

Plural Possession in Turkish and Sakha

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1 Introduction

- In both Sakha (Yakut) and Turkish, *pro*-dropped Possessive NPs (henceforth *pro*-drop) produce a three-way ambiguity. (1):^{1,2}

(1)	a.	at-lar-1 horse-PL-3P (i) <SG,PL>‘his/her horses’ (ii) <PL,SG>‘their horse’ (iii) <PL,PL>‘their horses’	(Turkish)	b.	at-tar-a horse-PL-3P (i) <SG,PL>‘his/her horses’ (ii) <PL,SG>‘their horse’ (iii) <PL,PL>‘their horses’	(Sakha)
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- With overt third-person pronouns (2)-(4) and nominals (5), the ambiguity is fully resolved in Turkish:

(2)	on-un at-lar-1 3-GEN horse-PL-3P a. <SG,PL> ‘his/her horses’ b. *<PL,SG> ‘their horse’ c. *<PL,PL> ‘their horses’	(3)	onlar-ın at-1 they-GEN horse-3P a. *<SG,PL> ‘his/her horses’ b. <PL,SG> ‘their horse’ c. *<PL,PL> ‘their horses’	(4)	onlar-ın at-lar-1 they-GEN horse-PL-3P a. *<SG,PL> ‘his/her horses’ b. %<PL,SG> ‘their horse’ ³ c. <PL,PL> ‘their horses’
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²**Glossing Conventions:** We follow standard Leipzig glossing conventions, except for person-agreement markers, which we condense as follows: 1SS=1SG.AGR (on verbs), 1PP=1PG.POSS.AGR, etc. We gloss the possessive suffix simply as 3P, as we assume it is not specified for number features (Turkish *-(s)I(n)*, Sakha *-(T)A*, which has the form *-(T)In* in the oblique cases. Note that for the pair <X,Y>, the order in this talk is always <POSSESSOR,POSSESSED NOUN>.

³Some Turkish speakers we have surveyed actually accept this reading, and it has been reported in the literature. However, for speakers that accept this reading, the most automatic reading of (4) out-of-the blue is <PL,PL>.

- | | | | | | |
|-----|--|-----|--|-----|---|
| (5) | oğul-un anne-ler-i
kid-GEN mom-PL-3P
a. <SG,PL>
‘the kid’s mothers’
b. *<PL,SG>
‘the kids’ mother’
c. *<PL,PL>
‘the kids’ mother’ | (6) | oğul-lar-ın anne-si
kid-PL-GEN mom-3P
a. *<SG,PL>
‘the kid’s mothers’
b. <PL,SG>
‘the kids’ mother’
c. *<PL,PL>
‘the kids’ mothers’ | (7) | oğul-lar-ın anne-ler-i
kid-PL-GEN mom-PL-3P
a. *<SG,PL>
‘the kid’s mothers’
b. *<PL,SG>
‘the kids’ mother’ ⁴
c. <PL,PL>
‘the kids’ mothers’ |
|-----|--|-----|--|-----|---|

- Thus, Turkish possessums agree with a plural possessor **only if that possessor is *pro*-dropped**.
- However, Sakha differs from Turkish.⁵ Unlike most other Common Turkic languages, **third-person plurals obligatorily agree in number with 3PL possessors**.⁶ This means that, for most nouns, there is a systematic ambiguity between the <PL,SG> (9b), (11b) and <PL,PL> (9c), (11c) readings.

- | | | | |
|------|---|------|---|
| (8) | kini at-tar-a
s/he horse-PL-3P
a. <SG,PL> ‘his/her horses’
b. *<PL,SG> ‘their horse’
c. *<PL,PL> ‘their horses’ | (9) | kiniler at-tar-a
3PL horse-PL-3P
a. *<SG,PL> ‘his/her horses’
b. <PL,SG> ‘their horse’
c. <PL,PL> ‘their horses’ |
| (10) | oγo iγe-ler-e
child mom-PL-3P
a. <SG,PL> ‘the child’s mothers’
b. *<PL,SG> ‘the children’s mother’
c. *<PL,PL> ‘the children’s mothers’ | (11) | oγo-lor iγe-ler-e
child-PL mom-PL-3P
a. *<SG,PL> ‘the child’s mothers’
b. <PL,SG> ‘the children’s mother’
c. <PL,PL> ‘the children’s mothers’ |

