The reconstruction of meaning change

Michael Cysouw
Ludwig Maximilian University Munich

Die Bedeutung eines Wortes ist
sein Gebrauch in der Sprache.

Ludwig Wittgenstein,
Philosophische Untersuchungen, no. 43.

Proposal

- Define the meaning of a linguistic form as the set of all contexts in which it occurs
- Under this strongly extensionalistic definition of meaning, variation in meaning becomes readily measurable
- The differences in meaning between cognate forms reveal historical processes

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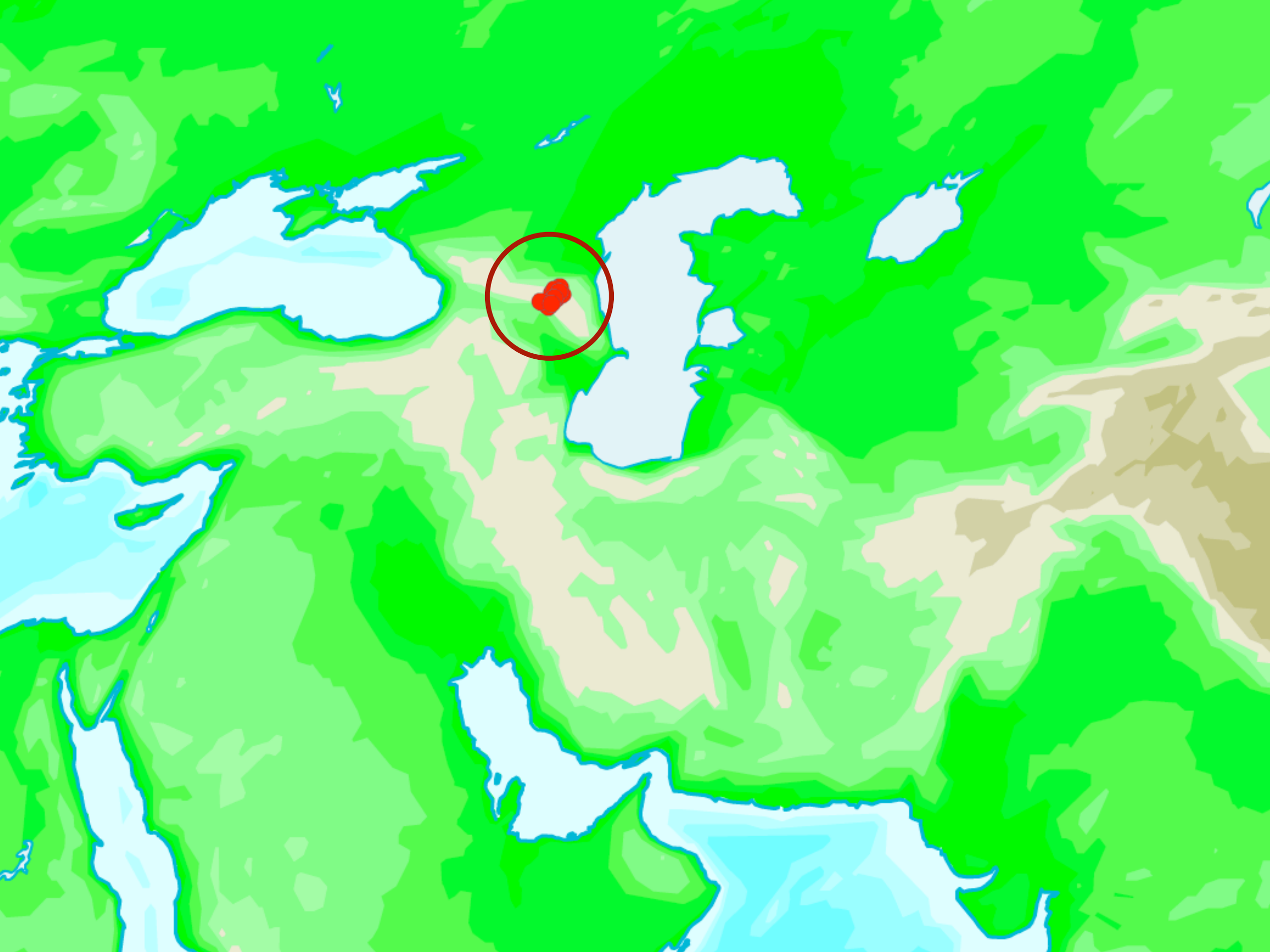
Proposal

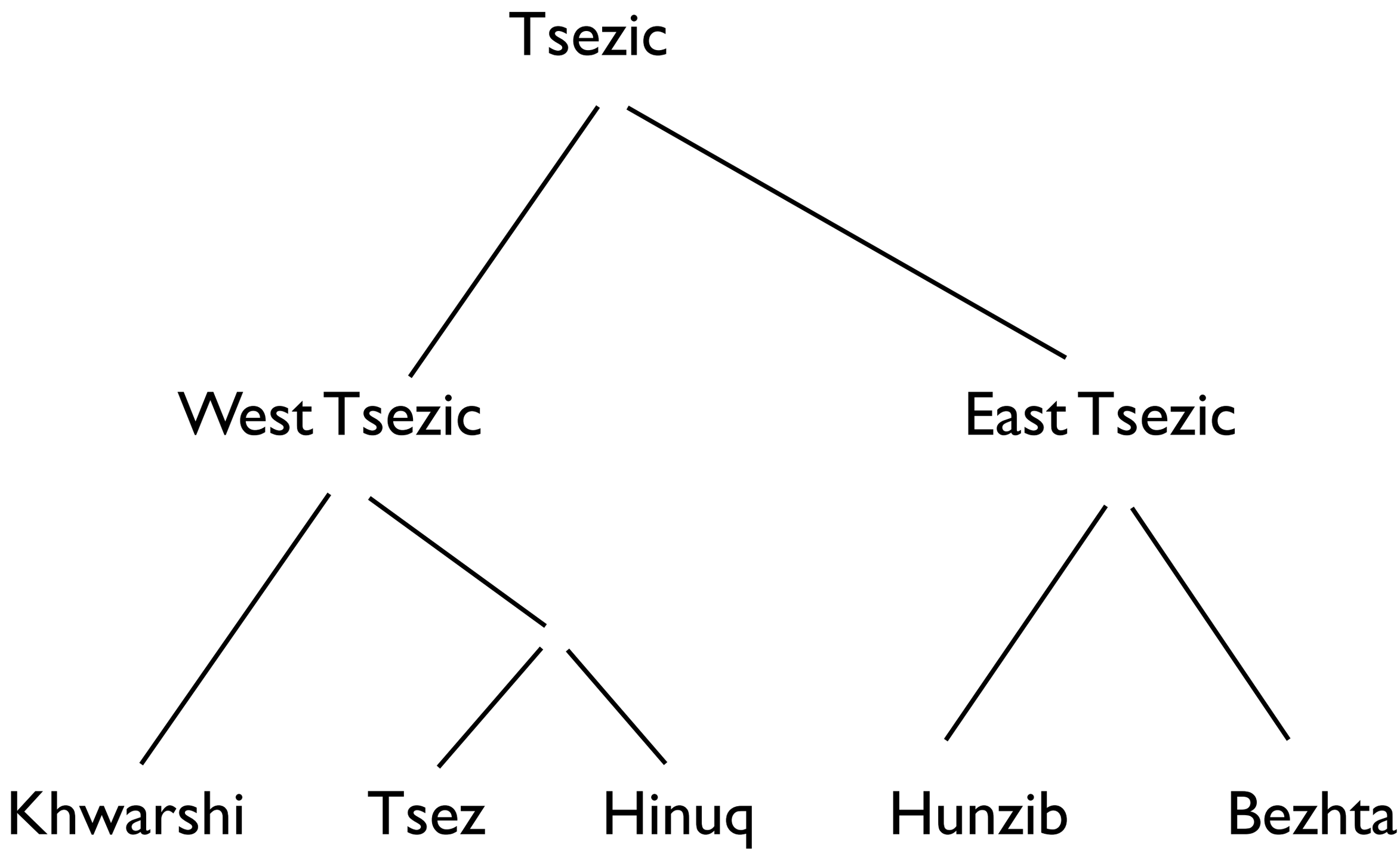
- Define the **property M** of a linguistic form as the set of all contexts in which it occurs
- Under this strongly extensionalistic definition of **property M**, variation in **property M** becomes readily measurable
- The differences in **property M** between cognate forms reveal historical processes

Non-spatial usage of spatial case marking in Tsezic

(with Diana Forker)

Cysouw, Michael & Diana Forker. 2009. Reconstruction of morphosyntactic function: Non-spatial usage of spatial case marking in Tsezic. *Language*, 85(3): 588-617,




Tsezic
West Tsezic
East Tsezic
Khwarshi
Tsez
Hinuq
Hunzib
Bezhta

Hinuq	CONT	IN	SUB	SPR	AT	APUD	AD	
Essive	-ł	-V/ma	-ƛ	-ƛ’o	-qo	-de	-ho	
Lative	-ł-er	-V/ma-r	-ƛ-er	-ƛ’o-r	-qo-r	-de-r	-ho-r	
Ablative/Genitive	-ł-es	-V/ma-s	-ƛ-es	-ƛ’o-s	-qo-s	-de-s	-ho-s	
Ablative	-ł-ezo	-V/ma-zo	-ƛ-ezo	-ƛ’o-zo	-qo-zo	-de-zo	-ho-zo	
Directive	-ł-edo	-V/ma-do	-ƛ-edo	-ƛ’o-do	-qo-do	-de-do	-ho-do	
Tsez	CONT	IN	SUB	SPR	AT	APUD	AD	
Essive	-ł	-ā	-ƛ	-ƛ’(o)	-q(o)	-de	-x(o)	
Lative	-ł-er	-ā-r	-ƛ-er	-ƛ’o-r	-qo-r	-de-r	-xo-r	
Ablative	-ł-āy	-ā-y	-ƛ-āy	-ƛ’-āy	-q-āy	-d-āy	-x-āy	
Versative	-ł-xor	-ā-ɣor	-ƛ-xor	-ƛ’-āɣor/’ār	-q-āɣor/ār	-d-āɣor/ār	-x-āɣor/ār	
Khwarshi	CONT	IN	SUB	SPR	AT		AD	NEAR
Essive	-ł	-(m)a	-ƛ	-ƛ’o	-qo		-ho	-ɣo
Lative	-ł-ul	-(m)a-l	-ƛ-ul	-ƛ’o-l	-qo-l		-ho-l	-ɣo-l
Ablative	-ł-zi	-(m)a-zi	-ƛ-zi	-ƛ’o-zi	-qo-zi		-ho-zi	-ɣo-zi
Versative	-ł-ɣul	-(m)a-ɣul	-ƛ-ɣul	-ƛ’o-ɣul	-qo-ɣul		-ho-ɣul	-ɣo-ɣul
Translative	-ł-ɣužaz	-(m)a-ɣužaz	-ƛ-ɣužaz	-ƛ’o-ɣužaz	-qo-ɣužaz		-ho-ɣužaz	-ɣo-ɣužaz
Terminative	-ł-q’a	-(m)a-q’a	-ƛ-q’a	-ƛ’o-q’a	-qo-q’a		-ho-q’a	-ɣo-q’a
Bezhta	CONT	IN	SUB	SPR	AT	APUD		NEAR
Essive	-ł	-ʔ	-ƛ	-ƛ’a	-qa	-doy		-ɣa
Lative		-ʔ-il		-ƛ’a-l		-doy-l		-ɣa-l
Ablative/Genitive	-ł-so	-ʔ-is	-ƛ-so	-ƛ’a-s	-qa-s	-doy-s		-ɣa-s
Ablative	-ł-la	-ʔ-la	-ƛ-la	-ƛ’a-la	-qa-la	-doy-la		-ɣa-la
Directive	-ł-daa	-ʔ-daa	-ƛ’a-la	-ƛ’a-daa	-qa-daa	-doy-da		-ɣa-daa
Translative	-ł-laƛ’ā	-ʔ-(la)ƛ’ā	-qa-la	-ƛ’a-laƛ’ā	-qa-laƛ’ā	-doy-		-ɣa-laƛ’ā
Hunzib	CONT	IN	SUB	SPR	AT	APUD		
Essive	-ł	-V	-ƛ	-ƛ’(o)	-g(o)	-dər		
Ablative/Genitive	-ł-sə	-V-s		-ƛ’o-s	-go-s	-dər-sə		
Translative	-ł-ƛ’i	-V-ƛ’		-ƛ’o-ƛ’		-dər-ƛ’i		
Directive	-ł-do	-dα-α				-dər-do		

Proto-Tsezic reconstruction	Approximate meaning in spatial domain	Gloss
*-*ɬ*-	contact	CONT
*-*ʔa*-	in, inside	IN
*-*ƛ*-	under	SUB
*-*ƛ'o*-	on top, above	SPR
*-*qo*-	attached to	AT
*-*de*-	near, by (animates)	APUD
*-*ho*-	near, by (inanimates)	AD
*-*ɣo*	near, close	NEAR

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

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

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

a. *ise* *he^{n}še* *iłe-l* *tuƛ-i*
he.ERG book she.OBL-LAT give-PST.W
'He gave her the book.' (forever, as a gift)

b. *ise* *he^{n}še* *iłe-ɣo-l* *tuƛ-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* *ƛɨ* *li*
s/he.OBL-GEN four-and ten.OBL year be
'S/he is fourty years old.'

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

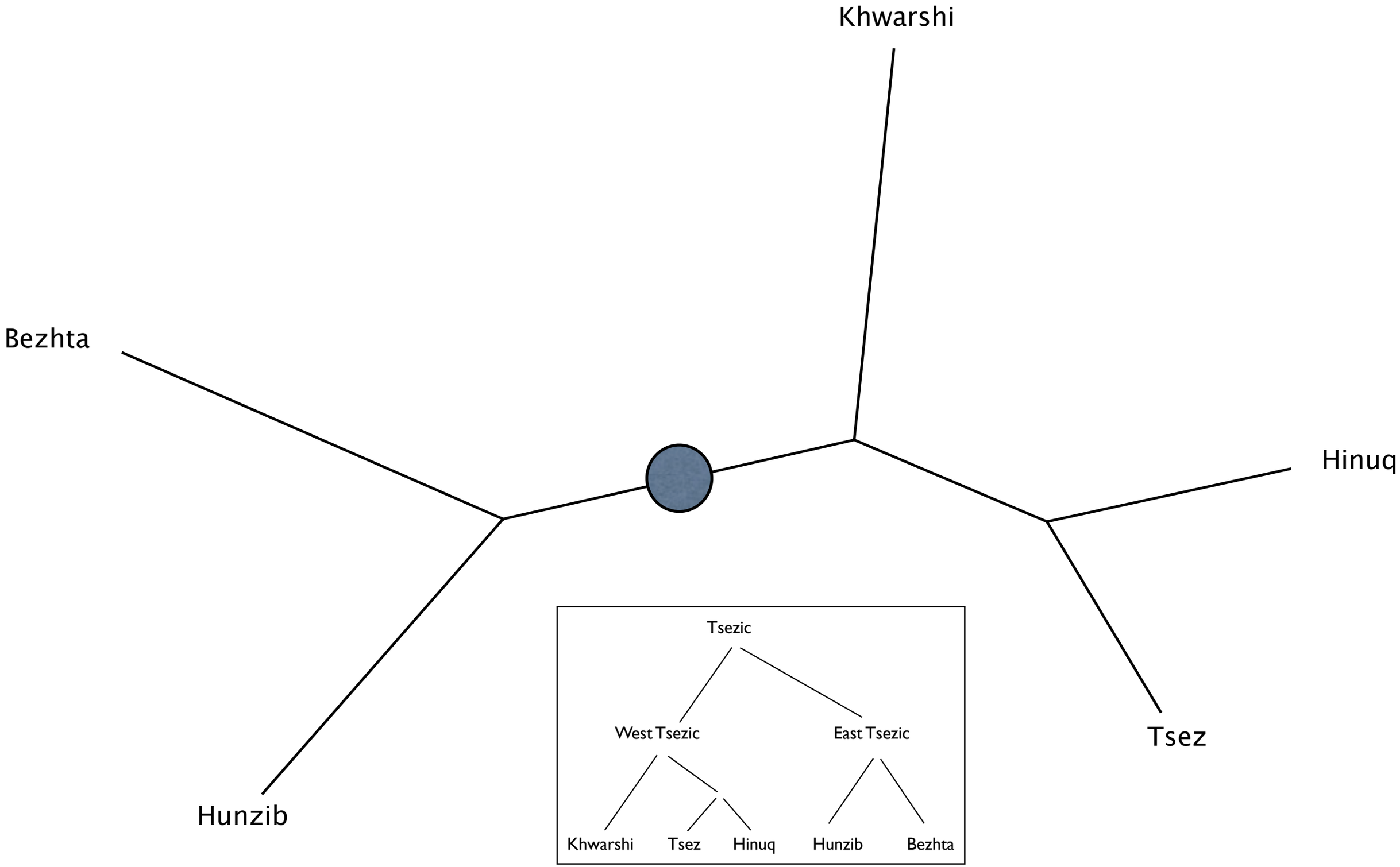
elo *yiɬa-r* *bercinaw* *kid* *y-esu-n*
there she.OBL-LAT beautiful girl(II) II-find-PST.UNW
'She found a beautiful girl there.'

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

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

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

Optimal maximum parsimony tree for case marking



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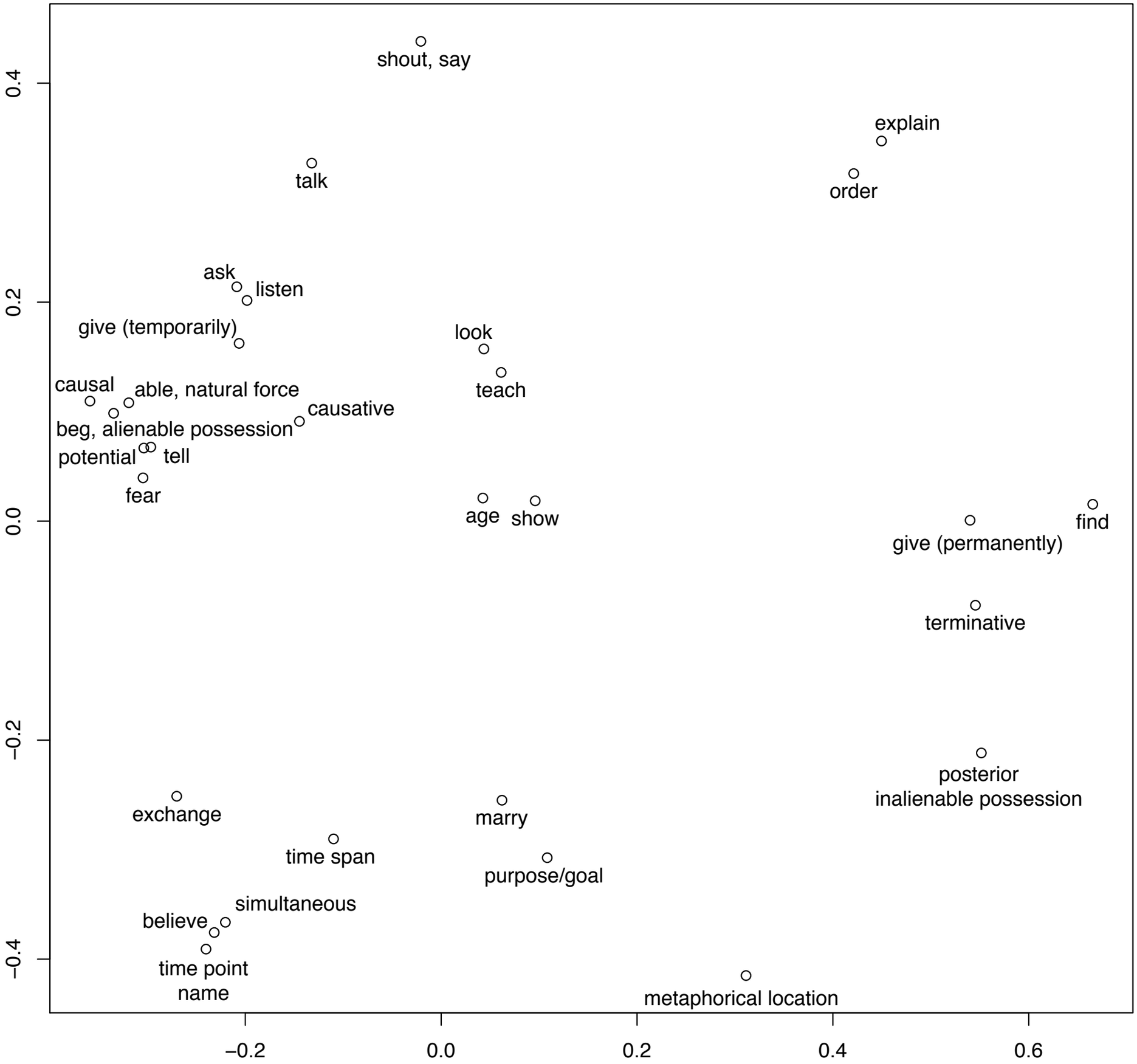
alienable possession	AT	NULL	AT	NULL	AT	NULL	AT	NULL	–	–
ask	AT	NULL	AT	NULL	AT	LAT	AT	NULL	AT	NULL
beg	AT	NULL	AT	NULL	AT	NULL	AT	NULL	–	–
believe	SPR	NULL	SPR	NULL	SPR	NULL	SPR	NULL	SPR	NULL
causal	–	–	AT	NULL	–	–	AT	NULL	AT	NULL
causative	AT	NULL	AT	NULL	AT	NULL	NULL	INSTR	AT	NULL
exchange	SUB	NULL	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


shout, say
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look
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able, natural force
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name
metaphorical location
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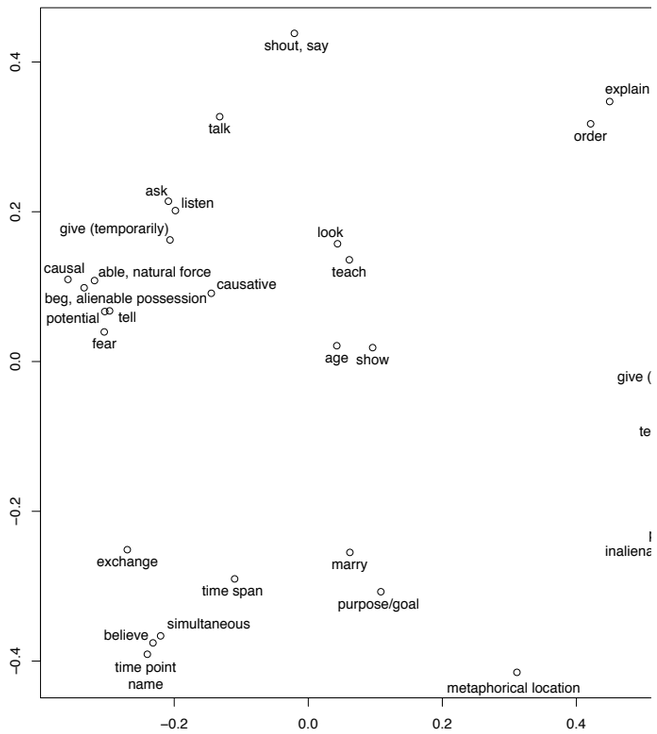
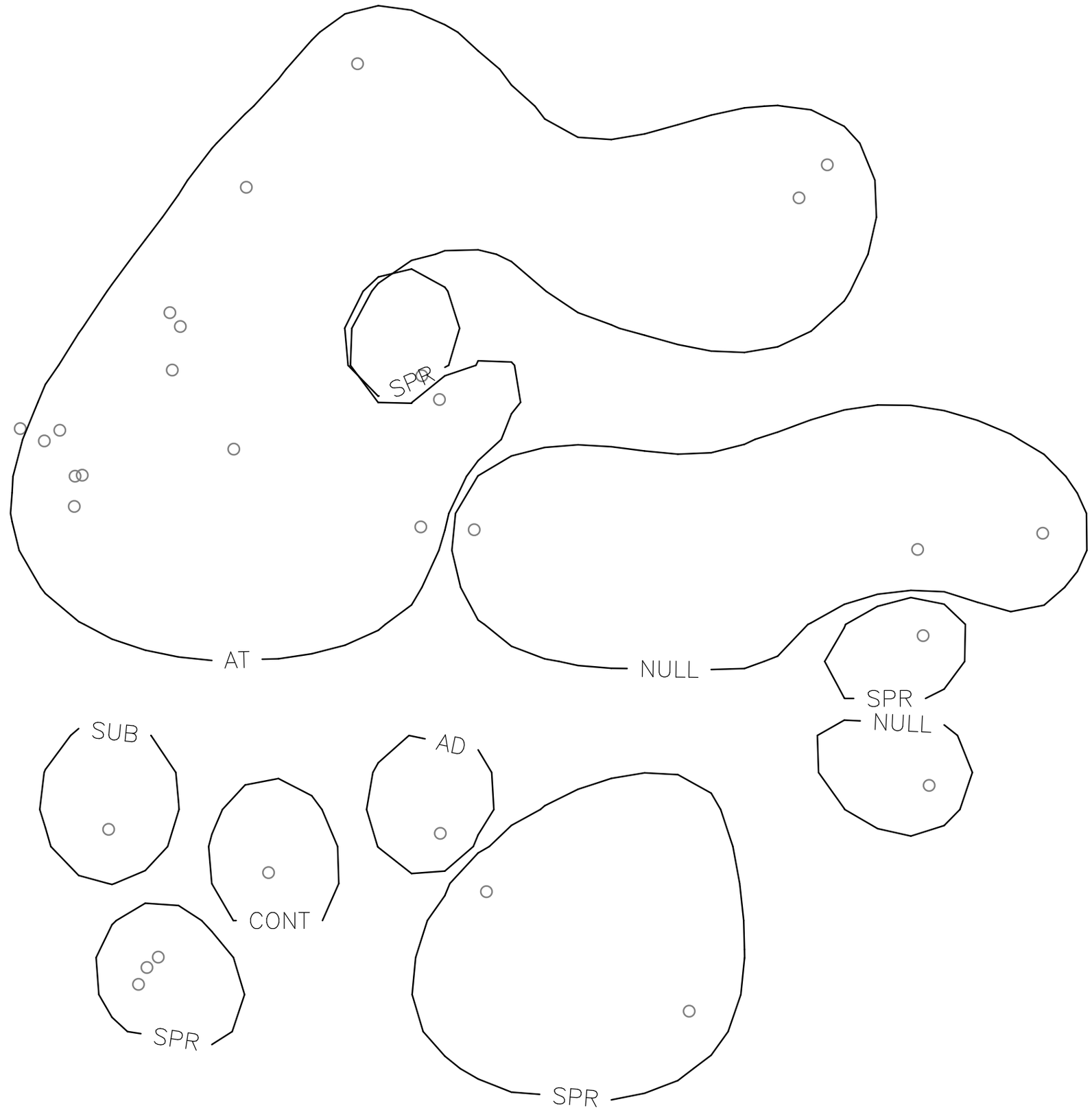
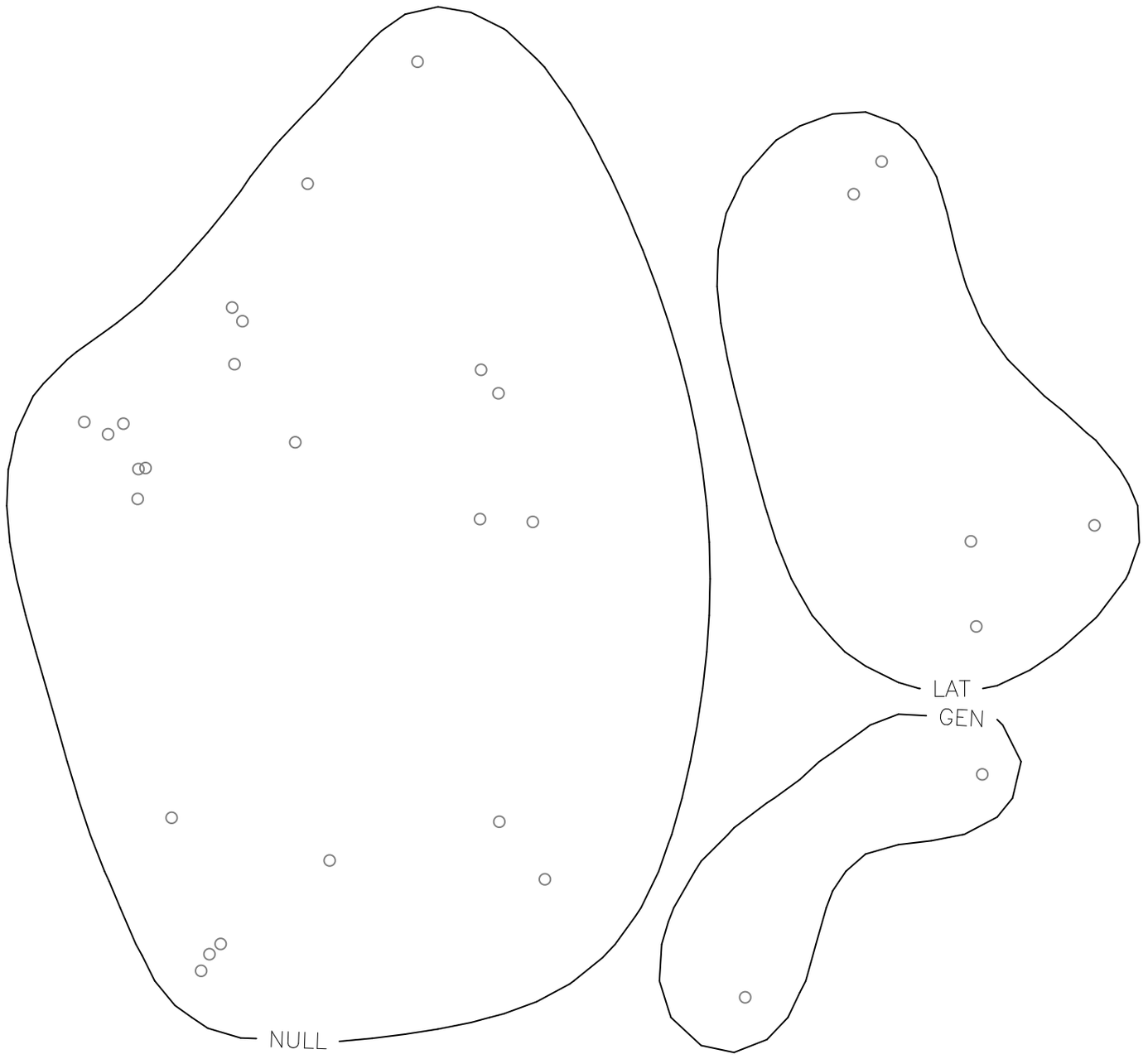


