Dissimilation in Gothic Without Thurneysen's Law*

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Traditional accounts of Gothic phonology include an apparent generalization known as Thurneysen's Law,[1] which states that voicing in fricatives after an unstressed vowel dissimilates with the voicing of the consonant immediately preceding the vowel (Chomsky and Halle, 1968:352):

$$(1)\quad \begin{bmatrix}-\text{son}\\+\text{cont}\end{bmatrix} \longrightarrow \begin{bmatrix}\alpha\,\text{voice}\end{bmatrix} \;/\; \begin{bmatrix}+\text{cons}\\-\alpha\,\text{voice}\end{bmatrix} \begin{bmatrix}+\text{voc}\\-\text{cons}\\-\text{stress}\end{bmatrix} \_\_\_\_$$

This rule has been cited as evidence for the claim (Chomsky and Halle, 1968:178) that phonological theory must permit rules of a type referred to here as polarity dissimilation, according to which one sound in a word reverses its value for some feature so as to disagree with that feature's value in another sound. In this paper, however, it will be shown that Thurneysen's Law is not motivated by the available evidence, and thus cannot be used to support the need for polarity dissimilation rules.[2]

As formulated in (1), Thurneysen's Law clearly is a rule of polarity dissimilation, for it asserts that both voicing and devoicing of fricatives occurred in Gothic, as evidenced, it seems, by the relic suffix alternations in *hat-iza* 'hatred' vs. *ag-isa* 'fright' and *fast-ubni* 'position' vs. *wald-ufni* 'power'.[3] In order to justify the [- α voice] specification, however, it would have to be shown that the underlying representation for some suffix contained a voiced fricative, while some other suffix had an underlying voiceless fricative. But it would seem no demonstration of this kind is likely to be forthcoming because, as will be shown, every Gothic fricative which appears to obey Thurneysen's Law itself derives from a Germanic voiceless fricative (PIE voiceless stop), and would therefore be subject only to the voicing subrule of the pair abbreviated by Thurneysen's Law.

Yet even this voicing half of Thurneysen's Law would have to be severely restricted morphologically, as a synchronic rule, because only a handful of all relevant suffixes exhibit the predicted voice alternations. In fact, given the limited evidence available,[4] an exhaustive list of the forms supposed to have undergone Thurneysen's Law is not long, and serves to underline the limited applicability such a rule would have had in Gothic. In total, only five suffixes in Gothic

show voice alternations among medial fricatives, and all five were used to form nouns, all but the last of them abstract. With the exception of the much more common -iþa suffix, for which only representative words are cited here, all words containing these suffixes are given below. It should be noted that b,d medially represent voiced bilabial and dental fricatives, respectively, while f,þ represent the voiceless counterparts of b,d.[5]

Table A

1. -ubni/-ufni				
	fastubni	'position'	waldufni	'power'
	fraistubni	'temptation'	wundufni	'wound'
	witubni	'knowledge'		
2. -odus/-oþus				
	manniskodus	'humanity'	gabaurjoþus	'pleasure'
	wratodus	'a journeying'	gaunoþus	'mourning'
	auhjodus	'noise'		
3. -iza/-isa				
	hatiza	'hatred'	agisa	'fear'
	rigiza	'darkness'	ganisa	'salvation'
	swartiza	'blackness'	rimisa	'rest'
			þewisa	'servant'
4. -iđa/-iþa				
	auþida	'desert'	airziþa	'error'
	wairþida	'worth'	meriþa	'fame'
	weitwodida	'witness'	weitwodiþa	'witness'
			diupiþa	'depth'
			þwastiþa	'safety'
5. -azna/-asnos				
	arbazna	'arrow'	hlaiwasnos	'tomb'

In marked contrast to these alternations, the numerous other suffixes in Gothic which show medial fricatives do not vary. For example, the suffixes -ba (used to form adverbs of manner) and -iza (used to form the comparative of adjectives) never alternate with *-fa or *-isa, respectively, e.g., frodaba 'wisely' and wairbaba 'worthily', hardiza 'harder' and sutiza 'sweeter'.