- Finally, in both languages, doubling of *-lar/-LAR* is completely ungrammatical as a means of distinguishing the <PL,PL> reading from the others:

- | | | | | | |
|------|---|-----------|---|---------|----------------------------------|
| (12) | a. *at-lar-lar-ı
horse-PL-PL-3P
int. ‘their horses’ | (Turkish) | b. *at-tar-dar-a
horse-PL-PL-3P
int. ‘their horses’ | (Sakha) | (Stachowski
& Menz 1998: 422) |
|------|---|-----------|---|---------|----------------------------------|

- In this talk, we seek to account for this three-way asymmetry that occurs in both languages under *pro*-drop (1) in both languages, pursuing the following questions:

⁴Following up to 3, Turkish speakers we have surveyed who accept a <PL,SG> reading with a 3PL.GEN pronoun interestingly do *not* accept plural agreement on a singular noun when the possessor is a lexical noun.

⁵Uncited Sakha examples in this paper come from elicitations with a native speaker of Sakha (Vilyuy dialect) conducted in person in Cambridge, MA and online from 2019–2020 by Ian Kirby. This grew out of *LING 117: Field Methods* (Fall 2019), taught by Jonathan Bobaljik. Any misrepresentations or distortions in the data are my own.

⁶See Ubrjatova (1982), Krueger (1962: 97-98), Stachowski & Menz (1998: 422), Vinokurova (2005: 133), Johanson (2021: 801).

- How do we account for the *pro*-drop conditions in Turkish third-person possessor agreement?
- Why, despite the fact that Sakha has obligatory 3PL agreement, do we not find *-*lar-lar* for <PL,PL>?
- **Main claims:** We pursue an account of Turkish *pro*-dropped <PL,SG>, and <PL,PL> wherein the expression of PL are lowered onto the head. In Sakha, however, the POSS AGR paradigm always requires agreement with 3PL arguments. The lack of *-lar-lar* for <PL,PL> is explained as haplology that happens during VI for all 3PL possessors in Sakha and the *pro*-dropped examples in Turkish.

1.1 Roadmap

- The structure of this talk is as follows:
 - §2 discusses the inventory of possessor agreement morphemes in Turkish and Sakha, and argues that the possessum always probes for a (non-participant) plural feature in the possessor.
 - §3 discusses the Turkish patterns in depth, presenting an account wherein a PL *pro*
 - §4 discusses the Sakha pattern, considering data from irregular plurals, and accounts for the <PL,PL> *-*lar-lar* pattern in Sakha and Turkish (under *pro*-drop) via VI-level dissimilation (Nevins 2012).

2 Possessor agreement in Sakha and Turkish

- The possessor agreement in Turkish and Sakha can be illustrated as follows:⁷

(13) Turkish POSS'R AGR (NOM)

	SG	PL
1	-(I)m	-(I)mIz
2	-(I)n	-(I)nIz
3	-(S)I	-(S)I, -LArI = [LAr+(S)I]

(14) Sakha POSS'R AGR (NOM)⁸

	SG	PL
1	-(I)m	-BIt
2	-(I)ŋ	-GIt
3	-(T)A	-LArA = [LAr+(T)A]

- The following tables exemplify the distribution of the possessor agreement in the presence and absence of an overt pronoun in Turkish and Sakha:

(15) Turkish 'X's horse; X's horses'

POSS'R ϕ	POSS'M #		PL	
	SG			
1 SG	(ben- im) at- im		(ben- im) at-lar- im	
1 PL	(biz- im) at- ımız		(biz- im) at-lar- ımız	
2 SG	(sen- in) at- in		(sen- in) at-lar- in	
2 PL	(siz- in) at- ınız		(siz- in) at-lar- ınız	
3 SG	at- i	on- un at- i	at-lar- i	on- un at-lar- i
3 PL	at-lar- i	onlar- ın at- i	at-lar- i	on-lar- ın at-lar- i