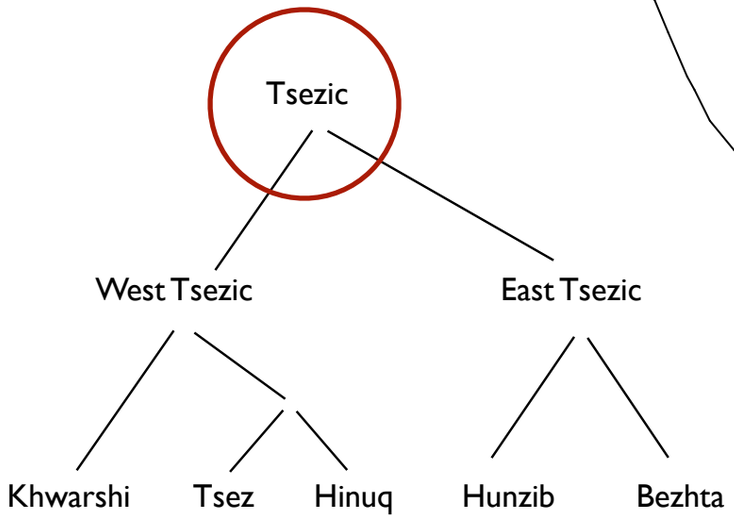


Function	Hin
	Loc
le	AT
ge	AT
possession	AT
k	AT
g	AT
eve	SPR
sal	–
ative	AT
ange	SUB
lain	AT
ar	AT
ıd	NULL
nanently)	NULL
porarily)	AT
possession	NULL
en	AT
ok	SPR
rry	AD
al location	SPR
ne	SPR
l force	AT
ler	AT
erior	NULL
ntial	AT
e/goal	SPR
y	AT
out	AT
ow	NULL
aneous	SPR
lk	AT
ch	AT
ll	AT
ative	SPR
point	SPR
span	CONT

Proto-Tsezic

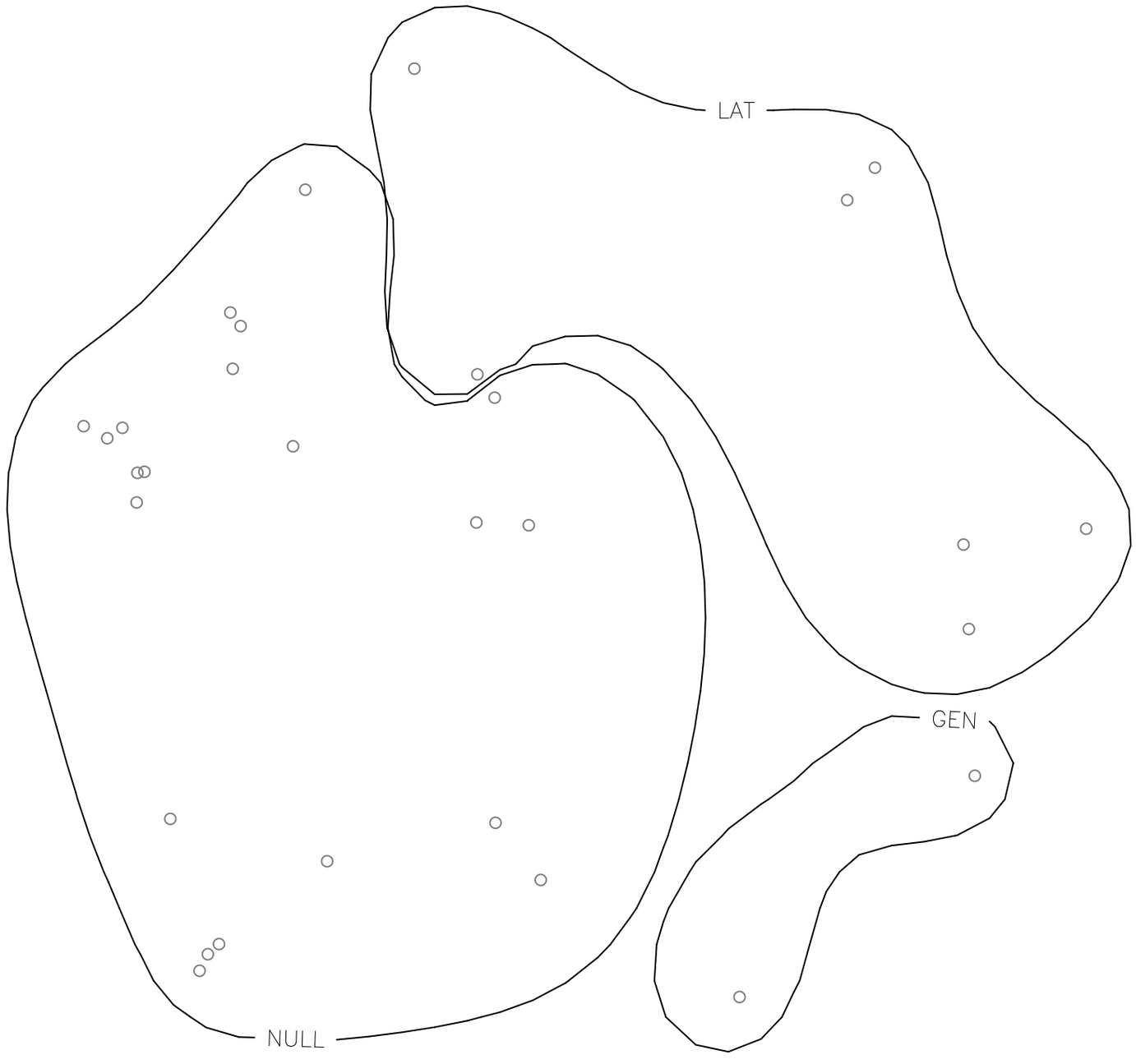
"directional"

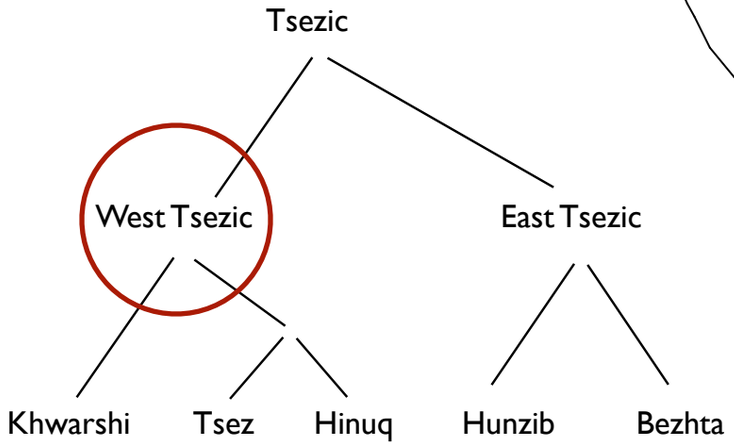




Proto-West-Tsezic

"directional"





Proto-Hinuq-Tsez

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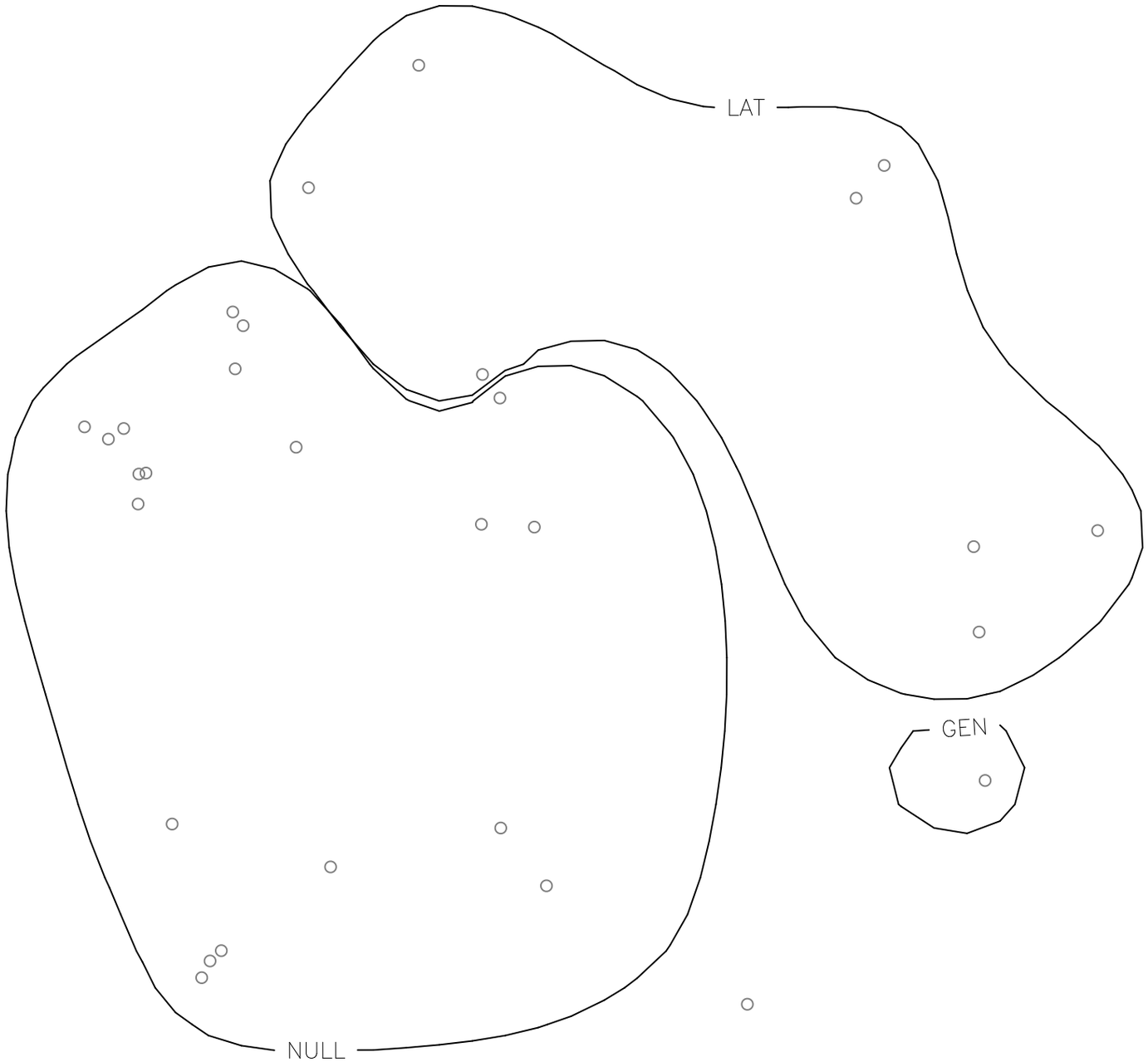
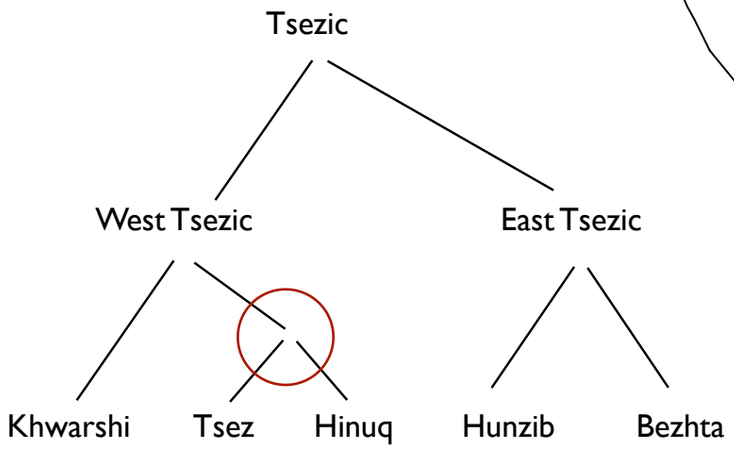
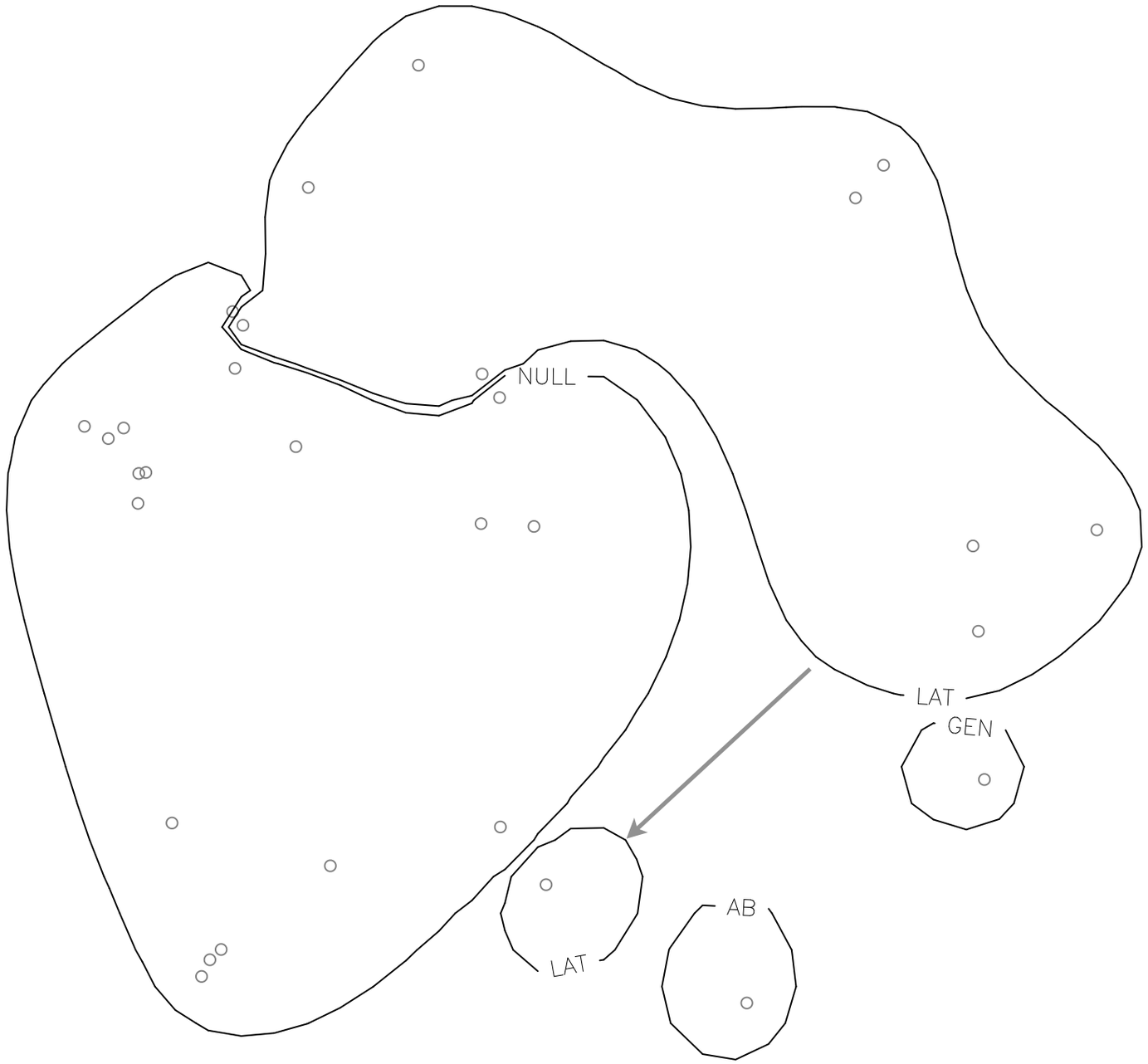
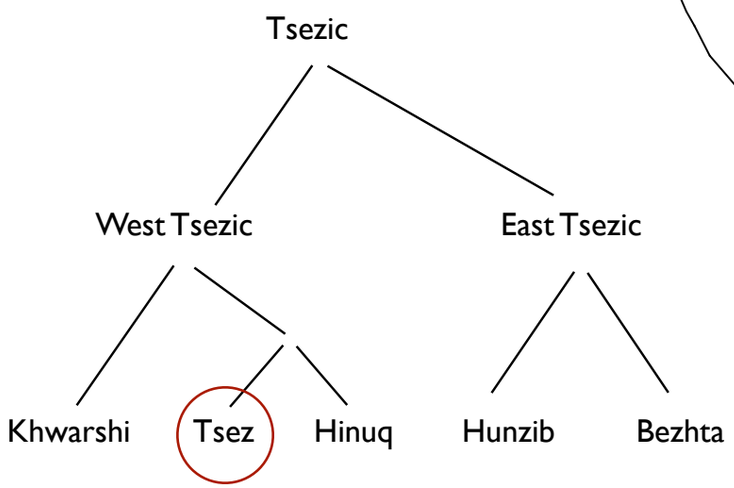




Tsez

"directional"





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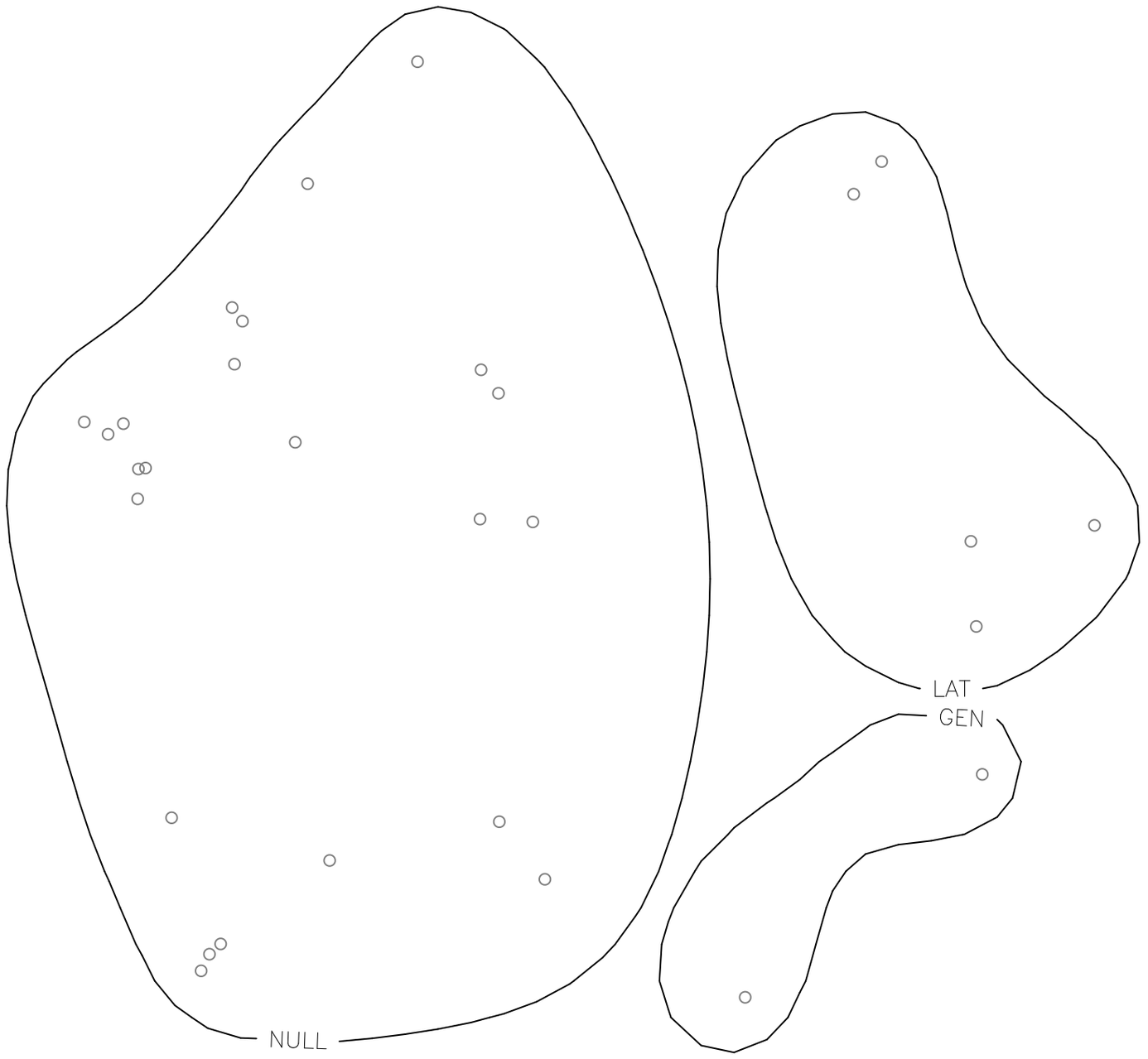
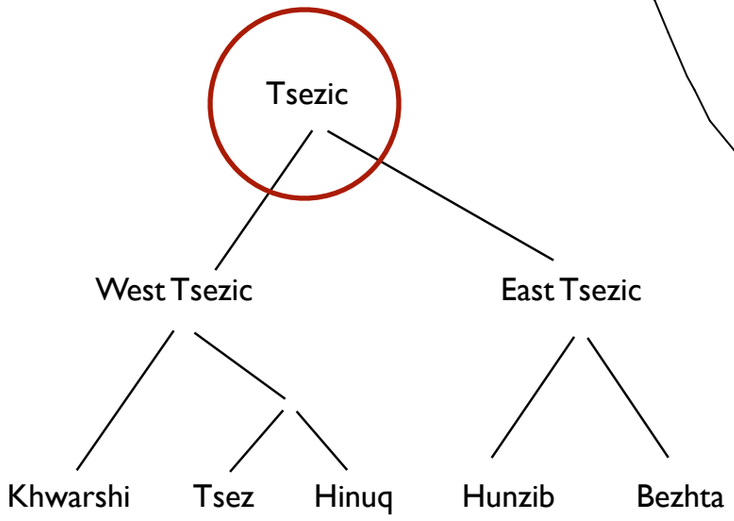
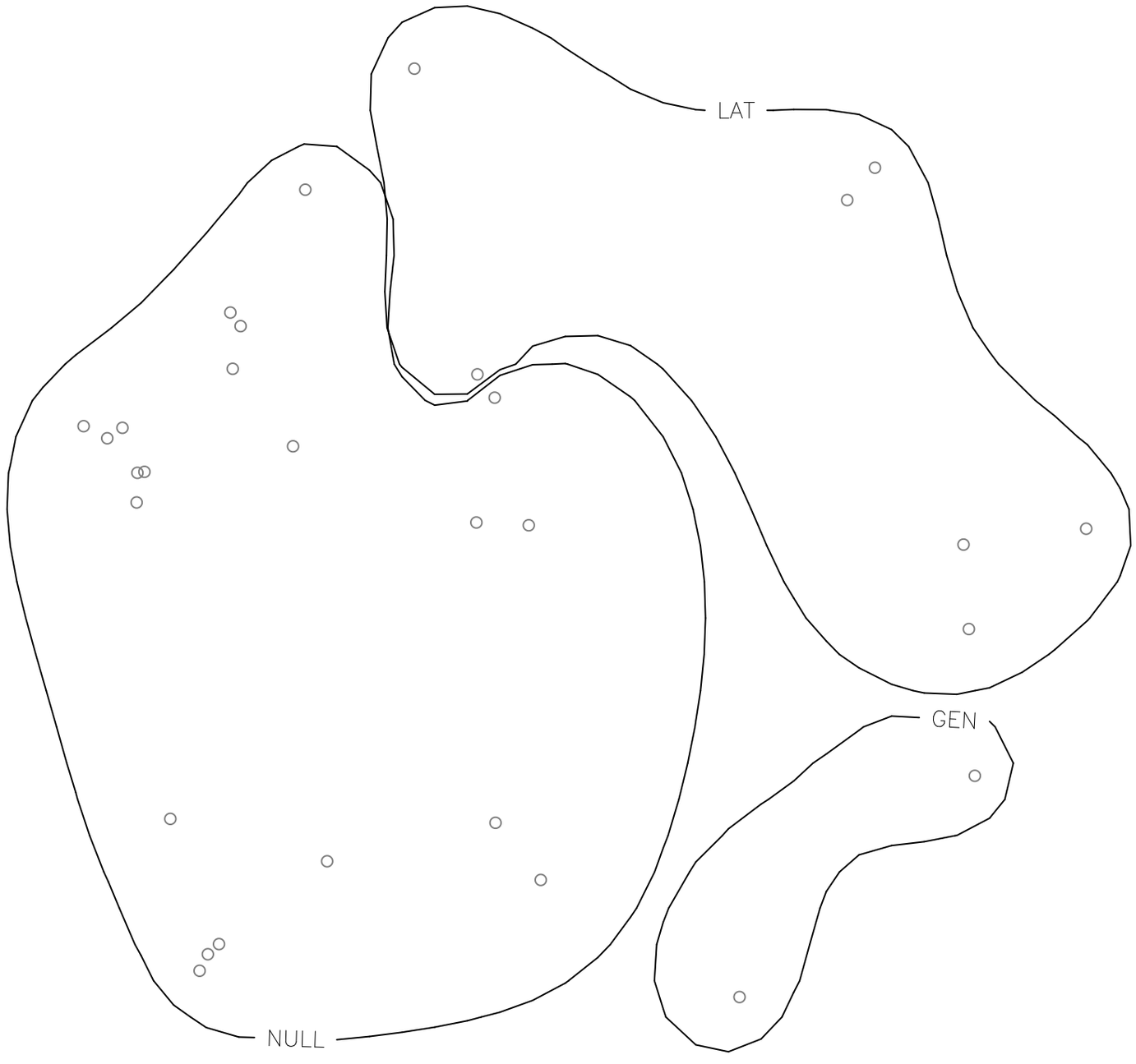
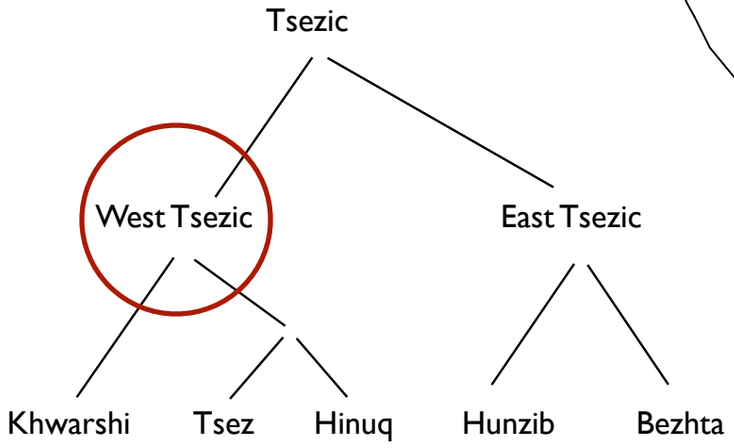




Proto-West-Tsezic

"directional"





