

SOME REMARKS ON THE NAKH-DAGESTANIAN AFFECTIVE CONSTRUCTION¹

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Nakh-Dagestanian languages are famous (and quite well studied) for their extensive case marking, which at first glance appears exotic (see Comrie & Polinsky 1998, Ganenkov & Maisak 2020 for a discussion). At the same time, the mapping from various nominal forms to verbal arguments has been investigated less. This paper is an attempt to explore such mapping, using data from the Nakh-Dagestanian language Tsez. It is my hope that similar studies can be carried out on other languages of the family, thus stimulating micro-comparative research on the encoding of argument structure.

The main focus of this paper is the status of arguments in the affective construction whose predicates come from the ranks of verbs expressing perception and cognition. In order to analyze this construction, I will first describe case forms and postpositional phrases (Section 1). Section 2 presents the affective construction. Section 3 introduces diagnostics indicating that the affective construction is not a homogenous phenomenon; of special interest there is the masdar relative construction, which has not been studied previously. Section 4 outlines the analysis of Tsez affective constructions, showing that they are structurally ambiguous.

1. Tsez case forms and postpositional phrases

The inventory of Tsez grammatical cases includes absolutive, ergative, genitive/possessive (which shows case concord with the head noun),

¹ I dedicate this paper to Rasul Mutalov, whose enthusiasm for all things linguistic and commitment to languages of the Caucasus have long been an inspiration for us all.

and lative (the form I will return to below); see Kibrik (1970); Comrie & Polinsky (1998), Ganenkov & Maisak (2020), a.o. For the majority of nouns, the ergative coincides with the oblique stem (see Kibrik & Kozdasov 1990 for details).

Spatial nominal expressions are formed by combining morphemes positioned in two or three morphological slots. The slot closest to the nominal stem is reserved for the morpheme indicating the reference point (aka localization) in a locative configuration: horizontal or vertical surface, inner space (hollow or filled), adjacent space, etc. (see Svorou 1994 for basic concepts and terminology). The second slot houses the morpheme encoding path with respect to the reference point, such as movement from that point, to that point, and so forth; the absence of motion is a separate interpretive component, one that is expressed by the essive. Yet another slot, furthest away from the stem, is reserved for morphemes expressing deictic distinctions, roughly [visible] (no marking) and [out of sight] (associated with overt marking); the two distinctions are referred to as non-distal and distal respectively (Comrie & Polinsky 1998). Table 1 shows the combination of reference-point (localization) marking and motion-path marking in the non-distal deictic form. The names of spatial forms are composed from the name of the localization followed by the name of the motion (e.g., apud-allative, poss-ablative, etc.).²

Table 1. Tsez spatial forms, non-distal series.

	Type of motion			
	Absence of motion (essive)	Motion to (lative)	Motion away from (ablative)	Motion towards (allative)
IN (in a hollow space)	-ä	-är	-äy	-äkor
CONT (among, in filled space, in mass)	-l	-ler	-läy	-lχor
SUPER (on horizontal space)	-λ'(o)	-λ'or	-λ'äy	-λ'är/-λ'äkor
SUB (under)	-λ	-λer	-läy	-λχor
POSS (on vertical space)	-q(o)	-qor	-qäy	-qär/-qäkor
AD (at, touching)	-χ(o)	-χor	-χäy	-χär/-χäkor
APUD (near)	-de	-der	-däy	-där/-däkor

² Abbreviations follow the Leipzig Glossing Rules.

Abstracting away from complications of stem morphology (see Comrie & Polinsky 1998; Imnajšvili 1963; Kibrik & Kodzasov 1990), and from variation in the ending of some spatial forms (most notably the allative), we notice that the lative and allative both share the morpheme *-r* (a simple scanning of the forms suggests that the allative can be further decomposed into two segments, of which the *-r* ending is also found in the lative). The same ending *-r* marks what is traditionally called the dative in grammars of other Nakh-Dagestanian languages (see Ganenkov & Maisak 2020 for an overview), as well as in descriptions of Tsez (Bokarev 1959; Imnajšvili 1963; Comrie & Polinsky 1998). Compare:

- (1) a. *nesi-r* b. *is-er* c. *es-na-za-r*
 DEM.CLASS.I-R bull-R sibling-PL-OS.PL-R
 ‘to him’ ‘to the bull’ ‘to (the) siblings’
- (2) a. *poč-ma-r* b. *šahar-yä-χor*
 post.office-OS-R town-OS-ALL.R
 ‘to the post office’ ‘to the city’

Since the lative function of the morpheme that appears in spatial forms is clear, it is more parsimonious to characterize the *-r* form as encoding the lative, rather than post two homophonous forms, one encoding a motion path, and the other, a more abstract dative marker. In the examples below, *-r* will be glossed as LAT(ive); the same convention is adopted in Polinsky (2015).

Tsez draws a distinction between permanent and temporary possession, in particular with respect to verbs of existence and verbs of transfer. With the former, the contrast is expressed by the genitive vs poss-essive, as shown in (3). With verbs of transfer, the lative encodes a permanent recipient, (4a), whereas the poss-essive marks the noun whose referent receives something temporarily, as in (4b).

- (3) a. *Murad-e-s mašina zow-ä?*
 Murad-OS-GEN1 car.ABS.III be.PST-INTERR
 ‘Did Murad have (own) a car?’
- b. *Murad-qo mašina zow-ä?*
 Murad-POSS.ESS car.ABS.III be.PST-INTERR
 ‘Did Murad have a car (for temporary use)?’
- (4) a. *obiy-ä Murad-e-r mašina b-iči-s.*
 father-ERG Murad-OS-LAT car.ABS.III III-leave-PST.WIT
 ‘Father left Murad the car (to keep).’

- b. *obiy-ä Murad-ƶo mašina b-iči-s.*
 father-ERG Murad-POSS.ESS CAR.ABS.III III-leave-PST.WIT
 ‘Father left Murad the car temporarily.’

