

THE TURKO-LEZGIC VOICE PARADIGM OF YENİ DİZAXLI LEZGIAN YENİ DİZAXLI LEZGİCESİNİN TÜRKÇE-LEZGİCE ÇATI PARADİGMASI

Abstract. This paper proposes that the morphological contrasts of the Azerbaijani Turkic valency-changing set have been borrowed in the Yeni Dizaxlı village variety of Lezgian—a variant of the Quba macro-dialect (Mejlanova 1964: 3)—, a Lezgian language in the East Caucasian family, spoken in the Qəbələ district of Azerbaijan. While the existence of Turkic valency-changing morphology is documented in the Lezgian branch of the family (Aslanov 1989; Authier 2010), I propose here for the first time that contrasts are also borrowed. The relevant valency-changing markers participate in the same contrasts in the same contexts in both Qəbələ Lezgian and in Azerbaijani, though evidence from Standard Lezgian suggests that the native Lezgian markers are not necessarily contrastive in the literary form of the language. Yeni Dizaxlı Lezgian demonstrates the coexistence of borrowed and native voice markers in paradigmatic contrast, i.e. a case of parallel system borrowing (Kossmann 2010).

Keywords: morphology, contact, voice, Lezgian, Daghestanian

Öz: Bu çalışmada Azerbaycan dilindeki sözdizimini değiştiren (ya istemi değiştiren) kümenin morfolojik karşıtlıklarının, Doğu Kafkas dil ailesinin Lezgi koluna mensup Lezgicenin Guba makro-lehçesinin (Mejlanova 1964: 3) Azerbaycan'ın Gebele bölgesinde konuşulan Yeni Dizaxlı ağzından ödünç alındığı öne sürülmektedir. Bu dil ailesinin Lezgi kolunda Türkçe sözdizimini değiştiren biçimbilimsel yapıların varlığı belgelenmiştir (Aslanov 1989; Authier 2010), ancak, bu çalışma ilk kez karşıtlıklarının da ödünç alındığını ileri sürmektedir. İlgili sözdizimini değiştiren belirteçler, hem Gebele Lezgicesinde hem de Azerbaycan dilinde aynı bağlamlarda aynı karşıtlıklara sahip olsa da, Standart Lezgiceden elde edilen veriler, yerel Lezgice belirteçlerin dilin edebi biçiminde her zaman karşıtlık barındıran biçimde olmadığı yönündedir. Yeni Dizaxlı Lezgicesi, ödünç alınan ve yerel çatı belirteçlerinin paradigmatic karşıtlık içinde bir arada var olduğunu, yani bir paralel sistem ödünçleme durumu (Kossmann 2010) olduğunu göstermektedir.

Anahtar Sözcükler: morfoloji, dil teması, çatı, Lezgice, Dağıstan dilleri

¹ University of San Diego, USA. ORCID: 0000-0003-0563-0418

1. Introduction

In one of the Qəbələ dialects of Lezgian, a language in the Lezgi branch² of the East Caucasian (also called Nakh-Daghestanian) family, the valency of certain denominal verbs may be altered either with a native pattern or with a mostly synonymous pattern borrowed from Azerbaijani, a neighboring Turkic language, as illustrated in (1).

- (1) a. *za* *jabu* *tumar-lamif-nu*
 1SG.ERG horse.ABS comb-*lamif*-AOR
 ‘I combed a horse.’
- b. *jabu* *tumar-lanmif-nu*
 horse.ABS comb-*lamif*.PASS-AOR
 ‘The horse was combed.’
- c. *jabu* *tumar-lamif* *ha-na*
 horse.ABS comb-*lamif* COP-AOR
 ‘The horse was combed.’

The goal of this paper is to provide a description of the kinds of borrowed morphological patterns in (1) as they occur in the variety of Qəbələ Lezgian investigated in this paper, the native of language of consultants from the village of Yeni Dizaxlı, Azerbaijan³. In providing a basic description of these data, I hope to highlight the relevance treating smaller minority dialects—like Yeni Dizaxlı Lezgian—on their own terms for the literature on morphology and language contact more generally.

Yeni Dizaxlı Lezgian exhibits a common construction for denominal verbalization in the Lezgi languages, reported by Aslanov (1989: 130-133) as consisting of a base noun + *-lamif*—from the Turkic verbalizer *-la* + the Turkic evidential/perfect *-mif* (Əfəndiyeva 2005; Johanson 2006). As in standard Lezgian (=Literary Lezgian), detransitivization may occur with the periphrastic stem of the lexical verb with the light verb *ha-* ‘become, be’ (1c), but may also occur with just the borrowed *<n>* (1b).

² This branch (sometimes also called ‘Lezgian’) standardly includes varieties of Lezgian (sometimes referred to as Lezgi), Archi, Aghul, Tabasaran, Tsakhur, Rutul, Kryz, Budukh, and Udi (Authier 2012; Schulze 2015).

³ Uncited data in this paper comes primarily from the author’s fieldwork with consultants, carried out in Qəbələ and Baku in 2018 and 2021. This research was supported by the Malcolm R. Stacey Scholarship Fund. I am particularly grateful to Samra Abdurahman for several insights into the data. Any mistakes are my own.

As the comparative paradigms in (2) show, the <n> in the *-lanmif* verbalizer observed in (1b) is cognate with similar (originally Turkic) material in Azerbaijani.

(2)	Voice	Standard Lezgian	Yeni Dizaxlı Lezgian	Azerbaijani
	Neut	<i>ewæɤ-</i>	<i>tumar-lamif-</i>	<i>tumar-la-</i>
	PASS	-----	<i>tumar-lanmif-/tumar-lamif ha-</i>	<i>tumar-la-n(-il)-</i>
	RFLXV/ANTIC	<i>ewæ(ɤ) xun-</i>	<i>tumar-lanmif-/tumar-lamif ha-</i>	<i>tumar-la-n-</i>
	CAUS	-----	<i>tumar-latmif-</i>	<i>tumar-la-t-</i>

The relevant valency-changing markers participate in the same contrasts in the same contexts in both Yeni Dizaxlı Lezgian and in Azerbaijani, constituting a voice paradigm which coexists with native patterns in the language, i.e., a case of parallel system borrowing (Kossman 2010). This paper thus proposes that the scope of morphological borrowing in Yeni Dizaxlı Lezgian goes beyond the material borrowing observed in (1b) and that morphological contrasts of the Azerbaijani Turkic valency-changing set have been borrowed in the variety.