(16) Sakha 'X's child; X's children'

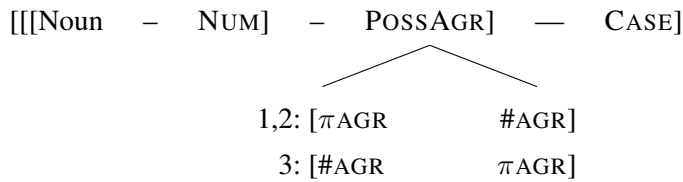
POSS'R ϕ	POSS'M #		PL
	SG		
1 SG	(min) oγo- m		(min) oγo-lor- üm
1 PL	(bihigi) oγo- but		(bihigi) oγo-lor- but
2 SG	(en) oγo- ŋ		(en) oγo-lor- uŋ
2 PL	(ehigi) oγo- γut		(ehigi) oγo-lor- gut
3 SG	(kini) oγo- to		(kini) oγo-lor- o
3 PL	(kiniler) oγo- lor-o		(kiniler) oγo- lor-o

- The possessor agreement head is internally complex in Turkish and Sakha:

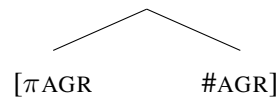
⁷Note that for the purposes of this talk, we will leave undiscussed well-known examples from Turkish where possessor agreement is optional or disallowed (see Öztürk & Taylan 2016, Satuk 2020a,b, Tat & Kornfilt 2018).

⁸See Ubrjatova (1982), Krueger (1962), Stachowski & Menz (1998), Vinokurova (2005), Johanson (2021). Following standard Turkological practice, archphonemes are represented as capitalized letters. Sakha has four archphoneme consonants with many allophones (see Stachowski & Menz 1998: 420 for environments): /L/ [l, d, t, n], /G/ [g, γ, k, ŋ, χ], /B/ [b, p, m], /T/ [t, l, d, n].

(17) Sakha: relevant extended projection of N



(18) [[[Noun - NUM] - POSSAGR] - CASE]



• For simplicity, we will be treating these as portmanteau morphemes:

(19) Turkish rules of exponence for POSS AGR

POSS AGR:	[1,PL]	↔	-(I)mIz
	[1]	↔	-(I)m
	[2,PL]	↔	-(I)nIz
	[2]	↔	-(I)n
	elsewhere	↔	-(S)I

(20) Sakha rules of exp. for POSS AGR (NOM)

POSS AGR	[1,PL]	↔	-BI
	[1]	↔	-(I)m
	[2,PL]	↔	-GI
	[2]	↔	-Iŋ
	[PL]	↔	-LArA
	elsewhere	↔	-(T)A

• In Sakha, the 3PL always agrees in number with 3PL possessums (Ubrjatova 1982, Krueger 1962: 97-98, Stachowski & Menz 1998: 422, Vinokurova 2005: 133, Johanson 2021: 801).⁹

(21) kiniler oγo-{*to / lor-o}
 they-PL child-{3P / PL-3P}
 ‘their child’ / ‘their children’

⁹This is reported to extend to subject-verb agreement in Sakha (Vinokurova 2005: 211). All of our examples with 3PL subjects have plural agreement on the verb, whether the subject is animate (ia) or inanimate (ib).

(i) a. it-tar kuoska-ni sirs-i-bit-tara
 dog-PL cat-ACC chase-PST-3PS
 ‘The dogs chased the cats’

b. tünüg-ter aldžat-illi-bit-tar
 window-PL break-PASS-PST-3PS
 ‘The windows were broken’

This is different from Turkish, where most speakers reject 3PL agreement with non-animate subjects and report optionality with animate 3PL subjects (Kornfilt 1997: 386-7). This merits further investigation.