One class of verbs, however, always takes an argument in the lative, although one could argue that these verbs denote a fleeting eventuality: these are verbs of perception and cognition, which I describe in the next section.

2. Affective construction

Tsez, like other Dagestani languages, has an affective construction (also known as experiencer construction), whose predicate is a verb denoting a psychological state: perception or cognition. Several verbs that occur frequently in this construction include:³ AGR-*uk*^w*ad-* ‘see’, AGR-*iy-* ‘know, understand’, *koł’-* ‘know, be trained, prepared for something’, AGR-*et-* ‘like, love, want, need’, *teq-* ‘hear’, AGR-*ac-* ‘dislike’, AGR-*es-* ‘find’, *čuy-* ‘recognize, understand’, *šul’-* ‘forget’. They all share the same marking on their arguments: the experiencer, which in most cases is animate, appears in the lative form, and the stimulus is in the absolutive (see Comrie & van den Berg 2006; Cysouw & Forker 2009 for this construction in other Nakh-Dagestani languages and further references). The verb agrees with the absolutive argument.

Consider examples of the affective construction below, with more literal equivalents in parentheses:⁴

- (5) *nesi-r baru y-ukay-nč’i.*
 DEM.I-LAT wife.ABS.II II-see-PST.WIT.NEG
 ‘He did not see (his) wife.’ (lit.: the wife was not visible to him)

³ Only a subset of vowel-initial verbal stems take agreement prefixes; in the representation of these verbs, AGR stands for the agreement slot.

⁴ Here and below, I use a number of elicited examples, which are critical when minimal pairs are needed. Some examples come from the Tsez Annotated Corpus (<https://tsezacp.cldd.org/>), which includes fairy tales, published with Russian translation as Abdulaev and Abdullaev (2010). Examples from the corpus are followed by the name of the text and the corresponding line in that text.

- (6) *dä-r nesi-s řamal b-aci-x.*
 1SG-LAT DEM.I-GEN1 character.ABS.III III-dislike-PRS
 ‘I can’t stand his personality.’ (lit.: his personality is distasteful to me)
- (7) *elo-gon yisi-r surat-ce bercinaw kid*
 there-CONTR.TOP DEM.I-LAT picture-EQUATIVE beautiful girl.ABS.II
y-esu-n.
 II-find-PST.nWIT
 ‘And there, he found a picture-perfect beautiful girl.’ (řAliqilič:168)
 (lit.: a ... girl turned out...)
- (8) *elu-r mařina c’aq’ b-et-äsi yoł.*
 1PL-LAT car.ABS.III very III-want-RES.PTCP AUX.PRS
 ‘We badly need a car.’ (lit.: car is wanted to us)
- (9) *řeř-za-r ecno-ni igruřka řuł’i-s.*⁵
 children-OS-LAT new-DEF toy.ABS.IV forget-PST.nWIT
 ‘The children forgot (about) the new toy.’
 (lit.: the toy was forgotten to the children)

Some other affective predicates are derived on the basis of the verbs listed above. For example, ‘smell’ is *mař b-iy-*, literally ‘to know a smell’, and ‘taste’ is *t’ařam b-iy-/řimu y-iy-*, literally meaning ‘to know a taste’; in each case, the word ‘smell’ or ‘taste’ is in the absolutive argument position and the stimulus is expressed as the adnominal genitive (the complex noun phrase expressing stimulus is shown in brackets below):

- (10) *dä-r [gagali-s mař] b-iy-ř.*
 1SG-LAT flower-GEN1 smell.ABS.III III-know-PRS
 ‘I smell flowers.’ (lit.: flower’s smell is known to me)
- (11) *[ci-yo-s t’ařam] b-iy-ä deb-er?*
 salt-GEN1 taste.ABS.III III-know-INTERR 2SG-LAT
 ‘Did you notice the saltiness?’ (lit.: is salt’s taste known to you?)

⁵ The verb ‘forget’ has an additional case frame, with the experiencer in the absolutive and the stimulus in the sub-ablative form:

- (i) *řeřbi řuł’i-s ecno-ni igruřka-ł-äy.*
 children.ABS.(nIPL) forget-PST.WIT new-DEF toy-SUB-ABL
 ‘The children forgot (about) the new toy.’

This development may be due to influence from Russian, where the verb *zabyvat’* o NP ‘forget about’ takes the nominative subject and a prepositional object.

Questions that arise in the analysis of the affective construction have to do with the status of the associated verbs (e.g., are these verbs transitive or intransitive?) and with the status of the absolutive and lative noun phrases, namely, are they both arguments? which one is the subject?

As an aside, not all predicates denoting internal or psychological states appear in the affective construction. For other constructions involving psychological verbs, see Polinsky (2015).

3. Two types of lative-argument verbs

The question that I will explore in this section has to do with the syntactic status of the lative and absolutive arguments. To anticipate the discussion below, I will show that lative-taking verbs of perception and cognition are not a homogeneous class, hence the affective construction is just a label, albeit a convenient one. These verbs differ in the way they causativize, and their arguments have different binding properties. We also observe differences in the way arguments of these verbs are modified by masdar clauses. I will now discuss these properties in turn.

3.1. Causative formation

Tsez has several causative affixes, among which the suffix *-Vr-* is most productive, deriving morphological causatives from all kinds of simple verbs (for other strategies of causative formation, see Polinsky 2015). This section will only discuss morphological causatives with the suffix *-Vr-*.

As mentioned a moment ago, verbs of cognition and perception do not causativize uniformly, but at the same time it is not a free-for-all. Rather, these verbs follow two patterns of causativization. One pattern creates transitive verbs (Pattern A), and the other, ditransitive (Pattern B).⁶ Crucially, each verb follows just one of the two patterns; there is no optionality.

⁶ Causativization of perception and cognition verbs outside the affective construction follows standard rules of causative formation for intransitives or transitives, and I will not be concerned with them here.