Proto-Hinuq-Tsez

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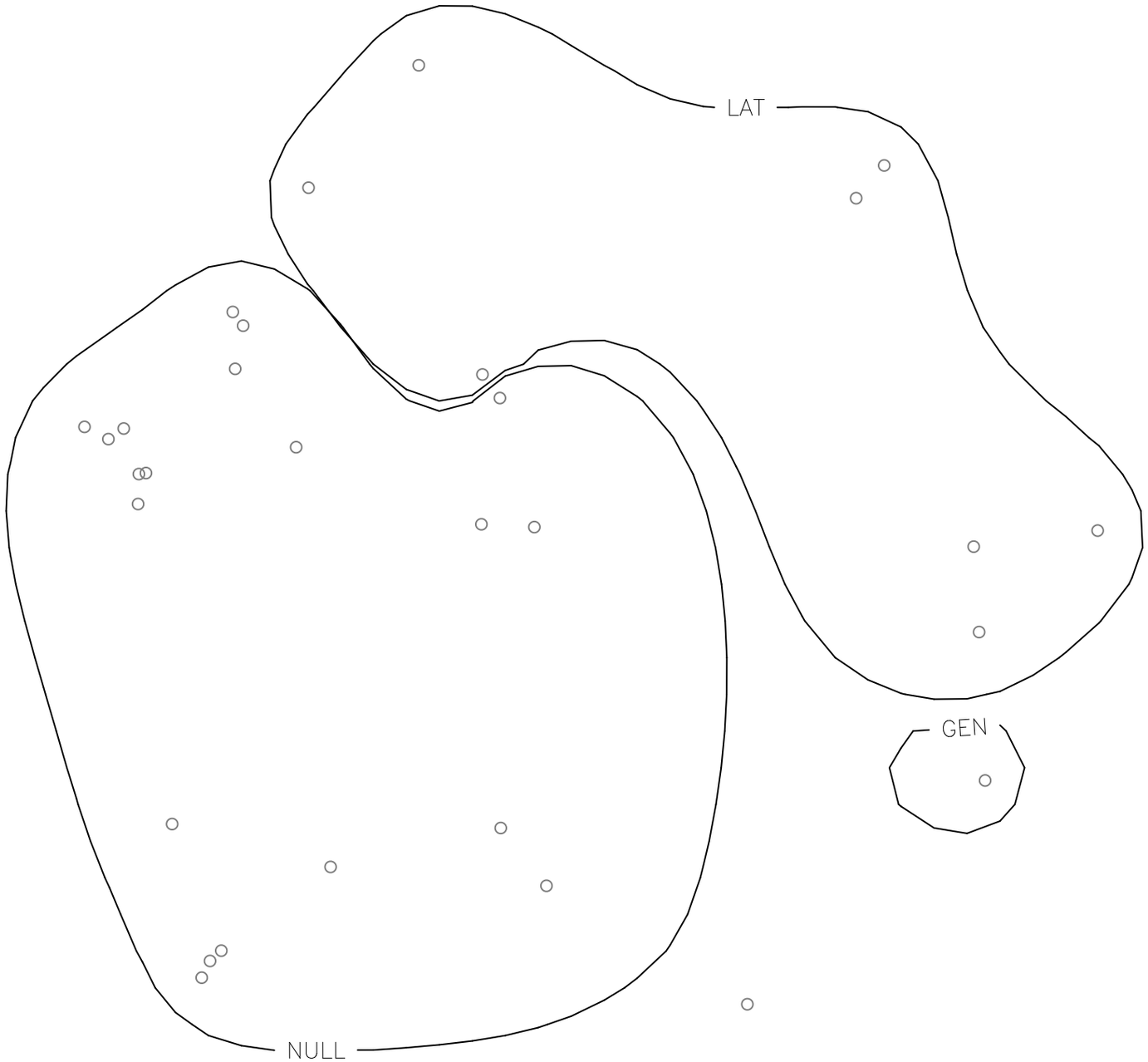
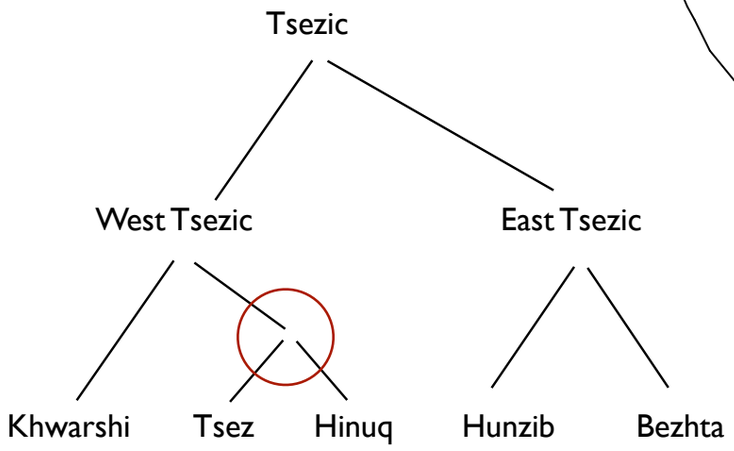
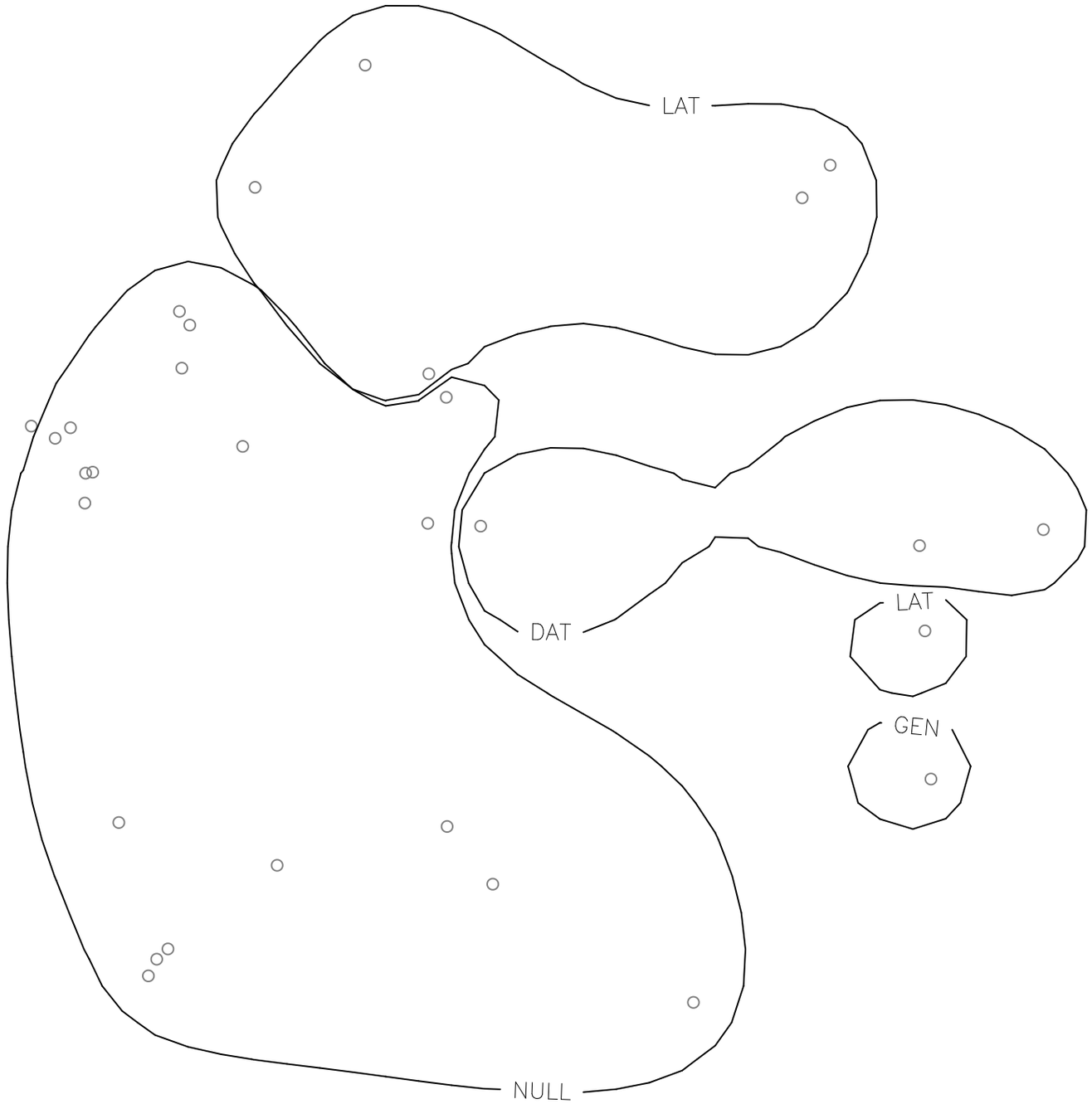
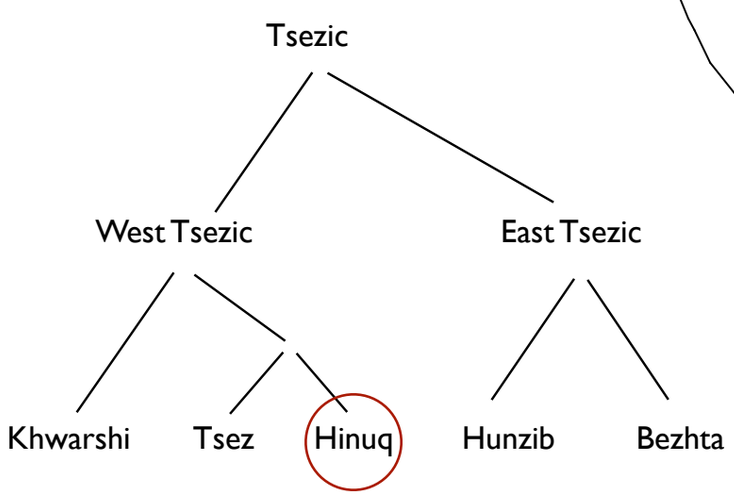




Hinuq

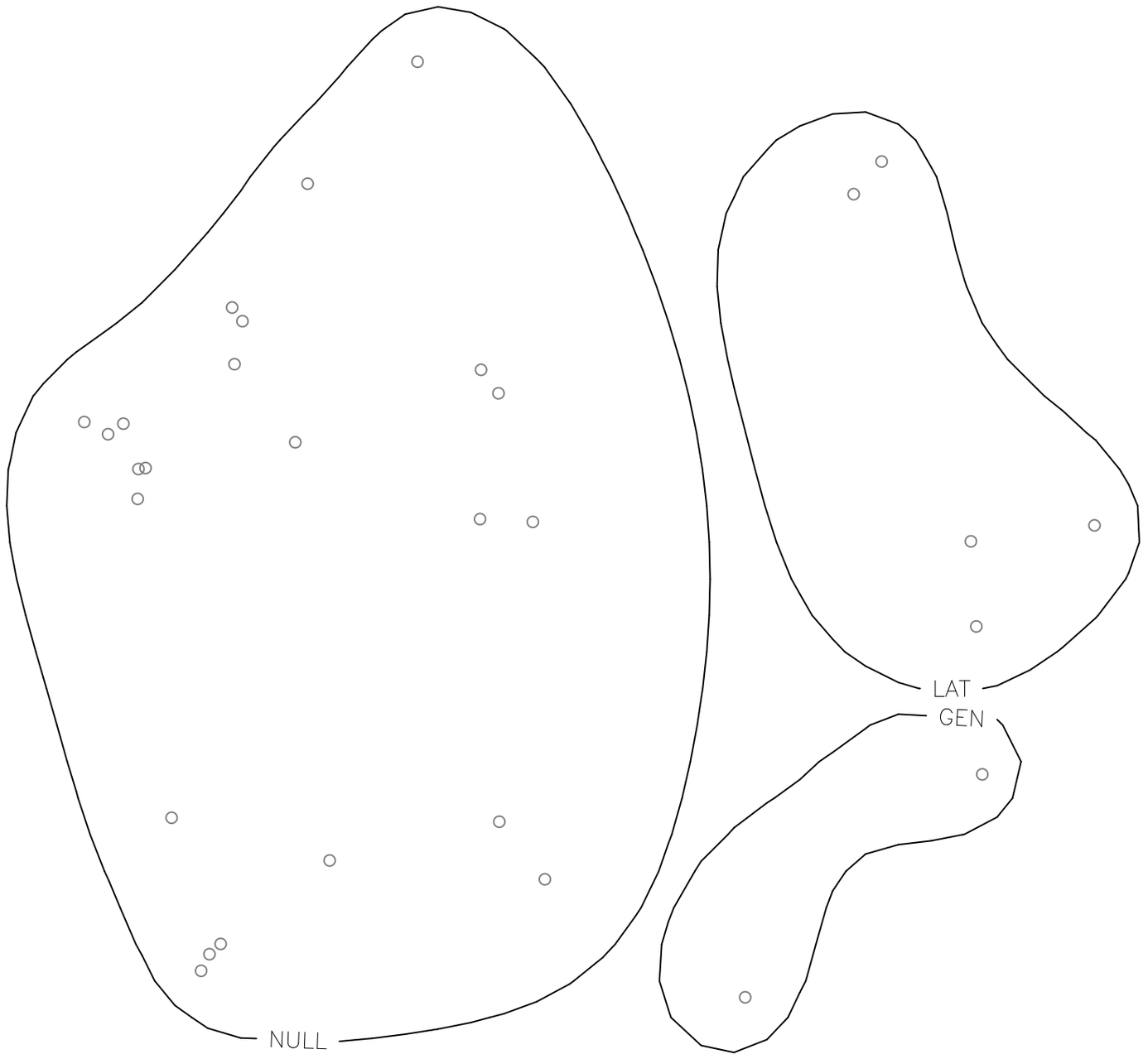
"directional"

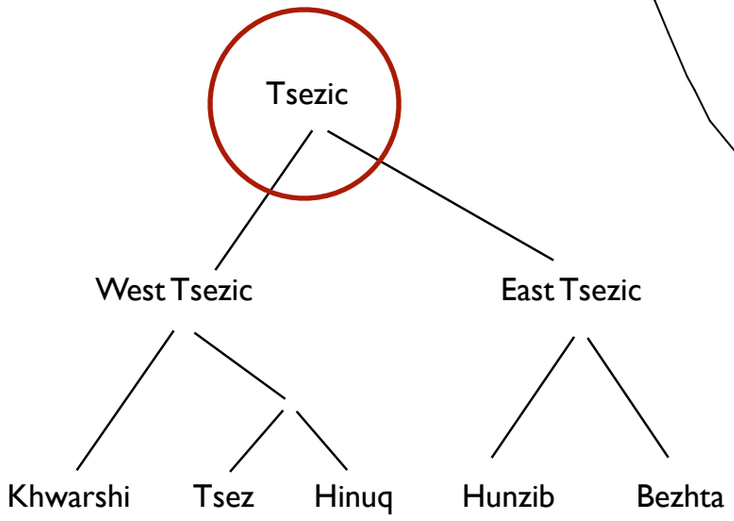




Proto-Tsezic

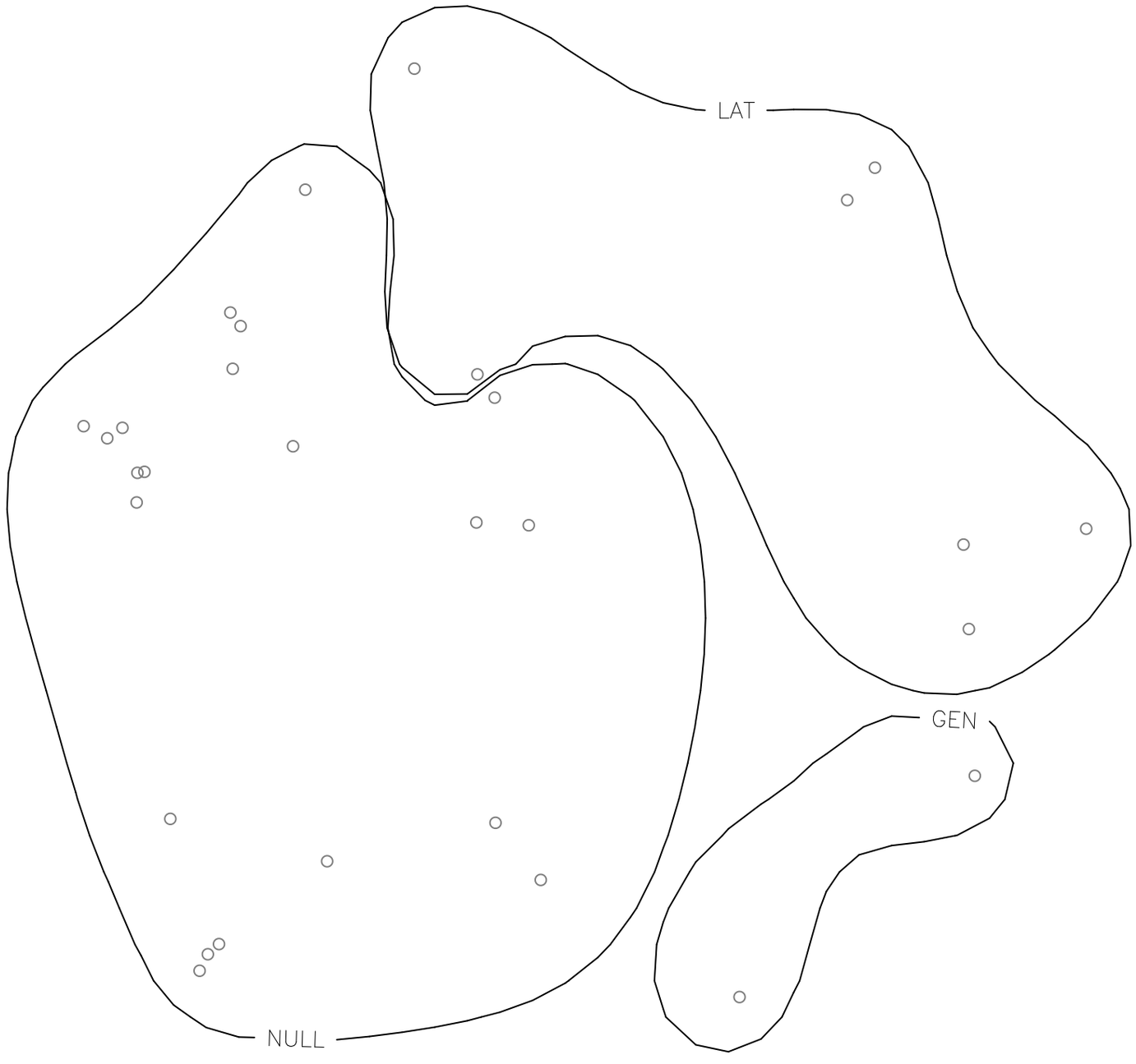
"directional"

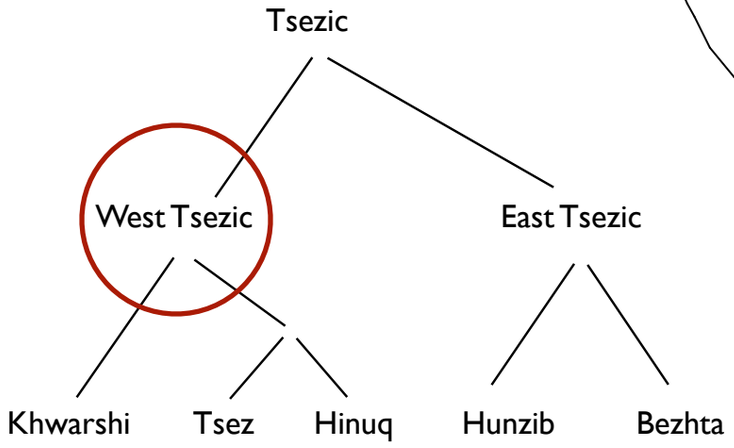




Proto-West-Tsezic

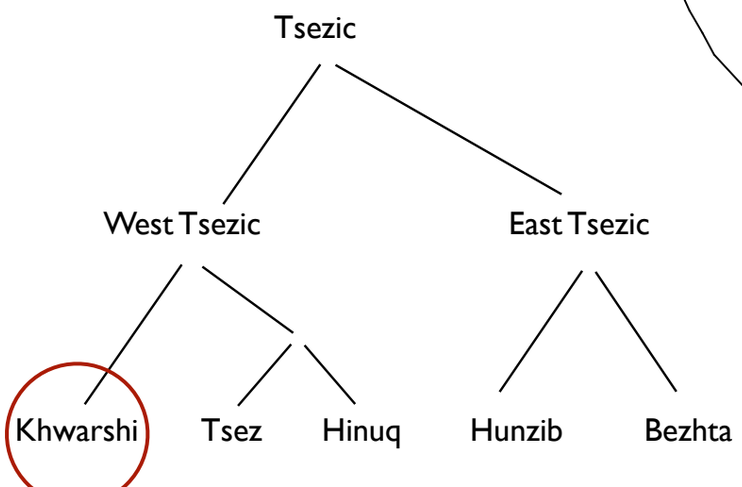
"directional"





Khwarshi

"directional"



“go” periphrasis in Tsezic

IDS number	English	Hinukh
2.330	marry	xoddoho yiƛ’a
10.470	go	iƛ’a
10.471	climb	šid iƛ’a
10.472	go up	toššid iƛ’a
10.473	go down	ƛ’iyo iƛ’a
10.520	follow	hezzo iƛ’a
10.530	pursue	xalbun hezzo iƛ’a
10.650	drive	mašinaƛ’o iƛ’a
10.660	ride	guluƛ’o iƛ’a
18.210	speak	aƛ’i iƛ’a
20.430	attack	k^{w}erer biƛ’a
20.460	surrender	k^{w}ar biƛ’a

Data from http://lingweb.eva.mpg.de/ids/

	bezhta	hinukh	hunzib	khvarshi inxokvari	khvarshi khvarshi	tsez
marry	1	1	0	0	0	1
yawn	0	0	0	0	1	0
shiver	0	0	0	0	1	0
move	1	0	1	0	0	0
fall	0	1	0	0	0	0
creep	0	0	0	0	0	1
walk	1	0	1	0	0	0
go	1	1	1	1	1	1
go up	1	1	1	1	0	1
climb	0	1	1	0	0	0
go down	1	1	1	0	0	1
go away	0	1	1	1	1	1
follow	1	1	0	0	0	1
pursue	0	1	0	0	0	0
arrive	0	0	0	1	0	0
drive	1	1	1	1	1	1
ride	1	1	1	1	1	1
lose	0	1	0	0	0	0
age	0	0	0	0	1	0
speak	0	1	0	0	0	0
attack	0	1	0	0	0	0
retreat	0	0	0	0	0	0
surrender	0	1	1	1	0	1
hunt	1	0	1	0	0	0
miss	1	0	0	0	0	0

hinukh

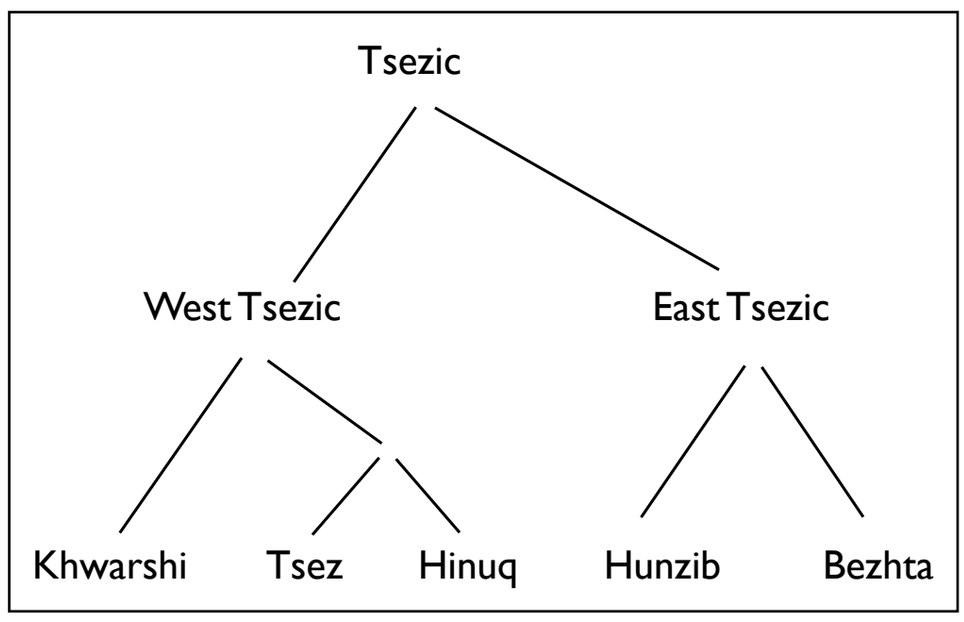
bezhta

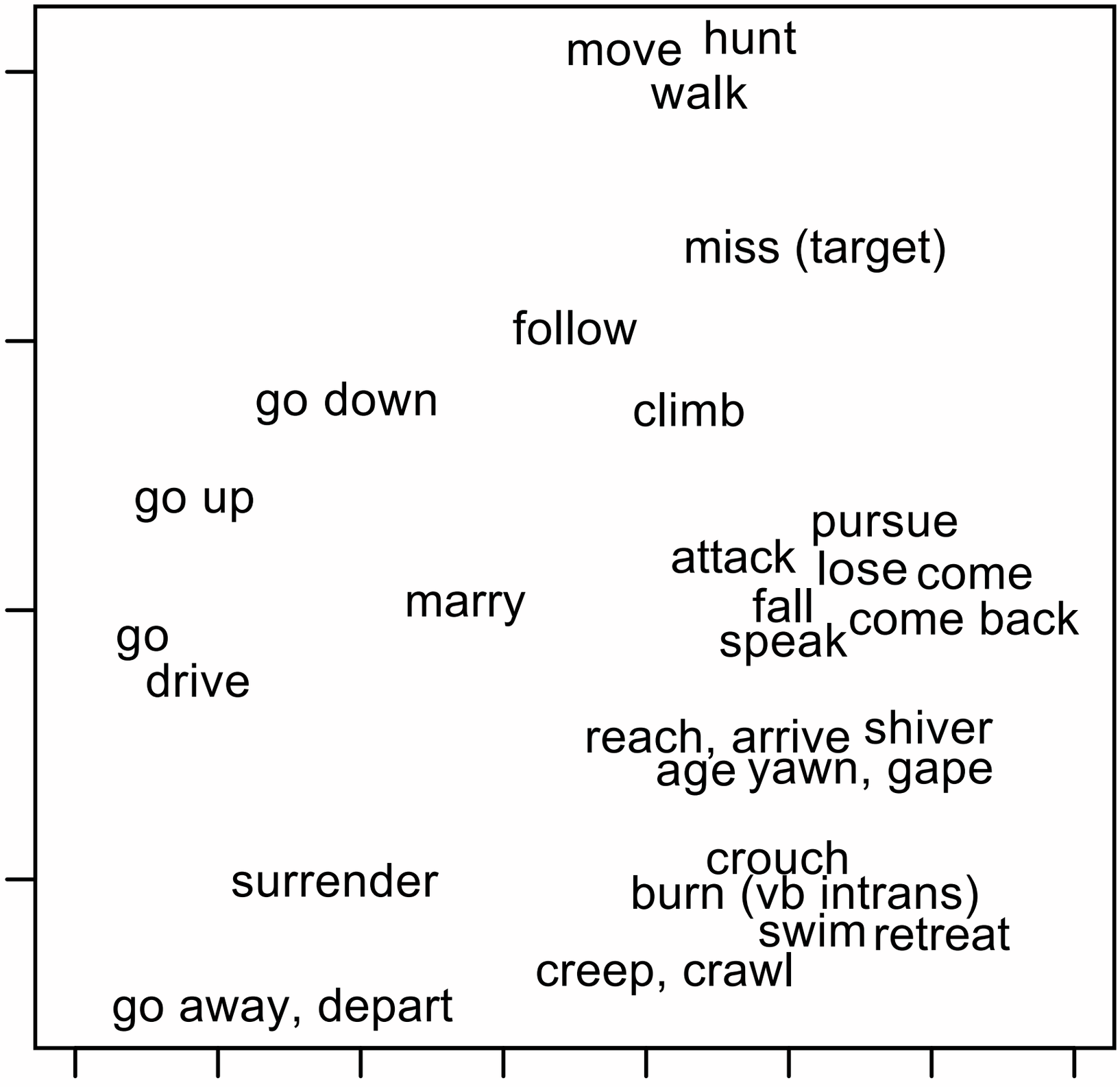
hunzib

tsez

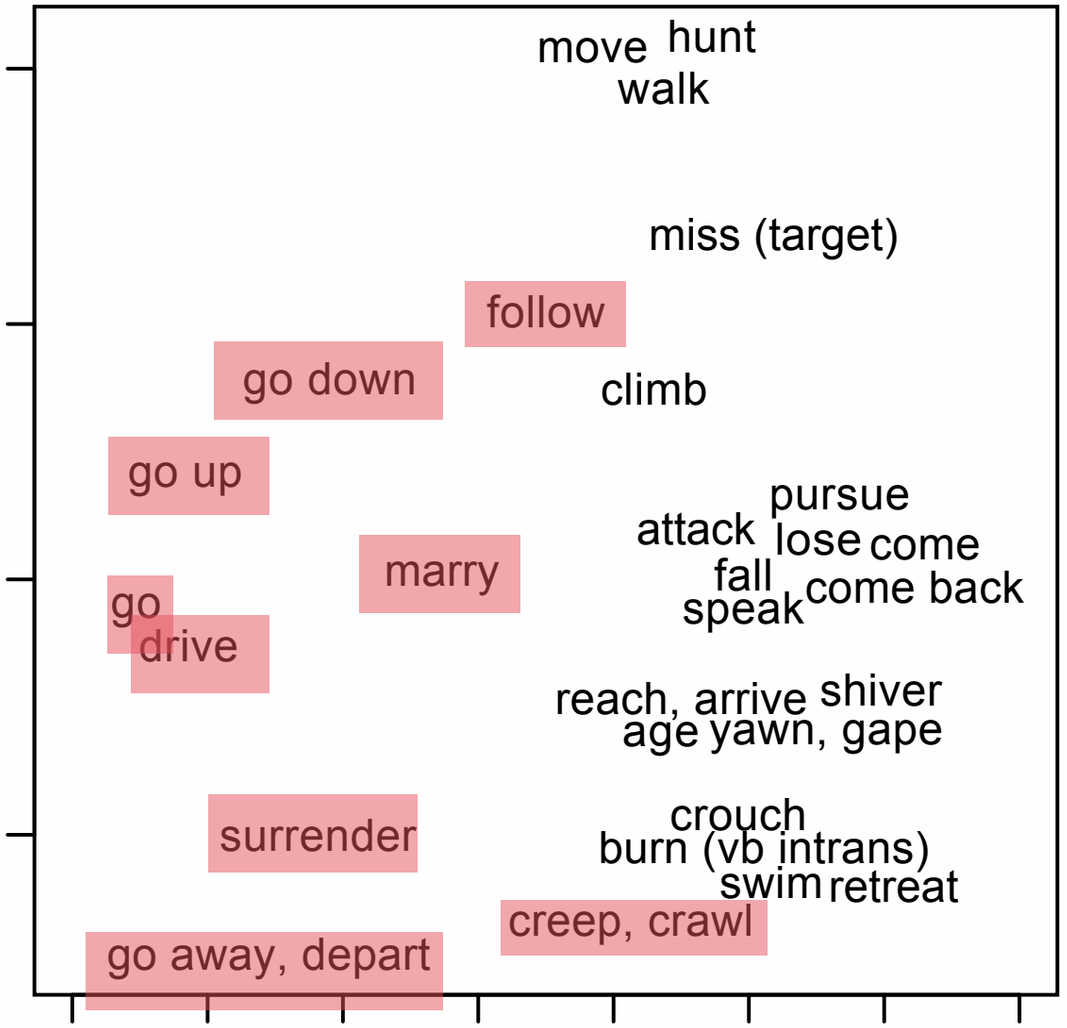
khvarshi inxokvari

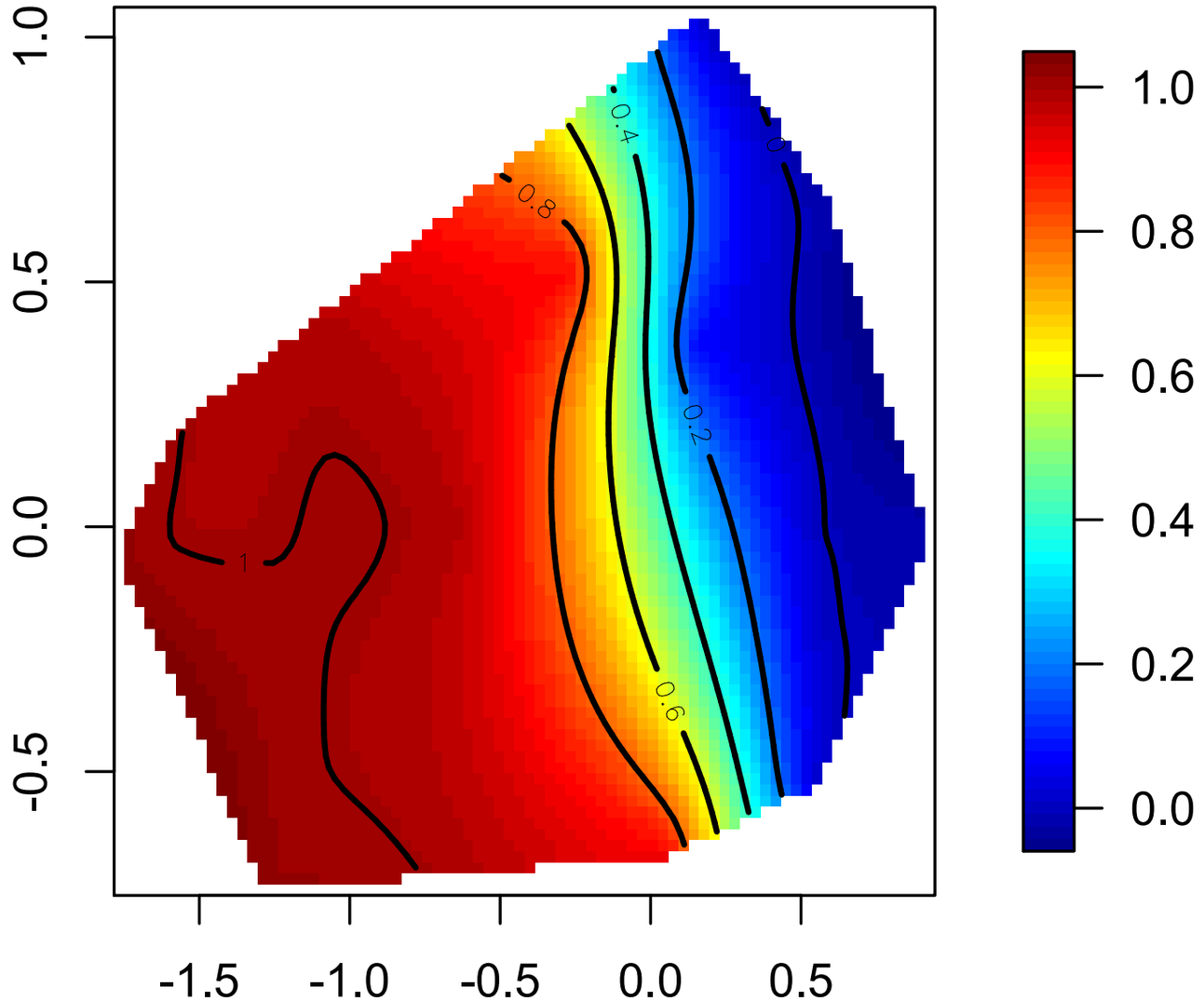
khvarshi khvarshi




move
hunt
walk
miss (target)
follow
go down
climb
go up
pursue
attack
lose
come
marry
fall
come back
go
speak
drive
reach, arrive
shiver
age
yawn, gape
crouch
surrender
burn (vb intrans)
swim
retreat
creep, crawl
go away, depart

