Utterance-Finality — Framing the Issues

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Abstract

Several matters pertaining to the notion of "utterance-finality" are presented here, as a way of framing the issues that the serious investigation of this notion entails. Attention is paid to matters of description, synchronic analysis, and diachrony, with particular focus on the use that has been made of utterance-final phenomena in language as a way of explaining apparent exceptions to the Neogrammarian principle of regularity of sound change. Implications for phonological theory are suggested as well.

1. Introduction

Utterance-final phenomena are seemingly exotic in nature, since some of the best-documented cases come from languages that unfortunately are not as well-studied and as well-known as they ought to be, e.g. Oneida (Michelson 1988, 1990, 1996) and Yupik Eskimo (Woodbury 1987, 1992). However, one need not look too far afield for example of utterance-final phenomena. For instance, I have noticed that in my own pronunciation of my older son's first and middle names when used in a vocative, there is devoicing (or at least some phonetic alteration) of the final consonant in this one-word utterance: **Davi[d]** comes out more like **Davi[t]** and **Jaco[b]** more like **Jaco[p]**. These are of course impressionistic transcriptions, but what is crucial is that to my ear the final segments of these names sound different when the names are used as one-word utterances. And, elsewhere in English, Taylor (1995:224) has noted that 'in utterance-final position, the alveolar closure of /t/ [in English] may be released ejectively: [t']. This is particularly common in highly emphatic utterances like *What!?*'

Moreover, we have to consider not just segmental effects utterance-finally, but also intonation contours, where the final portion can be distinctive, as with end-rising question intonation in English as opposed to flatter intonation in statements: *You are com^{ing}?* vs. *You are com$_{ing}$*, bearing in mind of course that there may be subtle phonetic differences in the first parts of these

utterances to reckon with also. Similarly, there are also markers in languages that are restricted to (or at least preferred in) utterance-final position, for example the Canadian English interrogative/confirmative marker *eh?*, as in *Nice day, eh?*, or Modern Greek *de*, the marker of impatience found utterance-finally, as in *éla de* 'C'mon already!', but also at major breaks within utterances, as in *ton kséris de, íne aftos pu ...* 'Sure you know him (what are you talking about!?'), he is the one who ...' (literally: "him you-know *de*, he-is the-one who"). This distribution for Greek *de* raises the important question of just what "utterance-final" means: is it that *nothing* follows — literally, that the rest is silence — or is it only that there is a significant break that *could* be the end of an utterance, or is it sentence-final, or phrase-final, or what?

And, as suggested by Greek *de*, final phenomena occur in domains other than the utterance; there is of course the well-known matter of word-finality in phonology, of which the most frequently discussed manifestation is probably final devoicing, e.g. in German, Russian, and Turkish, a phenomenon which is not without some controversy, e.g. as to whether it is phonetic or phonological, whether it actually is devoicing, and so on. Still, whatever the outcome concerning word-final devoicing and related phenomena, evidence of the salience of the ends of words must not be ignored; relevant here are works such as Hawkins & Cutler 1988 and Hawkins & Gilligan 1988 in which a processing-based account (the "clarity principle") is developed for the cross-linguistic preference shown for suffixing as opposed to prefixing or infixing.

Phrase-final effects can be illustrated by the phenomenon of **r**-liaison in British English, where, for some speakers at least, the occurrence of pre-vocalic **r**, presumably derived synchronically by an insertion is conditioned so as to be found medially within the phonological phrase but not phrase-finally. An example comes from the song "Champagne Super Nova" by *Oasis*, from their *What's the Story, Morning Glory* album, where *nova* is realized with a final **r** when pre-vocalic in close juncture with another word (... *novar in the sky*) but without an **r**, even though pre-vocalic, when it is phonological-phrase-final (indicated here with the marker ʃ)

> And someday you will find me // caught beneath the landslide,
> in a champagne supa' novaØʃ, a champagne supa' nova**r** in the sky

The events that led to such a distribution are reasonably well-understood, involving loss of **r** before consonants and various reinterpretations and generalizations to different contexts, but what is important here is that the synchronic result, at least in the dialect represented in this song, seems to be sensitive to position within the phrase.

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These examples show that there are a number of issues to consider with regard to utterance-finality. For instance, there are purely descriptive issues to consider, regarding the phonetics and phonology of utterance-finality, e.g. whether it is really final devoicing, and regarding the proper delimitation of domains. In addition, there are typological issues, e.g. whether Oneida is unusual in having a seemingly regular utterance-final effect. Further, there are pragmatic issues regarding the interpretation of utterances, and that leads into interface issues concerning the relationship between intonation and meaning. Similar key questions are given below.