3.1.1. Pattern A: Transitivity of cognition/perception verbs

With a subset of cognition/perception verbs, namely, ‘know’, ‘forget’, ‘find’, and the verbs denoting the four non-visual senses (‘hear’, ‘feel’, ‘taste’, ‘smell’), causativization creates volitional verbs whose agent corresponds to the experiencer in the affective construction. This is represented schematically as follows:

- | | | | |
|------------------------------|-----------------|--------------|--------|
| (12) Affective construction: | Experiencer-LAT | Stimulus-ABS | V |
| | ↓ | ↓ | ↓ |
| Causative construction: | Agent-ERG | Stimulus-ABS | V-CAUS |

To illustrate, compare the verb AGR-*es-* ‘find’, which combines with the absolutive stimulus and lative experiencer, and its causative counterpart AGR-*esur-* ‘find; look for’, which takes an ergative agent and absolutive stimulus/patient.⁷ The verb changes from intransitive to transitive, and the roles change, with the experiencer now denoting the agent-like argument, but no new participants are introduced.

- (13) a. *año^s-r* *meši* *b-esu-s*.
shepherd-LAT calf.ABS.III III-find-PST.WIT
‘The shepherd found the calf.’ [LAT-experiencer, ABS-stimulus]
- b. *añ-ä* *meši* *b-esu-r-si*.
shepherd-ERG calf.ABS.III III-find-CAUS-PST.WIT
‘The shepherd looked for the calf.’ [ERG-agent, ABS-stimulus]

Likewise, with the complex verb ‘smell’, the experiencer in the affective construction corresponds to the agent-like argument in the transitive clause:

- (14) a. *Madina-r* [gagali-s *mañ*] *b-iy-n*.
Madina-LAT flower-GEN1 smell.ABS.III III-know-PST.NWIT
‘Madina perceived the scent of flowers.’
[LAT-experiencer, ABS-stimulus]
- b. *Madin-ä* [gagali-s *mañ*] *b-iy-r-si*.
Madina-ERG flower-GEN1 smell.ABS.III III-know-CAUS-PST.WIT
‘Madina sniffed at flowers.’ [ERG-agent, ABS-stimulus]

The verb *šuλ’* ‘forget (lit.: be forgotten)’ takes the experiencer in the lative and the stimulus in the absolutive (see (9) above), whereas its causa-

⁷ Whether the stimulus actually becomes a patient/theme in the ergative construction is unclear. I will continue to refer to that participant as stimulus, with the understanding that it corresponds to a patient-like (theme-like) argument.

tive counterpart takes the ergative agent/experiencer and the absolutive stimulus. Given its semantics, it is not surprising that the corresponding causative verb is often used in imperatives:

- (15) *pro ac hiš-a šuļ'-är-no / *šuļ'-no!*
 ERG door.ABS.II close-INF forget-CAUS-PROH / be.forgotten-PROH
 'Don't forget to close the door!'

In some cases, the interpretive contrast between the intransitive psychological predicate and its transitive counterpart is quite subtle. Compare the intransitive AGR-*iy-* 'know; happen to know' and the transitive AGR-*iy-r-* 'know; get to know'. Example (16) is an appropriate comment on someone who grew up in a place where it was hard to learn Russian; meanwhile, (17) emphasizes commitment to knowing and maintaining one's language.

- (16) *nela-r ŭurus mec b-iy-χ-ānu.*
 DEM.ni-LAT Russian language.ABS.III III-know-PRS-NEG
 'She does not know the Russian language.'
- (17) [*q'ım-ä q'ım-e-s mec b-iy-r-ani-χ*]
 own-OS-GENI language.ABS.III III-know-CAUS-MASD-AD.ESS
ħažetaw šebin (yot).
 important thing.ABS.IV be.PRS
 'It is important to know one's own language.'

Similarly, (18) may be a statement about an accidental encounter, while in (19) the implication is that an intentional effort is being made.

- (18) *dä-r ža uži ged-mo-χ-or Ø-iy-s.*
 ISG-LAT DEM boy.ABS.I garment-OS-AD-LAT I-know-PST.WIT
 'I recognized (knew) that boy by his shirt.'
- (19) *aħ-ä nesi-s b'eļ'λ'u šila-za-χ-or*
 shepherd-ERG DEM.I-GEN sheep(.SG).ABS.III horn-OS.PL-AD-LAT
b-iy-r-si.
 III-know-CAUS-PST.WIT
 'The shepherd recognized (knew) his sheep by its horns.'

3.1.2. Pattern B: Ditransitivization of cognition/perception verbs

In the second pattern of causativization of cognition and perception verbs, a new participant is introduced as the causer, creating a three-place predicate.

Consider the causative of AGR-*et-* ‘like, want’; causativization adds a causer, the experiencer becomes the causee in the poss-essive, and the stimulus remains in the absolutive. To represent this schematically:

- | | | | |
|------------------------------|-----------------|-----------------|---------------------|
| (20) Affective construction: | Experiencer-LAT | Stimulus-ABS | V |
| | ↓ | ↓ | ↓ |
| Causative construction: | Agent-ERG | Causee-POSS-ESS | Stimulus-ABS V-CAUS |

For example,

- (21) a. *debe-r čorpa b-eti-χ-ānu.*
 2SG-LAT soup.ABS.IV IV-like-PRS-NEG
 ‘You don’t like (the) soup.’
- b. *eni-y-ä debe-q yedu čorpa b-et-ir-χo.*
 mother-OS-ERG 2SG-POSS.ESS DEM.nI soup.ABS.IV IV-like-CAUS-PRS
 ‘The mother is making / will make you like this soup.’

