

Accounting for the "Exceptions" to Sievers' Law in Gothic in an "Output-Based" Approach to Analogical Change

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Part I: Background on Sievers' Law

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The Germanic backstory

"Sievers' Law" traditionally refers to a regular, prosodically conditioned pre-Gothic sound change:

posttonic $j > ij$ in heavy stems

heavy stems:

$V:Cj-$; $VCCj-$; as well as bisyllabic stems

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Early Runic evidence

Sievers' Law originally applied before all vowels (and thus throughout the inflectional paradigms of affected items):

arbijano: 'heirs' (gen. pl.) (Tune stone)

ma:kija 'sword' (acc. sg.) (Vimose chape)

i(n)gijo:n 'spear' (gen. sg.) (Stenstad stone)

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The Gothic remnants (I)

Gothic shows regular undoing of Sievers' Law before all (surviving) mid, low, and back vowels:

so:kjan 'seek' (inf.)

hāirdjo:s 'herdsman' (nom pl.)

asnje: 'servants' (gen. pl.)

Gothic traces of Sievers' Law:

never add an extra syllable;
but do improve prosodic well-formedness of affected forms.

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Orthographic note:

Gothic <ei> = /i:/

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Gothic heavy and light-stem paradigms remain distinct in only a few forms.

Gothic *j*-present verbs

light stem	sg.	pl.	heavy stem	sg.	pl.
inf.	lagjan	'lay'	inf.	hausjan	'hear'
1st	lagja	lagjam	1st	hausja	hausjam
2nd	lagjis	lagjip	2nd	hauseis	hauseip
3rd	lagjip	lagjand	3rd	hauseip	hausjand
imper.	lagei		imper.	hausei	

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Part II: Accounting for the "exceptions"

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Kiparsky's explananda

(Alleged!) overt analogical changes related to Sievers' Law:

- 1) nom. sg. **haris* > *harjis*
(light *ja*-stem masc. nouns)
- 2) imper. 2 sg. **nasi* > *nasei*; **so:ki* > *so:kei*
(*j*-present verbs)
- 3) gen. sg. *reikeis* > *reikjis*
(heavy *ja*-stem neut. nouns)

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Kiparsky on *haris* > *harjis* (I)

STEM-FORM constraint on underlying stems:

main factor motivating analysis of light *ja*-stems as having underlying stem-final long vowel (in spite of local evidence pointing to a short vowel).

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The STEM-FORM constraint

"stems should not end in a short vowel"

*V]_{STEM}

A language-specific morphological constraint; Gothic learners acquire it based on their observations.

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The double role of STEM-FORM

- 1) constraint on abstract underlying stems, influencing how learners/speakers analyze surface forms they encounter; AND
- 2) constraint on stem portion of surface wordforms, influencing input-to-output mapping.

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Gothic heavy *ja*-stem masc. nouns

	sg.	pl.	<u>All</u> forms reflect expected regular phonological developments. Sievers' Law has resulted in peculiar identity of nom. and gen. sg.
nom.	háirdeis	háirdjo:s	
gen.	háirdeis	háirdje:	
dat.	háirdja	háirdjam	
acc.	háirdi	háirdjans	
voc.	háirdi	-	

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Kiparsky on *haris* > *harjis* (2)

Heavy *ja*-stem nom. sg. *háirdeis* naturally analyzed as *háirdei+s*.

Analogical influence of stem-final long <ei> is additional factor favoring reanalysis of light *ja*-stems as having underlying stem-final long vowel.

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Traditional analogical account of *haris* > *harjis*

identity relation between nom. and gen. sg. in heavy masc. *ja*-stems extended to light stems (cf. Zwicky, Stump on "rules of referral"):

háirdeis (gen. sg.)	háirdeis (nom. sg.)	háirdeis (gen. sg.)	háirdeis (nom. sg.)
-----	::	-----	X X= <i>harjis</i> (nom. sg.)

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imperative sg.
nasei (< **nasi*) and *so:kei* (< **so:ki*??)

Gothic *j*-present verbs

light stem	sg.	pl.	heavy stem	sg.	pl.
inf.	lagjan	'lay'	inf.	hausjan	'hear'
1st	lagja	lagjam	1st	hausja	hausjam
2nd	lagjis	lagjiþ	2nd	hauseis	hauseiþ
3rd	lagjiþ	lagjand	3rd	hauseiþ	hausjand
imper.	lagei		imper.	hausei	

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Kiparsky on imperative sg.

