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Alignment in the Andic Languages:

Towards a Definition of Transitivity in Zilo Andi

Neige Rochant
INaLCO, ENS (Paris)
neige.rochant@ens.fr

Hélène Gérardin
Paris Sorbonne University
helene.gerardin@inalco.fr

0. Introduction

0.1. Perilinguistic data

- Russian Federation > Republic of Dagestan (Caucasus) > Botlikh district
- Nakh-Dagestanian (East-Caucasian) > Dagestanian > Avar-Andic-Tsezic > Andic (8~10 languages) > Andi (~ 9 dialects) > Zilo dialect
- ~ 20,000 Andi speakers — trilingual in Avar and Russian — threatened language (Simons & Fennig 2018)
- Grammar sketches — Andi dial.: Dirr (1906), Cercvadze (1965), Rikwani: Sulejmanov (1957), Gagatl: Salimov (1968). Hardly any syntax. Zilo: in progress. No dictionary

0.2. Overview of morphosyntax

- Ergative/P- alignment (c.f. Creissels 2014)
- Syntactic roles indicated through **case marking** and, in many verbs, **agreement** in gender-number (only with nominative argument)
- Intransitive construction: $V\{S_{NOM}\}$

(1) *χadizati* *j-uk:-u*
Khadizhat[F][NOM] F-fall-AOR
'Khadizhat fell down.'
- Basic Transitive Construction: $V\{A_{ERG}, P_{NOM}\}$

(2) *qχ'urban-di* *χ'ammi* *b-itʃ:-ij.*
Qurban-ERG fish[AN][NOM] AN-catch-PF
'Qurban caught a fish.'
- Any argument retrievable by context is omissible
- No overt valency-decreasing derivation
- Productive synthetic causative (ex. 3)

- (3) a. *kaʁar* *ts'at-o.*
 paper[INAN₂][NOM] burn-AOR
 'The paper burnt.'
- b. *den-ni kaʁar ts'at-ot-i*
 I-ERG paper[INAN₂][NOM] burn-CAUS-AOR
 'I burnt the paper.'

- 2 equipollent denominal derivations: inchoative (ex. 4a) vs. factitive (ex. 4b)

- (4) a. *fiw̃ ts:'ik'u-t-ij.*
 milk[INAN₂][NOM] sour-INCH-PF
 'The milk turned sour.'
- b. *mitir-di fiw̃ ts:'ik'u-jd-ij.*
 sun-ERG milk[INAN₂][NOM] sour-FCT-PF
 'The sun soured the milk.'

o.3. Methodology and data

AIMS:

- Draw map of Zilo bivalent verbs
- Analyze Zilo data within framework of transitivity
- Propose interpretation of data more relevant than common theory on lability, as recommended by Creissels (2014)
- Show how Zilo data can contribute to better understanding of transitivity cross-linguistically
- Present hitherto unknown data from one of the least described branches of the Dagestania languages
- METHOD: builds on Gérardin (2016) for Georgian (non-related Caucasian language):
 - Rigorously separate levels of linguistic study (morphology, syntax, semantics and pragmatics)
 - Record all primary verbs and submit them to different types of tests in order to determine their relation to the transitive prototype (ex. 2) (cf. Næss 2007; Hopper & Thompson 1980)
 - Establish transitivity scale
- DATA: all from personal fieldwork (Apr/Aug 2017-Aug 2018)¹

¹ We thank dearly all our native Zilo-speakers consultants, especially A. M. Magomedov's family.

1. 1st transitivity test: compatibility with A_{ERG}

- PURPOSE: determine degree of transitivity of verb based on its compatibility with an A_{ERG} in underived form
- MATERIAL: Database of 318 verbs elicited from Russian to Andi with one basic sample sentence
- PROCESS: check possibility for each verb to be used **with** & **without** an A_{ERG} in underived form

○ Sample construction V{S_{NOM}} ⊕ A_{ERG} = OK or * ?

