LANGUAGE CONTACT AND THE ORIGINS OF MULTIPLE EXPONENCE IN ARCHI PRONOUNS[1]

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Multiple exponence is the realization of a feature or bundle of features in more than one position in a word. ME has been described in a number of languages of the Nakh-Daghestanian language family (Harris 2009, Bokarev 1949, and elsewhere), as well as in Kirenti, Yuman, and certain other families (for example, van Driem 1987, Watahomigie et al. 1982). As examples in (1) illustrate, in these languages the gender-number (class) agreement marker (CM) can occur multiple times on various verb and adjective forms:

(1a) Chamalal

<u>b</u>-ašak'u-<u>b</u>   <u>y</u>-eč'at'v-<u>i</u>
SG.CLASS III-short-SG.CLASS III   SG.CLASS II-black-SG.CLASS II[2]
                                            (Bokarev 1949: 57)

(1b) Batsbi

<u>d</u>-ex-<u>d</u>-o-<u>d</u>-anǒ   <u>d</u>-ek'-<u>d</u>-iy-e^n
CM-destroy-CM-PRES-CM-EVID   CM-fall-CM-TR-AOR

In this paper we concentrate on the occurrence of ME in another Nakh-Daghestanian language, Archi.

Corbett (1991: 108, 115-116), following Kibrik (1977: 128-130, 320), shows that in Archi multiple agreement marking occurs on pronouns, and up to four CMs can surface in a word at the same time, as in (2):

[2] The following abbreviations are used in glossing: ABS absolutive, ABL ablative, ADJ adjective, AOR aorist, AUX auxiliary, BEN benefactive, CM class (gender-number) marker, CMPV comparative, COMP complementizer, CV converb, DAT dative, ERG ergative, EVID evidential, EXCL exclusive, FUT future, GEN genitive, INCL inclusive, INV inversion, LV light verb, N nominalizer, OBL oblique, PERF perfect, PL plural, PRES present, PTCPL participle, PV preverb, Q question, REFL reflexive, SG singular, SUBST substantivizer, SUF suffix. Batsbi class markers are listed in parentheses following a noun gloss, with the singular marker before a slash, and the plural after. Examples not otherwise attributed are from the authors' fieldwork.

(2) Archi

    a.   <u>d</u>-asːa-(a)-<u>r</u>-(u)-ej-<u>r</u>-u-tːu-<u>r</u>
         CM-of.myself-SUF-CM-SUF-SUF-CM-SUF-SUF-CM

    b.   [<u>d</u>-asːa]-[(a)-<u>r</u>-(u)]-[ej-<u>r</u>-u]-[tːu-<u>r</u>]
         'my own [female]'

Van Driem (1990, 1991, 1993) reconstructs Proto-Kiranti and Proto-Tibeto-Burman verbal morphology and explains the origin of ME in Kiranti languages, suggesting that in a series of changes, auxiliaries grammaticalized as affixes on the main verb, each bringing its own agreement markers. Monroe (1976) suggests a similar origin for ME in some Yuman languages, and Harris (2008) does the same for ME in Batsbi. Anderson (2004, 2006) observes that in some languages exponents on both an auxiliary and main verb grammaticalized into ME. Stolz (1992) shows that in Lithuanian certain pronouns have multiple exponence of case in their dual forms because the old dual was supplemented with the word 'two', each marking case. It is, however, not at all clear how ME might originate in pronominal forms in Archi. In this paper we explore the origin of ME in (2).

Pronominal forms such as those in (2) consist of four independent morphemes, as in (2b), each requiring a class marker. We use the term co-morphemes to refer to the constituents of these groups of one independent morpheme plus one CM. If one morpheme occurs, its co-morpheme must also occur. The CM varies independently of its co-morpheme, in the sense that the CM alone reflects the gender and number of the absolutive nominal. The groups cannot reasonably be analyzed as single morphemes because this would ignore the similarities of the CMs across environments and the identity of the independent morphemes. For example, if we treated <u>d</u>-asːa- ' my CLASS II' as a single morpheme, we would not capture the relationship of this to <u>v</u>-asːa- ' my CLASS I', <u>b</u>-asːa- ' my CLASS III', and asːa- ' my CLASS IV'. The two are best treated (as Kibrik 1977 does) as two distinct, cooccurring morphemes.

The paper examines the origins of these pairs of co-morphemes in successive sections. The first is a pronoun itself (CM+asːa), and asːa is the root. The last pair of co-morphemes has been characterized as an adjectivizer (tːu+CM) (Kibrik 1977). We argue that this is an inherited morpheme which originally had a quite different meaning and function; we show further that its current meaning is the result of contact between Archi and Lak. The third pair of co-morphemes in (2b) is ej+CM+u, which we, following Kibrik (1977), claim to be an emphatic marker. The meaning and distribution of the remaining morpheme a+CM+u has not been thoroughly discussed in the previous literature. We argue that the morpheme a+CM+u in (2) is an instance of a morpheme of the same form with the basic meaning of "exhaustive listing" focus.

Archi is a member of the Lezgian subgroup of the Nakh-Daghestanian (ND) language family. In what follows, we provide in some cases a reconstruction to earlier stages of Archi, and in other cases a reconstruction to Proto-Lezgian (PL), but not to the Proto-Nakh-Daghestanian (PND) level. To make our points, we draw in one case on a parallel development in another ND language.