3 The three readings in Turkish under *pro*-drop, and why overt possessors resolve them

- As we mentioned in the previous section, Turkish shows the three-way ambiguity in the absence of an overt third person possessor:

- (22) at-lar-ı
horse-PL-3P
- <SG,PL> ‘his/her horses’
 - <PL,SG> ‘their horse’
 - <PL,PL> ‘their horses’

- However, the presence of an overt third person pronoun dissolves the attested ambiguity pattern:

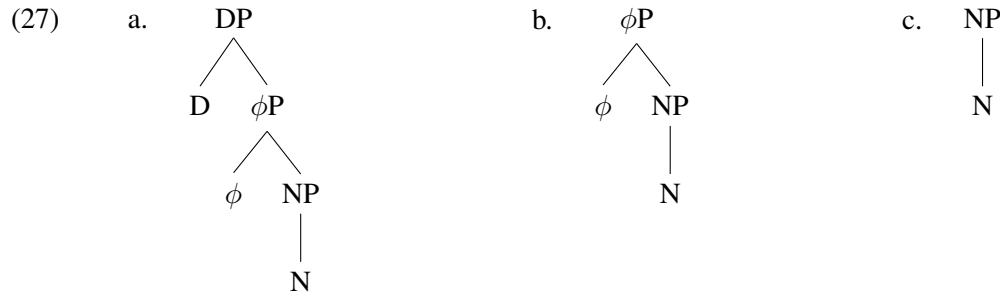
- | | | |
|---|---|---|
| <p>(23) onun at-lar-ı
3-GEN horse-PL-3P</p> <ol style="list-style-type: none"> <SG,PL>
‘his/her horses’ *<PL,SG>
‘their horse’ *<PL,PL>
‘their horses’ | <p>(24) onların at-ı
their-GEN horse-3P</p> <ol style="list-style-type: none"> *<SG,PL>
‘his/her horses’ <PL,SG>
‘their horse’ *<PL,PL>
‘their horses’ | <p>(25) onların at-lar-ı
their-GEN horse-PL-3P</p> <ol style="list-style-type: none"> *<SG,PL>
‘his/her horses’ *%<PL,SG>
‘their horse’ <PL,PL>
‘their horses’ |
|---|---|---|

- This pattern shows that Turkish has the following rules of exponence for the possessive agreement:¹⁰

- (26) Turkish rules of exponence for POSS AGR
- | | | | |
|-----------|-----------|---|---------|
| POSS AGR: | [1,PL] | ↔ | -(I)mIz |
| | [1] | ↔ | -(I)m |
| | [2,PL] | ↔ | -(I)nIz |
| | [2] | ↔ | -(I)n |
| | elsewhere | ↔ | -(S)I |

- We follow Déchaine & Wiltschko’s (2002) analysis of three different types of pronouns in order to explain the asymmetry between the possessive agreements in these languages—some pronouns are more structurally complex, diagnosable by their behaviors (see also Smith et al. 2019):

¹⁰One could also posit the inclusion of *-IAr* in the paradigm, which would require a non-local deletion rule for the lower PL. This could potentially be implemented à la Nevins’s (2012: 87) linearization-level dissimilation, with a potential filter that two plurals cannot be spelled out in the same domain.



(28) Déchaine & Wiltschko (2002: 410)

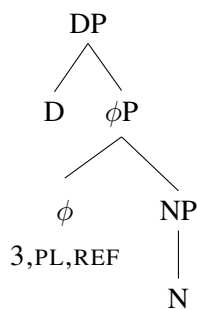
<i>Nominal proform typology</i>			
	Pro-DP	Pro-phiP	Pro-NP
Internal syntax	D syntax; morphologically complex	neither D syntax nor N syntax	N syntax
Distribution	argument	argument or predicate	predicate
Semantics	definite	—	constant
Binding-theoretic status	R-expression	variable	—

- While English third-person pronouns show properties of Pro-phiP pronouns (*They_i saw their_{i/j} mother. Every farmer_x beats his_x donkey.*), Turkish *o/onlar* shows properties of Pro-DPs (i.e., behave as R-Expressions), showing Condition C effects.
- *pro*, on the other hand behaves like a Pro-phiP, showing Condition B effects, and thus is more like a variable.

