic assumptions that nouns are predicates and that adjectival modification involves the identification of the theta-role of the adjective with the R-role of the noun (Higginbotham 1985). However they assume that

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[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.

lexical determiners in Greek are semantically empty ó while the real source of definiteness for a construct is a higher empty head D. We note that in (59) the actual definiteness content of the D is instantiated by the nominal inflection, which is in complementary distribution with indefinite determiners, cf. table (34); the D inflection cannot therefore be characterized a semantically empty. A higher scope position for D is nevertheless compatible with our other assumptions, as in (60), and clarifies the proposal that the nominal D (structurally higher) binds lower occurrence of clitic and inflectional D/N material saturating the argument slots of the predicative roots.

(60)

$$
\begin{array}{c}
\text{DP} \\
\diagup \qquad \diagdown \\
\text{D}_{x,y} \qquad\qquad \text{NP} \\
\diagup \qquad \diagdown \\
\text{NP} \qquad\qquad \text{IP} \\
\diagup \diagdown \qquad\quad \diagup \diagdown \\
\surd \qquad \text{D} \qquad \text{D} \qquad \text{NP} \\
\textit{vazd}_x \quad a_{x,y} \quad \varepsilon_y \qquad \diagup \diagdown \\
\surd \qquad \text{N} \\
\textit{ma\eth}_y \quad \varepsilon_y
\end{array}
$$

Going back to Romance (50), similarly, the doubling clitic is a bound variable of the topicalized DP. In non-doubling, pronominal 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. We take exactly the same to be true of determiners, which in Albanian, can introduce bound variables (=agreemento) or bind them (determiners proper).

4.3   Variation with particular reference to Iranian

There are essentially two parameters in terms of which the various descriptive categories of determiner, pronominal clitic, linker and agreement evoked for Albanian and Romance 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 self-standing head; this parameter is notated as infl vs. head in the table in (61).[14] The other parameter is interpretive and we notate it as free vs. bound (variable) in (61). Shaded areas on the table in (61) point to a common lexicalization, e.g. Italian *la* in (50) for clitics (both doubling and pronominal) and the determiner. has to do with variable vs. operator status ó the

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[14] Zwart (2006), Toorsavandani and van Urk (2012), describing Zazaki, invoke Nicholsøs (1986) categories of dependent marking vs. head marking

other parameter, which we provisionally use in table (61).

(61)

	Albanian	*Italian*
bound, infl	agreement	agreement
free, infl	definite inflection	
bound, head	linker, clitic double	clitic double
free, head	clitic pronoun	determiner
		clitic pronoun

If we are on the right track, we expect that Iranian languages will fit into the picture drawn in (61). Kurmanji Kurdish and Persian share the same format for linkers/ezafe as Albanian (54), (58). As in Albanian, they form a constituent with the following adjective, as schematized in (45) – we take that the interpretation for (45) follows exactly the same lines as the interpretation of the Albanian structures in the previous section. We correspondingly classify the Kurmanji and Persian ezafes in (62) as an instance of syntactic head with bound variable interpretation. In Kurmanji the data in our possession 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 tense ezafe) as well as a determiner (the stand-alone ezafe with demonstrative reading). In standard Persian, the ezafe, beside its fundamental linker distribution and interpretation, also appears postnominally as a familiarity suffix – which is one of the fundamental denotations of (definite) determiners.
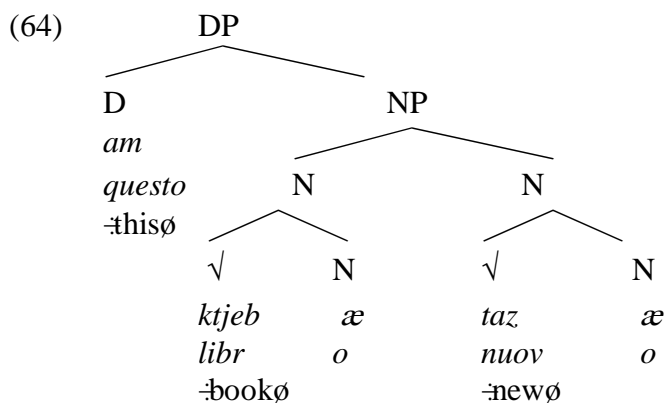
(62)

	Persian	*Kurmanji*
free, infl	familiarity	
bound, head	ezafe	ezafe
		tense ezafe (=subject clitic=)
free, head		demonstrative
		tense ezafe (=subject clitic=)

The =open ezafe= of Sorani and the =reverse ezafe= of Masali appear to be instances of what in well-known European languages would be called agreement inflections. In the schema of parameterization in (63), we have characterized both elements like the agreement of Albanian or Italian in (61), i.e. as inflections and bound variables. Nevertheless 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 subject clitic/agreement doubling the lexical subject or the finite verb inflection.