In the sections below, we suggest that some parts of the word in (2) were influenced by Lak. Kibrik (1977, vol. 1, 52) observes that Lak exerted considerable influence on Archi, because of geographical proximity and language contact, and because of cultural and trade relations. Kʼaxaʒe (1979: 8) notes that many Archi speakers also spoke Lak in the recent past and adds that the village of Archib is only 5 kilometers from the Lak village Shalib. Both languages belong to the ND family, but Archi is an outlier in the Lezgian subgroup, while Lak is part of the Lak-Dargwa subgroup. Genetically, they are not closely related.

1. The root, CM-*aɪsa*

Alekseev (1985: 72-73) has shown that the first person singular possessive pronoun in Archi, with the prefixal CM, probably retains the original form of the genitive of the personal pronoun. He lists the forms in Table 1 for the contemporary languages:

L	T	A (Bursch., Khud.)	R (Shin.)	Ts	Ar	K	B	U	PL
zi-	jiz	jez	iz-	jiz-	-is	zä	za	bezi	*-izo/*-äzi

Table 1. Summary of first person singular genitive forms (Alekseev 1985: 170, 172-173)

In the table, the hyphen before the pronoun in Archi represents a CM (the hyphens following the pronouns in other languages represent a variety of kinds of suffixes, including CMs in some cases). We may assume that the *b-* in the Udi form and the *j-* in the Tabasaran, Aghul, and Tsakhur forms are frozen CMs, since these two consonants are CMs in most of the Lezgian languages, and indeed in most of the ND languages. In addition, it is known that frozen CMs are retained in other instances in these languages (Jeiranišvili 1956). On the basis of the frozen forms and Archi's productive form, Alekseev reconstructs a CM prefix in the first person for PL.

From the point of view of explaining the origins of ME in the Archi pronoun in (2), the first pair of co-morphemes are inherited forms.

2. The focus morpheme, *a*+CM+*u*

In Antonenko and Harris (to appear), we present data (some previously unnoticed) showing that co-morphemes *a*+CM+*u* can change meaning in the three following ways:

1) It provides "exhaustive listing" focus on the pronoun in (3);

2) It changes the meaning of the reflexive from long-distance to local, in (4);

3) It changes the 1st person plural pronoun from exclusive to inclusive in (5):

(3)

    a.   zon   nokɬ'ak   u-qˤa
        I.ABS   house   CM-entered
        'I entered the house'

    b.   zon-<u>a-w-u</u>   nokɬ'ak u-qˤa
        I.ABS-SUF-CM-SUF   house   CM-entered
        'Only I entered the house'

(4)

    a.   učitel-li$_i$ bo Mohamad-li$_j$ inž$_{i/*j}$ c<w>arši w-i   boli
        teacher-ERG   said Mohamad-ERG self   <CM>praise CM-aux COMP
        'Teacher$_i$ said that Mohammed$_j$ praises him$_{i/*j}$'

    b.   učitel-li$_i$ bo Mohamad-li$_j$ inž-<u>a-w</u>$_{*i/j}$ c<w>arši w-i   boli
        teacher-ERG   said Mohamad-ERG self-SUF-CM <CM>praise CM-aux COMP
        'Teacher$_i$ said that Mohammed$_j$ praises himself$_{*i/j}$'

(5)

    a.   nen   'we.ABS.EXCL'   nen-<u>(a)-t'-u</u>   'we.ABS.INCL.CLASSV'

    b.   d-el 'we.DAT.EXCL.CLASSII'   d-el-<u>a-r-u</u>   'we.DAT.INCL.CLASSII'

We argue in the earlier paper that the "exhaustive listing" focus in (3) is the most basic, and we believe that this meaning accounts for the use of this suffix in (2), as well as in (4), and possibly in (5).[3]

We do not repeat those arguments here, but we reconstruct the exhaustive listing focus as the earliest use of this marker. We suggest that the exhaustive listing focus function is the origin of the meaning of this morpheme in (2), 'mine alone'. Because the focus marker *-a-u* occurs in (3) with an infixed CM, the occurrence of the CM in the pronoun in (2) is accounted for through this etymology.

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[3] We borrow this terminology from Kuno, who makes the point (1973: 38) that S.-Y. Kuroda first noticed the difference between the neutral meaning of *ga* and the exhaustive listing meaning in Japanese.

K'axaʒe (cited by Alekseev 1985: 71) writes (his bold, my translation, ACH) "As in Lak, **the reflexive pronouns in Archi are formed from the personal pronoun with the addition of the class suffix**" (K'axaʒe 1964: 364). While K'axaʒe uses the term "reflexive", it is what we would call "emphatic" (Russian and Georgian linguists often use the term "reflexive" for both). Thus, he suggests that the emphatic is formed from the personal pronoun by adding a class suffix, and he gives the examples *zona-wu, zoni-ru, zoni-bu, zon-t'u* (loc cit) for 'I myself' in the four class forms.

A problem here is that *a-/i-*, which he shows as part of the root, is actually part of the pair of co-morphemes, as is *-u*; 'I' in Archi is *zon*, not **zona* or **zoni*. Thus, instead of *zona-wu*, the form is *zon-a-w-u*, where *-w-* is a co-morpheme with *a--u*. This can be compared with the Lak *na-w-a* (classes 1 and 3) and *na-r-a* (classes 2 and 4), both emphatic 'I myself' (Žirkov 1955: 68)[4] (in Lak, *na* is absolutive case of 'I').

