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Passivization in the *-ʒa*-converb construction in Barguzin Buryat: On the syntactic representation of voice*

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In this article, I discuss a construction in Barguzin Buryat that involves matrix verbs taking converbs with suffix *-ʒa-* as their sentential arguments. I show that the embedded clause in this construction is reduced and subjectless, but nevertheless takes passive voice morphology. This constitutes a paradox: how can a subjectless clause undergo passivization? I examine the possible ways of passivization that this construction allows for and show how the type of the embedded predicate restricts the available passivization patterns. I argue that the voice domain is present in the syntactic structure of the embedded clause, but that it is deficient and dependent on the voice domain of the matrix predicate. I propose an analysis of the interaction between the two voice domains in this construction that exploits the mechanism of voice restructuring. I show how this analysis can account for the possible passivization patterns with embedded verbs that are transitive, intransitive, and lexically marked for voice and discuss some predictions and consequences of this proposal.

Keywords: Buryat, converbs, passivization, reduced complements, restructuring, sentential arguments, voice domain

Пассивизация в конструкции с *-ʒa*-конвербами в баргузинском диалекте бурятского языка: о синтаксической репрезентации залога

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В данной статье рассматривается конструкция с матричными глаголами, присоединяющими конвербы с суффиксом *-ʒa-* в качестве своих сентенциальных актантов, в баргузинском диалекте бурятского языка. Мы показываем, что зависимые клаузы в этой конструкции являются редуцированными и не имеют подлежащих, но тем не менее способны принимать морфологические показатели пассивного залога. Это приводит к парадоксу: как может клауза без подлежащего подвергаться пассивизации? Мы исследуем возможные способы пассивизации, которые допускает данная конструкция, и показываем, как тип зависимого предиката ограничивает набор возможных моделей пассивизации. Мы приводим аргументы в пользу того, что отвечающая за залоговые преобразования функциональная структура присутствует в синтаксической репрезентации зависимой клаузы, однако она дефектна и зависима от отвечающей за залоговые преобразования функциональной структуры матричного предиката. Мы предлагаем анализ взаимодействия между функциональными структурами зависимого и матричного предикатов, который опирается на механизм залогового реструктурирования клаузы. В статье показывается, как этот анализ может объяснить возможные модели пассивизации с переходными, непереходными и лексически маркированными с точки зрения залога зависимыми предикатами, а также обсуждаются некоторые предсказания и последствия выдвигаемой гипотезы.

Ключевые слова: актантные альтернации, бурятский язык, конвербы, пассивизация, редуцированные комплементы, реструктурирование, сентенциальные актанты

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1. Introduction

In some languages, constructions with matrix verbs like the English *begin*, *try*, *manage* have a peculiar property of allowing several passivization patterns (see [George, Kornfilt 1977; Kornfilt 1996] on Turkish, [Bosque, Gallego 2011] on Spanish, [Grashchenkov 2015] on Mishar Tatar, [Letučij 2005] on the typology of lability of phasal verbs, [Wurmbrand 2014a] on the crosslinguistic distribution of one of the passivization patterns, [Padučeva 2001; Xrakovsky 1987] on the semantics of constructions with phasal verbs). In this paper, I discuss the passivization patterns attested with such a construction in Barguzin Buryat (see [Poppe 1938; 1960; Sanzheev 1962; Privoznov, Gruzdeva (ms.)] for a more general discussion of passive formation in Buryat):[1]

(1) *badma* *namaijə* *zura-**ʒa*** *əxil-ə:* / *turʃ-a:* / *ʉrdə-jə:*
Badma.NOM 1SG.ACC draw-**CVB** begin-PST try-PST manage-PST
'Badma began / tried / managed to draw me.'

This construction (henceforth, *-ʒa*-construction) involves a matrix verb taking a converb complement with the *-ʒa-* suffix. Sentences like (1) have three passivized counterparts: with passive morphology appearing on the matrix verb (2), with passive morphology appearing on the embedded verb (3), and with passive morphology appearing on both the matrix and the embedded verbs (4). In all three cases the theme argument of the embedded verb receives nominative marking and agrees with the matrix predicate:

(2) ***bi*** *badm-a:r* *zura-ʒa* *əxilə-**gd**-ə:-**b***
1SG.NOM Badma-INS draw-CVB begin-**PASS**-PST-**1SG**
'Badma began to draw me' (lit. 'I was begun to draw by Badma').

(3) ***bi*** *badm-a:r* *zura-**gda**-ʒa* *əxil-ə:-**b***
1SG.NOM Badma-INS draw-**PASS**-CVB begin-PST-**1SG**
'Badma began to draw me' (lit. 'I began to be drawn by Badma').

(4) ***bi*** *badm-a:r* *zura-**gda**-ʒa* *əxilə-**gd**-ə:-**b***
1SG.NOM Badma-INS draw-**PASS**-CVB begin-**PASS**-PST-**1SG**
'Badma began to draw me' (lit. 'I was begun to be drawn by Badma').

Barguzin Buryat is not unique in showing these passivization patterns in constructions with matrix verbs like 'begin'; for example, the same three patterns have been reported to exist in Spanish [Bosque, Gallego 2011]:

SPANISH [Bosque, Gallego 2011: 11—12]

(5) *La ermita* ***fue*** ***empezada*** *a construir* *en el siglo XIV.*
the church **be.3.SG** **begun** to build in the century 14
'The church started to be built in the 14th century.'

(6) *La ermita* *empezó* ***a ser construida*** *en el siglo XIV.*
the church began.3.SG **to be built** in the century 14
'The church started to be built in the 14th century.'

(7) *La ermita* ***fue*** ***empezada*** ***a ser construida*** *en el siglo XIV.*
the church **be.3.SG** **started** **to be built** in the century 14
'The church was started to be built in the 14th century.'

A similar phenomenon occurs in some languages in constructions with auxiliary verbs. For example, constructions with some auxiliary verbs in Mishar Tatar display the same three

[1] The data presented in this paper has been gathered through elicitations with 8 speakers of Barguzin Buryat in the fieldwork trips of Moscow State University in 2014—2017 in the village Baraghan (Kurumkan district of the Republic of Buryatia, Russian Federation).

passivization patterns that we have seen in Barguzin Buryat and Spanish [Grashchenkov 2015; 2017]: the auxiliary verb can take a passive morpheme (8), the embedded verb can take a passive morpheme (9), or both verbs can take passive morphemes (10).

MISHAR TATAR (adapted from [Grashchenkov 2015: 121])

(8)	*su*	*kajnat-ɤ-p*	*tɤr-ɤ-**l**-dɤ*
	water	heat-ST-CVB	stand-ST-**PASS**-PST

‘Water was being heated (by someone).’

(9)	*su*	*kajnat-ɤ-**l**-ɤ-p*	*tɤr-dɤ*
	water	heat-ST-**PASS**-ST-CVB	stand-PST

‘Water was being heated (by someone).’

(10)	*su*	*kajnat-ɤ-**l**-ɤ-p*	*tɤr-ɤ-**l**-dɤ*
	water	heat-ST-**PASS**-ST-CVB	stand-ST-**PASS**-PST

‘Water was being heated (by someone).’

Passivized *-ʒa*-constructions in Barguzin Buryat (2)—(4) and similar constructions in other languages present a puzzle: how can one sentence have three passivized counterparts with the same meaning? What properties of these constructions make the three passivization derivations available, and what syntactic principles underlie these derivations? These questions are the focus of the present paper.

The most peculiar of the three passivization patterns is the one where passive morphology occurs only on the matrix verb (2), (5), (8): the noun phrase that is the theme argument of the embedded predicate seems to be promoted directly into the matrix subject position. This pattern is limited to the *-ʒa*-construction in Barguzin Buryat: it is impossible with finite complement clauses with a complementizer (11)—(14) and with non-finite clausal nominalizations (15)—(18) irrespective of whether they have null subjects that are coreferential to matrix subjects (13)—(14), (17)—(18) (like in the examples (1)—(2)) or not (11)—(12), (15)—(16).

(11)	*badma*	*sajana*	*namaijə*	*zura-xa*	*gəʒə*	*məd-ə:*
	Badma.NOM	Sajana.NOM	1SG.ACC	draw-POT	COMP	know-PST

‘Badma found out that Sajana will draw me.’

(12)	****bi***	*badm-a:r*	*sajana*	*zura-xa*	*gəʒə*	*mədə-**gd**-ə:-**b***
	1SG.NOM	Badma-INS	Sajana.NOM	draw-POT	COMP	know-**PASS**-PST-**1SG**

Expected: ‘Badma found out that Sajana will draw me’ (lit. ‘I was found out by Badma that (I) will be drawn by Sajana’).

(13)	*badma*	*namaijə*	*zura-xa-b*	*gəʒə*	*xəl-ə:*
	Badma.NOM	1SG.ACC	draw-POT-1SG	COMP	say-PST

‘Badma$_j$ said that he$_j$ will draw me.’

(14)	****bi***	*badm-a:r*	*zura-xa-(b)*	*gəʒə*	*xələ-**gd**-ə:-**b***[2]
	1SG.NOM	Badma-INS	draw-POT-(1SG)	COMP	say-**PASS**-PST-**1SG**

Expected: ‘Badma$_j$ said that he$_j$ will draw me’ (lit. ‘I was said by Badma$_j$ that he$_j$ will draw (me)’).

[2] When the matrix subject and the subject of the embedded finite CP refer to the same individual, the embedded verb takes a 1st person agreement marker (13). This is due to the process of indexical shifting (see [Sudo 2012; Shklovsky, Sudo 2014; Podobryaev 2014], among others): in (13) the embedded clause contains a null nominative 1st person pronoun, which refers to the individual expressed by the matrix subject (not the speaker) and gives rise to 1st person agreement on the embedded predicate. In (14) the new (promoted) matrix subject is no longer coreferent with the embedded subject (*Badma*), so we could expect the absence of the 1st person agreement marker on the embedded verb. As we see though, (14) is ungrammatical both with the 1st person agreement marker on the embedded predicate and without it.

(15)

badma	*sajan-i:n*	*namaijə*	*zura-x-i:jə-n'*	*xəl-ə:*
Badma.NOM	Sajana-GEN	1SG.ACC	draw-NMLZ-ACC-3	say-PST

'Badma said that Sajana will draw me.'

(16)

****bi***	*badm-a:r*	*sajan-i:n*	*zura-x-i:jə-n'*	*xələ-**gd**-ə:-**b***
1SG.NOM	Badma-INS	Sajana-GEN	draw-NMLZ-ACC-3	say-**PASS**-PST-**1SG**

Expected: 'Badma said that Sajana will draw me' (lit. 'I was said by Badma that Sajana will draw (me)').

(17)

badma	*namaijə*	*zura-x-a:*	*xəl-ə:*
Badma.NOM	1SG.ACC	draw-NMLZ-REFL	say-PST

'Badma$_j$ said that he$_j$ will draw me.'

(18)

****bi***	*badm-a:r*	*zura-x-i:jə-n'*	/	*zura-x-a:*	*xələ-**gd**-ə:-**b***[3]
1SG.NOM	Badma-INS	draw-NMLZ-ACC-3		draw-NMLZ-REFL	say-**PASS**-PST-**1SG**

Expected: 'Badma$_j$ said that he$_j$ will draw me' (lit. 'I was said by Badma$_j$ that he$_j$ will draw (me)').

The availability of such a derivation (2), (5), (8), the so-called long object movement (henceforth, LOM) [Wurmbrand 2015] has been attested in many languages, including European Portuguese, Japanese, Kannada [Wurmbrand 2014a]. This has been claimed to be an indicator of a matrix verb taking a reduced embedded clause [Wurmbrand 2014a; 2015; Shimamura, Wurmbrand 2014; Wurmbrand, Shimamura 2017]. In this paper, I argue that *-ʒa*-constructions in Barguzin Buryat are indeed structures with reduced sentential arguments and propose an analysis of the interaction between voice domains of matrix and embedded verbs that allows to derive the three attested passivization patterns (2)—(4).