The rest of the paper is organized as follows. A brief description of the sociolinguistic situation of this Lezgian variety is given in §2. The basic facts of how the borrowed morphological material patterns are described in §3. Valency-decreasing morphology is described in §3.1. Unlike what is described for Standard Lezgian, detransitivization in Yeni Dizaxlı Lezgian consists not only of anticausatives (Haspelmath 1993: 166), but includes passive-like forms for the relevant denominal verbs. The relevant patterns are observed in both valency-decreasing and valency-increasing morphology. While native causatives are primarily instances of transitivization from an intransitive base (Haspelmath 1993: 163), the borrowed Turkic causatives may also apply to transitive bases, as in (3).

(3)	<i>za</i>	<i>dust-unug</i>	<i>jabu</i>	<i>tumar-latmif-nu</i>
	1SG.ERG	friend-DAT	horse.ABS	comb-lamif.CAUS-AOR
	'I made a friend comb a horse.'			

Whereas the native *-(a)r* 'causative' only serves as a marginally productive transitivizing suffix in the standard language (ibid.: 163), the borrowed Turkic system introduces a morphological contrast for transitive verb stems and is productive with stems of different degrees of transitivity. I further describe the valency-increasing pattern in §3.2.

The importance of paradigmatic cohesion is emphasized in §3.3. While the existence of Turkic valency-changing morphology is documented in the Lezgian branch of the family (Aslanov 1989; Authier 2010), other descriptions of similar phenomena have not documented the richer paradigmatic contrasts described here in Yeni Dizaxlı Lezgian, which appears to exhibit both formal similarity and structural congruence with Azerbaijani: both pattern and material borrowing (Gardani 2020). The expansion of morphological contrasts in both valency-increasing and valency-decreasing directions constitutes an interesting expansion of the native Lezgian system by borrowing

categories—such as passives and true, rather than just transitivizing, causatives—which do not exist in the standard variety.

The relevance of these data for the literature on language contact is addressed in §4. The borrowability of the valency-changing morphology and likelihood of a codeswitching analysis is discussed in §4.1. Parallel system borrowing is rarely described for valency-changing categories. The paradigms described here for Yeni Dizaxlı Lezgian, which we may descriptively call a mixed Turko-Lezgian voice paradigm, adds to our understanding of how parallel system borrowing can add contrasts to a language in domains where they were not previously found. The likelihood that the borrowed morphological material is involved in loanword integration is addressed in §4.2, and the complexity that the *-lamif* adds to the Lezgian system is addressed in §4.3. This description of the Turko-Lezgian voice paradigm is in line with other cases in the literature, in which borrowing in heavily bilingual communities may induce some morphological complexity, rather than reducing or maintaining the relative complexity of the languages in contact (e.g. Meakins, Hua, Cassandra, & Bronham 2019). The paper is concluded in §5.

2. Background



The ruins of the ancient city walls of Qəbələ/Gabala

The variety of Lezgian described here comes primarily from consultants in the village of Yeni Dizaxlı in the Qəbələ region of Azerbaijan. Dialects in this region are classified under the Quba macro-dialect according to the division given by Mejlanova (1964:3), which divides the Lezgian dialects into three mutually-intelligible larger dialects (Küre, Samur-Axceh, Quba). The prevalence of *-lamif* verbs has been sometimes highlighted as a feature of the Quba dialect of Lezgian (Babaev & Selimova 2016: 77), but the dialects spoken in Qəbələ are

not, to my knowledge, addressed in any significant detail by Mejlanova or by any other dialectologists, and so remain understudied.

The local variety of Lezgian is the native language of the roughly two-thousand inhabitants of Yeni Dizaxlı, but numerous social factors motivate a widespread multilingualism in the community. The Yeni Dizaxlı community is a very small subset of the Lezgian ethnic minority in Azerbaijan, which boasts upwards of 180,000 members (Clifton & Tiessen 2018; Matveeva 2002) and shares close ethnic ties with the Lezgian minority in the neighboring Russian region of Daghestan. Lezgian has been established as a literary language since 1923, following Soviet education reforms in Daghestan (Letifov 1958: 84-85, as cited by Crisp 1985), using a Latin alphabet until the switch to a Cyrillic orthography in 1938. While the Cyrillic orthography is still used today for the publication of literary materials in Daghestan and in Azerbaijan (Kərimova 2011: 615), the Yeni Dizaxlı Lezgian speakers consulted by the author did not report learning the official orthography, nor did they report reading or writing in either the literary variety of Lezgian or in their own dialect. Thus like most other Lezgian varieties, Yeni Dizaxlı Lezgian is unwritten.

Azerbaijani Turkic is the official language of the country and a working knowledge of it is typically a desideratum for any sort of education or a career in the country. Azerbaijani and Russian are both available as the primary instructional languages at primary, secondary, and higher levels of education. Lezgians in larger population centers, such as in the national capital Baku or in the Lezgian regional center of Qusar have access to Russian-sector schools, if the family chooses that they prefer this for their child and if the school has available spots. Yeni Dizaxlı does not host a Russian-sector school and Lezgian is not used as a language of instruction. As a result, the village's community exhibits a high degree of fluency in Azerbaijani in addition to their native Lezgian. While the population of Yeni Dizaxlı is largely—likely entirely—Lezgian, speakers must nonetheless rely on their knowledge of Azerbaijani when communicating with members of the nearby village of Dizaxlı, which, according to local tradition, was founded by ethnic Azerbaijani Turks from Karabakh. Anecdotal evidence also suggests that many Azerbaijani Lezgians also have direct contact with Standard Turkish, primarily through television dramas and the Internet.

Some speakers in Yeni Dizaxlı have suggested to me that their variety is divergent both from the literary language (which is closer to the Küre dialect group) but also from other subdialects of the Quba grouping within Azerbaijan, even to the point of differing from other varieties within Qəbələ. Assessing these claims is beyond the scope of this paper.

3. Lezgian Alignment and Valency

Verbs in Lezgian lack any sort of agreement in person or number. In Yeni Dizaxlı Lezgian, like Standard Lezgian, grammatical roles are exclusively distinguished by case-marking. Unlike the marked subject of the transitive sentence (=A) in (5), the subject argument of the intransitive verb (=S) in (4) and the patient of the transitive construction (=P) in (5) are both unmarked, constituting an ergative-absolutive alignment system.

