

Classifying lexically transitive verbs in Laz

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LexGR, 29-30 March

1 Preview of what this paper is about

- This paper deals with Laz, an endangered South Caucasian language spoken in Turkey. All data come from our original fieldwork.¹
 - Laz presents a wide range of morphological cues on argument/event structure.
 - Particular contribution of this talk:
the morphological makeup of lexically transitive verbs
 - Lexically transitive verbs occur in three distinct morphological templates:

(1)

- a. CLASS.I
- b. CLASS.II-A:
- c. CLASS.II-B:

imperfective stem

□ - √ - □
am
√ - □
um
√ - □
am

- **Our main finding:** the morphological classes instantiate a predictable, semantic classification system.

↪ The split between CLASS.I and CLASS.II concerns the **co-temporality between sub-events**

↪ The split between CLASS.II-A and CLASS.II-B concerns the **physical affectedness of the theme**.

- **Our main question:** how much “lexical information” is visible/active/relevant in an apparently *semantic* classification/selection system?

¹We thank our Laz consultant Ismail Bucaklışı and the audience at EESLiG2020 where an earlier version of this paper was presented.

2 The basics:

morphological evidence for external vs. internal arguments in Laz

- Laz robustly encodes the external vs. internal argument split in the
 - variation in case marking
 - variation in the imperfective suffix

2.1 Variation in case marking

- Case marking in Laz differentiates **external** vs. **internal** arguments (rather than transitivity²) (Öztürk and Pöchtrager, 2011; Demirok, 2013)
 - -k ‘ERG’ on external arguments
 - -∅ ‘NOM’ on internal arguments

(2) Unergatives

- a. Ntsa-**k** gurgul-u
sky-ERG thunder-PST.3SG
‘The sky thundered.’
- b. Bere-**k** ğarğal-u
child-ERG speak-PST.3SG
‘The child spoke.’

(3) Unaccusatives

- a. Ini / *Ini-**k** do-ndğul-u
ice.NOM / ice-ERG PV-melt-PST.3SG
‘The ice melted.’
- b. Bere / *Bere-**k** col-u
child.NOM / child-ERG fall-PST.3SG
‘The child fell.’

(4) Transitives

- a. Bere-**k** urdzenepe ç’inax-u
child-ERG grapes.NOM crush-PST.3SG
‘The child crushed the grapes.’
- b. Ixi-**k** nca e-t’ax-u.
wind-ERG tree.NOM UP-break-PST.3SG
‘The wind uprooted the tree.’

²Though, see Taylan and Öztürk (2014); Öztürk and Taylan (2017); Öztürk (2021) (for Laz), and Nash (2017) (for Georgian), for arguments in favor of the concealed transitive analysis of unergatives.

2.2 Variation in imperfective suffixes

- There are two sets of imperfective suffixes in Laz
 - **um, am** → the external argument is present; ERG subject!
 - **ur, er** (3SG.PRES forms: un, en) → the external argument is missing; NOM subject!
(Öztürk and Pöchtrager, 2011; Taylan and Öztürk, 2014; Öztürk and Taylan, 2017)

(5) EA is present:

a. Bere-**k** dišk'a k'vat-**um**-s
 child-ERG wood.NOM cut-IMPF-PRS.3SG
 'The child is cutting wood.'

b. Bere-**k** ğarğal-**am**-s
 child-ERG speak-IMPF-PRS.3SG
 'The child is speaking.'

(6) EA is missing

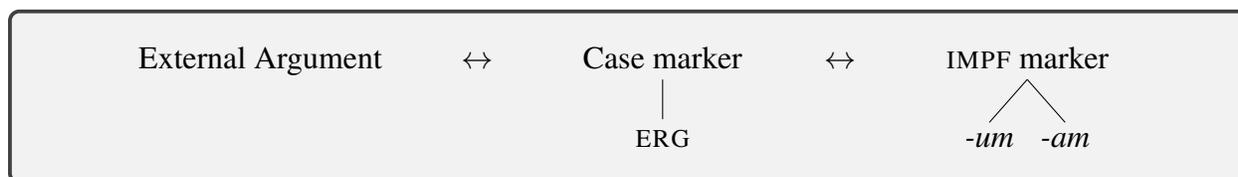
a. Bere ğur-**un**
 child.NOM die-IMPF-PRS.3SG
 'The child is dying.'