○ Sample construction V{P_{NOM}, A_{ERG}} ⊖ A_{ERG} = OK or * ?

- EXAMPLES:

(5) a. *k'epi* *r-ukr-u.*
jug[INAN₂][NOM] INAN₂-fall-AOR
'The jug fell down.'

b. **pat'imati-di* *k'epi* *r-ukr-u.*
Patimat-ERG jug[INAN₂][NOM] INAN₂-fall-AOR
'Patimat dropped the jug.'

c. ^{OK}*Pat'imati-di* *k'epi* *r-ukr-ot-i*
Patimat-ERG jug[INAN₂][NOM] INAN₂-fall-CAUS-AOR
'Patimat dropped the jug.'

(6) a. *den-ni* *ingur* *arχ-on.*
I-ERG window[INAN₁][NOM] open-AOR
'I opened the window.'

b. ^{OK}*ingur* *arχ-on.*
window[INAN₁][NOM] open-AOR
'The window was opened.' / 'The window opened.'

- CONCLUSIONS:

1) The test results in division of verb database into two categories: A_{ERG}-compatible and A_{ERG}-incompatible

i) A_{ERG}-incompatible:

(a) inchoative denominals (suffix *-t*), e.g.:

bat'ati 'separate'; *sababti* 'be efficient'; *ts'ik'uti* 'sour'; *tjurukiti* 'get soiled'; *tantajati* 'get torn'; *baditi* 'gather'; CL-*oχ:orli* 'grow old', CL-*t'iti* 'straighten', *sabiti* 'heal', *bot'iti* 'darken', etc.

(b) 144 non-derived verbs, e.g.:

bahan 'unravel'; *abχo* 'lie'; *abaχo* 'swell'; *adalχu* 'go crazy'; CL-*utli* 'end/become'; *g^wanβun* 'light up'; *hebtfun* 'sneeze'; *helli* 'run'; *kabi* 'enter'; *kolli* 'float, swim'; *kulikun* 'itch/tickle'; *qχ'iχon* 'fall asleep';

tɬʷahun ‘burst’; *tɬʷiraxuj* ‘grow old’; *k’ari* ‘vomit’; *k’iri* ‘separate’; *k’uri* ‘drip’; *orfi* ‘be received’; *ox:on* ‘boil’; CL-*gun* ‘grow’; *t’ebi* ‘bend’; *qχabi* ‘tear up’; *halt’un* ‘work’; *ħifju* ‘rule’; *tsudi* ‘burst’; *ts’ato* ‘burn’; *tsʷakun* ‘shine’; *tʃʷuri* ‘ripen’; CL-*abi* ‘get tired’; CL-*ed:on* ‘talk, speak’; CL-*ek’uʔo* ‘cry’; CL-*erɬa* ‘move’; CL-*ukɬu* ‘fall’; CL-*uri* ‘fly’; *cl-uts’o* ‘melt’; CL-*ko* ‘burn’; CL-*k’o* ‘be’; CL-*si* ‘be pushed’; CL-*qχin* ‘break’; CL-*tʃ’o* ‘die’; CL-*fo* ‘be collected/heal’; *tʃ’int’un* ‘be mashed’; CL-*ortʃ’un* ‘escape’; etc.

ii) A_{ERG}-compatible: 127 verbs.

2) All A_{ERG}-compatible verbs allow use without A_{ERG}, however:

(a) Some of them seem to allow A_∅ construction ONLY with passive reading (ex. 7)

(b) Some others seem to allow A_∅ construction with BOTH passive and anticausative readings (ex. 6)

(7) a. *den-ni* *jofi* *qχamm-i*.
 I-ERG girl[F][NOM] capture-AOR
 ‘I captured the girl.’

b. ∅ *jofi* *qχamm-i*.
 A_∅ girl[F][NOM] capture-AOR
 ‘The girl was captured.’ (#‘The girl captured.’)

