

# Reconstruction of morphosyntactic function: Non-spatial usage of spatial case marking in Tsezic

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Figure 1. Genealogical tree of Tsezic languages.

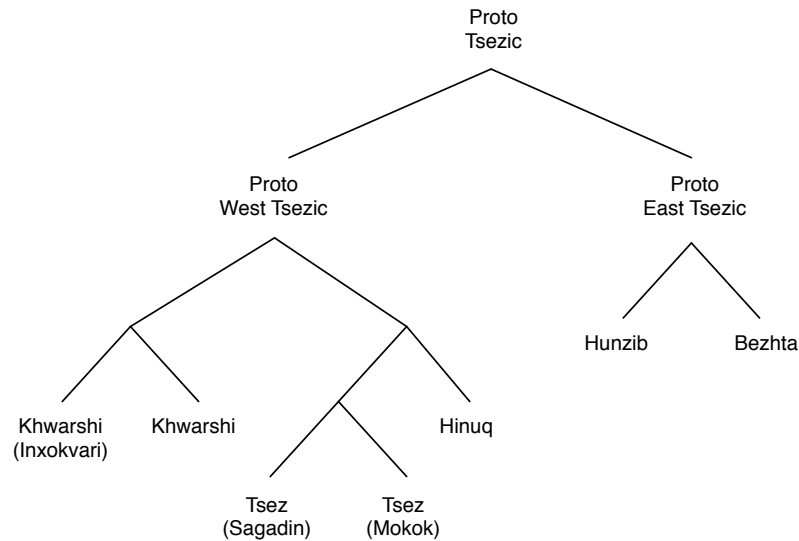


Figure 2. Network of the Tsezic languages, based on average Levinstein distances of the lexical items in the Intercontinental Dictionary Series.

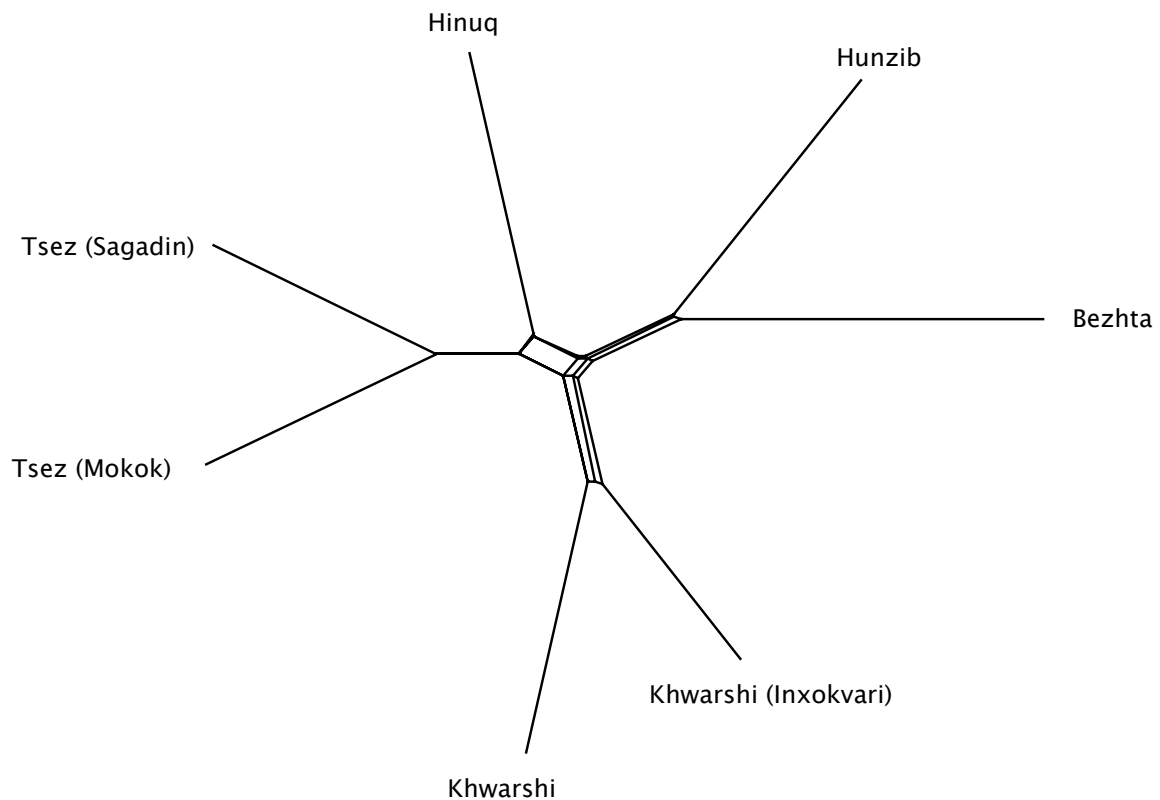


Figure 3. Network of selected Nakh-Dagestanian languages, based on average Levinstein distances from the Intercontinental Dictionary Series.