**nasi* > *nasei* and **so:ki* > *so:kei* (1)

As with masc. *ja*-stem nouns, crucial initial (covert) development is reanalysis of all other forms in paradigm (all ambiguous) as having underlying stem-final long vowel.

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Kiparsky on imper. sg.

**nasi* > *nasei* and **so:ki* > *so:kei* (2)

Role of STEM-FORM is undeniable here because no surface form in heavy or light stem paradigm provides any grounds for positing underlying stem-final long vowel.

(as nom. sg. *háirdeis* did in masc. *ja*-stem nouns)

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Kiparsky on imper. sg.

**nasi* > *nasei* and **so:ki* > *so:kei* (3)

"Viewed in surface terms, the analogical change could only be represented as a chain of two proportional analogical changes [...]:

a. *salboop* : *salboo* = *sookijþ* : *X* (*X* = *sookii*)

b. *sookjam* : *sookii* = *nasjam* : *X* (*X* = *nasii*)"
(p. 33)

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Traditional account of *so:kei*

(At least) in heavy stems, imp. sg. *-ei* not normally believed to be analogical at all:

IE *(e)je# > Gmc. *iji#* > *ij* > *i*: (Gothic <ei>)

So only the 2nd link in Kiparsky's "chain of two proportional analogical changes" is needed.

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Kiparsky vs. "output-based" proportional accounts of:

**haris* > *harjis* - K. acknowledges role of analogy based on heavy *ja*-stems; not clear why STEM-FORM also needed; role of "rule of referral" further supports proportional account.

**so:ki* > *so:kei* - Kiparsky offers no reasons for rejecting standard view that *so:kei* is not analogical.

**nasi* > *nasei* - Given *so:kei*, 2nd link in Kiparsky's chain is a straightforward proportional account.

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What does this mean for STEM-FORM?

Kiparsky's case for STEM-FORM as constraint on underlying stems is based entirely on **haris* > *harjis*, **so:ki* > *so:kei*, and **nasi* > *nasei*.

So if **so:ki* > *so:kei* never happened, and **haris* > *harjis* and **nasi* > *nasei* can be accounted for nicely without any reference to abstract underlying stems (let alone constraints on underlying stems) ...

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What's left?

reikeis > *reikjis* (neut. gen. sg. *ja*-stem nouns)

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Part III: Accounting for *reikeis* > *reikjis*: Kiparsky vs. proportions

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What is a "proportional" (aka "word-and-paradigm") theory?

1. representations of (unsegmented) surface wordforms are the only kind of phonological and morphological information in lexical entries (no abstract underlying representations, no class features);
2. the rules of morpho(phono)logy take representations of surface wordforms as input and produce representations of other wordforms as output.

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Proportional morphophonology

Morphophonological patterns are represented directly as alternations.

In Paul's theory, alternations (*Lautwechsel*) are generalizations over material-phonetic proportional groups of wordforms.

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Kiparsky on *reikeis* > *reikjis* (1)

Due to analysis of masc. *ja*-stem nouns and *j*-present verbs (heavy and light) as based on underlying stems ending in *-i*, forms like gen. sg. *harjis* (*hari*:+(*i*)s) and 2nd sg. *so:keis* (*so*:ki:+(*i*)s) conform to and reinforce the STEM-FORM constraint against stem-final short vowels.

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Sketch of a "proportional" account (1)

masc. sg. *-eis* and imper. sg. *-ei*

(products of 'blind' sound change in heavy-stem items)

set the masc. *ja*-stems and the *j*-present verbs apart morphologically from the neut. *ja*-stems

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Sketch of a "proportional" account (2)

Given:

1. heavy stem masc. sg. *-eis* and imper. sg. *-ei*, **and**
2. ignorance of light-stem forms like **haris* and **lagi*,

the alternation that accounts best for the known forms in the masc. *ja*-stems and the *j*-present verbs is:

j before a vowel corresponds to *i*: or *ji* elsewhere, whereby

i: occurs in heavy stems (and word finally), *ji* in light stems (except word finally).

(acc./voc. sg. *-i* (*hari*; *hairdi*) is irregular.)

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Kiparsky on *reikeis* > *reikjis* (2)

In neuter *ja*-stem nouns, the underlying stem must violate STEM-FORM because evidence of surface forms is unambiguous and unequivocal (NA sg. *reiki*).

But STEM-FORM still operates as a constraint on the stem portion of surface forms, accounting for gen. sg. *reikjis* rather than *reikeis* (in spite of prosodic well-formedness).