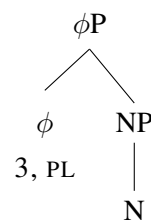
- (29) ‘He loves his mother.’
- $o_i \text{ } pro_{\{i/*j\}} \text{ annesini seviyor.}$
 - $pro_i \text{ } pro_{\{i/*j\}} \text{ annesini seviyor.}$
 - $o_i \text{ onun}_{\{*/i/j\}} \text{ annesini seviyor.}$
 - $pro_i \text{ onun}_{\{*/i/j\}} \text{ annesini seviyor.}$

- (30) ‘They rode on their horses.’
- $onlar_i \text{ } [pro_{\{i/?/*j\}} \text{ atlarına}] \text{ bindi(ler).}$
 - $pro_i \text{ } [pro_{\{i/*j\}} \text{ atlarına}] \text{ bindiler.}$
 - $onlar_i \text{ } [onların_{\{*/i/j\}} \text{ atlarına}] \text{ bindi(ler).}$
 - $pro_i \text{ } [onların_{\{*/i/j\}} \text{ atlarına}] \text{ bindiler.}$

(31) Overt third-person pronouns: *onlar*



(32) third-person *pro_{PL}*:

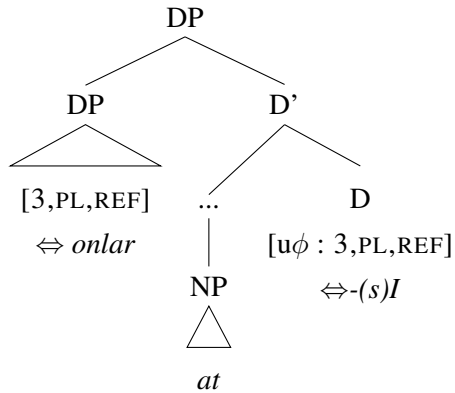


- In order for *o/onlar* to spell out, it MUST have REF(ERENTIAL) feature.

3.1 With overt pronouns

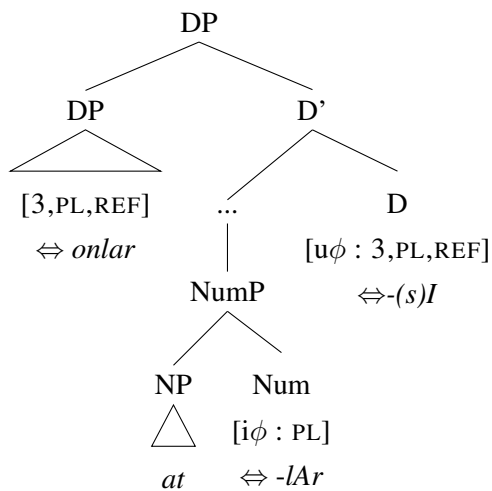
- The possessum's D^0 has no exponent for 3,PL,REF, so they are spelled out on as $-(S)I$.

(33) *onların at-ı* <PL,SG>



- Similar for the <PL,PL>, though here the lower *-lar* is spelled out on the noun's Num head:

(34) *onların at-lar-ı* <PL,PL>



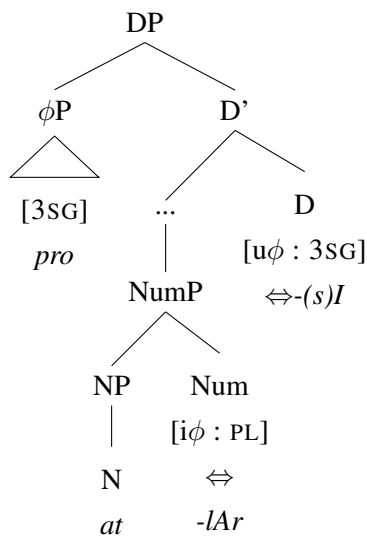
3.2 With *pro-drop*

- (35) *at-lar-ı*
horse-PL-3P
- <SG,PL> 'his/her horses'
 - <PL,SG> 'their horse'
 - <PL,PL> 'their horses'

- The <SG,PL> reading can be captured straightforwardly by assuming that *-lar* is spelled out on the Noun's

Num head, as above¹¹:

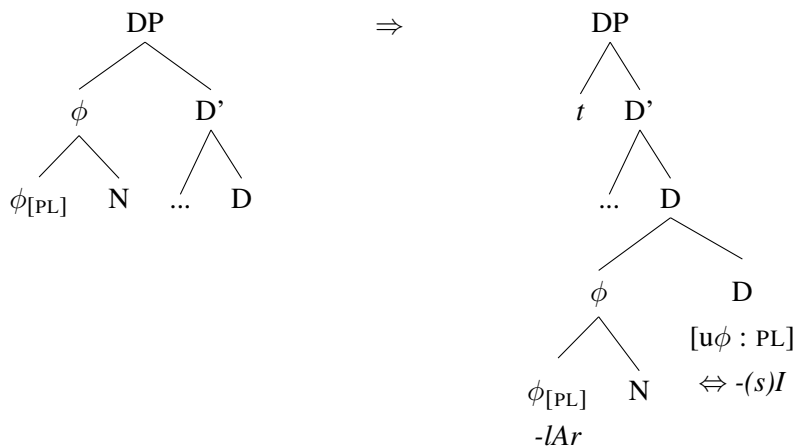
(36) <SG,PL> *pro_{sg} atları* ‘his/her horses’



• However, the <PL,SG> reading is more complex. We contend that what we observe in Turkish is the *Lowering* of the ϕ P’s features onto the D-head of the possessed noun (Embick & Noyer 2001).

• In order to spell out, $\phi_{PL} \Leftrightarrow -lar$ must have a host. However, under *pro*-drop there is no immediately adjacent host, so it must find one elsewhere, resulting in lowering onto the nearest head (i.e. D)

(37) <PL,SG> *pro_{pl} atları* ‘their horse’



¹¹Numerals can disambiguate these readings since plurality is not encoded on the nouns in Turkish in the presence of a numeral.

- (i) iki at-lar-1
two horse-PL-3P
 - a. <PL,PL>‘their two horses’
 - b. *<SG,PL>‘his/her two horses’
- (ii) *onlar-ın iki at-lar-1
their-GEN two horse-PL-3P

4 Sakha <PL,PL>

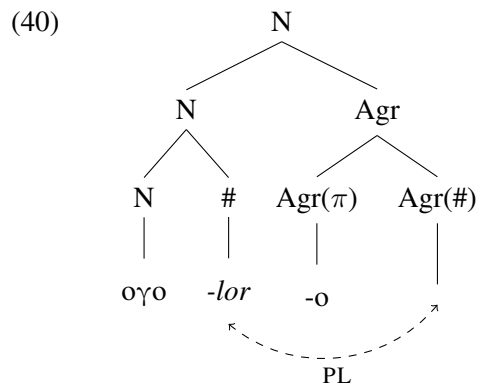
- In Sakha, given that possessed nouns **always** agree with 3PL possessors, the most curious part of the paradigm is the absence of *-LAR-LAr* for <PL,PL> readings.

- (38) at-tar-*(dar)-a
horse-PL-([PL,-PART]P)-3P
- a. <PL,PL> ‘their horses’
- b. <SG,PL> ‘his/her horses’
- c. <PL,SG> ‘their horse’
- [N at] [Num -tar] [Agr# -∅] [Agrπ -a]
- [N at] [Num -∅] [Agr# -tar] [Agrπ -a]

- This pattern shows that Sakha has the following rules of exponence for the possessive agreement:

- (39) POSS AGR [1,PL] ⇔ *-Blt*
[1] ⇔ *-(I)m*
[2,PL] ⇔ *-Glt*
[2] ⇔ *-Iŋ*
[PL] ⇔ *-LArA*
elsewhere ⇔ *-(T)A*

- One possibility that can be ruled out is that *-LAR* is actually spelled out on the noun’s Num head. (40) could produce either <PL,PL>, <SG,PL>, or <PL,SG>.



- (40) can be ruled out from root-allomorphy patterns: Sakha has a handful of nouns which undergo a stem modification in the plural (Pakendorf & Stapert 2020: 433-4):¹²

¹²These irregular plurals were compiled from Straughn’s (2006) Sakha–English dictionary and queries of <https://sakhatyyla.ru/>, and were checked with consultant.