This paper is organized as follows. In section 2, I examine the structure of the *-ʒa*-construction and argue that the embedded clause has a reduced functional structure, no less than V(erbal)P but no more than T(ense)P. In section 3, I provide arguments for the hypothesis that *-ʒa*-clauses do not contain subjects, even null ones. Using various diagnostics (anaphor binding, collective predicates, etc.), I show that neither obligatory control (PRO) nor partial control (PRO$_{i+j}$) can take place in the construction under consideration. Section 4 is devoted to the description of possible passivization patterns in sentences with *-ʒa*-clauses. I examine four classes of predicates (transitive embedded predicates, intransitive embedded predicates, embedded predicates lexically marked for voice: causatives and inchoatives) and reveal the restrictions on the attested passivization patterns. In section 5, I propose an analysis that aims at capturing the restrictions on passivization in the *-ʒa*-construction with different embedded verbs. I present a technical implementation of my proposal and discuss one of the predictions it makes. Section 6 concludes the paper.

2. Properties of argument *-ʒa*-clauses in Barguzin Buryat

In this section, I discuss some basic properties of the *-ʒa*-construction (section 2.1) and present arguments in favor of the hypothesis that *-ʒa*-clauses are reduced sentential arguments (section 2.2).

2.1. Basic properties and constituency in sentences with argument *-ʒa*-clauses

Only five matrix verbs in Barguzin Buryat occur in the *-ʒa*-construction: *əxilxə* 'begin', *turʃaxa* 'try', *dʉ:rgəxə* 'finish', illustrated in (19), *ʃadaxa* 'can' (20), *ʉrdixə* 'manage' (21).

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[3] In cases of coreference between the matrix subject and the subject of clausal nominalization, the nominalization takes a reflexive marker (17), and its subject is null. In (18) the new (promoted) matrix subject is not coreferent to the subject of the embedded clause (*Badma*), so we could expect possessive, not reflexive marking on the nominalization. As we see, the sentence in (18) is ungrammatical irrespective of the reflexive / possessive marking of the nominalization.

(19) *badma* *namaijə* *zura-ʒa* *əxil-ə:* / *turʃ-a:* / *dʉrg-ə:*
Badma.NOM 1SG.ACC draw-CVB begin-PST try-PST finish-PST
'Badma began / tried / finished to draw me.'

(20) *badma* *tʉljə:* *xaxal-ʒa* *ʃad-a:*
Badma.NOM wood chop-CVB can-PST
'Badma was able to chop wood.'

(21) *bagʃa* *honin* *tʉ:xə* *xɵ:rə-ʒə* *ʉrd-jə:*
teacher.NOM interesting story tell-CVB manage-PST
'The teacher managed to tell an interesting story.'

It is a characteristic feature of these verbs that they take *-ʒa*-complements as their arguments and do not take other types of sentential arguments: neither finite clauses (22) nor clausal nominalizations (23).

(22) **bagʃa* *honin* *tʉ:xə* *xɵ:rə-hən* / *xɵ:rə-həm*[4] *gəʒə* *ʉrd-jə:*
teacher.NOM interesting story tell-PRF tell-PRF.1SG COMP manage-PST
Expected: 'The teacher managed to tell an interesting story / The teacher managed (to do so) that (someone) told an interesting story.'

(23) **tumən* *bəʃəg* *bəʃə-x-ijə-n'* / *bəʃə-x-ə:* *əxil-ə:*
Tumen.NOM letter write-NMLZ-ACC-3 write-NMLZ-REFL begin-PST
Expected: 'Tumen began to write a letter / Tumen began someone's writing of the letter.'

Converbs with the suffix *-ʒa-* are not limited to the *-ʒa*-construction; they can also function as predicates of adverbial clauses. Consider for example a sentence from Literary Buryat [Skribnik, Darzhaeva 2016] where both functions of the *-ʒa*-converb can be observed:

(24) *buxal* *zɵ:-xə* *xʉn-ʉ:d* *oldo-**ʒo***[5]
haycock transfer-POT man-PL be.found-**CVB**
ʒambal *abgai* *gansa:ra:* *tərən-ə:* *somo-**ʒo*** *əxil-bə*
Zhambal uncle alone that-REFL stack-**CVB** begin-PST2
'When the people to transfer haycock have been found, uncle Zhambal alone began to stack it' (adapted from [Skribnik, Darzhaeva 2016: 53]).

The first *-ʒa*-converb in this sentence (*oldoʒo*) functions as a temporal sentential adjunct: it is optional, and it is not an argument of any predicate. The second *-ʒa*-converb (*somoʒo*) is a sentential argument: it is an obligatory argument of the matrix predicate *əxilxə* ('begin'). Only the latter use of the *-ʒa*-converb is investigated in this paper.

When a *-ʒa*-converb functions as a sentential argument, the embedded clause it introduces cannot have an overt subject irrespective of its case marking (25). The understood agent of the embedded predicate always corefers with the matrix subject (26).

(25) **bagʃa* ***badm-i:n*** / ***badm-i:jə*** / ***badma*** *honin* *ju:mə*
teacher.NOM **Badma-GEN** **Badma-ACC** **Badma.NOM** interesting thing
xɵ:rə-ʒə *ʉrd-jə:*
tell-CVB manage-PST
Expected: 'The teacher managed (to do so) that Badma told an interesting story.'

[4] In cases when the 1st person marker *-b-* is attached to an affix with *-n-* as its last consonant (as *-hən-* in (22)), the following alternation, followed by deletion of *-b-*, takes place: *-n-* → *-m-* /__*-b-*.

[5] The suffix of the converb is subject to vowel harmony allomorphy that is determined by the stem.

(26) *bagʃa* *honin* *ju:mə* *xɵ:rə-ʒə* *ʉrd-jə:*
teacher.NOM interesting thing tell-CVB manage-PST
a. 'The teacher managed to tell an interesting story.'
b. *'The teacher managed (to do so) that someone told an interesting story.'

Since we never see two subjects in sentences with *-ʒa*-clauses, it is not obvious whether the surface subject is a subject of the matrix verb (27) or the subject of the *-ʒa*-clause, as illustrated in (28).

(27) SUB [DO V-*ʒa*] V-matrix

(28) [SUB DO V-*ʒa*] V-matrix

I argue below that (27) is the right constituent structure of sentences with *-ʒa*-clauses.

First, if, according to (28), the whole *-ʒa*-clause was the subject of the matrix predicate, we would expect it to be able to occur as the sentential subject of other intransitive matrix verbs, contrary to fact: *-ʒa*-clauses can never occur as subjects of typical intransitive matrix predicates (29) (unlike, for example, nominalizations, cf. (30)).

(29) **(badma)* *(ʉdəʃəndɵ)* *(jəx-ə:r)* *du:* *du:la-ʒa* *mu:*
(Badma.NOM) (at.night) (big-INS) song sing-CVB bad
Expected: '(Badma) (loudly) singing a song (at night) is bad.'

(30) *(ʉdəʃəndɵ)* *(jəx-ə:r)* *du:* *du:la-xa* *mu:*
(at.night) (big-INS) song sing-NMLZ.NOM bad
'(Loudly) singing a song (at night) is bad.'

Second, two converbs with direct objects can be coordinated by the conjunction *ba*, which can combine any two constituents of the same type [Elementy (ms.)], as illustrated in (31). As (32) shows, two sequences of subject + direct object + *-ʒa*-converb cannot be conjoined by *ba*, which means that unlike the sequence converb + direct object, this sequence does not form a constituent.

(31) *badma* [*bəʃəg* *bəʃə-ʒə*] *ba* [*du:* *du:la-ʒa*] *əxil-ə:*
Badma.NOM letter write-CVB CONJ song sing-CVB begin-PST
'Badma began to write a letter and to sing a song.'

(32) *[*badma* *bəʃəg* *bəʃə-ʒə*] *ba*
Badma.NOM letter write-CVB CONJ
[*sajana* *du:* *du:la-ʒa*] *əxil-ə:*
Sajana.NOM song sing-CVB begin-PST
Expected: 'Badma's writing a letter and Sajana's singing a song began.'

I conclude that the *-ʒa*-construction has the constituency structure in (27): the subject we see is the subject of a matrix verb that takes the *-ʒa*-clause as its complement. Hence, the subject of the *-ʒa*-clause is either phonologically null or not present in the syntactic representation at all. In section 3, I argue for the latter option.

2.2. Predicate modification in *-ʒa*-clauses

In this section, I discuss modification of the embedded predicate in the *-ʒa*-construction and argue that it provides evidence for the reduced character of the embedded clause.

The first observation concerns the placement of negation in the *-ʒa*-construction: the negative marker *-gʉj-* can occur only on the matrix predicate in the *-ʒa*-construction (33), but not on the embedded one (34):[6]

[6] Also, when the direct object of a *-ʒa*-clause is an NPI that has to be licensed by negation, it is licensed by the matrix negation (i) and cannot be licensed by negation on the embedded predicate (ii).

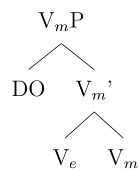
(33) *badma* *namaijə* *zura-ʒa* *əxil-əː-**guj***
Badma.NOM 1SG.ACC draw-CVB begin-PST-**NEG**
'Badma didn't begin to draw me.'

(34) **badma* *namaijə* *zura-**guj**-ʒa* / *zura-ʒa-**guj*** *əxil-əː*[7]
Badma.NOM 1SG.ACC draw-**NEG**-CVB draw-CVB-**NEG** begin-PST
Expected: 'Badma began not to draw me.'

Assuming that negation is located in the TP domain of a clause, the fact that the embedded verb in the *-ʒa*-construction cannot host negation indicates that the embedded clause has less functional structure than a finite unembedded clause. Specifically, it does not include some projections of the TP-domain as well as higher projections. This means that *-ʒa*-clauses are reduced.

To what extent are they reduced? Could it be the case that the embedded verb actually does not head a syntactic phrase but is directly merged to the head of the matrix verb? This hypothesis — the so-called complex head approach (35) — has been proposed for some constructions in other languages (see [Bouma, van Noord 1997; Saito, Hoshi 1998], among others).

(35) The complex head approach (Ve — embedded verb, Vm — matrix verb)



I would like to argue that the complex head approach cannot be implemented for the *-ʒa*-construction of Barguzin Buryat.[8] The argument against this approach comes from the observation that the matrix and the embedded verbs in this construction are able to receive independent adverbial modification. This is shown by the availability of two incompatible manner adverbs modifying two verbal predicates in (36)—(37) and by two incompatible aspectual phrases in (38).

(i) *badma* ***ju-ʃʃə*** *bəʃə-ʒə* *əxil-əː-**guj***
Badma.NOM **what.ACC-PTCL** write-CONV begin-PST-**NEG**
'Badma didn't begin to write anything.'

(ii) **badma* ***ju-ʃʃə*** *bəʃə-**guj**-ʒə* / *bəʃə-ʒə-**guj*** *əxil-əː*
Badma.NOM **what.ACC-PTCL** draw-**NEG**-CONV draw-CONV-**NEG** begin-PST
Expected: 'Badma began not to write anything.'

[7] An anonymous reviewer notes that the ungrammaticality of this example may arise due to purely semantic restrictions. I doubt that the unavailability of the embedded negation in the *-ʒa*-construction could be viewed as a semantic accident, because it is exactly those verbs that participate in the *-ʒa*-construction that cannot have negation underneath them. All the matrix verbs that take nominalizations (even the verbs of perception like 'see'), for example, allow for the embedded negation:

(i) *sajan-iːn* *magazi* *oʃo-ʒo* *bai-xa-**guj**-e* *tumən* *xara-na*
Sajana-GEN shop go-CONV be-POT-**NEG**-ACC Tumen.NOM see-PRS
'Tumen sees that Sajana is not going to the shop.'

So, even if there are semantic reasons behind matrix verbs of the *-ʒa*-construction not taking complements with negation, they are still reflected in the syntactic representation.

