

Morphological change by
phonological analogy:
2sg *-s* → *-st* in Old High
German and Old English

David Fertig
University at Buffalo (SUNY)
fertig@buffalo.edu
GLAC 23
April 22, 2017

2SG *-s* → *-st* in West Germanic languages

Old English: ca. 9th century

Old High German: 9th century and later

Low German: by 13th c.

Frisian: by 13th c.

Dutch: No

2SG *-s* → *-st* in Old High German

Variation in *Christus und die Samariterin*, a late 9th c. text:

noh tu nehabis kiscirres
nor thou not-have-2SG vessel

Biuuaz kerost thu, guot man, daz ih thir geba trinkan?
why desire-2SG thou, good man, that I thee give drink

The *Referenzkorpus Altdeutsch* and the ANNIS search engine

<https://korpling.german.hu-berlin.de/annis3/ddd>

Some search examples:

inflection = /.*SG_2/

inflection = "IND_PRES_SG_2" ==_ inflectionClass !
= "PRPR" ==_ lemma != /s.n/ . inflection =
"SG_NOM_2" & clause & #5 _i_ #1 & #5 _i_ #4

Main aim of this talk

to clarify the nature of the analogical mechanism that it (arguably) largely/partly responsible for the 2sg $-s \rightarrow -st$ change

Almost all of the many accounts of $-s \rightarrow -st$ that invoke analogy are extremely vague about how the analogy works.

Recently, Ringe & Taylor (2014) have very explicitly advocated what I consider the wrong kind of analogy.

Accounts of 2SG $-s \rightarrow -st$

1. **Morphological analogy – based on a small set of verbs that already had *-st*: (OE) *canst*, *bist*, etc.**
2. Reanalysis of forms with enclitic subject pronoun (e.g. OHG *gilaubistu* ‘believest thou’)
 - a. Grammaticalization (morphologization) of enclitic-*t(u)* [\approx “form fossilization” (Somers 2011)]
 - b. Formal reanalysis based on phonological ambiguity of *-stu*
 - i. resegmentation (“recutting”)
 - ii. Reanalysis licensed by phonological neutralization

Ringe & Taylor 2014

“...when pre-PGmc strong past and pret.-pres. 2sg. *-ss [...] was replaced by *-st, **it became possible for learners to abduce a 2sg. ending *-st** [...] That ending subsequently spread to the pret.-pres. verbs with roots ending in nasals in the WGmc dialects [...] OE *canst* = OS, OHG *kanst* ‘you know how’ [...] 2sg. *-st had also spread to *bi-, the perfective present of ‘be’ [...] at a comparatively early date [...] **Both in OE and in OHG it spread next to other monosyllabic present stems.**” (p. 354)

Early 2SG PRS IND *-st* forms:

- Proto-Germanic preterite-presents:
(OE): *wāst* ‘know’; *dearst* ‘dare’, *mōst* ‘must’
- West Germanic preterite-present additions:
(OE): *canst* ‘can’ (cf. Gothic *kant*), *ġemanst* ‘remember’
- *bist* ‘(thou) art’

Problems with a morphological-analogy account (1)

No paradigmatic parallels (“non-proportional”):

PRS IND	wi33an ‘know’	wësan/sīn ‘to be’	suochen ‘seek’
1SG	wei3	bim	suochu
2SG	weist	bist	suochis
3SG	wei3	ist	suochit
1PL	wi33um	birum	suochemēs
2PL	wi33ut	birut	suochet
3PL	wi33un	sint	suochent

Some unsolvable proportional equations

weiß : *weist* = *suchen* : X, X = ????

Wissen : *weist* = *suchen* : X, X = ????

Paul's 'proportional' principle

“one word can be subject to analogical influence from another in its inflection only if it [already] corresponds to the other word in the formation of one or more forms” (Paul 1886:95)

If you don't believe in proportional equations...

...but instead regard analogical change as a matter of innovative allomorph-concatenation,

the preterite-presents and *bist* are still problematic as the source of 2sg *-st* since:

Several pret.-pres. have (only) *-t* (OHG *darft, maht, scalt*).

Where *-st* does occur, its status as a morpheme is far from clear-cut (i.e. *s* could be stem final)

pre-OE, late OHG innovation: *wilt* (!)

