

Aspects of the Indo-Iranian “Stem”*

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1 Introduction

Indo-Iranian languages present several challenges to recent theoretical approaches to morphology and agreement/case splits:

1. Verbal systems that seem to crucially rely on morphomic “stems”, traditionally labeled the “present stem” and “past stem”:
 - “**Present stem**” (simple present... and past imperfective; Awroman)
 - “**Past stem**” (simple past... and immediate future; Kurmanji)
2. Agreement/case splits that are based around these “stems”:
 - (1) Adiyaman Kurmanji “present stem”: NOM/ACC
 - a. **Ez** te di-bîn-**im**.
1.NOM 2.OBL IMPF-see.“PRES”-1SG
‘I see you.’
 - b. **Ez** di-her-**im**
1.NOM IMPF-go.“PRES”-1SG
‘I go.’
 - (2) Adiyaman Kurmanji “past stem”: ERG/ABS
 - a. Min **tu** dît-î.
1.OBL 2.NOM see.“PAST”-2SG
‘I saw you.’
 - b. **Ez** çü-m.
1.NOM go.“PAST”-1SG
‘I went.’

- Haig (2008:4): “[...] in Iranian it is not primarily some semantic notion of ‘pastness’ or ‘perfectivity’ that is crucial to triggering ergativity [...]”

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- However, the splits line up largely with present/imperfective vs. past/perfective, in the predicted way (Dixon 1994):

- (3) a. If a split is conditioned by aspect, then ERG/ABS is found in perfective aspect.
- b. If a split is conditioned by tense, then ERG/ABS is found in past tense.

In this talk, I will investigate one Indo-Iranian language in detail, Adiyaman Kurmanji (a dialect of Kurdish), and I will argue that:

1. The verbal system is fully compositional, with no “stems”.

- However, the morphology-semantics correspondence is unusual:
 - ★ The morphologically-unmarked verb form, the “present stem”, is specified as semantically non-past.
 - ★ The morphologically-marked verb form, the “past stem”, is underspecified for tense and aspect, but obtains default tense/aspect interpretations by standing in opposition to other tense/aspect elements.
- An additional oddity is that the morphology involved is unusually low for tense-related contrasts, surfacing below Asp and above *v*.

2. The agreement/case split is based around tense.

- The morphologically-unmarked verb form is semantically non-past, and triggers NOM/ACC alignment; ERG/ABS is found elsewhere.
- Adiyaman Kurmanji is thus a challenge for attempts to reduce TAM splits to revolving just around aspect (Salanova 2007, Coon 2013).

Organization of the talk:

- §2 The morphological breakdown of the “stems”
- §3 The semantics of the core verb forms
- §4 Morphological and semantic underspecification
- §5 Outlook

2 Morphological breakdown

Adiyaman Kurmanji (AK) is an Indo-Iranian language spoken in the town of Adiyaman, in southeast Turkey.

- SOV; predominantly head-initial; *pro* drop (Atlamaz 2012)

Goals of this section:

- Isolate the morpheme that differentiates the verb “stems”
- Determine the syntactic position of this morpheme

⇒ *Terminological note:* For clarity, I will use the terms “X stem” (instead of the traditional “present stem”) and “Y stem” (instead of “past stem”).

2.1 Isolating the Y morpheme

At first glance, there seems to be no consistent morphological relation between the X stem and the Y stem.

- Some common verbs come in suppletive X-Y stem pairs.

(4)

	X	Y
'see'	bîn	dît
'go'	her	çü
'say'	we	go

- Some common verbs differ in (unpredictable) phonological material between the X stem and Y stem.

(5)

	X	Y
'eat'	x	xor
'catch'	g	geşt
'give'	d	do
'do'	k	kır

- Some verbs undergo no change between the X and Y stem.

(6)

	X	Y
'sew'	drü	drü
'die'	mır	mır
'chew'	cü	cü
'cry'	gri	gri

Looking further than these common and irregular verbs, however, two more consistent patterns emerge:

- Many verbs form the Y stem by adding *-i* to the X stem.

(7)

	X	Y
'boil'	kel	keli
'rain'	bor	bori
'steal'	dız	dızı
'buy'	kır	kırri

- Many verbs form the Y stem by adding *-t* to the X stem.

(8)

	X	Y
'milk'	do	dot
'hear'	biz	bist
'hold'	gr	girt
'want'	xaz	xast

Observation: Whenever there is a clear phonological relation between the X stem and the Y stem...