[8] See [Wurmbrand 2007] for the same argumentation applied to some constructions with sentential arguments in German.

(36) *badma* *namaijə* ***a:lja:r*** ***tɯrgør*** *zura-ʒa* *əxil-ə:*[9]
Badma.NOM 1SG.ACC **slowly** **quickly** draw-CVB begin-PST
'Badma slowly began to quickly draw me' (for example, it took Badma three hours to actually start the process, but once he started, he was moving his brush extremely quickly).

(37) *badma* ***a:lja:r*** *bəʃəg* *bəʃə-ʒə* ***tɯrgør*** *əxil-ə:*[10]
Badma.NOM **slowly** letter write-CVB **quickly** begin-PST
'Badma quickly began to slowly draw me.'

(38) *dugar* ***xojər*** ***sag*** *bəʃəg* *bəʃə-ʒə* *xojər* *minute* *so* *əxil-ə:*
Dugar.NOM **two** **hour** letter write-CVB two minute in begin-PST
'It took Dugar two minutes to begin the two-hour writing of the letter' (lit. 'In two minutes Dugar began to write a letter for two hours').

The fact that the embedded verb can receive independent adverbial modification suggests that it is not just a head as proposed by the complex head approach, but that it projects a verb phrase (VP).

To sum up, I have shown that *-ʒa*-complements are reduced sentential arguments that contain no less than a VP and no more than a TP in their functional structure.

3. Lack of subjects in argument *-ʒa*-clauses

In the previous section, I have shown that no overt subject can be present in the *-ʒa*-complement. In this section, I show that *-ʒa*-clauses do not contain subjects at all: neither an obligatory control pronoun (PRO) nor a partial control pronoun (PRO_{i+j}) can appear as the subject of a *-ʒa*-clause.

3.1. No obligatory control (PRO) into argument *-ʒa*-clauses

Since the understood agent of the embedded predicate in the *-ʒa*-construction is always the same as the individual that the matrix subject denotes, we face the problem of telling apart two possible structures: a structure with a null pronominal subject in the *-ʒa*-clause obligatorily controlled by the matrix verb (39) and a structure where the *-ʒa*-clause lacks any subject altogether (40). In this section, I argue for the latter.

(39) S_i [PRO_i DO CVB] Vm

(40) S [DO CVB] Vm ✓

In order to show that there is no PRO in the embedded clause, I use the anaphor binding diagnostic that was developed in [Wurmbrand 2001].[11] First, note that the mere fact that an anaphor in the *-ʒa*-clause can be bound is insufficient to differentiate between the two competing structures in (39)—(40):

(41) *badma*$_i$ **PRO$_i$?** *ɵ:r-ing-ɵ:*$_i$ *bəʃəg* *bəʃə-ʒə* *əxil-ə:*
Badma.NOM self-GEN-REFL letter write-CVB begin-PST
'Badma$_i$ began to write his$_i$ letter.'

In (41) the direct object of the embedded clause is modified by a possessive anaphor that can find a binder (since the sentence is grammatical). But this fact is compatible with both (39) and

[9] The accusative subject in (36) has undergone movement into the matrix clause. Only the adverb 'quickly' and the converb remain in the embedded clause.

[10] This sentence is slightly degraded for those informants who find sentences with an adverb separating the converb from the matrix verb generally imperfect.

[11] See [Shimamura, Wurmbrand 2014; Wurmbrand, Shimamura 2017] for the same argumentation on the lack of PRO in Japanese constructions.

(40). If there is PRO in the embedded clause, the possessive anaphor is bound by PRO (which is in turn controlled by the matrix subject). If there is no PRO, the possessive anaphor is bound by the matrix subject directly. Since the diagnostic is inconclusive, its modification along the lines of [Wurmbrand 2001] may be helpful.

I now turn to the configuration with long object movement (recall LOM from (2)) that involves a ditransitive embedded predicate with an indirect object that is either a local subject-oriented anaphor itself or is modified by such an anaphor. Thus, we start with a sentence of the form in (42a) with the English paraphrase in (42b).[12]

(42) a. S_i [(PRO$_i$) *ɵ:ringɵ:*$_i$ IO$_{DAT}$ DO$_{ACC}$ give-*ʒa*] started

b. 'S_i started giving DO to his$_i$ IO.'

Then we passivize the matrix clause to yield (43a) with the meaning in (43b):

(43) a. DO$_{NOMk}$ by-S_i [(PRO$_i$) *ɵ:ringɵ:*$_i$ IO$_{DAT}$ t_k give-*ʒa*] started$_{PASS}$

b. 'DO was started to be given to his$_i$ IO by S_i.'

To appreciate (43) as a diagnostic for the presence of PRO in the structure, one should first note the following fact. Barguzin Buryat anaphor *ɵ:r* ('self', possessive form *ɵ:ringɵ:*, dative form *ɵ:rtɵ:*) qualifies as an anaphor that is required by the diagnostic. The sentence in (44) shows that it is subject-oriented and local: it has to be bound by the subject in the same clause that contains it. As illustrated in (44), the possessive anaphor can be bound by the subject of the clausal nominalization, but not by the matrix subject.

(44)	*badma*$_k$	*sajan-i:n*$_i$	*ɵ:r-ing-ɵ:*$_{*k/i}$	*nom*	*unʃa-h-i:jə-n'*	*məd-ə:*
	Badma.NOM	Sajana-GEN	self-GEN-REFL	book	read-NMLZ-ACC-3	know-PST

1. ^{OK}'Badma found out that Sajana$_i$ read her$_i$ book.'
2. *'Badma$_k$ found out that Sajana read his$_k$ book.'

Now, sentences of the form in (43) start looking like a reliable source of information as to whether PRO is part of the structure. The two competing configurations are shown in (45)—(46):

(45) Structure **with PRO (39)** predicts that **(b) is grammatical**

a.	S_i		[PRO$_i$	*ɵ:ringɵ:*$_i$	IO$_{DAT}$	DO$_{ACC}$	CVB]	V_m
b.	DO$_{NOM\text{-}k}$	by-S_i	[PRO$_i$	*ɵ:ringɵ:*$_i$	IO$_{DAT}$	t_k	CVB]	$V_{m\text{-}PASS}$

(46) Structure **without PRO (40)** predicts that **(b) is ungrammatical**

a.	S_i		[	*ɵ:ringɵ:*$_i$	IO$_{DAT}$	DO$_{ACC}$	CVB]	V_m
b.	DO$_{NOM\text{-}k}$	by-S_i	[	*ɵ:ringɵ:*$_i$	IO$_{DAT}$	t_k	CVB]	$V_{m\text{-}PASS}$

If PRO is part of the derivation, according to (39), one predicts that the configuration we are looking at is grammatical. In (45) the embedded clause contains PRO, so passivization of the matrix verb and the promotion of the embedded direct object into the matrix subject position should be licit. The anaphor inside the indirect object should be able to be bound by PRO. In contrast, the structure without PRO in (40) predicts that LOM should result in ungrammaticality. Since there is no PRO in the embedded clause, a subject-oriented anaphor inside an indirect object will remain unbound after the only possible controller, the matrix subject, is demoted.

The initial sentence before LOM is presented in (47), the target sentences is shown in (48).

[12] In (42) I use a local subject-oriented possessive anaphor that modifies the indirect object. An analogous structure can be constructed for a sentence with a local subject-oriented anaphor that is an indirect object itself.

(47) *badma*$_i$ *ɵ:r-ing-ɵ:*$_i$ *nʉxər-tə* *nom-u:d-i:jə*
Badma.NOM self-GEN-REFL friend-DAT book-PL-ACC
ʉgə-ʒə *əxil-ə:* / *turʃ-a:*
give-CVB begin-PST try-PST
'Badma$_i$ began / tried to give the books to his$_i$ friend.'

(48) **nom-u:d* *badm-a:r*$_i$ *ɵ:r-ing-ɵ:*$_i$ *nʉxər-tə*
book-PL.NOM Badma-INS self-GEN-REFL friend-DAT
ʉgə-ʒə *əxilə-gd-ə:* / *turʃa-gd-a:*
give-CVB begin-PASS-PST try-PASS-PST
Expected: 'Badma$_i$ began / tried to give the books to his$_i$ friend' (lit. 'The books were begun / tried by Badma$_i$ to give to his$_i$ friend').

The target sentence is ungrammatical, which suggests that the structure without PRO (40) is the correct one. Note in addition that substituting possessive anaphor with a 3rd person possessive suffix makes the sentences grammatical, which indicates that it is exactly the violation of the binding principle that causes ungrammaticality in (48).

(49) *nom-u:d* *badm-a:r* *nʉxər-tə-n'* *ʉgə-ʒə*
book-PL.NOM Badma-INS friend-DAT-3 give-CVB
əxilə-gd-ə: / *turʃa-gd-a:* [13]
begin-PASS-PST try-PASS-PST
'Badma$_i$ began / tried to give the books to his$_{i/j}$ friend' (lit. 'The books were begun / tried by Badma$_i$ to give to his$_{i/j}$ friend').

For this line of reasoning to go through, one additional condition has to be met. By-phrases should be able to control PROs. Otherwise the ungrammaticality of the configuration in question is not informative. Fortunately, Barguzin Buryat is a language where this condition holds. The sentence in (50) illustrates that by-phrases in Barguzin Buryat (external arguments in the instrumental case) can control PROs in constructions with obligatory control. (50) illustrates that the demoted matrix subject in instrumental case controls PRO in a purpose clause.

(50) *ənə* *nom* [PRO$_i$ *səsən* *bolo-xo-jo:*] *badm-a:r*$_i$ *unʃa-gda-na*
this book.NOM smart become-POT-REFL Badma-INS read-PASS-PRS
1. OK'Badma reads in order to become smart.'
2. *'Badma reads (so that) (someone) will become smart.'

This diagnostic gives the same result when the indirect object is itself an anaphor (in its dative form *ɵ:rtɵ:*): LOM is impossible in this configuration (51)—(52).

(51) *badma*$_i$ *ɵ:r-t-ɵ:*$_i$ *otkri:tka* *əl'gə-ʒə* *əxil-ə:*
Badma.NOM self-DAT-REFL postcard send-CVB begin-PST
'Badma$_i$ began to send himself$_i$ a postcard.'

(52) **otkri:tka* *badm-a:r*$_i$ *ɵ:r-t-ɵ:*$_i$ *əl'gə-ʒə* *əxilə-gd-ə:*
postcard.NOM Badma-INS self-DAT-REFL send-CVB begin-PASS-PST
Expected: 'Badma$_i$ began to send himself$_i$ a postcard' (lit. 'A postcard was begun by Badma$_i$ to send to him$_i$').

Thus, there are no obligatorily controlled pronouns in *-ʒa*-clauses: if there was a PRO, anaphors in the embedded clause should have remained bound under the LOM.

[13] The by-phrase ('Badma' in the instrumental case) in this example, as well as in the following (50) and (52), belongs to the matrix clause.

3.2. No partial control (PRO_{i+j}) into argument -*ʒa*-clauses

In the previous section, I have shown that the -*ʒa*-construction does not involve obligatory control. Does this suffice to conclude that -*ʒa*-clauses have no subjects? Since we know that PRO of the obligatory control configuration is not the only null lexical item that can appear as a subject of embedded clauses, other null lexical items that can serve as subjects should be taken into consideration as well. In this section, I will argue that the -*ʒa*-construction does not involve partial control (53).

(53) *S_i [PRO_{i+j} DO CVB] Vm

Partial control makes use of PRO_{i+j} in the embedded clause — a null pronoun whose denotation includes the individual that is expressed by the matrix subject (i) but is not limited to it (+j). To show this, I examine predicates like *nʉxəd baixa* 'be friends' that require a plural noun phrase as their subject (54)—(55):

(54) **badma* *nʉxə-d* *bai-ga:*
Badma.NOM friend-PL be-PST
Expected: 'Badma was friends (with someone).'