- Verbs of type ‘capture’ considered to be higher than verbs of type ‘close’ on transitivity scale, but clear distinction between the two groups requires further testing

⇒ Test 1 distinguishes category of A_{ERG} incompatible verbs (left) and A_{ERG} compatible verbs

Table 1: Test of compatibility with A_{ERG}

1) +/- A _{ERG} test	A _{ERG} licenced only by causative marker	A _{ERG} licenced without causative marker	
		A _∅ licenced with both PASS & ANTICAUS reading (b)	A _∅ licenced only with PASS reading (a)
	<i>bat’ati</i> ‘separate’ <i>tʃurukiti</i> ‘get soiled’, <i>ts’ik’uti</i> ‘sour’, etc. CL- <i>ukɬu</i> ‘fall’ CL- <i>ed:on</i> ‘talk’ CL- <i>uts’o</i> ‘melt’ <i>kimmi</i> ‘smile’ <i>turi</i> ‘break down’, etc.	CL- <i>itʃon</i> ‘bring’ <i>ummi</i> ‘push’ CL- <i>iqχ’u</i> ‘slaughter’ CL- <i>itʃi</i> ‘catch’ <i>arχon</i> ‘open’ CL- <i>it’i-jd-i</i> ‘straighten’ <i>bari-jd-i</i> ‘sharpen’ <i>tʃuruki-jd-i</i> ‘stain’, etc.	

⊖ transitive → ⊕ transitive

2. 2nd transitivity test: identification of the syntactic role of the reflexive-intensive pronoun

- SOURCE: Kibrik (1996: 111) & Ljutikova (2001: 380)
- MATERIAL: all verbs diagnosed as A_{ERG}-compatible by the first test
- PURPOSE: discriminate between A_{ERG}-compatible verbs able to be used without A_{ERG} only with passive interpretation and those for which the absence of A_{ERG} can trigger both passive and anticausative readings
- BACKGROUND: Andi pronoun *ʒi-CL=gu* focalizes any argument, taking its case. Its nominative form can be used to focalize either S (ex. 8) or P (ex. 9)

(8) *ʒi-r=gu* *r-iʒ-un* *qχ'urtʃi-tʃi* *reʃa.*
 RFL-INAN₂=EMPH INAN₂-grow-AOR apricot-GEN tree[INAN₂][NOM]
 'The apricot tree grew by itself (i.e. without human participation).'

(9) *den-ni* *ʒi-w=gu* *direktor* *qχ'or-i.*
 I-ERG RFL-M=EMPH director[M][NOM] call-AOR
 'I called the director himself.'

- PROCESS:
 - Use each A_{ERG}-compatible verb without A_{ERG}, focalizing the ARG_{NOM} with pronoun *ʒi-CL=gu*, and check semantics of product sentence
 - Pronoun *ʒi-CL=gu* supposed to emphasize semantic difference between passive and anticausative uses of null-A constructions → requirement for identifying if a verb used with an empty agent slot allows for both anticausative and passive readings or only the passive one
 - If an A_{ERG}-compatible verb used in a A_∅ construction allows only passive reading, → made clear by pronoun *ʒi-CL=gu* meaning 'X itself is affected by A' (ex. 10). If an A_{ERG}-compatible verb used in a A_∅ construction allows anticausative reading, → correlates with pronoun *ʒi-CL=gu* meaning 'X undergoes V by themselves' (ex. 11)

(10) ∅ *ʒi-w=gu* *direktor* *qχ'or-i.*
 A_∅ RFL-M=EMPH director[M][NOM] call-AOR
 'The director himself was called.'

(11) ∅ *ingur* *ʒi-b=gu* *arχ-on.*
 A_∅ window[INAN₁][NOM] RFL-INAN₁=EMPH open-AOR
 'The window opened by itself.'

