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# Merger of 2. and 3.SG.PRES.IND. in Old Norse

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Overview:

- In North Germanic, the original 3.sg.pres.ind. ending *-iþ* is replaced by the 2.sg. ending.
  - Some scholars have assumed that sound change made the 2. and 3.sg. forms identical in some cases, and this identity was then generalized to all verbs.
  - Other scholars have claimed that the outcome of the original 3.sg. ending would make the verb forms ‘unrecognizable’ to speakers, who then replaced the 3.sg. with the 2.sg.
  - I will show that both of these theories are incorrect.
  - I suggest a morphological account in which the 3.sg. was replaced by the 2.sg. in order to establish a distinction between the 3.sg. and the 2.pl.
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## 1 Introduction

- (1) In regular strong verbs, Proto-Germanic inherits a distinction between the 2. and 3.sg.pres.ind.act., as seen in East and West Germanic:

(2)

	PRES.IND.ACT. ENDINGS					
	Gothic	OHG	OS	OLF	OF	OE
2.sg.	<i>-is</i>	<i>-is</i>	<i>-is</i>	<i>-is</i>	<i>-est</i>	<i>-is</i>
3.sg.	<i>-iþ</i>	<i>-it</i>	<i>-id</i>	<i>-it</i>	<i>-ith</i>	<i>-ið</i>

- (3) In North Germanic, the two endings are identical:

(4)

	Old Norwegian	Old Danish	Old Swedish	Old Gutnish
2.sg. } 3.sg. }	<i>-r</i>	<i>-ær</i>	<i>-er</i>	<i>-r</i>

- (5) There is near universal agreement in the grammars that the 2.sg. ending has replaced the original 3.sg. ending (Holthausen 1895, Noreen 1923, Jónsson 1925, Heusler 1932, Krause 1948, 1971, Iversen 1972, Antonsen 1975, Hanssen et al. 1975, Haugen 1982, Schulte 2018).
- (6) The replacement 2.sg. → 3.sg. is very surprising.
- (7) The 3.sg. is the most frequent form in the paradigm (Greenberg 1966, Bybee 1985), and more frequent forms generally replace less frequent forms:
- (8) “In the case of more frequent forms and less frequent ones, e.g. [...] those of the third person – those of the other persons, [...] the former replace the latter more often than vice versa” (Mańczak 1978, 1980).
- (9) The reverse replacement in North Germanic has “taxed the explanatory abilities of five or six generations of linguists” (Dilts 1980).
- (10) Most accounts of the merger in North Germanic have been based on phonology.
- (11) I will demonstrate that these accounts are flawed, and instead provide a morphological account.
- (12) For North Germanic, I will from now only refer to *Old Norse* = Old Norwegian and its offshoot Old Icelandic.

## 2 2./3.sg. endings in Proto-Norse and Old Norse

- (13) The 2./3.sg. ending *-r* in Old Norse goes back to an older ending *-R*, attested in runic inscriptions (e.g. N 2, DR 192, Sö 131, Gustavson et al. 1983), which in turn goes back to an even older ending *-iR* (Ög 136).
- (14) The original 3.sg. ending is once attested in Proto-Norse as *-iþ* (DR 357, KJ 96).
- (15) The new 3.sg. ending *-(i)R* appears in inscriptions from southeastern Sweden and northwestern Norway by the second half of the 7th c. (DR 360, KJ 97, NIÆR 55, KJ 101).

	Proto-Norse	Old Norse	
2.sg.	* <i>-iR</i>		} ⇒ <i>-iR</i> > <i>-R</i> > <i>-r</i>
3.sg.	<i>-iþ</i>		

### 3 The theory of regular merger

- (17) After long syllables, the vowel *i* in the original 2.sg. ending *\*-iR* and the 3.sg. *-iþ* would be lost.
- (18) The consonants *\*-R* and *\*-þ* would then come in direct contact with the final segment of the verbal stem.
- (19) If the stem ended in *\*-l* or *\*-n*, both endings would undergo total assimilation with the stem final consonant and give *-ll* and *-nn* (Kuryłowicz 1945, 1977, Hilmarsson 1980, Schulte 2018).