(55) *badma* *tumən* *xojər* *nʉxə-d* *bai-ga:*
Badma.NOM Tumen.NOM two friend-PL be-PST
'Badma and Tumen were friends.'

Since PRO_{i+j} denotes a group of more than one individual, it can be the subject of predicates like *nʉxəd baixa* 'be friends'. In such cases the matrix subject can be a singular noun phrase. Barguzin Buryat has PRO_{i+j},[14] and this null pronoun can be observed in finite embedded clauses (CPs):

(56) *badma*$_i$ [*mini:* *tʉrə-hən* *ʉdər-tə* **PRO_{i+j}** *nʉxə-**d***
Badma.NOM 1SG.GEN be.born-PRF day-DAT friend-**PL**
*bolo-xo-**bdi*** *gəʒə*] *ʃi:d-ə:*
become-POT-**1PL** COMP decide-PST
1. 'Badma decided that on my birthday he will become friends (with someone).'
2. 'Badma decided that on his birthday he will become friends (with someone).'

In (56) the matrix subject is singular, and the embedded predicate *nʉxəd boloxo* 'become friends' has PRO_{i+j} as its subject: the denotation of the embedded subject includes the individual expressed by the matrix subject (*Badma*) but is not limited to it. In order to be sure that (56) indeed presents an example of a sentence with partial control, we have to exclude another viable hypothesis: the hypothesis that this sentence contains a quotation. This hypothesis might arise due to the observation that the embedded verb takes the 1st person plural marker. However, it can be shown that the sentence in (56) can involve true embedding. Note that the indexical adverbial modifier *mini: tʉrə-hən ʉdər-tə* 'on my birthday' in this sentence can receive an interpretation where it refers to the speaker's birthday, not to Badma's. This interpretation would have been impossible if the only feasible parse for (56) was the one involving quotation. Thus, (56) can be analyzed as a sentence with PRO_{i+j} in the embedded clause. As for the 1st person marker on the embedded predicate, it arises due to the process of indexical shifting (see [Sudo 2012; Shklovsky, Sudo 2014; Podobryaev 2014], among others, for extensive discussion of this phenomenon).

While a pronoun with partially controlled reference is attested in Barguzin Buryat, it cannot occur in -*ʒa*-clauses. In (57) we see that the embedded predicate *nʉxəd baixa* / *boloxo* ('be / become friends') is impossible if the matrix subject is a singular noun phrase.

[14] I consider this to be big PRO_{i+j} and not a small *pro* of some kind because in (56), unlike in traditional cases with a small *pro*, substituting the null subject for an overtly expressed one is impossible.

(57) **badma* *nʉxə-**d*** *bai-ʒa* / *bolo-ʒo* *ʃad-a:*
Badma.NOM friend-**PL** be-CVB become-CVB can-PST
Expected: ‘Badma could be / become friends (with someone).’

When the matrix subject is a noun phrase with a plural referent, e. g. *badma tumən xojər* ‘Badma and Tumen’, the sentence becomes grammatical:

(58) ***badma*** ***tumən*** ***xojər*** *nʉxə-**d*** *bai-ʒa* / *bolo-ʒo* *ʃad-a:*
Badma.NOM **Tumen.NOM** **two** friend-**PL** be-CVB become-CVB can-PST
‘Badma and Tumen could be / become friends.’

This indicates that, unlike in finite embedded clauses (CPs), PRO_{i+j} cannot be part of *-ʒa*-clauses. Thus, I conclude that embedded *-ʒa*-clauses lack subjects completely: they do not contain either overt nor covert (PRO or PRO_{i+j}) subjects in their structure.

4. Passive morphology in the *-ʒa*-construction: possible and impossible combinations

The lack of subjects in *-ʒa*-clauses presents a puzzle: it seems to be in conflict with the ability of the embedded verb to take passive voice morphology (3)—(4), repeated below as (59)—(60).

(59) = (3) ***bi*** *badm-a:r* *zura-**gda**-ʒa* *əxil-ə:-**b***
1SG.NOM Badma-INS draw-**PASS**-CVB begin-PST-**1SG**
‘Badma began to draw me’ (lit. ‘I began to be drawn by Badma’).

(60) = (4) ***bi*** *badm-a:r* *zura-**gda**-ʒa* *əxilə-**gd**-ə:-**b***
1SG.NOM Badma-INS draw-**PASS**-CVB begin-**PASS**-PST-**1SG**
‘Badma began to draw me’ (lit. ‘I was begun to be drawn by Badma’).

How can an embedded verb both lack a subject and be able to undergo passivization? From a functional perspective (see, for example, [Givón 1990]), this is contradictory: if a clause has no subject, then it should not be able to passivize, since the process of passivization involves demotion of the subject noun phrase. In more formal terms, if a verb can take passive morphology, it should be able to merge with a functional Voice Projection (VoiceP) that hosts information about the voice domain of the clause. If there is a VoiceP in the embedded clause, then this projection should be able to introduce a subject (see [Kratzer 1996], among others), as it does in matrix clauses.

In this section, I introduce some data that suggest that the type of the embedded predicate matters for the number of passivization patterns available in the *-ʒa*-construction. While transitive embedded predicates like *zuraxa* ‘draw’ allow for three passivization patterns (59)—(61), I show that some embedded predicates are more restrictive.

(61) ***bi*** *badm-a:r* *zura-ʒa* *əxilə-**gd**-ə:-**b***
1SG.NOM Badma-INS draw-CVB begin-**PASS**-PST-**1SG**
‘Badma began to draw me’ (lit. ‘I was begun to draw by Badma’).

The way in which the availability of passivization patterns depends on the embedded predicate will motivate the solution for the puzzle outlined above.

4.1. Transitive and intransitive embedded verbs

As we have already seen in section 1, when the embedded predicate in the *-ʒa*-construction is transitive, the understood theme argument of the embedded verb can surface as a matrix subject in three configurations: a) passive morphology only occurs on the matrix verb; b) passive morphology only occurs on the embedded verb; c) passive morphology occurs on both verbs. The three passivization patterns seem to be attested with all the verbs that can take a *-ʒa*-clause as their argument. For example, here are the possible passivization patterns with the verb *turʃaxa* 'try' (62)—(65):

(62)	*badma*	*namaijə*	*zura-ʒa*	*turʃ-a:*
	Badma.NOM	1SG.ACC	draw-CVB	try-PST

'Badma tried to draw me.'

(63)	***bi***	*(badm-a:r)*	*zura-ʒa*	*turʃa-**gd**-a:-**b***
	1SG.NOM	(Badma-INS)	draw-CVB	try-**PASS**-PST-**1SG**

'Badma tried to draw me' (lit. 'I was tried to draw (by Badma)').

(64)	***bi***	*(badm-a:r)*	*zura-**gda**-ʒa*	*turʃ-a:-**b***
	1SG.NOM	(Badma-INS)	draw-**PASS**-CVB	try-PST-**1SG**

'Badma tried to draw me' (lit. 'I tried to be drawn (by Badma)').

(65)	***bi***	*(badm-a:r)*	*zura-**gda**-ʒa*	*turʃa-**gd**-a:-**b***
	1SG.NOM	(Badma-INS)	draw-**PASS**-CVB	try-**PASS**-PST-**1SG**

'Badma tried to draw me' (lit. 'I was tried to be drawn (by Badma)').

It is important to note that the presence of passive morphology is obligatory if the understood theme of the embedded predicate occurs as the matrix subject. If passive morphology is neither present on the matrix nor on the embedded predicate, the resulting sentence is ungrammatical:

(66)	****bi***	*(badm-a:r)*	*zura-ʒa*	*turʃ-a:-**b***
	1SG.NOM	(Badma-INS)	draw-CVB	try-PST-**1SG**

Expected: 'Badma tried to draw me' (lit. 'I tried to draw (by Badma)').

When the embedded verb is intransitive, passivization is impossible:

(67)	*bi*	*unta-ʒa*	*əxil-ə:-b*
	1SG.NOM	sleep-CVB	begin-PST-1SG

'I began to sleep.'

(68)	****bi***	*(sajan-a:r)*	*unta-ʒa*	*əxilə-**gd**-ə:-**b***
	1SG.NOM	(Sajana-INS)	sleep-CVB	begin-**PASS**-PST-**1SG**

Expected: 'I began to sleep (forced by Sajana)' (lit. 'I was begun to sleep (by Sajana)').

(69)	****bi***	*(sajan-a:r)*	*unta-**gda**-ʒa*	*əxil-ə:-**b***
	1SG.NOM	(Sajana-INS)	sleep-**PASS**-CVB	begin-PST-**1SG**

Expected: 'I began to sleep (forced by Sajana)' (lit. 'I began to be slept (by Sajana)').

(70)	****bi***	*(sajan-a:r)*	*unta-**gda**-ʒa*	*əxilə-**gd**-ə:-**b***
	1SG.NOM	(Sajana-INS)	sleep-**PASS**-CVB	begin-**PASS**-PST-**1SG**

Expected: 'I began to sleep (forced by Sajana)' (lit. 'I was begun to be slept (by Sajana)').

As we can see from (68)—(70), attempts to attach a passive morpheme to either one of the verbs, or to both, fail. Also, note that in Barguzin Buryat an intransitive embedded verb cannot be used in a transitive configuration:

(71)	**badma*	*namaijə*	*unta-ʒa*	*əxil-ə:*
	Badma.NOM	1SG.ACC	sleep-CVB	begin-PST

Expected: 'Badma began (to cause) me to sleep.'

The data discussed in this section indicates that the transitivity of the embedded predicate is one of the factors that determine the number of possible passivization patterns in the *-ʒa*-construction.

4.2. Embedded verbs with lexically marked voice: Causatives and inchoatives

Buryat has a number of verb pairs that are lexically marked for voice. Such verbs share a root which has to be combined with either causative (the *-l(a)-* suffix) or inchoative morphology (the *-r(a)-* suffix):[15]

(72) *sajana* *ʉmdə* *xaxa-**l**-a:* / **xaxa-**r**-a:*
Sajana.NOM pants tear-**TR**-PST tear-**INTR**-PST
'Sajana tore the pants.'

(73) *ʉmdən* **xaxa-**l**-a:* / *xaxa-**r**-a:*
pants.NOM tear-**TR**-PST tear-**INTR**-PST
'The pants tore.'

Traditional grammars [Poppe 1938; 1960; Sanzheev 1962] treat these verbs as "antipodes"[16] of each other [Sanzheev 1962: 170] and view the suffixes *-l(a)-* and *-r(a)-* as derivational markers that make either intransitive or transitive verbs from words of other categories, such as adjectives (74) or particles (75), for example [Poppe 1938; 1960].

(74) a. *mu:-**la**-xa*
bad-**TR**-POT
'offend, slander (s.o.)'
b. *mu:-**ra**-xa*
bad-**INTR**-POT
'get worse, feel upset'

(75) a. *taha-**la**-xa*
in.half-**TR**-POT
'tear off'
b. *taha-**ra**-xa*
in.half-**INTR**-POT
'be torn off'

When verbs with lexically marked voice occur as embedded predicates of *-ʒa*-clauses, they allow a different set of passivization patterns than both transitive and intransitive verbs. Consider (76)—(80):

(76) *sajana* *ʉmdə* *xaxa-**l**-ʒa* / **xaxa-**r**-ʒa* *əxil-ə:* / *ʉrdə-jə*
Sajana.NOM pants tear-**TR**-CVB tear-**INTR**-CVB begin-PST manage-PST
'Sajana began / managed to tear the pants.'

(77) *ʉmdən* **xaxa-**l**-ʒa* / *xaxa-**r**-ʒa* *əxil-ə:* / *ʉrdə-jə*
pants.NOM tear-**TR**-CVB tear-**INTR**-CVB begin-PST manage-PST
'The pants began / managed to tear.'