- RESULTS:
 - 1) All non-derived A_{ERG}-compatible verbs are compatible with reading 'X undergoes V by themselves' of pronoun *ʒi-CL=gu* (ex. 12):

- (12) \emptyset *zi-r = gu* *hints'u* *r-oqχ'-on*
 A \emptyset RFL-INAN₂=EMPH door[INAN₂][NOM] INAN₂-close-AOR
 'The door closed by itself.' / 'The door itself was closed.'

Sometimes conditionally upon the setting of a special context:

– fantastic context (ex. 13):

- (13) \emptyset *tfaj* *zi-b = gu* *ts:'ad-ir.*
 A \emptyset tea[INAN₁][NOM] RFL-INAN₁=EMPH drink-PROG
 'Tea is drunk without anything else in it (lit. 'Tea itself is drunk.').'
 ?'Tea drinks by itself.'
 (+fantastic context) ^{OK}'Tea drinks by itself (magically).'

– 'sarcastic negative' context (ex. 14):

- (14) \emptyset *gaga* *zi-r = gu* *r-et^l-es:a!*
 A \emptyset fruit_stone[INAN₂][NOM] RFL-INAN₂=EMPH INAN₂-plant-FUT.NEG
 'The fruit stones aren't going to plant by themselves!' ['you have to do it"]

→ All non-derived verbs allow anticausative reading of A \emptyset constructions

- 2) Only factitive denominals are incompatible with reading 'X undergoes V by themselves' of pronoun *zi-CL=gu* (ex. 15). → allow A \emptyset constructions ONLY with passive (arbitrary) reading.

- (15) *motf'i* *zi-w = gu* **sabi-jd-es:a* / ^{OK}*sabi-~~t~~-es:a*
 child[M/F][NOM] RFL-M=EMPH healthy-FCT-FUT.NEG healthy-INCH-FUT.NEG
 'The child isn't going to heal by himself!'

⇒ Test 2 distinguishes A_{ERG} compatible verbs allowing anticausative reading of A \emptyset constructions, vs. A_{ERG} compatible verbs allowing A \emptyset only with passive reading

Table 2: Test of the reflexive-intensive pronoun

1) +/- A _{ERG} test	A _{ERG} licenced only by causative marker	A _{ERG} licenced without causative marker	
2) RFL test		A \emptyset licenced with both PASS & ANTICAUS reading	A \emptyset licenced only with PASS reading
	<i>bat'ati</i> 'separate' <i>tfurukili</i> 'get soiled', <i>ts'ik'uti</i> 'sour', etc. CL- <i>uku</i> 'fall' CL- <i>ed'on</i> 'talk' CL- <i>uts'o</i> 'melt' <i>kimmi</i> 'smile' <i>turi</i> 'break down', etc.	CL- <i>itfon</i> 'bring' <i>ummi</i> 'push' CL- <i>iqχ'u</i> 'slaughter' CL- <i>itfi</i> 'catch' <i>qχuqχan</i> 'saw' <i>arχon</i> 'open', etc.	<i>sabi-jd-i</i> 'heal' CL- <i>it'i-jd-i</i> 'straighten' <i>bari-jd-i</i> 'sharpen' <i>tfuruki-jd-i</i> 'stain' <i>fobi-jd-i</i> 'neuter', etc.

⊖ transitive → ⊕ transitive

Explanation, cf. Creissels (2014):

- Combination of three typological features (radical P-alignment + unrestricted use of null-A constructions + no agent demoting/removing derivation) \Rightarrow null-A TR predications = ITR predications. \rightarrow All A_{ERG} compatible verbs are able to be used in ITR construction (with either passive or anticausative reading)
- Overt markers implying semantic presence of an Agent (here: factitive, in opposition to inchoative) restrict semantics of null-A constructions to passive reading

3. 3rd transitivity test: morphology and syntax of the imperative

- PURPOSE:
 - Corroborate results of tests 1 & 2
 - Further refine typology of A_{ERG} -compatible verbs

