

**0. Announcements**

-Assignment 4: Due **Tuesday**. Exercise 4.4, Hungarian.  
 -Reading: Chapter 5, up to, but not including, 5.4.

**1. From last time**

-Phonemic vs. non-phonemic change;  
 -Merger and split (phonemic/secondary vs. primary);  
 -Chain shifts;  
 -Sound change can be driven by preferences within a phonemic inventory for symmetry and maximization of phonological space.

“...it’s impossible to optimize everything at the same time, and any change that optimizes one thing is likely to disrupt something else, leading to the possibility of further changes to repair the damage, which in turn introduce yet further strains on the system. It can be very illuminating to view phonological change as a ceaseless effort to keep responding to conflicting pressures, to keep fixing things that are not quite as neat as they might be.” (Trask/Millar, p. 107)

**2. Resonants (Data from Clackson 2007)**

PIE	Sanskrit	Greek	Latin	Germanic
*s septm ‘seven’	s sapta	h hepta	s septem	s sibun (Gothic)
*r *h <sub>3</sub> reg ‘set straight’	r rāj- ‘king’	r o-reg-ō ‘I stretch’	r reg-ō ‘rule’	r reik-s (Gothic) ‘ruler’
*l leg <sup>wh</sup> - ‘light’	r rag <sup>h</sup> u- ‘light’	l e-lak <sup>h</sup> -us ‘small’	l lev-is ‘light’	l lēoht (OE) ‘light’
*m meg ‘great’	m mah-ā-	m meg-as	m mag-nus	m mic-el
*n g <sup>wh</sup> en ‘to strike’	n g <sup>h</sup> n-anti ‘they strike’	n p <sup>h</sup> on-eus ‘murder’	n de-fen-dō ‘defend’	n gan-dr (ON) ‘stick’

**2. Development of the velars: centum and satem languages**

(1) Reconstructed PIE stops

labial	dental	palatal	velar	labiovelar	
p	t	k̑	k	k <sup>w</sup>	voiceless
b	d	g̑	g	g <sup>w</sup>	voiced
b <sup>h</sup>	d <sup>h</sup>	g <sup>h</sup>	g <sup>h</sup>	g <sup>wh</sup>	voiced aspirated

In some daughter languages, the palatals merged with the plain velars, e.g., PIE \*k̑mtóm > Latin *centum* ‘hundred’. In other daughter languages, the labiovelars merged with the plain velars, which typically then became sibilants or affricates. E.g., PIE \*k̑m > Avestan *satəm*. *tóm*

In the chart below: Latin, Celtic *c* is [k]. Sanskrit *c* = [ç], *j* = [ʃ], *ś* = [ʃ]

(2) Development of velars (examples from Clackson 2007)

PIE	Greek	Latin	OE	OIr	OCS	Lith	Skt
*k	k	k	h	k	s	š	ś
*k̑erd- ‘heart’	kardía	cor	heorte	críde	sřídice	širdis	
*kwon ‘dog’	kúon		hund	cú		šuo	śván-
*k	k	k	h	k	k	k	k
*krew <sub>h2</sub> - ‘raw flesh’	kréas	cruor	hrēaw	crú	krŭvī	kraūjas	kráviš-
*k <sup>w</sup>	k/p/t	k <sup>w</sup>	hw	k	k	k	k
*k <sup>w</sup> o-		quod	hwa		kŭto		ká

Exercise from Clackson (2007): The following table gives PIE reconstructions for the cognate sets, except that the cover symbol *K* could be \*k̑, \*k, or k<sup>w</sup>. Identify which is the correct reconstruction to replace *K*.

(3)

PIE	Greek	Latin	English	Sanskrit	Meaning
*Ke		que		ca	‘and’
*derK-	dérkomai			dárs-	‘see’
*leiK-		linquō		rik-	‘leave’
*deKm	déka	decem	ten	dáśa	‘ten’

### 3. GRIMM'S LAW

Languages affected: Germanic.

(See previous handout).

(4)	f	θ	h	h <sup>w</sup>	voiceless fricative
	↑	↑	↑	↑	↑
	p	t	k	k <sup>w</sup>	voiceless stop
	↑	↑	↑	↑	↑
	b	d	g	g <sup>w</sup>	voiced stop
	↑	↑	↑	↑	↑
	b <sup>h</sup>	d <sup>h</sup>	g <sup>h</sup>	g <sup>wh</sup>	voiced aspirated stop

#### (5) Examples from Clackson 2007

Sanskrit	English	Latin	Greek	Meaning
b <sup>h</sup> ár-	bear	ferō	p <sup>h</sup> érō	'carry'
b <sup>h</sup> ū	be	fu-	p <sup>h</sup> úomai	'become'
b <sup>h</sup> rátar	brother	frāter	p <sup>h</sup> rātēr	'brother'
nab <sup>h</sup> -		nebula	nep <sup>h</sup> elē	'cloud'
váb <sup>h</sup> -	web		hup <sup>h</sup> ainō	'weave'
b <sup>h</sup> rú-	brow		op <sup>h</sup> rus	'eyebrow'
d <sup>h</sup> ūmá-		fūmus	t <sup>h</sup> ūmós	'breath'
d <sup>h</sup> ā-	do	faciō	tít <sup>h</sup> ēmi	'do'
éd <sup>h</sup> ā-		aedēs	aít <sup>h</sup> ō	'burn'/'house'
rud <sup>h</sup> irá-	red	ruber	erut <sup>h</sup> rós	'red'
	door	forēs	t <sup>h</sup> urā	'door'
mag <sup>h</sup> ám	Ger. mag 'am able'			

### 6. References

- Campbell, L. 2004. *Historical Linguistics*, 2<sup>nd</sup> Edition. MIT Press.  
 Clackson, J. 2007. *Indo-European Linguistics: An Introduction*. Cambridge University Press.  
 Hock, H. H. and B. D. Joseph. 2009 *Language History, Language Change, and Language Relationship*, 2<sup>nd</sup> Edition. Mouton de Gruyter.

### 4. GRASSMANN'S LAW

Languages affected: Greek and Indic (separately).  
 Accounts for many of the 'exceptions' to Grimm's Law.

#### (6)

Sanskrit	Greek	English	Meaning
bud <sup>h</sup> -	punt <sup>h</sup> ánō	bode	'make aware'
band <sup>h</sup> -		bind	'bind'
	peit <sup>h</sup> omai	bide	'trust'

#### (7) Reduplication in Sanskrit and Greek

Sanskrit		Greek	
dā	'to give'		
dā-dā-mi	'I give'		
d <sup>h</sup> ā-	'to place'	t <sup>h</sup> etós	'put'
dā-d <sup>h</sup> ā-mi	'I put'	tí-t <sup>h</sup> ē-mi	'I put'

### 5. VERNER'S LAW

Languages affected: Germanic  
 Also accounts for many exceptions to Grimm's Law.

#### (8) Cognates illustrating Grimm's Law

Sanskrit	Greek	Latin	Germanic
b <sup>h</sup> rátar		frāter	OE brōþor
dāsa	déka	decem	Gothic taihun 'ten'
nápāt		nepōs	nephew

#### (9) Cognates illustrating Verner's Law

Sanskrit	Greek	Latin	Germanic
pitár	patér	pater	OE fæder [ð]
mātá		māter	OE mōdor [ð]
saptá	heptá	septem	Gothic sibun [β]
śatám	katón	centum	hundred [d]
	makrós	macer	OHG magari