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Sketch of a "proportional" account (2)

In the neuter *ja*-stems:

a *j~i* alternation (still) accounts best for all forms, heavy and light.

(Historically, this is because no forms had been protected from the shortening of stem-final *i:/ij*)

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Sketch of a "proportional" account (3)

Old gen. sg. heavy-stem forms like *reikeis* now the only evidence anywhere in Gothic that stem-final *i* + suffix-initial *i* yields *i:*. All other indications point to a simple generalization:

Stem-final *i* word-finally only

Stem-final *j* before any suffix
(all suffixes vowel-initial)

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i~j alternations in Gothic

Further evidence for conditions on *j~i* alternation:

heavy *-jo:* stem (feminine) nouns:

nom. sg. *bandi*

all other forms *bandj-* + (vowel-initial) suffix

heavy *ja*-stem fem. strong adj.:

nom. sg. *wilpi*

all other forms *wilbj-* + (vowel-initial) suffix

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Kiparsky on *reikeis* > *reikjis* (3)

In general (for Gothic),

where X is heavy:

Xis (e.g. *hairdeis*) is a better surface realization of underlying *Xi:+(i)s*, **but**

(because of STEM-FORM's effects on the stem portion of surface wordforms)

Xjis (e.g. *reikjis*) is a better surface realization of underlying *Xi+is*.

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Sketch of a "proportional" account (4)

In general (for Gothic),

where X is heavy:

Xis (*hairdeis*) occurs where a *j~i:/ji* alternation accounts best for known forms, **but**

Xjis (*reikjis*) occurs where a *j~i* alternation accounts best for known forms.

no need for STEM-FORM (or for abstract underlying stems)

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Part IV: Conclusions

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Kiparsky is mostly right

- The substance of his accounts of *haris* > *harjis* and of *reikeis* > *reikjis* is almost entirely right (and by far the best accounts of these developments anywhere).
- He is only wrong to claim that these accounts cannot be translated into a framework that eschews abstract underlying stems.

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Kiparsky is also right...

to criticize existing analogical accounts, especially of *reikeis* > *reikjis*;

to emphasize need (sometimes) to look far beyond affected words and paradigms in search of motivation for analogical change;

to recognize need for historical linguists to pay at least as much attention to non-change as they do to change.

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Kiparsky's 4 "why not" questions:

1. "Why not neuter *kuni* > **kunji*, like masculine **haris* > *harjis*?"
2. "Why not *herdiis* > **herdjis*, by analogy with *harjis*?"
3. "Why not *sookiis* > **sookjis*, by analogy with light *nasjis*?"
4. "Why not *wilpiis* > **wilpjis* [gen. sg of neuter adjectives], by analogy with *midjis*?"

K. claims that his account "unlike previous analogical accounts" offers answers to these questions.

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These are the right (kind of) questions, but

the first 3 have straightforward "proportional" answers (that are very similar in substance to Kiparsky's answers);

the 4th question is based on a false premise:

In fact, no neut. gen. sg. strong adj. forms are attested in Gothic. Only occurrence of gen. sg. *wilþeis* 'wild' is (weak) masc., not (strong) neut.

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Why is *reikeis* > *reikjis* such a conundrum?

Often cited as counterevidence to the claim that analogical change simplifies/optimizes the grammar.

Kiparsky's answer is not satisfying:

Morphological constraints come to trump phonological constraints all the time.

Why should this case bother people so much?

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My (stab at an) answer:

If you know some traditional neut. gen. sg. heavy *ja*-stem forms like *reikeis*, you interpret the whole Sievers' Law pattern in such a way that these forms make perfect sense:

posttonic *i*: with heavy stems, *ji* with light, regardless of morphological boundaries

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But if you don't know the forms like *reikeis*, you're going to interpret the whole pattern differently:

Two alternations involving stem-final *j*:

A: *j~i/ji*, with the familiar heavy-vs.-light distribution

B: *j~i*, with stem weight playing no role

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In other words, the gen. sg. heavy *ja*-stem forms in *-eis* (*reikeis*) were themselves crucial evidence of their own regularity.

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If analogical innovations are products of the mental grammar that manifest themselves when traditional forms are unavailable, it makes sense that:

analogical change typically eliminates exceptions to regular patterns

but perhaps we need to add:

analogical change can also eliminate forms whose status (regular or exceptional) depends on whether they are themselves included in the determination of what counts as regular.

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