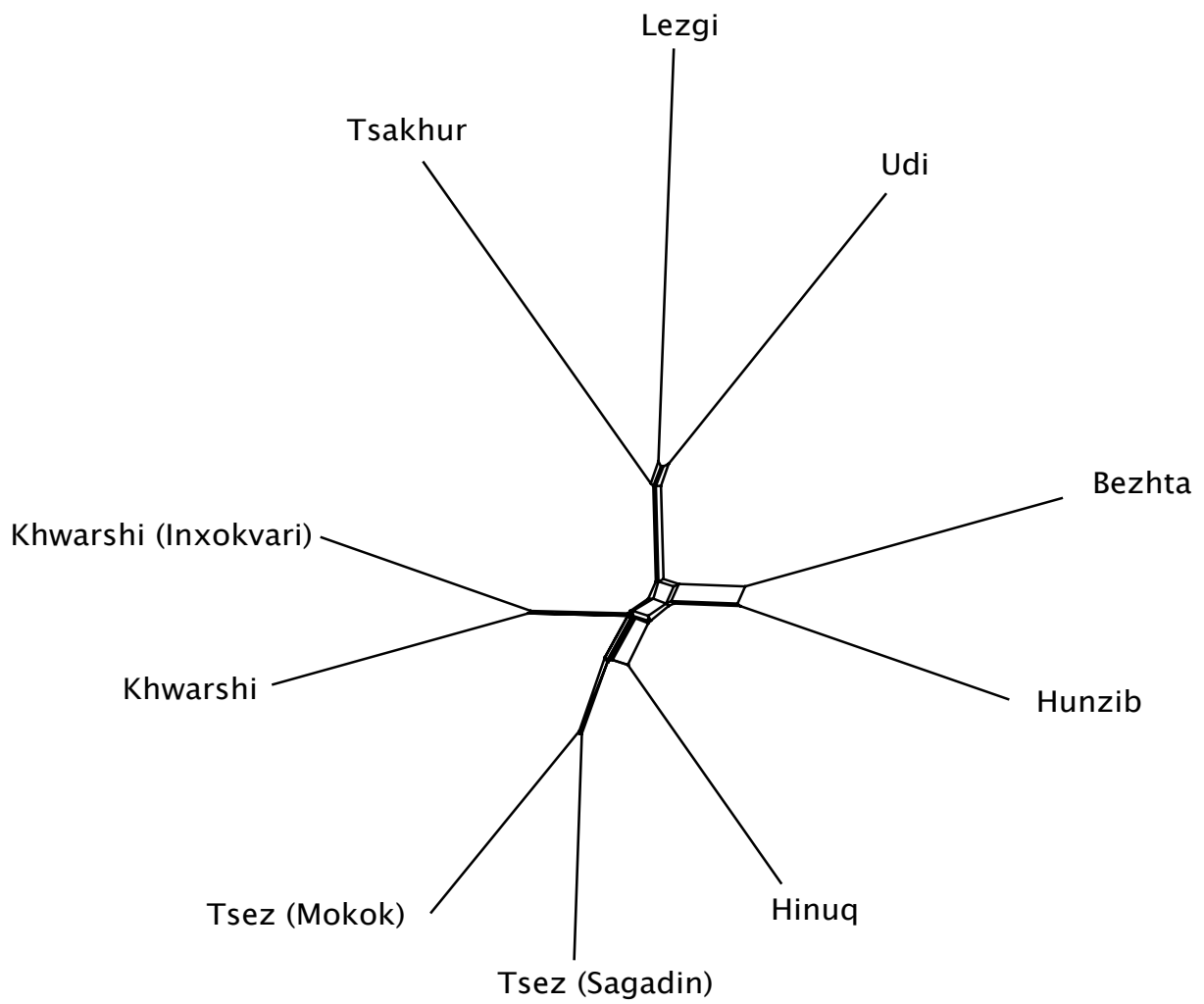


Table 1. Spatial case markers in Tsezic.

Hinuq	CONT	IN	SUB	SPR	AT	APUD	AD
Essive	-ɬ	-V/ma	-λ	-λ'o	-qo	-de	-ho
Lative	-ɬ-er	-V/ma-r	-λ-er	-λ'o-r	-qo-r	-de-r	-ho-r
Ablative/Genitive	-ɬ-es	-V/ma-s	-λ-es	-λ'o-s	-qo-s	-de-s	-ho-s
Ablative	-ɬ-ezo	-V/ma-zo	-λ-ezo	-λ'o-zo	-qo-zo	-de-zo	-ho-zo
Directive	-ɬ-edo	-V/ma-do	-λ-edo	-λ'o-do	-qo-do	-de-do	-ho-do
Tsez	CONT	IN	SUB	SPR	AT	APUD	AD
Essive	-ɬ	-ā	-λ	-λ'(o)	-q(o)	-de	-x(o)
Lative	-ɬ-er	-ā-r	-λ-er	-λ'o-r	-qo-r	-de-r	-xo-r
Ablative	-ɬ-āy	-ā-y	-λ-āy	-λ'-āy	-q-āy	-d-āy	-x-āy
Versative	-ɬ-xor	-ā-γor	-λ-xor	-λ'-āγor/'ār	-q-āγor/ār	-d-āγor/ār	-x-āγor/ār
Khwarshi	CONT	IN	SUB	SPR	AT	AD	NEAR
Essive	-ɬ	-(m)a	-λ	-λ'o	-qo	-ho	-γo
Lative	-ɬ-ul	-(m)a-l	-λ-ul	-λ'o-l	-qo-l	-ho-l	-γo-l
Ablative	-ɬ-zi	-(m)a-zi	-λ-zi	-λ'o-zi	-qo-zi	-ho-zi	-γo-zi
Versative	-ɬ-yul	-(m)a-yul	-λ-yul	-λ'o-yul	-qo-yul	-ho-yul	-γo-yul
Translative	-ɬ-γuzaz	-(m)a-γuzaz	-λ-γuzaz	-λ'o-γuzaz	-qo-γuzaz	-ho-γuzaz	-γo-γuzaz
Terminative	-ɬ-q'a	-(m)a-q'a	-λ-q'a	-λ'o-q'a	-qo-q'a	-ho-q'a	-γo-q'a
Bezhta	CONT	IN	SUB	SPR	AT	APUD	NEAR
Essive	-ɬ	-ʔ	-λ	-λ'a	-qa	-doy	-ya
Lative		-ʔ-il		-λ'a-l		-doy-l	-ya-l
Ablative/Genitive	-ɬ-so	-ʔ-is	-λ-so	-λ'a-s	-qa-s	-doy-s	-ya-s
Ablative	-ɬ-la	-ʔ-la	-λ-la	-λ'a-la	-qa-la	-doy-la	-ya-la
Directive	-ɬ-daa	-ʔ-daa	-λ'a-la	-λ'a-daa	-qa-daa	-doy-da	-ya-daa
Translative	-ɬ-laλ'ā	-ʔ-(la)λ'ā	-qa-la	-λ'a-laλ'ā	-qa-laλ'ā	-doy-	-ya-laλ'ā
Hunzib	CONT	IN	SUB	SPR	AT	APUD	
Essive	-ɬ	-V	-λ	-λ'(o)	-g(o)	-dər	
Ablative/Genitive	-ɬ-sə	-V-s		-λ'o-s	-go-s	-dər-sə	
Translative	-ɬ-λ'i	-V-λ'		-λ'o-λ'		-dər-λ'i	
Directive	-ɬ-do	-dα-α				-dər-do	

Table 2. Reconstructions of directional markers.

Proto-Tsezic reconstruction	Approximate meaning in spatial domain	Gloss
*-∅	essive ('location')	NULL
*-r/l	lative ('orientation towards a goal')	LAT
*-s	ablative ('movement from, or out of')	GEN

Table 3. Reconstructions of locational markers.

Proto-Tsezic reconstruction	Approximate meaning in spatial domain	Gloss
*-t-	contact	CONT
*-ʔa-	in, inside	IN
*-ʃ-	under	SUB
*-ʃ'o-	on top, above	SPR
*-qo-	attached to	AT
*-de-	near, by (animates)	APUD
*-ho-	near, by (inanimates)	AD
*-yo	near, close	NEAR

Approximate spatial meaning of cases:

- CONT ('contact') indicates a location inside of an amorphous mass (e.g. in water, flour, or ashes), or a location that could be conceptualized as being a kind of mass (e.g. in an avalanche, in a forest, or in leaves). It is also used to mark geographic location (e.g. in a state or province). In Hunzib and Bezhta this case is also used for vertical attachment (e.g. at the wall).
- IN ('inside') indicates a location in some kind of container (e.g. a box, belly, or corner), and various 'in' or 'on' locations (e.g. in the village, in the river, on the way, on the field, in the 7th grade).
- SUB ('under') indicates a location under any kind of object (occasionally also 'behind').
- SPR ('super') indicates locations on flat surfaces (e.g. on a bed, table, or square) and on the top of vertical objects (e.g. on a mountain, tree, or staircase). It is also used for locations in/on vehicles (e.g. car, bike, horse, ship).
- AT is used for general location and direction ('at', 'on', 'to', 'in'), but spatial meanings are rare with this suffix. In Hunzib and Bezhta, there are no examples of this case describing spatial location with inanimate nouns.
- APUD indicates a location near objects which are almost exclusively animate nouns (this marker is absent in Khwarshi).
- AD indicates a location near objects which are almost exclusively inanimate nouns (this marker is absent in Bezhta and Hunzib).
- NEAR is used for various situation in which an object is near (only attested in Khwarshi and Bezhta).