(20) Exemplified with *skína* ‘shine’:

(21) REGULAR MERGER ACCORDING TO KURYŁOWICZ

	Proto-Norse			Old Norse
2.sg.	<i>*skīn-iR</i>	>	<i>*skīn-R</i>	> <i>skín-n</i>
3.sg.	<i>*skīn-iþ</i>	>	<i>*skīn-þ</i>	> <i>skín-n</i>

- (22) This pattern would subsequently spread to all present indicative conjugations by analogy.
- (23) This cannot be correct, because the postulated sound changes *\*-lþ* > *-ll* and *\*-nþ* > *-nn* did not in fact take place.
- (24) Only *original* sequences *\*-lþ-* and *\*-nþ-* would undergo total assimilation.
- (25) *Secondary* sequences *\*-lþ-* and *\*-nþ-* originating from the loss of a vowel between the two consonants, did not:

(26) PRIMARY AND SECONDARY *\*-lþ-* AND *\*-nþ-* IN OLD NORSE

Early Proto-Norse		Late Proto-Norse		Old Norse
<i>*wulþō</i>	>	<i>*olla</i>	>	<i>olla</i> ‘I wielded’
<i>*kunþō</i>	>	<i>*kunna</i>	>	<i>kunna</i> ‘I knew’
<i>*maþlidō</i>	>	<i>*mælpā</i>	>	<i>mæлта</i> ‘I spoke’
<i>*rahnidō</i>	>	<i>*rænþā</i>	>	<i>rænta</i> ‘I robbed’
<i>*skilidō</i>	>	<i>*skilðā</i>	>	<i>skilðā</i> ‘I separated’
<i>*spanidō</i>	>	<i>*spænðā</i>	>	<i>spenðā</i> ‘I attracted’

- (27) There are no assimilations that would cause the 2. and 3.sg.pres.ind.act. forms to be identical (Reimer & Lindroth 1939).

## 4 The theory of detrimental assimilation

- (28) After long syllables, the vowel in the original 3.sg. ending *-iþ* would be lost.
- (29) The ending *\*-þ* would then come in direct contact with the final segment of the verbal stem.
- (30) After vowels and most consonants, *\*-þ* would give Old Norse *\*-ð*.
- (31) After dental fricatives *\*-þ* and *\*-ð* or an alveolar stop *\*-t*, the ending *\*-þ* would assimilate to the consonant and become *\*-d* and *\*-t*, respectively.
- (32) After consonant clusters ending in an alveolar stop *\*-t* or *\*-d*, the ending *\*-þ* would drop and give a zero ending *\*-∅* in Old Norse.

(33) HYPOTHETICAL OUTCOMES IN THE 3.SG.

Proto-Norse		Old Norse			
<i>*drīb-iþ</i>	>	<i>*drīb-þ</i>	>	<i>*dríf-ð</i>	‘drives’
<i>*stīg-iþ</i>	>	<i>*stīg-þ</i>	>	<i>*stíg-ð</i>	‘steps’
<i>*līþ-iþ</i>	>	<i>*līþ-þ</i>	>	<i>*líd-d</i>	‘goes’
<i>*rīd-iþ</i>	>	<i>*rīð-þ</i>	>	<i>*ríd-d</i>	‘rides’
<i>*bīt-iþ</i>	>	<i>*bīt-þ</i>	>	<i>*bít-t</i>	‘bites’
<i>*brest-iþ</i>	>	<i>*brest-þ</i>	>	<i>*brest-∅</i>	‘bursts’
<i>*bind-iþ</i>	>	<i>*bind-þ</i>	>	<i>*bind-∅</i>	‘binds’

- (34) The regular outcome of the original 3.sg. ending would be a phonologically conditioned variation (= *allomorphy*) between *\*-ð*, *\*-d*, *\*-t*, and *\*-∅*.
- (35) Many scholars have seen this potential allomorphy as the reason why the 3.sg. was replaced by the 2.sg. (Sommerfelt 1924, 1959, Seip 1971, Hilmarsson 1980, Nielsen 2000, Bjorvand 2010, Fulk 2018, Schulte 2018).
- (36) The hypothetical assimilated 3.sg. forms are seen as ‘problematic’ in some way, but it is not made explicit why or how they are problematic.
- (37) The exception is Hilmarsson (1980), who claims that assimilated 3.sg. forms such as *\*rídd* from *ríða* ‘ride’ would be ‘unrecognizable’.
- (38) The assumption is, then, that speakers would not be able to identify *\*-ð*, *\*-d*, *\*-t*, and *\*-∅* as variants of the same morpheme *\*-ð*, and therefore replaced it with the more transparent 2.sg. ending.