3.1. Morphological subtest: ability to form an intransitive/transitive imperative

- SOURCE: Kibrik (1996:110) & Ljutikova (2001:379)
 - BACKGROUND: Andi features two imperative suffixes in distributional alternation:
 - /*Vb*/ (past stem vowel + *-b*) used in intransitive constructions (ex. 16)
 - /*-o*/ (bare athematic stem + *-o*) used in transitive constructions (ex. 17)
- (16) *j-erɁ-ab* *ho <j> a!*
 F-hurry-IMP(ITR) here<F>
 ‘Come here quickly!’
- (17) *hints’u* *r-isd-o!*
 door[INAN₂][NOM] INAN₂-lock-IMP(TR)
 ‘Lock the door!’
- PROCESS: check existence of intransitive and transitive imperative forms in paradigm of each verb
 - EXPECTATIONS: ability to form intransitive imperative supposed to show a verb’s compatibility with intransitive construction, vs. ability to form transitive imperative supposed to show a verb’s compatibility with transitive construction
 - Previously diagnosed A_{ERG} -incompatible verbs expected to be able to form intransitive, but not transitive imperative
 - Previously diagnosed A_{ERG} -compatible verbs expected to be able to form transitive imperative

- Only A_{ERG} -compatible verbs allowing for anticausative reading of A_{\emptyset} constructions expected to be able to form intransitive imperative

Morphological selection of imperative form supposed to correlate with overt syntactic feature: selection of argument in role of imperative addressee.

→ Subtest used in combination with the imperative addressee subtest.

3.2. Syntax: selection of the argument in role of imperative addressee

- SOURCE: Forker (2013:493–494)
- BACKGROUND: intransitive imperative constructions select their unique argument as imperative addressee (ex. 18), while transitive imperative constructions only allow for the ergative argument to be selected as imperative addressee (ex. 19). The imperative addressee can be overtly expressed both:

- outside imperative clause in function of unmarked vocative (*wofo*, *pat'imat*);
- inside clause as subject of imperative predicate inflected for case (*men*, *menni*).

(18) *wofo*, *men* *ħalt'-um!*
 boy[M] thou[NOM] work-IMP(ITR)
 'Boy, work!'

(19) *pat'imat*, *men-ni* *b-ed-o* *vedra!*
 Patimat[F], thou-ERG INAN₁-leave-IMP(TR) bucket[INAN₁][NOM]
 'Patimat, leave the bucket!'

- PROCESS: for each verb, check the grammaticality of:
 - the ITR imperative form used in an ITR imperative construction, i.e. in combination with a nominative addressee (= ITR imperative pattern)
 - the TR imperative form used in a TR imperative construction, i.e. in combination with an ergative addressee (= TR imperative pattern)
- EXPECTATIONS: to corroborate with the morphological imperative subtest

3.3. A_{ERG} -incompatible verbs to the test

- RESULTS: expectations met: all A_{ERG} -incompatible verbs can be used with ITR imperative pattern, but not with TR imperative pattern

(20) a. *den* *buz-u* *wots:u-ʔo*.
 I[NOM] believe-AOR brother-SUPER.LAT
 'I believed my brother.'

b. *wots:i*, *men* *buz-ub* *di-ʔo!*
 brother thou[NOM] believe-IMP(ITR) I-SUPER.LAT
 'Brother, believe me!'

- c. **wotsi*, (*men-ni*) **buɟ-o*
 brother thou-ERG believe-IMP(TR)
 #‘Brother, believe!’
- d. ^{OK}*hede-w* *buɟ-oll-o* *men-ni!*
 DEM-M[NOM] believe-CAUS-IMP(TR) thou-ERG
 ‘Fool him!’

3.4. A_{ERG}-compatible verbs to the test

- RESULTS: expectations met partially:

- 1) Only A_{ERG}-compatible verbs allowing anticausative reading of A_∅ can be used both in TR and ITR imperative pattern (ex. 21), sometimes provided setting of a fantastic context (ex. 22).