However, before an enumeration of these questions, one matter in which utterance-finality plays an important role deserves particular attention, given the key position it has played in the history of linguistics, namely the Neogrammarian view of sound change.

2. Neogrammarian Sound Change and Utterance-Finality

One of the crowning achievements of 19th century linguistics was the formulation of a very precise hypothesis about the nature of sound change, what has come to be known as the "Neogrammarian Hypothesis" (Brugmann & Osthoff 1878; see also Hoenigswald 1978, Wilbur 1977). Briefly stated, this view of sound change claimed that sound change was regular, i.e. it applied without exception to all candidate forms available during the period the sound change was active, and moreover that the only conditioning that was possible for a sound change was phonetic in nature. These two claims have been encapsulated, respectively, through the slogans "exceptionlessness of sound change" and "no grammatical conditioning of sound change" (alternatively, "phonetic-only conditioning").

This hypothesis has driven much of the research into sound change and language change more generally in the latter part of the 19th century and throughout most of the 20th century. Still, there is much about the nature of sound change that is as yet undetermined, and the viability of the Neogrammarian Hypothesis has been an on-going controversy over the past 100-plus years, even into the "modern" era in which generative linguistics and sociolinguistics have both emerged as the primary paradigms for research in the field. Major works such as Labov 1981, Kiparsky 1988, and Labov 1994 attest to the continued significance of the issues raised by the Neogrammarian Hypothesis; Hale 2000 is an important reaffirmation of the Neogrammarian position.

It is important to note that a ban on grammatical environments for sound changes would provide a key difference between diachronic phonology and synchronic phonology, since it is generally held that grammatical conditions on *synchronic* phonological rules are necessary and to be tolerated by grammatical theory. For example, in Modern Greek, many nouns show accent shifts in the genitive singular form vis-à-vis the nominative, e.g. *ánθropos* 'man' / *anθrópu* 'of-man'). These alternations can be analyzed (Newton 1972:12) as being triggered by vowel length in the ending, much as they were in Ancient Greek, but utilizing a phonological unit that is abstract for Modern Greek inasmuch as there is no distinctive vowel length on the surface in Modern Greek. Thus, a more realistic (surface-true) analysis has been given by Warburton 1970, referring simply to the grammatical trigger of the genitive inflectional ending. Moreover, even if one could sustain the abstract phonological analysis, it would have to hold only for nouns, since adjectives with an accent placement in the nominative parallel to that of *ánθropos* do not show an accent shift in the genitive, e.g. *árostos / árostu* 'sick'. Thus, some reference to non-phonetic, grammatical, information is clearly needed in the synchronic account of this accent shift in Greek (and others as well). Whether the same is true for diachronic phonology, that is for sound changes, is an empirical issue that the Neogrammarian hypothesis leads one to consider. Therefore, coming to an understanding about grammatical conditioning will be a basis for furthering our understanding of the relationship between historical (linguistic) events (as part of diachrony) and the reflection of these events in synchronic grammars.

The bipartite nature of the hypothesis might at first seem ad hoc, since, as Anttila (1972:77ff.) has noted, it is possible to have regularity of sound change with nonphonetic conditioning; that is, grammatical conditioning and regularity are not mutually exclusive — a hypothetical sound change such as:

$$d \longrightarrow t / \underline{\hspace{2cm}}$$
$$[+ 3SG.PRES]$$

can be perfectly regular in that it might affect all possible candidate forms, i.e. all third person singular present verb forms with a -*d*- in them, but it would not be in keeping with the ban on nonphonetic conditioning inasmuch as [+ 3SG.PRES] is not an environment that is defined phonetically; rather, it is a morphological or morphosyntactic environment.

However, separating the two parts of the hypothesis, for example by maintaining regularity but foregoing the ban on nonphonetic conditioning, would constitute a severe and unmotivated

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weakening of the hypothesis. That is, there are both real benefits and a distinct scientific advantage to maintaining both parts of the hypothesis jointly, and especially the restriction against grammatical conditioning, for the two work together in important ways.