(41)		Singular	Plural	(Expected)	
	‘girl, daughter’	kīis	kīrgīt-tar	(kīis-tar)	vowel shortened, $s \rightarrow \emptyset$, $-gīt$
	‘woman’	dʒaxtar	dʒaxtal-lar	(dʒaxtar-dar)	$r \rightarrow l$
	‘boy, son’	uol	uolat-tar	(uol-lar)	-At
	‘man’	er	eret-ter	(er-der)	-At
	‘old man’	oγonnyor	oγonnyot-tor	(oγonnyor-dor)	$r \rightarrow t$
	‘friend’	doγor	doγot-tor	(doγor-dor)	$r \rightarrow t$
	‘old woman’	emeexsin	emeexsit-ter	(emeexsin-ner)	$n \rightarrow t$
	‘shaman’	oyuun	oyuut-tar	(oyuun-nar)	$n \rightarrow t$

- These are not phonologically determined (c.f. ‘moss; swamp’ *badaraan* > *badaraannar*, **badaraattar*; ‘poem’ *xohoon* > *xohoonnor*, **xohoottor*; ‘bird’ *kötör* > *kötördör*, **kötöttör*).
- If plural agreement were indeed spelled out on the Noun’s Num-head, it would be expected that this would obtain a <PL,SG> ‘their daughter’ as well. This is not borne out. Singular possessors take the form in the “expected” column in (41).¹³

$\sqrt{\text{girl}} \rightarrow \text{kīrgīt} / \text{PL}$; otherwise $\rightarrow \text{kīis}$

(42)	kīis-tar-a girl-PL-3P	(43)	kīrgīt-tar-a girl-PL-3P
a.	*<SG,PL> ‘his/her daughters’	a.	<SG,PL> ‘his/her daughters’
b.	<PL,SG> ‘their daughter’	b.	*<PL,SG> ‘their daughter’
c.	*<PL,PL> ‘their daughters’	c.	<PL,PL> ‘their daughters’

- Across (Common) Turkic there appears to be sensitivity to two adjacent *-LARs* for <PL,PL> possession (Johanson 2021: 455-60).
- South Siberian Turkic languages replace the participant plural *-(I)z with *-LAR* as in 2PL possessor agreement morphemes e.g. Chulym *-(I)ηnAr*, Tuvan *-(I)ηar*, Shor *-LARlη* (Schönig 1998: 408-9). Notably, this extends the same haplology we have seen for third-persons in second person in Shor, where *-LAR* appears to the left of the person marker *-(I)η*, but not Tuvan where *-LAR* appears to the right of the person-marker:

(44) Plural possession in Tuvan (Iskhakov & Pal’mbakh 1961: 145, Anderson & Harrison 1999: 21-23, 39), Shor (Schönig 1998: 408, Dyrenkova 1941: 50-2)

¹³This follows DM assumptions about suppletion. See Bobaljik (2012), Smith et al. (2019).

	Tuvan			Shor		
	Affix	SG POSS'M	PL POSS'M	Affix	SG POSS'M	PL POSS'M
1 SG	-(I)m	<i>nomum</i>	<i>nomnarim</i>	-(I)m	<i>turam</i>	<i>turalarim</i>
1 PL	-(I)BI <i>s</i>	<i>nomuvus</i>	<i>nomnarivis</i>	-(I)BI <i>s</i>	<i>turabis</i>	<i>tulararibis</i>
2 SG	-(I)ŋ	<i>nom-uŋ</i>	<i>nom-nar-iŋ</i>	-(I)ŋ	<i>turaŋ</i>	<i>tularariŋ</i>
2 PL	-(I)ŋar	<i>nom-uŋar</i>	<i>nom-nar-iŋar</i>	-LAR <i>Iŋ</i>	<i>tularariŋ</i>	<i>tularariŋ</i>
3 SG	-(z)I	<i>nomu</i>	<i>nomnari</i>	-(z)I	<i>turazi</i>	<i>tularari</i>
3 PL	-(z)I~-LAR <i>I</i>	(n/a)	<i>nomnari</i>	-(z)I~-LAR <i>I</i>	<i>tularari</i>	<i>tularari</i>

‘book’ ‘town’

• *-lar-lar resembles English *-s’s haplology, where (ironically) PL -s cannot appear adjacent to possessive -’s (45a). This rule is phonologically sensitive, given that it does not affect non-sibilant allomorphs of the plural (45b). However, it is a vocabulary-item-specific phonological rule: it is not a general property of English that two sibilants cannot follow each other (45b).