- The Y stem is always bigger than the X stem.
 - The additional phonological material in the Y stem follows the X stem.
 - The X stem seems to consist just of the verb root; no additional morphology.
 - The two most regular and common strategies for deriving the Y stem from the X stem are adding *-i* or *-t*.
- Conclusion: There is a separable morpheme, a suffix, in the Y stem.

⇒ *Terminological note*: I will refer to the morpheme we have isolated as the Y morpheme.

(9) *Some relevant vocabulary items*

Y	→ -t	/] _V ___	; where V = {MILK, HEAR, ...}
Y	→ -∅	/] _V ___	; where V = {SEW, DIE, ...}
Y	→ -or	/] _V ___	; where V = {EAT}
Y	→ -eşt	/] _V ___	; where V = {CATCH}
Y ¹	→ -i		

BOIL	→ kel
MILK	→ do
SEW	→ drü
EAT	→ x
CATCH	→ g

GO	→ her
GO, Y ²	→ çü

2.2 Locating the Y morpheme syntactically

We already have seen several indications that Y is structurally close to the verb:

- The Y morpheme and the verb can be spelled out as a portmanteau, (4).
 - The Y morpheme's phonological form can be conditioned by the identity of the verb root, (5)–(6).
- Observing the behavior of Y and suppletive verbs as they interact with other morphology will enable us to pinpoint Y's structural position.
- Assumption: Something like the Mirror Principle holds (Baker 1985).
 - Assumption: Suppletion/portmanteau are purely local phenomena (Radkevich 2010, Bobaljik 2012, *i.a.*).

¹I take the elsewhere allomorph to be *-i*, rather than *-t*, but nothing hinges on this.

²I treat the suppletion cases as portmanteau forms, because the suppletive verbs never co-occur with regular Y stem morphology. I analyze portmanteau as insertion at non-terminal nodes (Caha 2009, Radkevich 2010), but again, nothing hinges on this.

The Y morpheme interacts with imperfective morphology:

- The Y morpheme can co-occur with imperfective aspect, the prefix *di-*:

(10) M₁ çay **di-kırr-i-∅**.
I.OBL tea.NOM IMPF-buy-Y-3SG
'I used to buy tea.'

- The imperfective morpheme *di-* does not block suppletion (V+Y):

(11) M₁ t₁ **di-dît-i**.
I.OBL you.NOM IMPF-see.Y-2SG
'I used to see you.' / 'I was seeing you.'

- The verb 'come' has a portmanteau form both in the Y stem (V+Y), (12a), and in the present imperfective (IMPF+V), (12b):

(12) a. Ez **hot-im** mal.
I.NOM come.Y-1SG home
'I came home.'

b. Ez **te-m** mal.
I.NOM IMPF.come-1SG home
'I come home.' (habitual reading)

- In the past imperfective, where the Y morpheme and imperfective prefix co-occur (cf. (10)), it is obligatorily V+Y that suppletes, and the imperfective prefix appears in its regular form, *di-*:

(13) Ez **di-hot-im** mal. (*te-i-m)
I.NOM IMPF-come.Y-1SG home
'I used to come home.' / 'I was coming home'

- Conclusion: The Y morpheme is closer to the verb than IMPF aspect.

The Y morpheme interacts with causative morphology:

- Unaccusative Vs productively participate in a causative-inchoative alternation, through the addition of *-in*, which I take to be in *v*.

(14) a. Aw **di-kel-∅-e**.
water.NOM IMPF-boil-3SG-COP
'The water is boiling.'

b. Ez av-e **di-kel-in-im-e**.
I.NOM water-OBL IMPF-boil-CAUS-1SG-COP
'I am boiling (the) water.'

- When the Y morpheme co-occurs with the causative suffix, the Y morpheme is linearly further from the verb:

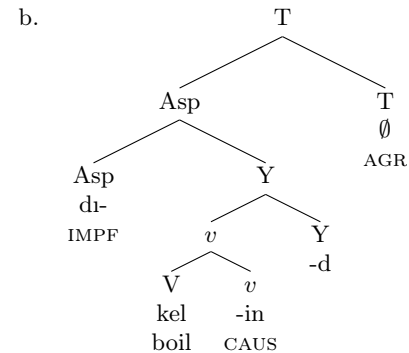
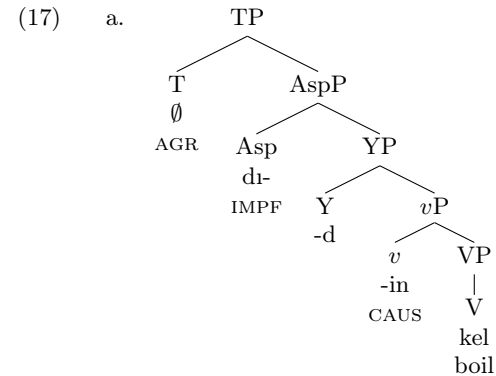
(15) a. Aw **kel-i-∅**.
water.NOM boil-Y-3SG
'The water boiled.'