Issues with a morphological-analogy account (2)

Known **counterexamples** to Paul's proportional principle are all consistent with his observation that the affixes involved are ones that "can be perceived as essentially the normal ending for an inflectional form" (1886:95).

What's 'normal'?

- Paul: “exceptional [type] frequency”
- Wurzel: “superstable markers” = “markers of stable inflectional classes which also occur in non-stable inflectional classes”
- Carstairs-McCarthy: “class defaults” = “affixes shared by more than one inflection class and all of whose rivals are peculiar to one class”

-*st* was not the “normal” 2SG PRS IND ending in the earliest stages of the WGmc. languages by any of the criteria on the last slide.

The double whammy...

...of lack of paradigmatic parallels and lack of 'normal'/superstable/class-default status of 2SG *-st* leave the morphological analogy account of the spread of *-st* on very shaky ground.

Accounts of 2SG $-s \rightarrow -st$

1. ~~Morphological analogy~~ based on a small set of verbs that already had *st*: (OE) *canst*, *bist*, etc.
2. **Reanalysis of forms with enclitic subject pronoun (e.g. OHG *gilaubistu* ‘believest thou’)**
 - a. Grammaticalization (morphologization) of enclitic $-t(u)$ [\approx “form fossilization” (Somers 2011)]
 - b. Formal reanalysis based on phonological ambiguity of $-stu$
 - i. resegmentation (“recutting”)
 - ii. Reanalysis licensed by phonological neutralization

2SG + enclitic forms

*Gilau**istu** in heilagan geist?* (Fränkisches Taufgelöbnis)
Believest-thou in holy ghost

*Ziu féri**stu** inti dóufist?* (Otfrid)
Why goest-thou and baptize-2sg

What kind of reanalysis?

(In the interest of time...)

Accounts of 2SG $-s \rightarrow -st$

1. ~~Morphological analogy~~ based on a small set of verbs that already had *st*: (OE) *canst*, *bist*, etc.
2. **Reanalysis of forms with enclitic subject pronoun (e.g. OHG *gilaubistu* ‘believest thou’)**
 - a. **Grammaticalization (morphologization) of enclitic $-t(u)$ [\approx “form fossilization” (Somers 2011)]**
 - b. Formal reanalysis based on phonological ambiguity of $-stu$
 - i. resegmentation (“recutting”)
 - ii. Reanalysis licensed by phonological neutralization

Grammaticalization?

gilaubis pu → *gilaubistu* → *gilaubist*

Under a grammaticalization account, the *-t* in *gilaubist* would be what's left of the subject pronoun – both formally and functionally.

We would expect the new *-st* suffix to differ functionally from the old *-s* suffix in some way that reflects the pronominal origins of the *-t*.

Grammaticalization of enclitic subject pronouns in Bavarian 2PL

khints (**es/ia**) *ned* *woatn?*
Könnt ihr nicht warten?
Can-**2PL** you-pl not wait?

Problems with a grammaticalization account (1)

Morphologization of a subject pronoun should give rise to pro-drop (as it does in the modern Bavarian 2PL [and 1PL])

But there is (generally) little sign of (an increase in) pro-drop in the 2SG after the $-s \rightarrow -st$ change in any of the affected older West Germanic languages.

Problems with a grammaticalization account (2)

Two (relevant) types of 'double agreement' pattern:

1. One ending for V1/2; another for V-final.
2. One ending when V is immediately followed by subject pronoun; another otherwise.

Grammaticalization of subject pronouns is generally associated with the first type, but OHG evidence points more to the second type.

Type-2 double agreement in Otfrid's *Evangelienbuch*

mínnost ***thu*** *mih, Pétrus?*

love-2SG thou me Peter

'Do you love me, Peter?'

Thu *lóugnis* *min zi wáre*

thou deny-2SG me in truth

'You will deny me, truly.'

(Compare examples from *Christus und die Samariterin* on slide 3.)