The sentences in (76)—(77) show that a causative embedded verb can occur only in a transitive configuration and that an inchoative verb can occur only in an intransitive one. So far their behavior is the same as the behavior of transitive and intransitive embedded verbs which are not lexically specified for voice. However, if we look at the possible passivization patterns, we observe that causative embedded verbs differ from transitive ones, and inchoative embedded verbs differ from intransitive ones:

(78) *ʉmdən* *(sajan-a:r)* **xaxa-**l**-ʒa* / *xaxa-**r**-ʒa*
pants.NOM (Sajana-INS) tear-**TR**-CVB tear-**INTR**-CVB

[15] I use the terms "causative" and "inchoative" in order to make a reference to the notion of causative-inchoative alternation (see [Alexiadou, Anagnostopoulou 2004; Schäfer 2008], among others). I gloss *-l-* as TR (transitive) and *-r-* as INTR (intransitive) to avoid confusion with distinct causative (*-u:l-*) and passive (*-gd(a)-*) markers. These glosses do not reflect any hypotheses about how these suffixes actually change the argument structure. As I show later, verbs with these suffixes are different from transitive and intransitive verbs respectively and are lexically marked for voice features (voice: CAUS and voice: PASS).

[16] Though it is not the case that all verbs with suffixes *-l(a)-* and *-r(a)-* have a corresponding (in)transitive pair.

*əxilə-**gd**-ə:* / *ʉrdi-**gd**-ə:*
begin-**PASS**-PST manage-**PASS**-PST
'(Sajana) began / managed to tear the pants' (lit. 'The pants were begun / managed to tear (by Sajana)').

(79) *ʉmdən (sajan-a:r) xaxa-**la-gda**-ʒa* / *xaxa-**ra-gda**-ʒa*
pants.NOM (Sajana-INS) tear-**TR-PASS**-CVB tear-**INTR-PASS**-CVB
əxil-ə: / *ʉrdə-jə:*
begin-PST manage-PST
'(Sajana) began / managed to tear the pants' (lit. 'The pants began / managed to be torn (by Sajana)').

(80) *ʉmdən (sajan-a:r) xaxa-**la-gda**-ʒa* / *xaxa-**ra-gda**-ʒa*
pants.NOM (Sajana-INS) tear-**TR-PASS**-CVB tear-**INTR-PASS**-CVB
*əxilə-**gd**-ə:* / *ʉrdi-**gd**-ə:*
begin-**PASS**-PST manage-**PASS**-PST
'(Sajana) began / managed to tear the pants' (lit. 'The pants were began / managed to be torn (by Sajana).')

Unlike the construction with an embedded intransitive predicate (68)—(70), sentences with inchoative *-ʒa*-clauses can undergo all the attested types of passivization: passive morphology can occur only on the matrix verb (78), only on the embedded verb (79), or on both verbs (80). Sentences with embedded causative verbs also differ with respect to the available patterns of passivization from the sentences with embedded transitive predicates (63)—(65). While both types of sentences allow passivization patterns where passive morphology occurs on the embedded verb (64)—(65), (79)—(80), sentences with embedded causatives resist the LOM configuration that involves passive morphology only on the matrix verb, cf. grammaticality of (63) and ungrammaticality of the causative embedded verb in (78).

The voice patterns attested with different verb classes in *-ʒa*-clauses are summarized in table 1.

Table 1

Voice patterns across different verb classes in *-ʒa*-clauses

Configuration \ $V_{embedded}$	Transitive	Causative (*-l-*)	Inchoative (*-r-*)	Intransitive
TRANS	OK	OK	*	*
INTRANS	*	*	OK	OK
V_e.Ø — V_m.PASS	OK	*	OK	*
V_e.PASS — V_m.Ø	OK	OK	OK	*
V_e.PASS — V_m.PASS	OK	OK	OK	*

The columns of the table correspond to the four classes of verbs: transitives, intransitives, and verbs with lexically marked voice (causatives and inchoatives). The rows correspond to the different syntactic environments: transitive configurations (with no special marking of the verb), intransitive configurations (with no special marking on the verb), configurations with passive morphology (the *-gd(a)-* suffix) only on the matrix verb, configurations with passive morphology (the *-gd(a)-* suffix) only on the embedded verb, and configurations with passive morphology (the *-gd(a)-* suffix) on both verbs.

As table 1 shows, transitive and causative embedded verbs pattern together in being able to be used in a transitive configuration, while inchoatives and intransitives pattern together in being used in intransitive contexts only. The constructions with embedded verbs, to the exclusion of intransitives, all allow the passivization pattern where the embedded verb bears passive morphology (PASS — Ø, Ø — PASS). Sentences with intransitive embedded verbs cannot occur in any of the passivized configurations. The variation that is of most interest to us is attested in the configuration with LOM, in which the matrix verb is passivized, but the embedded one is not. We observe that this derivation is possible with inchoative embedded verbs and transitive embedded verbs, but not causative embedded verbs. The difference between transitive and causative embedded verbs looks puzzling: what is so different about them that allows one, but not the other, to participate in LOM?

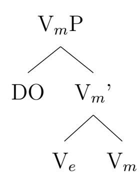
In the next section, I will elaborate on the way transitive and intransitive verbs are different from the verbs with lexically marked voice (causatives and inchoatives). I will attempt to explain the variation in voice patterns that are available for sentences with different classes of embedded verbs in *-ʒa*-clauses.

5. The *-ʒa*-construction as a voice restructuring configuration: towards an analysis

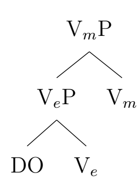
In the previous sections, we have seen that embedded clauses of the *-ʒa*-construction in Barguzin Buryat display a puzzling behavior: since they lack subjects (section 3), one would have expected them to share their voice domain with the matrix subject entirely, but as we have seen in section 4, this cannot be the case. Embedded verbs in the *-ʒa*-construction can take voice morphology, and the interaction between the matrix voice domain and the embedded voice domain seems to be dependent on the transitivity of the embedded verb and on whether it has some lexical specification of voice or not.

From the data I have discussed so far, it is obvious that neither the complex head approach (see [Bouma, van Noord 1997; Saito, Hoshi 1998], among others), nor the bare VP complementation approach [Wurmbrand 2001], sketched in (81) and (82) respectively, can account for the properties of the *-ʒa*-construction in Barguzin Buryat.

(81) The complex head approach



(82) The bare VP-complementation approach



The embedded clause in the *-ʒa*-construction seems to include more functional structure than both of these approaches assume: it has to include some voice domain. In this section, I propose an analysis of what kind of voice domain the embedded *-ʒa*-clause has and how it interacts with the voice domain of the matrix clause.

5.1. The basic ingredients: Voice Stacking, Voice Deficiency, Voice Agreement, and Voice Matching

This section is devoted to presenting the general ideas behind my proposal, a formal implementation of which can be found in the following section.

I would like to propose that the puzzling properties of the -*ʒa*-construction receive a natural explanation under a version of the voice restructuring approach [Wurmbrand 2015; Shimamura, Wurmbrand 2014; Wurmbrand, Shimamura 2017]. According to [Wurmbrand 2015], voice restructuring is a process by which certain matrix verbs select a reduced embedded clause with a deficient voice domain. Voice Deficiency is one of the main ingredients of my proposal: I would like to argue that the -*ʒa*-clauses in Barguzin Buryat do contain a voice domain, but one that is deficient in comparison to the voice domain of ordinary matrix clauses. I propose that this deficiency is represented syntactically in the following way: there is a Voice projection in the syntactic structure of the embedded clause, but a) it is not valued for a particular voice; b) it cannot introduce its own subject. In other words, the embedded predicate "knows" that it has to have voice, but it does not "know" which voice it has. I would also like to argue that the difference between transitive and intransitive embedded verbs, on the one hand, and causative and inchoative embedded verbs, on the other hand, is a difference in voice deficiency. While transitive and intransitive embedded verbs do not "know" anything about their voice specification, causative and inchoative predicates come with a voice specification from the lexicon: causative verbs have causative voice, inchoative verbs have passive voice. But despite "knowing" their voice specification, embedded predicates with lexically marked voice are still deficient in the sense that they cannot introduce their own subject.

The voice of a clause cannot remain unspecified throughout the derivation; therefore, the voice deficiency of the embedded clause has to be fixed somehow. I adopt the idea proposed and elaborated in [Wurmbrand 2015; Shimamura, Wurmbrand 2014; Wurmbrand, Shimamura 2017] that the unspecified voice of an embedded clause can be fixed through a mechanism of agreement with a higher predicate through Voice Agreement. The embedded voice "looks up" in the hierarchical structure, "finds" matrix voice, and acquires from it its voice value and information about the external argument. I will assume that there are two values for voice: causative (CAUS) and passive (PASS). Causative voice in an ordinary matrix clause receives null realization, while passive voice is spelled out as -*gd(a)*-. I will assume that voice agreement is a syntactic process which at least in Barguzin Buryat does not lead to overt realization of the valued voice: for example, after the embedded predicate has agreed in voice with the passivized matrix predicate and received the passive value for its voice, this value is not overtly realized by a passive morpheme. Agreement as described above ensures that the understood agent of the matrix predicate is identical to the understood agent of the embedded predicate.[17]

The current set of assumptions makes it possible to account for some basic voice patterns we have observed. Consider the sentence in (83), for which I suggest the interaction between the voice domain in (84).

(83) *badma* *namaijə* *zura*-***ʒa*** *əxil-ə:*
Badma.NOM 1SG.ACC draw-**CVB** begin-PST
'Badma began / tried / managed to draw me.'

(84) Voice Deficiency + Voice Agreement: transitive verb, transitive configuration
a. voice of Ve: ____ voice of Vm: CAUS
b. voice of Ve: CAUS voice of Vm: CAUS

The embedded verb has a deficient voice, so it has to get its voice value and information about the external argument from some other functional element in the sentence. It finds the matrix verb and enters into an agreement relation with it, acquiring causative voice specification and information about its external argument being equivalent to the external argument of the matrix verb.

Voice Deficiency and Voice Agreement also allow us to derive configurations with LOM in sentences with a transitive embedded verb (85)—(86).

[17] In the case of the passive, the agent is implicit.

(85) ***bi*** *badm-a:r* *zura-ʒa* *əxilə-**gd**-ə:-**b***
1SG.NOM Badma-INS draw-CVB begin-**PASS**-PST-**1SG**
'Badma began to draw me' (lit. 'I was begun to draw by Badma').

(86) Voice Deficiency + Voice Agreement: transitive verb, LOM configuration
a. voice of Ve: ____ voice of Vm: PASS
b. voice of Ve: PASS voice of Vm: PASS

In this case, the derivation proceeds in the same way as in the transitive configuration, except for the fact that the voice value that the embedded verb receives from the matrix one is passive, not causative. In both cases, the valued voice of the embedded clause is mere agreement, and thus is not spelled out with any overt material.

To explain some of the other patterns, we have to add some more assumptions. First, I will assume that matrix predicates in the *-ʒa*-construction are ambiguous between transitive and intransitive uses (see [Letučij 2005] for the discussion of unmarked transitive-intransitive alternations of phasal verbs). For some of the matrix verbs under consideration it is possible to provide direct evidence that they have intransitive uses. For example, *əxilxə* 'begin' can occur in a sentence where it has only one argument — a noun phrase:

(87) *na:dan* *əxilə:*
game.NOM begin-PST
'The game began.'

I do not have such evidence for other matrix verbs, but I will still assume that they can occur in an intransitive structure. In my view, intransitive verbs under consideration differ from transitive ones in that they do not project a voice domain: they do not have an external argument, neither explicit nor implicit.[18] Second, I would like to suggest that there is a syntactic principle that requires the matrix voice to match the embedded voice in the *-ʒa*-construction: Voice Matching. This principle states that if the matrix verb has a voice domain, its voice value has to match the voice value of the embedded predicate. This presupposes the existence of a voice domain in the embedded clause: if there is no voice there, Voice Matching will fail.