b. M₁n aw **kel-on-d-∅**.
I.OBL water.NOM boil-CAUS-Y-3SG
'I boiled the water.'³

- Conclusion: The Y morpheme is further from the verb than *v*.

Verbal complex of (16) before head movement, (17a), and after, (17b).

(16) M₁n aw **di-kel-on-d-∅**.
I.OBL water.NOM IMPF-boil-CAUS-Y-3SG
'I was boiling the water.'



³The form of the Y morpheme when it follows the causative morpheme is always *-d*, likely resulting from suffixation of *-t* with voicing assimilation. Also, the internal vowel change from *i* to *o* in the causative morpheme happens whenever it becomes part of a Y stem.

Interim summary: This section identified one morpheme, Y, that differentiates the X stem from the Y stem.

- The Y stem is formed by adding the Y morpheme to the X stem.
- The X stem is identifiable by the absence of the Y morpheme, and appears to be morphologically simplex.

- (18) a. *X stem:*
 Ez çay-e dı-kırr-ım.
 I.NOM tea-OBL IMPF-buy-1SG
 ‘I buy tea.’ (habitual reading)
- b. *Y stem:*
 Mı çay dı-kırr-i-∅.
 I.OBL tea.NOM IMPF-buy-Y-3SG
 ‘I was buying tea.’ / ‘I used to buy tea.’

3 The semantics of X stems and Y stems

In this section, we will examine the semantic range of the core, finite verb forms in Adıyaman Kurmanji.⁴

- (19) *Core verb forms built on the X stem*
- present habitual IMPF-V
 - present progressive IMPF-V-COP
 - future Aux + SBJN-V
- (20) *Core verb forms built on the Y stem*
- simple past (??) V-Y
 - past habitual/progressive IMPF-V-Y

Preliminary observations:

- The imperfective prefix is not specified for semantic tense—it can occur both in the present tense, (19a–b), and in the past tense, (20b).
- The minimal well-formed verb has combined with at least one overt element above *v*: for X stems, this is IMPF or SBJN, and for Y stems, this is Y.

What we will find:

- Both the X stem and Y stem are underspecified for aspect.
- The X stem is consistently and invariably non-past, though it bears no overt non-past morphology.
- The Y stem is extremely variable with respect to temporal interpretation.

⁴The only copula that shows up with these core verb forms is what is called in Indo-Iranian the “present copula”, in contrast to the “past copula”. Just like the “present” and “past” labels for the stems, however, it is not clear that these are informative labels. Since we will only be dealing with the “present copula” in this talk, I will simply gloss it as cop.

3.1 The X stem

The readings of the X stem are fixed and consistent, as non-past:

- (21) a. *Present habitual:* IMPF-V
 Ez çay-e dı-kırr-ım.
 I.NOM tea-OBL IMPF-buy-1SG
 ‘I buy tea.’
- b. *Present progressive:* IMPF-V-COP
 Ez çay-e dı-kırr-ım-e.
 I.NOM tea-OBL IMPF-buy-1SG-COP
 ‘I am buying tea.’
- c. *Future:* Aux + SBJN-V
 Ez dıke çay-e bı-kırr-ım. (dı-k-e = IMPF-do-COP)
 I.NOM AUX tea-OBL SBJN-buy-1SG
 ‘I will buy tea.’

- The X stem is ungrammatical with past tense adverbials.
- The X stem is interpreted as imperfective when bearing the imperfective prefix, and otherwise (i.e., in the future) aspect is unspecified.

- (22) a. E dıke wi kitaw-i seetke bı-xun-ım.
 I AUX this book-OBL hour.one SBJN-read-1SG
 ‘I will read this book for an hour.’ (Durative)
- b. E dıke wi kitaw-i içi seetke-da bı-xun-ım.
 I AUX this book-OBL in hour.one-LOC SBJN-read-1SG
 ‘I will read this book in an hour.’ (Completive)

Conclusion: The X stem is non-past, and not specified for aspect.

3.2 The Y stem

As we will see now, the Y stem has a much more variable interpretation.