Double agreement pattern in Otfrid's *Evangelienbuch*

(present indicative only)

	-s	-st	% -st
V1 or V2 with <i>thu</i> immediately following	4	31	88.6%
<i>thu</i> preceding V2	8	8	50%
V1 + X + <i>thu</i>	2	0	0%
<i>thu</i> (+ X) + VF (or ambiguous V2/VF)	31	20	39.2%

Accounts of 2SG $-s \rightarrow -st$

1. ~~Morphological analogy — based on a small set of verbs that already had $-st$: (OE) *canst*, *bist*, etc.~~
2. **Reanalysis of forms with enclitic subject pronoun (e.g. OHG *gilaubistu* ‘believest thou’)**
 - a. ~~Grammaticalization (morphologization) of enclitic $t(u)$ [\approx “form fossilization” (Somers 2011)]~~
 - b. **Formal reanalysis based on phonological ambiguity of $-stu$**
 - i. **resegmentation (“recutting”)**
 - ii. Reanalysis licensed by phonological neutralization

Reanalysis licensed by degemination

Gothic: *ibn-* + *-assus* = *ibnassus* 'equality'

Old Saxon: *efn-* + *issi* OR *-nissi* = *efnissi* 'plain'

Old English: *efn* + *-nes(s)* = *efnes*

-Source of suffix *-ness*

- **Is this resegmentation?**

Accounts of 2SG $-s \rightarrow -st$

1. ~~Morphological analogy—based on a small set of verbs that already had $-st$: (OE) *canst*, *bist*, etc.~~
2. **Reanalysis of forms with enclitic subject pronoun (e.g. OHG *gilaubistu* ‘believest thou’)**
 - a. ~~Grammaticalization (morphologization) of enclitic $t(u)$ [\approx “form fossilization” (Somers 2011)]~~
 - b. **Formal reanalysis based on phonological ambiguity of $-stu$**
 - i. ~~resegmentation (“recutting”)~~
 - ii. **Reanalysis licensed by phonological neutralization**

Phonological ambiguity of forms in *-stu*

gilaubistu

(2SG with enclitic subject pronoun)

= ***gilaubis + pu*** (historically 'correct' analysis)

OR

gilaubist + pu (innovative (re)analysis)

3 relevant phonological regularities

1. *st* for **sp*

2. *tt* for **tp*

3. **Degemination after a consonant, e.g. *st* for **stt***

Together, these account for ambiguous *-stu*

without 1.: **-spu* vs. *-stu*

without 3.: *-stu* vs. **-sttu*

Analogy redux

“*wástu : pú wást :: berestu : X*, where $X = pú berest$ ”
(Sihler 1986:209)

Analogy redux

wástu : þú wást :: berestu : X

In this equation:

The relationship between *wást + þú* and *wástu* is fully accounted for by the general phonological regularities mentioned above.

It is NOT the *-st* ending per se that is spreading by analogy.

A phonological alternation is spreading by analogy, which happens to yield an *-st* ending in place of *-s* in this case.

-r → *-rð* in Icelandic

Strong and class-1 weak verbs with roots ending in a vowel or *-r*:

older *þú fær* → *þú færð* (from *fá* 'get')

older *þú ber* → *þú berð* (*bera* 'bear')

A proportional equation based on the preterite-presents with 2SG *-t* (or the NGmc. strong preterites with *-(s)t* !) works just as well in accounting for the new Icelandic *-(r)ð* ending as it does in accounting for WGmc. *-st*:

parftu : parft þú = færðu : X, solution: X = færð þú

Conclusions

1. Analogy based on the preterite-presents and *bist* and
2. reanalysis of ambiguous forms in *-stu*

Are commonly presented in the literature either as:

a. competing explanations for the rise of *-st*

or

b. independent factors that both contribute to the rise of *-st*

In fact, 1. and 2. are **two crucial components of a single, coherent account** of the rise of *-st*

Selected references (1)