If the assumption is maintained that it is the consonant preceding the fricative which triggers the voice alternations seen in Table A, then the extremely limited applicability of Thurneysen's Law is difficult to explain, as are the exceptions to that Law even within the set of five alternating suffixes (e.g., diupiþa and weitwodida). Thus, even the restricted version of Thurneysen's Law (the voicing subrule of the pair abbreviated in rule (1)) is highly suspect. But it is

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also quite unnecessary, either diachronically or synchronically, because the voice alternations cited above can be shown instead to result from the more general Verner's Law, which voiced all fricatives immediately preceded by an unstressed vowel in Proto-Germanic.

Now, at the time Verner's Law applied in Proto-Germanic, stress obviously must not yet have shifted to the initial syllable; rather, the position of stress must have varied from word to word as it did in Sanskrit and Greek, for otherwise there could have been no reflexes at all of Verner's Law. That is, just as some suffixes in Sanskrit appear with stress sometimes immediately preceding, and sometimes not, so must they have in Proto-Germanic. And since Verner's Law voiced fricatives only where stress did not fall on the immediately preceding vowel, alternations in the surface form of suffixes with basic voiceless fricatives would arise naturally due to the regular application of this well-known sound law to words with varied stress placement.

Moreover, taking these voice alternations to be due to Verner's Law instead of Thurneysen's Law implies that voiceless fricatives should never arise from Proto-Germanic voiced fricatives (PIE voiced aspirates), because Verner's Law was strictly a voicing process, never one of devoicing. Since no Gothic suffixes that can be shown to have had a voiced fricative in Proto-Germanic show any alternations at all, the claim of Thurneysen's Law that devoicing of etymologically voiced fricatives should also have occurred is not only unnecessary, but false.

To show that Verner's Law is itself sufficient to account for the alternations cited, though, it will be necessary to trace the development of the suffix allomorphs from Proto-Germanic to Gothic. In general, any alternating suffix that remained derivationally active until after Verner's Law was lost from Proto-Germanic should appear in Gothic with a voiceless fricative, since its underlying form presumably still remained voiceless. (An analogous levelling in favor of voicelessness is seen in the Gothic strong verb paradigms.) If, however, there were only a few words containing a suffix with voicing alternations in Proto-Germanic, the allomorphs of that suffix may well have fused semantically with their stems sometime before the loss of Verner's Law, as argued below. Then it is likely that restructuring of the words containing this suffix took place, with retention of voice alternations for the fricative even after Verner's Law was lost. This lexicalization of suffix allomorphy will be seen to account for the alternations cited above in at least four of

the five Gothic suffixes.

In contrast, an early Proto-Germanic suffix with a voiceless fricative that never appeared immediately after a stressed vowel would also have undergone restructuring, but without any resulting alternations, since, due to Verner's Law, this kind of suffix would always have had a voiced fricative phonetically, without exception. Conversely, a suffix with a voiceless fricative which always appeared immediately following a stressed vowel would not have been modified by Verner's Law at all, and would therefore have retained a voiceless fricative in all words, so again no alternations in voicing would have arisen. As elaborated below, relics of both of these events are also to be found in Gothic.

In order to show that Verner's Law can explain the alternations cited in Table A, it must further be demonstrated, first, that the five suffixes in question did in fact have voiceless fricatives at an earlier stage, and second, that those suffixes appeared under conditions of varied stress placement in early Proto-Germanic. Evidence for both claims will be drawn from cognate suffixes in Sanskrit, which retains the "free stress" assumed for early Proto-Germanic.

As evidence for the first claim, that the relevant fricatives were once voiceless, Bopp (1885) gives the following Sanskrit cognates for four of the five Gothic suffixes seen in Table A (the cognate for the fourth, Sanskrit -sna, is probably correct, though it escapes discussion by Bopp):

Gothic	Sanskrit
-oþus/-odus	-tu
-isa/-iza	-as
-iþa/-ida	-ta
-asno/-azno	-sna
-ufni/-ubni	-man

Regular application of Grimm's Law will give the voiceless fricatives as basic in Proto-Germanic for the first four suffixes; the suffix -man (PIE *-men) does not submit to equally ready analysis, but it is plausible that the m lost its nasality and voicing to give -ufni as basic in Proto-Germanic.[6]

As for the second claim, evidence regarding the appearance of these five suffixes together with varied stress placement is again found in Sanskrit. Whitney (1889) states for words with four of the five cognate Sanskrit suffixes (but not for ta) that stress varied its position, so that some words containing these suffixes had root stress, while others had suffix stress.

