

MORPHOLOGICAL EXCEPTIONS TO SOUND CHANGE:
APOCOPE AND THE REGULARITY HYPOTHESIS

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O. Introduction. The purpose of this paper is to examine and refute a purported counterexample to the so-called Regularity Hypothesis of sound change. Within the theory of Natural Generative Phonology Hooper (1976) proposes that all new phonological rules added to the grammar must be phonetically motivated. Correspondingly, this implies that these rules may not enter the grammar already burdened with morpho-syntactic exceptions: such exceptions may only arise as a later development, resulting from a conflict with other factors. This Regularity Hypothesis, espoused earlier by Bloomfield and others, had been explicitly rejected by King (1969) in his well-known book; sound change is regular, King claims, but cannot always be stated in strictly phonetic terms. One putative counterexample to this hypothesis which King cited is schwa-deletion or apocope in Yiddish, which he claims entered the grammar with morphological exceptions. In the present paper we examine the exactly parallel, well-documented case of apocope in Middle High German dialects to see whether King's claim is factually correct. The data show that apocope in Middle High German dialects was not introduced into the grammar as a rule with morphological exceptions, but applied everywhere at first as a phonetically motivated, variable rule. Morphological exceptions to this rule arose later during the implementation of the rule due to conflicts with the functional importance of the segments affected. Because of the striking parallelism of the developments in Middle High German and Yiddish we are justified in claiming that this scenario of change held true for Yiddish as well as for Middle High German and consequently that apocope does not constitute a true counterexample to the Regularity Hypothesis as proposed by Hooper.

1. Phonological Change: The Regularity Hypothesis. In Hooper (1976) it is suggested that all new phonological rules which are added to the grammar are of a highly specific type, namely so-called P-rules, or rules with a strictly phonetic conditioning environment. All such newly added rules are, it is claimed, motivated by an attempt to optimize the phonetic string in some way. These rules, obviously, may or may not produce alternations in the language, depending on their nature and the already existing system. Such a claim, if in fact proven true, would enable phonological theory to set up substantive and extremely interesting restrictions on what could be a possible new rule in the grammar: the only phonological rules which could be added would belong to the class of natural rules, that is, those rules which are phonetically motivated. A corollary of this theory would be the claim that new alternations are never motivated by the morpho-syntactic system. Consequently, when a rule is first added to the grammar it cannot already have morphological exceptions. Rather, morpho-syntactic alternations are taken to represent the residue of older phonetic alternations or adaptations of them.

Hooper's position amounts to a re-adoption of the Regularity Hypothesis, a view of sound change espoused by the Neo-Grammarians in the nineteenth century and by such notable figures of twentieth century linguistics as Leonard Bloomfield (cf. 1933) and André Martinet (cf. the discussion in Postal 1968, pp. 235-239). King (1969, p. 120) offers the following formulation of this hypothesis:

H₁: Phonological change is regular, and its environment can be stated in purely phonetic terms.

King then goes on to reject this position, adopting instead the weaker position H₂.

H₂: Phonological change is regular, but its environment cannot always be stated in strictly phonetic terms.

The strong Regularity Hypothesis (H_1) cannot be maintained, King contends, because there are actual historical examples of sound changes which apply everywhere except in certain morphologically defined environments. Hooper's response to King is that all sound changes are indeed phonetically motivated and apply in all environments, at least at first, but that in the course of their implementation they may come into conflict with other parts of the grammar and thus end up with morphological exceptions. The important point here is that sound changes are always initiated for phonetic reasons and try to apply regularly.

To see how this could be the case, we must look at contemporary data from on-going sound changes. Labov's study of phonological changes in progress suggests that the claim that a rule is added already having morphological exceptions is a gross and inaccurate oversimplification of the facts. Labov found that a new rule is in fact always optional at first and influenced by numerous variables. Such variable rules are prone to developing certain definite tendencies in their applicability as they progress, so that they may be applied more frequently in certain phonetic environments or grammatical categories. Subsequent generations then continue to systemize this variability until the rule stabilizes as obligatory in some environments and inapplicable in others. Furthermore, Chen and Wang (1975) have proposed that sound changes do not affect all items in the lexicon at an equal rate, but rather work their way slowly through the lexicon, affecting progressively more and more items (see Keel 1977, however, for the possibility of predicting lexical diffusion through the principles of atomic phonology). So then it is not necessarily the case that a sound change would affect every morpheme which fits its structural description. On the basis of such recent findings Hooper (1976, p. 104) offers the following scenario as characteristic of the initiation and implementation of phonological changes.