3.2.1 Y looks like past tense

The default, context-free interpretation of a Y stem is past tense.

- When the IMPF prefix is absent, the interpretation seems perfective.

- (23) *Simple past:* V-Y
- a. Mı çay kırr-i-∅.
 I.OBL tea.NOM buy-Y-3SG
 ‘I bought tea.’
- b. Aw kıl-i-∅.
 water.NOM boil-Y-3SG
 ‘The water boiled.’

- With the IMPF prefix, the interpretation is imperfective (can be habitual or progressive).

- (24) *Past progressive/habitual: IMPF-V-Y*
- a. M1 çay dı-kırr-i-∅.
I.OBL tea.NOM IMPF-buy-Y-3SG
'I was buying tea.' / 'I used to buy tea.'
- b. Aw dı-kel-i-∅.
water.NOM IMPF-boil-Y-3SG
'The water was boiling.' / 'The water used to boil.'

In counterfactual conditionals, the Y stem (with SBJN prefix, and with a CF suffix) is obligatory, (25b), though this is not the case for predictive/indicative conditionals, (25a).

- (25) a. K1 t1 sıwe wer-i mal t1 e
That you.NOM tomorrow SBJN.come-2SG home you.NOM AUX
di-ye xa b1-vun-i
mother-EZ self SBJN-see-2SG
'If you come home tomorrow, you will see your mother.'
- b. K1 e sıwe b1-çü-m-a mn e
That I.NOM tomorrow SBJN-go.Y-1SG-CF I.OBL AUX
b1-di-∅-yo
SBJN-see.Y-3SG-CF
'If I went tomorrow, I would see (her).'

- In counterfactual conditionals, we expect (fake) past tense or (fake) imperfective aspect (Iatridou 2000, Bjorkman and Halpert 2012).

Conclusion: The Y morpheme is past tense?

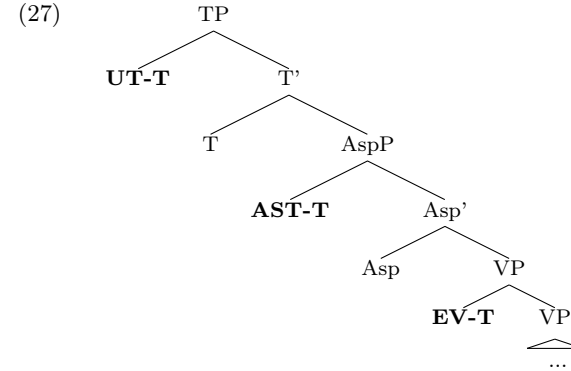
3.2.2 Y doesn't look like past tense

If Y is past tense, then there are two surprising things.

1. Y's morphological/syntactic location
 2. Other temporal interpretations of the Y stem
1. *Y's morphological/syntactic location is lower than (imperfective) aspect.*
- Under a relatively simple semantic analysis of tense and aspect, Y's position—between (IMPF) Asp and *v*, (26)—cannot explain a past tense meaning.

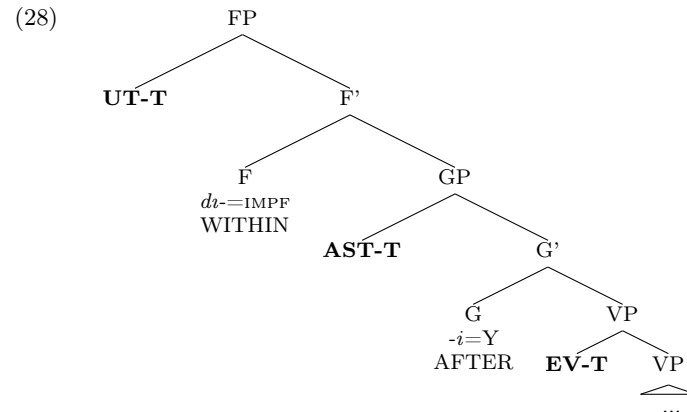
(26) Asp(IMPF) > Y(PAST?) > *v*(CAUS) > V

- For concreteness, I illustrate with Demirdache and Uribe-Etxebarria (2000).



- Each temporal/aspectual head relates its own temporal argument (introduced in its specifier) to that of its complement.
- The possible relations are those of the Ps WITHIN (present, imperfective), BEFORE (future, prospective), and AFTER (past, perfect).
- Note that the labels of the temporal arguments (UT-T, AST-T, EV-T) and of the mediating heads (T, Asp) are not primitives, but rather can be determined by their relative structural location.
 - * T is “tense” by virtue of introducing/relating to the highest temporal argument, which (in matrix contexts) is the utterance time.
 - * The UT-T is anchored to the speech time by virtue of being the highest temporal argument.