The causative of AGR-*ukad-* ‘see (be visible)’ is the ditransitive verb AGR-*ukar-* ‘show’. Here, the agent appears in the ergative, the recipient appears in the poss-essive, and the absolutive encodes the stimulus/patient:

- (22) a. *χeχ-za-q kino r-ukay-s.*
 child-OS-LAT movie.ABS.IV IV-see-PST.WIT
 ‘(The) children saw a/the movie.’
- b. *učitel-ä χeχ-za-q kino r-uka-r-si.*
 teacher-ERG child-OS-POSS.ESS movie.ABS.IV IV-see-CAUS-PST.WIT
 ‘The teacher showed the children a movie.’

The same causativization pattern can be found with complex verbs of cognition and perception. Compare the intransitive verb *bič’zi* AGR-*oq-* ‘be clear, be understood’ and its transitive counterpart *bič’zi* AGR-*od-* ‘make clear, explain’, where *-oq-* ‘become, be’ and *-od-* ‘do, make’ are the intransitive and transitive light verbs, respectively.

- (23) a. *(kid-be-q) sual bič’zi b-oq-χ-ānu.*
 girl-OS-POSS.ESS question.ABS.III understand III-become-PRS-NEG
 ‘The question was not understandable (to the girl).’
- b. *učitel-ä (kid-be-q) sual bič’zi b-oy-s.*
 teacher-ERG girl-OS-POSS.ESS question.ABS.III understand III-do-PST.WIT
 ‘The teacher explained the question (to the girl).’

Note that finer semantic distinctions within the class of cognition/perception verbs do not predict which of the two patterns of causativization will

occur. For example, the verb ‘like’ causativizes following Pattern B, while the verb ‘dislike’ uses the opposite pattern. And similarly, causativization turns the verb of seeing into a ditransitive, following Pattern B, but predicates denoting the other four senses follow Pattern A, causativizing into transitives.

In what follows, I will refer to those verbs that causativize into transitives (Pattern A) as *know*-verbs, and to those verbs that causativize into ditransitives (Pattern B) as *like*-verbs. These are just mnemonic labels, and I would like to underscore the apparently arbitrary connection between their meaning and the syntactic structure they project: an important take-home message reminding us all that syntax and semantics are not related isomorphically.

3.2. Reflexive binding

For reasons of space, I will only discuss reflexive binding. The formation and binding properties of reciprocals are very similar; see Polinsky & Comrie (2003) and Polinsky (2015).

3.2.1. Tsez reflexives: Some basics

Reflexives in Tsez are complex, consisting of two parts. Their formation is based on two different strategies, both of which involve repetition of the relevant pronoun or demonstrative. In one of these formations, the first component of the compound reflexive appears in the oblique form (which corresponds to the ergative), and the second component appears in the case required by the verb or postposition that takes the reflexive as its argument or adjunct. As the first component in the oblique form is not sensitive to context, the case of the entire compound reflexive is expressed by the second component in the formation. This formation is available for all cases other than the ergative. In the second formation, the order of the constituents in the compound reflexive is reversed as compared to the first formation. The case called for by the governing verb or postposition appears on the first constituent, and the second constituent is in the absolutive. This formation is available for all cases other than the ergative and the absolutive (see Polinsky & Comrie 2003 for details). Since both reflexive pronouns never occur in the contexts that require the ergative case, the gap in the paradigm is expected, cf. a similar ban on the

reflexives like **sheself* or **weselves* in English. Reflexive forms also index the noun class of the antecedent (class I vs. all the others); in the glosses, the class is shown as a Roman numeral after the case form of the reflexive.

In transitive clauses with the ergative and absolutive argument, only the ergative can bind the reflexive in the absolutive-argument position (or adjuncts in various forms). The ergative cannot be bound by the absolutive, as shown in (24b). The linear order of the antecedent and anaphor is quite free (Comrie et al. 2013; Polinsky & Comrie 2003), and binding relations remain the same regardless of word order.

(24) a. *Murad-ä nesä že goł'i-n.*

Murad-ERG REFL.ABS.I call-PST. nWIT

‘Murad invited himself.’

b. **Murad nesä nes-ä goł'i-n.*

Murad.ABS REFL.ERG.I call-PST. nWIT

‘Murad invited himself.’

The binding pattern illustrated in (24) indicates that the ergative argument is structurally higher than the absolutive object. For other evidence that the ergative asymmetrically c-commands the absolutive, see Polinsky & Potsdam (2001, 2002), Gagliardi et al. (2014), Polinsky (2015). For the purposes of this paper, the relevant generalization is that a structurally dominant argument can bind into a lower position, but not vice versa.

3.2.2. Reflexive binding in the affective construction

If we now test binding with respect to the lative and absolutive arguments of the verbs of perception or cognition, we find a bifurcation that matches the division observed in causatives. In clauses with *know*-verbs, the lative argument can bind the absolutive but not vice versa. This binding pattern indicates that the lative argument is structurally higher than the absolutive.

(25) a. *Irbahin-e-r nesir ža surat-yo-l Ø-esu-s.*

Ibrahim-OS-LAT REFL.I.ABS picture-OS-CONT.ESS I-find-PST.WIT

‘Ibrahim found himself in the picture.’

b. **Irbahin nesä nesi-r / nesir ža surat-yo-l Ø-esu-s.*

Ibrahim.ABS REFL.I-LAT

picture-OS-CONT.ESS I-find-PST.WIT

In contrast, *like*-verbs allow binding both ways, from the lative to the absolutive and vice versa. Consultants do not express a preference for one

binding direction over the other. Thus, we do not see clear evidence of structural superiority between the arguments.

- (26) a. *eniw-r nela-r ža y-ukay-s.*
 mother-LAT REFL.nI.ABS II-see-PST.WIT
 ‘Mother saw herself.’
- b. *eniw nel-ä nela-r y-ukay-s.*
 mother.ABS.II REFL.nI-LAT II-see-PST.WIT
 ‘Mother saw herself.’