- (39) This cannot be correct, because the exact same allomorphy exists elsewhere in the language, and this allomorphy is productive.

#### 4.1 Abstract nouns in *-ð*

- (40) The suffix *-ð* derives abstract nouns from adjectives (Torp 1909, Krahe 1969), with fronting of a back vowel in the root.
- (41) When the adjectival root ends in a dental fricative, the suffix *-ð* assimilates to it and creates a voiced geminate stop *-dd*.
- (42) When the adjectival root ends in a voiceless obstruent *-p*, *-k*, and *-s*, the suffix *-ð* changes to a voiceless *-t* (Noreen 1923).

(43) NOUN DERIVATIONS WITH SUFFIX *-ð*

Adjective	Abstract noun
<i>dauf-</i> ‘deaf’	<i>deyf-ð</i> ‘deafness’
<i>fagr-</i> ‘beautiful’	<i>fegr-ð</i> ‘beauty’
<i>gnóg-</i> ‘abundant’	<i>gnóg-ð</i> ‘abundance’
<i>breið-</i> ‘broad’	<i>breid-d</i> ‘breadth’
<i>víð-</i> ‘wide’	<i>víd-d</i> ‘width’
<i>djúp-</i> ‘deep’	<i>dýp-t</i> ‘depth’
<i>spak-</i> ‘wise’	<i>spek-t</i> ‘wisdom’
<i>fús-</i> ‘eager’	<i>fýs-t</i> ‘eagerness’

- (44) The derivation *vídd* from *víð-* is perfectly equivalent to the allegedly ‘unrecognizable’ conjugational form *\*rídd* from *ríð-*.
- (45) Deriving abstract nouns in *-ð* from roots was ‘very productive’ in Old Norse (Torp 1909).
- (46) An Old Norse innovation is to derive such nouns from weak verbs (Torp 1909):

(47) INNOVATIVE DERIVATIONS WITH SUFFIX -ð

Verb		Abstract noun	
<i>fylg-ja</i>	‘follow’	<i>fylg-ð</i>	‘following’
<i>hlíf-a</i>	‘protect’	<i>hlíf-ð</i>	‘protection’
<i>hefn-a</i>	‘avenge’	<i>hefn-d</i>	‘revenge’
<i>hvíl-a</i>	‘rest’	<i>hvíl-d</i>	‘rest’
<i>styrk-ja</i>	‘strengthen’	<i>styrk-t</i>	‘strength’
<i>nefs-a</i>	‘punish’	<i>nefs-t</i>	‘punishment’

(48) The allomorphy between *-ð*, *-d*, and *-t* in these innovative formations demonstrates that it was both productive and transparent to speakers of Old Norse.

(49) Sommerfelt (1959) sees the potential counterargument provided by these abstract nouns.

(50) His solution is to claim that the allomorphy is ‘more awkward in finite verb forms than in abstract nouns’, without explaining this reasoning any further.

(51) But the exact same allomorphy exists in finite verb forms too.

## 4.2 Past tense of weak verbs

(52) Old Norse forms the preterite and perfect participles of weak verbs with a past tense morpheme *-ð*.

(53) In 3rd conjugation verbs, the suffix *-ð* follows the verbal root directly due to the loss of an intervening vowel *-i-*.