- Let's see how this fares for Y as past tense in a Kurmanji past progressive. (I have given neutral labels to the temporal/aspectual projections below.)



→ Derivationally-predicted (wrong) meaning: present retrospective/perfect.

Three ways to address this apparent height problem:

- A. **Morphological solution:** Our evidence for Y being below Asp is the portmanteau/suppletion of the Y stem. It could be that suppletion is not purely local, or portmanteau morphemes are not necessarily constituents.
- Note, however, that this solution would not explain why Y can appear in nominalizations/participles, while imperfective Asp cannot (data in §3.2.4.); in other words, Y really seems to be syntactically below Asp.
- B. **Syntactic solution:** The Y morpheme is a “past polarity item” (licensed by a PAST operator in T), and is not itself the locus of past tense semantics (Stowell 2007).
- C. **Semantic solution:** Richer semantic denotations of the aspectual/temporal heads could allow Y’s morpheme to bypass its local temporal argument and relate directly to the utterance time.

2. *Y stems can receive present and future temporal readings.*

- In matrix contexts with present adverbials:

- (29) a. Ez (nha) çü-m.
I.NOM now go.Y-1SG
‘I’m going now.’ ~ ‘I’m about to go.’
- b. Ahmet (nha) çay kır-i-∅.
Ahmet.OBL now tea.NOM buy-Y-3SG
‘Ahmet is buying tea now.’
~ ‘Ahmet is about to buy tea.’

- In embedded contexts, with punctual adverbials:

- (30) a. [Ki Ahmet **hot-∅**] e dike her-im.
that Ahmet **come.Y-3SG** I.NOM AUX SBJN.go-1SG
‘When Ahmet comes, I will leave.’
- b. [Ahmet **hot-∅** şında] e dike her-im.
Ahmet **come.Y-3SG** after I.NOM AUX SBJN.go-1SG
‘After Ahmet comes, I will leave.’
- c. [Hin ki Ahmet n-**ot-i-ye**] e dike
until that Ahmet **NEG-come.Y-PART-COP.3SG** I.NOM AUX
her-im.
SBJN.go-1SG
‘Before Ahmet comes, I will leave.’
(Lit: ‘Until Ahmet has not come, I will leave.’)

Conclusion: The Y morpheme is not specified for tense.

3.2.3 **Y looks like perfective aspect**

We have already seen some evidence that points to Y stems being perfective:

- Y stems occur with punctual adverbials, (30).
- The Y morpheme is in the low, aspectual syntactic region, (17b).

Additional evidence suggesting perfectivity:

- Statives in the (plain) Y stem receive a punctual interpretation, (31a), in contrast to when the Y stem bears an imperfective prefix, (31b).

- (31) a. Eşxan-e misri hez kır-∅.
Eşxan-OBL corn.NOM love **do.Y-3SG**
‘Eşxan (tried and instantly) loved corn.’
- b. Eşxan-e misri hez **dı-kır-∅**
Eşxan-OBL corn.NOM love **IMPF-do.Y-3SG**
‘Eşxan (already) loved corn.’ / ‘Eşxan used to love corn.’

- Verbs in the (plain) Y stem necessarily receive a sequenced interpretation, (32a), in contrast to when one Y stem bears an imperfective prefix, (32b).

- (32) a. K1 mı bane kır-∅, Ahmet bı re çü-∅ parq-e.
that I.OBL call do.Y-3SG Ahmet with way **go.Y-3SG** park-OBL
‘When I called, Ahmet walked to the park.’
(*calling before walking*)
- b. K1 mı bane kır-∅, Ahmet bı re **dı-çü-∅**
that I.OBL call do.Y-3SG Ahmet with way **IMPF-go.Y-3SG**
parq-e.
park-OBL
‘When I called, Ahmet was walking to the park.’
(*calling during walking*)

- Verbs in the (plain) Y stem form experiential perfects, (33a), in contrast to the X stem, which forms universal perfects, (33b).

– This is precisely what is expected from perfects being able to be formed both on perfectives (→experiential) and imperfectives (→universal) (Iatridou et al. 2001).