The modified set of assumptions allows us to correctly predict the following configurations for all verb classes: transitive configuration, intransitive configuration, LOM. In the transitive configuration (see table 2), transitive and causative embedded verbs successfully agree with the matrix verb in voice (for the causative verb, the agreement only establishes the identity of the external argument, since the voice is lexically specified), and Voice Matching is trivially satisfied. When the embedded verb is intransitive or inchoative (lexically specified for passive voice), Voice Matching fails, and the sentences become ungrammatical.

Table 2

Transitive configuration

Embedded clause	Matrix clause	Grammaticality	Derivation / Violation
transitive voice: ___	voice: CAUS	OK (62)	Voice Agreement (voice: caus) √ Voice Matching
intransitive no voice		* (71)	*Voice Matching
causative voice: CAUS		OK (76)	Voice Agreement (agent information) √ Voice Matching
inchoative voice: PASS		* (76)	*Voice Matching

[18] Unergative verbs might have to project a voice domain; I will not discuss such verbs in this paper.

In the intransitive configuration (table 3), only those embedded verbs that do not need to establish Voice Agreement relationship can occur. Intransitive embedded verbs have no voice domain, so their use is grammatical. Inchoative verbs have lexically specified voice (passive), so their use is justified as well. Transitive and causative verbs, on the other hand, need to agree in voice with the matrix verb: transitive verbs need to "find" their voice value and the identity of their external argument; causative verbs need only the information about the external argument. An intransitive matrix verb lacks a voice domain, and hence cannot "provide" the embedded verb with the relevant information. Thus, these derivations result in ungrammaticality.

Table 3

Intransitive configuration

Embedded Clause	Matrix Clause	Grammaticality	Derivation / Violation
transitive voice: ___	no voice	* (66)	*Voice Agreement (voice: ___) no agreement → derivation crash
intransitive no voice		OK (67)	
causative voice: CAUS		* (77)	*Voice Agreement (agent information)
inchoative voice: PASS		OK (77)	

In the configuration with long-object movement (table 4), we observe crucial differences between the behavior of transitives and causatives, on the one hand, and intransitives and inchoatives, on the other, which provide evidence for the existence of the Voice Matching requirement. The difference between transitives and intransitives vs. causatives and inchoatives is that the former do not have any value for voice, while the latter come from the lexicon already specified for causative and passive voice respectively. The principle of Voice Matching requires that if there is matrix voice, then there should be voice in the embedded clause, and the values of the two voices should be the same. As we can see, if the matrix verb has passive voice, an embedded inchoative verb, which is lexically specified for passive voice, is grammatical. Embedded causative verbs in such configurations are impossible: their voice (causative) does not match the voice of the matrix verb (passive). Transitive embedded verbs, which are not specified for voice features initially, are compatible with the LOM configuration: they value their voice feature through Voice Agreement with the matrix verb, and thus trivially satisfy the Voice Matching requirement. Intransitive verbs, which have no voice domain, cannot occur as embedded verbs in this configuration, since they fail Voice Matching: the matrix voice cannot find any voice in the embedded clause with which it could check the Voice Matching requirement.

Table 4

LOM configuration

Embedded clause	Matrix clause	Grammaticality	Derivation / Violation
transitive voice: ___	voice: PASS	OK (63)	Voice Agreement (voice: PASS) √ Voice Matching
intransitive no voice		* (68)	*Voice Matching
causative voice: CAUS		* (78)	Voice Agreement (agent information) *Voice Matching
inchoative voice: PASS		OK (78)	√ Voice Matching

There are two other voice patterns we have not discussed so far: a voice pattern, where passive morphology occurs only on the embedded verb, and a double passive pattern, where a passive suffix occurs on each of the verbs. In order to provide an analysis of these configurations, we need to make one more assumption, that of Voice Stacking: more than one Voice projection can appear in a clause in Buryat. If we assume this, then we have to make an adjustment to our Voice Matching requirement by saying that the voice of the matrix verb has to match the highest Voice projection of the embedded clause — the projection of Voice that is the last to be merged into the syntactic representation of the embedded clause. Although it is clear that Voice Stacking needs to be restricted in some way so that its availability would not overgenerate and produce impossible syntactic configurations, I will not attempt to examine its restrictions in this paper. But I will show that together with the principles we have already introduced, it can account for the possible and impossible voice patterns in the *-ʒa*-construction.

I would like to argue that in the configuration where passive morphology is present only on the embedded verb (table 5), there is one additional projection of Voice that is merged into the embedded clause, which has a passive voice feature. The matrix verb in this configuration is intransitive and has no voice domain. This configuration is ungrammatical only when an embedded intransitive verb is used: the derivation crashes at the attempt to add a voice domain to an intransitive predicate.[19] All other embedded verbs (transitive, causative, inchoative) are grammatical in this configuration. Transitives and causatives agree with the additionally merged Voice and receive the missing information about their voice and the external argument from it. Note that the causative verb has lexically specified causative voice, so its voice does not match the voice of the additionally merged Voice, which is passive, but that does not lead to ungrammaticality, since Voice Matching requirement holds only between matrix verbs and highest Voice projections of embedded clauses. Since the matrix verb is intransitive, no Voice Matching takes place. Derivations with transitive, causative, and inchoative verbs all result in grammatical sentences.

Table 5

Embedded passive

<table>
<tr><th>Embedded Voice-1</th><th>Embedded Voice-2</th><th>Matrix clause</th><th>Grammaticality</th><th>Derivation / Violation</th></tr>
<tr><td>transitive
voice: ___</td><td rowspan="4">voice: PASS</td><td rowspan="4">no voice</td><td>OK (64)</td><td>Voice Agreement
(Voice-1 voice: PASS)</td></tr>
<tr><td>intransitive
no voice</td><td>* (69)</td><td>*intransitive + Voice</td></tr>
<tr><td>causative
voice: CAUS</td><td>OK (79)</td><td>Voice Agreement
(agent information)</td></tr>
<tr><td>inchoative
voice: PASS</td><td>OK (79)</td><td></td></tr>
</table>

[19] A reviewer asks whether there is any theoretical motivation or independent empirical evidence that intransitive verbs cannot undergo passivization. Attachment of passive morphology to intransitive verbs outside of the construction under consideration is restricted in Barguzin Buryat and represents a special case of "causative passive" formation (see [Privoznov, Gruzdeva (ms.)] for a detailed discussion). In this case, the suffix *-gda-* marks a different valency alternation that introduces a causative subevent and, optionally, an agent:

(i) *ʉxibʉ:n* *unt-agd-a:*
child.NOM sleep-PASS-PST

'Someone put the child to sleep' [Privoznov, Gruzdeva (ms.)].

In other words, the passive suffix marks a causative derivation when it is attached to an unmarked intransitive verb. If this is the case, then under the current proposal it is not surprising why the attachment of *-gda-* to an embedded intransitive verb would be prohibited in the *-ʒa-* construction with an intransitive matrix verb. Such a derivation would evoke a Voice Agreement violation similar to the one we have seen before in table 3 with a causative embedded verb and an intransitive matrix verb. The only difference here would

The double passive configuration (table 6) minimally differs from the previous case: the only difference is that the matrix verb in this configuration is not intransitive, but passive. Since the highest embedded Voice has a passive value, Voice Matching between it and the matrix verb is satisfied.

Table 6

Double passive

<table>
<tr><th>Embedded Voice-1</th><th>Embedded Voice-2</th><th>Matrix clause</th><th>Grammaticality</th><th>Derivation / Violation</th></tr>
<tr><td>transitive
voice: ___</td><td rowspan="4">voice: PASS</td><td rowspan="4">voice: PASS</td><td>OK (65)</td><td>Voice Agreement
(Voice-1 voice: PASS)
√ Voice Matching
(Voice-2, Matrix Voice)</td></tr>
<tr><td>intransitive
no voice</td><td>* (70)</td><td>*intransitive + Voice</td></tr>
<tr><td>causative
voice: CAUS</td><td>OK (80)</td><td>Voice Agreement
(agent information)
√ Voice Matching
(Voice-2, Matrix Voice)</td></tr>
<tr><td>inchoative
voice: PASS</td><td>OK (80)</td><td>√ Voice Matching
(Voice-2, Matrix Voice)</td></tr>
</table>

To sum up, the four main assumptions that I have introduced — Voice Deficiency, Voice Agreement, Voice Matching, and Voice Stacking — allow us to account for all the existing voice patterns in the *-ʒa*-construction of Barguzin Buryat and to correctly ban the patterns that are not attested. Note that two of these assumptions — Voice Deficiency and Voice Agreement — have been independently proposed based on data from many other languages [Wurmbrand 2015; Shimamura, Wurmbrand 2014; Wurmbrand, Shimamura 2017]. Some additional evidence for Voice Matching and Voice Stacking will be provided in section 5.3 of this paper. I leave the question of whether Voice Matching can be reduced to Voice Agreement for future research.

5.2. Technical implementation

In this section, I give a more precise technical implementation of the ideas that I have introduced so far and provide a few sample derivations.

First, I would like to spell out some of my basic assumptions about the structures of the verbal phrases more precisely. I assume a split voice domain, in which *v* functions as a verbalizer and marks transitivity (v_{TR} and v_{INTR}), while Voice introduces an AGENT / CAUSER [Kratzer 1996] or encodes PASSIVE. I assume that transitive *v* (v_{TR}) always merges with VoiceP (see [Pylkkännen 2002; Alexiadou et al. 2006; Schäfer 2008; Pitteroff, Alexiadou 2012], among others); intransitive, unaccusative, and anticausative verbs (v_{INTR}) can lack VoiceP altogether.[20] The Voice head has a voice feature which can be valued either as CAUS or as PASS (voice: CAUS, voice: PASS). In addition,

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be that agreement is violated not between the initial voice specification and voice specification of the matrix verb, but between the Voice-2 specification and the matrix voice:

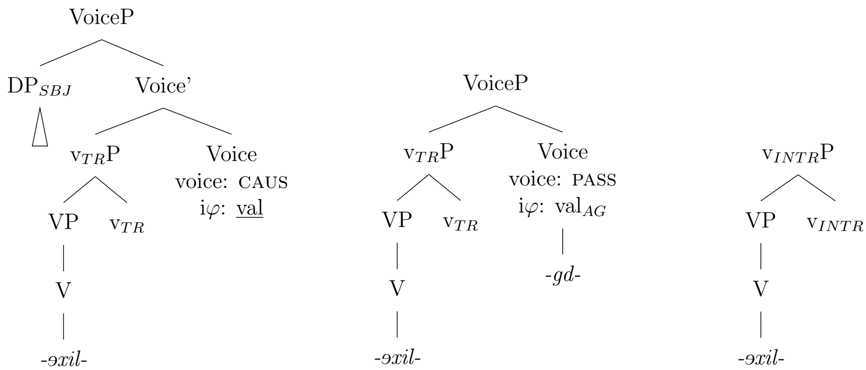
(ii)	**Embedded Voice-1**	**Embedded Voice-2**	**Matrix Clause**	**Violation**
	intransitive, no voice	voice: CAUS (spelled as *-gda-*)	no voice	*Voice Agreement (agent information)

We leave the interesting questions of how spell-out works exactly in this case and why a true passive derivation (no voice + Voice: PASS) is impossible for further investigation.

[20] Some intransitive verbs in Buryat can have a VoiceP projection in their structure, for example, inchoative verbs can take passive morphology (79)—(80). However, the availability of VoicePs in structures with intransitive verbs is restricted. See [Elementy (ms.)] for more details.

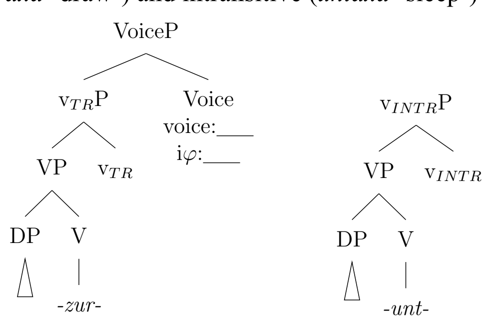
Voice can also have interpretable φ-features, which can be inserted unvalued (iφ: ___) or valued (iφ: val). As I have mentioned before, I take matrix verbs of the *-ʒa*-construction to be ambiguous between transitive (with v_{TR}) and intransitive uses (with v_{INTR}). A matrix transitive verb merges with a Voice head that either has a causative voice feature and an unvalued φ-feature that is later valued by agreement with a merged external argument (voice: CAUS and iφ: ___, active voice) or with Voice that has a passive voice feature and a valued φ-feature (voice: PASS, iφ: $\mathrm{val}_{\mathrm{AG}}$,[21] passive voice). An intransitive matrix verb does not merge with Voice. The possible structures of matrix verbal phrases are sketched in (88).