- (4) *elfad* *para* *galat-na*
 Elşad.ABS very become.tired-AOR
 ‘Elşad is very tired.’
- (5) *elfad-a* *æli* *ja-na*
 Elşad-ERG Ali.ABS hit-AOR
 ‘Elşad hit Ali.’

3.1 Valency-decreasing constructions

In Standard Lezgian, detransitivization (i.e., anticausatives) may occur with the periphrastic form of the verb with the light verb *xun* ‘become, be’ (Haspelmath 1993: 166).

- (6) Standard Lezgian (Haspelmath 1993: 166)
χkazun ‘raise, lift’ *χkaz xun* ‘rise’
aq'alun ‘close (tr.)’ *aq'al xun* ‘close (intr.)’
tük'ürün ‘build, form’ *tük'ür xun* ‘be formed (in grammar)’

We have already seen the Yeni Dizaxlı cognate for this pattern of detransitivization with *ha-* ‘become, be’ in (1c). The synonymous detransitivization strategy in (1b), reproduced here as (7b), perfectly mirrors the pattern in Azerbaijani.

- (7) Yeni Dizaxlı Lezgian
- a. *za* *jabu* *tumar-lamif-nu*
 1SG.ERG horse.ABS comb-lamif-AOR
 ‘I combed a horse.’
- b. *jabu* *tumar-lanmif-nu*
 horse.ABS comb-lamif.PASS-AOR
 ‘The horse was combed.’

Deriving an intransitive verb from a typical transitive base results in minimal changes to the surface argument structure: the ergative subject is merely omitted and the absolutive argument now functions as a subject rather than as the direct object of the verb. As illustrated in (8), in Azerbaijani, this same relationship is obtained by promoting the accusative object of the transitive verb to the subject position, which assigns it nominative case in the prototypical intransitive sentence.

- (8) Azerbaijani
- a. *mæn* *at-u* *tumar-la-dı-m*
 1SG.NOM horse-ACC comb-VBLZ-PST-1SG
 ‘I combed the horse.’

- b. *at* *tumar-la-n-di*
 horse.NOM comb-VBLZ-PASS/REFL-PST.3SG
 ‘The horse was combed.’

While the native Lezgian detransitivization pattern with *xun* [Standard L.]/*ha-* [YDL] appears to share a functional space with the Azerbaijani passivization pattern in (8) in that both serve as valency-decreasing patterns, one important difference concerns the interpretation of the A argument. Both patterns involve the omission of A, but the Azerbaijani pattern retains a referential index for A, something most clearly observed in the by-phrase construction in (9).

- (9) Azerbaijani
- a. *ajka* *at-u* *tumar-la-di*
 Aika.NOM horse-ACC comb-VBLZ-PST.3SG
 ‘Aika combed the horse.’
- b. *at* (*ajka tæræf-in-dæn*) *tumar-la-n-di*
 horse.NOM Aika side-POSS.3SG-ABL comb-VBLZ-PASS/REFL-PST.3SG
 ‘The horse was combed (by Aika).’

Such by-phrases are not often overt in spoken Azerbaijani, but are accepted as grammatical and are not infrequent in the literary written language. By contrast, oblique backgrounding constructions of this sort are not present in Daghestanian languages (Authier 2012). But as (10) shows, speakers from Yeni Dizaxlı report an ambiguity in both the periphrastic and the suffixal patterns of valency-decreasing.

- (10) Yeni Dizaxlı Lezgian
- a. *za* *jabu* *tumar-lamif-nu*
 1SG.ERG horse.ABS comb-lamif-AOR
 ‘I combed a horse.’
- b. *jabu* *tumar-lanmif-nu*
 horse.ABS comb-lamif.PASS-AOR
 i. ‘The horse was combed [by me, by someone, etc].’
 ii. ‘The horse brushed [itself]’ (e.g., against a fence)
- c. *jabu* *tumar-lamif* *ha-na*
 horse.ABS comb-lamif COP-AOR
 i. ‘The horse was combed [by me, by someone, etc].’
 ii. ‘The horse brushed [itself]’ (e.g., against a fence)

In the first interpretation for (10b-c), reference to the A argument is maintained but backgrounded. In the second interpretation, the original A is no longer present in the discourse, but a reflexive

interpretation arises in which the P argument of (10) is now both actant and patient. This same ambiguity between a passive and reflexive reading is likely best attributed to the syncretism of these two categories in Azerbaijani, both expressed by the very same *-n* marker that appears in the borrowed material in (10b).

Passives of this sort are uncommon in the East Caucasian family, but they are not entirely unattested. Authier (2012) identifies a passive construction Kryz, another Lezgian language, glossed below as a ‘detransitive’ voice.

(11) Kryz (Authier 2012: 141)

- a. *har* *cu^hma-ca* *Hazratbaba.ci-r* *lu* *kel*
 every friday-IN Saint.Baba-*lamif*-ERG this lamb
 kura-ts'-ryu-ni
 slay-IPF-PRS.F-PST
 ‘Every Friday Saint Baba would sacrifice this lamb.’
- b. *har* *cu^hma-ca* *lu* *kel* *kura-ar-yu-ni*
 every friday-IN this lamb slay-DETR-PRS.F-PST
 ‘This lamb would be sacrificed every Friday.’

Like Lezgian, Kryz lacks an overt oblique phrase for backgrounded agent arguments. In order to classify the detransitivizing construction in (11), Authier (2012: 142) applies criteria pulled from Kazenin (2001) and Comrie (2008) to the Kryz construction:

- i) the derived (lower valency) construction is ‘heavier’ than the basic or active form.
- ii) the construction is less frequent or less productive
- iii) the new subject is not a semantic A
- iv) the semantic role of the maintained argument does not change

On the basis of these criteria, Authier concluded at the time that the Kryz detransitive voice had a passive function and, moreover, that this was the only instance of passivization in the East Caucasian family. Authier (2012: 159) speculates that the passive function of the detransitive is likely the result of influence from the surrounding dominant language: Azerbaijani Turkic.

There is much better evidence for the influence of Azerbaijani in the case of Yeni Dizaxlı Lezgian, given that the Turkic passive marker itself is involved in these constructions. Like the Kryz detransitive voice, the first interpretations of the Lezgian sentences in (10b-c):

- i) are morphologically ‘marked’ or ‘heavier’ than the corresponding basic sentence in (10a);
- ii) are less frequent than their corresponding active sentences, though perhaps more frequent than the detransitive voice in Kryz;
- iii) do not introduce a new semantic A, but rather promote the P argument to the role of subject (not to be confused with the secondary interpretations, which, as reflexives, introduce a different semantic A);
- iv) do not alter the semantics of the promoted P argument

The ambiguity with reflexive readings seen in (10) notwithstanding, Yeni Dizaxlı Lezgian constitutes a second example of passivization in East Caucasian.