K'axaʒe argues further that the Archi inclusive comes from the reflexive (emphatic), and that this is true in Lak too: "**Apparently, in Lak, too, the inclusive and exclusive pronouns are structured similarly. The inclusive pronoun here, as in Archi, must come from the reflexive pronoun**" (1964: 370, his emphasis, my translation (ACH)). Most sources on Lak do not mention an inclusive/exclusive distinction, but Žirkov (1955: 58) and Schulze (p.c.) note that such a distinction occurs in the phrase *žu-w-a k'iyagu* 'we (INCL) both' (and similar phrases), contrasting with *žu k'iyagu* 'we (EXCL) both'.

We view this a bit differently, having argued that the reflexive/emphatic and inclusive pronouns both derive from the focus function of the co-morpheme pair *-a-*CM-*u*, but we agree with the implication that Archi may have been influenced by Lak in both regards. From the point of view of accounting for the development of ME in the pronoun in (2), we agree that use of the second pair of co-morphemes was probably influenced by Lak.[5]

3. The emphatic marker, *ej*+CM+*u*

We have little to say about this pair of co-morphemes. It is possible that in some general sense, the Lak pattern of forming emphatics with a CM, as discussed in the preceding section influenced Archi in this regard as well.

4. The adjective formant, *tˤu*+CM

As noted above, Kibrik, in his grammar of Archi (1977) refers to the co-morphemes *tˤu* + CM as a formant of adjectives, and provides a number of examples of this use:

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[4] Wolfgang Schulze (p.c.) confirms that these forms are emphatic, not reflexive in Lak.

[5] Wolfgang Schulze (p.c.) suggests that Lak *-a* and Archi *-u* may be reflexes of a copula; we know of no evidence that bears on this.

(6) alħat 'Sunday'   alħatːut 'Sunday ADJ, CLASS IV'
     baha 'price, value'   bahatːut 'valuable, CLASS IV'
     abadlaw 'eternally'   abadlowtːut 'eternal, CLASS IV'
     jat 'up'   jatːut 'upper, CLASS IV' (Kibrik 1977, vol. 2, 114)

We fully agree with his assessment of the synchronic function of this morpheme.

In this section we argue for the following hypothesis: Archi inherited the substantivizer *-tː (V) (used, among other things, to turn adjectives into nouns) and the demonstrative pronoun from which it was derived. The quality of the consonant in the demonstrative changed because of phonological rules specific to Archi. The substantivizer underwent the same change as that in Batsbi and (probably entirely independently) Avar – it spread from substantivized adjectives to all adjectives. Occurring in all adjectives, it was readily reanalyzed as an adjectivizer, which is the role it plays in the grammar today. Meanwhile Archi borrowed a new substantivizer from Lak. The various parts of this hypothesis are defended below.

4.1. Reconstruction

Members of the Lezgian subgroup include, besides Archi, Lezgi, Tabasaran, Aghul, Rutul, Tsakhur, Budukh, Kryts, and Udi. There is disagreement among specialists about whether Khinaliq, too, belongs in this subgroup, and we have omitted it here, as most recent works do. Within the subgroup, Lezgi, Tabasaran, and Aghul form a group, as do Rutul and Tsakhur, and Budukh and Kryts. Udi and Archi (and Khinaliq, if included at all) are not closely related to each other or to any of the other Lezgian languages; indeed, each of these three has undergone a great deal of language-specific change.

4.1.1. The cognate morpheme in Udi

In Udi, a morpheme -t' forms the oblique stem of substantives in a remarkably wide set of environments, illustrated below in (7-13). The oblique stem forms the base of all cases except the absolutive (nominative), as shown in (15). The morpheme at issue is glossed OBL.

(7) **Substantivized adjective** (Udi)
     dövlät-**t'**-un   k'ua-z   ta-γ-o   aba-q'o-bak-o
     riches-OBL-GEN house.DAT-1SG go-LV-FUTI   know-INV3PL-LV-FUTI
     'If I go to the house of rich people, they will know [who I am]'

(8) **Substantivized participle** (Udi)
     iaq'-čebak-al-**t'**-uxo   xabar-[r]e   aq'-sa
     road-pass.by-PTCPL-OBL-ABL   news-3SG   take-PRES
     'He asked of one passing in the road....''He asked of a passer-by...'

(9) **Substantivized number** (Udi)

xib	q'əzəγ-un	ẹš-q'un	ta-st'a	naγəl	p-i-**t'**-o
three	gold-GEN	apple-3PL	give-LV.PRES	tale	say-PTCPL-OBL-DAT

p'o-**t'**-u	imux-lax-i-o-**t'**-u-ne	ta-st'a....
two-OBL-DAT	ear-put-PTCPL-N-OBL-DAT-3SG	give-LV.PRES

'Three golden apples they give to the teller of the tale, two he gives to the listener...'

Sentence (9) contains an example of substantivized number, 'two', and two examples of substantivized participles – *pit'o* 'teller' and *imuxlaxiot'u* 'listener'.

(10) **Substantivized pronouns – quantifier pronouns, interrogative pronouns, demonstratives, and others** (Udi)

ẹk-urγ-o	[h]ar-**t'**-u	sa	tovl-in-a	γač-q'un-exa,
horse-PL-DAT	each-OBL-DAT	one	stall-OBL-DAT	tie-3PL-LV.PRES

'They tie the horses, each [one] in a stall'

(11) Udi (Ganenkov, Lander, Maisak 2007: 2-3)[6]

he-**tː**-ajnakː-en	har-e	memija?
what-OBL-BEN-2SG	come-PERF	here

'What for have you come here?' 'What have you come here for?'

