

The role of ZERO in morphological analogy in Kurdish, Goranî and Zazaki

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Outline

- 1 Introduction
- 2 ZERO Law
- 3 ZEROs in the Kurdish Zone
- 4 Combining Linguistic Laws
- 5 DiscussionConclusion

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Introduction

- ZERO marking in the **third-person singular** is a salient feature of the Iranian Languages
- ZERO seems to be involved in several Analogical processes, including,
 - innovative plural forms
 - applicatives
 - etc.
- The relevance of ZERO in these analogical changes may shed some light on the Laws and tendencies of morphological analogy, potentially explaining not just “why?” but “why not?”

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- (1) “Whenever a morphologically unmarked form bears cumulative exponence, Ø can be reanalysed as marking only the most salient exponent. A morphologically marked (non-ZERO) formative sharing the salient exponent will be understood as marking the value not shared by both.”

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Innovative plural markers (Mohammadirad and Karim, 2025) I

- Inherited Middle Iranian Forms:

*-m *-î *-Ø *-îm *-îd *-n

- Proto-Kurdish Forms:

*-m *-î *-Ø *-îm *-î(t) *-n

- SK Serpol (Fattah, 2000):

-m -î -Ø -îm -î -n

Ambiguous Parsing

-Ø	-n	vs.	-Ø	-Ø-n
-3SG	-3PL		-3	-3-PL

Innovative plural markers (Mohammadirad and Karim, 2025) II

Four-part Analogy resolves ambiguity

$$\begin{array}{rcl}
 \hline
 -\emptyset & :: & -\emptyset-n \\
 -3 & & -3-PL \\
 -\hat{i} & :: & X \\
 -2 & & \\
 \hline
 X = & & \begin{array}{l} -\hat{i}-n (\neq *-\hat{i}) \\ -2-PL \end{array}
 \end{array}$$

- SK Keprat (Fattah, 2000):
 $-m \quad -\hat{i} \quad -\emptyset \quad -\hat{i}m \quad -\hat{i}-n \quad -n$
- SK Sencewî Neutralization 'be worth' (Fattah, 2000):
 $tyerz\hat{i}-m \quad tyerz\hat{i}-d \quad tyerz\hat{i}-\emptyset \quad tyerz\hat{i}-m \quad tyerz\hat{i}-n \quad tyerz\hat{i}-n$

Innovative plural markers (Mohammadirad and Karim, 2025) III

Four-part Analogy resolves ambiguity

$$\begin{array}{rcl}
 \hline
 -\emptyset & :: & -\emptyset-n \\
 -3 & & -3-PL \\
 (\hat{i})-m & :: & X \\
 -1 & & \\
 \hline
 X = & & (\hat{i})-m-i\ n \ (\neq \ *(\hat{i})-m) \\
 & & -1-PL
 \end{array}$$

- SK Keprat (Fattah, 2000):

*kird-**im*** *kird-î* *kird-∅* *kird-**îm*** *kird-în* *kird-in*
*tyerzî-**m*** *tyerzî-d* *tyerzî-∅* *tyerzî-**m-n*** *tyerzî-n* *tyerzî-n*

- SK Wermizyar extension (Fattah, 2000):

kird-m *kird-ît* *kird-∅* *kird-**îmin*** *kird-în* *kird-in*

- SK Duşeyx extension (Fattah, 2000):

kird-m *kird-î* *kird-∅* *kird-îmin* *kird-**in*** *kird-in*

Innovative plural markers (Mohammadirad and Karim, 2025) IV

- SK Bîlewar cluster reduction (Fattah, 2000):
kird-m kird-î kird-∅ kird-în kird-in kird-in
- CK Sleymanî neutralization (Fattah, 2000):
kird-m kird-ît kird-∅ kird-în kird-în kird-în
nî-m nî-t nî-ye nî-n nî-n nî-n
- NK Kobanê extension (Fattah, 2000):
kir-im kir-î kir-∅ kir-în kir-în kir-în
- No ambiguity is necessary for ZERO to create an analogical exemplar in Gorani:

Innovative plural markers (Mohammadirad and Karim, 2025) V

Ambiguous Parsing in Goranî

-Ø	-ê	vs.	-Ø	-Ø-ê
-3SG.M	-3PL.M		-3	-3-PL
<hr/>				
-e	-ê	vs.	-Ø-e	-Ø(-e)-ê
-3SG.F	-3PL.F		-3-F	-3(-F)-PL