As in Kryz, this passivization occurs with the native pattern (10c), though it also occurs with borrowed affixal material (10b). Previous literature has established two relevant kinds of borrowing: *matter* borrowing and *pattern* borrowing (Matras & Sakel 2004). Matter borrowing may be said to occur when morphological material and its phonological shape from one language is replicated in another language, whereas pattern borrowing occurs when the organization or distribution of grammatical meaning from one language is replicated in another language (without necessarily using the same form). Yeni Dizaxlı Lezgian appears to exhibit both matter and pattern borrowing in the domain of valency-changing morphology: The range of functions of the respective native patterns is thus expanded in both Kryz and in Yeni Dizaxlı Lezgian. Unlike Kryz, Yeni Dizaxlı Lezgian also appears to have borrowed the Azerbaijani valency-increasing patterns, to which we now turn our attention.

3.2 Valency-increasing constructions

In Standard Lezgian, the marginally productive *-(a)r* causative suffix functions as a transitivizer.

- (12) Standard Lezgian (Haspelmath 1993: 163-4)
- | | | | |
|------------------------------|--------------------|--|--------------------------|
| <i>q^hit'in-un</i> | ‘burst, brack’ | <i>q^hit'in-ar-un</i> | ‘make burst, crack’ |
| <i>eleq'-un</i> | ‘decrease (intr.)’ | <i>eleq'-ar-un</i> | ‘decrease (tr.), reduce’ |
| <i>ksu-n</i> | ‘fall asleep’ | <i>ksu-r-un</i> | ‘put to bed’ |

The *-(a)r* suffix does not derive verbs from transitive bases, with a few exceptions where it is a redundant transitivity marker.

- (13) Standard Lezgian (ibid.)
- a. *at'um-un* = *at'um-**ar**-un* ‘burst, brack’
 - b. *galtad-un* = *galtad-**ar**-un* ‘rock, wave, shake’

The status of this suffix in Yeni Dizaxlı Lezgian seems to be similarly restricted. Even amongst the relatively limited set of verbs which may increase valency with the native *-(a)r* suffix in Yeni Dizaxlı Lezgian, alternative forms with Turkic morphology may be present with an apparently synonymous meaning.

(14) Yeni Dizaxlı Lezgian

- | | | | | |
|----|--------------------------|--------------|------------------------|----------------|
| a. | <i>zun</i> | <i>xejli</i> | <i>zæif</i> | <i>ha-nava</i> |
| | 1SG.ABS | very | weak | COP-PRF |
| | 'I've become very weak.' | | | |
| b. | <i>virus-da</i> | <i>zun</i> | <i>zæif-ar-na</i> | |
| | virus-ERG | 1SG.ABS | weak-CAUS-AOR | |
| | 'The virus weakened me.' | | | |
| c. | <i>virus-da</i> | <i>zun</i> | <i>zæif-letmif-nu</i> | |
| | virus-ERG | 1SG.ABS | weak-le<t>mif.CAUS-AOR | |
| | 'The virus weakened me.' | | | |

The borrowed Turkic pattern observed in (14c) differs from the native pattern in that the borrowed causative constructions may also apply to transitive bases, introducing a dative causee, as in (3), repeated here as (15b).

(15) Yeni Dizaxlı Lezgian

- | | | | | |
|----|---------------------------------|------------------|-----------------------|------------------------|
| a. | <i>za</i> | <i>jabu</i> | <i>tumar-lamif-nu</i> | |
| | 1SG.ERG | horse.ABS | comb-lamif-AOR | |
| | 'I combed a horse.' | | | |
| b. | <i>za</i> | <i>dust-unug</i> | <i>jabu</i> | <i>tumar-latmif-nu</i> |
| | 1SG.ERG | friend-DAT | horse.ABS | comb-la<t>mif.CAUS-AOR |
| | 'I made a friend comb a horse.' | | | |

Like the borrowed Azerbaijani Turkic valency-decreasing pattern, this valency-increasing pattern shares a parallel with the original Azerbaijani argument structure—despite the different alignment system of the original Turkic pattern—with respect to how arguments are introduced. Consider the Azerbaijani example in (16).

(16) Azerbaijani

- | | | | |
|----|---------------------|----------------|-----------------|
| a. | <i>mæn</i> | <i>kitab-u</i> | <i>jaz-du-m</i> |
| | 1SG.NOM | book-ACC | write-PST-1SG |
| | 'I wrote the book.' | | |

- b. *dost-um* *mæn-æ* *kitab-u* *jaz-dur-di*
 friend-1SG.POSS 1SG-DAT book-ACC write-CAUS-PST.3SG
 ‘My friend made me write the book.’

(16b) exhibits a monoclausal complex predicate, which is characteristic of causative constructions in Turkic. The A argument in (16a) becomes is a dative causee in (16b) and is still the actant in the writing event, though not the primary actant in the causing event. While the causation of already transitive predicates does not occur in Standard Lezgian, the Yeni Dizaxlı Lezgian example in (15b) follows the same structure as (16b) in that the actant of the caused event takes dative marking, while the semantic P retains its case-marking (absolute in Lezgian, accusative in Azerbaijani).

The native Lezgian *-(a)r* causative does not exhibit any functional expansion as a result of Azerbaijani influence, unlike, e.g., the functional expansion observed with even native valency-decreasing constructions in (10). *-(a)r* may not, for instance, derive a causative predicate from a transitive base. Ditransitive causative constructions like (17) are thus limited to borrowed denominal verbs which already contain the borrowed *-lamif* verbalizer.

3.3 Parallel system borrowing: the paradigmatics of valency-changing morphology

One plausible hypothesis—especially given the above statement regarding the restricted distribution of true (ditransitive) causatives—would be that three distinct verbal suffixes associated with three distinct valency-frames were individually borrowed from Azerbaijani into Yeni Dizaxlı Lezgian: *-lamif* for the active, *-lanmif* for the passive or otherwise detransitive, and *-latmif* for the causative. On the basis of §3.1, perhaps the passive reading of *-lanmif* altered the interpretation of valency-decreasing patterns in the language in general, but beyond that perhaps there was no real structural change in the dialect as a result of language contact. In this section, I present evidence for that the borrowed sets of valency-changing morphology in Yeni Dizaxlı Lezgian do indeed constitute coherent and contrastive sets of morphological material, and are thus a case of what Kossmann has referred to as parallel system borrowing (PSB).