Examples of A_{ERG}-incompatible verbs tested positive \oplus to both TR and ITR imperatives patterns:

- (21) a. *qɣ’urban-di w-ak’ar-un* *ifi-<w>a* *homoloɓadul*
 Qurban-ERG M-gather-AOR home<M> friend[F/M].PL[NOM]
 ‘Qurban gathered his friends at home.’
- b. *itɬu-w=gu men-ni w-ak’ar-on* *homoloɓadul*
 all-M=EMPH thou-ERG M-gather-IMP(TR) friend[F/M].PL[NOM]
 ‘Gather all your friends!’
- c. *adam, bisil w-ak’ar-um-ul!*
 people[M] you[NOM] M-gather-IMP(ITR)-PL
 ‘People, gather yourselves!’
- (22) a. *hegef-di hints’u riɟd-ij*
 DEM:M-ERG door[INAN2][NOM] lock-PF
 ‘He locked the door.’
- b. *pat’imat, men-ni hints’u riɟd-o!*
 Patimat[F] thou-ERG door[INAN2][NOM] lock-IMP(TR)
 ‘Patma, lock the door!’
- c. *hints’u, men riɟd-ib!* (+ fantastic context)
 door[INAN2] thou[NOM] lock-IMP(ITR)
 ‘Door, lock yourself!’

Example of A_{ERG}-compatible verbs tested positive \oplus to the TR imperative pattern and negative \ominus to the ITR imperative pattern:

- (23) a. *toχturada-di* *wofo* *sabi-jd-i*
 doctor.PL-ERG boy[M][NOM] healthy-FCT-AOR
 ‘The doctors healed the boy.’
- b. *toχturadul, bisi-di* *wofo* *sabi-jd-o!*
 doctor[M].PL you-ERG boy[M][NOM] healthy-FCT-IMP(TR)
 ‘Doctors, heal the boy!’
- c. *wofo,* *men* **sabi-jd-ib!* / ^{OK}*sabi-ɬ-ib!*
 boy[M] thou[NOM] healthy -FCT-IMP(ITR) healthy-INCH-IMP(ITR)
 ‘Boy, recover!’

2) One unexpected case: inconsistent results of the two imperative subtests: A_{ERG}-compatible verb CL-*i?o* ‘bring’ can be used in ITR imperative pattern with meaning ‘arrive’, but cannot be used in fully transitive pattern: compatible with TR imperative construction, but not with TR imperative form: ITR imperative form used in the TR imperative construction (ex. 24).

- (24) a. *den-ni* *bisi-ɬ* *b-i?-o* *sajvati.*
 I-ERG you-DAT INAN₁- bring/arrive-AOR gift[INAN₁][NOM]
 ‘I brought you a gift.’
- b. *wofo,* *men* *ho<w>a* *w-u?-ob!*
 boy[M] thou[NOM] here<M> M- bring/arrive-IMP(ITR)
 ‘Boy, come over here!’
- c. **di-ɬ* *men-ni* *sajvati* *b-i?-o!*
 I-DAT thou-ERG gift[INAN₁][NOM] INAN₁- bring/arrive-IMP(TR)
 #‘Bring me a gift!’
- d. ^{OK}*di-ɬ* *men-ni* *sajvati* *b-i?-ob!*
 I-DAT thou-ERG gift[INAN₁][NOM] INAN₁-bring/arrive-IMP(ITR)
 ‘Bring me a gift!’

⇒ Test 3 introduces category containing verb CL-*i?o* ‘bring/arrive’, A_{ERG} compatible verbs sharing with A_{ERG} incompatible verbs unavailability of TR imperative form.