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For example, Sanskrit nouns with suffix -man generally showed root stress if neuter, but suffix stress if masculine (Whitney, 1889:437). A comparison of this stress pattern with that in Proto-Germanic is inconclusive, however, since none of the five Gothic nouns with -ufni/-ubni are masculine, but rather only neuter or feminine. Still, it is of interest to note that Gothic neuters like witubni have predictable voiced fricative if early Proto-Germanic stress was on the root for neuter nouns as it was in Sanskrit, (even though the Sanskrit cognate vidmán, also a neuter noun, has exceptional suffix stress (Whitney, 1889:438)).

In contrast to the other four suffixes, however, Sanskrit ta almost always occurred with stress falling on the vowel immediately preceding the suffix, according to Whitney, and if the same were true of its Proto-Germanic cognate, the result should have been virtually exceptionless -iþa in Gothic. In fact, -iþa very nearly is exceptionless, for of the thirty-odd words which have this suffix, only two (auþida, wairþida) always show -ida, and one (weitwodida) shows both (compare weitwodiþa). The most plausible explanation for these marginally alternating forms is that Proto-Germanic probably had a few words with suffix -iþa that showed exceptional stress too, just as did Sanskrit with cognate ta (e.g., avírata, vs. devátta (Whitney, 1889:476)).

Having seen that the five suffixes almost certainly had voiceless fricatives in early Proto-Germanic, and that four of the five influenced stress placement, it remains only to be argued that they were no longer derivationally productive, so that restructuring would have taken place before the loss of Verner's Law. While absence of data from native speakers precludes testing of this assumption, it is supported by Wright (1910:170), who claims that by the time of the Gothic records that survive, the suffixes used to form nouns, in particular, were no longer viewed as productive. This claim is also supported by the relative paucity of forms containing any of the suffixes except -iþa, which by virtue of its greater frequency has already been seen to differ from the other four.

It would be convenient if several cognate words from Sanskrit with the requisite suffixes were available, showing stress on the proper syllable in accord with the analysis given here for Gothic. But aside from the clear cognate vidmán cited above (which actually runs contrary to present assumptions), only two other cognates from Sanskrit are given by Pokorny (1959) that provide any evidence for or against the analysis given. Even here, only the stems are present

in Sanskrit, without the desired suffix:

Gothic		Sanskrit	
rigiza	'darkness'	rájani	'night'
rimisa	'rest'	ramá	'dear'

But if the Proto-Germanic cognate stems were stressed as the Sanskrit stems are, then the suffix would have been affected by Verner's Law to give the correct alternations seen as relics in the Gothic suffixes. Since no other cognate evidence seems to be available showing the interaction of stem and suffix in both Gothic and Sanskrit, the above data must remain only suggestive, though compatible with the analysis given.

One final, and more positive form of evidence that lends support to explaining the voicing alternations in Gothic by reference to Verner's Law involves Sanskrit cognate suffixes for non-alternating suffixes in Gothic. The Gothic suffix -iz- (used to form comparative adjectives) has the cognate Sanskrit suffix -(ɪ)yas (Feist 1936:83), about which Whitney (1889:173) remarks that stress always fell on the root syllable of words containing this suffix, without exception. Thus precisely the correct developments in Gothic are observed, in accord with the above analysis, for the s in Proto-Germanic would have been voiced by Verner's Law in every case, resulting in a restructuring of s to z, which is how it always appears in Gothic -iz-. In contrast, the Gothic suffix -þro (used to form locative adverbs) is closely related to Sanskrit -tra, about which Whitney (1889:404) states that stress always fell on the vowel preceding the suffix. Thus the corresponding Proto-Germanic suffix -þro would never have had the þ voiced due to Verner's Law, because the preceding stressed vowel prevented its application. So the uniform -þro in Gothic is exactly as it should be, given the analysis here (cf. e.g., iupaþro 'from above', utaþro 'from without', and also innaþro 'from within').

