

RYAN P. SANDELL

# Gothic

Phonology – Part 2: Syllabification and Prosodic Phonology



# Roadmap

- Syllabification
- Evidence for Syllable Structure
- Rules of Syllabification
- Stress and Other Prosodic Structures
- Stress Rules
- Foot Structure
- Clitics and Prosodic Words

## Syllabification: Questions

- What type of segments can serve as the head of a syllable (vowels, sonorants, any segment)?
- Which segments may or must occur in the onset and coda of syllables (obligatory onsets, no codas)?
- How many segments can occur in onsets and codas (no complex codas, complex onsets)?
- Must segments in syllable onsets and codas follow specific rules as to their order (Sonority Sequencing Principle)?
- Where do syllable boundaries fall word-internally (preference for complex onsets or simplex onsets)?
- Are certain groups of consonants allowed only at the beginning or end of a word (extrasyllabic segments)?

## Syllabification: Syllable Weight

- Indo-European and Germanic comparative evidence:
  - Long vs. short vowels.
  - Heavy (long vowel or at least one coda segment; bimoraic) and light (open syllable with short vowel; monomoraic).
  - See Hermann 1923, Byrd 2015, Cooper 2015.

## Syllabification: Syllable Weight

- Vowels were contrastive for length.
- Syllables were contrastive for heavy and light.
- Equivalence of two light syllables to one heavy syllable.
- Evidence:
  - Class VI vs. Class VII Strong Verbs  
VI: INF. *grab-an* 'dig' : PRET. *grob* vs. VII: INF. *falp-an* 'fold' : PRET. *fai-falp* and *hah-an* 'hang' : *hai-hah*
  - -*ja*-stem Nouns (GENITIVE SINGULAR)  
/har-j-is/ → [harjis] 'army' vs.  
/hird-j-is/ → [hɛrdi:s] 'shepherd' and /ragin-j-is/ → [ragini:s]\* 'counselor'

Unlike Greek, Latin,  
Sanskrit: no viable  
metrical evidence.

## Evidence for Syllabification: Manuscript Evidence

Direct Evidence: word-internal breaks at line ends in manuscripts.

(V = Vowel, C = any consonant, S = sibilant, T = Stop, R = Sonorant)

General Observations:

- VCCV usually broken between two consonants, thus VC-CV.  
*haus-jan* 'listen to', *stib-na* 'voice'
- VSTV always broken VS-TV.
- VCCR<sub>V</sub> regularly broken VC-CR<sub>V</sub>. But VCCC<sub>V</sub> can break VCC-CV.  
*af-tra* 'again', *An-draias*.
- VCR<sub>V</sub> can be broken either VC-RV or V-CR<sub>V</sub>.
  - When the preceding vowel is long, the break is regularly V-CR<sub>V</sub>.  
*nep-los* 'needle' but *Ga-briel*; *ak-ran* 'fruit' but *hlei-prai* 'hut'

However: morphological structure may also have been relevant.

## Evidence for Syllabification: Phonological Evidence

- Reduplication of /s/+Stop Roots:
 

INF. <i>ga-stald-an</i> 'receive' PST. <i>ga-stai-stald</i> ( <sup>x</sup> <i>ga-sai-stald</i> ) [stɛs.tald] better than [sɛs.tald] or [sɛ.stald]. INF. <i>slep-an</i> 'sleep' PST. <i>sai-slep</i> : [sɛ.sle:p] is fine.	/fiand/ 'enemy' → [fi.and] ( <sup>x</sup> [fjand]) /ie:su-a/ → [i.e:.su.a] /se:-an/ 'sow' → [sɛ:an]
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- Glides after other consonants in syllable codas avoided.
  - -*ja*-Stem Nouns: ACC.SG /ri:k-j/ → [ri:ki] 'kingdom' (cf. DAT.SG [ri:kja]); <sup>x</sup>[ri:kj]
  - -*jo*-Stem Nouns: NOM.SG /band-j/ → [bandi] 'band' (cf. DAT.SG [bandja])
  - NOM.SG /maw-j/ → [mawi] 'girl' but GEN.SG /maw-j-o:s/ → [mɔ:jo:s]
- Vowel hiatus avoided – but not excluded!
  - Class I Weak Verbs: 1.SG.PRES /so:k-i-a/ → [so:kja],  
 2.SG.PRES /sto:-i-is/ → [sto:jis] but  
 2.SG.PRES /so:k-i-is/ → [so:ki:s]

## Rules of Syllabification: General Rules

1. An underlying mid or low vowel (/a(:), ε(:), e:, ɔ(:), o:/) always constitutes a syllable nucleus.
2. Neither an onset nor a coda segment is obligatory (vowel hiatus permitted), but simple onsets are preferred to simple codas (/VCV/ → [V.CV]).
3. Codas are usually preferred to complex onsets (/VCCV/ → [VC.CV]).  
But perhaps /V:TRV/ → [V:TRV]
4. When either a complex onset or a complex coda must be formed, syllable boundaries are made to conform to sonority sequencing (/awistris/ → [a.wis.tris] ‘sheepfold’; /bansta/ → [bans.ta] ‘barn’).
5. Clear sonority sequencing violations occur only at word edges ([strV-], [-Vnts]) with sequences involving [s] (possible extrasyllabicity).