(12) Udi (Ganenkov, Lander, Maisak 2010: 96)

iz	uq'ːen-χo	gir-b-i	he-**tː**-u	bap-i,	mešikː-ä...
REFL.GEN	bone-PL	gather-LV-CV	what-OBL-DAT	pour.in-CV	sack-DAT

'Having gathered her bones and having put them into WHAT...into the sack...'

(13) Udi

še-**t'**-in	täng-in-ax	aq'-i...
3-OBL-ERG	money-OBL-DAT	take-CV

'(he) having taken the money...'

The substantivizer -*t'* also occurs in the distal demonstrative pronoun illustrated in (13), as well as in the proximate and medial pronouns *meno* and *kano*, with various case suffixes. The declension of *šeno* 'yon, he, she, it' is provided in (14):

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[6] While we have recorded [t'] in the Okt'omber/Zinobiani (7-10), (13) subdialect, these authors record [tː] in the Nij dialect. We do not know whether this is a phonetic difference between the dialects or a difference of opinion among the researchers, but we write the Nij examples as Ganenkov et al. do. Examples that are otherwise similar can be found in both dialects. We have changed their other phonetic symbols and glosses to conform to ours, but none of these represents differences of opinion, only differences of convention.

(14) Udi (Jeiranishvili 1971: 63)
    Nom   šeno
    Erg   šet'in
    Gen   šet'a(y)
    Dat   šet'u(x)

In the oblique forms, *-t'* is the affix at issue. We provide one example of a substantivized word in the absolutive case:

(15) **Substantivized number – absolutive (Udi)**
taral-en p'o- xib-o-ne   ta-st'a
Taral-ERG two-   three-N.ABS-3SG   give-LV.PRES
'Taral gives two or three [pieces of dry firewood]'

Thus, in modern Udi, *-o*, or in some examples zero, is the formant of the absolutive case of substantivized adjectives, participles, numbers, and pronouns, while for all oblique cases, *-t'* fulfills that function. By "substantivized", we mean that the adjective, participle, number, or pronoun at issue fulfills the function of a noun (is head of an NP) or has a null pronominal head; we do not distinguish between these two possible analyses. While we have provided new examples from our own fieldwork and examples cited by Ganenkov et al., all of these phenomena are well documented in the standard grammars of Udi, including Jeiranišvili (1971), Pančviʒe (1974), and Schulze (1982). We agree with Jeiranišvili (1955) that the bound morpheme *-t'* in Udi is historically related to the unbound pronoun *t'e* 'that, the', which in the modern language cannot decline and is used only adnominally. It is illustrated in (16-17):

(16) **Substantivized absolutive case (Udi)**
xe   uγ-san   ci-r-i   bak-al-[l]e   **t'e**   q'uš
water   drink-CV   down-R-PTCPL   be-FUTII-3SG   that   bird.ABS
'That bird will be going down to drink water'

(17) vaxo   xabar   aq'-al-[l]e --   **t'e**   xinär-ä   šavat', me q'oda
you.ABL news   take-FUTII-3SG   that   girl.ABS-Q3SG   pretty, this turtle.ABS
'He will ask you, "Is that girl prettier or this turtle?"'

In this section we have illustrated the synchronic use of the bound morpheme *-t'* as a substantivizer in modern Udi and have suggested that it is diachronically related to the adnominal unbound demonstrative *t'e*. We have not yet specified the exact historical relationship between the two.

4.1.2. Cognates in other Lezgian languages, and reconstruction

Our main goal in this section is to reconstruct the PL substantivizer, but its relation to the unbound demonstrative is also of interest here. Table 2 summarizes reconstructions proposed in Alekseev (1985).[7] He himself proposes no relationship between the two reconstructions summarized here, discussing them in different chapters of his book.

Alekseev notes that "In Rutul and Archi the corresponding affixes are characteristic of adjectives regardless of their role in the sentence" (1985: 64). In characterizing these as adjective formants in Archi, Kibrik goes a step further, and we agree with his synchronic analysis. Nevertheless, we agree with Alekseev that these formants of adjectives originated as formants of substantives and are cognate with the others listed in the last row of Table 2:

	L	T	A	R	Ts	Ar	K	B	U	Recon
Demonstrative	ʔa-t'a	du-mu	ti	ti		to-v			te	*t'V
Substantivizer	-d	-d	-d	-d		-tːu	-d/dž	-d/dž	-tː	*tːV

Table 2. Summary of Alekseev's reconstructions of demonstratives and substantivizers (from Alekseev 1985: 75, 63).

In the table, we have written apostrophe for his <I> (indicating an ejective) and <ː> for his macron (indicating a fortis or long consonant), to make his transcription consistent with our own. The morpheme -*v* (*w*) in the Archi demonstrative in Table 2 and in both Archi forms in Table 3 represent the CM, alternating with others in the language.

Our own findings are only slightly different; they are summarized in Table 3 and are based on the following sources: for Lezgi (L), Haspelmath (1993: 190, 110, 342-3); for Tabasaran (T), Magometov (1965: 176-7, 153, 163); for Aghul (A), Magometov (1970: 110, 92-4); for Rutul (R), Ibragimov (1978: 81, 153, 178, 214, 267, 68-69, 151-2, 210, 253), Jeiranišvili (1983/1984: 181, 243, 209-10, 259); for Tsakhur (Ts), Kibrik & Testelec (1999), Schulze (1997: 38-39); for Archi (Ar), Kibrik (1977); for Budukh (B), Talibov (2007: 124, 112); for Kryz (K), Authier (2009: 60, 71), Saadiev (1994: 421, 419, 436), Topuria (1960: 442); for Udi (U), Harris's fieldwork (but see also the grammars of Udi listed in the previous subsection).