3.3. Verbs of perception or cognition in modal existential clauses

3.3.1. Masdar relative clauses: Basic facts

Tsez has several strategies for forming noun-modifying clauses. Among those, clauses with the participial predicate allow for relativization of pretty much any position on the Noun Phrase Accessibility Hierarchy (Keenan & Comrie 1977); for this type of relative clause formation, see Comrie & Polinsky (1999). Another type of noun-modifying clause, the one I will be concerned with here, includes clauses whose predicate is the deverbal noun (masdar) or infinitive. I will only consider masdars here, but the analysis of infinitival modifying clauses is similar. In what follows, I will be referring to masdar noun-modifying clauses as masdar relative clauses, abbreviated as MRCs. Since MRCs are not well studied, this section will present basics of their structure. Building on the understanding of general MRC structure, I will turn to MRCs with verbs of perception and cognition as predicates.

Tsez MRCs resemble English infinitival relative clauses such as the ones in (27):

- (27) a. A man [for John to play against] is in the other room.
 (Hackl & Nissenbaum 2012)
- b. Here is a table [to put the lamp on].
- c. *The savior [to heal you] is coming.*
- d. *The 20+ expenses [to include in your budget] are as follows...*

English infinitival relatives have attracted the attention of many researchers (e.g., Bhatt 2006; Bolinger 1988; Caponigro 2003; Faraci 1974; Fleischer 2008; Green 1973; 1992; Hackl & Nissenbaum 2012; Šimik 2011, 2013a, b). The details of such relatives in English (and other familiar languages) tend to be quite complex, but the recurrent generalization is that such

clauses also have a modal reading (e.g., *a table on which one could/should/would put the lamp*).

As in English, the referent of the noun modified by a Tsez MRC is construed as available in the eventuality denoted by the masdar, and Tsez MRCs exhibit the same modal range as infinitival relative clauses in English (see Bhatt 2006), including circumstantial possibility or weak necessity.

In some languages, Russian among them, infinitival relatives can be formed with a *wh*-word, as in (28). Tsez, however, does not have that formation, (29).

- (28) *Tebe / U tebja est' [čto poest' večerom]?*
 2SG.DAT / by 2SG.GEN is what eat.INF in.the.evening
 'Do you have food to eat in the evening?'

- (29) a. [*r-ac'-ani-χ*] *šebin* *yol-ä* *debe-q?*
 IV-eat.TR-MSD-AD.ESS thing.ABS.IV be.PRS-INTERR 2SG-POSS.ESS
 'Do you have something to eat?'
 b. * [*šebi* *r-ac'-ani-χ*] *yol-ä* *debe-q?*
 what.ABS.IV IV-eat.TR-MSD-AD.ESS be.PRS-INTERR 2SG-POSS.ESS
 (lit.: "Do you have what to eat?")

Tsez masdars are formed from the *vP* base, with the suffix *-ni* exponing the functional head *n*, which turns the verbal constituent into a deverbal nominal:

- (30) [_{NP} [_{VoiceP} DP [_{vP} [_{VP} DP V]]]]

Among other things, masdar structures have their own negation, distinct from the negation in tensed clauses, which underscores the relatively small structural size of these expressions.

Tsez arguments are licensed inside the *vP* and receive their case marking there (Gagliardi et al. 2014). Because of this low licensing position, the subject (or the highest argument, to be more precise) can be mentioned inside the MRC, just as in English (27a). Unlike English, where the highest argument has to be introduced by *for*, the highest argument in Tsez MRCs has the same case marking as in finite clauses; for instance, the ergative in (31) or the absolutive in (32):

- (31) [*kid-b-ä nelā nela-z tuple-za-λ teλ-ani-χ*]
 girl-OS-ERG REFL.nI-GENI shoe-OS.PL-SUB.ESS pay-MASD-AD.ESS
micχir
 money.ABS.III
 '(the) money for the girl to pay for her shoes'

- (32) [*gulu* *b-et'u-n* *k'oł-ani-r*] *huni*
 horse.ABS.III III-tear.away-PFV.CVB run-MASD-LAT road.ABS.IV
 ‘the/a road for a/the horse to gallop on’

Assuming this line of analysis of masdars, MRCs behave as extended verbal projections under a nominalizing head, while at the same time having apparent relative-clause paraphrases.

Let me return to interpretive properties of MRCs. In addition to their modal flavor, MRCs have a clear control reading; for example, they are impossible with non-volitional, inanimate subjects:

- (33) ??[*isi* *y-ay-ani-r*] *zaman*
 snow.ABS II-go-MASD-LAT time
 (‘the time for snow to fall’)

The selectional restrictions indicate that an MRC includes a control predicate; not a completely novel finding, but one consistent with existing proposals for similar clauses in English (Hackl & Nissenbaum) and some other languages (Šimik 2011, 2013a, b). The MRC’s highest argument (boxed in (34)) serves as the referent for whom the circumstantial possibility is established.

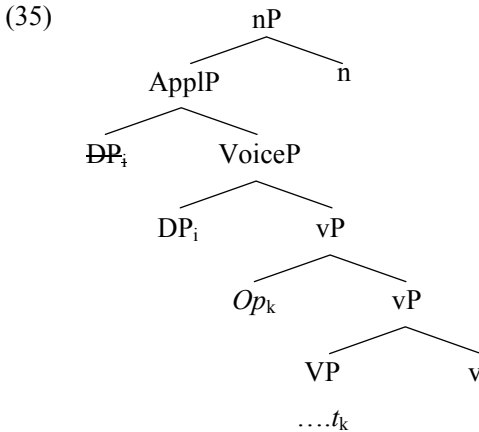
If this argument were introduced by an applicative head, similar to the English *for* (e.g., (27a)), we would expect uniform case marking in MRCs, contrary to fact. Assuming that the control relationship holds, the configuration is an instance of inverse or backward control, namely, the outcome of A-movement where the tail of the A-chain is spelled out rather than its head. This is shown by strikethrough in (34). Tsez has backward control in other structures (Polinsky & Potsdam 2002; Polinsky 2015), but it remains unclear why backward control is obligatory in these relative clauses.