Summary: Maximal Gothic syllable is normally [CCVCC].



## Rules of Syllabification: Sonority Violations

- Question: did Gothic possess syllabic sonorants?
- Proto-Germanic \*[akraz] > Goth. *akrs* 'field'
- About 20 lexemes with stop or [s] + sonorant at the right edge of a word: *broþr* 'brother', *tagl* 'hair', *-bagm* 'tree', *liugn* 'lie', *waurstw* 'work'
- If syllabic: [bro:θ̥r], [tagl], [bagm̥], [liwgn̥].
- If not syllabic: possible devoicing of the sonorant.
- Compare West Germanic with vowel epenthesis (OE *æcer* 'field')
- Compare North Germanic with monosyllables, word-final voiceless sonorants (ON *fugl* 'bird')
- Gothic situation indeterminate; vocalization of /-Cj#/ → [-i] might support syllabic sonorants.
- But contrast *waurstw* [wɔrstw] (?).

## Stress Rules I: Basics

- No direct indication of primary stress, secondary stress, or other suprasegmental phonological information.
- Comparative and historical evidence: primary stress on the leftmost syllable (stem-initial) in Proto-Germanic: PIE \*[pəh<sub>2</sub>térṃ] > PGmc. \*['faðarun] > Goth *fadar* ['faðar].
- Synchronic processes of vowel deletion (syncope) probably indicate stress differences:
- Prefix /anda-/:  
['anda-, ne:ms] 'pleasant' : [and-'niman] 'receive, take'  
['anda-, hafts] 'answer' : [and-'hafjan] 'to answer'  
⇒ Pre-tonic syncope of (non-high vowels) in open syllables.
- Nominal stems incorporate prefixes into the prosodic word before primary stress is assigned.
- Verbal stems maintain a prosodic boundary when primary stress is assigned.  
/#anda-ne:m-s/ → ['anda, ne:ms] but /#anda#niman/ → /#'anda#'niman/ → [and'niman]

## Stress Rules II: Stress, LOWERING, and Preverbs

- Some exceptions to LOWERING:  
*fidur*- 'four', *parihis* 'new', *paurpura* 'purple' (4x), *spaikulatur* 'bodyguard'  
*<sup>x</sup>fidaur-*, *<sup>x</sup>paraihis*, (1x *paurpaura*), *<sup>x</sup>spaikulataur*
- Short vowels without primary or secondary stress probably subject to centralization (Rauch 1981).
- Prefixes *fair-* and *faur-* consistently show LOWERING (no *<sup>x</sup>fir-* or *<sup>x</sup>fur-*)  
*fair-waurkjand* [fɛr.'wɔrk.jand] : *fair-weitl* ['fɛr.wi:tɪ]
- [1Stress] → [2Stress] / #\_(σ)<sub>0</sub>#[1Stress] (PREVERBAL STRESS REDUCTION)  
/ #bi+uh+θan#git-a-nd-a/ 'and then we are found'  
→ / #'bi+ux+θan#'git-a-nd-a/ (Primary Stress Assignment)  
→ / #biuxθan#gitanda/ (PREVERBAL STRESS REDUCTION)  
→ [biθ:an'gitanda] (Vowel Deletion, Consonant Assimilation): *bippangitanda*  
/-ux-/ does not assimilate across /#/ : *gahmelida* 'and I wrote', *<sup>x</sup>gammelida*.

## Stress Rules III: Summary of Stress Rules and Patterns

- Three degrees of stress: PRIMARY and SECONDARY as well as unstressed.
- Primary stress assigned to the leftmost syllable of a morphological word.
- Presumption: stress was cumulative (only one primary stress per prosodic word).
  - Multiple primary stresses banned.
  - /#Preverb#Verb#/ → [ Preverb#'Verb] ([ and-'hafjan] 'to answer')
  - /#Noun#Noun#/ → ['Noun Noun] (['fidər do:xs] 'four days')
- *Fidur-* ['fi.dər-] indicates stresslessness of second of two light syllables.
- Weak Class III /salb-o:-de:d-i:-na/ 'they would have anointed' →  
['salbo:, de:di:na]?  
or ['sal bo:, de di:na]?