Naturally, both tables represent some simplifications of the data. In some of these languages the substantivizer appears to have a narrower sphere of usage than in Udi:

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[7] Gippert et al. (2009, vol 1, p. II-38) reconstruct *-t'* as a distal marker in PL, but they do not specify what they base this on or provide any reference to other work.

	L	T	A	R	Ts	Ar	K	B	U	Recon
Demonstrative	ʔa-t'a	du	ti/tːi	te		to-v			t'e	*tːV
Substantivizer	-di/da	-di	-di/ti	-di/t'i[8]		-tːu-v	-d,-dž	-udž	-t'	*-tːV

Table 3. Summary of our proposed reconstruction: Substantivizer and distal demonstratives in Proto-Lezgian.

Several of the differences between the two tables are insignificant (mainly the presence vs. absence of a vowel) and will not be discussed here. One significant difference concerns the qualities of the voiceless alveolar stop. As mentioned in a footnote above, Harris perceives the ejective [t'] (as in Georgian) in the Udi spoken in the village of Zinobiani (formerly known as Okt'omber), while Alekseev and Ganenkov et al. write [tː] for the Nij dialect. It is generally agreed that the modern language has only a two-way distinction among voiceless alveolars ([tʰ] vs. [tː] or [t'], and only the precise quality is at issue (and may differ by dialect). Alekseev's (1985) writing <te> for the unbound demonstrative in Udi is an error; there is no demonstrative in the language with an aspirated [tʰ], the usual meaning of <t>, or with a plain (unaspirated) voiceless [t]. In Table 3 we have written <t'> for Udi, but we acknowledge that there may be two dialectal varieties here or that the actual sound may instead be [tː] in both varieties. It is likely that the Udi spoken in Zinobiani (Okt'omber) is influenced by Georgian, since all Udi speakers there speak Georgian at least from the time they enter school. This could explain the use of [t'] in that dialect.

    Another significant difference between the two tables is in the data for Aghul, which includes dialectal variation. [tʰ], written <t> here, is found in the substantivizer in the dialect spoken in the aul of Fite, while the dialect of Aghul spoken in the aul of Kurag has [tː] in the demonstrative. The differences between the laryngeal qualities of the consonants in the two morphs may be determined by the contrasting positions of the two [*tː]'s in the word. Further, in several languages, including Aghul, the noun has an oblique formant similar to the oblique form of the substantivizer; these may be historically related, as they are in Andi (Alekseev 1988; Harris 2010), or one may have contaminated the other.

    Some other considerations also make the two sets of reflexes look more similar. Although Alekseev lists *at'a* as a possible (that is the meaning of the question mark) reflex of the reconstructed pronoun and we have followed suit, there is another adnominal demonstrative that may instead be the real reflex – *i* 'this', *a* 'that'. If this conjecture is correct, Lezgi provides no evidence concerning reconstruction, having presumably lost the consonant at issue.

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[8] Rutul has a number of dialects, described in Ibragimov (1978). The substantivizer in the Borč and Xinov sub-dialects is *-t'i* or *-t'ɩ* (1978: 253), while the other dialects have *-di, -dɩ*, or something unrelated.

Together, the forms in Table 3 make the point that the reflexes of the two morphemes are very similar to each other, but not identical, in many of the languages.

4.1.3. Relics of the substantivizer -tːu in Archi

In support of our position, there are relics of -tːu being used as a substantivizer in modern Archi. This is no longer productive. Like the adjectivizer -tːu, the relics in nouns become d in certain environments. Examples below illustrate this relic usage. One can see that -tːu is a distinct morpheme, since it is dropped in the ergative case:

(18) **Nominative singular**	**Ergative singular**	**Gloss**	**Gender**
díbirtːu	díbirmu	'mulla'	I
díšdur	díšmi (díšrul)	'girl'	II
dóšdur	dóšmi (ošób)	'sister'	II
éjtːur	éjmi	'mother'	II
éjšekertːu	éjšekermu	'fourth brother'	I
éjšekertːur	éjšekermi	'fourth sister'	II

(Kibrik 1977, vol 2, p. 20, with sixteen additional examples)

Here the final -r in some examples in the nominative singular is the gender-number marker for class II; the class I marker in this context is zero. In the ergative singular forms, -mu is the suffix for class I, and -mi for class II.

4.1.4. The reconstruction

Ideally, in reconstructing these morphemes we would consult a list of the accepted reflexes of the several PL voiceless stops. However, there is much disagreement among historical linguists about the reconstruction of PL, let alone that of PND (for three different opinions, see Nikolayev and Starostin 1994, Nichols 1997, and Schulze 1997a).

Because Alekseev (1985) has reconstructed the two morphemes we are interested in, and because the sound reconstructions he relied on are widely accepted in Russia, we have worked within this system, while remaining deeply skeptical of its claims. Alekseev (1985) is largely dependent on Nikolayev and Starostin (1994, N&S, which, however, had not yet been published) for the sound correspondences, but by the time of publication N&S must have changed their mind on a few details, as summarized for PL *t' in Table 4:

	L	T	A	R	Ts	Ar	K	B	U	PL
Alekseev	t'/ts'	t'/č'	t'	t'	t'	t'	t'/č'	t'/č'	tː	*t'
N&S	t'ʷ	t'	t'	t'ʷ	t'	t'	t'	t'	blank	*t'
Demonstrative	ʔa-t'a	du-mu	ti	ti		to-v			t'e/tːe	*t'V

Table 4. Comparison of reflexes of *t', according to Alekseev (1985: 12) and Nikolayev and Starostin (1994: 124), together with Alekseev's reconstruction of the PL distal demonstrative.