- G Pawe:

kewt-an kewt-î kewt-Ø/e kewt-îm(-ê) kewt-îd-ê kewt-ê

- G Text:

kewt-a kewt-î kewt-Ø/e kewt-îm-ê kewt-îd-ê kewt-ê

- Z Alevî:

kewt-o kewt-a kewt-Ø/e kewt-îme kewt-î kewt-î

- Z Kulp:

kewt-a kewt-î/a kewt-Ø/e kewt-î kewt-î kewt-î

Applied-object indexing I

- ZERO also influenced the development of applied-object indexing in Central Kurdish (Karim and Salehi, 2022):
 - NK preserves a version of inherited case/number/gender

	SG		PL	
	DIR	OBL	DIR	OBL
1	<i>ez</i>	<i>min</i>	<i>em</i>	<i>me</i>
2	<i>tu</i>	<i>te</i>	<i>hun</i>	<i>we</i>
3M.PROX 3F.PROX	<i>ev</i>	<i>vî</i>	<i>ev</i>	<i>van</i>
		<i>vê</i>		
3M.DIST 3F.DIST	<i>ew</i>	<i>wî</i>	<i>ew</i>	<i>wan</i>
		<i>wê</i>		

- Gender/deictic distinctions are neutralized in the singular in PPs

	SG	PL
1	<i>di min</i>	<i>di me</i>
2	<i>di te</i>	<i>di we</i>
3PROX 3DIST	<i>tê</i>	<i>di van</i> <i>di wan</i>

Applied-object indexing II

- The contracted third-person singular adpositions occur in Central Kurdish.
- However, with the exceptions of a few relic varieties, the case/gender system of early Kurdish has collapsed (see Öpengin, 2016).
- The ZERO marking third-person singular on past-tense verbs creates an ambiguity in parsing:
 - One could parse the form as inherited:

Inherited parsing

(2) *pirsyar =im l=ê kird*
question =1SG.A from=3SG LV.PST
'I asked him/her.'

- Or one could parse the form based on the ambiguity of ZERO marking:

Applied-object indexing III

The form *kird* can be parsed in two ways

- (3) *kird* (=im) vs. *kird-Ø* (=im)
do.PST (=1SG.A) do.PST-3SG.O (=1SG.A)

Analogical parsing

- (4) *pirsyar* =im *lê= kird-Ø*
question =1SG.A from= LV.PST-3SG.O_{from}
'I asked him/her.'

ZERO as the bridging context filling the rest of the paradigm

	SG.O	PL.O
1	<i>pirsyar=î lê-kird-im</i>	<i>pirsyar=î lê-kird-în</i>
2	<i>pirsyar=î lê-kird-î</i>	<i>pirsyar=î lê-kird-in</i>
3	<i>pirsyar=î lê-kird-Ø</i>	<i>pirsyar=î lê-kird-in</i>
	question=3SG.A from-LV.PST-X 's/he asked X.'	

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Kuryłowicz's second Law I

- Analogy, generally, proceeds from basic form to derived form (Kuryłowicz 1945, apud Hock 2003, p. 446).
 - According to Hock (2021), this covers regularization:

Four-part Analogy

jump	::	jump- ed
help	::	X
<hr/>		
X = help- ed (≠ *holped)		

- However, there are enough exceptions to question the status as Law:

Four-part Analogy

break- er [bɹe:k-ɪ]	::	break
burglar [bɹɪɡlɪ]	::	X
<hr/>		
X = burgle [bɹɪɡl]		

Kuryłowicz's second Law II

- the relationship between these forms “is a consequence of their spheres of usage.” (Kuryłowicz 1945, apud Hock 2003, p. 446).
 - According to Hock (2021), the “sphere of usage” provision is an acknowledgement of the fact that the relationship between basic and derived is one of frequency.
 - Another way to conceptualize this is in terms of markedness.
 - if the singular has a broader sphere of usage, it can become the basis for reanalysis, e.g., *mouse* ~ *mice* [small animal] vs. *mouse* ~ *mouse-s* [peripheral device]
 - The status as basic or unmarked does not necessarily make it an analogical exemplar but it can resist being remade by analogy:

Kuryłowicz's second Law III

Paradigmatic Leveling (Hock, 2021, p. 218)

Case	PIE	Lithuanian
NOM.SG	* <i>kwō</i>	<i>šuo</i>
ACC.SG	* <i>kwon-m</i>	<i>šun-ī</i>
GEN.SG	* <i>kun-es</i>	<i>šun-s</i>
DAT.SG	* <i>kun-ey</i>	<i>šun-i</i>
etc.		