(54) The past tense suffix *-ð* exhibits the exact same allomorphy between *-ð*, *-d*, *-t*, and *-∅* that was supposed to be ‘unrecognizable’ in the present tense:

(55) VERBS WITH PAST TENSE MORPHEME -ð

Infinitive		3.sg.pret.ind.	Perf.part.
<i>fylg-ja</i>	‘follow’	<i>fylg-ð-i</i>	<i>fylg-ð</i>
<i>fór-a</i>	‘bring’	<i>fór-ð-i</i>	<i>fór-ð</i>
<i>erf-a</i>	‘inherit’	<i>erf-ð-i</i>	<i>erf-ð</i>
<i>dóm-a</i>	‘judge’	<i>dóm-ð-i</i>	<i>dóm-ð</i>
<i>fóð-a</i>	‘feed’	<i>fóð-d-i</i>	<i>fóð-d</i>
<i>mót-a</i>	‘meet’	<i>mót-t-i</i>	<i>mót-t</i>
<i>fest-a</i>	‘fasten’	<i>fest-∅-i</i>	<i>fest-∅</i>
<i>send-a</i>	‘send’	<i>send-∅-i</i>	<i>send-∅</i>

(56) The same allomorphy is applied in later loanwords (de Vries 1962), showing that the allomorphy was productive and transparent:

(57) LOANWORDS WITH PAST TENSE MORPHEME -ð

Infinitive		3.sg.pret.ind.	Perf.part.
<i>tær-a</i>	‘consume’	<i>tær-ð-i</i>	<i>tær-ð</i>
<i>snæð-a</i>	‘eat’	<i>snæð-d-i</i>	<i>snæð-d</i>
<i>být-a</i>	‘exchange’	<i>být-t-i</i>	<i>být-t</i>
<i>pynd-a</i>	‘extort’	<i>pynd-∅-i</i>	<i>pynd-∅</i>

### 4.3 Pronominal clitic -ðu

(58) The 2.sg.nom. personal pronoun þú ‘thou’ reduces to a clitic -ðu (Noreen 1923).

(59) The pronoun can attach as a clitic to almost any preceding word in the sentence, but most often with imperatives and the present tense of so-called preterite-present verbs.

(60) The initial fricative of the clitic -ðu exhibits the exact same variants as it does in the abstract noun suffix -ð and the past tense suffix -ð:

(61) VARIANTS OF THE 2ND PERSON CLITIC -ðu

Host word		Clitic -ðu
<i>seg</i>	‘say.IMP’	<i>seg-ðu</i>
<i>hlíf</i>	‘protect.IMP’	<i>hlíf-ðu</i>
<i>heill</i>	‘hail!’	<i>heill-du</i>
<i>efl</i>	‘strengthen.IMP’	<i>efl-du</i>
<i>sit</i>	‘sit.IMP’	<i>sit-tu</i>
<i>brjót</i>	‘break.IMP’	<i>brjót-tu</i>
<i>ves</i>	‘be.IMP’	<i>ves-tu</i>
<i>þarft</i>	‘need.2.SG.PRES.IND’	<i>þarft-u</i>
<i>dragst</i>	‘move.IMP’	<i>dragst-u</i>
<i>statt</i>	‘stand.IMP’	<i>statt-u</i>

### 4.4 Interim conclusion

(62) There are many suffixes in Old Norse with an initial dental fricative -ð-.

(63) They are all common and productive, and they exhibit the regular and expected variation between -ð-, -d-, -t-, and -∅-.

- (64) This allomorphy was fully transparent to speakers of Old Norse, and they had no difficulties with either recognizing them or applying them productively in new words.
- (65) There is nothing to indicate that the regular outcome of the original 3.sg. ending *-iþ* would be problematic for speakers.
- (66) The expected allomorphy of the 3.sg. ending cannot be the reason why it was lost and replaced by the 2.sg. ending.

## 5 A morphological account

- (67) There is no phonological reason for the formal identity (= *syncretism*) between the 2. and 3.sg. endings in Old Norse.
- (68) We should look at the status of the original 3.sg. ending *-iþ* with respect to the other grammatical endings in the verbal paradigms.
- (69) In regular strong verbs, there is full syncretism between the 3.sg. and 2.pl.pres.ind.act. in Proto-Germanic.
- (70) This is the result of regular sound change (Krahe 1969):

(71)

PRES.IND.ACT. ENDINGS			
	Gothic	OHG	OLF
2.sg.	<i>-is</i>	<i>-is</i>	<i>-is</i>
3.sg.	} <i>-iþ</i>	<i>-it</i>	<i>-it</i>
2.pl.			