## Foot Structure

- Phonological stress computation depends on:
  - Syllable groupings (feet).
  - Prosodic word edges.
- Foot structure and stress tend to show:
  - Rhythmic organization: *trochaic* (XX) or *iambic* (X $\acute$ X).
  - Either dependence or independence of syllable weight and/or vowel length.
- Gothic:
  - Trochaic: *fidur-* ['fidər-] 'four', *andahafts* ['andə-, hafts] 'answer'
  - Dependent on syllable weight or not?  
( 'fi.dər-), but ( 'an).da.(, haft)<s> or ( 'an.da).(, haft)<s> ?
- Syllabifications like *hlei.prai* [hli:θrɛ:] 'hut' perhaps suggest ideally bimoraic feet.
  - Foot = (μμ) = (LL) or (H) = *moraic trochee*.
  - Points to ( 'an).da.(, haft)<s>

## Foot Structure: SIEVER'S LAW

- Alternations between [-ji-] and [-i:-] according to phonological structure of a root.
- *ja*-stem Nouns (GENITIVE SINGULAR)
  - /har-j-is/ → [har.jis] 'army' (ACC *hari*) vs.
  - /hird-j-is/ → [hɛr.di:s] 'shepherd' (ACC *hairdi*) and /ragin-j-is/ → [ra.gi.ni:s] (ACC *ragini*) 'counselor'
- Kiparsky 1998: Gothic preferred moraic trochees, final consonants are extrametrical)
  - [Cj-] onsets avoided, onsetless syllables avoided, no deletion or epenthesis of segments.

## Foot Structure: SIEVER'S LAW

- /har-j-is/ → (har).ji<s>. All constraints satisfied, though second syllable remains unfooted.
  - <sup>x</sup>(ha.rji<s>): [rj] onset.
  - <sup>x</sup>(ha.ri).i<s>: onsetless syllable.
  - <sup>x</sup>(ha).(ri:<s>): monomoraic foot.
- /hird-j-is/ → (hɛr).(di:<s>). All constraints satisfied.
  - <sup>x</sup>(hɛr).dji<s>: [dj] onset.
  - <sup>x</sup>(hɛr.di).is: onsetless syllable.
  - <sup>x</sup>(hɛrd).ji<s>: trimoraic foot.

## Foot Structure: SIEVER'S LAW and Stress

- /ragin-j-is/ → (ra.gi).(ni:<s>). All constraints satisfied.
  - <sup>x</sup>(rag).nji<s>: [nj] onset.
  - <sup>x</sup>(ra.gi).(ni.i<s>): onsetless syllable.
  - <sup>x</sup>(ra.gin).ji<s>: trimoraic foot OR <sup>x</sup>ra.(gin).ji<s>
- Light + Heavy Stem GEN.SG /sipo:n-j-is/ 'disciple' → (si).(po:).(ni:<s>). <sup>x</sup>(si).(po:n).ji<s>.
- Heavy + Light Stem: Unattested. Final syllable -jis predicted.
- In general: compare similar patterns in the 2SG.PRES of Class I Weak Verbs.
- Conclusion: Gothic preferred to build bimoraic feet whenever possible.
  - /salb-o:-de:d-i:-na/ → ('sal).(bo:).(de:).(di:).na
  - No stress clash (but cf. (fēr).('wōrk).ja<n>)?
- But why regularly left-edge stress?
  - Sequence Light + Heavy: /LH/ → L('H).
  - Goering (2016): Germanic footed initial syllables regardless. Thus /LH/ → ('L)(H)



## Clitics and Prosodic Words

- Prosodically deficient clitics: cannot build an independent prosodic word, must be incorporated into another word (and possibly fall within the same primary stress domain).
  - Possibly a further prosodic word is projected recursively when clitics are incorporated.
- At least two clitics in Gothic are clearly identifiable from segmental effects:
  - Question particle *-u*
  - Conjunction *-uh* ‘and’
- Two types of segmental effect:
  - Vowel deletion: /pata+uh/ → *patuh*; /anþana-uh/ → *anþanuh*; /ni+uh/ → *nih*
  - FRICATIVE DEVOICING fails to apply / Voicing of Fricatives:  
*qipip* ‘he said’ vs. *qipiduh* ‘and he said’, *wileis* ‘you want’ vs. *wileizu* ‘do you want?’
- Intervention between preverb and verb:  
*ga-h-melida* ‘and he wrote’; *uz-uh-iddja* ‘and I came forth’;  
*frah ina ga-u-hva-sehui* ‘and he asked him whether he sees anything’ ⇒ indef. *hva* = clitic



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Thank you for your attention!