[√ -ur] lexical unaccusatives

b. Nca i-k'vat-**en**
 tree.NOM NOEA-cut-IMPF-PRS.3SG
 'The tree is being cut (down).'

[i-√ -er]: derived unaccusatives, cf. (5a)

2.3 Interim Summary



Coming next: when do we have *-um*, when do we have *-am*?

3 Laz presents a more fine-grained classification

- First guess based on many pairs like (7): *-am* goes on unergatives and *-um* goes on transitives. But this is only partially true!

- (7) a. Bere-**k** ğarğal-**am**-s
 child-ERG speak-IMPF-PRS.3SG
 ‘The child is speaking.’
- b. Bere-**k** dişk’a k’vat-**um**-s
 child-ERG wood.NOM cut-IMPF-PRS.3SG
 ‘The child is chopping wood.’

- Unergatives do indeed take *-am*.³

- (8) Bere-**k** dits-**am**-s, barbal-**am**-s, k’i-**am**-s,
 child-ERG laugh-IMPF-PRS.3SG nag-IMPF-PRS.3SG scream-IMPF-PRS.3SG
 ts’umin-**am**-s
 bark-IMPF-PRS.3SG
 ‘The child is laughing, nagging, screaming, barking’

- (9) Ntsa-**k** gurgul-**am**-s (10) Ayna-**k** farfal-**am**-s
 sky-ERG thunder-IMPF-PRS.3SG mirror-ERG shine-IMPF-PRS.3SG
 ‘The sky is thundering.’ ‘The mirror is shining.’

- But *-am* is not restricted to unergatives. Other contexts for *-am*:

1. Laz derives transitives from lexical unaccusatives with the causative prefix *o-* and the causative suffix *-in*. i.e. CAUS($\sqrt{\quad}$) \rightarrow \boxed{o} - $\sqrt{\quad}$ - \boxed{in}

– In the imperfective, these derived transitives take *-am*, not *-um*.

- (11) a. Oşk’uri kts-**un**
 apple.NOM rot-IMPF.PRS.3SG
 ‘The apple is rotting.’ lexical unaccusative
- b. Dida-**k** oşk’uri \boxed{o} -kts- \boxed{in} -**am**-s
 old.woman-ERG apple.NOM CAUS-rot-CAUS-IMPF-PRS.3SG
 ‘The old woman is letting the apple rot.’ derived transitive

³Some unergatives lack an overt imperfective marker, which Demirok (2014) analyzes as portmanteau forms under the assumptions of phrasal spell-out. We set those aside from this classification. See also Öztürk and Taylan (2017) for reflexive (bodily action) unergatives which bear additional reflexive morphology, i.e. the prefix *i-*.

2. There is a subset of transitive verbs that require the causative prefix *o-*, but not the the causative suffix *-in*.

– **These transitives, too, take *-am* in the imperfective.**

(12) Aşela-k kva o-t'oç-**am**-s
 Aşela-ERG stone.NOM CAUS-throw-IMPF-PRS.3SG
 'Aşela is throwing the stone.'

(13) *o-t'oç-in-am-s, *t'oç-am-s

3. Finally, there are transitive verbs that simply take *-am* just like unergatives, **no causative marking at all!**

(14) Xordza-k toyç'i zd-**am**-s
 woman-ERG rope.NOM pull-IMPF-PRS.3SG
 'The woman is pulling the rope.'