Tsez


move
hunt
walk
miss (target)
follow
go down
climb
go up
pursue
attack
lose
come
marry
fall
come back
speak
go
drive
reach, arrive
shiver
age
yawn, gape
surrender
crouch
burn (vb intrans)
swim
retreat
creep, crawl
go away, depart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0.5
0.0
-0.5
Y
-1.5
-1.0
-0.5
0.0
0.5
0.4
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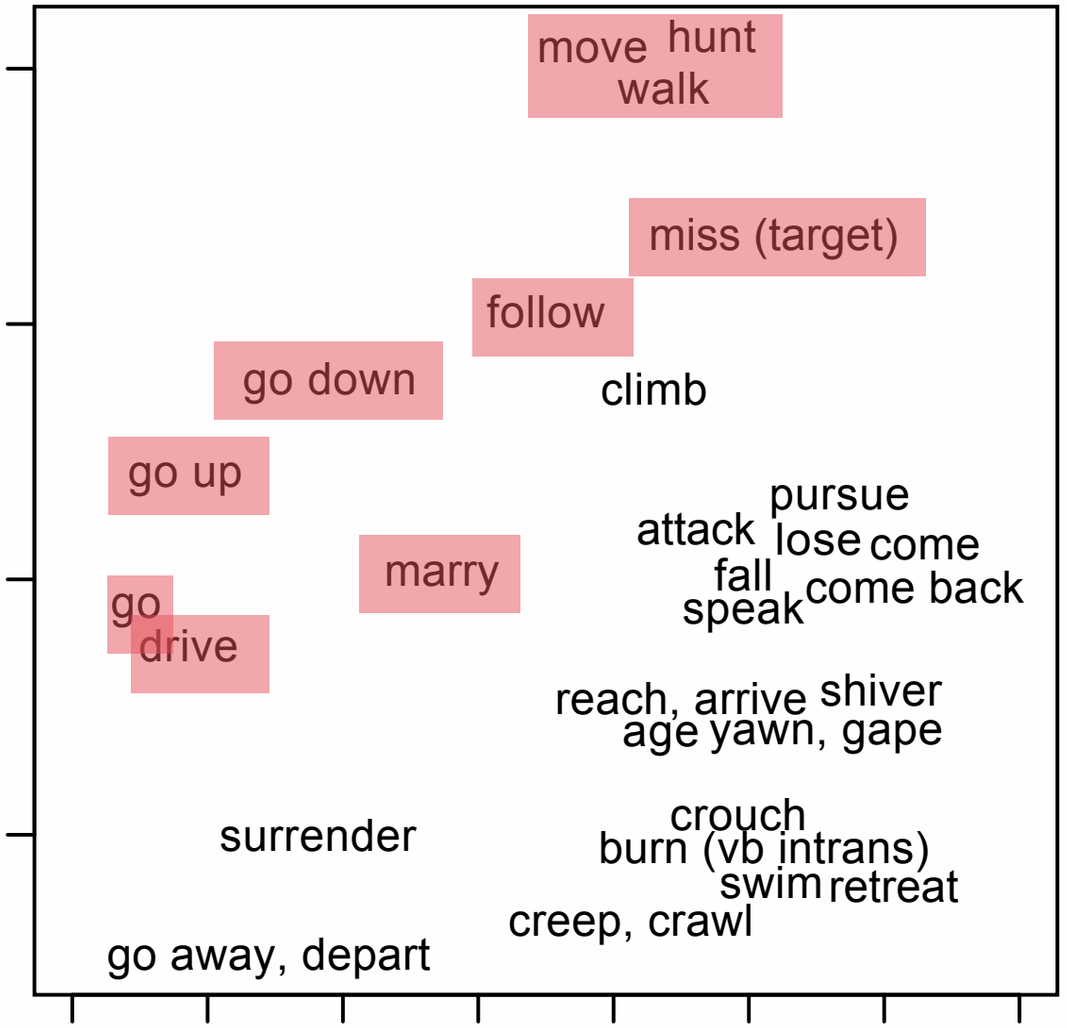
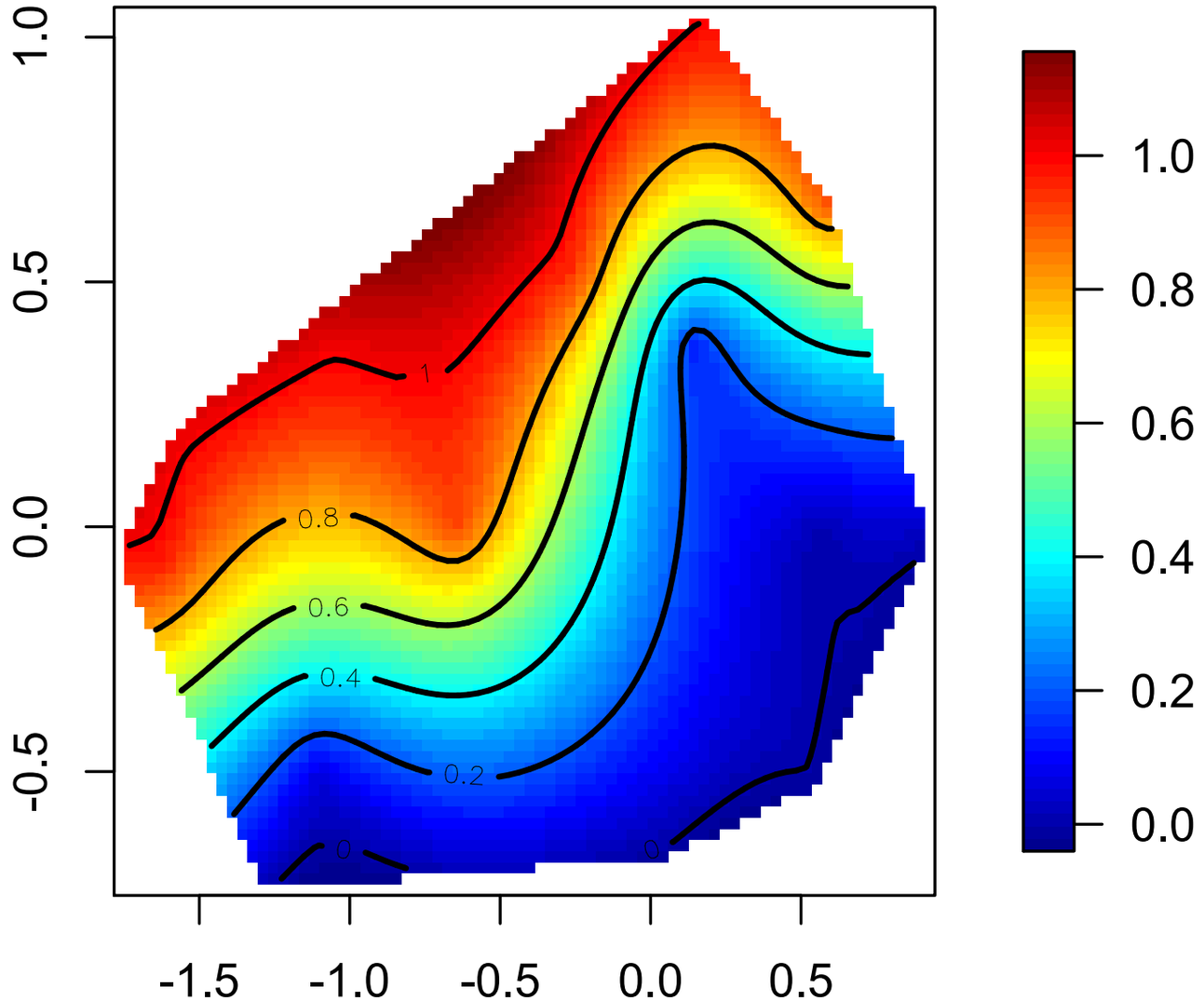
0.2
0.6
1
1.0
0.8
0.6
0.4
0.2
0.0

Bezhta


move
hunt
walk
miss (target)
follow
go down
climb
go up
pursue
attack
lose
come
marry
fall
come back
speak
go
drive
reach, arrive
shiver
age
yawn, gape
crouch
surrender
burn (vb intrans)
swim
retreat
creep, crawl
go away, depart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Y
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0.8
0.6
0.4
0.2
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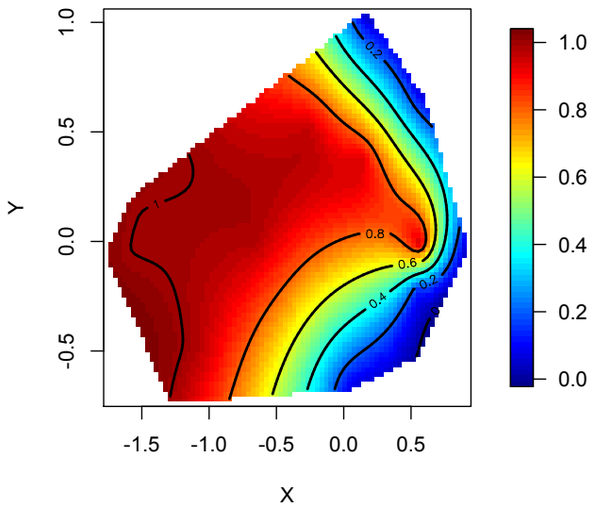
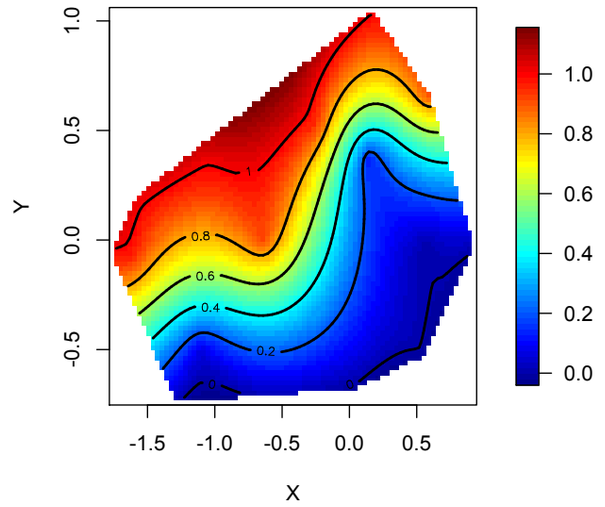
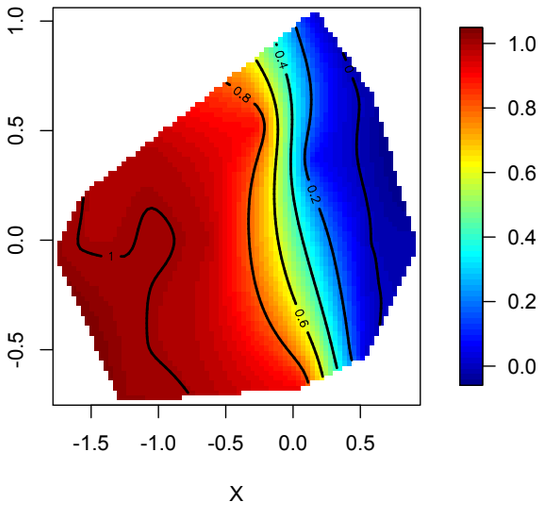
-0.5
0.0
0.5
1.0
0.8
0.6
0.4
0.2
0.0



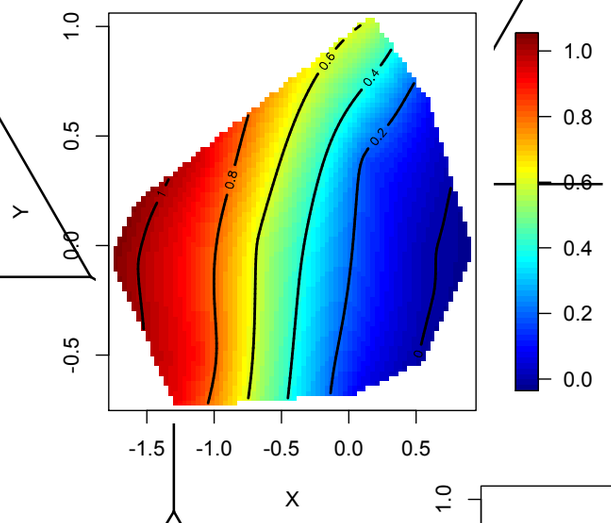


hinukh

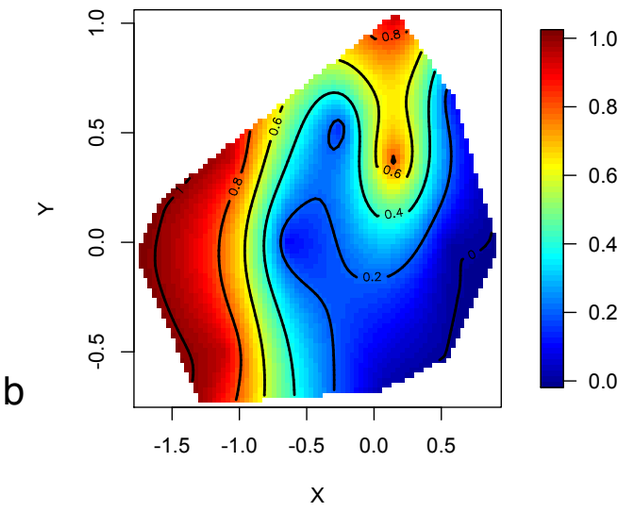
bezhta



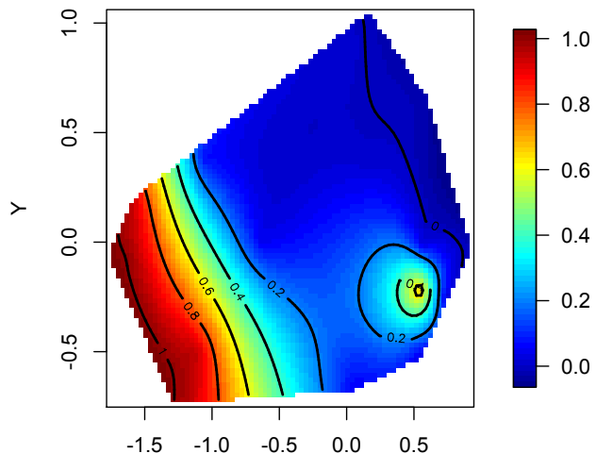
tsez



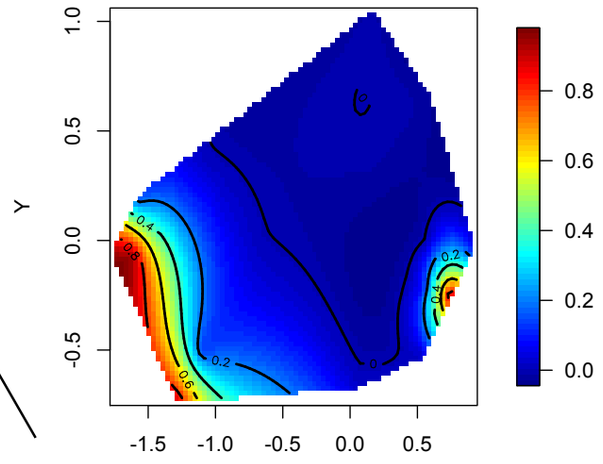
hunzib

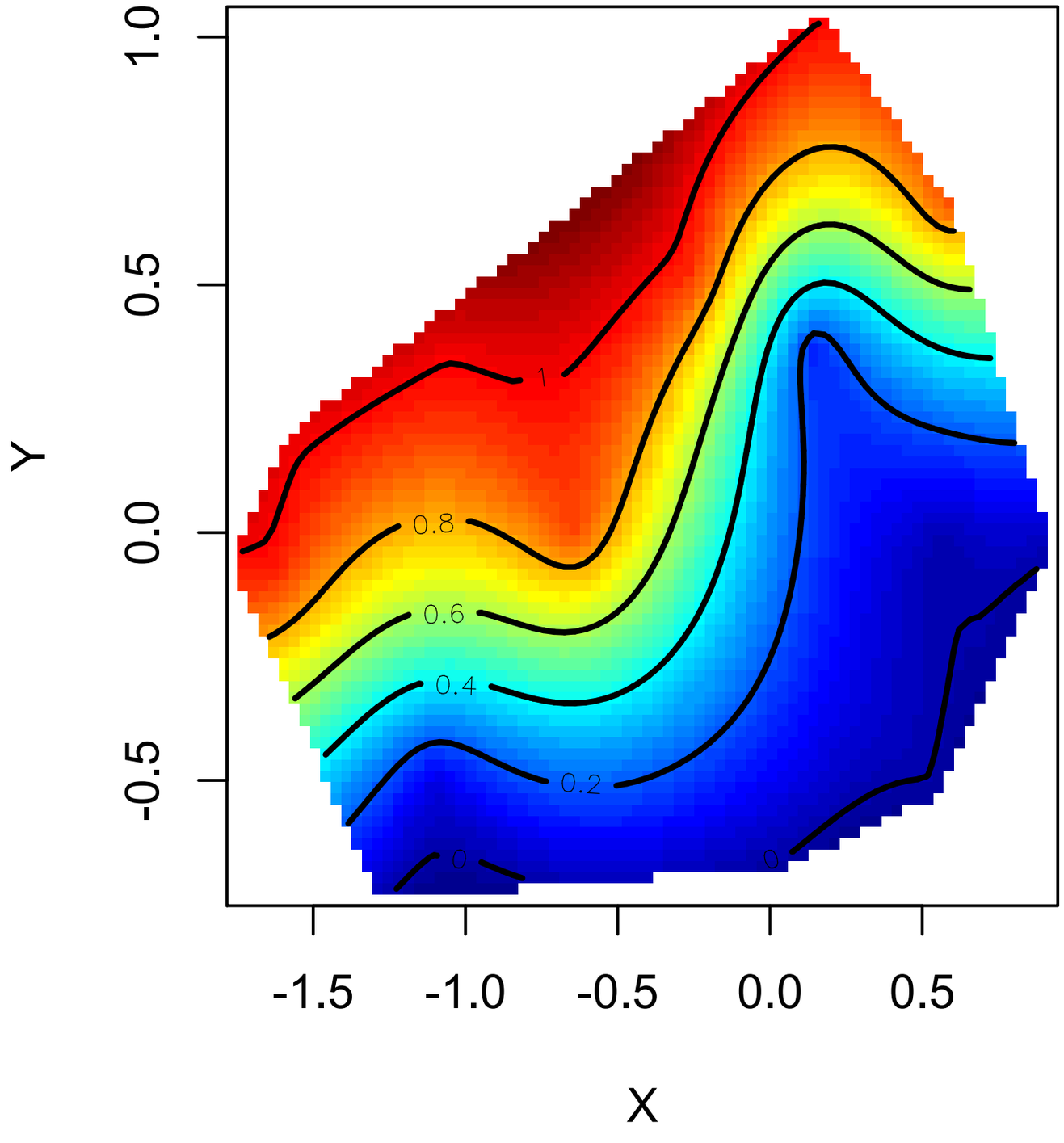


khvarshi inxokvari



khvarshi khvarshi

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0.0
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Y
1
0.8
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0.4
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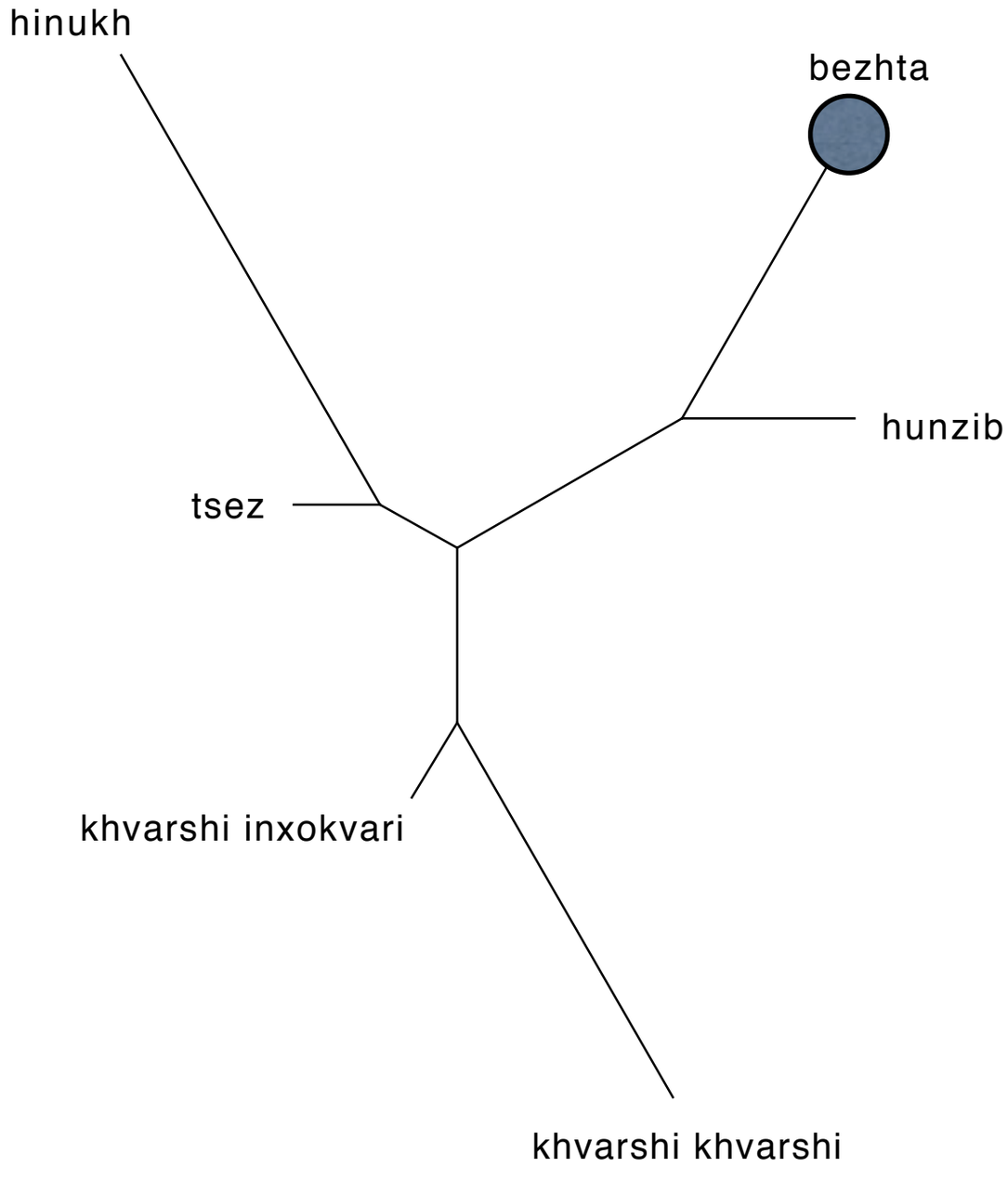
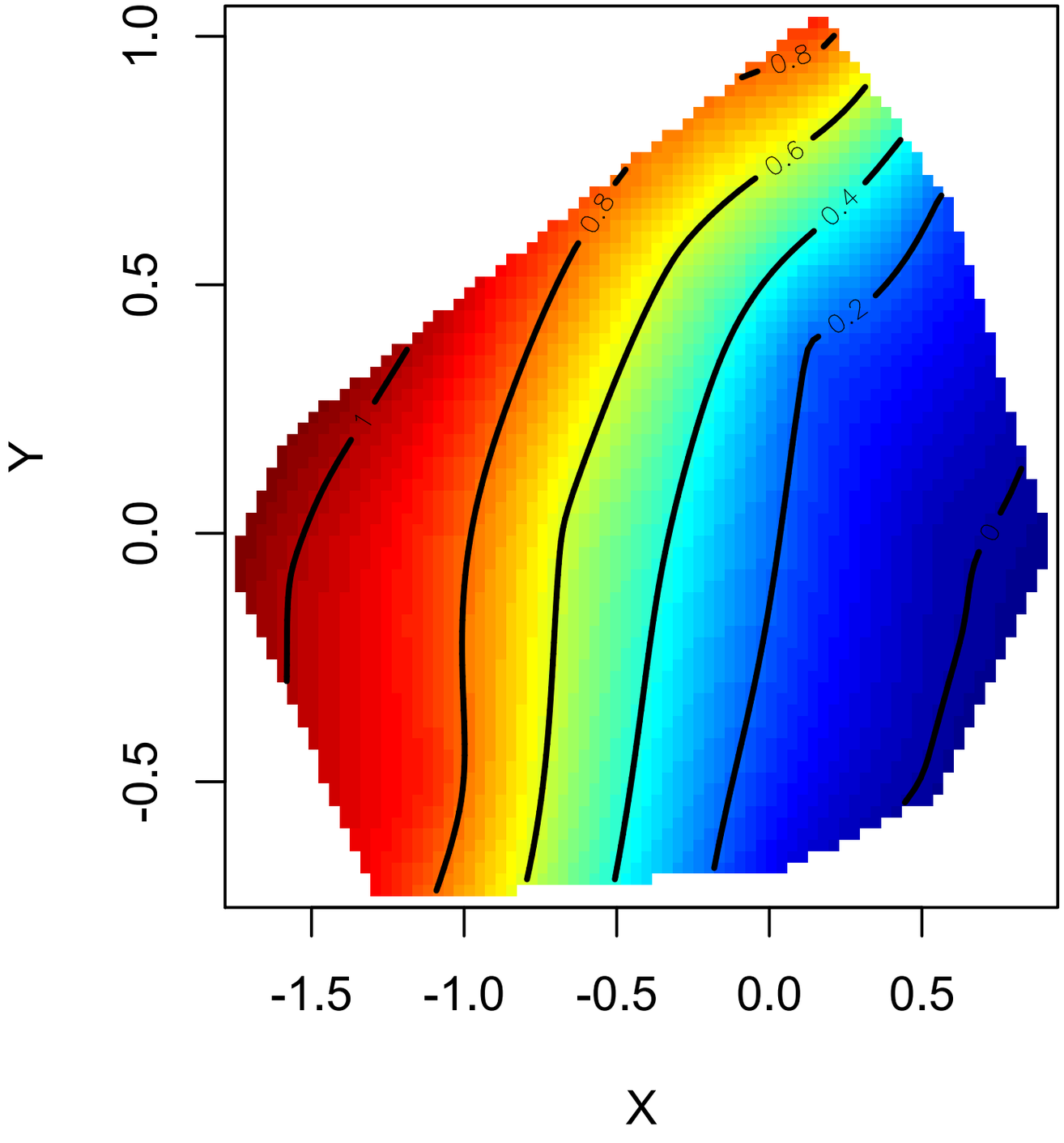
0
0
-1.5
-1.0
-0.5
0.0
0.5
X


hinukh
bezhta
hunzib
tsez
khvarshi inxokvari
khvarshi khvarshi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Y
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0
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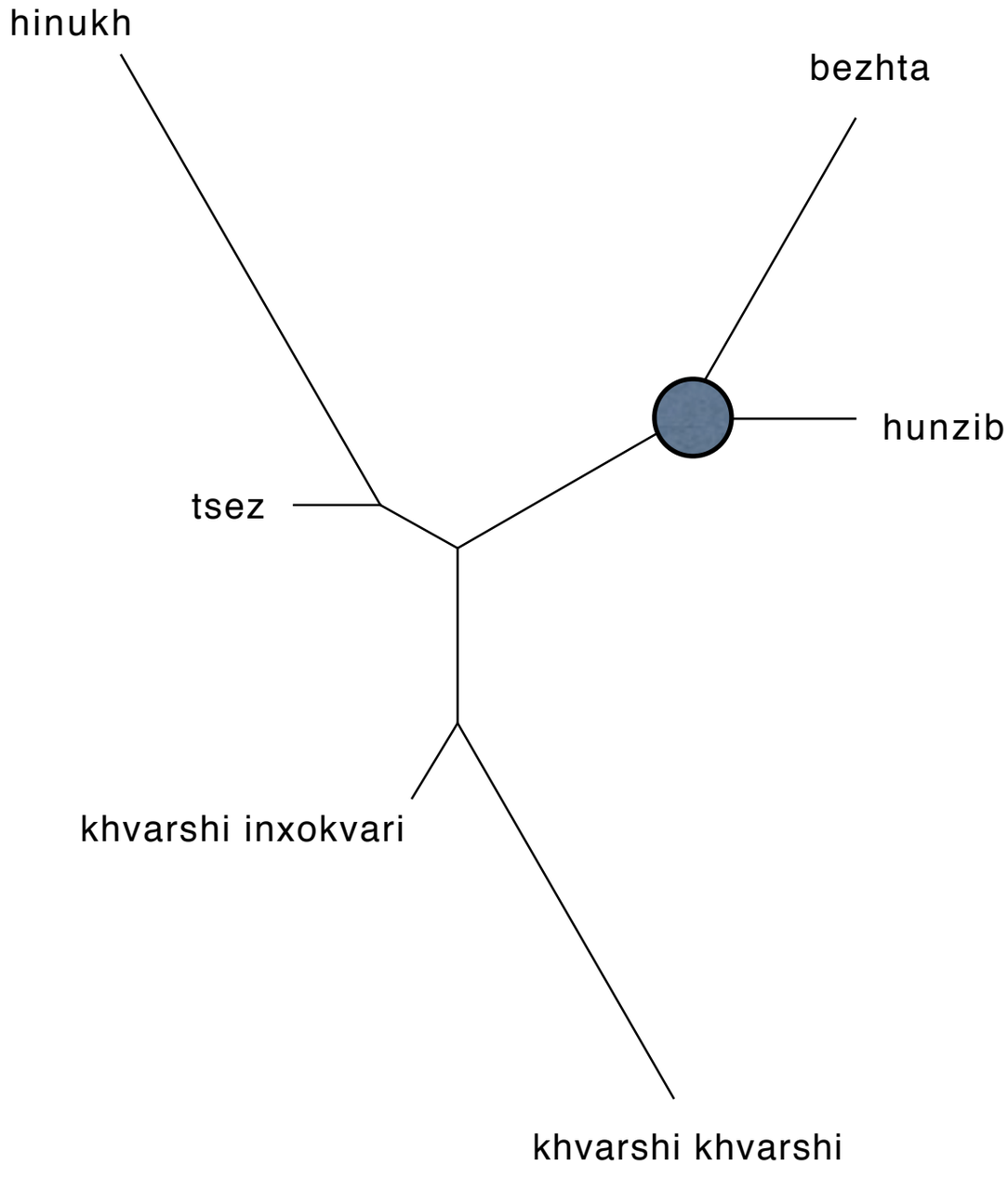
-1.0
-0.5
0.0
0.5
X