Table 3: Imperative tests

1) +/- A _{ERG} test	A _{ERG} licenced only by causative marker	A _{ERG} licenced without causative marker		
2) RFL test		A _∅ licenced with both PASS & ANTICAUS reading (b)		A _∅ licenced only with PASS reading (a)
3) IMP test	Only ITR IMP form available	Both ITR & TR IMP patterns available		Only TR IMP patterns available
	<i>bat'aŋi</i> 'separate' <i>tŋurukiki</i> 'get soiled', <i>ts'ik'uti</i> 'sour', etc. CL- <i>ukɔ</i> 'fall' CL- <i>ed:on</i> 'talk' CL- <i>uts'o</i> 'melt' <i>kimmi</i> 'smile' <i>turi</i> 'break down', etc.	CL- <i>iʔo</i> 'arrive/bring'	CL- <i>itʃon</i> 'bring' <i>ummi</i> 'push' CL- <i>iqχ'u</i> 'slaughter' CL- <i>itʃi</i> 'catch' <i>qχuqχan</i> 'saw' <i>arχon</i> 'open', etc.	<i>sabi-jd-i</i> 'heal' CL- <i>it'i-jd-i</i> 'straighten' <i>bari-jd-i</i> 'sharpen' <i>tŋuruki-jd-i</i> 'stain' <i>ŋobi-jd-i</i> 'neuter', etc.

⊖ transitive \longrightarrow ⊕ transitive

4. 4th transitivity test: the causative

- PURPOSE: further refine typology of A_{ERG}-compatible verbs allowing anticausative reading of A_∅.
- BACKGROUND: Andi causative suffix /-ol/ can derive both bivalent TR verbs from ITR verbs (ex. 26) and trivalent TR verbs from bivalent TR verbs (ex. 25)

(25) a. *tʃurtla* *a-r>ʒ-o* *turti-tʃi*.
 butter[INAN₂][NOM] mix<INAN₂>-AOR seed_butter-INTER
 'The butter mixed together with the seed butter.'

b. *den-ni* *tʃurtla* *a-r>ʒ-ol-ij* *turti-tʃi*.
 I-ERG butter[INAN₂][NOM] mix<INAN₂>-CAUS-PF seed_butter-INTER
 'I mixed the butter together with the seed butter.'

(26) a. *gedo-di* *qχ'amm-i* *ts'ek'a* *motʃ'ifu-b*.
 cat-ERG bite-AOR finger[INAN₁][NOM] child-INAN₁(GEN)
 'The cat bit the child's finger.'

b. *motʃij-di gedo-o qχ'amm-ot-i ts'ek'a.*
 child-ERG cat-AFF<INAN₁> bite-CAUS-AOR finger[INAN₁][NOM]
 'The child made the cat bite [his] finger.'

- PROCESS: test which uses (TR vs. ITR) of a A_{ERG} -compatible verb can be causativized, by checking the valency (bivalent vs. trivalent) of its causative derivate.
- RESULTS:
 - Almost all non-derived A_{ERG} -compatible verbs can be causativized only in their TR use: their causative derivates are always trivalent (ex. 27). → higher on the transitivity scale.
 - Limited group of non-derived A_{ERG} -compatible verbs can be causativized in both their TR and ITR uses: their causative derivates are ambiguous between trivalent and bivalent (ex. 28). → lower on the transitivity scale.²

(27) a. *pat'imati-di roqχ'-on hints'u.*
 Patimat-ERG close-AOR door[INAN₂][NOM]
 'Patimat closed the door.'

b. *hints'u roqχ'-on.*
 door[INAN₂][NOM] close-AOR
 'The door has closed.'

c. *pat'imati-di roqχ'-ont-i hints'u.*
 Patimat-ERG close-CAUS-AOR door[INAN₂][NOM]
 # 'Patimat closed the door.'
 OK 'Patimat made [someone] close the door.'

(28) a. *jofu-di k^weru b-its'-ij t'en-di*
 girl-ERG jug[INAN₁][NOM] INAN₁-fill-PF water-INST
 'The girl filled the basin with water.'

b. *vedra b-its'-ij t'en-di*
 bucket[INAN₁][NOM] INAN₁-fill-PF water-INST
 'The bucket has filled up with water.'