(88) Matrix Verbs (*əxilxə* 'begin'): active voice, passive voice, intransitive verbs



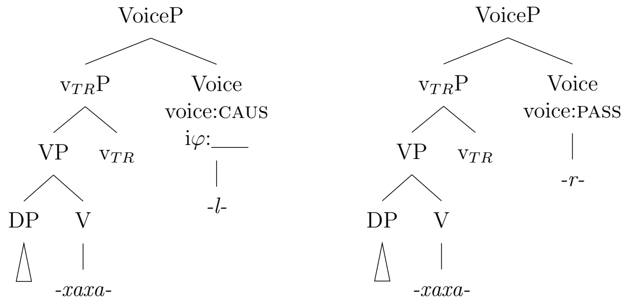
In the system I propose, embedded verbs can have either v_{TR} (transitive and causative verbs) or v_{INTR} (intransitive and inchoative verbs) in their structure. Voice Deficiency is implemented in the following way. I propose that transitive embedded verbs of the *-ʒa*-construction merge with a VoiceP that has unvalued voice features and φ-features (voice: ___ iφ: ___). Their deficient unvalued φ-features cannot be valued by merging with a DP but have to be valued through agreement with a higher verb. Causative and inchoative restructuring verbs come from the lexicon with valued voice features (voice: CAUS and voice: PASS, respectively). Just like embedded transitive verbs, embedded causatives have a deficient unvalued φ-feature that can be valued only through agreement. Inchoative verbs lack a φ-feature altogether. The structures of embedded verbs of the *-ʒa*-construction are represented in (89)—(90).

(89) Transitive (*zuraxa* 'draw') and intransitive (*untaxa* 'sleep') embedded verbs



[21] I follow [Legate 2010; 2012; Wurmbrand, Shimamura 2017] in assuming that passive Voice comes with lexically valued iφ-features corresponding to the implicit agent. Since the iφ-features of the passive Voice are valued, no non-oblique DPs are merged.

(90) Causative (*xaxalxa* 'tear') and inchoative (*xaxarxa* 'tear') embedded verbs



I adopt a Reverse Agree approach (upward probing, downward valuation) for Voice Agreement in the formulation that was introduced in [Wurmbrand 2014b]:

(91) **Reverse Agree** [Wurmbrand 2014b]:
A feature F: ___ on α is valued by a feature F: val on β, iff
a. β c-commands α AND
b. α is accessible to β [accessible: not spelled-out];
c. α does not value {a feature of β} / {a feature F of β}.

Voice Deficiency and Voice Agreement as formalized above, together with the possibility of Voice Stacking and the requirement of Voice Matching as introduced in the previous section, allow us to provide syntactic derivations for all the voice patterns with different classes of embedded verbs. I will provide just a few sample derivations to show how the technical implementation proceeds.

First, I will show how the derivation with a transitive embedded verb in a transitive configuration proceeds. The embedded verb has unvalued voice and φ-features that have to be valued in the course of derivation. The embedded voice probes and finds the valued voice features of the matrix verb. By downward valuation the embedded verb receives its values for voice and φ-features (voice: CAUS, iφ: <u>val</u>); Voice Matching is trivially satisfied. Note that the fact that the embedded verb receives its φ-features through agreement with the matrix verb derives the fact that the understood agent of the embedded predicate is the same as the understood agent of the matrix predicate.

(92)

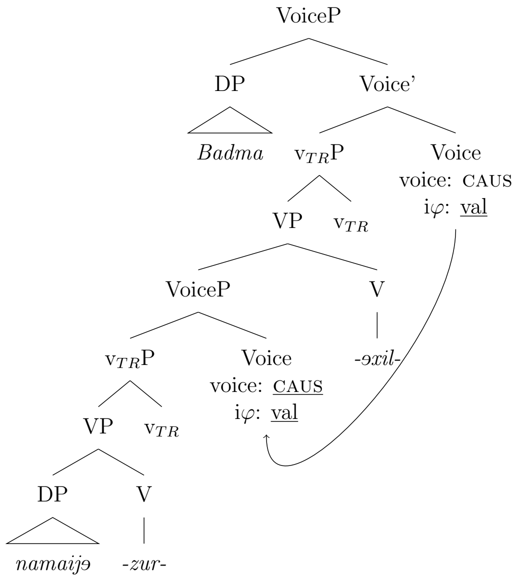
badma	*namaijə*	*zura-**ʒa***	*əxil-ə:*
Badma.NOM	1SG.ACC	draw-**CVB**	begin-PST

'Badma began to draw me.'

This configuration would be impossible with an intransitive embedded verb because matrix Voice has a feature 'voice: CAUS' that has to be matched by a corresponding feature of the embedded predicate, but no voice features of the embedded predicate can be found. Causative embedded verbs would be possible in this configuration, since Voice matching with the matrix verb would be successful (both the embedded and the matrix Voice have the same value for the voice feature: CAUS). The φ-feature of the embedded Voice would receive its value through Reverse Agree with the matrix Voice. Inchoatives would be incompatible with the transitive configuration because the Voice Matching requirement is not met: voice features of the matrix Voice (voice: CAUS) and the embedded Voice (voice: PASS) do not match.

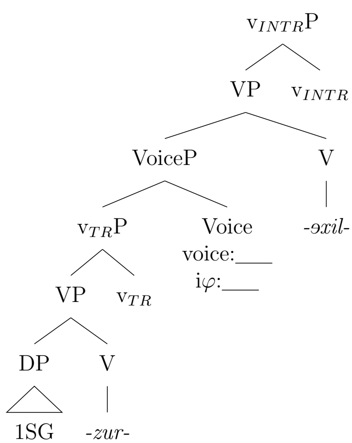
Second, intransitive configurations show the reverse pattern: they are possible with intransitive and inchoative embedded verbs, but not with transitive or causative ones. The intransitive configuration is incompatible with an embedded transitive predicate because the voice and φ-features of the embedded predicate remain unvalued, leading to a derivation crash:

(93) Voice Transitive embedded verb, transitive configuration (92):



(94) ***bi** *(badm-a:r)* *zura-ʒa* *əxil-ə:-**b***
1SG.NOM (Badma-INS) draw-CVB begin-PST-**1SG**
Expected: ‘Badma began to draw me’ (lit. ‘I began to draw (by Badma)’).

(95) Transitive embedded verb, intransitive configuration (94):

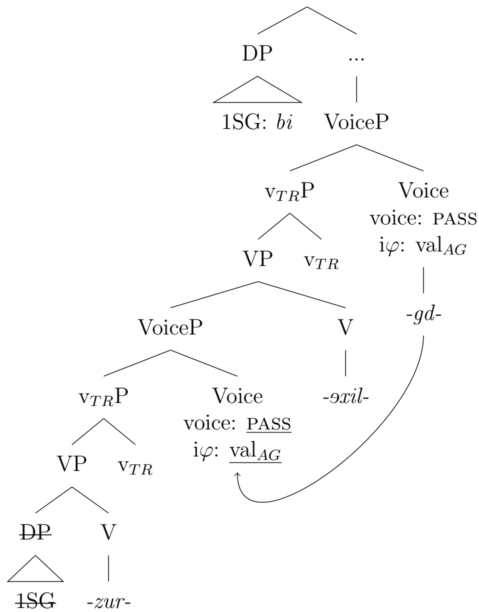


Causative embedded verbs cannot occur in this configuration either, since they have an unvalued φ-feature that cannot be valued in this environment due to the lack of a matrix voice domain. Both intransitive and inchoative verbs can occur in this configuration, since they do not need to value any features and thus are compatible with an intransitive matrix verb.

Third, the voice pattern that involves LOM allows us to see the difference between causative and transitive verbs and between inchoative and intransitive verbs. Transitive verbs can occur in the LOM construction precisely because of their voice deficiency: the voice and φ-features of the embedded predicate are valued through Reverse Agree with the voice and φ-features of the matrix Voice (voice: PASS, iφ: val_{AG}), hence Voice Matching becomes trivially satisfied (96)—(97).

(96) ***bi*** *badm-a:r* *zura-ʒa* *əxilə-**gd**-ə:-**b***
1SG.NOM Badma-INS draw-CVB begin-**PASS**-PST-**1SG**
'Badma began to draw me' (lit. 'I was begun to draw by Badma').

(97) Transitive embedded verb, passivized matrix predicate (96):



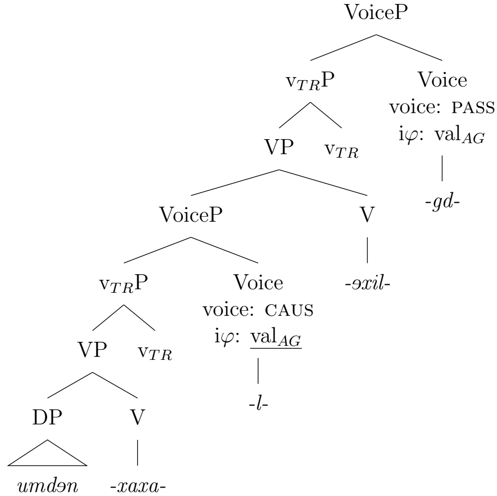
Unlike transitive embedded verbs, causative verbs come from the lexicon with a specified voice feature (voice: CAUS), which does not match the voice feature of the matrix verb in the LOM configuration (voice: PASS). Thus, our analysis correctly predicts that embedded causative verbs are ungrammatical in the LOM configuration due to the failure to meet the Voice Matching requirement (98)—(99). The same reason underlies the impossibility of embedded intransitive verbs in this configuration: the matrix Voice has a feature 'voice: PASS' that has to be matched by a corresponding feature of the embedded predicate, but no voice features of the embedded predicate can be found, since the embedded predicate does not have any Voice projections. Thus, the derivation results in ungrammaticality. When an embedded inchoative verb is used instead of an intransitive, the derivation succeeds due to the existence of a voice domain in inchoatives: they come from the lexicon with a valued voice feature with a PASS value, which is the same as the voice value of the matrix verb in the LOM construction, hence Voice Matching is satisfied.

(98) **ʉmdən* *(sajan-a:r)* *xaxa-**l**-ʒa* *əxilə-**gd**-ə:*
pants.NOM (Sajana-INS) tear-**TR**-CVB begin-**PASS**-PST
Expected: '(Sajana) began to tear the pants' (lit. 'The pants were begun to tear (by Sajana)').

Finally, consider the double passive configuration. It is possible when the embedded predicate is transitive (100)—(101): voice and φ-features of the embedded predicate in this case are valued through Reverse Agree with the voice and φ-features of the additionally merged Voice projection (voice: PASS, iφ: val_{AG}). Voice Matching is also successful: features of the additionally merged Voice projection match the features of the matrix Voice.[22] The derivation with an embedded causative verb is the same except for the fact that a causative verb agrees with an additionally merged VoiceP only in φ-features, since its voice feature is already valued. The derivation with

[22] I assume that some process of identification between the two implicit agents takes place (of the merged Voice and the matrix Voice) — they are mapped onto the same individual.