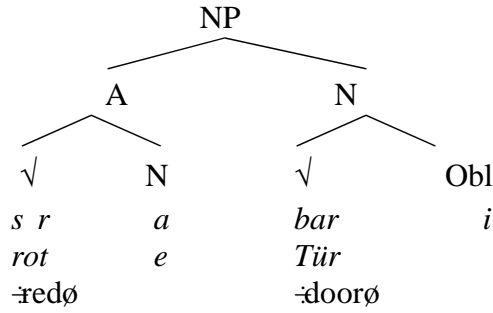(63)   *Sorani*   *Masali*

  bound, infl   open ezafe   reverse ezafe

  bound, head   close ezafe

  free, head   familiar

Consider the so-called open ezafe of Sorani more closely. The presence of a definite determiner triggers the presence of -æ on the noun, which is equally present on the adjective. Though -æ is traditionally described as the ezafe, its presence depends only on the cooccurrence with a definite determiner, not on the joining of an adjective and a noun. We correspondingly assign to examples like (47b) the structure in (64). This is largely indistinguishable from the structure of a standard Romance DP with the Noun-Adjective order and overt agreement between N and A, as indicated by the Italian terminals inserted immediately below the Sorani ones.

(64)   DP

  D   NP
  am
  questo   N   N
  =this⌀
          √   N   √   N

          ktjeb   *æ*   *taz*   *æ*
          libr   *o*   *nuov*   *o*
          =book⌀   =new⌀

On the basis of the typology in (63) we are also able to briefly consider the =reverse ezafe⌀ exemplified with Masali. The constituent structure for the reverse ezafe in (44) is as in (64), where the DOM case of the specific object is notated Obl, since it coincides with the oblique (see Franco and Manzini 2013 for the conclusion that it is syntactically and not only morphologically Obl). The structure of the *óa* morphology is again the same as characterizes so called agreement inflections, in particular in a language like German with prenominal adjectives. German terminals are inserted immediately below the masali ones, to illustrate the parallelism.

(65)

```
                      NP
                   /      \
                  A        N
                 / \      /  \
                √   N    √    Obl
               s r   a   bar   i
               rot   e   Tür
               =red∅    =door∅
```

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 ó 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 4.3. In fact, by far the most complex issue involved in dealing with genitival linkers concerns the nature of the genitive category ó which implies taking sides on the question of what case is. We will do so only briefly, given obvious 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 ó holding in Albanian and in those Iranian languages (e.g. Kurmnji Kurdish) which still have a case declension. In these language 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 (⊆). Since relational content inside DPs is generally carried by Q elements (as in gneralized quantifier theory) we further adopt the label Q(⊆) for the oblique case ending. Nothing hinges on this precise notation. Under this proposal, and adopting for pregenitival linkers the same position as for preadjectival ones, the schematic representation for the Albanian Noun-genitive DP in (7a), reproduced in (66a) for ease of reference, is as in (66b). The head noun *biʃti* consists of the predicative base *biʃt-* 'tail' combined with the definite inflection *-i*. In turn, the genitive noun is formed by the predicative base *matʃ-* 'cat' merged with the Q(⊆) 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'.

(66)   a.   biʃt-i   i   matʃɛ-sə

                 tail-nom.m.def the   cat-obl.f.def

                 'the tail of the cat'

      b.

```
                          DP
               ┌───────────┴───────────┐
              DP                        IP
          ┌────┴────┐              ┌─────┴─────┐
          √         D             D            DP
         biʃt       i             i        ┌────┴────┐
                                           N        Q(⊆)
                                          matʃə       sə
```

Recall that in present term the preadjectival article of Albanian satisfies the theta-role of the adjective. In (65b) we expect the article to do exactly the same. In this instance the predicate of which it satisfies an argument is 'inclusion' Q(⊆). In calling Q(⊆) a relation, we obviously 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(⊆), namely by D.

Consider then Iranian languages. Kurmanji Kurdish and Persian have essentially the same structure as Albanian in adjectival contexts, as schematized in tables (61)-(62). 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 (67a) for ease of reference, which like Albanian as overt case. The

structure in (67b) is entirely parallel to that in (66b) 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.

(67) a. dest-e   kurk-i

         hand-ez.m   boy-obl.m

         'the hand of the boy'

     b.

```
                 DP
               /    \
             N        IP
            dest     /  \
                    D    NP
                    e   /   \
                       N     Q(⊆)
                      kurk    i
```

Recall that Arbëresh has two distinct series of preadjectival and pregenitival 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), as opposed to the open ezafe of adjectival contexts, as schematized in table (63). Specifically, unlike the adjectival ezafe, seen in (64), which is an inflectional bound variable (an agreement in the classical sense of the term), the genitival ezafe *ói* has the same distribution as the Persian or Kurmaji one *ó* and hence we assume has the same structure.