(15) *o-zd-am-s, *o-zd-in-am-s

- Putting aside derived transitives of the form o - $\sqrt{\quad}$ - in, we, then, have three morphological templates in which lexically transitive verbs can appear in.
- the three classes of transitive verbs according to their morphological makeup:

(16) a. Aşela-k kva o-t'oç-**am**-s
 Aşela-ERG stone.NOM CAUS-throw-IMPF-PRS.3SG
 'Aşela is throwing the stone.'

CLASS.I

b. Baba-şk'imi-k dişk'a k'vat-**um**-s
 father-my-ERG wood.NOM cut-IMPF-PRS.3SG
 'My father is chopping wood.'

CLASS.II-A

c. Xordza-k toyç'i zd-**am**-s
 woman-ERG rope.NOM pull-IMPF-PRS.3SG
 'The woman is pulling the rope.'

CLASS.II-B

- ALL of these transitive templates lack a lexically unaccusative base. That is, they are all underived, lexically transitive.

Question: What is different between these three classes of transitive verbs?

- We argue that their distribution is not idiosyncratic.

4 More on these three classes

- We argue that the classification is semantic and there are two features relevant to the selection of the morphological template:

– co-temporality between subevents

CLASS.I vs. CLASS.II

– physical affectedness of the theme

CLASS.II-A vs. CLASS.II-B

(17) a. Aşela-k kva [o]-t'oç-**am**-s
Aşela-ERG stone.NOM CAUS-throw-IMPF-PRS.3SG
'Aşela is throwing the stone.'

CLASS.I

b. Baba-şk'imi-k dişk'a k'vat-**um**-s
father-my-ERG wood.NOM cut-IMPF-PRS.3SG
'My father is chopping wood.'

CLASS.II-A

c. Xordza-k toyç'i zd-**am**-s
woman-ERG rope.NOM pull-IMPF-PRS.3SG
'The woman is pulling the rope.'

CLASS.II-B

4.1 The co-temporality feature and CLASS.I verbs

- Claim: The partition between CLASS.I and CLASS.II is about a particular relationship between subevents:

CLASS.I

the event unfolds on its own upon initiation

↪ the initiation subevent **temporally precedes** the process subevent

CLASS.II

the agent is involved/in control of the event throughout

↪ the initiation subevent **temporally overlaps** with the process subevent

- That is, this classification is concerned with the **temporal** relationship between subevents (Pinker, 1989; Pustejovsky, 1995; Rappaport Hovav and Levin, 2001; Krifka, 2004).
- Rappaport Hovav (2008) points out that this sort of a partition is part of lexicalized meaning of verbs but “does not correspond to any commonly-discussed aspectual distinction” (p21).
- We argue that the morphological classification in Laz encodes exactly this.

– The event unfolds on its own upon initiation in

- (18) K'öçepe-k nca c-**o**-ninkt-**am**-an
men-ERG tree.NOM DOWN-CAUS-topple-IMPF-PRES.3PL
'The men are toppling the tree.' CLASS.I

* the men initiate the displacement of the tree but lack control beyond that

- (19) Aşela-k kva **o**-t'öç-**am**-s
Aşela-ERG stone.NOM CAUS-throw-IMPF-PRS.3SG
'Aşela is throwing the stone.' CLASS.I

- (20) Gubazi-k mektubi **o**-ncğon-**am**-s
Gubazi-ERG letter.NOM CAUS-send-IMPF-PRS.3SG
'Gubazi is sending the letter.' CLASS.I

- (21) Arte-k oxork'oda-s ts'ari d[o]-**o**-b-**am**-s
Arte-ERG yard-OBL water.NOM PV-CAUS-spill-IMPF-PRS.3SG
'Arte is spilling water in the yard.' CLASS.I

- (22) Amedi-k xami **o**-k'ap'in-**am**-s
Amedi-ERG knife.NOM CAUS-let.go-IMPF-PRS.3SG
'Amedi is dropping the knife.' CLASS.I

– Notably, these are events where the theme undergoes a 'spatial displacement' which the agent initiates but does not have control over, cf. (Krifka, 2004; Rappaport Hovav, 2008; Osswald et al., 2012)

– This is consistent with the fact that the subject of the initiation subevent does not have to be animate, either.