Table 4. Non-spatial contexts for case marking.

Role	Label	Construction
Addressees	TALK	talk <i>[to somebody]</i>
	TELL	tell <i>[to somebody]</i>
	SHOUT	shout <i>[at somebody]</i>
	SAY	say <i>[to somebody]</i>
	ASK	ask <i>[somebody]</i>
	BEG	beg <i>[somebody]</i>
	EXPLAIN	explain <i>[to somebody]</i>
	TEACH	teach <i>[to somebody]</i>
	ORDER	order <i>[somebody]</i>
Human objects	MARRY	marry <i>[a man]</i>
	FEAR	fear <i>[somebody]</i>
	BELIEVE	believe <i>[somebody]</i>
	LISTEN	listen <i>[to somebody]</i>
Recipients	GIVE (PERMANENTLY)	give X as a gift <i>[to somebody]</i>
	GIVE (TEMPORARILY)	give X to hold <i>[to somebody]</i>
	SHOW	show X <i>[to somebody]</i>
Possessors	INALIENABLE POSSESSION	<i>[somebody]</i> has a daughter
	ALIENABLE POSSESSION	<i>[somebody]</i> has money
Subjects	AGE	<i>[somebody]</i> is X years old
	NAME	<i>[somebody]</i> is called X
	FIND	<i>[somebody]</i> finds X
Objects	EXCHANGE	give X away <i>[for something else]</i>
	PURPOSE/GOAL	go with the goal to get <i>[something]</i>
	LOOK	look <i>[at something]</i>
	METAPHORICAL LOCATION	talk <i>[about something]</i>
Causees	CAUSATIVE	cause <i>[somebody]</i> to do X
Potential agents	POTENTIAL	<i>[somebody]</i> can do X
	ABLE	<i>[somebody]</i> is able to do X
Reasons	NATURAL FORCE	<i>[because of something]</i> X happened
Converbs	SIMULTANEOUS	<i>[while X happened]</i> ...
	TERMINATIVE	<i>[until/before X happened]</i> ...
	CAUSAL	<i>[because X happened]</i> ...
	POSTERIOR	<i>[after X happened]</i> ...
Time indications	TIME SPAN	something happened <i>[during period X]</i>
	TIME POINT	something happened <i>[at time X]</i>

(1) Khwarshi (Z. Xalilova, p.c.): recipient of GIVE

- a. *ise he"še ite-l tuλ-i*  
he.ERG book she.OBL-LAT give-PST.W  
'He gave her the book.' (forever, as a gift)
- b. *ise he"še ite-yo-l tuλ-i*  
he.ERG book she.OBL-NEAR-LAT give-PST.W  
'He gave her the book.' (only for a certain time)

(2) Hunzib (van den Berg 1995: 69): subject of AGE

*oɬu-s oq'e-n rig λi li*  
s/he.OBL-GEN four-and ten.OBL year be  
'S/he is forty years old.'

(3) Tsez (B.Comrie, fieldnotes): subject of FIND

*elo yila-r bercinaw kid y-esu-n*  
there she.OBL-LAT beautiful girl(II) II-find-PST.UNW  
'She found a beautiful girl there.'

(4) Hunzib (Van den Berg 1995: 108): causee of CAUSATIVE

*maduhan-li-l abu-g si b-iλ'e-k'-er*  
neighbour-OBL-ERG father-AT.ESS bear(III) III-kill-CAUS-PRET  
'The neighbour made father kill the bear.'

Table 5. Non-spatial case marking in Tsezic.

Function	Hinuq		Tsez		Khwarshi		Bezhta		Hunzib	
	Loc	Dir	Loc	Dir	Loc	Dir	Loc	Dir	Loc	Dir
able	AT	NULL	AT	NULL	AT	NULL	AT	NULL	AT	NULL
age	AT	NULL	AT	NULL	AT	NULL	NULL	LAT	NULL	GEN
alienable possession	AT	NULL	AT	NULL	AT	NULL	AT	NULL	–	–
ask	AT	NULL	AT	NULL	AT	LAT	AT	NULL	AT	NULL
beg	AT	NULL	AT	NULL	AT	NULL	AT	NULL	–	–
believe	SPR	NULL	SPR	NULL	SPR	NULL	SPR	NULL	SPR	NULL
causal	–	–	AT	NULL	–	–	AT	NULL	AT	NULL
causative	AT	NULL	AT	NULL	AT	NULL	NULL	INSTR	AT	NULL
exchange	SUB	NULL	SUB	NULL	SUB	NULL	SUB	NULL	SUB	NULL
explain	AT	LAT	NULL	LAT	AT	LAT	NULL	LAT	–	–
fear	AT	NULL	AT	NULL	AT	NULL	AT	NULL	SPR	NULL
find	NULL	DAT	NULL	LAT	NULL	LAT	NULL	LAT	–	–
give (permanently)	NULL	DAT	NULL	LAT	NULL	LAT	NULL	LAT	IN	NULL
give (temporarily)	AT	NULL	AT	NULL	NEAR	LAT	AT	NULL	AT	NULL
inalienable possession	NULL	GEN	NULL	GEN	NULL	GEN	NULL	GEN	NULL	GEN
listen	AT	NULL	AT	LAT	AT	NULL	AT	NULL	–	–
look	SPR	LAT	SPR	LAT	AT	LAT	AT	NULL	AT	NULL
marry	AD	NULL	AD	NULL	AD	NULL	NULL	LAT	IN	NULL
metaphorical location	SPR	NULL	CONT	ABL	NULL	GEN	NULL	GEN	SPR	GEN
name	SPR	NULL	SPR	NULL	SPR	NULL	SPR	NULL	–	–
natural force	AT	NULL	AT	NULL	AT	NULL	AT	NULL	AT	NULL
order	AT	LAT	AT	LAT	NULL	LAT	NULL	LAT	–	–
posterior	NULL	GEN	NULL	GEN	NULL	GEN	NULL	GEN	NULL	GEN
potential	AT	NULL	AT	NULL	AT	NULL	–	–	–	–
purpose/goal	SPR	NULL	SPR	LAT	AD	NULL	IN	LAT	SPR	NULL
say	AT	LAT	AT	LAT	AT	LAT	AT	NULL	AT	NULL
shout	AT	LAT	AT	LAT	AT	LAT	AT	NULL	AT	NULL
show	NULL	DAT	AT	NULL	AT	NULL	NULL	LAT	IN	NULL
simultaneous	SPR	NULL	SPR	NULL	SPR	NULL	IN	NULL	IN	NULL
talk	AT	LAT	AT	LAT	AT	NULL	AT	NULL	AT	NULL
teach	AT	NULL	AT	NULL	AT	LAT	NULL	LAT	IN	NULL
tell	AT	NULL	AT	NULL	AT	NULL	AT	NULL	IN	NULL
terminative	SPR	LAT	SPR	LAT	AD	LAT	NULL	LAT	NULL	LAT
time point	SPR	NULL	SPR	NULL	SPR	NULL	SPR	NULL	–	–
time span	CONT	NULL	CONT	NULL	NULL	INSTR	IN	NULL	CONT	NULL

Figure 4. Multidimensional scaling of the 35 functions according to their case marking in Tsezic.