To summarize, then, it has been shown first that only suffixes with etymologically voiceless fricatives show relic alternations in Gothic, so only voicing of certain fricatives occurred, never devoicing. Second, Sanskrit cognates support the claim that these five suffixes appeared with varied stress in Proto-Germanic. Thus regular application of Verner's Law would itself produce the voice alternations in suffix fricatives that remain as relics in the Gothic words given in Table A.

Two distinct results follow from the foregoing analysis of Gothic suffix fricatives. First, Thurneysen's Law is fully unnecessary, and should be discarded (or

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Footnotes

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repealed), since the generalization it purports to capture is already captured, more adequately, by the regular application of Verner's Law. One slightly awkward but necessary consequence of removing Thurneysen's Law is that it must now be maintained that the few voicing alternations that do appear to obey Thurneysen's Law are only accidental, and not the result of any regular process of dissimilation. Of course, it still might be argued that some minor version of Thurneysen's Law served to "even out any irregularities" in voice distribution that remained after regular application of Verner's Law, e.g., by voicing any fricatives in these five suffixes that were preceded by a voiceless consonant (and intervening vowel). But since Verner's Law alone could have produced precisely the alternations that appear in Table A, the burden carried by any version at all of Thurneysen's Law would be negligibly light.

A second result of the above analysis is that the only known plausible example of a polarity dissimilation rule[7] is actually no example at all, for no dissimilation in voicing took place in Gothic. As a result, the claim that phonological theory must be powerful enough to permit polarity dissimilation rules is in serious doubt. That no clear cases of such rules have been brought forth in fact suggests that phonological theory should be restricted to exclude polarity dissimilation rules, thus restricting the power of the theory in conformity with the evidence (or lack of it) from natural languages.[8]

Footnotes

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[1]This rule is named for R. Thurneysen, based on his 1898 article in which he proposed the generalization given in SPE. The alternations in Gothic were noted earlier by scholars such as Brugmann and Streitberg, though they too assumed some process of dissimilation was at work to account for the alternations. Only a few scholars, such as Hirt (1931) and Wood (1895), have suggested an alternative analysis similar to the one given here, based on earlier application of Verner's Law, but none of these developed a careful analysis along this line. Indeed, Thurneysen explicitly denied the possibility that Verner's Law could account for the Gothic alternations (p.214).

[2]It is not clear that Thurneysen presented his Law as a synchronically valid generalization, as Chomsky and Halle interpret it. If only a diachronic rule, Thurneysen's Law would obviously provide no evidence for (or against) allowing polarity dissimilation rules in synchronic theory, even if this Law were a valid diachronic generalization about Gothic.

[3]Stress was always on the initial syllable in Gothic, except in compound verbs (Wright 1910:15).

[4]Virtually the only corpus of data from Gothic is from a translation of the New Testament from Greek into Gothic by Bishop Wulfilas in the fourth century.

[5]Analyses of Gothic pronunciation and spelling are given by Wright (1910:9ff.). The list of alternations in Table A is compiled from lists given by Braune (1889), Thurneysen (1898), Wood (1895), and de Tollenaere (1976). It is possible that words with the Gothic suffixes -ah-/-ag- form a sixth set of alternations in voicing, but the presence of these suffixes and their origin are obscure in too many cases to permit a conclusive decision. They may have as cognate the Sanskrit suffix -aka. If so, they are in accord with the analysis given, because the Sanskrit suffix -aka appears with variable stress as well.

[6]Analogous developments from nasal stop to non-nasal obstruent are found in other Germanic languages (Old English and Icelandic), though the stages involved in such sound changes are not well understood. Apparently no independent evidence is available to decide between either the voiced -ubni or the voiceless -ufni as basic, but -ufni is taken here to be the Proto-Germanic underlying form.

[7]Chomsky and Halle offer only one other example of a polarity dissimilation rule, a dubious case involving the English Great Vowel Shift (1968:178), but even here they provide no evidence that their rule must be a polarity dissimilation rule in order to capture the desired generalization.

[8]One way of effecting this restriction would be to adopt the Simplex Feature Hypothesis proposed by Sanders (1974), which, though presenting a more general challenge to the need for Greek letter variables, makes precisely the correct prediction here, viz., that polarity dissimilation rules like that of Thurneysen's Law do not represent processes occurring in natural languages.

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