According to Kossmann (2010: 459), PSB leads to “the coexistence of borrowed and native paradigms in one and the same language.” One well-known example of this concerns Latinate plurals in English, which are nouns borrowed in both singular and plural forms, e.g., *alumnus-alumni*. Yeni Dizaxlı Lezgian provides an interesting case of PSB because the categories in the Azerbaijani set of valency-changing suffixes do not totally overlap with the simpler set of Lezgian categories. Instead, the Azerbaijani system consists of five categories typically referred to as ‘voices’ in the turkological tradition (=Az. *növ*, Kazımov 2010: 183-207).

(17)	Voice	Azerbaijani <i>-dlr</i> class	Azerbaijani <i>-t</i> class
	ACT	<i>děj-</i> 'beat, hit'	<i>bæzæ-</i> 'adorn'
	PASS	<i>děj-ül-</i> 'be hit'	<i>bæzæ-n-</i> 'be decorated, adorned'
	RFLXV	<i>děj-ün-</i> 'throb'	<i>bæzæ-n-</i> 'spruce up, adorn oneself'
	RCP	<i>děj-üf-</i> 'fight'	—————
	CAUS	<i>děj-dür-</i> 'make hit'	<i>bæzæ-t-</i> 'decorate' .

As demonstrated in (17), these valency-changing suffixes occur in the same position on (simple) verb-stems and are conceived of as a contrastive set. By contrast, the valency-changing categories we have observed in Standard Lezgian, such as anticausative and causative, occur on mutually exclusive sets of lexemes.

(18)	Voice	Standard Lezgian intrans. class	Standard Lezgian trans. class
	ACT	<i>qʰit'q'in-un</i> 'burst, crack'	<i>aq'alun</i> 'close (tr.)'
	ANTIC	—————	<i>aq'al xun</i> 'close (intr.)'
	CAUS	<i>qʰit'q'in-ar-un</i> 'make burst'	—————

In contrast to the Azerbaijani pattern, no native Lezgian lexemes in the Standard variety seem to exhibit both valency-decreasing and valency-increasing patterns (Haspelmath 1993: 163, 166). The richer set of contrasts in earlier sections are only present in Yeni Dizaxlı Lezgian because they were likely borrowed as innovative contrasts, rather than as independent categories.

The distribution of the reciprocal suffix provides good evidence that these categories now constitute contrastive morphological systems rather than piecemeal categories. The observant reader may have noticed that the reciprocal does not occur as a category in the first set of paradigms shown in (2), but shows up as a distinct category in (17). This is because the borrowed verbs in Lezgian depend on the verbalizer morphology, and denominal verbs in Azerbaijani tend to lack the reciprocal as a category. Instead, many intransitive denominal verbs in Azerbaijani tend to be obligatorily marked with the reciprocal suffix without any corresponding reciprocal semantics and without any corresponding unmarked form.

(19)	Obligatory reciprocal suffixes in Azerbaijani		
a.	<i>normal</i> 'normal'	→	<i>normal-la-f-</i> (but * <i>normal-la-</i>) 'normalize'
b.	<i>milli</i> 'national'	→	<i>milli-læ-f-</i> (but * <i>milli-læ-</i>) 'nationalize'
c.	<i>güdz</i> 'strength'	→	<i>güdz-læ-f-</i> (but * <i>güdz-læ-</i>) 'strengthen'

Azerbaijani verbs in the class shown in (19) are defective for all valency-decreasing categories and so are deponent (both in the classical sense of being active verbs with non-active forms and in the more specific sense of Stump 2007, in that they are exceptional verbs with defective paradigms).

The hypothetically complete paradigm for (19a) is given in (20), followed by the actual paradigm in (21). Kazımov 2010: 183-207).

(20)	Voice	Hypothetically complete Azerbaijani * <i>normal-la-</i> ‘normalize’	
	ACT	<i>normal-la-</i>	‘normalize (intr.)’
	PASS	<i>normal-la-n-</i>	‘be normalized’ [impersonal]
	RFLXV	<i>normal-la-n-</i>	‘normalize oneself’
	RCP	<i>normal-la-f-</i>	‘normalize each other, normalize together’
	CAUS	<i>normal-la-t-</i>	‘normalize (tr.)’
(21)	Voice	Deponent paradigm for Azerbaijani * <i>normal-la-</i> ‘normalize’	
	ACT	<i>normal-la-f-</i>	‘normalize (intr.)’
	PASS	————	
	RFLXV	————	
	RCP	————	
	CAUS	<i>normal-la-f-dur</i>	‘normalize (tr.)’

Aside from the defectiveness of all the valency-decreasing categories, the most striking thing about the deponent paradigm in (21) is that the causative form of the verb appears to take the *-dlr* allomorph of the causative rather than the *-t* allomorph, which is the suffix that we have seen occur with the verbalizer *-la* thusfar.

There is an explanation for this. The ‘reciprocal’ suffix in this particular class seems to have been co-opted as an exponent for the active category. That its primary function in this class is to mark the active category can be inferred from the causative form of the verb, which is derived from the active stem for most verbs in Azerbaijani. The active stem in this particular class happens to be (vaccuously) marked with the reciprocal, thus the reciprocal also occurs in the causative form of the verb. *-t* typically occurs after the verbalizer in Azerbaijani because it is phonologically determined to occur after polysyllabic sonorant-final stems, and the verbalizer *-la* creates such an environment. Now that the reciprocal suffix blocks that environment, we instead get the complex *-lafdur* causative complex in (21).

This particular class of verbs has also been borrowed into Yeni Dizaxlı Lezgian.

(22)	Yeni Dizaxlı Lezgian			
a.	<i>zi</i>	<i>sened-ar</i>	<i>internet-de</i>	<i>arxiv-lefmif</i>
	1SG.POSS	docuent-.PL.ABS	internet-LOC	archive- <i>lamif</i>
	<i>ha-nava</i>			
	COP-PRF			
	‘Our documents are archived online.’			