- (72) This syncretism is inherited into Proto-Norse (Krause 1971):

(73)

PRES.IND. ENDINGS IN PROTO-NORSE AND OLD NORSE										
	Strong v.		1st class		2nd class		3rd class		4th class	
	PN	ON	PN	ON	PN	ON	PN	ON	PN	ON
2.sg.	*-iR	-r	*-ōR	-ar	*-iR	-r	*-īR	-ir	*-ēR	-ir
3.sg.	-iþ	-r	*-ōþ	-ar	*-iþ	-r	*-īþ	-ir	*-ēþ	-ir
2.pl.	*-iþ	-ið	*-ōþ	-ið	*-iþ	-ið	*-īþ	-ið	*-ēþ	-ið

- (74) This syncretism does not exist outside the present indicative:



## (75) PRES.SUBJ. ENDINGS IN PROTO-NORSE AND OLD NORSE

	Strong v.		1st class		2nd class		3rd class		4th class	
	PN	ON	PN	ON	PN	ON	PN	ON	PN	ON
2.sg.	*-ē <sub>R</sub>	-ir	*-ō <sub>R</sub>	-ir	*-jē <sub>R</sub>	-ir	*-ijē <sub>R</sub>	-ir	*-ē <sub>R</sub>	-ir
3.sg.	*-ē	-i	*-ō	-i	*-jē	-i	*-ijē	-i	*-ē	-i
2.pl.	*-ēþ	-ið	*-ōþ	-ið	*-jēþ	-ið	*-ijēþ	-ið	*-ēþ	-ið

## (76) PRET. ENDINGS IN PROTO-NORSE AND OLD NORSE

	Strong verbs				Weak verbs			
	Indicative		Subjunctive		Indicative		Subjunctive	
	PN	ON	PN	ON	PN	ON	PN	ON
2.sg.	*-t	-t	*-ī <sub>R</sub>	-ir	*-dē <sub>R</sub>	-ðir	*-dī <sub>R</sub>	-ðir
3.sg.	-∅	-∅	*-ī	-i	-dē	-ði	*-dī	-ði
2.pl.	*-uþ	-uð	*-īþ	-ið	*-duþ	-ðuð	*-dīþ	-ðið

(77) Compare the last three tables!

(78) Whenever the 3.sg. and 2.pl. endings were identical in Proto-Norse, the original 3.sg. ending is *always* lost and replaced by the 2.sg. ending in Old Norse.(79) Whenever the 3.sg. and 2.pl. endings were distinct in Proto-Norse, both are kept and remain distinct in Old Norse, and the 3.sg. is *never* replaced by the 2.sg. ending.

(80) There are no exceptions to these generalizations, and it is unlikely to be coincidental.

(81) The end result is that the 3.sg. and 2.pl. are kept distinct in Old Norse, at the expense of sometimes losing the contrast between the 2. and 3.sg.

(82) This suggests that speakers found the syncretism between the 3.sg. and 2.pl. ‘problematic’ to the extent that it triggered a move to separate the two endings.

(83) The ‘solution’ to this problem caused a new syncretism to arise instead: 2.sg. = 3.sg.

(84) This indicates that the new syncretism between the 2. and 3.sg. appeared ‘less problematic’ to speakers than the original syncretism between the 3.sg. and 2.pl.

(85) Both syncretisms obliterate the distinction between the second and third person, but one does so within a number category (the singular), while the other does so across number categories (the singular and the plural).

- (86) It seems that syncretisms *within* number categories are preferred over syncretisms *across* number categories.
- (87) Kuryłowicz (1945): When a verb form is generalized within its paradigm, it happens within and not across numbers.
- (88) He sees this generalization as an instantiation of his fifth law of analogy:
- (89) ‘To reestablish a difference of central importance, the language abandons a difference of more marginal importance’ (translated).
- (90) Differentiating verbal forms across numbers is more ‘important’ than differentiating verbal forms within numbers.
- (91) Speakers of Proto-Norse gave up on the distinction between the 2. and 3.sg. (‘of marginal importance’) in order to establish a distinction between the 3.sg. and 2.pl. (‘of central importance’).