hinukh
bezhta
hunzib
tsez
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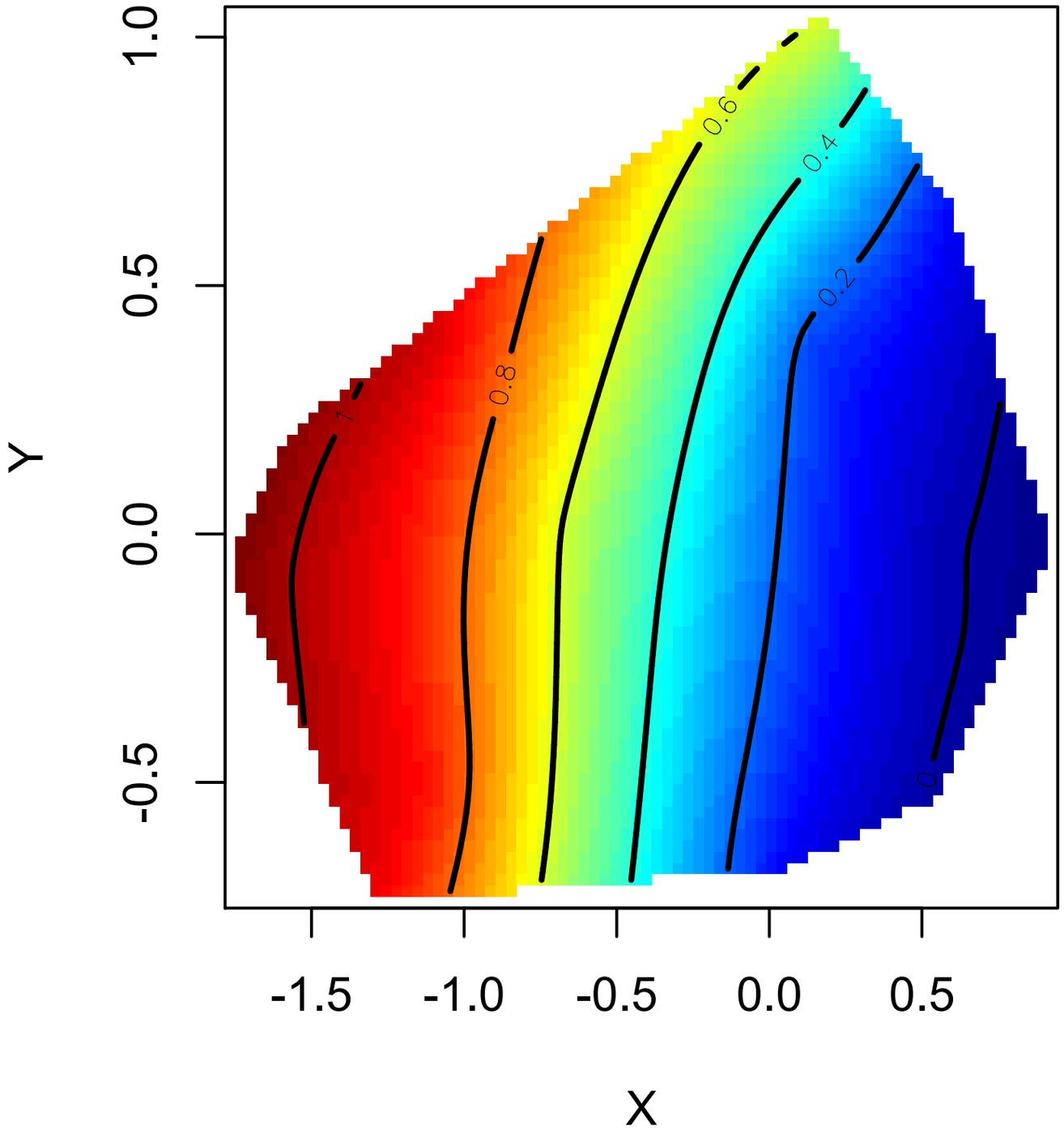
khvarshi khvarshi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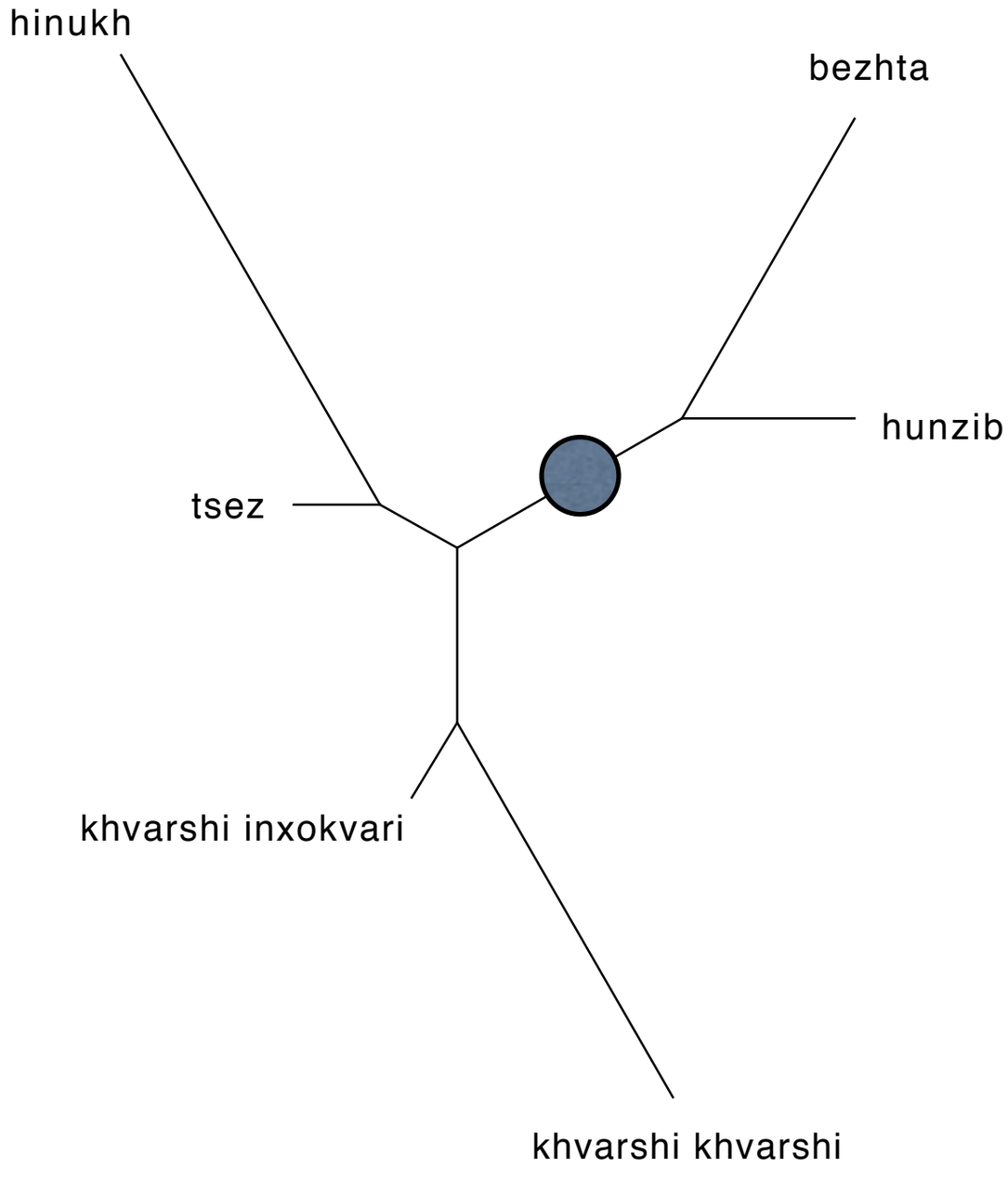
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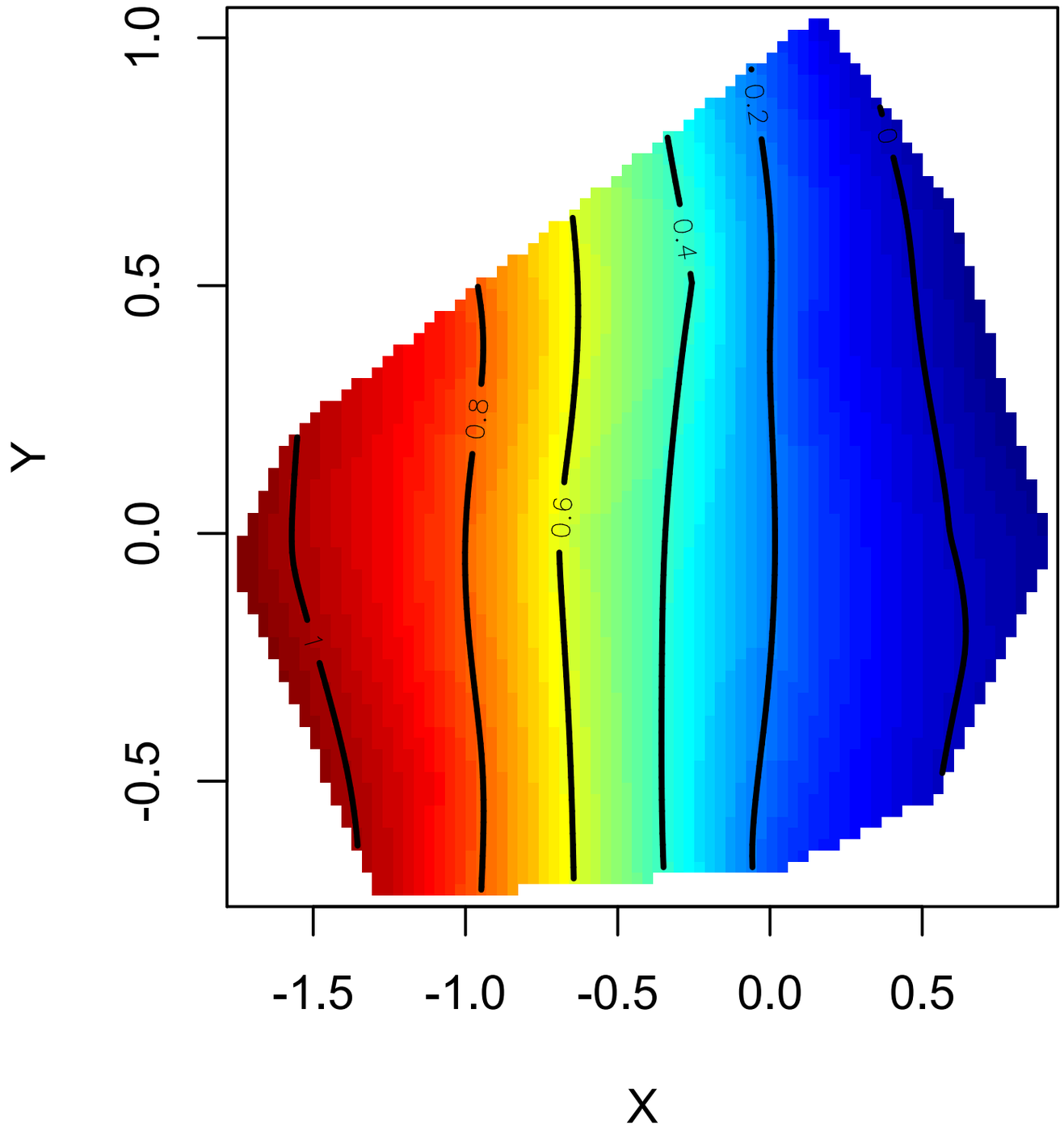
khvarshi khvarshi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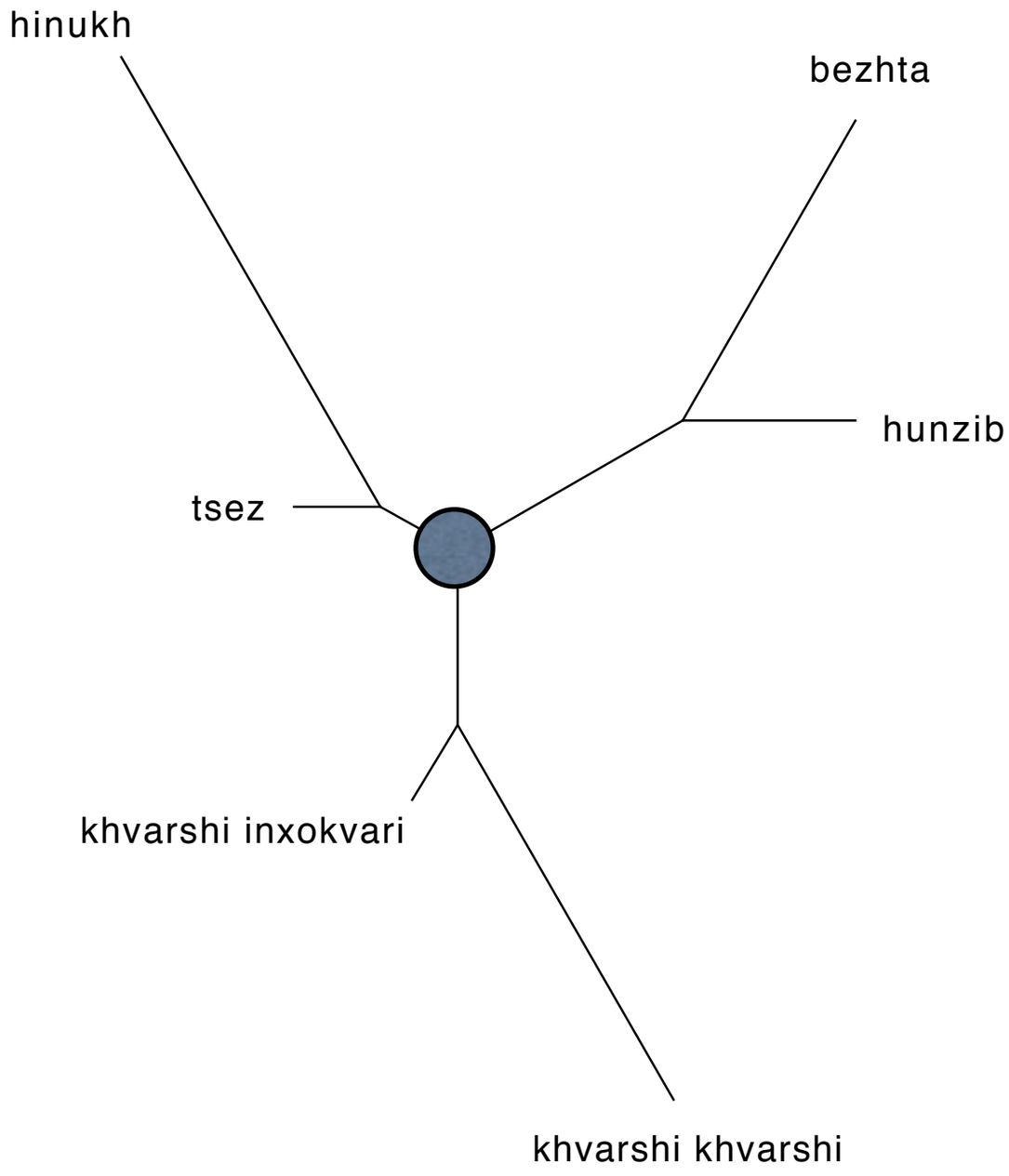
X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hunzib
tsez
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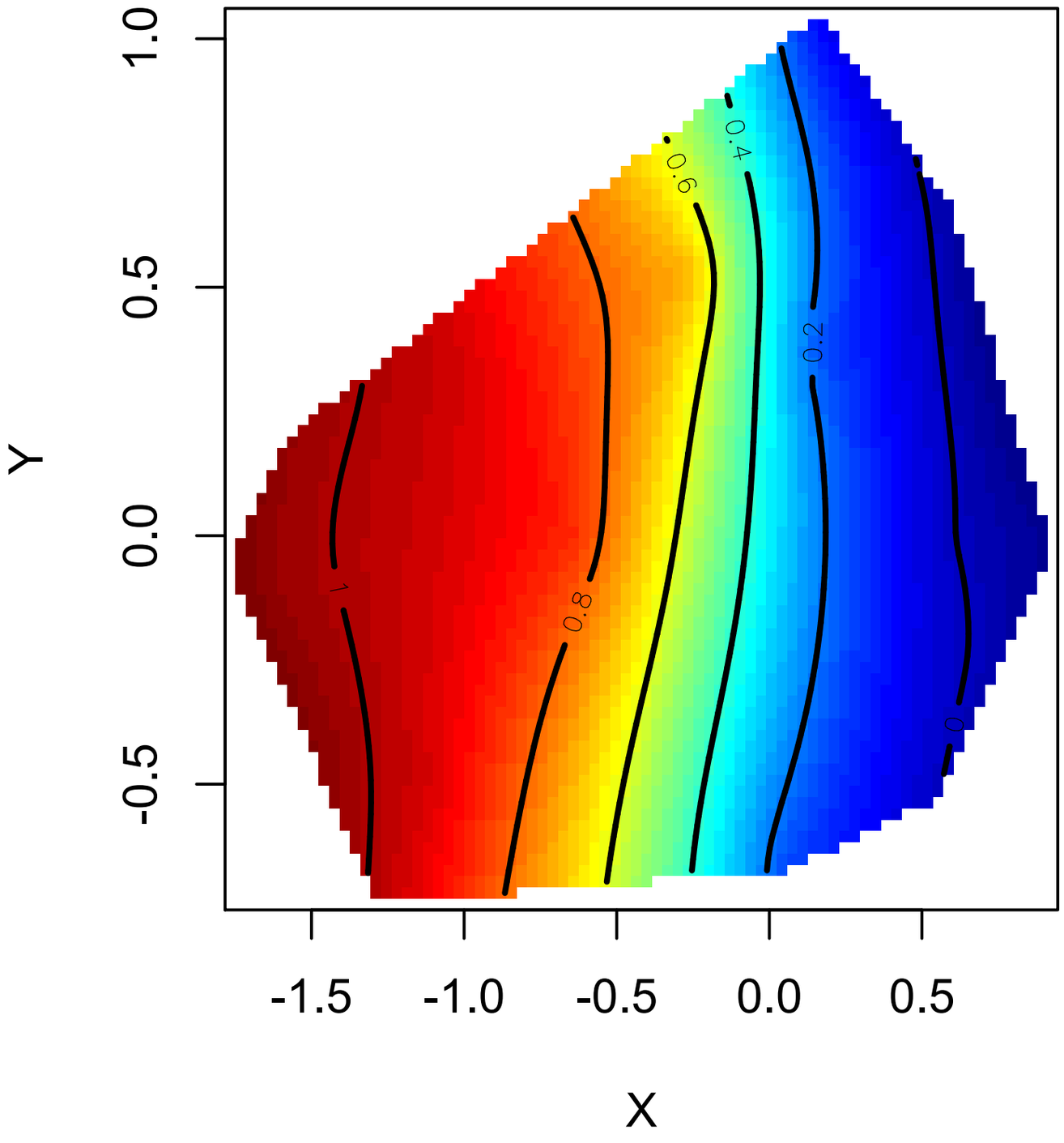
khvarshi khvarshi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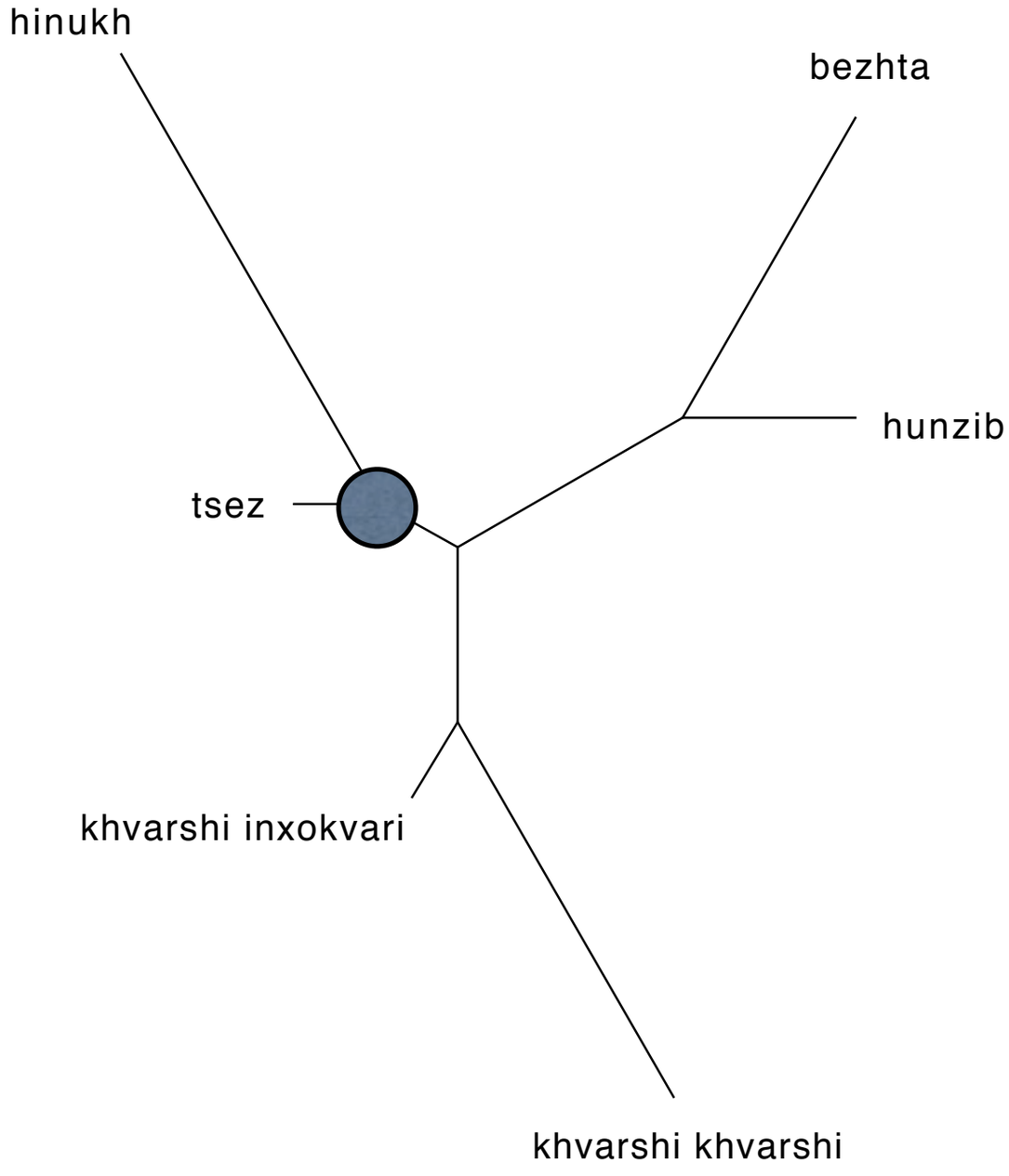
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tsez
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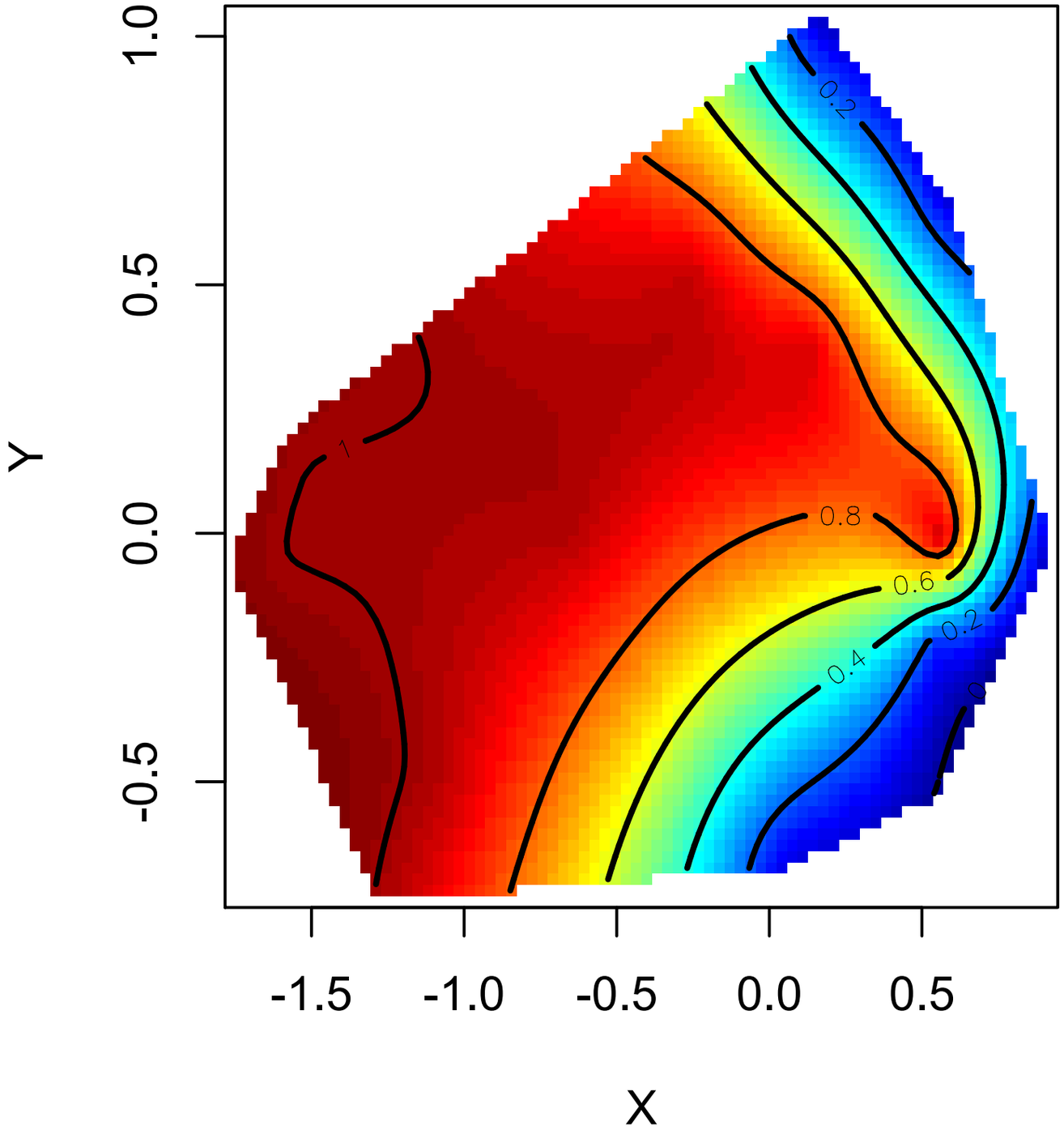
khvarshi khvarshi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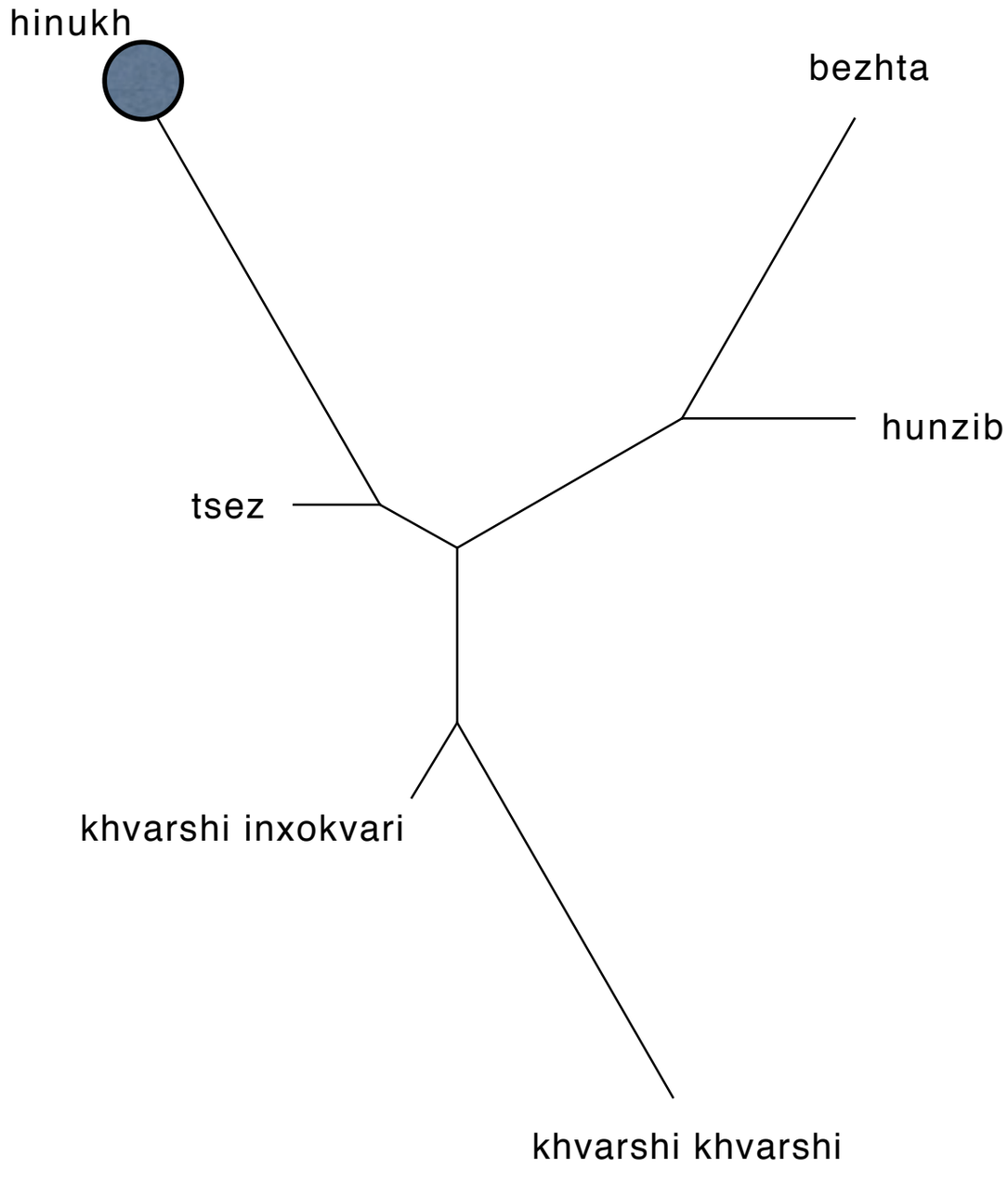
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tsez
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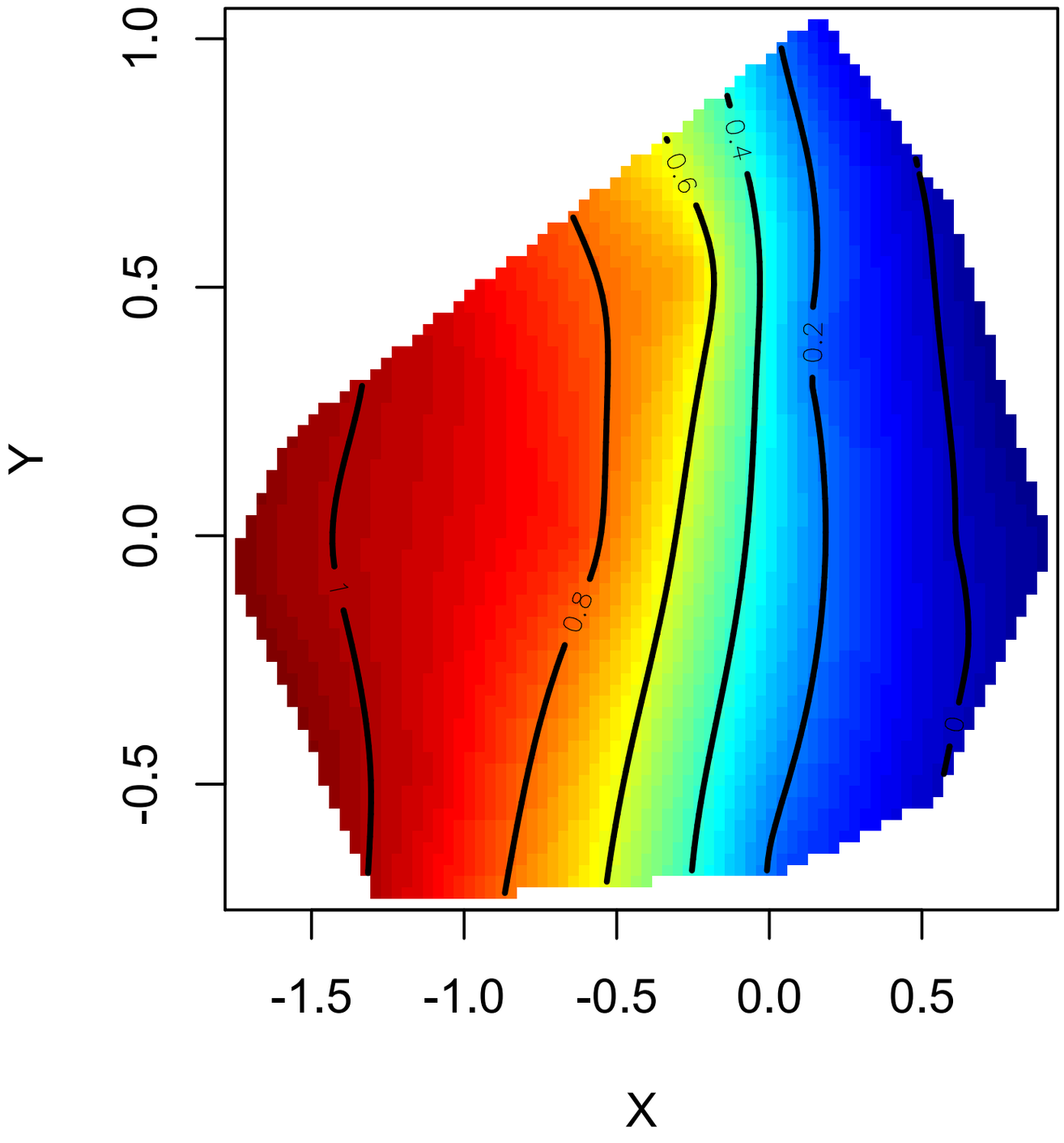
khvarshi khvarshi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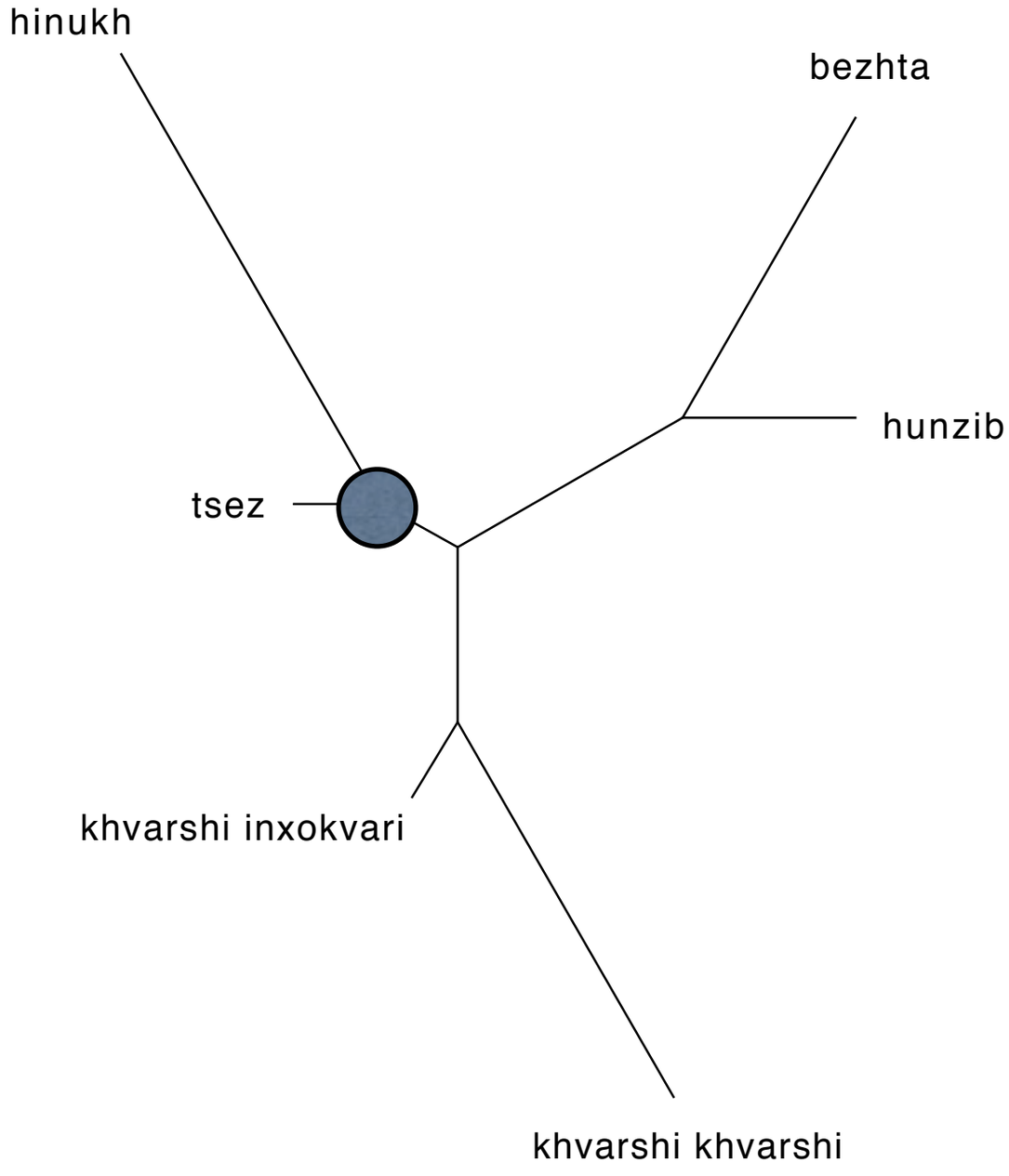
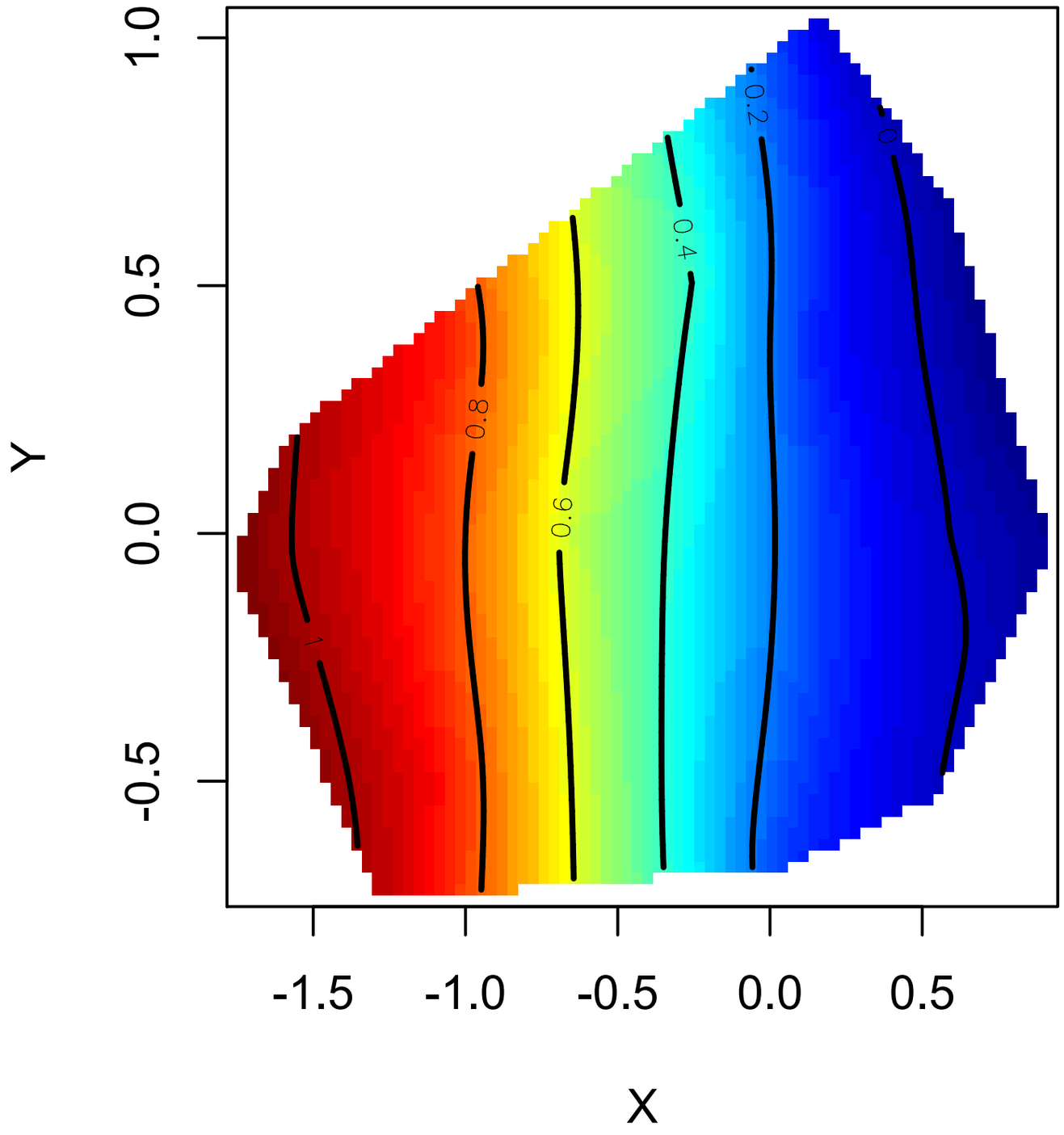