Reconstructions that are not consistent with the reflexes are in shaded cells. The reflexes they list for PL *tː are the ones relevant to the most important part our argument, and they are summarized in Table 5, together with our reconstructions:

	L	T	A	R	Ts	Ar	K	B	U	PL
Alekseev 1985	tː, -d/cː	d/y,v/dž	d/r	d	d	d-, -tː-,-t	d/dž	d/dž	d(/tː)/c?	*tː
N&S	tː/cː, -d	d-/dž- (-y-,-w-)	d/r	d	d	d-, -tː-,-t	d/dž	d/dž	d(/tː)/c?	*tː
Demonstrative	ʔa-t'a	du-	ti/tːi	te		to-			t'e/tːe	*tːV
Substantivizer	-di/da	-di	-di/ ti	-di/ t'i		-tːu-	-d,-dž	-udž	-t'/-tːe	*-tːV

Table 5. Comparison of reflexes of *tː, according to Alekseev (1985: 12) and Nikolayev and Starostin (1994: 124), with our reconstruction of the PL distal demonstrative and substantivizer.

By presenting Alekseev's and N&S's correspondences, we do not mean to suggest that they are more reliable than those given in other sources (e.g. Nichols 2003, Schulze 1988); the reverse may be true (note that Nichols 2003: 249 and Schulze 1988: 33 do not reconstruct PL *tː but consider the Lezgi and Archi fortis, or geminate, voiceless alveolar stop to have derived from another sound).

But these do have a special relevance to Alekseev's reconstructions of the demonstrative and substantivizer. Comparing the reflexes of the two sounds with Alekseev's (1985) reconstructions, we can see that his reconstruction of the substantivizer is consistent with the reflexes listed by both himself and N&S. Alekseev's reconstruction of the demonstrative with an ejective, however, is consistent only with the reflex listed for Lezgi (which itself is questionable, see above), not for the reflexes listed for the other languages. Once we correct the Udi demonstrative to *t'e/tːe*, his reconstruction is also consistent with data from that language. In fact, the range of data listed by Alekseev for the distal demonstrative is not fully consistent with any of their reconstructions (that is, his or N&S's reconstructions of *tː, of *t', or of other consonants not listed here).

Our reconstruction is a better match for the reflexes both N&S and Alekseev list, in the sense that it is not dependent on the Lezgi form, which even Alekseev expresses doubts about (see above).

Our main interest here is in Archi, and we have not yet reconciled the attested forms with our reconstructions. We note that *tː* does not occur in word-initial position, the position of *t* in the demonstrative. This is consistent with our reconstructing **tː* for the substantivizer, since its consonant will always be medial. If N&S are correct, however, we would expect to find a demonstrative with the consonant *d*.

Our main concern is the reconstruction of the substantivizer to PL. Secondarily, we are interested in the origin of this morph, and we propose that the oblique stem formant of derived substantives (substantivized adjectives, participles, numbers, and pronouns) is historically the demonstrative pronoun. It is well accepted that demonstratives are often the sources of oblique stem formants in ND languages outside the Lezgian subgroup (Bokarev 1949, Čikobava 1942, Čikobava and Cercvaӡe 1962, Č'relašvili 2002, Harris 2010, Topuria 1995; for a different opinion, see Alekseev 1988). It is also known that similar pronouns serve as the source of similar morphemes in languages of other families (Čikobava 1939, Greenberg 1978, Harris 1985, M. Harris 1978, Mač'avariani 1960 and 1985, Šaraӡeniӡe 1955 and 1983, Schenker 2002, and many other sources).

In this section we have reconstructed the demonstrative 'that' and the formant of the oblique stem of substantives in PL. Our reconstruction differs from that of Alekseev (1985) mainly in that we reconstruct the same quality for the voiceless alveolar stops in both morphemes. We have suggested that in Archi, the language we focus on here, [*tː] became [t] in the demonstrative because [tː] is not tolerated in word-initial position in Archi. But [*tː] remained in word-medial position, as remarked by N&S, accounting for the laryngeal quality of the stop in the substantivizer, which always occurs as an interior suffix. We remain, however, deeply skeptical of the details of the N&S reconstruction of these and other sounds.

4.2. The fate of *-tːV* in Archi

In this section we argue that the inherited substantivizer was reanalyzed as an adjectivizer, and that the new function and meaning of the reflex of PL **-tː*V in Archi is due to influence from Lak. We begin by describing the substantive formant in modern Batsbi, a distant relative.

4.2.1. The parallel of substantivizers in Batsbi

We describe here the use of substantivizers in Batsbi only as a parallel to what we believe happened in Archi. Batsbi has a morpheme *-čo*, which is used to form substantives. As we see below, its current usage is broader than this; for this reason and because it is used only in the oblique cases, we gloss it OBL. Like the morpheme used in the Lezgian languages, it occurs only in oblique cases; in the absolutive (nominative), no special formant occurs. Č'relašvili 2002 proposes a reconstruction for this morpheme but it is not relevant here.