"The observations of Labov, Wang, and Chen contribute significant details to our understanding of sound

change, which make it possible to investigate the claim that all 'new rules' come from a finite set of phonetically motivated processes. The sound change has a strictly phonetic motivation when it enters the language as an optional or variable rule (although, according to Labov, even the phonetic motivation may vary a bit at first). Very soon, the new rule runs headlong into the established morphonological processes in the language and a conflict sometimes results, particularly if the output of the new rule obscures some morphological distinctions, or violates some other phonological constraints active in the grammar. When the new rule stabilizes as an obligatory process, the conflict must be resolved. If the established processes of the language win out over the new rule, then the stabilized rule will have exceptions."

2. Apocope: A Putative Counterexample. A paradigm case of a counterexample to the strong, and therefore easily falsifiable Regularity Hypothesis which Hooper propounds is the rule of schwa-deletion (apocope) in Yiddish, offered by King (1969). To cite that author (p. 125):

"In the development of Standard Yiddish from something similar to Middle High German [emphasis mine, TFS], we find that final unaccented e, phonetically [ə], has been lost: tage > teg 'days', erde > erd, 'earth', gibe > gib 'I give', gasse > gas, 'street'. In some cases, however, final [ə] is not lost, principally when the e is an adjective inflectional ending: die groyse shtot 'the big city', dos alte land 'a pretty woman'."

Since the retention of e is not due to phonetic environment but rather to grammatical category, King proposes that the rule was marked for morphological exceptions, namely

Schwa-Deletion

$$\begin{array}{l} \text{V} \\ \text{[-stress]} \end{array} \rightarrow \left\{ \begin{array}{l} \text{-next rule / + ___} \\ \emptyset \quad \quad \quad / \quad ___\# \end{array} \right\} \text{Adjective}$$

Obviously, if King is right about this sound change, then the Regularity Hypothesis cannot stand, for this would constitute an instance of a sound change which could not be described in purely phonetic terms. In order to preserve the strong Regularity Hypothesis it is then crucial to show that this putative case of a morphologically conditioned new rule is incorrect. Hooper (1976) argues that the new rule cannot have been introduced into the grammar with morphological exceptions and cites a parallel example of apocope from Spanish, where it can be shown that the rule in question actually was not introduced with the exceptions, and also how these exceptions arose during the implementation of the rule. I would like to offer now some further evidence that King's analysis is incorrect, this time from a closer, more related source.

3. Refuting the Counterexample: Apocope in Middle High German. I have not come across any direct data concerning the actual historical process involved in the loss of final schwas in Yiddish. However, as King himself has aptly pointed out (see earlier quote, my emphasis), Yiddish is derived historically from a source very closely related to Middle High German, where in fact this very same sound change occurred. Apocope of unstressed [ə] took place in most of the High German dialects during Middle High German times: final schwas were lost from around the thirteenth century on in Bavarian, from whence the change spread North and East across the other dialects. It is at least possible that Yiddish speakers had already been exposed to perhaps the initial stages of this loss in the German dialects before they were forced to leave the German speaking areas. However, even if Yiddish speakers had not yet encountered the beginnings of apocope while still in Western Europe, the phonetic factors which motivated the change would have already been present in the structure of the language which they took along with them.

Regardless of whether the addition of this rule in Yiddish was due to borrowing (contact), mutual "drift",

if I may be permitted to use this term here, or whatever the reason may be, it still remains true that it is obviously parallel to the High German apocope. This parallel is seen to be even more striking when we observe the fact that in Upper German the only true exception to apocope was in the adjective, precisely the same place where the morphological exceptions arose in Yiddish! It seems indeed highly improbable that totally separate but identical rules, with in fact identical exceptions, would emerge in these two related languages by mere chance, and it seems therefore a safe assumption that the history of the sound change in the Upper German dialects parallels more or less directly its course in Yiddish as well.

Now the history of Middle High German apocope is actually fairly well known and documented, as opposed to the Yiddish sound change. In fact, a whole monograph written by Kai Lindgren (1953) has been devoted solely to examining the rise and spread of this rule. Lindgren's very detailed study furnishes exhaustive statistics on apocope and thus provides a firm ground for investigating this issue.