- (33) a. Ocağ-e virdo ez dı qoto şığıl-i-i-m-e.
January-OBL this.way I.NOM two times **work-Y-PART-1SG-COP**
‘I have worked twice since January.’
- b. Ocağ-e virdo ez (*dı qoto) dı-şığıl-im-e.
January-OBL this.way I.NOM two times **IMPF-work-1SG-COP**
‘I have been working (*two times) since January.’

Conclusion: The Y morpheme is perfective?

3.2.4 Y doesn't look like perfective aspect

- If the Y stem is perfective, it is somewhat surprising that it can combine with the imperfective prefix. But...

- Stacking of high aspects (PFV > IMPF) is attested in Neo-Aramaic (Kalin 2014), (34a), and in Slavic (Babko-Malaya 2003, Svenonius 2004, Gribanova 2013, *i.a.*), (34b).

- (34) a. On yaale qatūsa tm-xaaz-ii-laa.
those children cat 2PFV-see.IMPF-SBJ.3PL-OBJ.3FS
'Those children saw the cat/a (specific) cat.'
(Senaya; Kalin 2014:88)
- b. Vasja na-za-bival gvozdej v stenu.
Vasja CMLT-*behind*-hit.2IMPF.SG.M nails.GEN in wall.ACC
'Vasja hammered a bunch of nails into the wall.'
(Russian; Gribanova 2013:99)

- In Bulgarian, high imperfective aspect can stack over high perfective aspect (Rivero et al. 2015, Roumyana Pancheva p.c.).

- The (plain) Y stem doesn't have the expected entailments.

- (35) a. Ehmet dhmi xanı çe kır-∅.
Ahmet yesterday house good do.Y-3SG
'Ahmet built a house yesterday.'
- b. ...hema, soğ ne-kır-∅.
but finish NEG-do.Y-3SG
'...but (he) didn't finish (it).'
- c. ...hema, hin ji çe dı-k-e.
but still too good IMPF-do-COP.3SG
'...but (he) is still building (it).' (*The crucial test*; Altshuler 2015)

- (36) Ehmet bı re çu-∅ parq-e.
Ahmet with way go.Y-3SG park-OBL
'Ahmet went/walked to the park.'
Does not entail that Ahmet got to the park, or is no longer on his way.

- The Y stem (without the imperfective prefix) can occur with durative and completive adverbials.

- (37) a. Ehmet seet-ke xanı çe kır-∅.
Ahmet hour-one house good do.Y-3SG
'Ahmet built a house for an hour.'

- b. Ehmet içi seet-ke-da xanı çe kır-∅.
Ahmet in hour-one-LOC house good do.Y-3SG
'Ahmet built a house in an hour.'

- All participles are formed on the Y stem (necessarily without the IMPF prefix), and as nominal modifiers, can receive either result or process readings.

- (38) a. beq-ê kuşt-i
frog-EZ kill.Y-PART
'the killed/dead frog'
- b. beq-ê hidika kuşt-i
frog-EZ slowly kill.Y-PART
'the slowly killed frog'

- Nominalizations, too, use the Y stem, and again can have result or process readings.⁵

- (39) firr-i-i-n-e Mehemed-e
fly-Y-PART-NMLZ-EZ Mehemed-OBL
'Mehemed's flying' ~ 'Mehemed's flight'

Conclusion: The Y morpheme is not specified for aspect.

Summary of the core data:

- Morphology (§2)
 - The X stem differs from the Y stem through the addition of one overt morpheme, *-i* (Y).
 - The Y morpheme merges above *v* (outside CAUS), but below imperfective Asp (inside IMPF).
 - The X stem looks morphologically bare.
 - Distribution of X stems (§3.1)
 - The X stem appears in the present habitual, present progressive, and future.
 - The temporal interpretation of the X stem is always non-past.
 - The aspectual interpretation of the X stem depends on whether or not the X stem bears an imperfective prefix.
- Conclusion: The X stem is non-past, and is not specified for aspect.

⁵Note that the fact that the Y morpheme can appear in nominalizations, but the imperfective prefix cannot, constitutes very strong evidence for Y being structurally lower than IMPF Asp.

- Distribution of Y stems (§3.2)
 - The Y stem appears in the simple past, past habitual, and past progressive, as well as in the antecedent of counterfactual conditionals.
 - The temporal interpretation of the X stem is highly variable: it can be present progressive, immediate future, and future.
 - The aspectual interpretation of the Y stem is often, but not always, perfective.
 - Conclusion: The Y stem not specified for tense or aspect.