hinukh
bezhta
hunzib
tsez
khvarshi inxokvari
khvarshi khvarshi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Y
0.2
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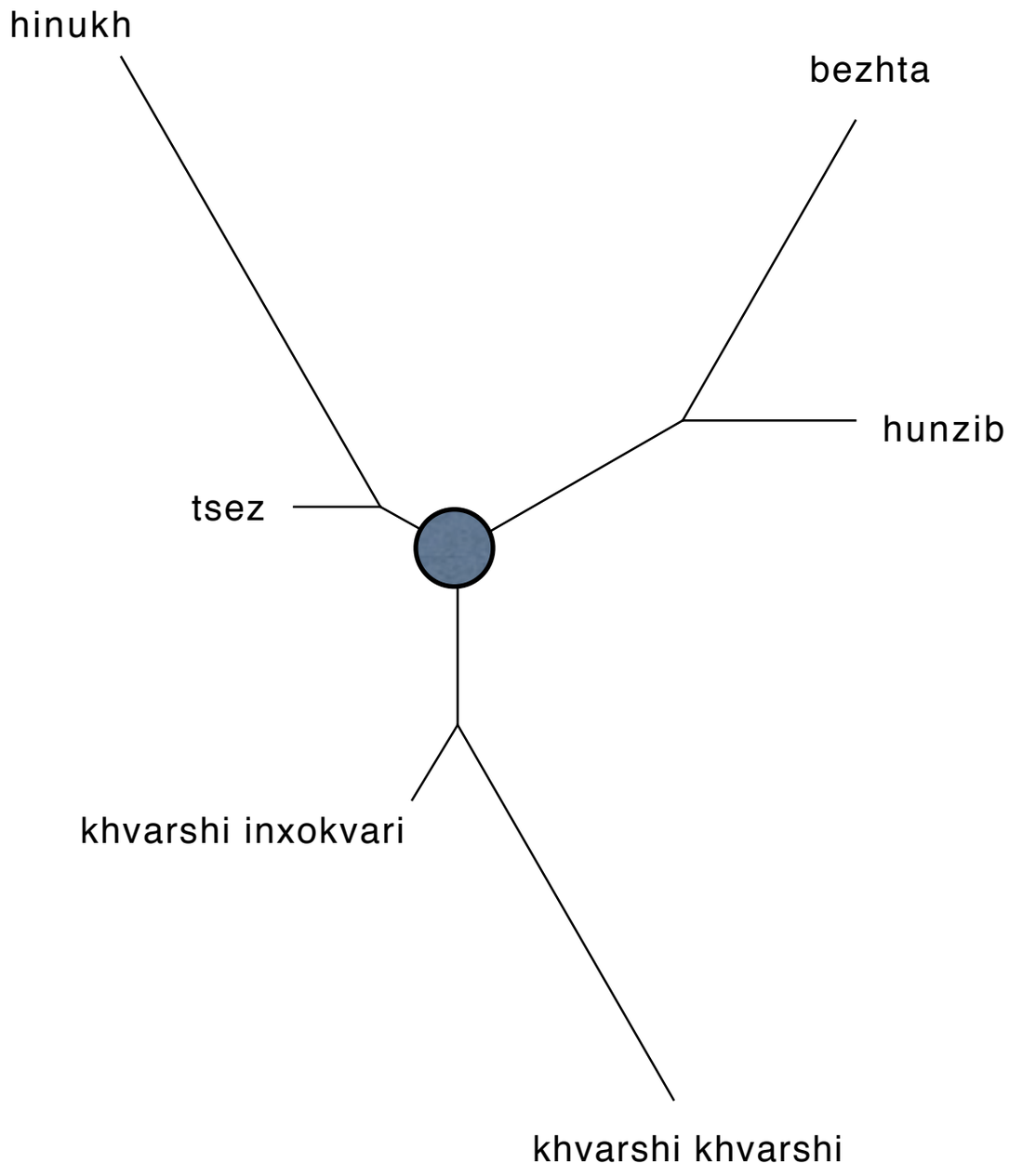
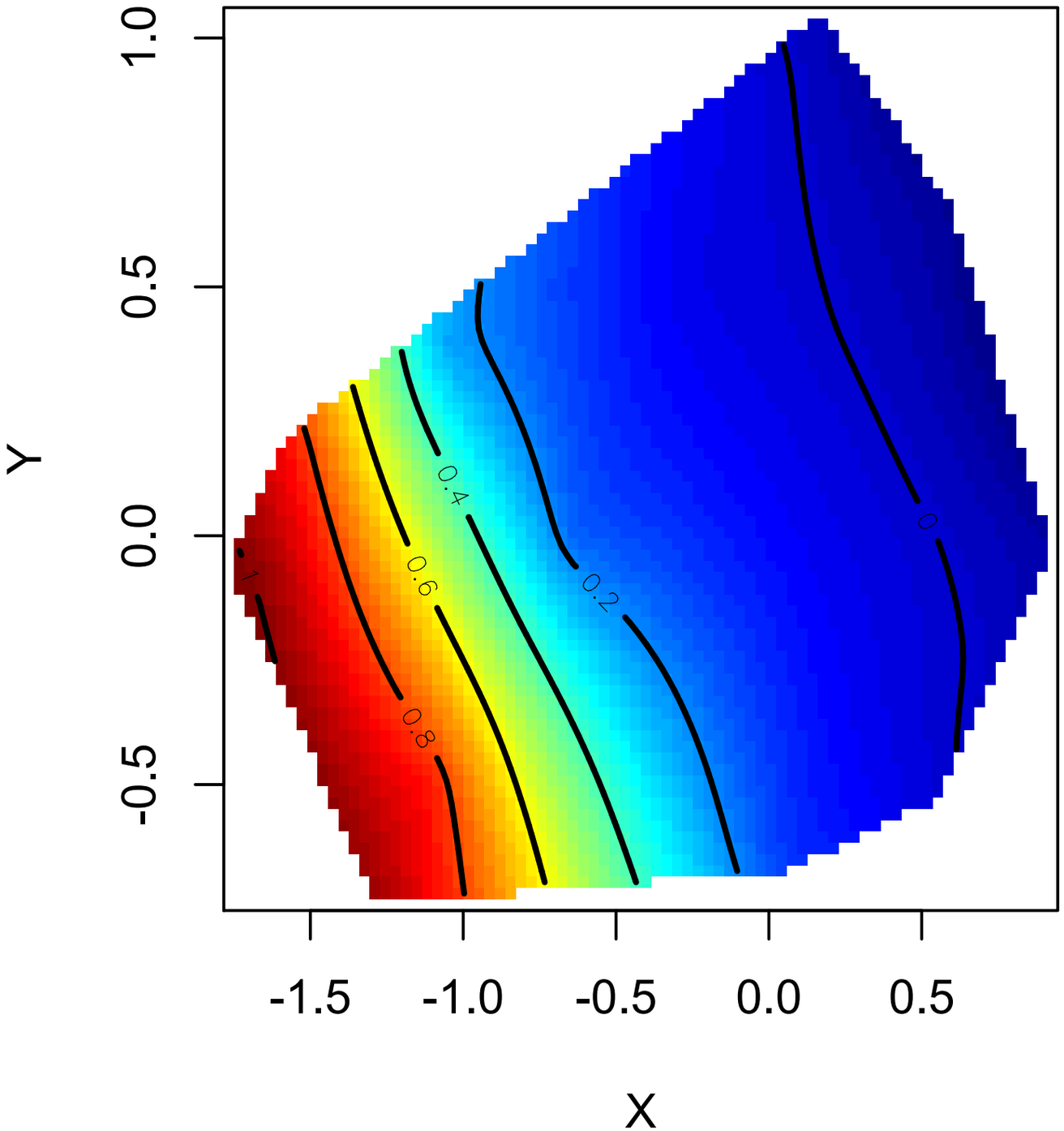
X