- (45) a. <PL,PL> The kids’ shoes ([kɪdz], *[kɪdzɪz])
 b. <PL,PL>
 (i) The children’s shoes / the oxen’s hooves / the people’s choices
 (ii) *The children shoes / *the oxen hooves / *the people choices *Deletion of ’s
 (iii) #The child_{PL}’s shoes / #the ox_{PL}’s hooves / #the person_{PL}’s choices *Deletion of PL
 c. <SG,PL> The bus’s tires ([bʌsɪz], #[bʌs])

• Similarly, the sequence -LARLAR/-LAR*Ar* is not phonotactically ill-formed in either Sakha (46a) or Turkish (46b):

- (46) a. kötör > kötör-dör (Sakha) b. kiler > kiler-ler (Turkish)
 bird bird-PL cellar cellar-PL
 ‘bird; birds’ ‘cellar; cellars’

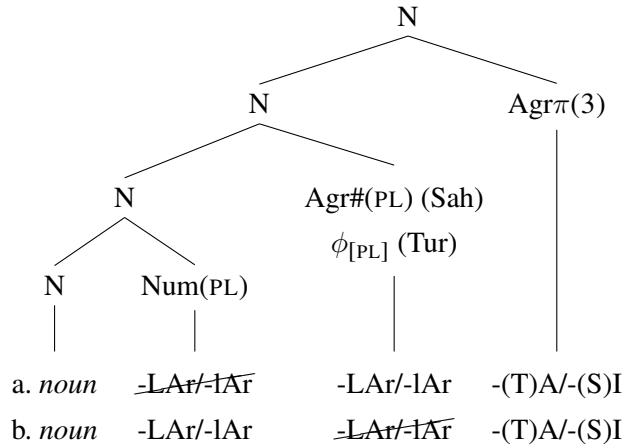
• Nevins (2012: 105) characterizes English *-’s-s as a dissimilation process that happens during Vocabulary Insertion

- (47) Properties of Vocabulary-Insertion-level haplology (Nevins 2012: 88, 105)
 a. Phonologically-sensitive
 b. No reference to individual features
 c. Operates under adjacency (=adjacency for two affixes)
 d. Possible repairs: alternate allomorph selection, zero-insertion, coalescence

• We contend that the lack of doubled -LAR/-LAR for <PL,PL> possessive phrases in Sakha (in general) and

Turkish (under *pro*-drop) as insertion of an (otherwise unused) zero-allomorph whenever the PL exponent *-lar* appears phonologically adjacent to PL *-lar*.

(48) (prosodic, VI-level structure)



• However, given that neither language has any alternative allomorphs of the nominal PL or the 3PL agreement suffix, we cannot in principle decide between deletion of (a) the Num head or (b) the Agr# head.

5 Conclusion

- A type of morphological Merger, *Lowering*, is the tool to form the structure in Turkish.
- Sakha is unique among Turkic languages in having obligatory 3PL agreement. However, it still maintains the **-lar-lar* haplology effect seen in Turkic (and extended into the second-person in Shor). This we characterize as Vocabulary-Insertion-level haplology.
- Two routes to the same haplology.

• *Future directions*

- Extensions to emphatic pronouns: 1,2 pronouns emphatic, while third-person are not inherently emphatic.
- Restrictions on *pro*-drop in Turkish dialects, other Turkic languages
- Alternative ways of resolving the <SG,PL>, <PL,SG>, <PL,PL> (*onların kedileri* is the most ‘natural’ way to express <PL,PL>, though because *onlar* is an R-expression, it cannot be used if c-commanded by another R-expression in its domain).
- Relationship to the lack of overt genitive case in Sakha and 3PL agreement? Sakha has no evidence of a morphological genitive case (Johanson 2021: 801-2)

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