- b. *universitet-di zi* *sened-ar* *internet-de*
 university-ERG 1SG.POSS docuent-.PL.ABS docuent-.PL.ABS
 arxiv-lefdirmif-zava
 archive-*la*<*dir*>*mif*.CAUS-IMPF
 ‘The university will archive our documents online.’

The transitive form of the verb for ‘archive’ necessarily occurs with the complex suffix - *lefdirmif*, even though this variety of Lezgian already employs the alternative causative suffix -*latmif* and does not provide evidence elsewhere in the language for the existence of a phonologically-driven distribution for the -*t* causative (given that it only occurs in the context of -*la*<*t*>*mif*).

The relevant valency-changing morphology has not been borrowed into this local dialect of Lezgian in isolation, but rather constitutes a grammatical subsystem. Lezgian speakers must learn that verbs like ‘archive’ have idiosyncratic forms in the active voice and that these forms determine a different morphological realization for contrasting categories (like the causative) or, alternatively, they are code-switching and using their knowledge of Azerbaijani. Misanalyzing code-switched elements as borrowed patterns in a community as heavily multilingual as Yeni Dizaxlı is a real danger that needs to be kept in mind. Fortunately, the Lezgian data exhibits a pattern of adaption not found in Azerbaijani, suggesting that we are observing a *bona fide* case of parallel system borrowing.

4. Loanword Integration and Borrowability in Lezgian

Having described the basic facts of valency-changing morphology in Yeni Dizaxlı Lezgian, I now ask two questions of the data: i) how likely is it that these verbal patterns are integrated into the grammar?; ii) how indicative are they of a more general, productive method of borrowing?; iii) what is the synchronic grammatical status of the -*lamif* verbalizer?

4.1 Morphological borrowability and codeswitching

Received wisdom in much of the literature on contact has assumed that morphological material has been rarely borrowed, doubly so for paradigmatic contrasts. Generalizations of this assumption are found in Whitney’s (1881: 19-20) early scale of borrowability, which places morphological material at the least likely borrowed category. Field’s (2002: 35-37) revised scale over a larger set of observations proposes that agglutinative material is more likely borrowed than fusional affixes.

- (23) Field’s borrowability scale
 nouns > adjectives, verbs > function words > agglutinative affixes > fusional affixes

Given that much of the Turkic verbal complex consists of juxtaposing, prototypically agglutinative affixation, it is still possible that instances of valency-changing morphology occur in YD Lezgian because speakers are actively switching between Lezgian and Azerbaijani during any given

utterance. This would potentially explain why the relevant morphology always occurs within the complex *-lamif* suffix. Textbooks used by Azerbaijani-sector students explicitly identify morphemes in complexes like *-lamif* as consisting of a verbalizer *-la* and a perfect suffix *-mif*, *-latmif* as consisting of verbalizer *-la*, a causative *-t*, a perfect suffix *-mif*, etc. (Hüseynzadə 2007).

Although all of the morphological material in the complex *-lamif* suffix is Turkic, the suffix in Lezgian is sufficiently distinct from the analogous categories in Azerbaijani. While all valency-changing morphology occurs between the *-la* and *-mif* elements in Lezgian, no such dependence exists in Azerbaijani. *-mif* in particular is an entirely distinct exponent of the perfect (or evidential) in Azerbaijani. More specifically, the perfect reading of *-mif* has been identified as ‘tending towards purely postterminal meanings’ by Johanson (2000: 74). The often formally identical evidential *-(y)mif* is identified by Johanson (ibid.: 81) as an indirective. Neither perfect nor evidential semantics are maintained in the borrowed suffix in Lezgian. The *-lamif* suffix is semantically bleached and may be combined with any other tense and aspect.

- (24) Yeni Dizaxlı Lezgian
elfad-a park zibil-lemif-irva
 Elşad-ERG park.ABS trash-*lamif*-FUT
 ‘Elşad will litter the park.’

Compare (24) with the periphrastic future perfect form of the sentence in (25):

- (25) *elfad-a park zibil-lemif-unava zer-va*
 Elşad-ERG park.ABS trash-*lamif*-MSD.? COP-FUT
 ‘Elşad will have littered the park.’

-mif occurs in both (24) and (25) but does not contribute any evidential interpretation to either sentence, nor does it contribute to the constrictive perfect interpretation of (25), since it also occurs in (24). I take this as sufficient evidence that the function of *-mif*, whatever it may be, is distinct from its function in Azerbaijani. The occurrence of Lezgian valency-changing morphology only in the context of *-mif* (in the complex *-lamif* suffix) is thus not reducible to codeswitching with Azerbaijani.

If, as Matras (2007: 34) suggests, the formalizations of implicational borrowability hierarchies are reflections of “the ease with which speakers are willing to give up the separation of two ‘language systems’ and allow them to converge or to fuse around a particular linguistic function,” then the Yeni Dizaxlı speech community has given up this separation at a particularly intimate level (agglutinative affixes). We still lack an explanation for why valency-changing suffixes necessarily occur with the complex *-lamif* suffix.

4.2 Loanword integration in Lezgian

We may suspect, based on the fact that all the borrowed valency-changing morphology occurs in the context of the verbalizer *-lamif*, that the motivation for the borrowing of this elaborated set of contrasts may have its origins in a method of incorporating nominal loanwords into the Lezgian verbal system. Unfortunately testing this hypothesis would require a richer comparative or historical database than I can provide for this paper.

What we can say of loanword incorporation unfortunately sheds no light on the matter. Borrowed nouns are typically incorporated into the Yeni Dizaxlı Lezgian alignment system via light verbs like *i-/aw-* ‘do’ for transitives and *ha-* ‘be’ for intransitives, as seen here with the transitive verb for ‘prepare’ (< Arabic حاضر ‘ready, prepared’) and the intransitive verb for ‘subscribe’ (< French abonnement ‘subscription’).

(26) Yeni Dizaxlı Lezgian

- a. *ruƒ-a* *hurq’a* *yimek* ***hazur i-zava***
 girl-ERG every.day food.ABS **ready do-PRS**
 ‘The girl cooks food everyday.’
- b. ***abone*** ***hun*** *rik’-elajalud-mur*
subscription **COP.INF** heart-SREL fall.out-PROHIB
 ‘Don’t forget to subscribe!’

The same patterns are found in Azerbaijani, e.g., *fotomontaj etmæk* ‘to edit photos’ [lit.: to do a photomontage]; *abüne olmax* ‘to subscribe’ [lit.: ‘to become a subscription/subscriber’]. These two light verbs serve as the general template by which new nouns are integrated into the core verbal system. Their status is distinct from simple nominal objects.