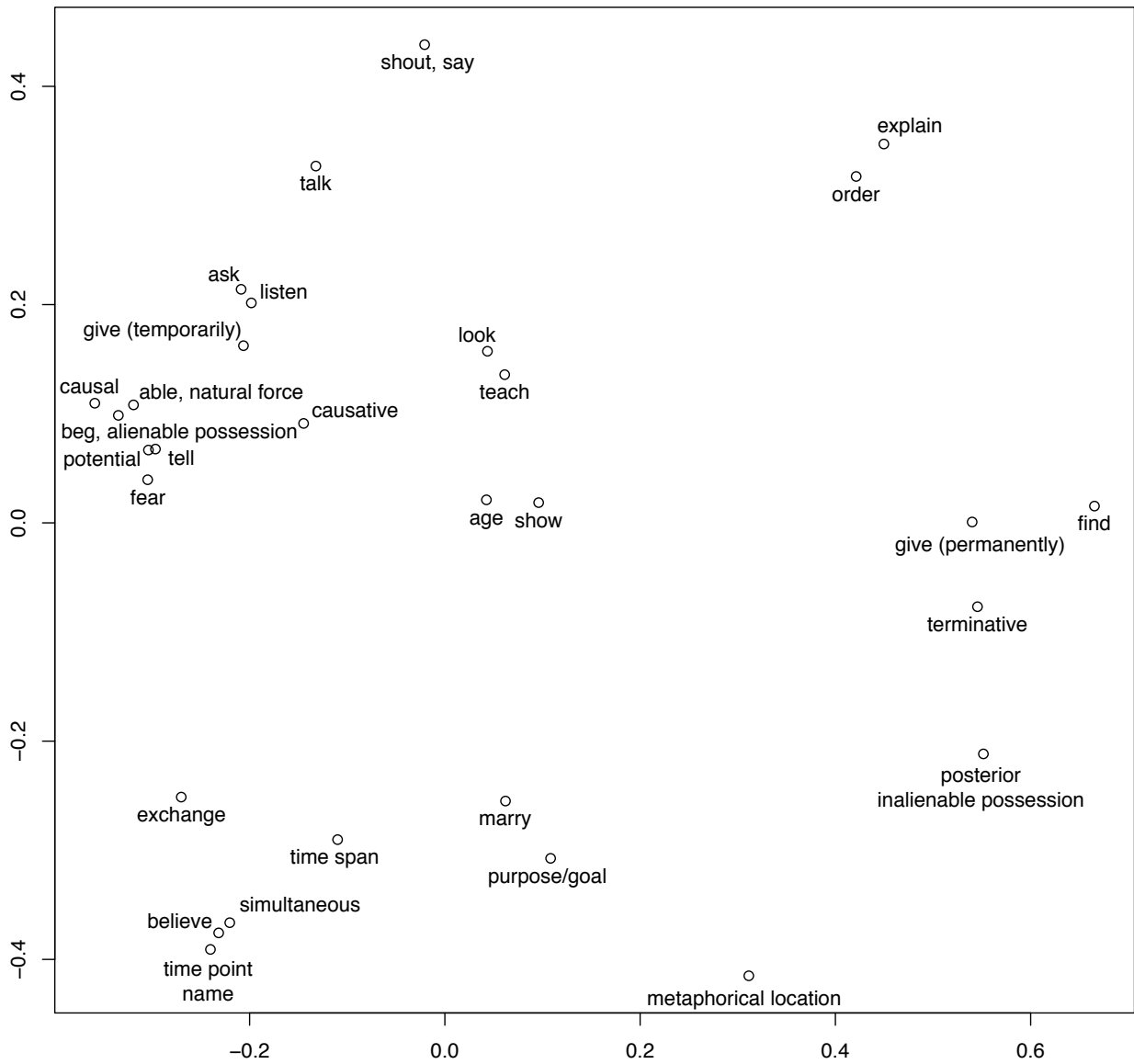




Figure 5. Directional marking in Tsez and Bezhta.