- A further corollary of the “sphere of usage” provision is the often-claimed tendency for third-persons to be more basic in analogical change than other forms of the verb” (Hock, 2003), i.e., Watkins's law

Watkins' Law I

- A classic example of Watkins' Law comes from New Persian:

Middle Persian copula based on Skjærvø (2009)

Middle Persian			New Persian	
SG		PL	SG	PL
1	<i>h-am/h-ēm</i>	<i>h-ēm</i>	<i>hast-am</i>	<i>hast-īm</i>
2	<i>h-ē</i>	<i>h-ēd</i>	<i>hast-ī</i>	<i>hast-īd</i>
3	<i>as-t</i> (* <i>h-ast</i>)	<i>h-and</i>	<i>hast-Ø</i>	<i>hast-an</i>

- Hock (2003) asserts that Watkins' law is a tendency at best.
- There are certainly examples of reanalysis based on other person-number combinations, e.g.,

Watkins' Law II

Old Lithuanian based (Hill, 2016)

	Old Lithuanian	Lazūnai
	SG	SG
1	<i>ei-mi</i>	<i>aim-u</i>
2	<i>ei-si</i>	<i>aim-i</i>
3	<i>ei-ti</i>	<i>aim-a</i>

- Hill (2016) questions the validity of Watkins' Law by showing that, following Bickel et al. (2015), ZERO, while more common in 3SG, is not more common than overt marking.

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Discussion/Conclusion I

- I propose here that both Kuryłowics' 2nd Law, as suggested by Hock (2003), and Watkins' Law are capturing quite accurately one method by which a four-part analogy can be constructed.
- Hill (2016) looked for a correlation between ZERO and 3SG.
- However, 3SG is not the relevant factor, ZERO is.
- The psycholinguistic reality of ZERO marking allows for a wide range of interpretations:
 - It can cause a morpheme in alternation with ZERO to be reinterpreted, as in the case of the plural formatives Kurdish *-in*, Goranî *-ê*, Zazakî *-î*
 - It can cause a stem to be reanalysed as ZERO-marked, as in *hast-Ø*

I propose that these should be replaced with a more broadly generalizable Law:

Discussion/Conclusion II

(5) “Whenever a morphologically unmarked form bears cumulative exponence, \emptyset can be reanalysed as marking only the most salient exponent. A morphologically marked (non-ZERO) formative sharing the salient exponent will be understood as marking the value not shared by both.”

- The source of ZERO can be language internal,

- e.g., Persian:

<i>kard-\emptyset</i>	::	<i>kard-an</i>
<i>hast</i>	::	X

- Kurdish

<i>kird-\emptyset</i>	::	<i>kird-\emptyset-in</i>
<i>bî-m</i>	::	X

- or it can be Language external, e.g.,: Capadochian:

Discussion/Conclusion III

Cappadocian

	Greek (Araván)	Greek (Semederé)	Turkish	Zazaki (Alevi [M])
1SG.PRS	<i>í-me</i>	<i>cé-mi</i>	<i>kalır-ım</i>	<i>kew-n-a</i>
2SG.PRS	<i>í-se</i>	<i>cé-si</i>	<i>kalır-in</i>	<i>kew-n-ê</i>
3SH.PRS	<i>í-ne</i>	<i>cé-ti</i>	<i>kalır-Ø</i>	<i>kew-n-o</i>
1SG.PST	<i>í-mun</i>	<i>cétun-mi</i>	<i>kalır-ım</i>	<i>kewt-a</i>
2SG.PST	<i>í-sun</i>	<i>cétun-si</i>	<i>kalır-sın</i>	<i>kewt-î</i>
3SG.PST	<i>í-tun</i>	<i>cétun-Ø</i>	<i>kalır-Ø</i>	<i>kewt-Ø</i>

- I predict that further exploration will show ZERO already in the system as a prerequisite and catalyst for this type of analogical change.

Thank You

Zor spastan ekem!

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Appendix: ERC Statement

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