In the recent formal literature, the varying forms of the ezafe in adjectival and genitival contexts has been considered for the Iranian language Zazaki, by Toosarvandani and van Urk (2012). The Zazaki ezafe has the same distribution as the Persian or Kurmanji ezafe. The parallel with Kurmanji is particularly close, since the Zazaki ezafe also presents different forms for the masculine, the feminine and the plural, agreeing with the head noun, as illustrated in (68a,b) for the feminine vs. masculine. (68c) illustrates the genitive, where the ezafe introducing the possessor DP again agrees in phi-features with the head noun *kutik*. The constituent structure in (68) is that provided by Toosarvandani and van Urk ó and is compatible in all respects with the one proposed here. Incidentally, Toosarvandani and van Urk do not notice that the Zazakiøs ezafe is identical to the demonstrative and to the third person singular agreement marker (as highlighted by our shadings) ó making it parallel to Kurmanji in this respect as well.

(68) a. [_{DP} a   b,z-a   r,ndek-a   q,sqek-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.ø

b. [_{DP} o   ga[-wo   sur][-o   g,rs]]   m,   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.ø

c. kutik-ê   Alik-i-o   g,rs

dog-ez.m.obl   Al,k-obl.m-ez.m.nom   big

=Al,køs big dogø

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

The interesting property of Zazaki is that pregenitival ezafes are a subset of preadjectival ones, as seen in table (69). In particular, preadjectival ezafes agree with the head noun not only in phi-features, but also in case; thus there are two series of preadjectival 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.

(69)

	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 of course avoids altogether the question asked here, as to the nature of Ez, and correspondingly fails to recognize the obvious 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 Łrst 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 (69).

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 (70), 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.

(70)   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); this aspect of the question is far from being settled. For instance, Franco and Manzini (2013) argue that Bejar and Rezac's optimization device faces non-trivial empirical problems for person-case alignments in Kashmiri. 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 (70) cannot be fully explained in standard minimalist terms and that further research into the matter is required.

Finally, the brief discussion of genitive/oblique case in this section makes it clear why in present terms 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, ʽofʼ and similar prepositions are essentially instantiations of the ($\subseteq$) relation on a self-standing predicative head P – 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 of course have a counterpart in Iranian or Albanian, namely in the oblique case Q($\subseteq$).[15]

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[15] 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

5.2   *Agreeing linkers in typological perspective*

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 section 2, 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 (71). According to Simpson (2001:135), Chinese *de* is a D. õAlthough 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*ö, but crucially also appeared as the demonstrative, for example in (72) (cf. fn. 9 on the formation of Persian Ezafe from the Old Iranian /Avestan demonstrative pronoun). [16]

(71) a.   hao   de   shu
            good   lnk   book
            ÷good booksø
      b.   wo   de   shu
            I   lnk   book
            ÷my bookø

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

[16] 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 ezafeø (Kurmanji). According to Simpson, the ÷genitiveø marker óno 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.ø

Chinese (Simpson 2001:131)

(72) zhi   er   chong   you   he   zhi

      these   two   worm   again   what   know

      ÷And what do these two worms know?ø

Simpson provides evidence in favor of the D analysis for *de*, based on comparison with other Sino-Tibetan languages. Specifically, he argues that õin the literary style [of Burmese] the element *thii* occurs clause-finally [í] and [í] marking relative clauses (and with adjectives, PPs, etc. [í]). Possession structures are marked with the morpheme *i*, but this element is significantly found to be in free variation with *thii* sentence- or clause-finallyö (132). Here we illustrate the possessor construction in (73a), the sentence-final position (73b) and the demonstrative (73c). If Simpson is correct, the parallelism with the self-standing/tense ezafe of the typological literature on Iranian languages (e.g. Kurmanji in section 3) is evident. We therefore expect the same analysis to apply.

(73) a. U-Win-Win   i   sa-ouq

          U-Win-Win   lnk   book

          ÷U-Win-Winøs bookø

      b. U-Win-Win-thii   laa   thii/i

          U-Win-Win-lnk   come   lnk

          ÷U-Win-Win came.ø

      b. thii   sa-ouq

          this   book

          ÷This bookø

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 ór̃, as in (74). The same suffixes -*n* and -*r̃*, appear as ÷genitive linkersø (Newman 2000: 216; cf. also Creissels, 2009)

in (75a-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 (74c-d). In other words the linker and the pronominal systems overlap in Hausa as well, making the linkers into obvious candidates for the D treatment.[17]

(74) a. fari-n   gid
          white-lnk.m house
          =white houseø

      b. fara-r̃   m tà
          white-lnk.f car
          =white carø

      c. farare-n   h lunà
          white.lnk.pl caps
          =white capsø

                                                              Hausa (Newman 2000:22)