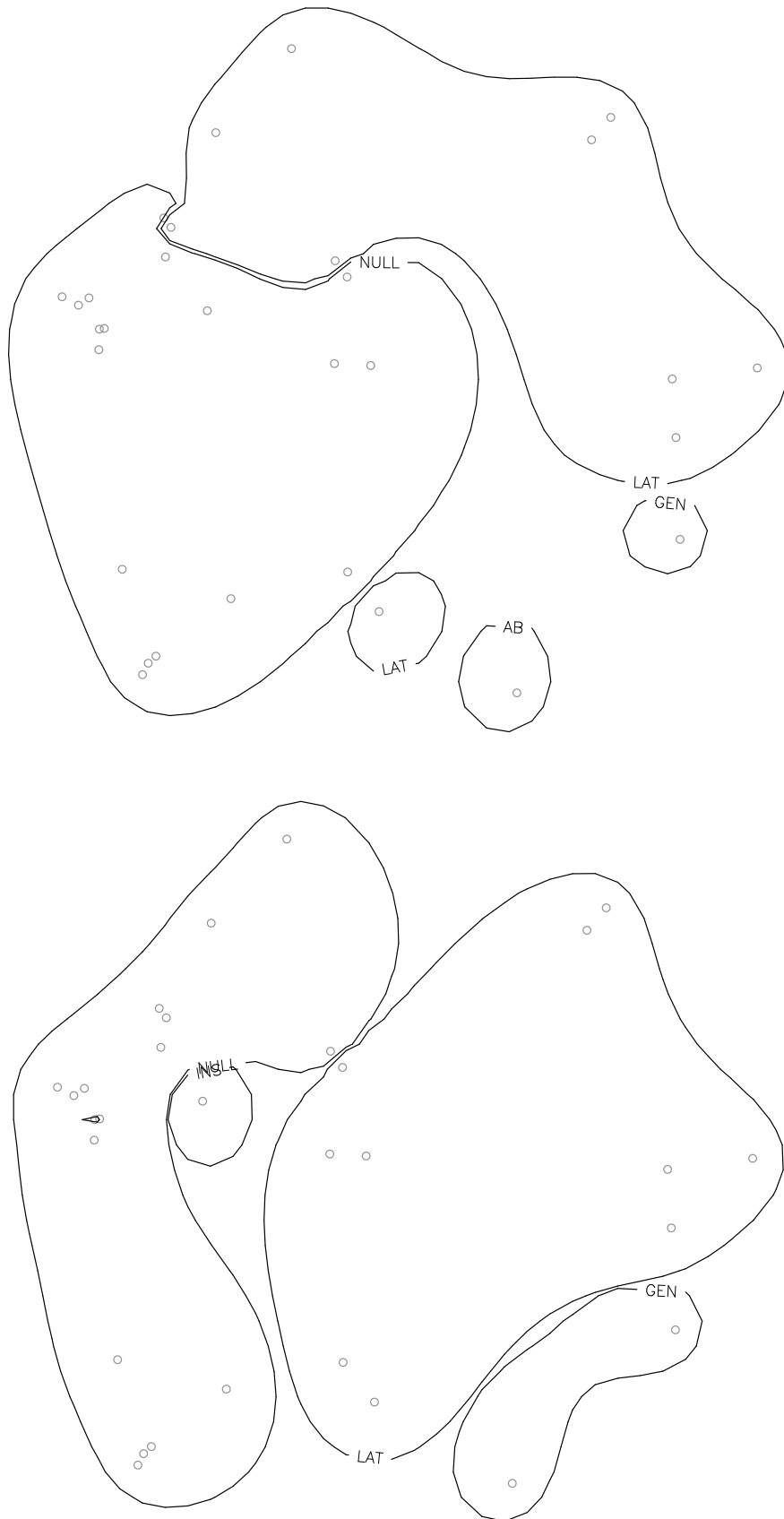


Figure 6. Reconstruction of case for ‘listen [to somebody]’.

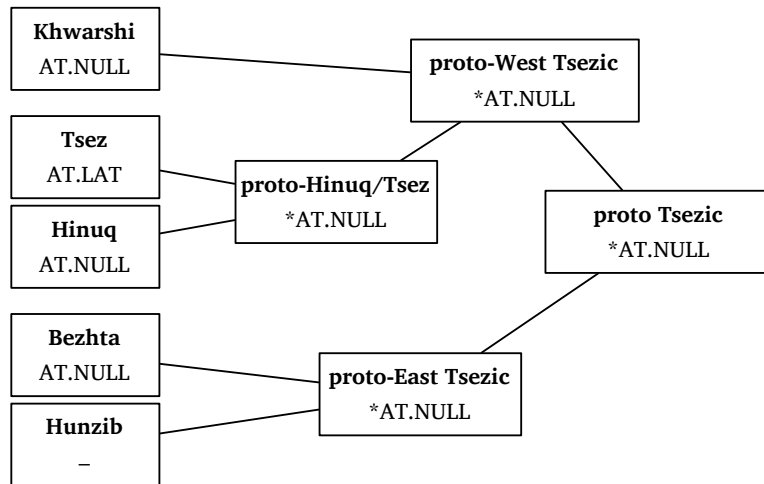


Figure 7. Reconstruction of case for ‘order [somebody]’.

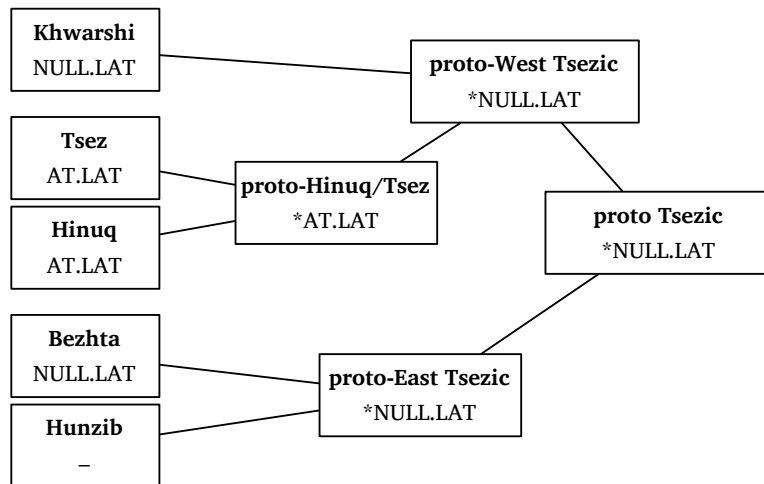


Figure 8. Reconstruction of case for simultaneous converb.

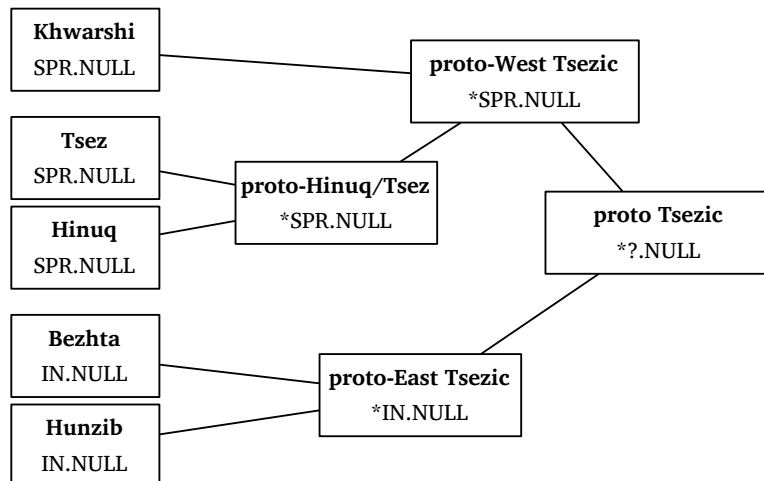


Figure 9. Unique optimal (unrooted) tree on the basis of non-spatial case marking (according to Maximum Parsimony).