hinukh
bezhta
hunzib
tsez
khvarshi inxokvari
khvarshi khvarshi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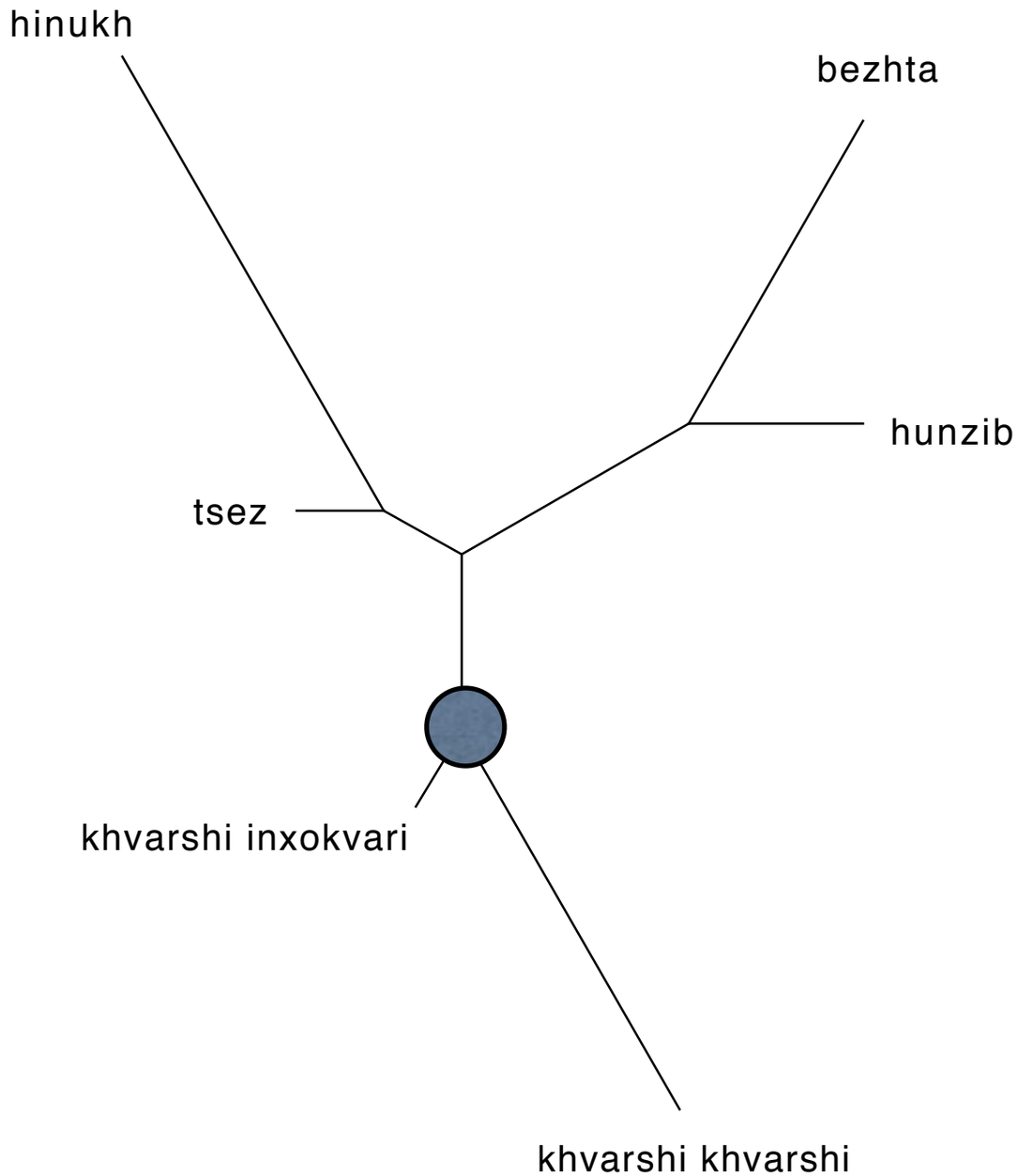
hinukh
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hunzib
tsez
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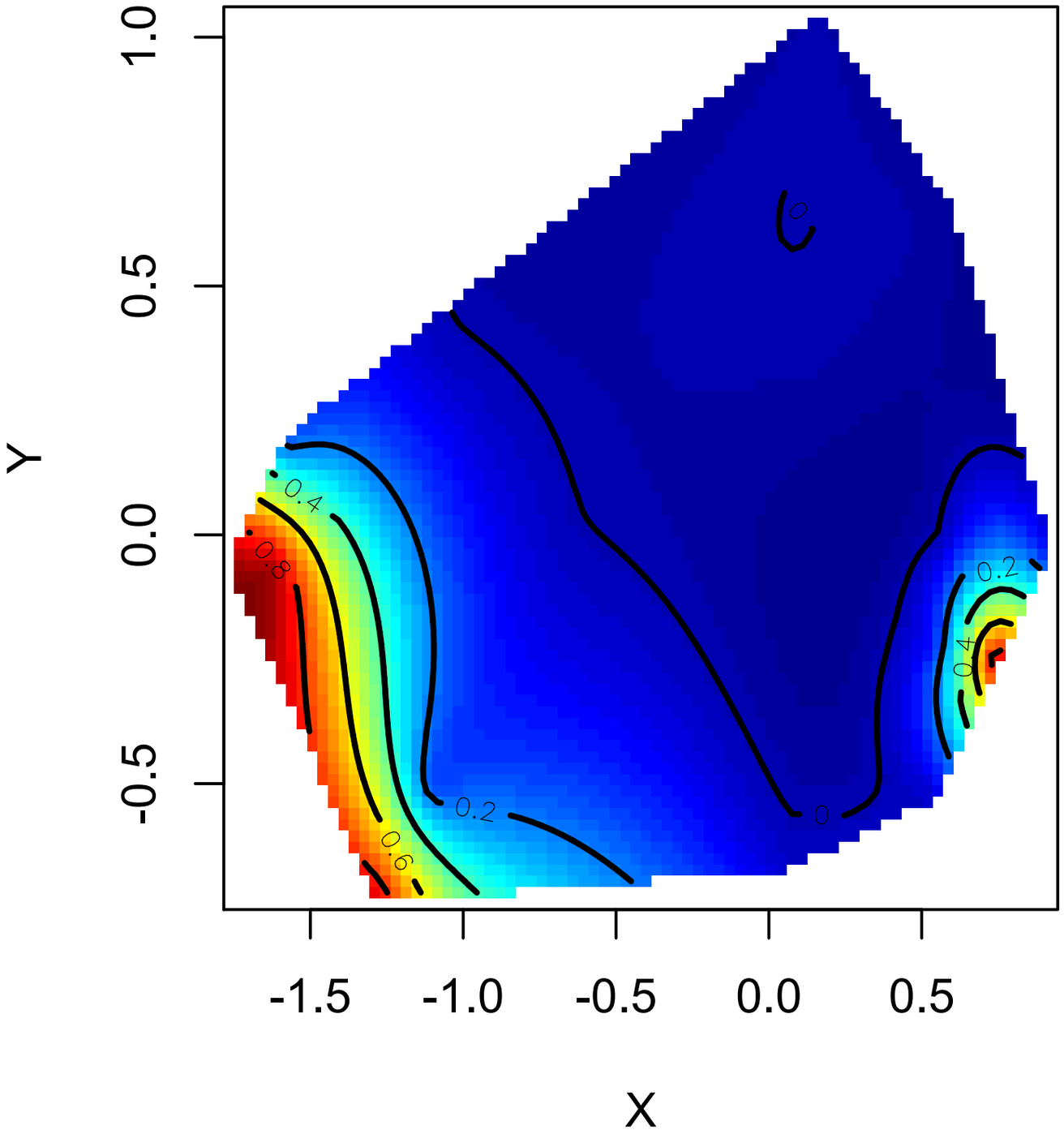
khvarshi khvarshi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-0.5
0.0
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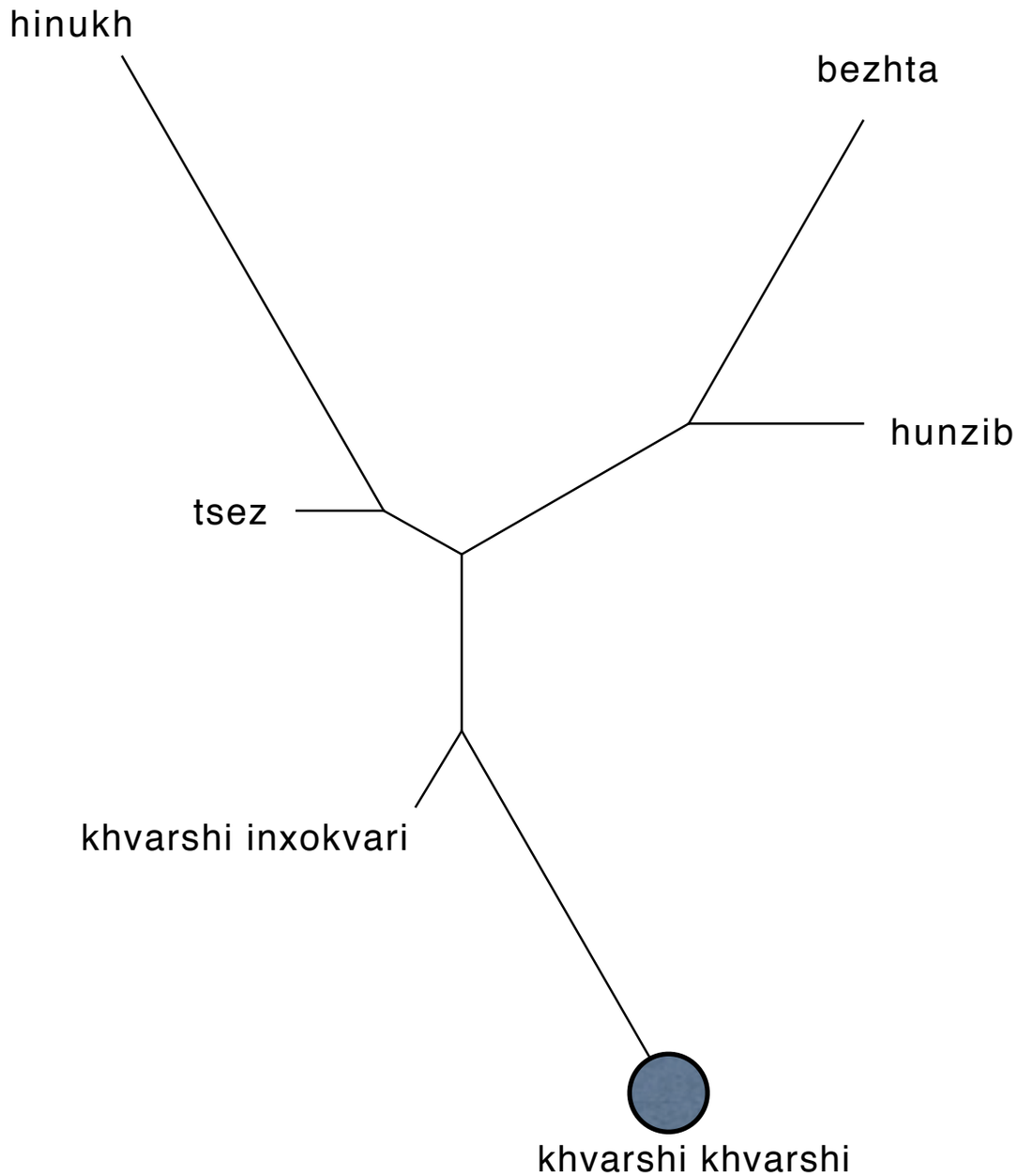
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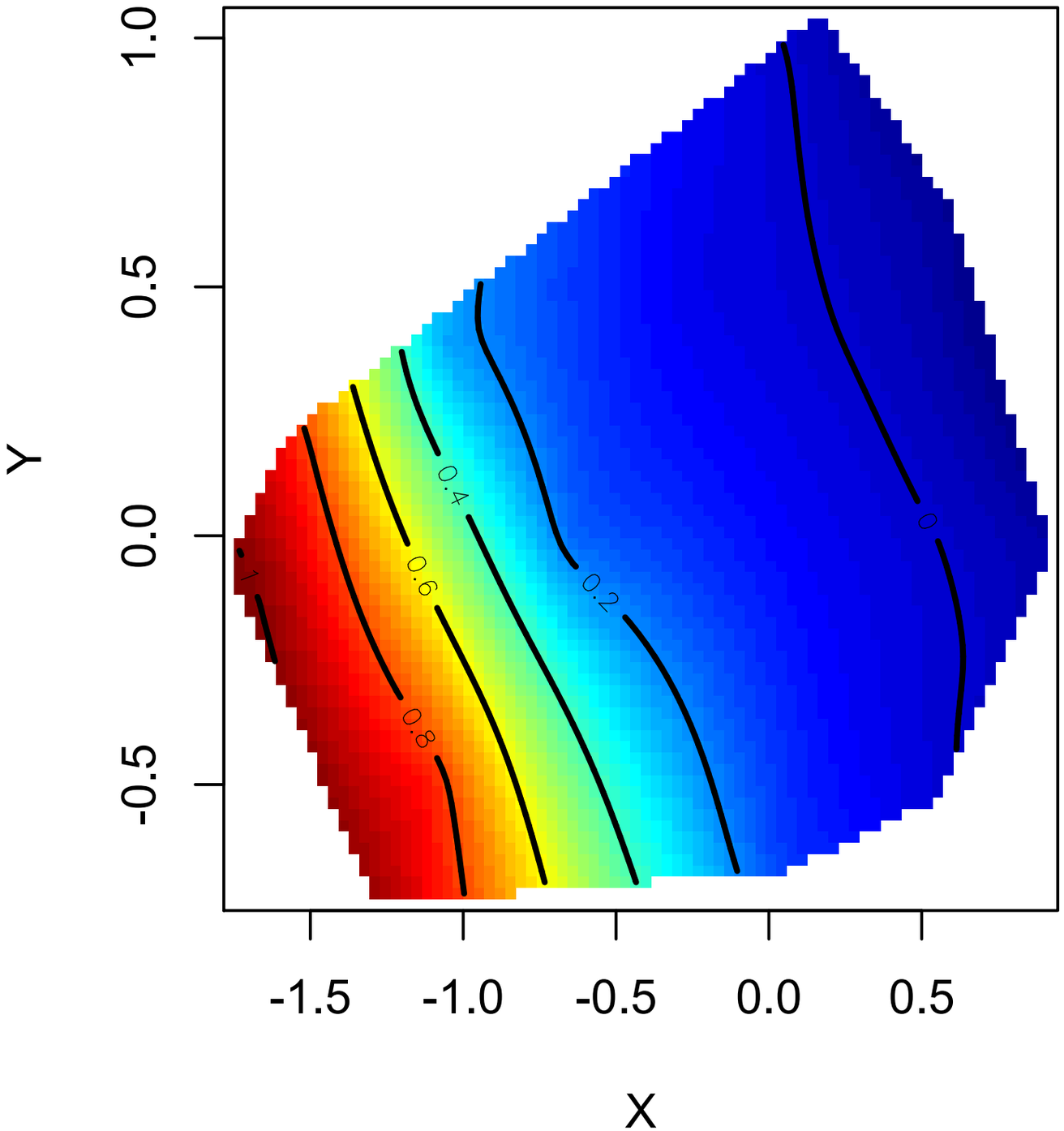
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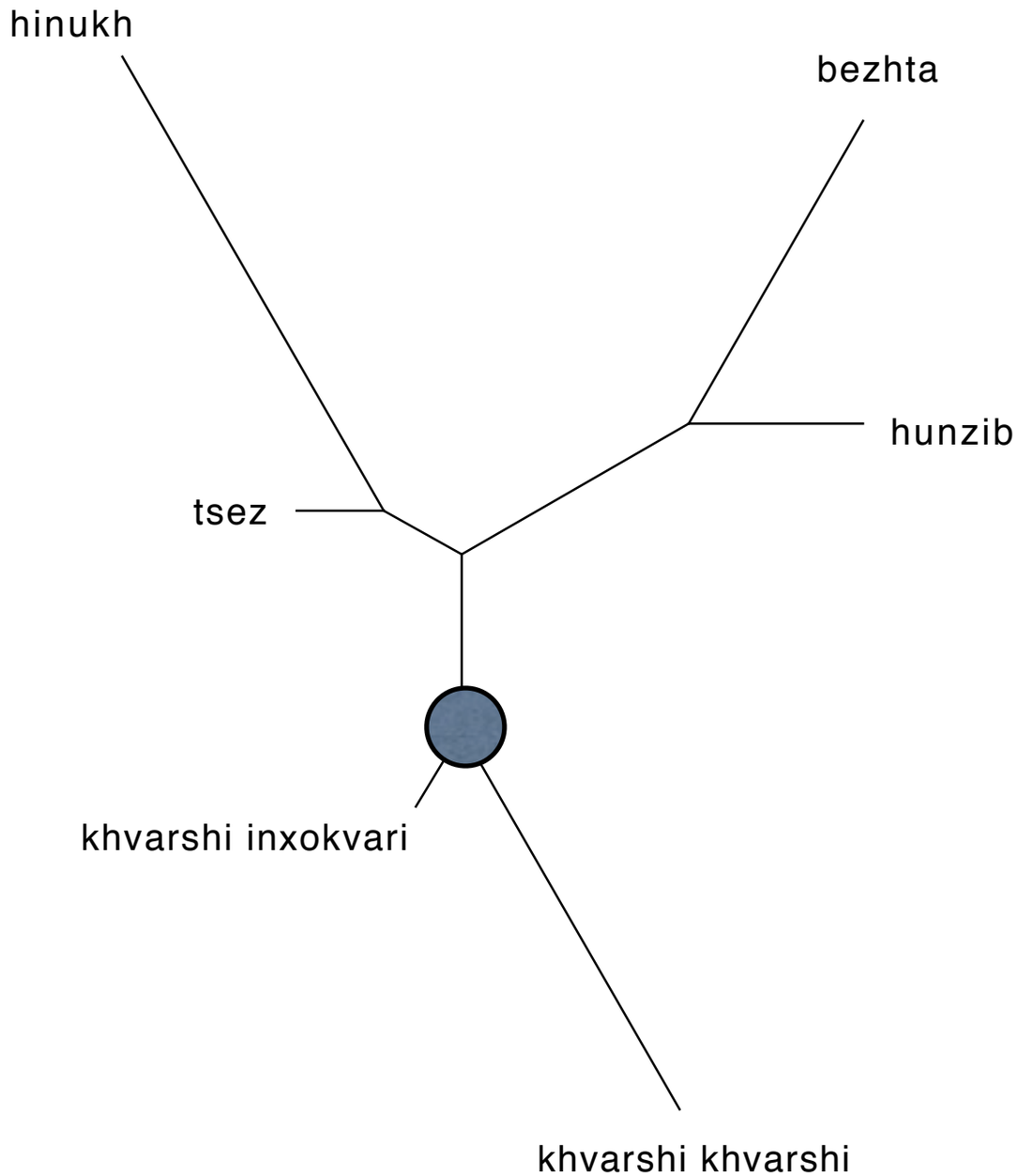
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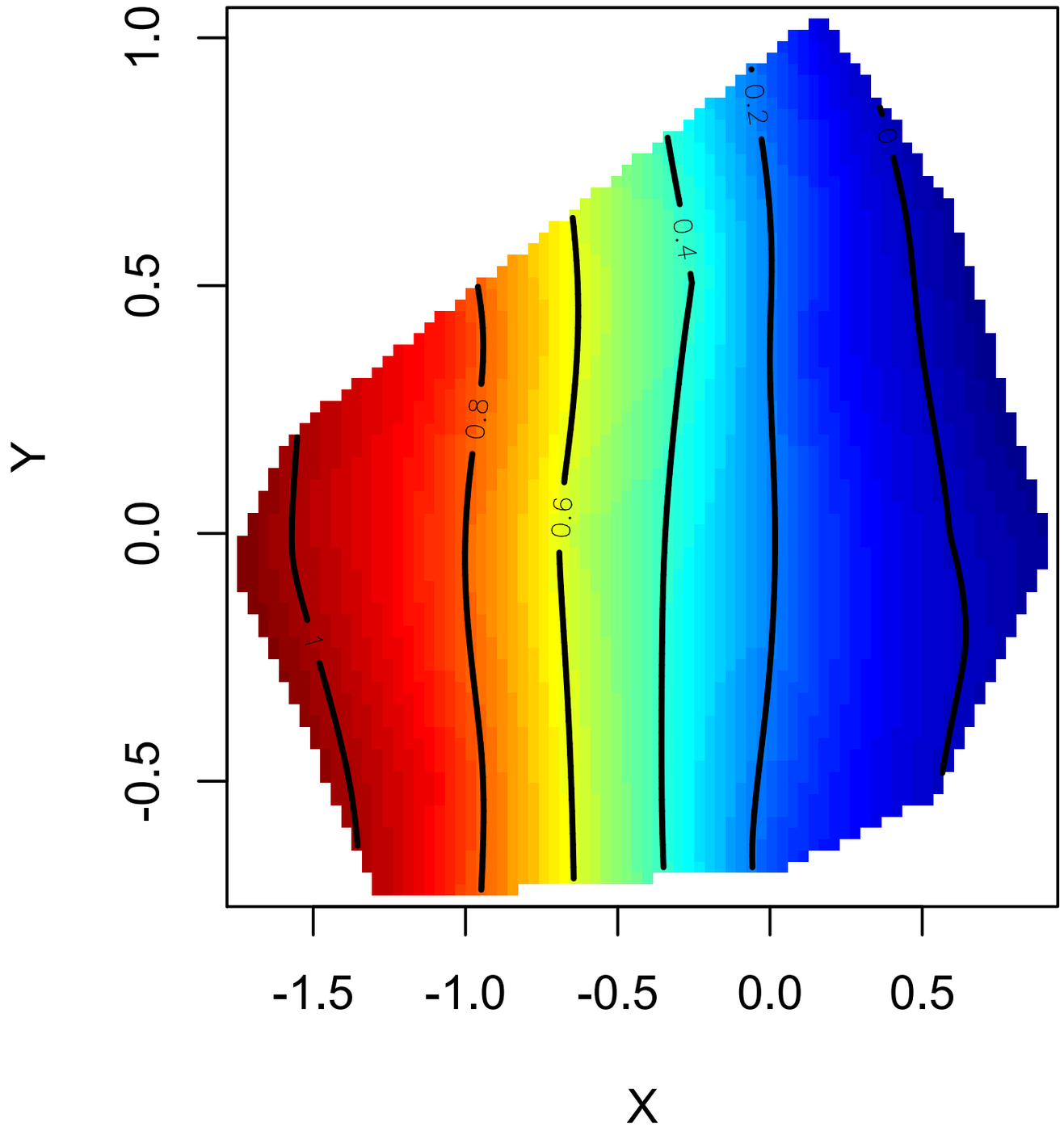
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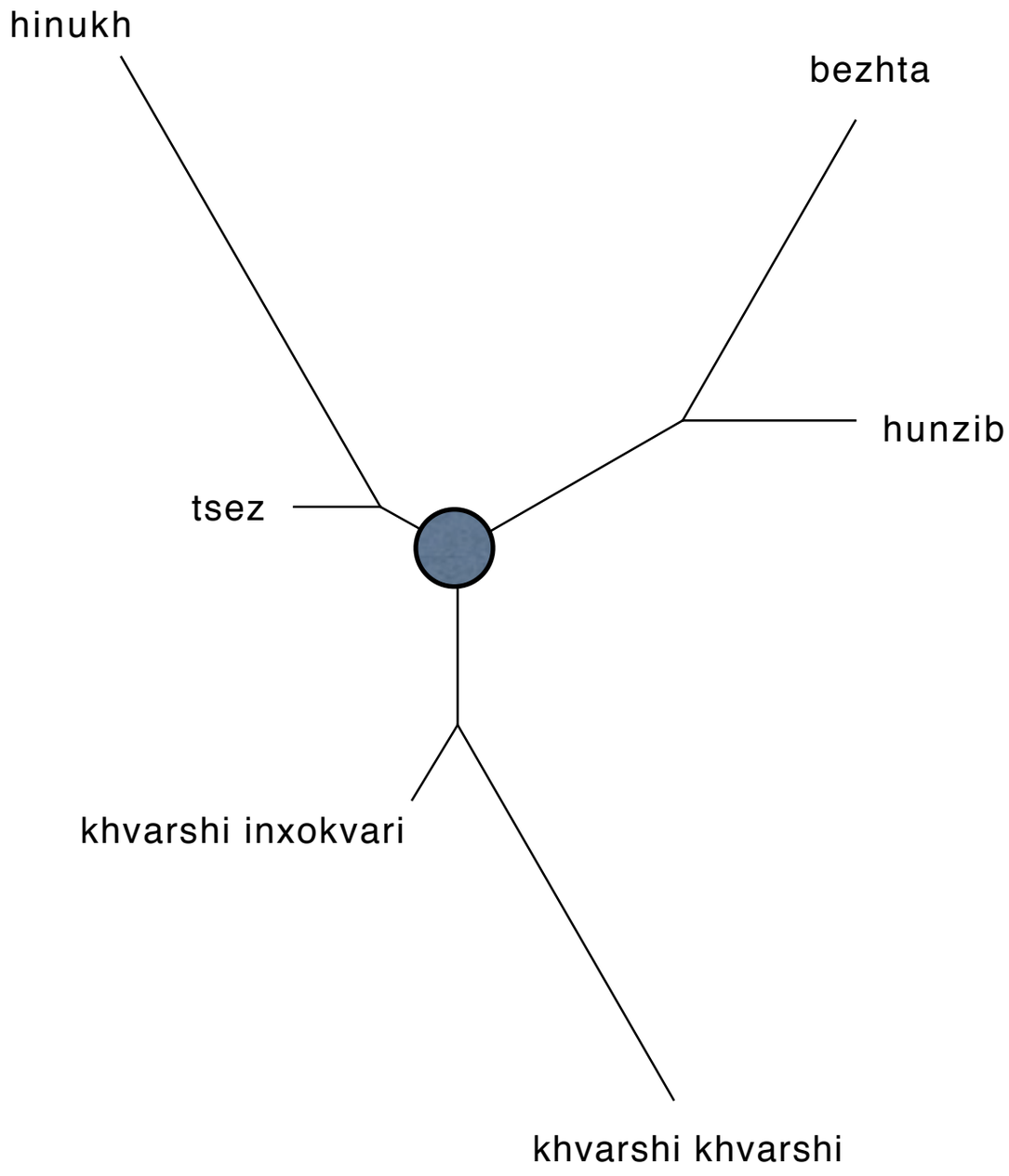
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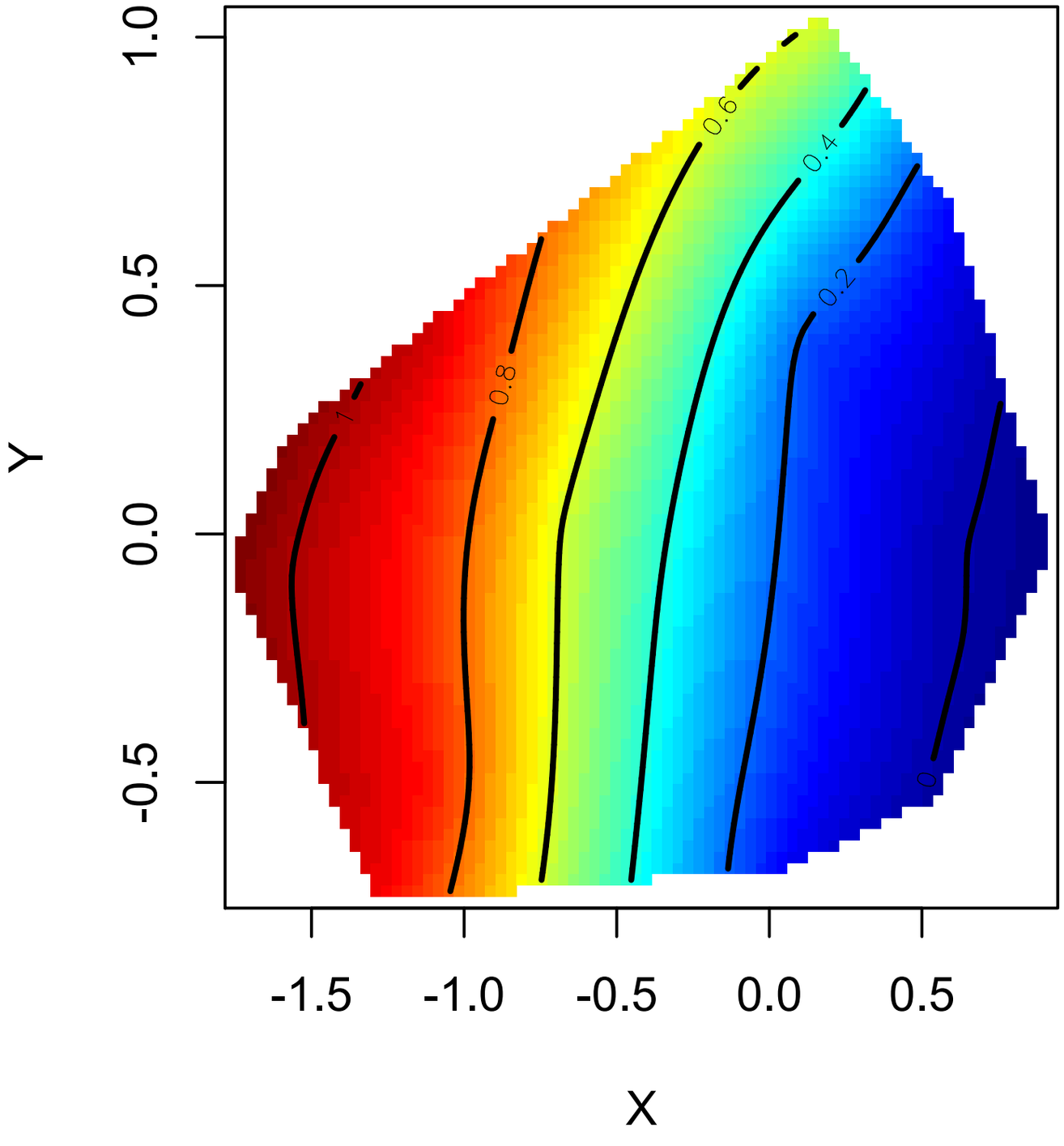
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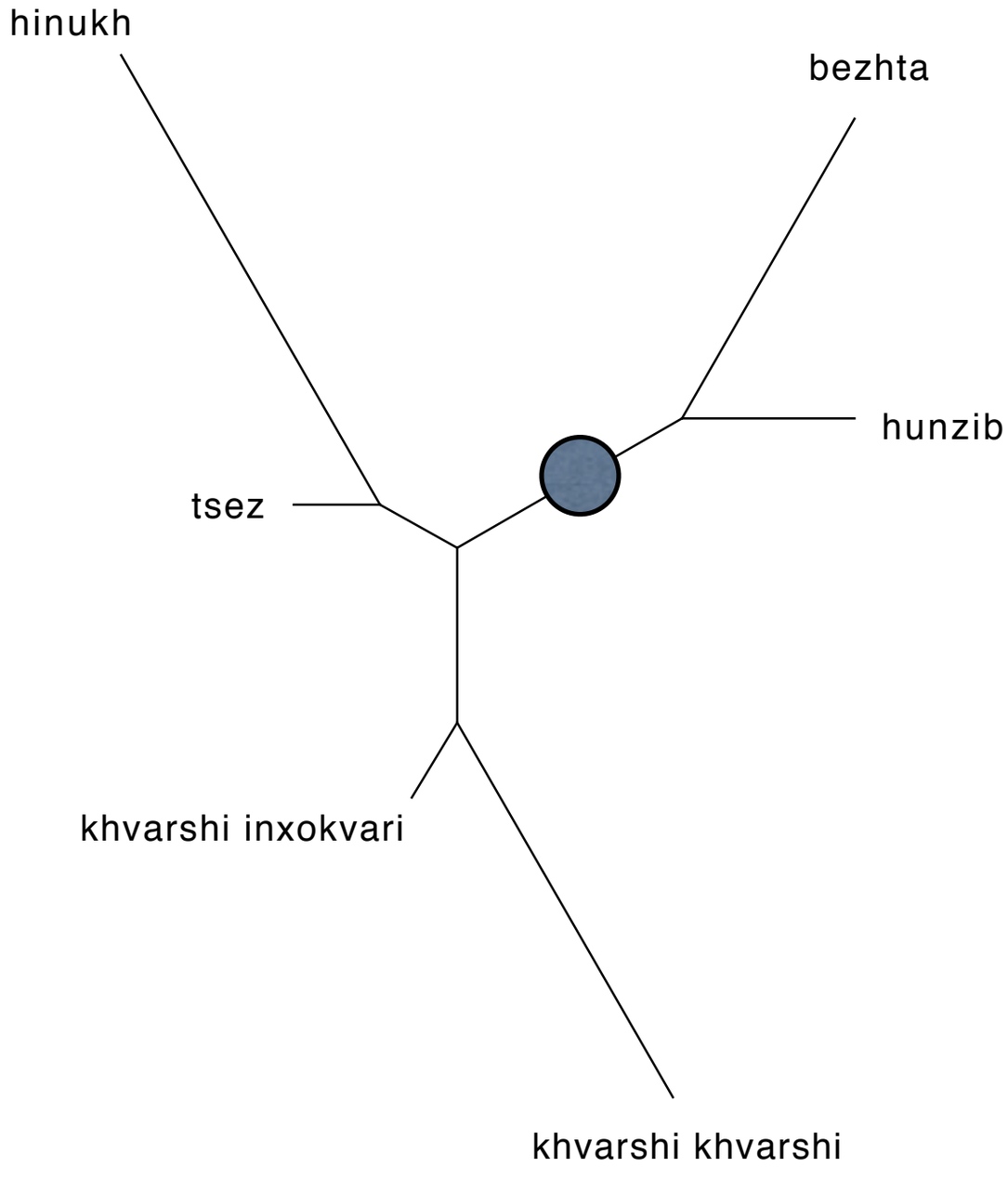
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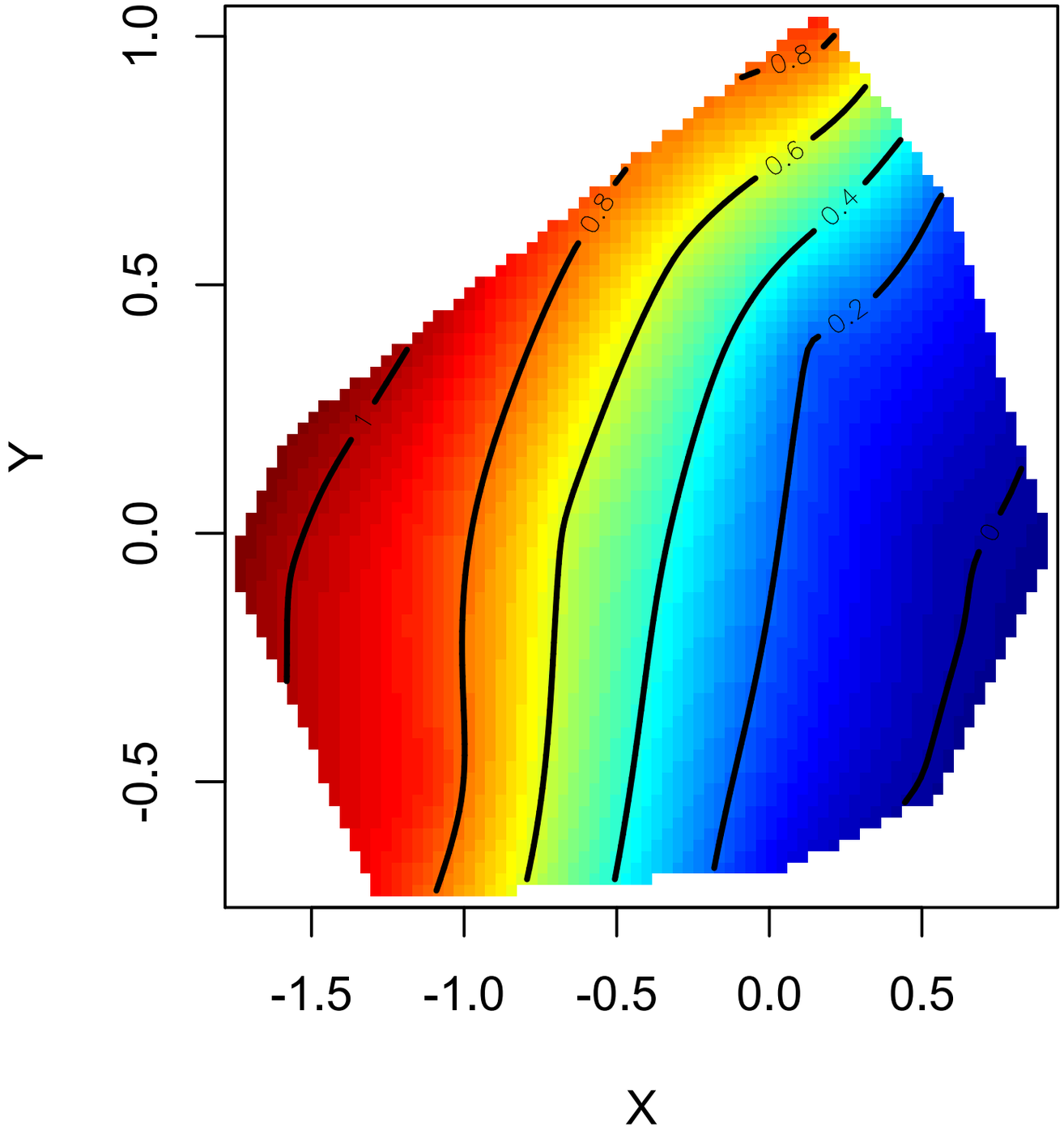
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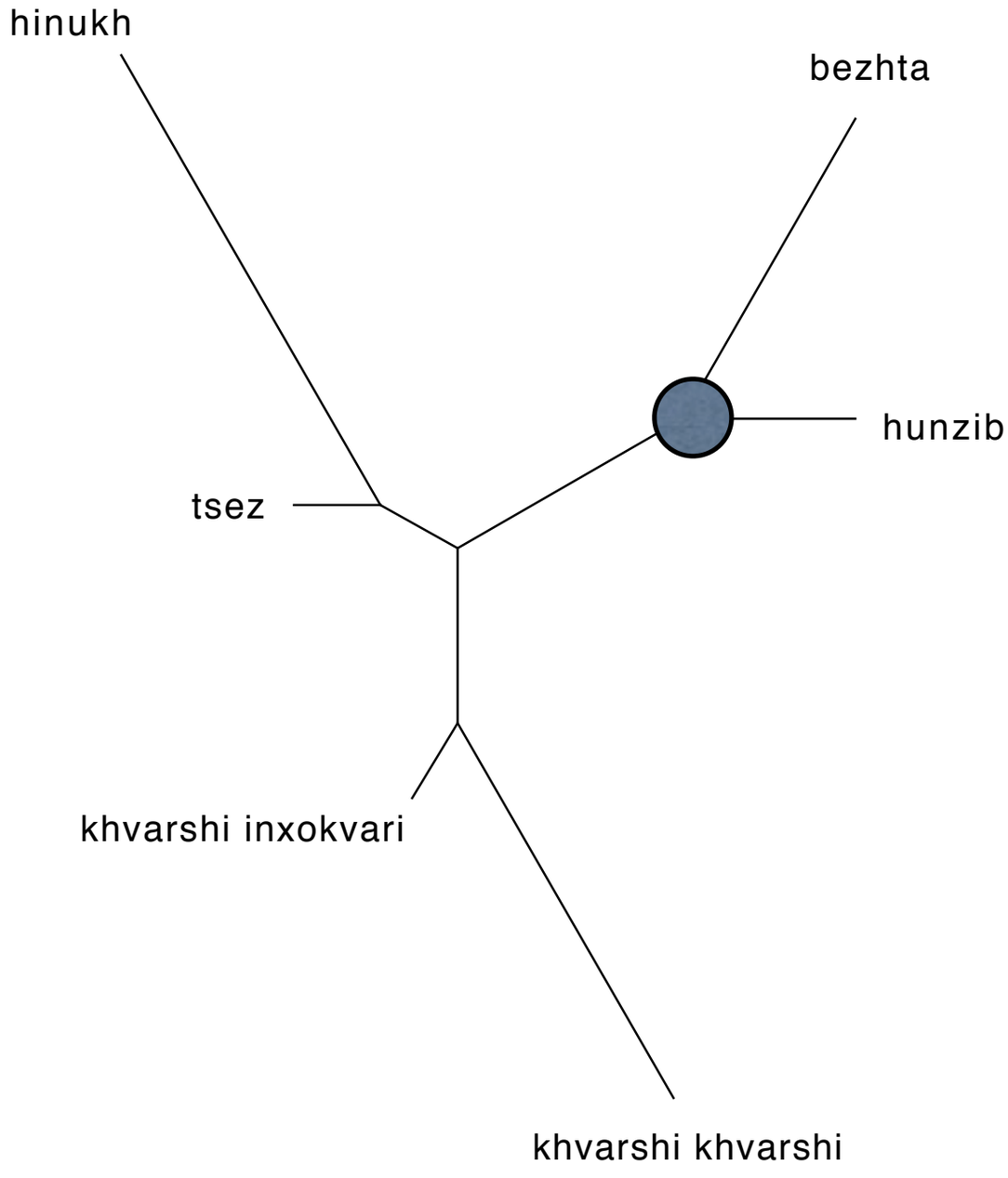
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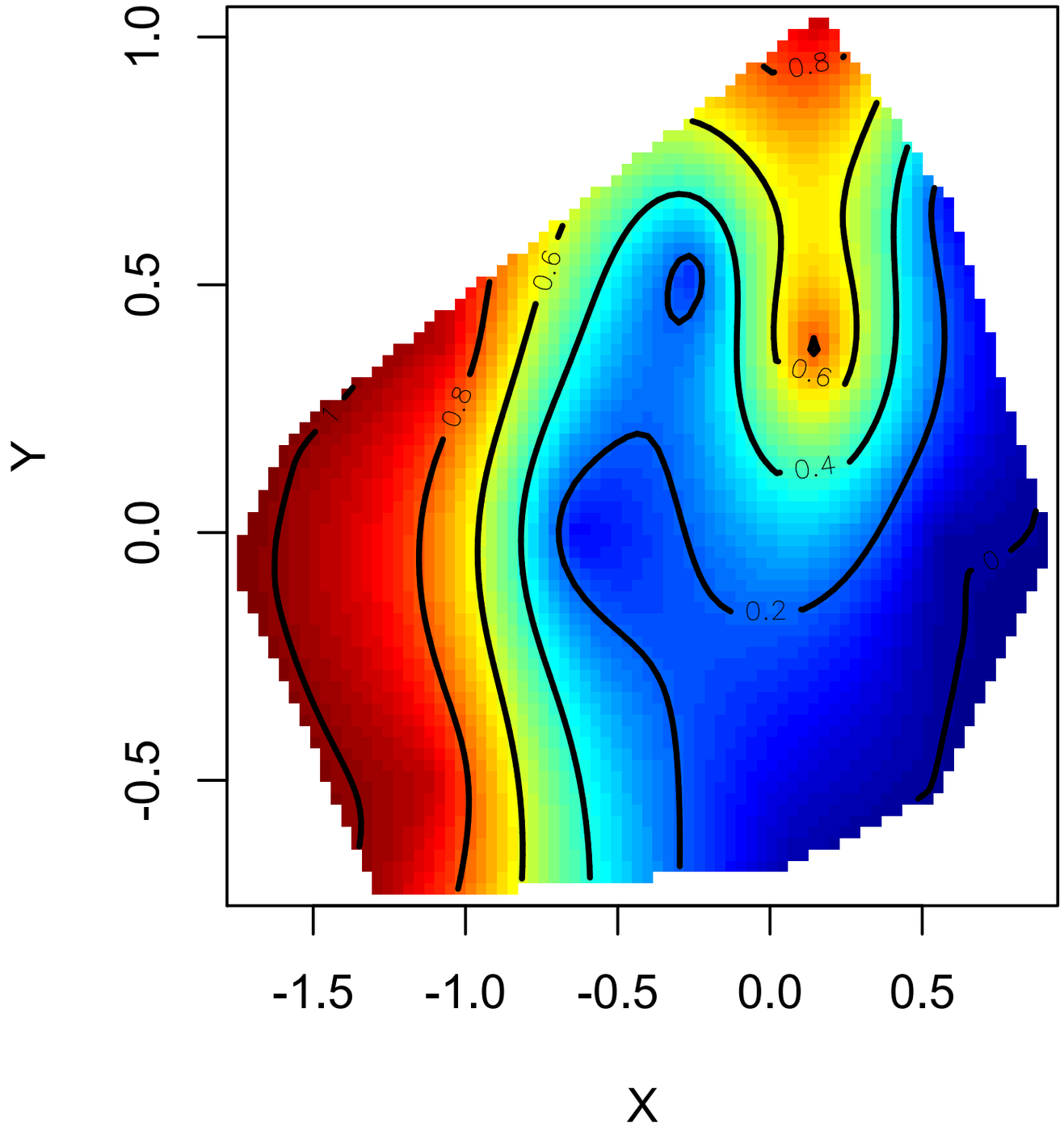
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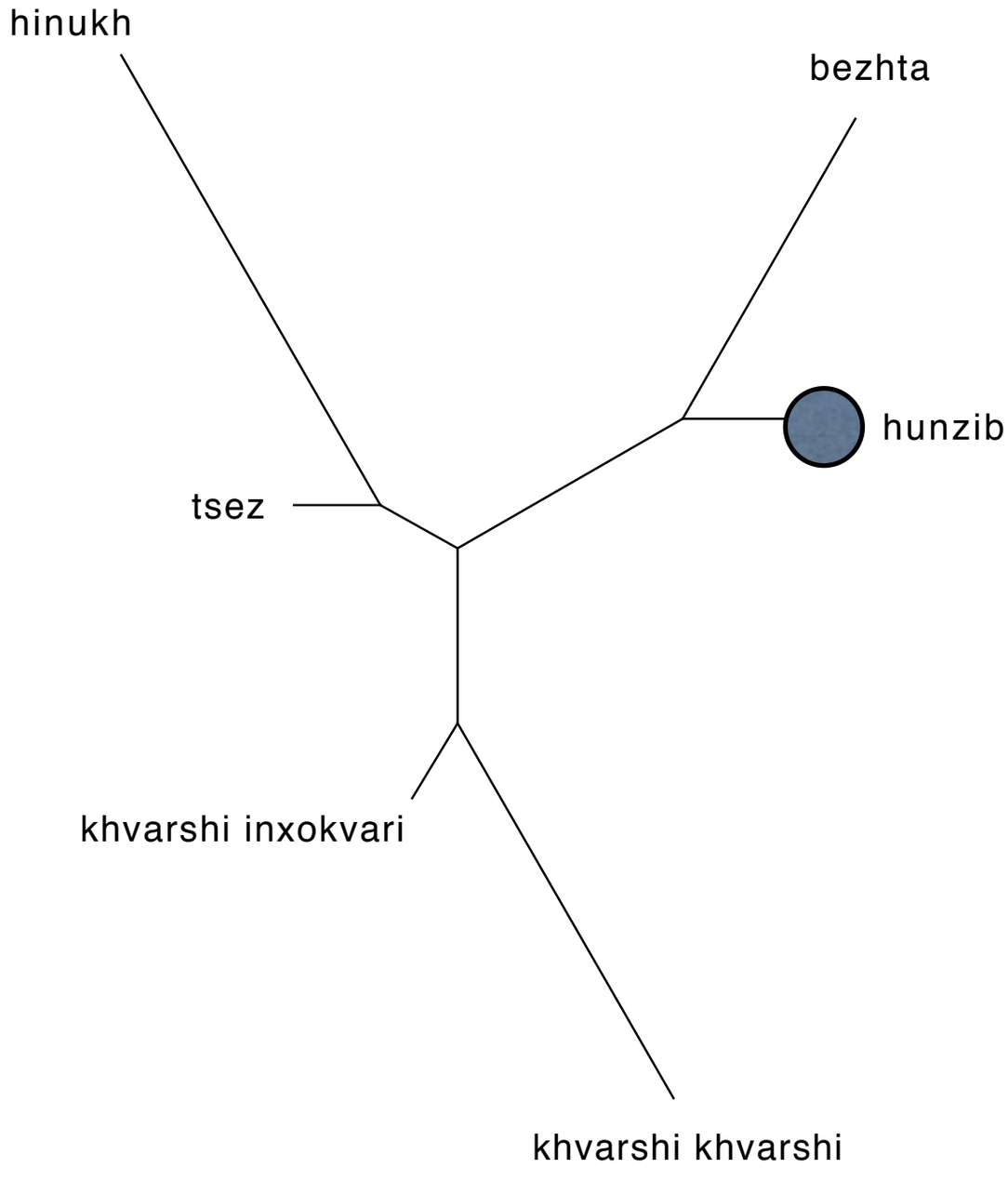
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Germanic *in* using the Universal Declaration of Human Rights

