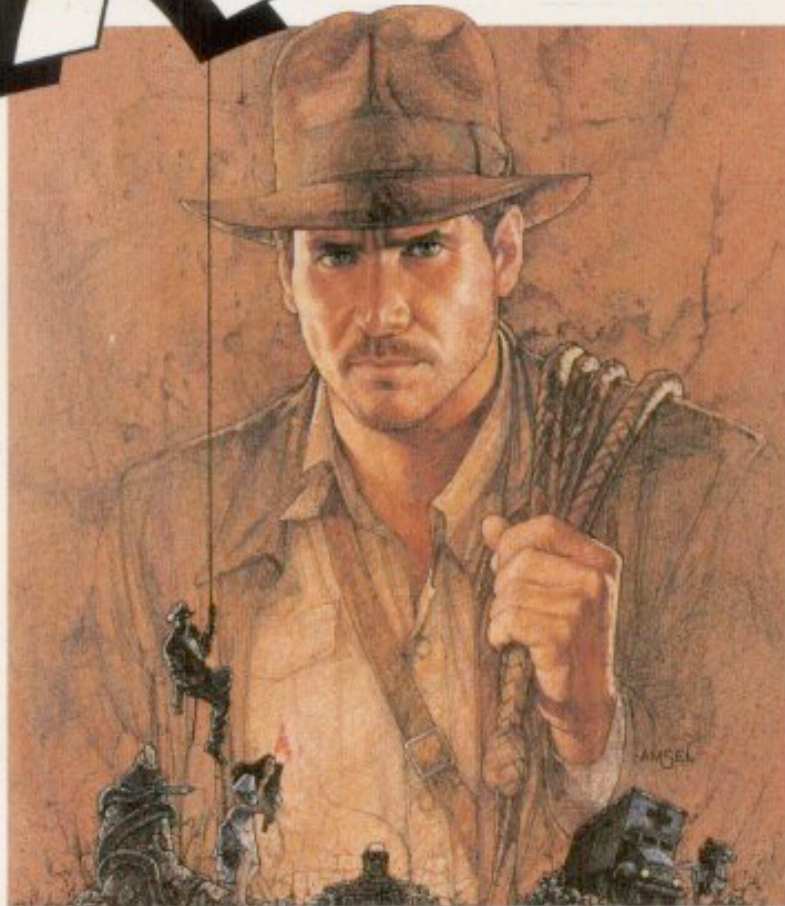


Laryngeal Theory

a.k.a.

RAIDERS

of the
LOST CONSONANTS



Ablaut

- PIE had a system of vowel alternations called **ablaut**.
- Ablaut was central to PIE morphology, and we still find reflexes of it in English: *sing, sang, sung, song*.

Ablaut grades

- The ablaut variants of a root are called **grades**, named according to the vowel that appears in the root:

<i>e</i> -grade	<i>teg-ō</i>	'I cover'
<i>o</i> -grade	<i>tog-a</i>	'a covering garment'
<i>e</i> -grade	<i>pet-omai</i>	'I fly'
<i>o</i> -grade	<i>pot-anos</i>	'winged'
<i>zero</i> -grade	<i>e-pt-omen</i>	'I flew'

Reconstructed PIE roots

- Because of the pervasiveness of ablaut, most PIE roots can be reconstructed with the same underlying vowel, *e*.
- Further, the great majority of PIE roots are of the form CVC.

Regular CVC pattern

*b ^h er	'bear'	*neb ^h -	'cloud'
*d ^h er	'dark'	*pet-	'fly'
*ger	'curve'	*reg-	'go straight'
*meg	'great'	*sed-	'sit'
*sem	'one'	*wed-	'water'

Exceptions

- Despite the regularity of the CVC pattern, there were exceptions:
- Some roots could not be reconstructed as CVC, but rather were of the form CV: or VC.
- Some roots could not be reconstructed with **e*, but rather required **a* or **o*.

Exceptional VC and CV: roots

*es	'be'	*me:	'measure'
*ed	'eat'	*se:	'sow'
*ak	'sharp'	*ma:	'good'
*od	'smell'	*sa:	'satisfy'
*op	'work'	*do:-	'give'
*em	'take'	*ma:	'good'

Ferdinand de Saussure



Lost consonants

- Saussure (1879) proposed that the exceptional roots had once been regular CVC roots:
 - VC roots had once been C-initial, *?VC.
 - CV: roots had once been C-final, *CV?.
- Thus, in both cases, a consonant originally in the root—represented above as ?—was lost.

a-coloring and *o*-coloring

- Further, to account for the variation in the vowel qualities of the exceptional cases, three distinct lost consonants were (eventually) proposed:

h_1 had no effect on an adjacent vowel;

h_2 changed an adjacent *e* to *a*;

h_3 changed an adjacent *e* to *o*.