## 6 Conclusion

- (92) In North Germanic, the original 3.sg.pres.ind. ending *-ip* was replaced by the 2.sg. ending *\*(i)R*.
- (93) Most scholars have assumed phonological accounts of this replacement.
- (94) These theories are incorrect.
- (95) The original 3.sg. is replaced by the 2.sg. only in the present indicative.
- (96) The present indicative is also the only category in which the original 3.sg. ending was identical to the 2.pl.
- (97) Whenever the 3.sg. was different from the 2.pl., the original 3.sg. ending remains.
- (98) I suggest that speakers replaced the 3.sg. with the 2.sg. ending in order to establish a distinction between the 3.sg. and the 2.pl.
- (99) It seems to be a universal principle that distinctions in verb forms across numbers (singular and plural) are more important than distinctions within number.

# Abbreviations

- DR Lis Jacobsen & Erik Moltke (1941–42). *Danmarks runeindskrifter*. Under medvirkning af Anders Bæksted og Karl Martin Nielsen. København: Ejnar Munkgaards forlag.
- KJ Wolfgang Krause (1966). *Die Runeninschriften im älteren Futhark*. Abhandlungen der Akademie der Wissenschaften in Göttingen. Philologisch-historische Klasse. Dritte Folge 65. Mit Beiträgen von Herbert Jankuhn. Göttingen: Vandenhoeck & Ruprecht.
- N Magnus Olsen (1941–1990). *Norges innskrifter med de yngre runer*. Med hjælp i forarbejder av Sophus Bugge, Oluf Rygh og Ingvald Undset. 6 vols. Norges indskrifter indtil reformationen. Anden afdeling. Utgitt for Kjeldeskriftfondet. Oslo: Jacob Dybwad.
- NIæR Sophus Bugge (1891–1924). *Norges Indskrifter med de ældre Runer*. 3 vols. Norges Indskrifter indtil Reformationen. Første Afdeling. Udgivne for Det norske historiske Kildeskriftfond. Christiania: A. W. Brøggers Bogtrykkeri.
- Ög Erik Brate (1911). *Sveriges runinskrifter*. Vol. 2: *Östergötlands runinskrifter*. Stockholm: Kungl. vitterhets historie och antikvitets akademien.
- Sö Erik Brate & Elias Wessén (1924–36). *Sveriges runinskrifter*. Vol. 3: *Södermanlands runinskrifter*. Stockholm: Kungl. vitterhets historie och antikvitets akademien.

# References

- Antonsen, Elmer H. (1975). *A concise grammar of the older runic inscriptions*. Sprachstrukturen. Reihe A: Historische Sprachstrukturen 3. Tübingen: Max Niemeyer.
- Bjorvand, Harald (2010). Om utviklingen av det norrøne sterke presens. *Norsk Lingvistisk Tidsskrift* 28(2): 173–192.
- Bybee, Joan L. (1985). *Morphology. A study of the relation between meaning and form*. Typological studies in language 9. Amsterdam: John Benjamins.
- Dilts, Michael R. (1980). Extension versus convergence in the North Germanic verb. *American Indian and Indoeuropean studies. Papers in Honor of Madison S. Beeler*. Ed. by Kathryn Klar, Margaret Langdon, & Shirley Silver. Trends in linguistics. Studies and monographs 16. The Hague: Mouton, 299–313.
- Fulk, R. D. (2018). *A comparative grammar of the early Germanic languages*. Studies in Germanic linguistics 3. Amsterdam: John Benjamins.
- Greenberg, Joseph (1966). *Language universals. With special reference to feature hierarchies*. Janua linguarum. Studia memoriae Nicolai van Wijk dedicata. Series minor 59. The Hague: Mouton & Co.
- Gustavson, Helmer, Thorgunn Snædal Brink, & Jan Paul Strid (1983). Runfynd 1982. *Fornvännen* 78: 224–243.
- Hanssen, Eskil, Else Mundal, & Kåre Skadberg (1975). *Norrøn grammatikk. Lydlære, formlære og syntaks i historisk framstilling*. Oslo: Universitetsforlaget.
- Haugen, Einar (1982). *Scandinavian language structures. A comparative historical survey*. The Nordic series 10. Minneapolis, MN: University of Minnesota Press.
- Heusler, Andreas (1932). *Altisländisches Elementarbuch*. 3rd ed. Heidelberg: Carl Winters Universitätsbuchhandlung.
- Hilmarsson, Jörundar (1980). Um þriðju persónu eintölu í norrænu. *Íslenskt mál* 2: 149–160.
- Holthausen, Ferd. (1895). *Lehrbuch der altisländischen Sprache*. Vol. 1: *Altisländisches Elementarbuch*. Weimar: Emil Felber.
- Iversen, Ragnvald (1972). *Norrøn grammatikk*. 7th ed. Revidert ved E. F. Halvorsen. Aschehoug.
- Jónsson, Finnur (1925). *Grammatik for det islandske oldspog*. København: G. E. C. Gads forlag.
- Krahe, Hans (1969). *Germanische Sprachwissenschaft*. 7th ed. 3 vols. Sammlung Göschen 2232–2234. Bearbeitet von Dr. Wolfgang Meid. Berlin: Walter de Gruyter.
- Krause, Wolfgang (1948). *Abriss der altwestnordischen Grammatik*. Sammlung kurzer Grammatiken germanischen Dialekte. C. Abrisse 7. Halle (Saale): Max Niemeyer.
- . (1971). *Die Sprache der urnordischen Runeninschriften*. Germanische Bibliothek. Dritte Reihe. Untersuchungen und Einzeldarstellungen. Heidelberg: Carl Winter.
- Kuryłowicz, Jerzy (1945). La nature des procès dits «analogiques». *Acta Linguistica* 5: 15–37.