- (34)
-
- ```

 graph TD
 nP --> ApplP
 nP --> n
 ApplP --> DP_i
 ApplP --> VoiceP
 VoiceP --> DP_1
 VoiceP --> vP
 vP --> VP
 vP --> v
 VP --> dots[....]

```

The verb phrase embedded under the controller includes an operator in spec,v, coindexed with a trace in the lower portion of the verb phrase; this is the constituent that is relativized (and coindexed with the overt noun phrase which serves as the head of an MRC).



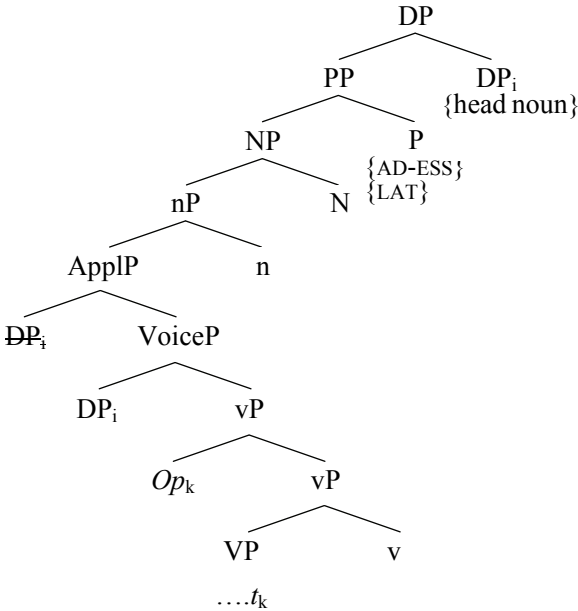
The next set of generalizations has to do with the way MRCs combine with the external head. The examples of MRCs above show that it bears a spatial marker. Such a marker is obligatory; an MRC cannot modify the head noun without spatial marking. The choice of a spatial form is not random; the MRC must appear either in the ad-essive or lative form. In that regard, MRCs are different from infinitival relatives which do not require spatial marking. Further still, Tsez MRCs require an overt head noun.

These facts can be captured as follows: The nominalized verb phrase, (35), serves as the complement to the P head spelled out by lative or ad-essive. The resulting PP is adjoined to the noun which is construed as the head noun of the MRC:



Because the MRC is encapsulated inside a PP it requires an overt head noun; the resulting expression is intended as a noun phrase, not a PP, and an invisible head would make this structure impossible to identify. (In contrast, infinitival clauses are not PPs, and can be headed by a null head nominal, giving an appearance of a headless relative clause.)

(37)



Finally, Tsez MRCs can include the subject (cf. (31) or (32)) but cannot modify that subject. In that regard they differ from English infinitival relatives which can modify the subject, as shown in (27c) above. To illustrate this latter restriction, consider (38) which can only mean that there is someone who could or should heal the doctor, but not that a doctor exists who could heal a patient.

- (38) [*say od-ani-χ doχtur*  
 health do-MASD-AD.ESS doctor.ABS.I  
 ‘the/a doctor that someone could/should heal’  
 NOT: ‘the doctor to do the healing’

The structure in (35) allows us to account for this restriction. In an MRC, only the material inside the vP can undergo A-bar movement. The subject in an MRC, which corresponds to the controller, is outside the domain from which the operator raises. Thus, this DP cannot be modified by a relative clause.

Table 2 summarizes the properties of Tsez MRCs. More work needs to be done to study these constructions; here, I only identified the facts that are relevant for the discussion of the affective construction.



Table 2. Tsez masdar relative clauses

| Property                                                           | Explanation                                                                              |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Does not show properties of tensed clauses                         | Syntactically is a vP embedded under the nominalizing head <i>n</i>                      |
| Has a modal reading                                                | Expresses the availability of some entity with respect to the event expressed by the VP  |
| Must appear in a spatial form (AD-ESS or LAT)                      | Attaches to the head noun as a PP                                                        |
| Cannot appear without the head noun                                | MRC is a complement of P which adjoins to modified noun                                  |
| Exhibits properties of control                                     | Backward control between the argument introduced by AppIP and the subject in spec, Voice |
| The highest structural argument of the MRC cannot be the head noun | A-bar movement occurs in the portion of the masdar clause below the highest argument     |

### 3.3.2. Verbs of cognition and perception in MRCs

Turning now to our cognition/perception verbs, they differ with respect to formation of MRCs.

With *know*-verbs, only the absolutive argument can be relativized with a masdar clause. Consider the following example, where (39a) is the baseline sentence:

- (39) a. *ʁ<sup>ʃ</sup>ana-za-r*      *čorpa-s*    *taʃam*      *b-iy-χosi*      *yol.*  
 woman-OS.PL-LAT    soup-GEN    taste.ABS.III    III-know-PRS.PTCP    be.PRS  
 ‘The women are tasting the soup.’
- b. [*ʁ<sup>ʃ</sup>ana-za-r*      *taʃam*      *b-iy-ani-χ*]      *čorpa*  
 woman-OS.PL-LAT    taste.ABS.III    III-know-MASD-AD.ESS    soup.ABS.IV  
 ‘soup for the women to taste’
- c. \*[*čorpa-s*    *taʃam*      *b-iy-ani-χ*]      *ʁ<sup>ʃ</sup>ana-bi*  
 soup-GEN    taste.ABS.III    III-know-MASD-AD.ESS    women-ABS.PL.nI  
 (‘women who could/should/would taste the soup’)

Thus, the lative argument of *know*-verbs behaves as the subject or external argument with respect to an MRC. This accords well with its binding properties, given that it also asymmetrically binds the absolutive.