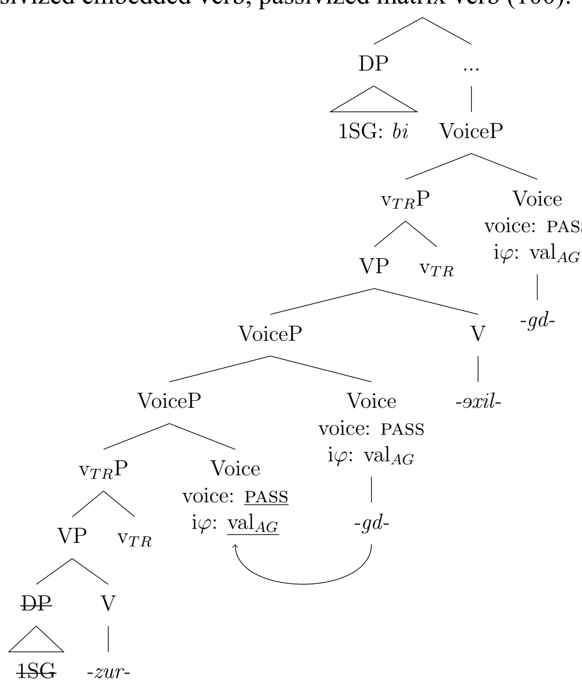
(99) Causative embedded predicate, passivized matrix verb (98):



an embedded inchoative predicate is also successful: the embedded verb has no unvalued features, so no agreement takes place; the voice feature of the additionally merged Voice (voice: PASS) matches the voice feature of the matrix verb. The only ungrammatical sentence in this voice pattern is the one with an embedded intransitive predicate: intransitive *v* (at least of verbs like *untaxa* 'sleep') cannot merge with a passive Voice (which would result in this case in an additionally merged Voice that has a passive value).

(100) ***bi*** *badm-a:r* *zura-**gda**-ʒa* *əxilə-**gd**-ə:-**b***
1SG.NOM Badma-INS draw-**PASS**-CVB begin-**PASS**-PST-**1SG**
'Badma began to draw me' (lit. 'I was begun to be drawn by Badma').

(101) Transitive passivized embedded verb, passivized matrix verb (100):



To sum up, in this section I have shown that my proposal, which I have introduced in the previous section, can be easily technically implemented in one of the current formal syntactic theories.

5.3. A prediction of this analysis

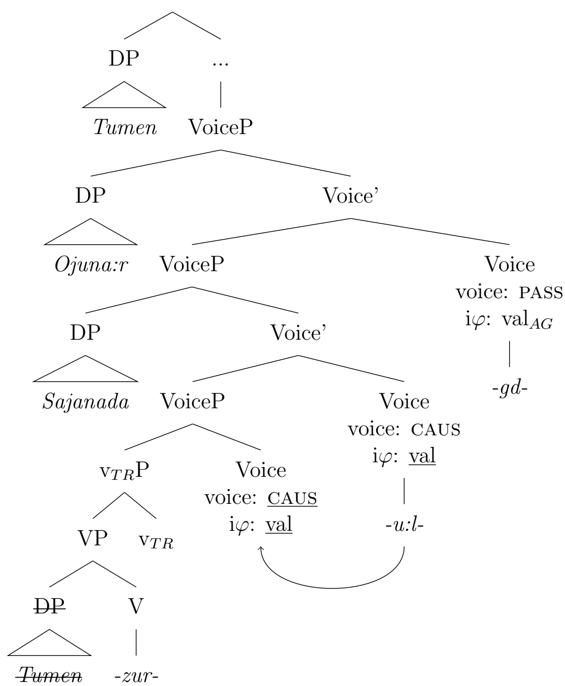
One of the predictions that this analysis makes is the following: due to Voice Stacking, causative and passive morphology should be able to co-exist on the same predicate in Barguzin Buryat, but due to Voice Matching it should be impossible for the embedded verb to take a causative marker when the matrix verb is passivized in the *-ʒa*-construction.[23] This prediction is born out. The sentence in (102) represents a causative construction with causative suffix *-u:l-*:

(102) *ojuna* *sajana-da* *tumən-i:jə* *zur-**u:l**-a:*
Ojuna.NOM Sajana-DAT Tumen-ACC draw-**CAUS**-PST
'Ojuna ordered Sajana to draw Tumen.'

It is possible to promote the direct object in this sentence into the matrix subject position if the passive voice marker is attached on top of the causative one (103). This is expected due to the availability of Voice Stacking.

(103) *tumən* *ojun-a:r* *sajana-da* *zur-**u:lə-gd**-a:*
Tumen.NOM Ojuna-INS Sajana-DAT draw-**CAUS-PASS**-PST
'Tumen was drawn by Sajana on Ojuna's orders.'

(104) CAUS and PASS marking on the same verb (103):

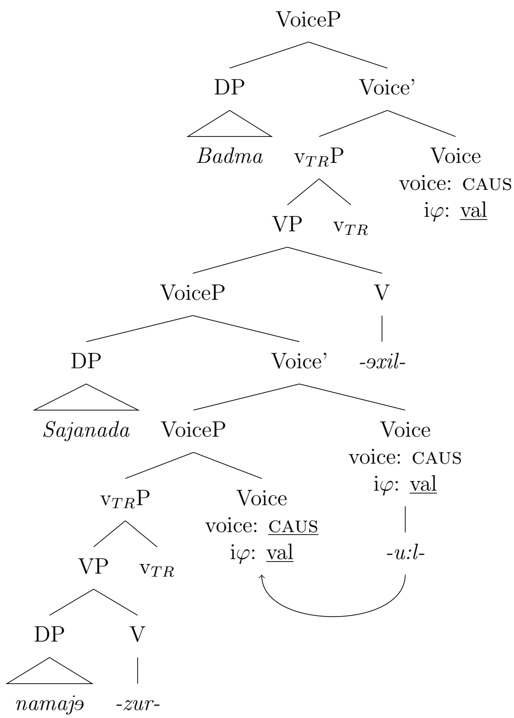


[23] And it should also be impossible for the embedded verb to be passivized when the matrix verb takes a causative marker.

The sentence in (105) shows that the causative marker can occur on the embedded predicate of the *-ʒa*-clause. This is also expected, since the matrix verb is transitive and has a voice: CAUS Voice, so Voice Matching is successful.

(105) *badma* *sajana-da* *namaijə* *zur-**u:l**-ʒa* *əxil-ə:*
Badma.NOM Sajana-DAT 1SG.ACC draw-**CAUS**-CVB begin-PST
'Badma began to order Sajana to draw me.'

(106) CAUS marker on the embedded verb of a *-ʒa*-clause (105):



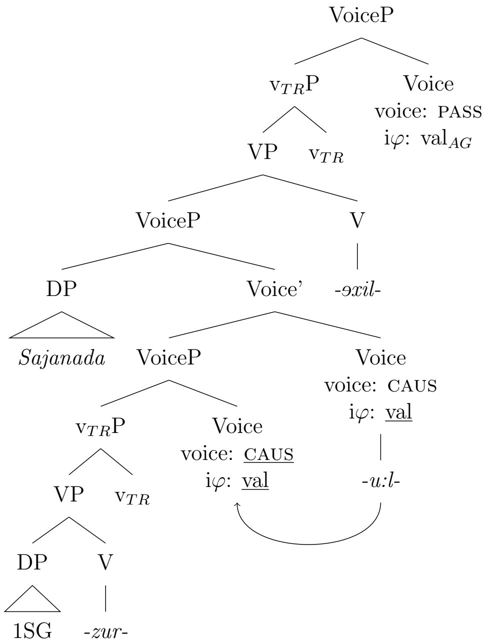
It is impossible to passivize the matrix predicate in a sentence with a *-ʒa*-clause when the embedded verb takes a causative marker (107):

(107) **bi* *badm-a:r* *sajana-da* *zur-**u:l**-ʒa* *əxilə-**gd**-ə:-b*
1SG.NOM Badma-INS Sajana-DAT draw-**CAUS**-CVB begin-**PASS**-PST-1SG
Expected: 'Badma began to order Sajana to draw me' (lit. 'I was began by Badma by Sajana to cause to draw').

This is predicted under the proposed analysis. Voice Matching is required to take place between the matrix Voice and the highest Voice projection of the embedded domain. As we can see in (108, see p. 68), in this configuration the matrix Voice has a PASS value for its voice feature, while the highest Voice in the embedded clause has a CAUS value for its voice feature. Thus, Voice Matching is unsuccessful, which leads to the ungrammaticality of the sentence in (107).

Thus, the phenomena presented in this section provide additional support for the existence of Voice Stacking and Voice Matching in Barguzin Buryat.

(108) Impossibility of matrix passivization when the embedded verb is a causative (107, see p. 67):



6. Conclusions

In this paper, I have examined the properties of the *-ʒa*-construction in Barguzin Buryat. This construction involves a matrix verb (one of the following five verbs: *əxilxə* 'begin', *turʃaxa* 'try', *dʉ:rgəxə* 'finish', *ʃadaxa* 'can', *ʉrdixə* 'manage') that takes a clause headed by a converb with the suffix *-ʒa-* as its sentential argument. I have argued that in this construction the matrix verb takes the *-ʒa*-clause as its complement and the external argument as its subject, and that the *-ʒa*-clause in the complement position is a reduced sentential argument with no more than a TP in its functional structure. I have argued that neither complex-head approaches [Bouma, van Noord 1997; Saito, Hoshi 1998] nor the bare-VP complementation approach [Wurmbrand 2001] can account for the properties of the *-ʒa*-construction.

I have shown that the properties of the *-ʒa*-construction present a puzzle. On the one hand, the embedded verb can take voice morphology, which should indicate that there is a voice domain in the embedded clause. On the other hand, as I have argued in section 3, there are no subjects inside *-ʒa*-clauses, not even null ones. This should indicate that there is no voice domain in the embedded clause, which results in a contradiction. I have examined and described the possible patterns of passivization of the construction under consideration with different classes of embedded predicates. This allowed us to take a better look at the interaction between the voice domains of the two verbs and detect correlations between the type of the embedded verb (transitive / intransitive / lexically specified for voice, i.e. causative or inchoative) and the number of passivization patterns available.

I have proposed a solution to the puzzle that relies on four ideas: Voice Deficiency and Voice Agreement (mechanisms proposed and implemented in [Wurmbrand 2015; Shimamura, Wurmbrand 2014; Wurmbrand, Shimamura 2017]), Voice Matching, and Voice Stacking. I have argued that, taken together, these principles can explain the peculiar interaction between the matrix and the embedded voice domains in the Barguzin Buryat *-ʒa*-construction. I have shown a technical implementation of my proposal and have provided additional support for the existence of Voice Stacking and Voice Matching in Barguzin Buryat.

There are many questions that I have to leave for further investigation. First, it would be interesting to see whether the Voice Matching principle could be subsumed under a mechanism of Agree, and if yes, then under what type of Agree it could be subsumed. Can it be argued to be a case of Reverse Agree? Or is some other mechanism of agreement required in this case? Second, the process of Voice Stacking requires a lot more investigation. Much more has to be said about the restrictions of merging several Voice projections inside one clause. Finally, it would be compelling to see whether the current proposal can be extended to other languages that display similar passivization patterns with verbs like *begin*, *try*, *manage*, e. g. Spanish [Bosque, Gallego 2011] or Mishar Tatar [Grashchenkov 2015].

ABBREVIATIONS

1, 2, 3 — 1st, 2nd, 3rd person
ACC — accusative
CAUS — causative
COM — comitative
COMP — complementizer
CONJ — conjunction
CVB — converb
CP — complementizer phrase
DAT — dative
DO — direct object
GEN — genitive
INS — instrumental
INTR — intransitive (inchoative verbs)
IO — indirect object
NEG — negation
NMLZ — nominalization
NOM — nominative
PASS — passive
PRF — perfect
PL — plural
POT — potential tense
PRO — obligatory control pronoun
PRO_{i+j} — split control pronoun
PRS — present tense
PST — past tense
PST2 — second past tense
PTCL — particle
REFL — reflexive
SG — singular
ST — stem (marker of the verbal base)
SBJ — subject
t — trace
TP — tense phrase
TR — transitive (causative verbs)
Ve — embedded verb
Vm — matrix verb
VP — verbal phrase

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