- (23) Ham tencerek-k mjalva ey[o]-**o**-mpun-**am**-s
this pot-ERG milk.NOM UPWRD-CAUS-overflow/boil-IMPF-PRS.3SG
'This pot lets the milk overflow.' CLASS.I

– Then, a plausible way to encode this 'lack of control' upon initiation:

↪ the initiation subevent **temporally precedes** the process subevent

- Note, however that verbs in CLASS.II denote events where the agent is involved/in control of the event throughout. (many more examples later)

- (24) Arte-k dutsxu xorx-**um**-s
Arte-ERG lime tree.NOM prune-IMPF.I-PRS.3SG
'Arte is pruning (the) lime tree.' CLASS.II

4.2 The affectedness feature and the split in CLASS.II verbs

- Claim: The partition between CLASS.II-A and CLASS.II-B concerns the physical affectedness of their theme.

CLASS.II-A

the event has a **theme which undergoes physical change**

CLASS.II-B

the event has a **theme which does not undergo physical change**

This split points to a notion of ‘irreversible physical change’
(cf. *patient* in Van Valin (1999))

- (25) Şana-k ont’ule berg-**um-s**
Şana-ERG garden.NOM hoe-IMPf-PRs.3SG
‘Şana is hoeing the garden.’ CLASS.II-A
- (26) Nana-k dişk’a çit-**um-s**
mother-ERG wood.NOM chop-IMPf-PRs.3SG
‘The mother is chopping wood.’ CLASS.II-A
- (27) Bozomota-k urdzenep e ç’inax-**um-s**
girl-ERG grapes.NOM crush-IMPf-PRs.3SG
‘The girl is crushing grapes.’ CLASS.II-A
- (28) Xordza-k oxori ts’opx-**um-s**
woman-ERG house.NOM build-IMPf-PRs.3SG
‘The woman is building a house.’ CLASS.II-A
- (29) Layç’i-k ili ğerğ-**um-s**
dog-ERG bone.NOM nibble-IMPf-PRs.3SG
‘The dog is nibbling the bone.’ CLASS.II-A
- (30) Amedi-k oxori pağ-**um-s**
Amedi-ERG house.NOM clean-IMPf-PRs.3SG
‘Amedi is cleaning the house.’ CLASS.II-A
- (31) Tanura-k sak’izi lağun-**um-s**
Tanura-ERG gum.NOM chew-IMPf-PRs.3SG
‘Tanura is chewing the chewing gum.’ CLASS.II-A

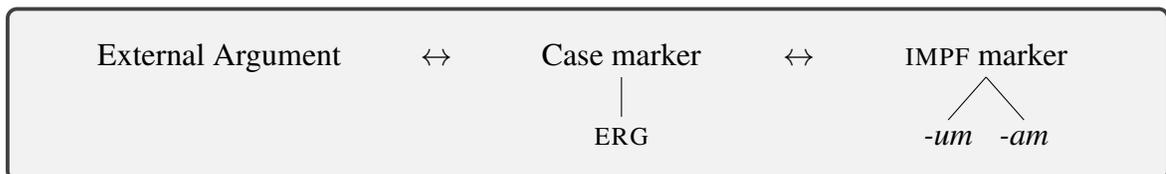
- In each case, the entire process is under the initiator’s control.
- A plausible way to encode this:
↪ **the initiation and process subevents are co-temporal.**

- But more importantly, verbs in CLASS.II-A denote events whose **themes undergo physical change** (change in form, appearance): *chew, prune, chop, nibble, crush* . . .
- Transitive verbs in CLASS.II-B, on the other hand, denote events whose themes do not undergo physical change. Being in CLASS.II, they also exhibit the co-temporality feature.