With *like*-verbs, both the absolutive and the lative can be modified by an MRC. In the following example, (40a) is the baseline sentence:

- (40) a. *ʁ<sup>ʃ</sup>ana-za-r*      *yedu* *ħalt'i*      *b-eti-χ*.  
 woman-OS.PL-LAT    DEM    work.ABS.III    III-want-PRS  
 ‘Women like this kind of work.’
- b. [*ʁ<sup>ʃ</sup>ana-za-r*      *b-eti-χ-ani-χ*]      *ħalt'i*  
 woman-OS.PL-LAT    III-want-MASD-AD.ESS    work  
 ‘(the) work that women could/would/should like’
- c. [*yedu* *ħalt'i*      *b-eti-χ-ani-χ*]      *ʁ<sup>ʃ</sup>ana-bi*  
 DEM    work.ABS.III    III-want-MASD-AD.ESS    woman-PL  
 ‘women who could/would/should like that kind of work’

Let me underscore that these MRC patterns match the patterns of causative formation discussed in section 3.1 and the binding patterns discussed in section 3.2. Predicates that form the affective construction neatly divide into two classes with respect to all the criteria.

In addition to the cluster of properties discussed here, another area of divergence between the two types of verbs that form the affective construction has to do with coreference across clauses. The lative experiencer of *know*-verbs has priority over the absolutive in determining coreference across clauses; meanwhile, with *like*-verbs, both noun phrases seem to have equal access to such coreference.

A summary of the differences between the two types of cognition and perception verbs is given in Table 3.

Table 3. Structural differences across cognition/perception verbs

|                            | Verb type                                                         |                                                                                   |
|----------------------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|                            | ‘know’, ‘hear’, ‘feel’,<br>‘forget’, ‘find’, ‘dislike’            | ‘like/love/want’, ‘see’                                                           |
| Causative formation        | transitive volitional verbs with experiencer as ergative argument | ditransitive verbs with experiencer mapping to cause and an added causer argument |
| Reflexive binding          | LAT binds ABS;<br>*ABS binds LAT                                  | LAT binds ABS;<br>ABS binds LAT                                                   |
| Modification with MRC      | Only ABS can be modified                                          | Both ABS and LAT can be modified                                                  |
| Coreference across clauses | LAT has priority over ABS                                         | LAT and ABS are equal in coreference-tracking                                     |

In the next section, I will present an account that can capture these differences.

#### 4. Analysis

The data presented so far indicate that the so-called affective construction is not uniform, and accordingly, even those verbs of perception and cognition that take the experiencer argument in the lative are not a coherent class either. Rather, there are two subclasses of perception and cognition verbs, the class I referred to as *know*-verbs and the class I termed *like*-verbs.

With respect to *know*-verbs, let us revisit sentence (13a), repeated below:

- (41) *aħo<sup>l</sup>-r meši b-esu-s.*  
 shepherd-LAT calf.ABS.III III-find-PST.WIT  
 ‘The shepherd found a/the calf.’

The lative argument in this clause has all the properties of subjects; in particular, it can asymmetrically bind an anaphor and can participate in control structure in an MRC. Further still, it can also participate in control structures when embedded in a regular infinitival clause (see Polinsky & Potsdam 2002: 252). These verbs typically do not form imperatives, for an obvious reason: positive imperatives must represent an intentional event, and one does not ordinarily issue a directive to someone to do something that is not under their intentional control.

Based on these considerations, the structure of clauses with *know*-verbs has the following representation:

- (42)
- 
- ```

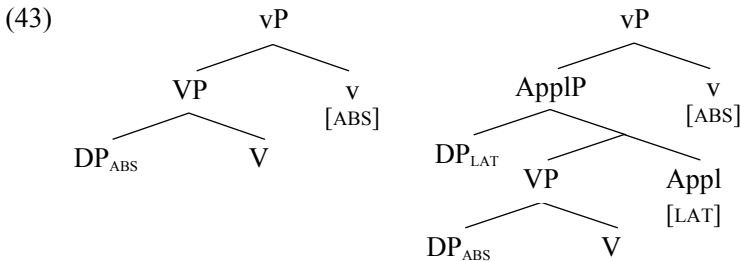
graph TD
  TP --> DP_LAT1[DPLAT]
  TP --> T_prime[T']
  DP_LAT1 --> VoiceP
  DP_LAT1 --> T
  VoiceP --> DP_LAT2[DPLAT]
  VoiceP --> Voice_prime[Voice']
  Voice_prime --> vP
  Voice_prime --> Voice_LAT[Voice [LAT]]
  vP --> VP
  vP --> v_ABS[v [ABS]]
  VP --> DP_ABS[DPABS]
  VP --> V
  
```

The internal argument gets its absolutive case from the functional head *v*, or if the configurational case licensing model is used, it gets the

only case in its local domain. Nothing hinges on the choice between these two case licensing approaches. The verb root associated with this class of verbs can select for two types of Voice heads, one that introduces the external argument in the lative, as shown in (42), and the other, introducing the ergative external argument. The lative-assigning Voice head does not have a morphological exponent, whereas the head assigning ergative is spelled out as the *-Vr-* marker, traditionally described as causative. By hypothesis, the lative argument raises to spec,T, to satisfy the EPP on that head. Both cases, the ergative and the lative, are thus inherent, and that characterization is consistent with the specific theta-role semantics associated with these forms.

This derivation is also consistent with the characterization of the lative argument as a non-canonical subject in other frameworks (e.g., Helasvuo & Huumo 2015) where the main insight is that a prototypical subject is characterized by a cluster of properties (following Keenan 1976), whereas a non-canonical subject lacks some such properties, which may be reflected in its meaning, grammatical encoding, and/or discourse function.

