LIGN 150, Historical Linguistics

Moore, Spring 2013

Vowels, Sonorants, Ablaut, and Laryngeals

1. Vowels

	Sanskr	it	Greek		Latin	
	asti		esti		est	'is'
	ašva				equus	'horse'
	sána				senex	'old'
	mád ^h y	a	mesos		medius	'middle'
	ávi		ois		ovis	'egg'
	ápas				opus	'work'
	ánas				onus	'burden'
	ma:s		me:n		mensis	'month'
	sa:mi		he:mi-		semi	'half'
	va:k ('	speech')		vo:x	'voice'
	pá-		po:no		po:tus	'drink'
*e	> a	:	e	:	e	
*0	> a	:	0	:	0	
Ne	w patte	rn:				
	pitá		patér	:	páter	'father'

pita		pater	•	puter	Tauri
*ə>i	:	а	:	а	

2. Sonorants

	Sanskrit	Greek	Latin	
*m	ma:tár	mé:te:r	ma:ter	'mother'
* <u>m</u>	dáša	déka	dekem	'ten'
*n	návas	néos	nowus	'new'
* <u>n</u>	tatás	tatós	tentus	'stretched'
*]	lag ^h ús	elak ^h ús ('small')	lewis	'light'
*]	m <u>r</u> dús		mollis	'soft'
*r	rud ^h irás	erut ^h rós	ruber	'red'
* <u>r</u>	m <u>r</u> tís		mort-	'death'
*w	váhati	wek ^h éto:	wehit	'convey'
*u	jugám	zugón	jugum	'yoke'
*j	jugám	zugón	jugum	'yoke'
*i	vid-	wid	wid-	'see'

LIGN 150, Historical Linguistics

3. Ablaut

*e ~ *o ~ *Ø

Sanskrit			Greek	
e-grade: o-grade: zero-grade:	várte: va-várta vav <u>r</u> timá	'I turn' 'I turned' 'we turned'	patéra apátora patrós	'father-ACC' 'fatherless' 'father-GEN'
Latin				
e-grade: o-grade:	tego: toga	'I cover' 'toga'	pater	'father-NOM'
zero-grade:	U	C	patris	'father-GEN'

Note: zero-grade of sonorants are either syllabic sonorants (or their reflexes) or high vowels (for *w and *j).

4. Root Types

*CeC				*CeRC			*CReC		
e-grd	o-grd	Ø-grd	e-grd	o-grd	Ø-grd	e-gr	d	o-grd	Ø-grd
*CeC	*CoC	∗CC	*CeRC	*CoRC	*CRC	*CF	ReC	*CRoC	*CRC

5. Exceptional Root Types

	*VC	*VRC				
e-grd	o-grd ∅-grd	e-grd o-grd	Ø-grd			
*VC	*oC *əC	*VRC *oRC	*ŖC			
ago:	ógmos	awso:sa	uṣás			
'I drive'	'furrow'	'dawn'	'dawn'			
(Gk.)	(Gk.)	(Lat.)	(Skt.)			

*CV:

e-grd *CV:	o-grd *Co:	Ø-grd *Cə	Note: when there is no sonorant, *ə shows up in zero-grade
ti-t ^h e:-mi	t ^h o:mós	S	
'I place'	'place'		
(Gk.)	(Gk.)		
sta:-re		status	
'I stand'		'stood'	

LIGN 150, Historical Linguistics

(Lat.) (Lat.)

6. Explaining the Exceptions - Laryngeal Theory

Saussure (1879):

Posited two abstract 'sonic coefficients': Q and A

Rules:	*Ae > *Aa *eA > *a:	*A > Ø	*	* Ô > Q
e-grade		o-grade		zero-grade
*AeC *AeRC	> *aC > *aRC	*AoC > *AoRC >	*oC *oRC	*AC > *əC *ARC > *ŖC
*CeA	> *Ca:	*CoA >	*Co:	*CA > *Cə

This analysis simultaneously accounts for the irregular roots and provides a source for *ə

Möller (1917):

Attempted to link IE with Semitic languages and identified Saussure's sononic coefficients as LARYNGEALS. Subsequently, three such hypothetical consonants were posited:

* e_1 (e-coloring) e_2 (a-coloring = A) e_3 (o-coloring = Q)

Perhaps: $[\underline{x}]$ [x] $[x^w]$

Note parallels with the three series of velars reconstructed by Brugmann. While the link with Semitic has been almost universally discounted, the term 'Laryngeal' remains (hence, one hears Saussure credited with the 'Laryngeal Hypothesis'). New evidence (below) suggests that Möller may have been on the right track when he gave Saussure's sonic coefficients some kind of 'laryngeal' phonetic value.

Often, nowadays, the three laryngeals are represented as H_1 , H_2 , and H_3 . Their effects are as follows:

(1) a.	$[H_1 e] > [e]$	*H ₁ es	>	*es	'be'
b.	$[H_2 e] > [a]$	*H ₂ eg	>	*ag	'drive'
c.	$[H_3 e] > [o]$	*H ₂ ed	>	*od	'smell'
(2) a.	$[e H_1] > [e:]$	*d ^h eH ₁	>	*d ^h e:	'set'
b.	$[\dots e H_2] > [\dots a:]$	*steH ₂	>	*ste:	'stand'
c.	$[e H_3] > [o:]$	*gneH ₃	>	*gno:	'know'

The idiosyncratic vowel in the exceptional roots are the result of the coloring of e-grade *e by different laryngeals.

7. Voiceless aspirated stops in Indo-Iranian

Indo-Iranian had a series of voiceless aspirated stops that caused early researchers to reconstruct a fourth, voiceless aspirated series of stops $(*p^h, *t^h, *k^h)$.

These stops had some peculiar properties:

- Like voiceless unaspirated stops, they correspond to voiceless unaspirated stops in Greek and Latin:
 - Skr. st^ha: : Grk. hista:mi : Lat. sta:re 'stand'
- They don't co-occur with sonorants in initial position (e.g. no $p^h l...$). If they were single phonemes, this would be unexpected.
- They don't undergo secondary palatalization (Skr. $k^h ya:ti$ 'sees', not $\check{c}^h ya:ti$).

These can be accounted for if we assume a sequence of a voiceless stop, followed by a laryngeal; the laryngeal is realized as aspiration in Indo-Iranian

*rot-H₂-o > Skr. rot^ha 'chariot' cf. Lat. roh- eH_2 > rota: zero-grade suffix e-grade suffix

- Accounts to correspondence with unaspirated stops in Greek and Latin (laryngeal deletes without aspiriation in these languages).
- Lack of initial three-consonant clusters in PIE account for lack of $p^h l_{\dots}$
- The laryngeal follows *k, preventing secondary palatalization.

8. Amazing Corroboration

The Laryngeal Hypothesis was largely ignored because it was too abstract and lacked direct evidence. However, Hittite tablets were discovered during WWI; in 1927, Kuryłowicz published evidence for the Laryngeal Hypothesis from Hittite – no evidence for H_1 , but evidence for H_2 and H_3 :

Greek	Latin	Hittite		
anti	1	hanti	'in front'	H_2
osteo	pa:sko:	oahsanzi haaštai	'bone'	H_2 H_3