- Kuryłowicz, Jerzy (1977). *Problèmes de linguistique indo-européenne*. Polska akademia nauk komitet językoznawstwa. Prace językoznawcze 90. Wrocław: Wydawnictwo polskiej akademii nauk.
- Mańczak, Witold (1978). Les lois du développement analogique. *Linguistics* 205: 53–60.
- . (1980). Laws of analogy. *Historical morphology*. Ed. by Jacek Fisiak. Trends in linguistics. Studies and monographs 17. The Hague: Mouton, 283–288.
- Nielsen, Hans Frede (2000). *The early Runic language of Scandinavia*. *Studies in Germanic dialect geography*. Indogermanische Bibliothek: Reihe 1. Heidelberg: Universitätsverlag C. Winter.
- Noreen, Adolf (1923). *Altnordische grammatik*. Vol. 1: *Altisländische und altnorwegische grammatik (laut- und flexionslehre)*. *Unter berücksichtigung des urnordischen*. 4th ed. Sammlung kurzer Grammatiken germanischer Dialekte 4. Halle (Saale): Max Niemeyer.
- Reimer, Linnéa & Hjalmar Lindroth (1939). Om verbens ändelse i 3. person singularis. *Arkiv för nordisk filologi* 54: 181–200.
- Schulte, Michael (2018). *Urnordisch. Eine Einführung*. Wiener Studien zur Skandinavistik 26. Wien: Praesens.
- Seip, Didrik Arup (1971). *Norwegische Sprachgeschichte*. Grundriß der germanischen Philologie 19. Bearbeitet und erweitert von Laurits Saltveit. Berlin: Walter de Gruyter.
- Sommerfelt, Alf (1924). Sur la forme de la troisième personne du singulier présent de l'indicatif en vieux-scandinave. *Festskrift tillägnad Hugo Pipping. På hans sextioårsdag den 5 november 1924*. Skrifter utgivna av Svenska litteratursällskapet i Finland 175. Helsingfors, 512–513.
- . (1959). Sur la forme de la troisième personne du singulier présent indicatif en vieux scandinave. *Mélanges de linguistique et de philologie. Fernand Mossé in memoriam*. Paris: Didier, 437–439.
- Torp, Alf (1909). “Gamalnorsk ordavleiding.” Hægstad, Marius & Alf Torp. *Gamalnorsk ordbok. Med nynorsk tyding*. Kristiania: Det norske samlaget (Landsmaals-laget), pp. xxviii–lxxi.
- de Vries, Jan (1962). *Altnordisches etymologisches Wörterbuch*. 2nd ed. Leiden: E. J. Brill.