Turning now to *like*-verbs, the lative argument is not a subject; it is a structurally prominent argument of an unaccusative predicate, added through a process akin to applicativization. Such predicates have been described as applicative unaccusatives (see Režac 2008 for the term and for the analysis of the Basque *gustatu* ‘like’, and see also Baker 2014, 2015) or dyadic unaccusatives (e.g., Davis & Demirdache 2000). Unlike the *know*-type verbs, these verbs do not project a Voice head. Instead, the unaccusative functional head *v* selects for a VP and assigns the absolutive to its internal argument, (43a). In the interpretation of such unaccusative structures, a property is assigned to the referent of the absolutive argument, such as ‘X is visible’ or ‘X is pleasing’. In addition, the low applicative head inside the vP licenses an argument with the experiencer theta-role and assigns it the lative case, as shown in (43b).



A dyadic unaccusative can either appear in a clause with an expletive subject in spec,T, as shown in (44a); alternatively, the internal absolutive argument can raise to that position, as in (44b):

- (44) a. *expl debe-r čorpa b-eti-χ-ānu.*
 2SG-LAT soup.ABS.IV IV-like-PRS-NEG
 SUBJECT APPLIED OBJECT BASE OBJECT
- b. *čorpa debe-r b-eti-χ-ānu.*
 soup.ABS.IV 2SG-LAT IV-like-PRS-NEG
 SUBJECT APPLIED OBJECT

In the schema in (44a), the internal argument of the verb appears in its base position. In this realization, the applied (lative) object is higher than the base object and can bind it. Alternatively, in the schema in (44b), the internal argument of the applicative unaccusative raises to the subject position, in which case it is now higher than the lative object and can bind it. This results in the appearance of symmetrical binding in clauses with *like*-verbs.

Neither of the internal arguments of the unaccusative is in the right position to participate in the control relation in MRCs. And relatedly, verbs of this type do not participate in regular control structures—in contrast to *know*-verbs.

Finally, since the unaccusative structure does not have a Voice head associated with it, the causative morpheme *-Vr-* expones the added Voice head, which licenses the transitive (ergative) argument associated with it. (In contrast, *know*-verbs are associated with a Voice layer, so the difference is only in the type of Voice and the case of the external argument.)

- (45) *eni-y-ä debe-q yedu čorpa b-et-ir-χo.*
 mother-OS-ERG 2SG-POSS.ESS DEM.nI soup.ABS.IV IV-like-CAUS-PRS
 ‘The mother is making / will make you like this soup.’

Note that the experiencer, which corresponds to the causee in (45), is no longer in the lative but is instead expressed by the poss-essive form, which is used for causees of transitives, (46b), where the poss-essive appears on the causee-agent.

- (46) a. *kid-b-ä ac y-uqi-s*
 girl-OS-ERG door.ABS.II II-close-PST.WIT
 ‘The girl closed the door.’

- b. *eni-y-ä* *kid-be-q* *ac* *y-uq-ir-si*.
 mother-OS-ER girl-OS-POSS.ESS door.ABS.II II-close-CAUS-PST.WIT
 CAUSER CAUSEE
 ‘The mother made the girl close the door.’

The case on the experiencer-turned-causee suggests that this argument is licensed by a different applicative head, arguably higher than the applicative projected in a dyadic unaccusative (more work is indeed to determine its exact position). The syntax of causative structures in Nakh-Dagestanian is awaiting further study, but for the purposes of the current discussion, the contrast between poss-essive and lative will suffice.

5. Conclusions

Tsez data lend novel support to the generalization that the theta-grid of verbs expressing psychological states can be projected into a number of syntactic configurations, and in an apparently arbitrary way (Belletti & Rizzi 1988). Further still, Tsez shows that what is traditionally described as the affective construction is not uniform either. The surface encoding of the experiencer in the lative and stimulus in the absolutive stands for two different structures identifiable through a number of syntactic diagnostics: a structure with a regular transitive verb whose subject is in the lative, and a structure with a dyadic unaccusative where the absolutive internal argument may optionally move to the subject position. The association between individual verbs of perception and cognition with one of these structures is arbitrary and cannot be predicted on the basis of their lexical semantics.

If this analysis is on the right track, it has implications for case licensing issues both in Tsez and beyond. With respect to Tsez, we end up with at least two inherent cases, ergative and lative, licensed by different Voice heads. An alternative that I did not explore here has to do with the difference in the nature of the verbal categorizer (*v*), which then combines with one and the same Voice head; under this solution, case licensing would be mediated by the interaction of different *v* heads with a single Voice head. I leave the decision between these options for future research. This particular question of case licensing is also related to a larger issue having to do with the ways ergative case is assigned. It is rather uncontroversial that there is more than one way to assign ergative (Legate 2008; Polinsky 2016,

among others), and Nakh-Dagestanian data call for an inherent case analysis (see Gagliardi et al. 2014), but this issue could be explored further.

Several analytical moves in this paper involved positing additional applicative heads in the clausal structure. Adding new projections should never be taken lightly, and further work on the inventory and placement of applicative heads in the clausal spine of Tsez (and Nakh-Dagestanian more generally).

The empirical data in this paper open up two new areas of inquiry. One of them has to do with a comparative investigation of verbs denoting psychological states in Nakh-Dagestanian languages. Based on the data from the closely related Bagvalal (Kibrik 2001: 214-216, 388-392), it also has at least two different classes of verbs denoting psychological states, and its affective construction may be structurally ambiguous. Whether or not the contrast in the affective construction is always between transitive and unaccusative predicates is an open empirical question. If such a bifurcation is steady across a number of languages, it raises further questions, in particular, the following: how does a child acquire the contrast?

The other line of inquiry suggested here has to do with the structure of masdar relative clauses, which denote properties of availability in hypothetical situations. These clauses co-exist with infinitival relative clauses (which I did not discuss here); their semantics is quite similar to that of infinitival relatives in other languages, and further comparative work that includes Tsez MRCs in the family of infinitival relatives would be welcome. In contrast to the semantics of MRCs, their syntax is less clear. I have proposed a tentative analysis for Tsez which should be explored further, and if proven correct, tested against the data from related languages.

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