4 Morphological and semantic underspecification

From the range of data that we have seen, we can create a compositional semantics of verbs in AK:

- Imperfective prefix: Semantically imperfective
- X stem: Semantically non-past, underspecified for aspect
- Y stem: Semantically underspecified for tense and aspect
 - Y is (typically) interpreted as perfective, because it is in opposition to verb forms bearing the semantically imperfective prefix *di-*.
 - Y is (typically) interpreted as past tense, because it is in opposition to the semantically non-past X stem.

Combining the semantic components of AK verbs with the morphological components creates a somewhat surprising picture:

- The morphologically-marked form, the Y stem, lacks tense/aspect.
- The morphologically-unmarked form, the X stem, is semantically non-past.
- Assuming that for a compositional semantics we need discrete pieces contributing the different meaning components...
 - There must be a null non-past morpheme on the X stem.

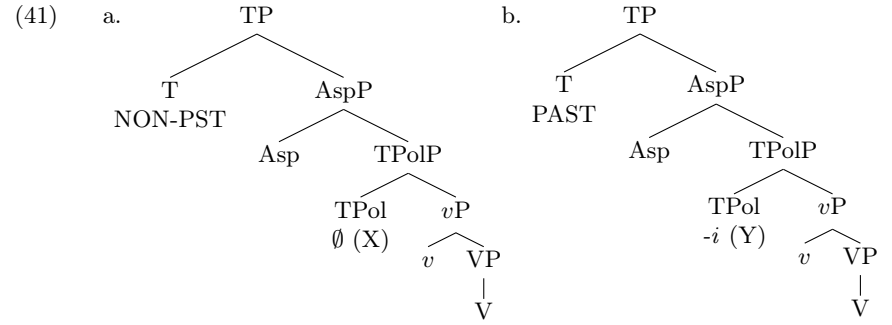
(40)

morphology	semantic tense	semantic aspect
IMPF= <i>di-</i>	∅	IMPF
X=∅	NON-PAST	∅
Y= <i>-i</i>	∅	∅

Last pieces of the puzzle: What conditions the appearance of X (∅) vs. Y (*-i*), and why is this morpheme so low?

- We could appeal again to the three possibilities mentioned in §3.2.2.
- **Possibility #1:** The X morpheme (∅) and the Y morpheme (*-i*) compete for exponence in the head of a low projection between *v* and Asp.
 - This projection realizes tense polarity, in the Stowell (2007) sense.

- ∅ (X) is a **non-past polarity item**, surfacing under a NON-PAST tense operator in T.
- *-i* (Y) is a **non-past anti-polarity item** (or, a non-non-past polarity item), surfacing only when there is no NON-PAST operator.



- It is also possible to pursue an analysis without tense polarity items by giving up one of the following two assumptions, as mentioned in §3.2.2:
 - **Possibility #2:** Give up the locality of suppletion/portmanteau (but see also fn. 5, for problems with this solution).
 - * This would allow *-i* (Y) and ∅ (X) to occupy T itself and be interpreted directly in situ.
 - **Possibility #3:** Give up the requirement that tense/aspect operators relate their own time argument to the time argument of their complement.
 - * This would allow *-i* and ∅ to occupy a low position between Asp and *v*, while still being interpreted directly in situ.

Remaining problems, across all these approaches:

1. If X (∅) is an indication of the non-past tense, why is it that the Y suffix can surface with present tense adverbials, as seen in (29)?
2. If there is an X morpheme, why can't the X stem appear without a prefix?

5 Outlook

The analysis of Adiyaman Kurmanji presented here bears on two broader issues:

- Do “stems” exist?
- What triggers TAM split-ergativity?

5.1 Morphomic stems

What's at stake: Do we need our theory of morphology to allow for (i) stored, potentially multi-morphemic forms (stems) that (ii) have a distribution that is arbitrary (morphomic)?

Lexicalist theories of morphology (e.g., Aronoff 1994, 2012): Yes

- Based around the *lexeme*:
 - Lexeme = triplet of sound, meaning, and syntactic properties; includes all possible inflected forms and stems
- Morpheme = a morphological element whose distribution is morphologically regular but evades categorization on syntactic, semantic, or phonological grounds
- Stem = “the [sound] form of the lexeme on/from which [a] rule/function performs its realization” (Aronoff 2012:30)
- When a stem (i) has an irregular shape or (ii) is morphomic (i.e., serves as the base for a non-natural class of inflections), it must be stored as part of the lexeme.
- Classic example of a morphomic stem:

- (42) French ‘finish’
- fin-* (root; elsewhere)
 - finiss-* (stem; present plural, imperative plural, subjunctive plural, imperfect, present participle)