Exceptions explained

**h₁es* > **es* 'be'

**seh₁* > **se:* 'sow'

**h₂eg* > **ag* 'drive'

**seh₂* > **sa:* 'satisfy'

**h₃ed* > **od* 'smell'

**deh₃* > **do:* 'give'

Exceptional roots

*es	'be'	*me:	'measure'
*ed	'eat'	*se:	'sow'
*ak	'sharp'	*ma:	'good'
*od	'smell'	*sa:	'satisfy'
*op	'work'	*do:-	'give'
*em	'take'	*ma:	'good'

The 'laryngeals'

- The lost segments were later named 'laryngeals', in an attempt to establish a genetic relationship between PIE and Semitic languages, which have guttural/laryngeal consonants that affect neighboring vowels.
- The name has stuck, but it's essentially arbitrary.

Controversy

- Saussure's proposal was highly controversial because the lost consonants did not actually survive into recorded history.
- "A hundred years ago... the only scholars to write on the laryngeal theory were on the intellectual fringe of Indo-European and on the geographical fringes of German-speaking central Europe." (Clackson 2007)

Meanwhile

- Around the time Saussure was proposing his hypothesis, excavations in north-central Turkey uncovered thousands of clay tablets written in a previously unknown language.
- These tablets were identified as the royal archives of the Hittite empire (1750-1180BC).
- The language was thus named 'Hittite'.

Aerial view of the capitol of the Hittite Empire, Hattusa



Deniz ASIK

Hattusa 'in its hey-day'



The Hattusa liongate



Hittite tablet



Akkadian cuneiform

- Cuneiform ('wedge-form') script is a writing system that was invented by the Sumerians, and adopted by the Akkadians.
- The cuneiform script had already been deciphered at the time that the tablets were found.
- Thus, the script was known, but the language was not.

Decipherment

- About ten years later, during WWI, the Czech linguist Hrozny deciphered the inscriptions.
- Hrozny knew that the Akkadian script was a mixed writing system, both logographic as well as syllabic.
- Hrozny recognized the Akkadian logogram *NINDA* 'bread' in a text.

The line that cracked the code

...nu NINDA-an ettsa-tteni watar-ma eku-tteni

The image shows a fragment of a handwritten document in cuneiform script. The text is arranged in approximately 10 horizontal lines. A single line of text is underlined with a horizontal line. A vertical line is drawn to the right of the text, extending from the top of the underlined line down to the bottom of the page. The text is written in black ink on a light-colored background.

The line that cracked the code

...nu NINDA-an ettsa-tteni watar-ma eku-tteni

The line that cracked the code

...nu NINDA-an ettsa-tteni watar-ma eku-tteni

bread

The line that cracked the code

...nu NINDA-an ettsa-tteni watar-ma eku-tteni

bread

water

The line that cracked the code

...nu NINDA-an ettsa-tteni watar-ma eku-tteni

bread

eat

water

The line that cracked the code

...nu NINDA-an ettsa-tteni watar-ma eku-tteni

bread

eat

water

drink

The line that cracked the code

...nu NINDA-an ettsa-tteni watar-ma eku-tteni

bread eat water drink

‘...now you will eat bread and drink water.’

Hittite is Indo-European

- In the face of considerable resistance, Hrozny demonstrates that Hittite is an Indo-European language.
- This makes Hittite by far the oldest attested IE language, dated at 1800BC.

Hittite looks familiar

- After about another decade, in 1927, the Polish linguist Kurylowicz observes a pattern:

<u>PIE</u>	<u>Hittite</u>	
*h ₂ ster-	hasterza	‘star’
*pah ₂ s-	pahs	‘protect’
*h ₂ erg’-	harki-	‘white’
*h ₃ es-	hastai	‘bone’

Vindication!

- Hittite texts show a consonant in exactly the positions predicted by Saussure fifty years earlier.
- $*h_2$ and $*h_3$ survived regularly in Hittite as *h*.
- $*h_1$ apparently disappeared without trace.

Saussure (1857-1913)



Currently

- The reconstruction of the laryngeals is now firmly accepted, and well supported by the historical data of the daughter languages.
- “It is not Anatolian, but Greek which is now seen as the most reliable guide to when to reconstruct laryngeals in IE, even though laryngeals nowhere survive as consonants in Greek.” (Clackson 2007)

The laryngeals: What did they sound like?

- The phonetic value of Hittite *h* is uncertain, but linguists have tried to make guesses.
- Some favorite guesses:
 - * h_1 was a glottal stop.
 - * h_2 was some kind of voiceless back fricative.
 - * h_3 was some kind of voiced back fricative, possibly with lip rounding.

Fini



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