Syntactic adjacency provides a reliable test for such light verb structures in Lezgian. Adverbs like *hurq’a* ‘everyday’ can typically intervene between an absolutive argument and a verb.

- (27) a. *ruƒ-a* *hurq’a* *im* ***i-zava***
 girl-ERG every.day this.ABS **do-PRS**
 ‘The girl does this everyday.’
- b. *ruƒ-a* *im* *hurq’a* ***i-zava***
 girl-ERG this.ABS every.day **do-PRS**
 ‘The girl does this everyday.’

Unlike the lexical verb *i-* ‘do’, the light verb *i-* ‘do’ must be adjacent to its incorporated nominal complement in Yeni Dizaxlı Lezgian, such that no adverb may intervene.

(28) Yeni Dizaxlı Lezgian

<i>*ruf-a</i>	<i>jimek</i>	hazur <i>hurq'a</i>	i-zava
girl-ERG	food.ABS	ready every.day	do-PRS

Intended: 'The girl cooks food everyday.'

Light verbs are also a robust method for the incorporation of foreign nominal elements in Standard Lezgian, which follows the same patterns (Kerimova 2020, as cited in Testelelets 2021).

(29) Standard Lezgian

a.	<i>ruf-a</i>	<i>χürekar</i>	<i>har</i>	<i>juq'uz</i>	hazur i-jizwa
	‘The girl does this everyday.’				
b.	<i>*ruf-a</i>	<i>χürekar</i>	hazur	<i>har juq'uz</i>	i-jizwa
	girl-ERG	food.ERG	ready	every day	do-PRS

‘The girl cooks food everyday.’

Light verbs are thus a syntactically distinct and relatively resilient tool for loanword incorporation in their own right in Lezgian.

4.3 The synchronic status of *-lamif*

It seems unlikely that *-lamif* fulfills some necessary function for loanword integration, given the occurrence of light verb constructions fulfilling exactly that function. In many cases, *-lamif* just seems to be a verbalizer for a specific class of verbs. It does not appear to have any richer internal structure. 2021).

(30) Denominal verbs in Yeni Dizaxlı Lezgian

a.	<i>imza</i> ‘sign’	→	<i>imza-lamif-un</i> ‘sign’
b.	<i>tumar</i> ‘comb’	→	<i>tumar-lamif-un</i> ‘comb’
c.	<i>zibil</i> ‘garbage, trash’	→	<i>zibil-lemif-un</i> ‘litter’
d.	(<i>t</i>) <i>sin</i> ‘China’	→	<i>sinik-lemif-un</i> ‘Sinicize’
e.	<i>növ</i> ‘type’	→	<i>növ-lemif-un</i> ‘speciate’
f.	<i>baş</i> ‘head’	→	<i>baş-lamif-un</i> ‘begin (tr.)’

The grammar only seems to care about the complex suffixes *-lamif*; *-lanmif*; *-lafmif*; *latmif*; *-lafdurmif*, rather than any internal structure. As emphasized in §3.3, these forms primarily serve as constrative exponents of the borrowed valency-changing categories. Their segmental structure is thus less relevant and, if anything, more opaque and less agglutinative than it is in Azerbaijani. To the extent that particular constructions may be said to have typological profiles, the exponence of voice morphology in these denominal verbs moves from a more agglutinative (and more borrowable, on Field’s scale) structure to a more fusional (and less borrowable) structure.

Clearly indicative of the important roles that Azerbaijani and the closely related Turkish (which shares the evidential *-mif*) have played in their respective regions, many other languages in and beyond the Caucasus also have a borrowed—apparently morphomic (in the sense of Aronoff 1994)—suffixal *-mif*, sometimes with the verbalizer *-la* and sometimes without. Bağrıaçık, Ralli, & Melissaropoulou (2015) identify many of these “*-mif*-type languages” in their survey, typically involving loan-incorporating constructions on the template of *X-mif* + light verb:

- (31) Kurmanji Kurdish (Bağrıaçık, Ralli, & Melissaropoulou 2015: 8)
a. *tanişmiş bûn* ‘get to know’ < *taniş-* (Turkish)
b. *sömürmüş kirin* ‘exploit’ < *sömür-* (Turkish)

Aslanov (1989: 130-133) even reports that the *-lamif* template is present to varying degrees in other East Caucasian languages:

- (32) Tsakhur
baf-lamif-na ‘started’ < *baf-la-* (Az.)

To my knowledge, Yeni Dizaxlı Lezgian is the only recorded instance in which contrasts in voice morphology have accompanied *-mif* East Caucasian, though Authier (2010) reports the borrowing of the Azerbaijani passive suffixes into Kryz without *-lamif* or *-mif*. Suleymanov (2020) also describes the presence a causative contrast hosted by *-mif* in the Şirvan variety of Tat.

- (33) Şirvan Tat
inji-miş birän ‘to be hurt’ ↔ *inji-t-miş soxtan* ‘to hurt (tr.)’ < *inci-t-* ‘hurt-CAUS’ (Az.)

5. Implications

Clear-cut cases of paradigm borrowing in the literatures on language contact and typology have typically been (perhaps questionably) confined to prototypically ‘mixed’ languages, like Maltese (Stolz 2003) or Cypriot Arabic (Thomason & Kaufman 1988). This description contributes to a what I hope to be a growing body of literature on parallel system borrowing, in which languages—mixed or not—remain in a state of enduring contact and as a result borrow and develop patterns which are, in some regards, more complex than the initial system in either language (Meakins, Hua, Cassandra, & Bronham 2019). I leave to future work a fuller evaluation of to what extent the innovated categories in Yeni Dizaxlı Lezgian and the increased opacity of the markers involved can be measurably said to have increased the complexity of the grammatical system.

Whatever the original function of *-mif* was in these borrowed constructions, if there ever was a coherent, singular function, is likely no longer identifiable with a high degree of confidence. It seems clear that this suffix now occupies a clearly contrastive niche in the Turko-Lezgian voice paradigm of

Yeni Dizaxli, albeit with a more opaque structure. But it remains to be seen whether the Turkic morphology has acquired and maintained similar paradigmatic contrasts in any of the other so-called *-mif* languages.