Distributed Morphology (Halle and Marantz 1993, 1994): No

- Based around the *root*:
 - Root = open class, minimal, “language-specific combinations of sound and meaning” (Embick and Noyer 2007, cf. Harley 2014)
- All combinations of roots with other morphemes takes place in the syntax.
- Distributed Morphology thus in principle does not allow morphemes or stems, because the distribution of all morphemes is determined during syntactic composition.
- Some recent work in Distributed Morphology has been dedicated to analyzing purported cases of stems/morphemes compositionally/non-morphomically (Embick and Halle 2005, Embick To Appear, *i.a.*).
 - Crucial ingredients: Underspecification, Impoverishment

Haig (2008), looking at Indo-Iranian, implicitly identifies the distribution of the stems as morphomic, since he argues they have no consistent semantics.

- For Haig, working within a Construction Grammar framework, the verb stems are conventionalized forms that arose through diachronic changes.
- The verb stems are thus frozen in “constructions” that themselves introduce semantics and determine alignment.

Here is a broader range of AK verb forms built from the X and Y stems, which still clearly divide into non-past (X) and underspecified (Y).

- (43) *Verb forms built on the X stem: semantically non-past*
- | | | |
|----|------------------------------|--------------|
| a. | present habitual | IMPF-V |
| b. | present progressive | IMPF-V-COP |
| c. | future | Aux + SBJN-V |
| d. | present subjunctive/irrealis | SBJN-V |
| e. | imperative | SBJN-V-COP |
- (44) *Verb forms built on the Y stem: underspecified for tense/aspect*
- | | | |
|----|-------------------------------|-----------------|
| a. | simple past, immediate future | V-Y |
| b. | past habitual/progressive | IMPF-V-Y |
| c. | participles/nomzn | V-Y-PART(-NMZN) |
| d. | present perfect | V-Y-PART-COP |
| e. | past/future perfect | V-Y-PART-COP.Y |
| f. | past subjunctive | SBJN-V-Y-COP.Y |

- We do not, then, need to refer to memorized stems with morphomic distributions in Adyaman Kurmanji.
- What Haig may have correctly identified as impossible is to have a consistent semantic analysis across Indo-Iranian, in particular, with regards to which of the X stem and Y stem is semantically underspecified.
 - E.g., Awroman has a past imperfective based on the X stem; maybe the Y stem is semantically past, and the X stem is underspecified.

5.2 TAM splits

What’s at stake: Can TAM case/agreement splits be triggered equally by tense, aspect, and mood?

- Earlier work (e.g., Dixon 1994): Yes
- Recent work on splits (Salanova 2007, Coon 2013): No; it’s all aspect

The claim that TAM splits are all based around aspect comes from attempts to provide a semantic motivation for the appearance of case/agreement splits.

- Coon (2010): Imperfective aspect can be established with the natural language preposition, WITHIN, while perfective aspect cannot be.
- An additional predicate in the imperfective can therefore bifurcate the clause, disrupting a language’s underlying (ERG/ABS) case/agreement pattern, resulting in a pattern where all subjects pattern alike (NOM/ACC); this thus captures (45).

- (45) Dixon (1994): If a split is conditioned by aspect, then ERG/ABS is found in perfective aspect.

If true tense-based case/agreement splits exist, this is potentially a problem because both PAST and PRESENT can equally be established by natural language prepositions, *after* and *within*.

- Therefore, the universal directionality of tense splits does not follow in the way that the directionality of aspect splits does.

6 Conclusion

In this talk, I argued for a temporal analysis of “stems” in the Indo-Iranian language Adiyaman Kurmanji, which, if extendable to other Indo-Iranian languages, enables us to do without “stems” and “morphemes”.

- A remaining puzzle: Why is the morpheme that marks tense below (imperfective) aspect?

I have also identified tense as the main factor behind the case/agreement split in Adiyaman Kurmanji, suggesting such splits do exist.

- If Adiyaman Kurmanji does indeed have a tense-based case/agreement split, how should this be accounted for syntactically?
- Given that tense-based splits are so rare, perhaps the low position of tense in Adiyaman Kurmanji somehow enables tense to drive the split in a way that it would not be able to in a high position.

There are many issues that remain to be explored...

- Why are X and Y not in complete complementary distribution temporally?
- Can the arguments against Y-as-past-tense or Y-as-perfective-aspect be explained away?
- What happens in embedded contexts?
- What is the nature of the two forms of the copula—does the copula have an X form and Y form as well?

I leave these questions for future work.

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