- (32) K'oçi-k k'afri ce-ç-**am**-s
man-ERG nail.NOM DOWN-hit-IMPf-PRS.3SG
'The man is banging the nail.' CLASS.II-B
- (33) Xordza-k toyç'i zd-**am**-s
woman-ERG rope.NOM pull-IMPf-PRS.3SG
'The man is pulling the rope.' CLASS.II-B
- (34) Bere-k ek'na mo+la-zd-**am**-s
child-ERG door.NOM TWRD.ONESELF-pull-IMPf-PRS.3SG
'The child is closing the door.' CLASS.II-B
- (35) Bere-k k'uçxe me-dg-**am**-s
child-ERG foot.NOM PV-put-IMPf-PRS.3SG
'The child is taking a step (lit: putting a foot)' CLASS.II-B
- (36) Arte-k t'abaxi çx-**am**-s
Arte-ERG plate.NOM splash.water.on-IMPf-PRS.3SG
'Arte is washing the plate'
(consultant's description: 'splashing water on the plate') CLASS.II-B

4.3 Interim summary-discussion

- We have shown that Laz differentially marks external vs. internal arguments:

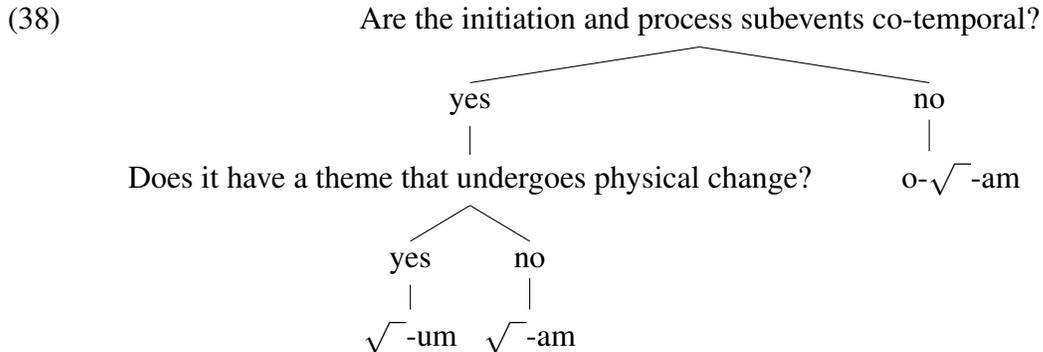


- We have also shown that Laz verbs that require an external argument fall under three morphological classes: (excluding derived transitives with a lexically unaccusative base)

- (37)
- | | | | |
|----|--|------|-----------|
| | | IMPf | |
| a. | CLASS.I: o + √ | | takes -am |
| b. | CLASS.II-A: √ | | takes -um |
| c. | CLASS.II-B: √ | | takes -am |

- CLASS.I: transitive events which unfold on their own upon initiation
ex: *drop, throw, send, spill, roll* . . .
- CLASS.II-A: transitive events whose themes undergo physical change (in appearance)
ex: *chew, prune, chop, nibble, crush* . . .
- CLASS.II-B: unergatives; transitive events with themes that don't undergo physical change ex: *laugh, speak, close, pull, bang* . . .

Thus, Laz presents the following classification of verbs that require an external argument:



- Notably, this is an ‘unusual’ classification: neither based on **transitivity** nor on **inner aspect** in the usually understood sense (Smith, 1991; Rothstein, 2004; Travis, 2010).
 - Some transitives are grouped together with unergatives: (CLASS.II-B)

- (39) a. Bere-k ġarġal-am-s
child-ERG speak-IMPF-PRS.3SG
‘The child is speaking.’ [unergative]
- b. K’oċi-k k’afri ce-ç-am-s
man-ERG nail.NOM DOWN-hit-IMPF-PRS.3SG
‘The man is banging the nail.’ [transitive]

- The verbs in CLASS.II-A are not homogenously accomplishments or change-of-state events. Rather, they are events where the theme normally changes in appearance/form. Hence, a typical change-of-state event like *close the door* is outside this class.