References

- Aronoff, Mark (1994). *Morphology by Itself*. Linguistics Inquiry Monograph 22. Cambridge, MA: MIT Press.
- Aslanov, A. M. (1989). *Азербайджанский язык в орбите языкового взаимодействия* [The Azerbaijani language in the orbit of language contact]. Baku: Elm.
- Authier, Gilles (2010). Azeri morphology in Kryz (East Caucasian). *Turkic Languages* 14: 1–14.
- Authier, Gilles (2012). The ditransitive voice in Kryz. In (eds.) Gilles Authier & Katharina Haude, *Ergativity, Valency and Voice*, 133-164. Berlin/New York: Mouton de Gruyter.
- Babaev, Vladimir A. & Zuhrekhalum Selimova (2016). Об особенностях глагола кубинского диалекта лезгинского языка [On particularities of the verb of the Quba dialect of the Lezgian language]. *Филологические науки* [Philological sciences], 4. 76-80.
- Bağrıaçık, Metin; Angela Ralli and Dimitra Melissaropoulou (2015). Borrowing verbs from Oghuz Turkic: two linguistic areas. In (eds.) Francesco Gardani, Peter Arkadiev and Nino Amiridze, *Borrowed Morphology*, 109–136. Berlin/New York: Mouton de Gruyter.
- Clifton, John M. & Calvin Tiessen (2018). Hiding your identity: The case of Talysh. In (eds.) Stephen Quackenbush & Gary Simons, *Language and Identity in a Multilingual, Migrating World*, 1-22. SIL International.
- Comrie, Bernard (2008). What is a passive? In (eds.) Zarina E. Fernández, Søren Wichmann, Claudine Chamoreau & Albert Á. González, *Studies in voice and transitivity*, 1-18. München: Lincom.
- Crisp, Simon (1985). The Formation and Development of Literary Avar. In (ed.) Isabelle T. Kreindler, *Sociolinguistic Perspectives on Soviet National Languages: Their past, present, and future*, 143-162. De Gruyter Mouton.
- Əfəndiyeva, Türkan (2005). *Felin keçmiş zaman formaları* [Forms of the Past Tense of the Verb]. Baku: Nurlan.
- Field, Fredric W (2002). *Linguistic borrowing in bilingual contexts*. Amsterdam: John Benjamins.
- Gardani, Francesco (2020). Borrowing matter and pattern in morphology. An overview. *Morphology* 30: 263-282.
- Haspelmath, Martin (1993). *A grammar of Lezgian*. Berlin: Mouton de Gruyter.

- Hüseynzadə, Muxtar (2007). *Müasir Azərbaycan Dili, Üçüncü Hissə: Morfologiya* [Modern Azerbaijani, Part Three: Morphology]. Baku: Şərq-Qərb.
- Johanson, Lars (2000). Turkic Indirectives. In (eds.) Johanson, Lars & Bo Utas, *Evidentials: Turkic, Iranian and Neighboring Languages*, 61-88. Berlin: Mouton de Gruyter.
- Johanson, Lars (2006). On the roles of Turkic in the Caucasus area. In (eds.) McMahon, April, Matras, Yaron & Vincent, Nigel, *Linguistic areas*, 160-181. London: Palgrave Macmillan.
- Kazenin, Konstantin (2001). Passive. In (eds.) Martin Haspelmath, Ekkehardt König, Werner Östreich & Wilhelm Raible. *Language Typology and Language Universals. An International Handbook*, 970-978. Berlin/New York: DeGruyter.
- Kazımov, Qəzənfər (2010). *Müasir Azərbaycan Dili: Morfologiya* [Modern Azerbaijani: Morphology]. Baku: Elm və Təhsil.
- Kerimova, Z. R. (2020). *Грамматический статус именной части сложного глагола в лезгинском языке* [The grammatical status of nominal elements of complex verbs in the Lezgian language]. Vypusknaja kvalifikacionnaja rabota. Institut lingvistiki RGGU. Moskva.
- Kərimova, Sədaqət (2011). *Күлар: күларыя / Qusar: Qusarlılar* [Qusar: Qusarites]. Baku: Ziya.
- Kossmann, Martin (2010). Parallel system borrowing. Parallel morphological systems due to the borrowing of paradigms. *Diachronica* 27: 459-487.
- Letifov, A. (1958). К истории борьбу партиной организации Дагестана за решение проблемы языка [On the history of the party organization of Daghestan's struggle to solve the language issue]. Dagestanskii Filial AN SSSR, Institut istorii, iazyka i literatury, Uchenye Zapiski 5:80-107.
- Matras, Yaron (2007). The borrowability of structural categories. In (eds.) Yaron Matras & Jeanette Sakel, *Grammatical borrowing in cross-linguistic perspective*, 31-73. Berlin, New York: de Gruyter.
- Matras, Yaron & Jeanette Sakel (2004). *Database of Convergence and Borrowing*. Manchester: University of Manchester.
- Matveeva, Anna (2002). *The South Caucasus: Nationalism, conflict and minorities*. London: Minority Rights Group International
- Meakins, Felicity, Xia Hua, Cassandra Algy, & Lindell Bromham (2019). Birth of a contact language did not favour simplification. *Language* 95(2): 294-332.
- Mejlanova, U. A. (1964). *Очерки Лезгинской Диалектологии* [Studies on Lezgian Dialectology]. Москва: Наука.

Stolz, Thomas (2003). Not Quite the Right Mixture: Chamorro and Malti as Candidates for the Status of Mixed Language. In (eds.) Yaron Matras & Peter Bakker, *The Mixed Language Debate. Theoretical and Empirical Advances*, 271–315. Berlin: Mouton de Gruyter.

Stump, Gregory. T. (2007). A non-canonical pattern of deponency and its implications. In Matthew Baerman, Greville Corbett, Dunstan Brown, & Andrew Hippisley Proceedings of the British Academy 145: Deponency and Morphological Mismatches, 127-144. Oxford: Oxford University Press.

Suleymanov, Murad (2020). *A Grammar of Şirvan Tat*. Wiesbaden: Reichert Verlag.

Thomason, Sarah Grey & Terence Kaufman (1988). *Language Contact, Creolization, and Genetic Linguistics*. Berkeley: University of California Press

Testeleets, Yakov G. (2021). Ergativity in East Caucasian. Talk given at the Online Course on East Caucasian lan-guages, Linguistic Convergence Laboratory, HSE, December 15, 2021.

Whitney, William Dwight (1881). On mixture in language. Transactions of the American Philosophical Association 12: 1–26