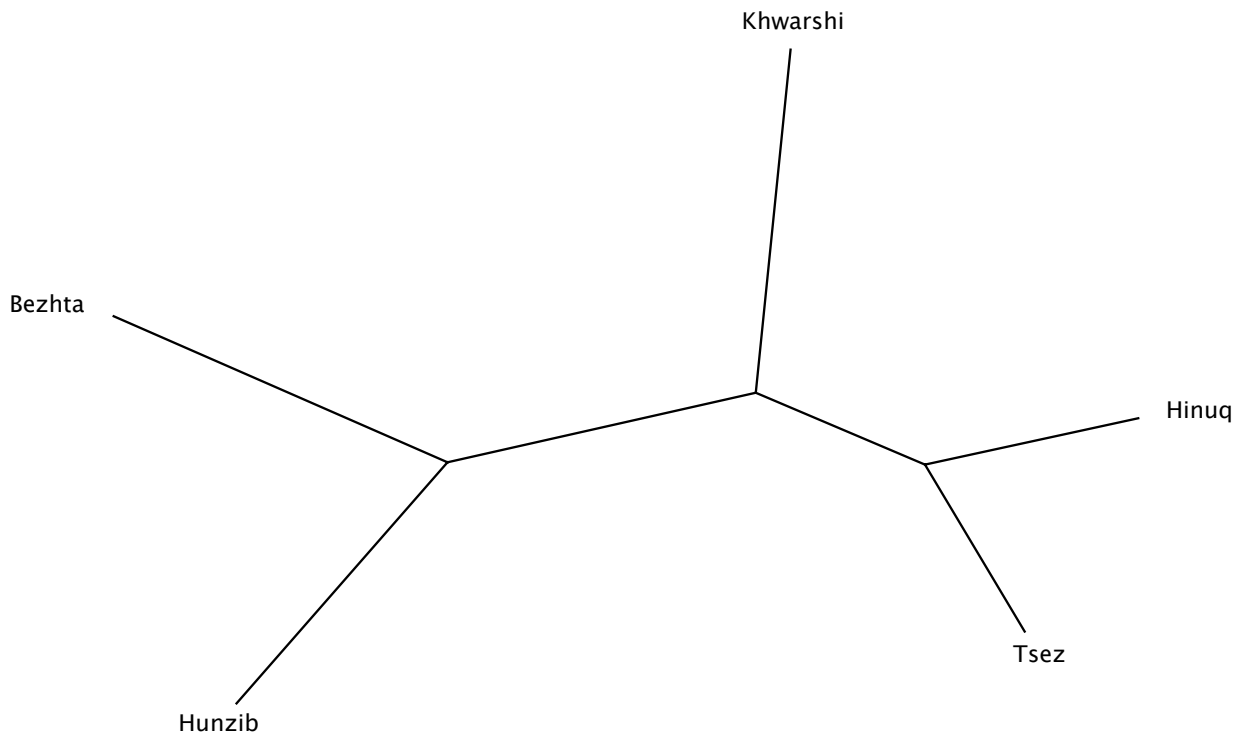


Table 6. Reconstructions of non-spatial case marking.

Functions	proto-Hinuq/Tsez		proto-West Tsezic		proto-East Tsezic		proto-Tsezic	
	Loc	Dir	Loc	Dir	Loc	Dir	Loc	Dir
able	AT	NULL	AT	NULL	AT	NULL	AT	NULL
age	AT	NULL	AT	NULL	<b>AT</b>	<b>NULL</b>	<b>AT</b>	<b>NULL</b>
alienable possession	AT	NULL	AT	NULL	AT	NULL	AT	NULL
ask	AT	NULL	AT	NULL	AT	NULL	AT	NULL
beg	AT	NULL	AT	NULL	AT	NULL	AT	NULL
believe	SPR	NULL	SPR	NULL	SPR	NULL	SPR	NULL
causal	AT	NULL	AT	NULL	AT	NULL	AT	NULL
causative	AT	NULL	AT	NULL	AT	NULL	AT	NULL
exchange	SUB	NULL	SUB	NULL	SUB	NULL	SUB	NULL
explain	<b>NULL</b>	LAT	<b>NULL</b>	LAT	<b>NULL</b>	LAT	<b>NULL</b>	LAT
fear	AT	NULL	AT	NULL	AT	NULL	AT	NULL
find	NULL	LAT	NULL	LAT	NULL	LAT	NULL	LAT
give (permanently)	NULL	LAT	NULL	LAT	NULL	LAT	NULL	LAT
give (temporarily)	AT	NULL	AT	NULL	AT	NULL	AT	NULL
inalienable possession	NULL	GEN	NULL	GEN	NULL	GEN	NULL	GEN
listen	AT	NULL	AT	NULL	AT	NULL	AT	NULL
look	SPR	LAT	AT	LAT	AT	NULL	AT	<b>NULL</b>
marry	AD	NULL	AD	NULL	–	NULL	–	NULL
metaphorical location	–	–	<b>NULL</b>	GEN	<b>NULL</b>	GEN	<b>NULL</b>	GEN
name	SPR	NULL	SPR	NULL	SPR	NULL	SPR	NULL
natural force	AT	NULL	AT	NULL	AT	NULL	AT	NULL
order	AT	LAT	NULL	LAT	NULL	LAT	NULL	LAT
posterior	NULL	GEN	NULL	GEN	NULL	GEN	NULL	GEN
potential	AT	NULL	AT	NULL	–	–	AT	NULL
purpose/goal	SPR	NULL	SPR	NULL	SPR	NULL	SPR	NULL
say	AT	LAT	AT	LAT	AT	NULL	AT	<b>NULL</b>
shout	AT	LAT	AT	LAT	AT	NULL	AT	<b>NULL</b>
show	<b>AT</b>	NULL	<b>AT</b>	NULL	<b>AT</b>	NULL	<b>AT</b>	NULL
simultaneous	SPR	NULL	SPR	NULL	IN	NULL	–	NULL
talk	AT	LAT	AT	NULL	AT	NULL	AT	NULL
teach	AT	NULL	AT	<b>NULL</b>	–	<b>NULL</b>	–	<b>NULL</b>
tell	AT	NULL	AT	NULL	AT	NULL	AT	NULL
terminative	SPR	LAT	<b>NULL</b>	LAT	<b>NULL</b>	LAT	NULL	LAT
time point	SPR	NULL	SPR	NULL	SPR	NULL	SPR	NULL
time span	CONT	NULL	CONT	NULL	CONT	NULL	CONT	NULL

Figure 10. Reconstruction of the case for ‘show [to somebody]’.

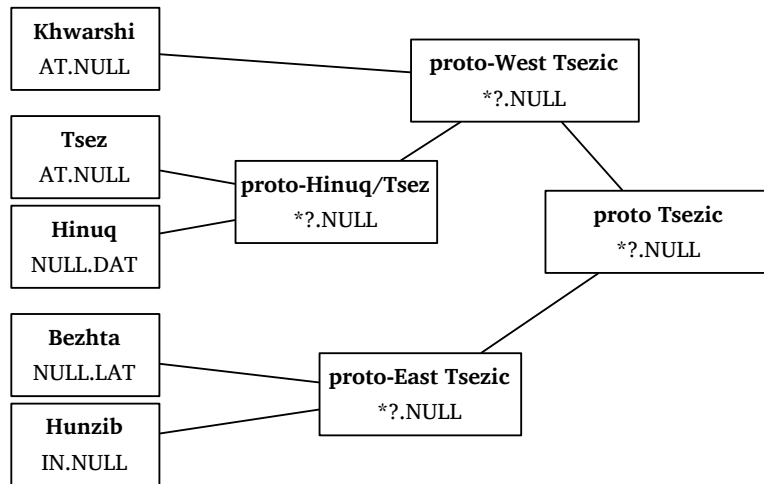


Figure 11. Reconstruction of the case for ‘explain [to somebody]’.