(19) **Substantivized adjectives**

o	laxu^n st'ak'		zoreš	lat'-e^n	so^n,
that	short man(v/b).ABS		very	help-AOR	me.DAT

e	laqe-**čo**-v	k'i	com	tag-d-i-e^n	so^n
this	tall-OBL-ERG	though	nothing	do-CM-TR-AOR	me.DAT

'That short man helped me very much, but this tall one did nothing'

The morpheme at issue, -*čo*, forms the oblique stem of the adjective 'tall', which functions here as a substantive (or, equivalently, has a null head):

(20) **Substantivized participles**

žak'et'	d-epc-uin-**čo**-v	do^n	**b**-av-**b**-i-e^n
cardigan	CM-knit-PTCPL-OBL-ERG	horse.ABS	CM-lose-CM-TR-AOR

'The one knitting the cardigan lost a horse'

Here -*čo* makes the participle 'knitter' (literally 'teller') into a substantive, forming the oblique stem, to which the ergative case marker attaches.

(21) **Substantivized noun possessors**

(a)
se^n	vaš-en	don-ev	qor	(ħal)	qall-i^n
my	brother-GEN	horse-ERG	apple.ABS	PV	eat-AOR

'My brother's horse ate an apple'

(b)
se^n	vaš-e-čo-v	qor	qall-i^n
my	brother-V-OBL-ERG	apple.ABS	eat-AOR

'My brother's [e.g. horse] ate an apple'

(22) **Substantivized personal pronominal possessors**

(a)
se^n	don-ev	qor	qall-i^n
my	horse-ERG	apple.ABS	eat-AOR

'My horse ate an apple'

(b)
se-čo-v	qor	qall-i^n
my-OBL-ERG	apple.ABS	eat-AOR

'Mine ate an apple'

In Batsbi additional categories can be made substantives through the use of this formant. The use of -*čo* has been extended, so that adnominal (attributive) adjectives and participles may also optionally have this formant, except in the absolutive case. In (23) below, the adjective *k'ac'k'wič* 'little(r)' is not substantivized,

yet it has the oblique formant *-č(o)*. (24) shows that the same may occur with adnominal participles:

(23) k'ac'k'-wi-č   badre-v   p'ey   **b-aɬ-i**^{n} so^n
     little-CMPV-OBL   child-ERG   kiss   CM-give-AOR   me.DAT
     'the smaller child gave me a kiss'

(24) do^n lex-vi-č   st'ak'-ov   sakm   ħal-tag-y-e^n
     horse(b/d)   look.for-PTCPL-OBL   man-ERG   business.ABS   PV-do-CM-AOR
     'The man looking for a horse did business'

One can see from (21a) and (22a) above that *-čo* was not extended to attributive possessors.

Thus, in Batsbi the formant *-čo* at one time formed substantives from a wide variety of categories and continues to do so. The suffix *-čo* has been extended to adnominal uses of adjectives and participles. Certain other categories, including noun and pronoun possessors, still do not use *-čo* in adnominal environments. In closely related Ingush and Chechen, the cognate morpheme *-ču* also occurs in adnominal adjectives (Johanna Nichols, p.c.).

The parallel formant in Avar, rather distantly related to Batsbi, underwent the same change, apparently entirely independently (Harris 2010). We suggest that it is natural for a formant that is used in substantivized adjectives to be generalized to all adjectives, and that the Nakh languages (Batsbi, Chechen, Ingush), Avar, and Archi underwent the same change independently of each other.

4.2.2 Extension of PL *-tːV* in Archi

We suggest that the Archi reflex of PL *-tːV* was extended from substantivized adjectives to all adjectives, in a way parallel to that in Batsbi and Avar. Once the reflex of PL *-tːV* was used in adnominal modifiers, it could easily be reanalyzed as a formant of modifiers (adjectives). That is, since it is likely that many or most adnominal modifiers had this formant, it was natural for speakers to reanalyze it as a formant of adjectives.

4.3. Substantivizers in Archi and Lak

While we have reconstructed PL *-tːV* as the inherited substantivizer in Archi, it does not have that function at all in the modern language. Rather, the contemporary formant of nominals is *-mu, -mi*. In this section we argue that this usage is borrowed from Lak.

In Lak, modifiers are substantivized by adding *-ma* for class I, *-mur* for classes II, III, IV, and *-mi* for the plural of all classes (Žirkov 1955: 45). In Archi we find

-*mu* for class I, *-mi* for all other classes, and nothing (zero) for plurals or *-maj* for plural obliques (Kibrik 1977: vol 2, 117); note that in Lak and Archi, we find the same tripartite pattern of syncretism: one form for class I (masculine), a second form for all other singular classes, and a third for the plural. We know of no other Lezgian languages with this system of substantivizers; that is, it is unlikely that Archi inherited this formation from PL. It is true that some dialects of Rutul have the substantivizer *–m-* in plural oblique cases of deadjectival nouns (Ibragimov 1978: 70, 210, 255), sometimes with additional restrictions, or in the plural oblique cases of certain substantivized numerals or pronouns (*op cit* 77, 81, 178, 213, 267), but we think it unlikely that this is related. However, we find nothing like it in Dargwa, either, making it most likely that this represents an innovation of Lak or Archi, borrowed by one into the other.

According to Žirkov (1955: 46), the presence of a CM on an attribute makes it focused; more precisely the meaning is that one with the attribute is selected from a group, where other elements in the group do not possess this attribute, e.g. 'the one that is elder'. This occurs with adjectives, nouns, pronouns, numerals. When the class marker occurs on the nouns, it can be translated with 'that particular', e.g. 'that particular girl'. We suggest that Archi borrowed from Lak the use of a CM with this morpheme to make the word focused in this way. Because it is more pervasive in Lak than in Archi, it is likely that Archi borrowed from Lak, not vice-versa.