- Altmann, Hans. 1984. Das System der enklitischen Personalpronomina in einer mittelbairischen Mundart. *Zeitschrift für Dialektologie und Linguistik* 51(2).191–211.
- Axel, Katrin and Helmut Weiß. 2011. Pro-drop in the history of German. In Melani Wratil and Peter Gallmann (eds.), *Null Pronouns*, 21–52. Berlin: de Gruyter.
- Benware, Wilbur. 1979. Zur Dentalepithese im Deutschen. *Beiträge zur Geschichte der deutschen Sprache und Literatur* 101.329–346.
- Braune, Wilhelm & Ingo Reiffenstein. 2004. *Althochdeutsche Grammatik I: Laut- und Formenlehre*. Tübingen: Niemeyer.
- Brinkmann, Hennig. 1931. *Sprachwandel und Sprachbewegungen in althochdeutscher Zeit*. Jena: Frommann.
- Carstairs-McCarthy, Andrew. 1994. Inflection class, gender, and the Principle of Contrast. *Language* 70(4).737–788.
- Carstairs-McCarthy, Andrew. 1999. The tension between 'combinatorial' and 'class-default' regularity. *Behavioral and Brain Sciences* 22(6).1017-1018.
- Einarsson, Stefán. 1945. *Icelandic Grammar Texts Glossary*. Baltimore: The Johns Hopkins University Press.
- Fertig, David. 2013. *Analogy and Morphological Change*. Edinburgh: Edinburgh University Press.
- Fertig, David. 2016. Mechanisms of paradigm leveling and the role of universal preferences in morphophonological change. *Diachronica* 33(4).423-460.
- Fuß, Eric. 2005. *The Rise of Agreement*. Amsterdam: Benjamins.
- Fuß, Eric. 2011. Historical pathways to null subjects: Implications for the theory of pro-drop. In Melani Wratil and Peter Gallmann (eds.), *Null Pronouns*, 53–98. Berlin: de Gruyter.
- Fuß, Eric and Melani Wratil. 2013. Der Nullsubjektzyklus: Etablierung und Verlust von Nullargumenten. In Jürg Fleischer and Horst J. Simon (eds), *Sprachwandelvergleich – Comparing Diachronies*, 163–196. Berlin: de Gruyter Mouton.

Selected references (2)

- Krause, Thomas & Amir Zeldes. 2016. ANNIS3: A new architecture for generic corpus query and visualization. *Digital Scholarship in the Humanities* 31.
- Lühr, Rosemarie. 1984. Reste der athematischen Konjugation in den germanischen Sprachen, in Jürgen Untermann and Bela Brogyanyi (eds.), *Das Germanische und die Rekonstruktion der indogermanischen Grundsprache*, 25–90. Amsterdam: Benjamins.
- Orešnik, Janez. 1980. On the dental accretion in certain 2nd p. sg. verbal forms of Icelandic, Faroese, and the old West Germanic languages. *Íslenskt mál* 2.195–211. [Reprinted in Orešnik, Janez. 1985. *Studies in the Phonology and Morphology of Modern Icelandic*, ed. by Magnús Pétursson, 191–211. Hamburg: Helmut Buske.]
- Paraschkewow, Boris. 2003. Zur Polygenese des -t in der Verbalendung -st. *Zeitschrift für germanistische Linguistik* 31(3). 382–385.
- Pfalz, Anton. 1918. *Beiträge zur Kunde der bayerisch-österreichischen Mundarten*, (Kaiserliche Akademie der Wissenschaften in Wien, Philosophisch-historische Klasse, Sitzungsberichte 190, vol. 2). Vienna: Hölder.
- Rabanus, Stefan. 2008. *Morphologisches Minimum Distinktionen und Synkretismen im Minimalsatz hochdeutscher Dialekte*, (ZDL-Beiheft 134). Stuttgart: Steiner.
- Ringe, Don and Ann Taylor. 2014. *The Development of Old English*. Oxford: Oxford University Press.
- Rowley, Anthony R. 1994. Morphologie aus Syntax - natürlich. Zur Flexion der Nebensatzeinleiter in nordostbayerischen Dialekten. In Wolfgang Viereck (ed.), *Verhandlungen des Internationalen Dialektologenkongresses*, Band 3, (Zeitschrift für Dialektologie und Linguistik. Beihefte 76), 488-497. Stuttgart: Steiner.
- Sihler, Andrew. 1986. Germanic second person endings in -st. *Münchener Studien zur Sprachwissenschaft* 47.193-215.
- Somers, Katerina. 2011. The Introduction and Extension of the -st Ending in Old High German. *Journal of Germanic Linguistics* 23(2).141–181.
- Weiss, Helmut. 2005. Inflected Complementizers in Continental West Germanic Dialects. *Zeitschrift für Dialektologie und Linguistik* 72.148–166.
- Wiesinger, Peter. 1989. *Die Flexionsmorphologie des Verbums im Bairischen*. Vienna: Österreichischen Akademie der Wissenschaften.
- Wurzel, Wolfgang Ullrich. 1987. System-dependent Morphological Naturalness in Inflection. In Wolfgang U. Dressler (ed.), *Leitmotifs in Natural Morphology*, 59–96. Philadelphia: Benjamins.