(75) a. kàre-n   Daudà
          dog-lnk.sg.m Dauda
          =Daudaøs dogø

      b. saanìya-r̃   Daudà
          cow-lnk.sg.f Dauda
          =Daudaøs cowø

      c. kàree na   Daudà
          dog   that.one.sg.m Dauda
          =Daudaøs dogø

      d. saanìyaa   ta   Daudà
          cow   that.one.sg.f Dauda
          =Daudaøs cowø

                                                              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 (76), analysed by Sutradhar (2005) as a (relative) pronoun. The same element *wa* occurs in front of adjectives in copular sentences, and in

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

this context it bears agreement, as in (77). Thus Pnar reproduce 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.

(76)   a.   ka-snam   wa   so

              f.sg-blood   lnk   red

              ꞊red bloodø

         b.   u-kɔmbo   wa   ɛmsalɔn

              m.sg-child   lnk   innocent

              ꞊the innocent childø

Pnar (Choudhary 2004: 14, 28)

(77)   a.   u-kɔmbo   tɔʔ u-wa   ɛmsalɔn

              m.sg-child   cop m.sg-lnk innocent

              ꞊the child is innocentø

(Choudhary 2004: 14)

         b.   ka-kangka   tɔʔ   ka-wa khat

              f.sg-ganga   cop   fsg-rp clean

              ꞊the Ganga water is clean/the cleanestø

Pnar (Sutradhar 2005:3,5)

In Tsakhur (Northeast Caucasian, Lezgic) õa pervasive feature [í] is the use of the so-called attributive form which is required for almost all modifiers of the lexical head in a noun phraseö (Polinsky 2002: 409). The ꞊direct attributiveø sufŁx, which occurs on adjectives modifying absolutive head nouns (cf. Kibrik and Testelec 1999: 193), is *-n* for a singular head noun of class IV (78a) or a plural head noun, and *-na* for a singular head noun of gender/class I/II/III (78b). The oblique attributive óni, as in (78c) occurs with oblique head nouns. According to Kibrik (1995) Tsakhur lacks a genitive and expresses nominal and adjectival attributes identically, as in (79). 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.[18] 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

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[18] 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).

pattern not instantiated before, whereby the linker agreeing with the head noun occurs as an inflection of the modifying DP.

(78) a. dɬagʷara-n   daftar
          white-lnk.direct.$_{iv}$ notebook.abs.$_{iv}$
          =white notebook'

<div align="right">(van der Berg, 2005:161)</div>

      b.   œkø-na   oʒ
          elder-lnk.direct.$_i$ brother.abs.$_i$
          =the elder brother'

      c.   œkø-ni   oʒ-u-s
          elder-lnk.obl   brother-obls-dative
          =to/for the elder brother'

<div align="right">*Tsakhur* (Polinsky, 2002:410)</div>

(79) a. xuna–e-na   oʒ
          woman-lnk.direct.$_i$ brother.abs.$_i$
          =the woman's brother'

      b. xuna–e-ni   kitab-e
          woman-lnk.obl   book.$_{iv}$-in (ess)
          =in the woman's book'

      c. xuna–e-n   kitab
          woman-lnk.direct.$_{iv}$ book.abs.$_{iv}$
          =the woman's book'

<div align="right">*Tsakhur* (Kibrik 1995: 225)</div>

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 (80), and genitive, as in (81). 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.

(80) a. jaem'-si'   shish
          good-lnk.f   meat(f)
          'good meat'

b. jaem'-tyi' tyärä'

   good-lnk.m maize(m)

   ÷good maizeø

Mosetén (Sakel 2004: 145)

(81) 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 precisely what its specifications, for phi-features (nominal class and number), definiteness and case lead us to expect ó namely an argument, satisfying a predicate (the modifier). In this sense, it functions as an inflectional/pronominal double of the head noun, with which it shares all properties. Doubling, i.e. ultimately agreement, in natural languages is interpretable and interpreted; labels such as ÷redundantø, ÷expletiveø, ÷meaninglessø ultimately refer to functionalist conceptions of grammar, irrelevant for mentalist models.

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 ÷wholeø) and the possessum (the ÷partø). The linker plays the same role as in adjectival constructions, providing an inflectional-level saturation for the external argument of Q($\subseteq$) (ultimately satisfied by the head noun). 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) ó though many languages have at most one (for instance the *of* preposition of English).

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 ó as we might independently surmise on the basis of minimalist ideas about parameterization. This is not to say that all elements that have been called linkers are necessarily Ds ó within familiar Indo-European languages the French *de* or English *of* are obvious 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). Hence they are indeed the predicative/ copular/ case linkers envisaged by many theorists.

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