We argue that the Archi formant *-mu/-mi/Ø*, similar in form to the Lak morpheme with the same function, was borrowed from the latter language. We assume that the direction of borrowing was from Lak to Archi because Lak was the numerically larger language and because community bilingualism (Archi and Lak) has been observed among the Archi. Most important, because Archi inherited a different substantive formant, it is likely that Archi borrowed from Lak, not vice-versa. We feel that it is very likely that contact is responsible for the use of *-mu/-mi/Ø* in Archi.

4.4. The CM in Archi *tʕu*+CM

We have still to explain the use of the CM with the morpheme *-tʕu* in Archi. Several of the Lezgian languages have lost classes and class marking altogether – Lezgi, Aghul, one dialect of Tabasaran, and Udi. In Tsakhur, Budukh, and Kryz, neither we nor Alekseev identified a cognate to the substantivizer *-tʕu*. This leaves only Rutul and one dialect of Tabasaran to provide comparative evidence. In the dialect of Tabasaran that retains class as a category, we see a CM **preceding** the substantivizer, not following it as in Archi:

(25)   Class of humans   Class of things   Tabasaran
       ič^wːu-<u>w</u>-di-n   ič^wːu-<u>r</u>-di-n   'pretty one'
       xu-<u>w</u>-di-n   xu-<u>r</u>-di-n   'five'
       (Magometov 1965: 153, 163)

In (25), the root is the first morpheme, and the CM is the second (underlined); the suffix *-di* is the substantivizer and oblique case formant, while *-n* is the formant of the genitive case. The CM could have earlier been associated with the substantivizer, but today it occurs with the adjective stem (e.g. ič^wːu-w 'pretty'), and Alekseev (1985: 66) suggests that this may have been true in PL.

    Most of the dialects of Rutul fail to provide evidence, but in the Borč-Khinov subdialect the substantivizer is clearly preceded by a CM, as in Tabasaran:

(26)   Borč   Shin   Khinov   Rutul
    Class I   č'i-r-t'i   č'i-r-di   č'i-r-t'ɨ   'younger'
    Class II   č'i-r-t'i   č'i-r-di   č'i-r-t'ɨ
    Class III   č'i-b-t'i   č'i-b-di   č'i-b-t'ɨ
    Class IV   č'i-d-t'i-d   č'i-d-id   č'i-t'ɨ-d//č'i-r-t'
    (Ibragimov 1978: 253)

If the PL substantivizer itself had a CM co-morpheme, where did the latter come from? Was a CM associated with the demonstrative? In Tabasaran, the demonstrative does distinguish classes:

(27)   Class of humans   Class of things   Tabasaran
    Absl   du-mu   du-mu   'that; he, she, it'
    Erg   du-γu   di-di // di-ri
    Gen   du-γa-n   di-di-n // di-ri-n
    Dat   du-γ-az   di-di-z // di-ri-z
    (Magometov 1965: 176-177, following his morphological analysis)

In the Borč-Khinov dialect of Rutul, the demonstrative distinguishes classes minimally: *hava-dɨ* (Classes I, II, III) vs. *hava-d* (Class IV) in the absolutive; in other cases there is no distinction (Ibragimov 1978: 266-267). Other dialects show a similar distinction and thus provide no useful evidence.

    In sum, the PL substantivizer may have been associated with a CM; if so, it is more likely that the CM preceded the substantivizer. There is little to suggest that the demonstrative from which it probably developed had a CM as a co-morpheme. Thus, the occurrence of a suffixal CM in Archi as a co-morpheme with the adjectivizer (originally substantivizer) *-tːu* is unexplained by the data currently available.

5. *Conclusion*

In sections 1-3 we argued that CM + *asːa* is a form inherited from PL (following in this respect Alekseev 1985), and that the development of the co-morphemic pairs *a* + CM + *u* and *ej* + CM + *u* may have been influenced by Lak (as suggested for the first by K'axaʒe 1964).

In section 4 we showed that the Archi adjective formant *-tːu*+CM is probably cognate to Udi *-t'/-tː*, the formant of substantives, and to other formants of substantives in other Lezgian languages. We reconstruct this as PL **-tːV* with the function of substantivizer. We have also argued that the Archi demonstrative *to*+CM is cognate to the Udi adnominal demonstrative *t'e/tːe* and to other demonstratives in other Lezgian languages. We have reconstructed this morpheme as PL **tːV* and argued that it is the source of the substantive formant in Lezgian languages.

We have shown that in Batsbi, a ND language from outside the Lezgian subgroup, another formant of substantives has been generalized to certain adnominal modifiers, including adjectives, as happened also in Avar. We have argued that the same change must have taken place in Archi. Occurring on adnominal modifiers, this marker was reanalyzed in Archi as a marker of modifiers, a formant of adjectives.

We have argued further that Archi borrowed from neighboring Lak the morpheme *-ma*, a formant of substantives.

Thus, we have shown that the complex word in (2) developed from inherited morphemes influenced in some respects by Lak. This is somewhat ironic, since Lak does not have such exuberant exponence (with four CMs in a single word), as far as we are aware. Much remains to be explained. It is not clear what the etymons of the morphemes *ej...u* and *a...u* are, and it is not clear how these and the adjectivizer *-tːu* came to have CMs as co-morphemes.

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