- (40) Bere-k lu meżlap’-um-s
child-ERG cabbage.NOM mash-IMPF-PRS.3SG
‘The child is mashing cabbage.’ physical change → CLASS.II-A

- (41) Bere-k ek’na mo+la-zd-am-s
child-ERG door.NOM TWRD.ONESELF-pull-IMPF-PRS.3SG
‘The child is closing the door.’ no physical change → CLASS.II-B

- Rather, the way Laz organizes the verbs in its lexicon seems to be sensitive to
 - whether or not **the initiation subevent overlaps with the process subevent**
 - whether or not **the theme is physically affected by the process**
- We believe that the data we are reporting is at the least
 - showing us clues on the similarity-based organization of the lexicon-
 - and possibly pointing to semantic features/partitions relevant to grammar.

5 Is the partition in the synchronic grammar?

- Is this partition genuinely in the *synchronic* grammar with no exceptions, no idiosyncrasy?

our empirical question:

- is selection ‘static’ (i.e. you need to look at the lexical information encoded in verbal roots)?
- or is it ‘fluid’ (i.e. you need to look at particular situations that the verb is describing to determine its morphological template)?

- We argue the former is the case.

- **Case#1** Take a verb root like *-rgin-* ‘roll’.

(42) Arte-k top’u o-rgin-am-s
 Arte-ERG ball.NOM CAUS-roll-IMPF-PRS.3SG
 ‘Arte is rolling the ball.’ CLASS.I

- Here, our classification seems right in that ‘the rolling of the ball’ is not necessarily under the control of the agent, only its initiation is.
- Yet, the same root is used to refer to events of ‘screwing’ which are very much under the control of an agent.

(43) Arte-k vida o-rgin-am-s
 Arte-ERG screw.NOM CAUS-roll-IMPF.II-PRS.3SG
 ‘Arte is screwing (lit: making it turn) the screw.’ CLASS.I

- It would be logical for Laz to shift to CLASS.II-B in this context, yet this is not possible.

(44) *Artek vida rgin-am-s failed attempt to shift to CLASS.II-B

- **Case#2** A sending event involves an agent initiating the displacement of the theme, and (canonically) lacking control beyond that.
- Yet in a situation where the agent retains control over the movement of the theme, e.g. by remote controlling a drone to deliver the letter, we still see CLASS.I inflection:

(45) Gubazi-k mektubi o-ncğon-**am-s**
 Gubazi-ERG letter.NOM CAUS-send-IMPF-PRS.3SG
 ‘Gubazi is sending the letter.’ CLASS.I

- **Case#3** A nibbling event CLASS.II-A canonically entails irreversible physical change in the theme, a dog nibbling the bone.
- Yet, CLASS.II-A inflection persists in non-canonical situations where the theme is an object that does not undergo physical change under nibbling:

(46) Layç’i-k metali ğerğ-**um-s**
 dog-ERG bone.NOM nibble-IMPF-PRS.3SG
 ‘The dog is nibbling (at) the metal.’ CLASS.II-A

(47) *Layç’i-k metali ğerğ-**am-s** failed attempt to shift to CLASS.II-B

- **Case#4** A canonical event of banging a nail is co-temporal (each hit spatially displaces the nail further into the surface).
- But it is also possible to cause physical change in the nail (bending it, breaking it etc.), predicting shifts between CLASS.II-A and CLASS.II-B. But we never find that.

(48) K’oçi-k k’afri ce-ç-**am-s**
 man-ERG nail.NOM DOWN-hit-IMPF-PRS.3SG
 ‘The man is banging the nail.’ CLASS.II-B

(49) *K’oçi-k k’afri ce-ç-**um-s** failed attempt to shift to CLASS.II-A

- Essentially we have found shifts between the morphological classes to be generally impossible.
- This would be highly unexpected if the partition were fluid and required looking at particular situations; rather than lexical information.
- Nevertheless, the overall semantic consistency of these morphological classes seems robust. ~> the residue of a grammar that synchronically had the proposed semantic partition which later got ‘frozen’ in the lexicon?

Thank you!!

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