² One has to exclude from this group verbs belonging to the semantico-syntactic class of A_{ERG} -compatible movement verbs (e.g. *tʃ'anni* 'pull', *qχelli* 'scrabble', *ruto* 'unfasten', *qχ'abfun* 'blink', *obi* 'touch', *b-ajtfo* 'unfasten'), which can form valency-preserving causatives with a 'conative-intensive' meaning. Indeed, their causative derivates are also ambiguous between a bivalent and a trivalent argument structure, but both versions are most likely derived from the *transitive* use of the verb (which is, for many of them, their only productive use).

- c. *jofu-di* *k^weru* *b-its'-oɬ-ij* *ɬen-di*
 girl-ERG jug[INAN₁][NOM] INAN₁-fill-CAUS-PF water-INST
 (i) 'The girl filled the basin with water.' /
 (ii) 'The girl made [someone] fill the basin with water.'
- d. *jofu-di* *di-o* *k^weru*
 girl-ERG I-AFF<INAN₁> jug[INAN₁][NOM]
b-its'-oɬ-ij *ɬen-di*
 INAN₁-fill-CAUS-PF water-INST
 'The girl had me fill the basin with water.'

⇒ Test 4 divides table into two new categories, introducing classes 3 and 4 of conclusion table.

5. Conclusion: the Zilo Andi transitivity scale

Test nb	CLASS 1	CLASS 2	CLASS 3	CLASS 4	CLASS 5
1) +/- A_{ERG} test	A_{ERG} licenced only by causative marker	A_{ERG} licenced without causative marker			
2) RFL test	A_{\emptyset} licenced with both PASS & ANTICAUS reading (b)			A_{\emptyset} licenced only with PASS reading (a)	
3) IMP test	Only ITR IMP form available		Both ITR & TR IMP patterns (morphology + syntax) available		Only TR IMP pattern available
4) CAUS test	Causative applicable to ITR (=the only use)	Causative applicable to both ITR and TR uses		Causative applicable only to TR use	
	<i>bat'ati</i> 'separate' <i>tfurukiti</i> 'get soiled', <i>ts'ik:uti</i> 'sour', etc. CL- <i>uku</i> 'fall' CL- <i>ed:on</i> 'talk' CL- <i>uts'o</i> 'melt' <i>kimmi</i> 'smile' <i>turi</i> 'break down', etc.	CL- <i>i?o</i> 'arrive/bring'	CL- <i>it'si</i> 'fill' CL- <i>eza</i> 'fry' CL- <i>ats'i</i> 'stick' CL- <i>erfo</i> 'change'	CL- <i>itfon</i> 'bring' <i>ummi</i> 'push' CL- <i>iqχ'u</i> 'slaughter' CL- <i>itf:i</i> 'catch' <i>qχuqχan</i> 'saw' <i>arχon</i> 'open', etc.	<i>sabi-jd-i</i> 'heal' CL- <i>it'i-jd-i</i> 'straighten' <i>bari-jd-i</i> 'sharpen' <i>tfuruki-jd-i</i> 'stain' <i>fobi-jd-i</i> 'neuter', etc.

⊖ transitive



⊕ transitive

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AOR	aorist	F	feminine gender	INCH	inchoative derivation
AN	animate gender	FCT	factitive derivation	LAT	lative direction
CAUS	causative	FUT	future	NOM	nominative case
CONT	contlocative case	HAB	habitual	PF	perfect
DAT	dative	IMP(ITR)	intransitive imperative	PROG	progressive
EL	elative direction	IMP(TR)	transitive imperative	RFL	reflexive
EMPH	emphatic particle	INAN ₁	first inanimate gender	SUPER	superlocative case
ERG	ergative case	INAN ₂	second inanimate gender		

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