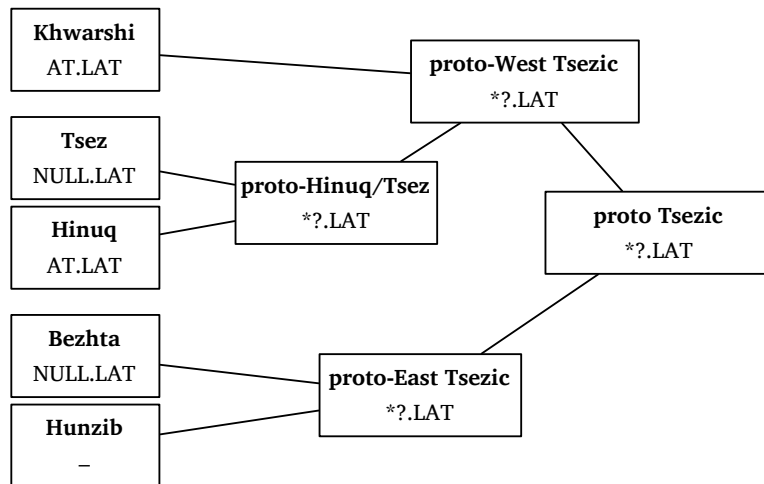


Figure 12. Reconstruction of the case for the subject of the context AGE.

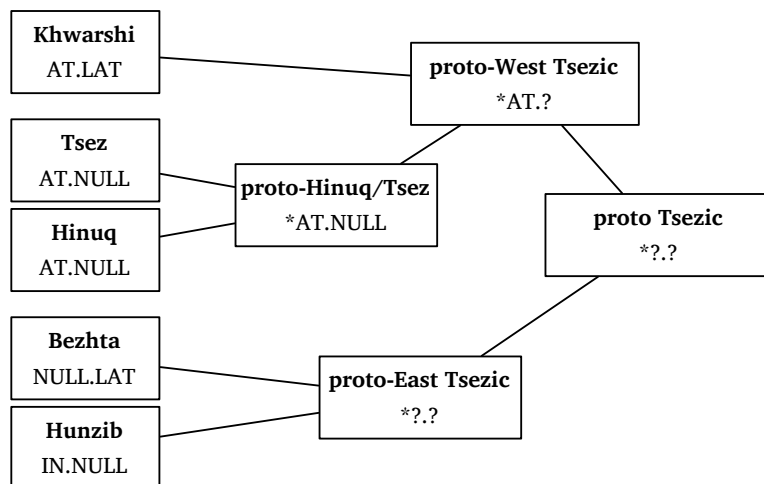


Figure 13. Development of directional case marking.

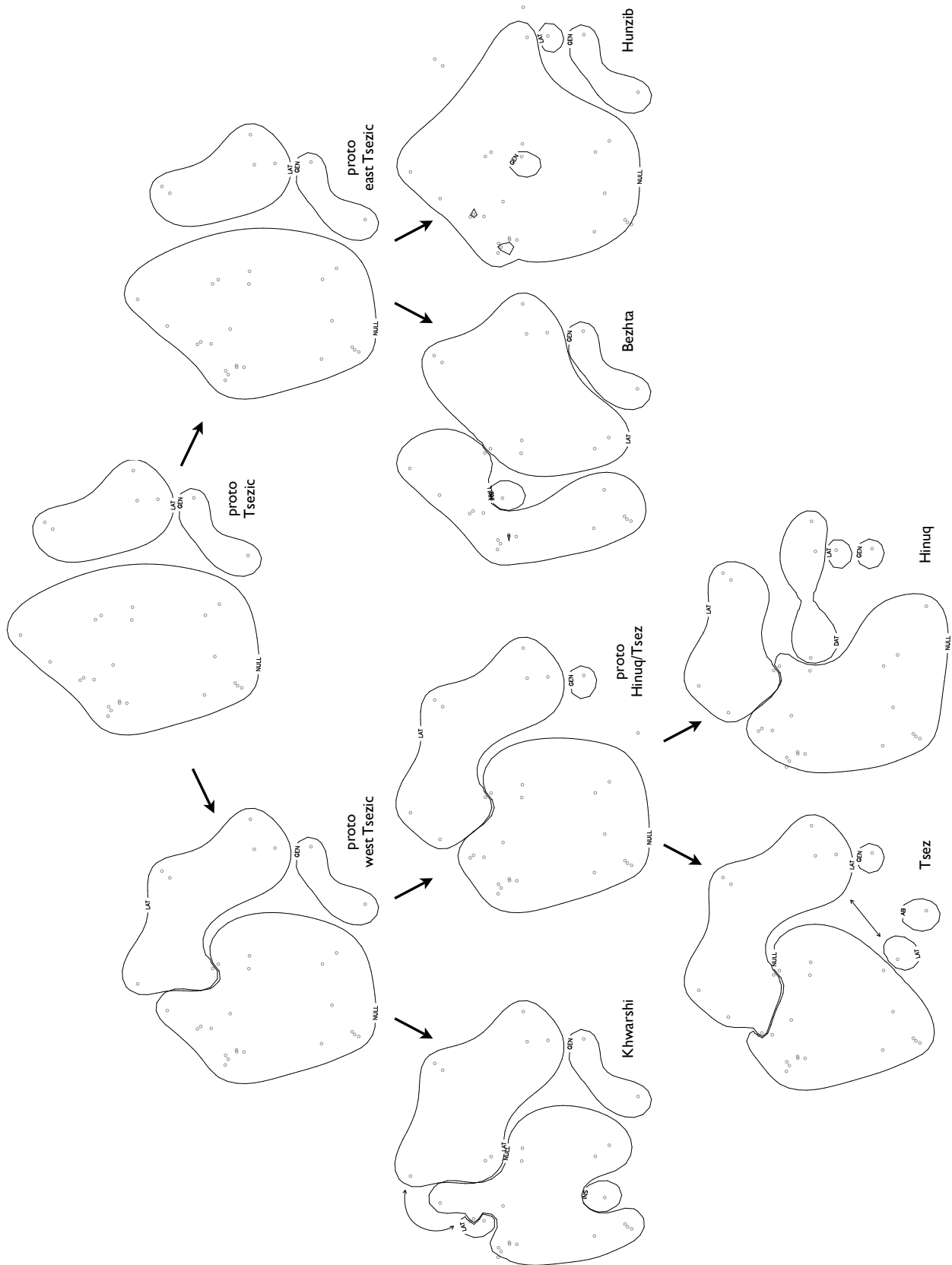


Figure 14. Development of locational case marking.