in, im	German
in	Dutch
in	English
yn	Frisian
in	Afrikaans
in	Scots
אין	Yiddish
í	Icelandic
i	Swedisch
i	Nynorsk
i	Bokmål
í	Faroese
i	Danish

Article 10

English: "everyone is entitled in full equality to a fair and public hearing by an independent and impartial tribunal , in the determination of his rights and obligations and of any criminal charge against him ."

Afrikaans: "elkeen het , in volle gelykheid , die reg tot 'n regverdige en openbare verhoor deur 'n onafhanklike en objektiewe tribunaal , in die bepaling van sy regte en verpligtinge en die ondersoek van enige kriminele saak teen hom ."

German: "jeder hat *bei* der feststellung seiner rechte und pflichten sowie bei einer gegen ihn erhobenen strafrechtlichen beschuldigung in voller gleichheit anspruch auf ein gerechtes und öffentliches verfahren vor einem unabhängigen und unparteiischen gericht ."

Danish: "enhver har *under* fuld ligeberettigelse krav på en retfærdig og offentlig behandling ved en uafhængig og upartisk domstol , *når* der skal træffes en afgørelse med hensyn til hans rettigheder og forpligtelser og med hensyn til en hvilken som helst mod ham rettet strafferetslig anklage ."

Article 10

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German: "jeder hat ***bei*** der feststellung seiner rechte und pflichten sowie bei einer gegen ihn erhobenen strafrechtlichen beschuldigung **in** voller gleichheit anspruch auf ein gerechtes und öffentliches verfahren vor einem unabhängigen und unparteiischen gericht ."

Danish: "enhver har ***under*** fuld ligeberettigelse krav på en retfærdig og offentlig behandling ved en uafhængig og upartisk domstol , ***når*** der skal træffes en afgørelse med hensyn til hans rettigheder og forpligtelser og med hensyn til en hvilken som helst mod ham rettet strafferetslig anklage ."

Preamble, sentence 5

English:

“whereas the peoples of the united nations have **in** the charter reaffirmed their faith **in** fundamental human rights , **in** the dignity and worth of the human person and **in** the equal rights of men and women and have determined to promote social progress and better standards of life **in** larger freedom ,”

German:

“da die völker der vereinten nationen **in** der charta ihren glauben an die grundlegenden menschenrechte , an die würde und den wert der menschlichen person und an die gleichberechtigung von mann und frau erneut bekräftigt und beschlossen haben , den sozialen fortschritt und bessere lebensbedingungen **in** größerer freiheit zu fördern ,”

Preamble, sentence 5

English:

"whereas the peoples of the ***united nations*** have **in** the ***charter*** reaffirmed their faith **in** fundamental human rights , **in** the dignity and worth of the human person and **in** the equal rights of men and women and have determined to promote social progress and better standards of life **in *larger freedom*** ,"

German:

"da die völker der ***vereinten nationen*** **in** der ***charta*** ihren glauben an die grundlegenden menschenrechte , an die würde und den wert der menschlichen person und an die gleichberechtigung von mann und frau erneut bekräftigt und beschlossen haben , den sozialen fortschritt und bessere lebensbedingungen **in *größerer freiheit*** zu fördern ,"

deu	2		1				1
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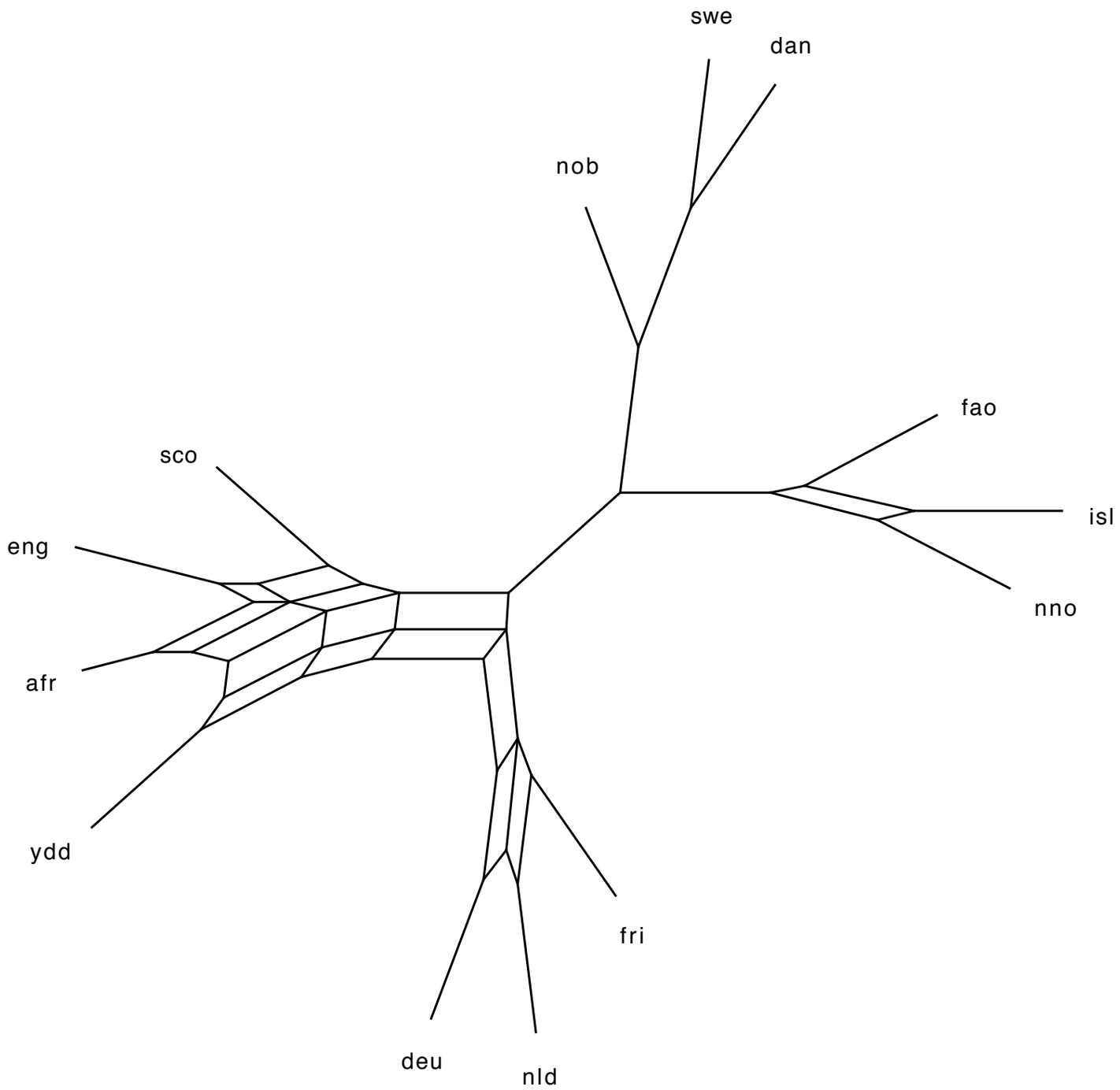
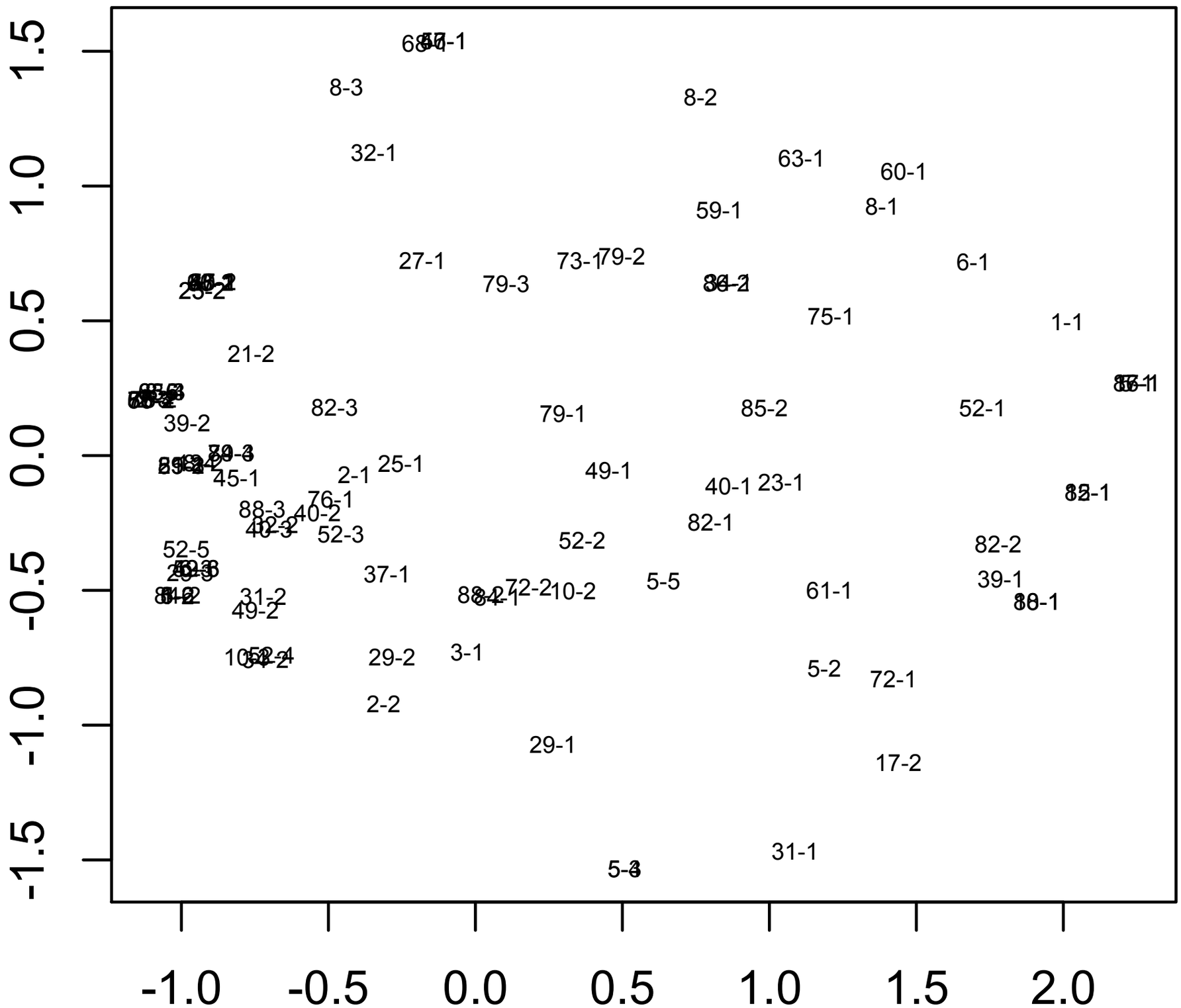


Consensus network of 4 optimal trees according to ‘dollo’ Maximum Parsimony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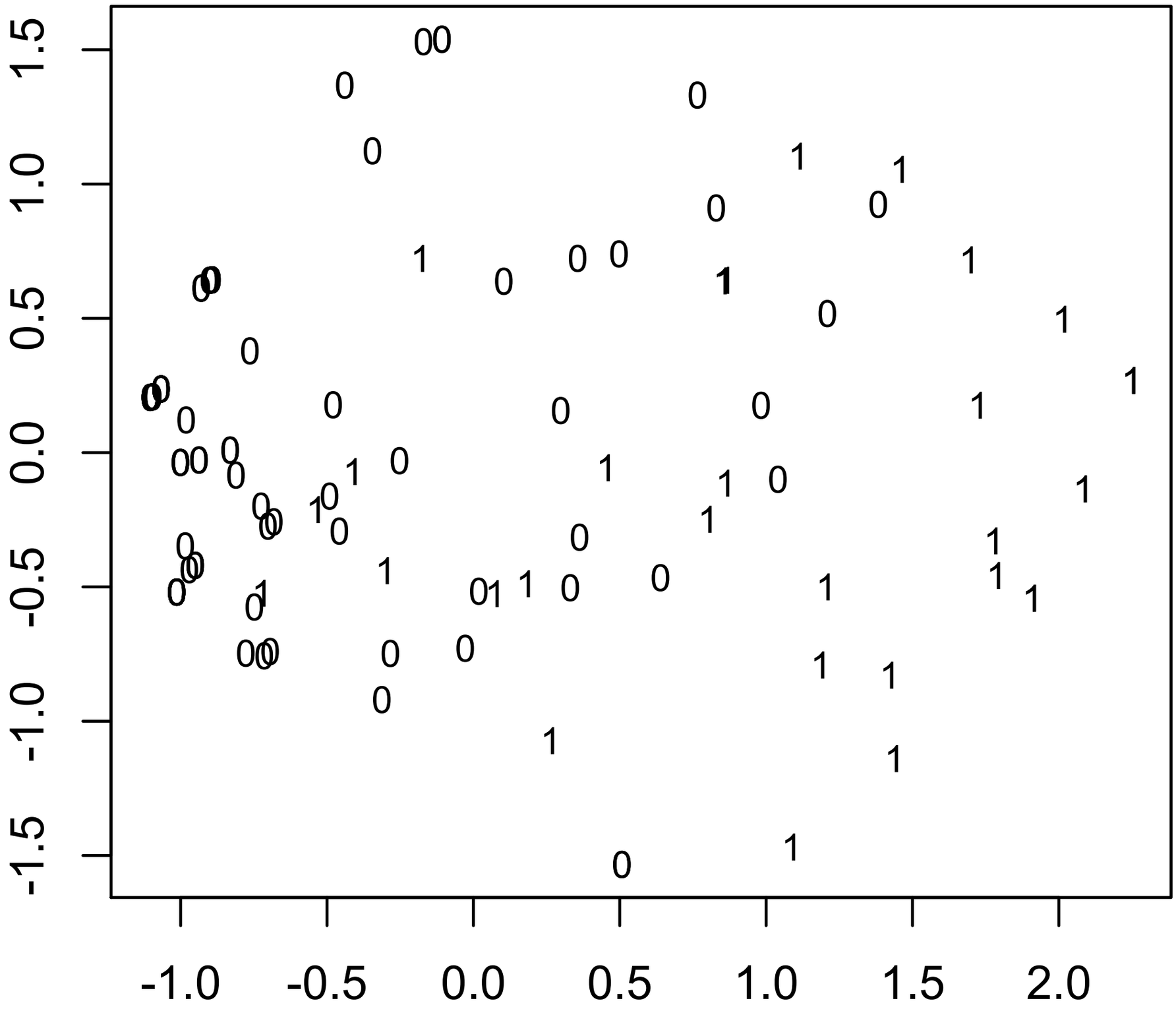
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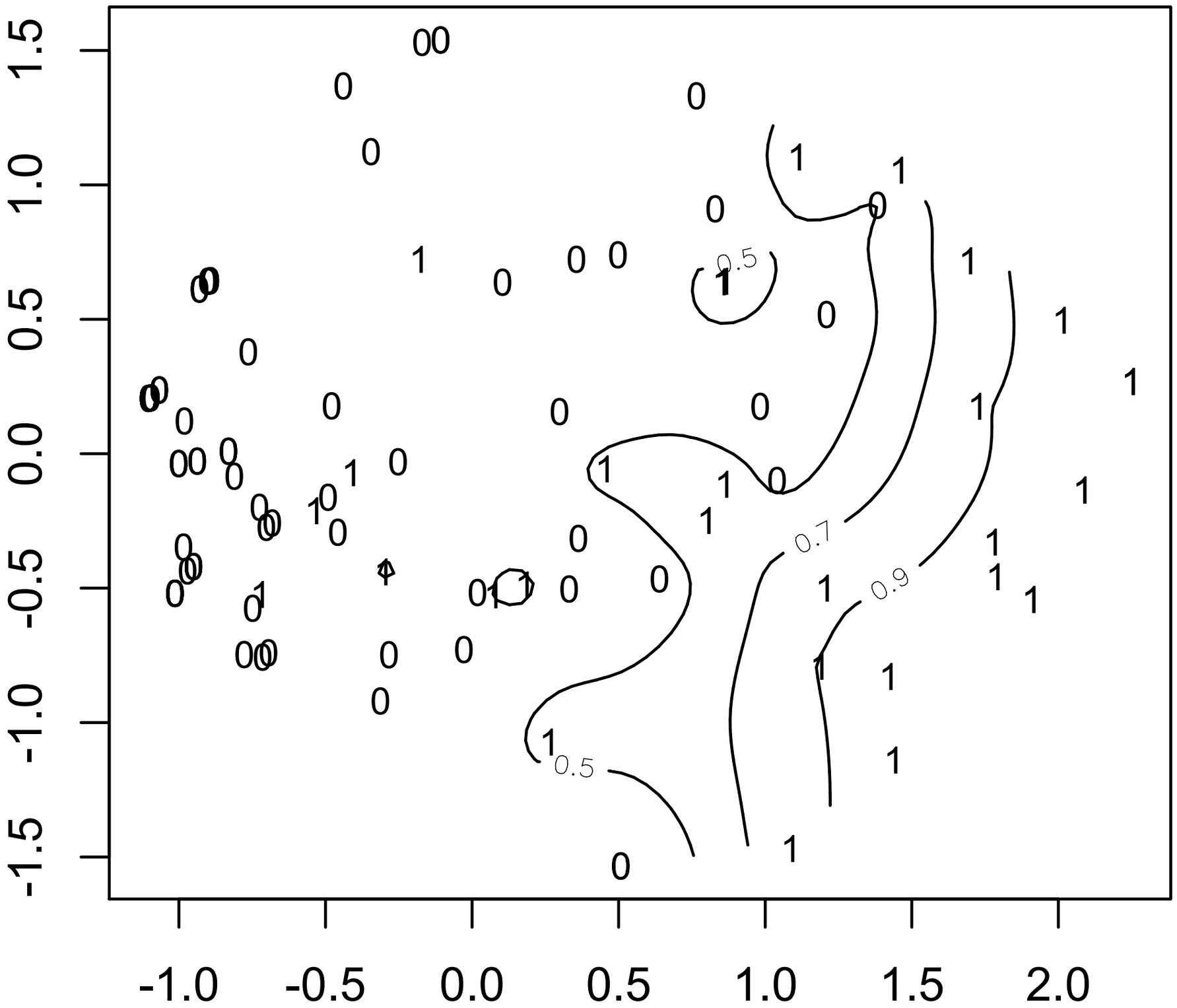
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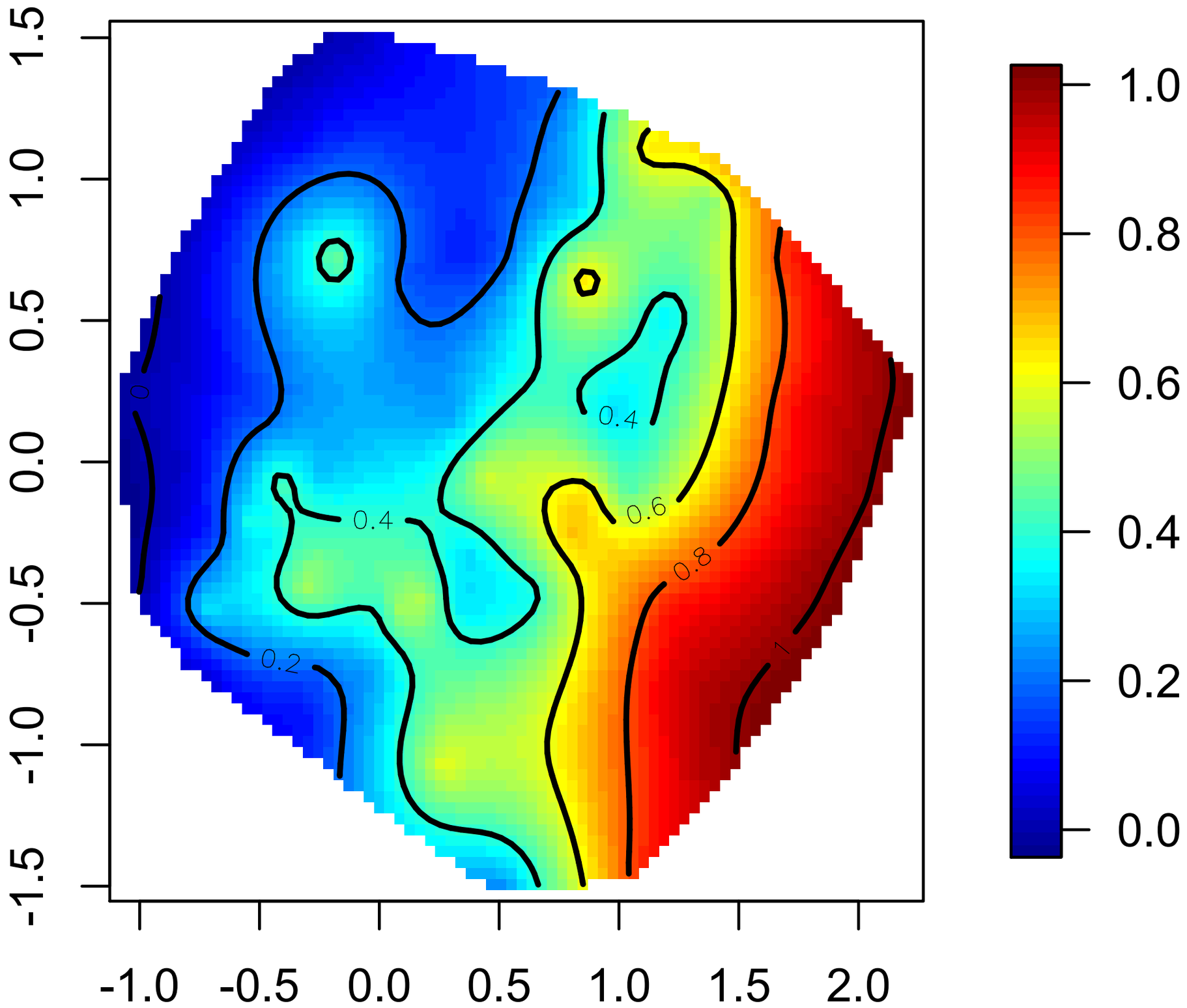
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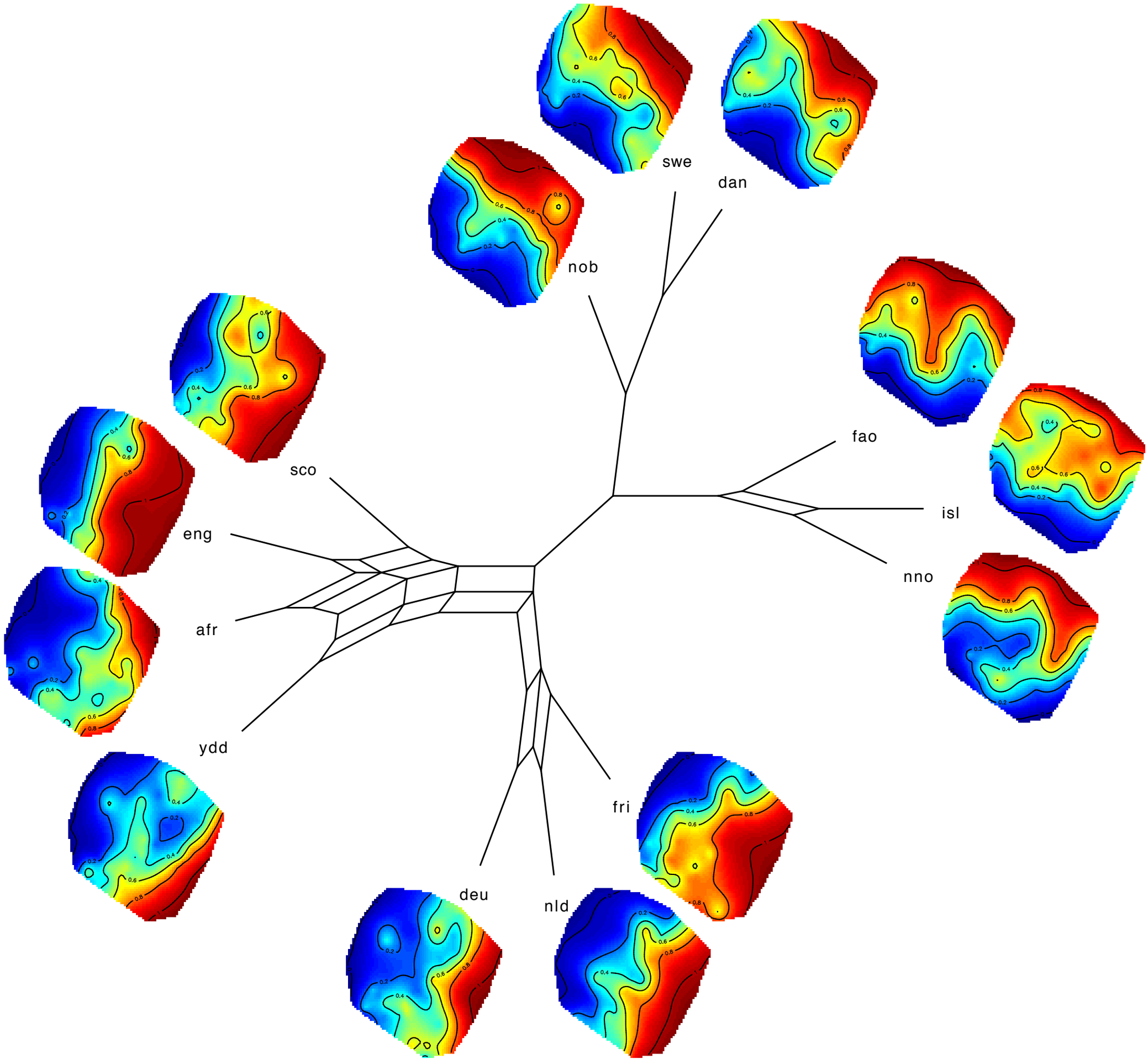
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Conclusion

- Traditional comparative-historical linguistics is a great method, but much more is possible
- Changes in meaning are often only considered a nuisance
- But: using details of difference in meaning, more independent evidence for historical relationships can be uncovered