In discussing the parallel case of Spanish apocope Hooper defined at least two (linguistic) factors which apparently could affect the variable application of the rule: 1) syllable structure conditions (phonotactics) and 2) the verb paradigm, or what we can call "functional load", following the insightful example of structuralist predecessors. Lindgren was unfortunately unable to investigate the affects of phonotactics (SSCs) on the applicability of the apocope rule, so that it is impossible to make any statements as to whether such parameters as consonantal strength and syllable structure influenced the implementation of the rule and if so, how much. We will see shortly, however, that the functional load of the segments affected in fact played a significant role in determining the eventual outcome of this change.

First of all and most important, Lindgren observed that Middle High German apocope applied in all environments: no environment at all was totally impervious to the affects of this rule. The rule was thus not initially provided with morphological exceptions, despite King's claims to the contrary for the exactly parallel Yiddish change. At the beginning, though, the rule was variable and affected only a small percentage of forms. Over the course of time, however, the rule began to apply more frequently in some environments and less frequently in others. Apparently what affected the application of the rule was the functional load of the segments in question: those schwas with very little functional significance were lost very early, whereas functionally more important markers offered heavier resistance to apocope. This pattern appears to comply exactly with Hooper's paradigm of change which incorporates the findings of Labov and others. Contrary to King's claims for Yiddish, Middle High German apocope did conform to the Regularity Hypothesis: the rule was phonetically motivated, a total reduction of unstressed final weak vowels, and tried to apply in all environments, which it initially did. But soon it ran into conflict with the functional marking within the system; in only one set of forms, the adjective endings, was the rule unable to ultimately overcome the resistance encountered.

During the course of the implementation of the Middle High German apocope rule various parts of speech offered varying degrees of resistance to the application of the rule, as Lindgren himself has pointed out. In the verbal paradigm, for example, the e which marked the subjunctive mood in verbs was more resistant to the change than the e which marked indicative or person. In the nouns e was resistant to loss when it was the sign of plurality and, strangely enough, gender, but was much more prone to deletion as a case marker. Note, however, that in all such instances the functional load of the segment in question was not sufficient to prevent apocope, but only to slow it down. Eventually apocope was carried out in all forms, with the adjective

endings constituting the only true exceptions to loss.

In the case of the adjective endings Lindgren offers a very plausible explanation for their retention. At a much earlier stage, case, number and (at least in part) gender distinctions were signalled by endings on the noun. In the course of time phonological attrition lead to the continued loss of these markers; the claim is often made and seems fairly well accepted that this attrition was hastened by or is even directly attributable to the fixation of the stress in words on the initial syllable of the stem in Germanic. As these endings were lost over a period of time, the marking was taken over gradually by the modifiers of the noun: the original demonstrative of Germanic came more and more to be used obligatorily as a definite article to signal the function of the noun it modified. Apocope represented the ultimate loss of the functional marking on the noun itself: this left only one morphological mark to designate the grammatical information - the form of the prenominal modifier. Thus the adjective endings often served as the only marker left to convey the relevant grammatical information about nouns. Correspondingly, schwas were not lost in such instances, because they served to mark important distinctions in the grammar which would have otherwise have gone unexpressed without further adjustment.

4. Summary and Conclusion. By way of summary, we have seen that Lindgren's findings are relevant to our discussion of the Regularity Hypothesis because they demonstrate quite convincingly that apocope was not introduced into Middle High German as a rule which already included morphological exceptions. The rule was a natural, phonetically motivated change and applied in all environments at first as a variable rule. But eventually the functional load of the elements affected by the rule offered varying amounts of resistance to the operation of the sound change, so that it applied with greater frequency in some contexts than in others, until finally it stabilized and affected all items ex-

cept the adjective endings. We have seen a rather cogent argument from Lindgren for why precisely these forms should end up as the sole exceptions to this change. This more detailed examination of the course of Middle High German apocope removes this rule as a possible counterexample to the strong Regularity Hypothesis advocated by Hooper (1976) and by extension also eliminates King's parallel example of schwa-deletion in Yiddish.

NOTES

¹King himself light-handedly dismisses an appeal to functional factors as an explanation of such morphological exceptions to sound changes. He contends (p.124) this is "not an explanation for the dilemma but merely a different term to designate it with, for unless 'functional' is defined in some precise, non-circular way it cannot be offered as an explanation." I agree with King that such factors are in need of further examination and precise formulation, but I disagree with his conclusion that they are therefore presently unacceptable as an explanation and find his disinterest in pursuing this avenue of research startling, to say the least. A consideration of such factors certainly seems to hold far greater promise of ultimately offering an insightful explanation of the facts than many hollow formalistic proposals which apparently do not regard the actual communicative use of language in society as a relevant parameter worthy of examination.

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