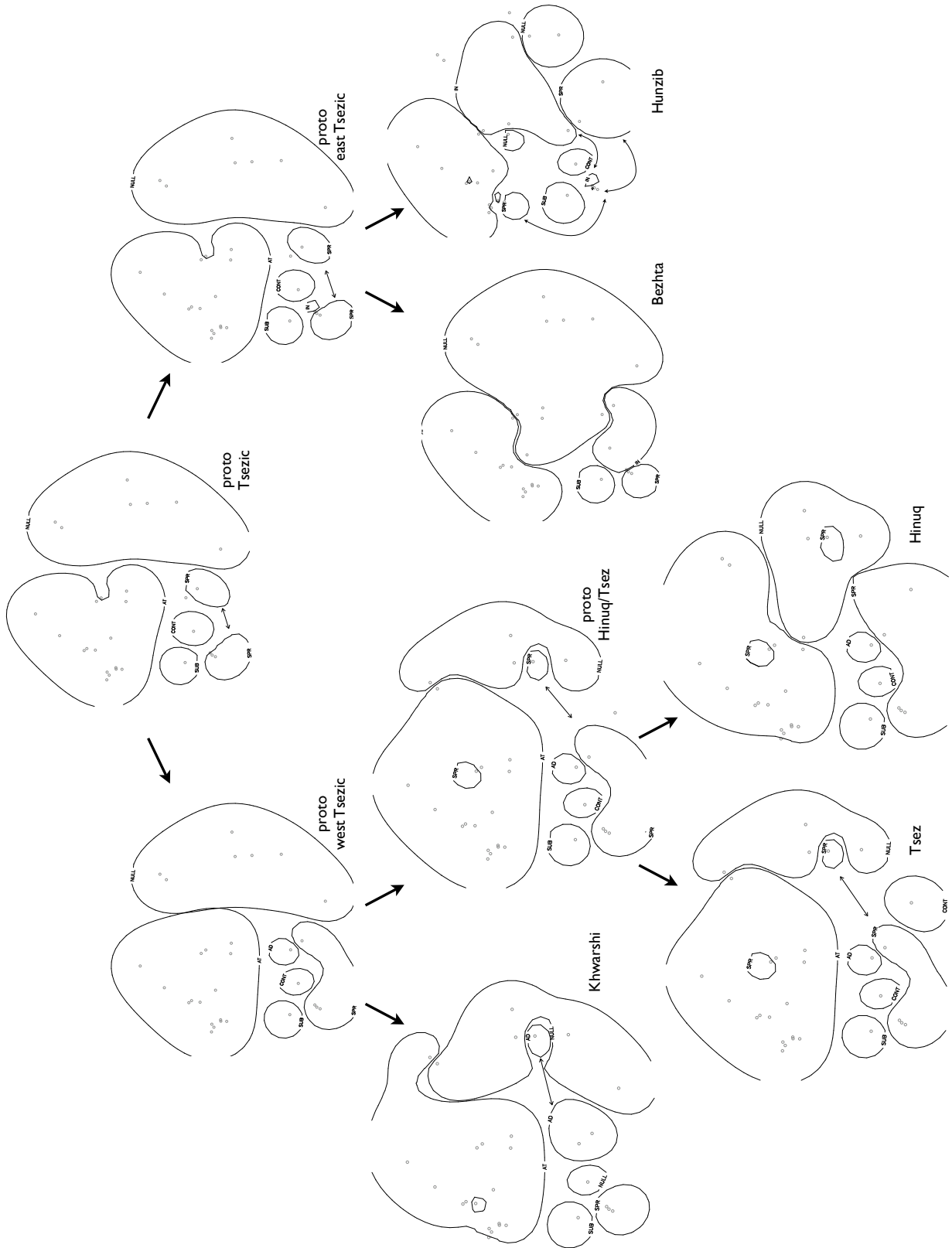
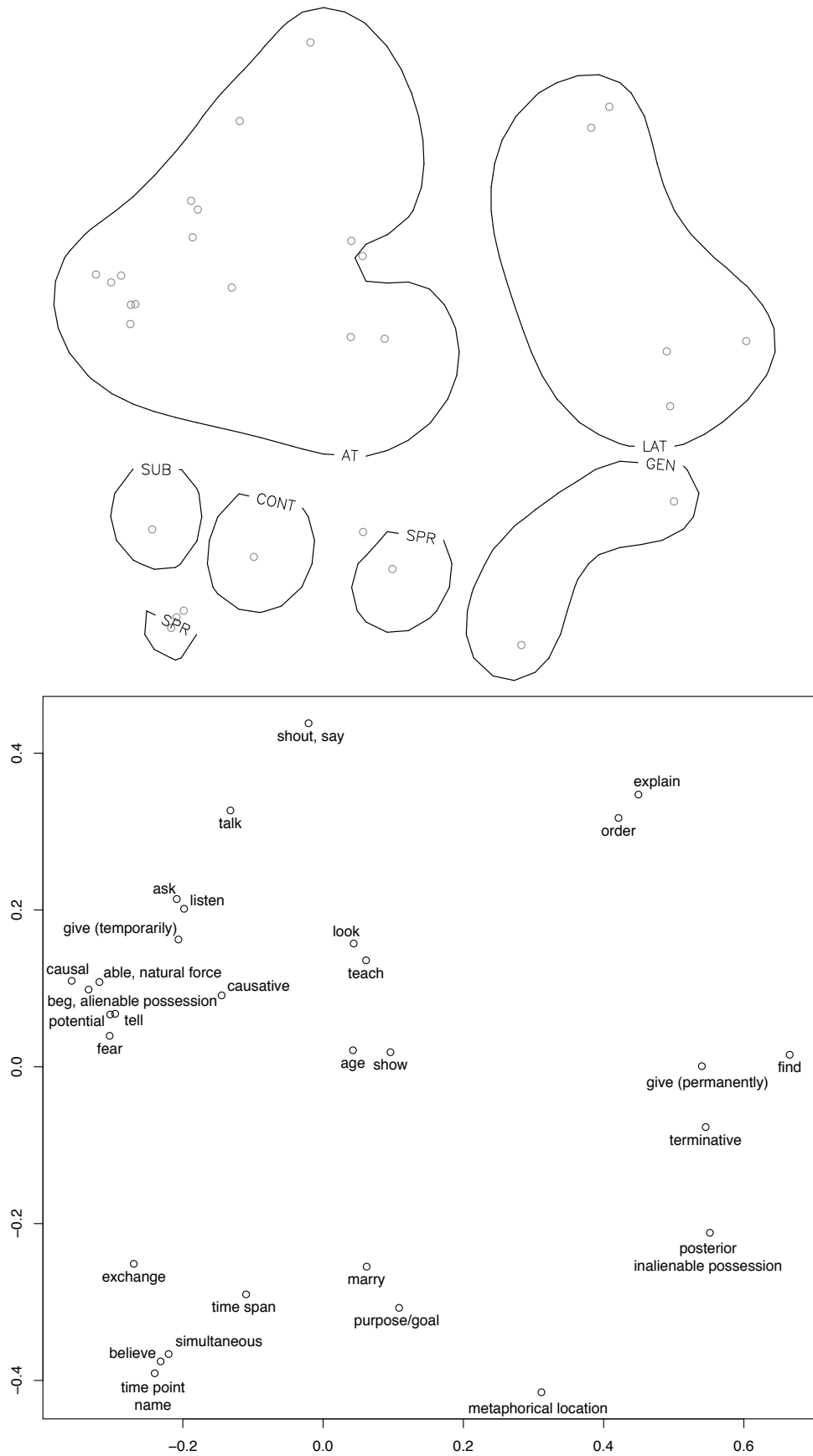


Figure 15. Summary of non-spatial case marking for proto-Tsezic.





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