First, maintaining the requirement for phonetic-only conditioning allows for a direct link between the environment for a change and the change itself; if this requirement is given up, however, then any hope is given up as well of finding "naturalness" in sound changes. That is, in a grammatically conditioned sound change there is nothing in the environment itself that would induce the particular change that occurs — for example, in the above hypothetical case, there is nothing inherent in the environment [3SG.PRESENT] that would lead to the devoicing of *d* to *t*. In general, then, once one allows such grammatical conditions, it follows that there is nothing that could rule out a change with no clear phonetic motivation, no connection between environment and change effected; that is, a rule such as d —> t after *n* becomes as likely a change as t —> d after *n*, even though postnasal voicing assimilation is more expected than devoicing (a dissimilation here), because nothing in the environment necessarily induces the phonetic change involved. Moreover, once one allows for nonphonetic conditioning, more drastically "unnatural" changes such as d —> x between *n* and *i* become possible, even though there is nothing in the nasal-plus-high-vowel phonetic environment to trigger the particular change of [d] to [x]. While such a conclusion may seem extreme, it is important to note that *in principle*, once an arbitrary relationship between the conditioning environment for a change and the output of the change itself is tolerated, it is difficult to rule out any phonetically unmotivated relationship in any rule; at most, such rules could be made "expensive" but they would have to be allowed.

Thus the issue of phonetic-only conditioning has an important bearing on questions concerning the relationship between phonetics and phonology and their interface.

If a direct link between environment and change is denied diachronically, then since such phonological rules are already tolerated in most synchronic frameworks for phonological analysis, it follows that the only defensible position about the relation between phonetics and phonology is that they are separate and distinct and do not show any relevant interface effects. Phonology would then involve a purely arbitrary and abstract set of constructs that are not necessarily, as Anderson (1981:496) puts it, "grounded (synchronically, at least) in ... phonetic explanations".

If, on the other hand, the claim of phonetic-only conditioning is sustained for historical events in diachrony, e.g. sound changes, it becomes possible to extend that insight into synchronic

accounts, and maintain that synchronic phonology must be driven by phonetics and phonetics alone (a view some phoneticians at least privately might adhere to, though see Ohala 1993 for some discussion of such a position). Effects that are tied to particular grammatical categories, for instance, would not be a matter of phonology *per se*, but rather could be viewed as morphological in nature and thus essentially in keeping with the view of morphology known as "Process Morphology", as developed in Anderson 1992 and elsewhere.

Second, phonetic-only conditioning actually provides a basis for regularity, and in a sense, then, is the more important of the two parts of the Neogrammarian hypothesis. In particular, if sound change is a purely mechanical adjustment in pronunciation triggered by the phonetics of connected speech, that is by purely physiological (articulatory or perceptual) effects, then it follows that whenever those conditions obtain — whether in a word or in a phrase, whether in word-medial position or word-initial position, whether at a morpheme boundary or within a monomorphemic word — the change would take place. By placing sound change under the auspices, so to speak, of physiology, and by excluding reference to higher levels of linguistic analysis (e.g. reference to word-boundaries, to morphemic structure, to morphosyntactic features, etc.), one thereby obtains regularity, since the physiology of producing a particular sequence of sounds is all that triggers the change; any time that sequence occurs, the physiology of production would be the same and thus the change would take place, the very definition of regularity.

The matter of grammatical conditioning of sound change, therefore, takes on significance far beyond the simple historical linguistic context in which it was first proposed and instead has potentially far-reaching consequences for the phonetics-phonology interface and for the overall architecture of grammar, e.g. whether there is a separate morphological component or not.

So, how does all of this — as inherently interesting as it may be — relate to utterance-final phenomena?

In his 1972/1989 book, Anttila attacked the Neogrammarian ban on grammatical conditioning and Hock, in his 1976 review of Anttila's book, countered many of Anttila's examples by utilizing a strategy that draws on the workings first of phonetic factors present *somewhere* in connected speech that provide a context in which a sound change could apply, with phonetic-only conditioning, and then of analogy by which that affected allomorph could be generalized to contexts other than those in which it was first phonetically motivated.

For example, the loss of final *-n* in South Estonian genitives (*kanna-n* 'of a base' —> *kanna*) as opposed to its retention as a first person singular verb ending (*kanna-n* 'I carry' —> *kannan*), cited by Anttila as a possible case of grammatical conditioning, is shown by Hock (in an analysis Anttila himself suggested as an alternative) to have been the result first of an *n*-deletion sound change that was phonetically conditioned, occurring in preconsonantal position only, followed by a generalization of the prevocalic **-n** to preconsonantal position.

One potentially difficult case for trying to explain away apparent cases of grammatical conditioning of sound change is the reference to word-boundaries in the statement of sound changes, since word-boundaries in and of themselves are not phonetic in nature. Their use in formulating a sound change would thus violate the requirement for phonetic-only conditioning. Still, as Hock points out, Neogrammarian *practice* in referring to word-boundaries in formulating sound changes is not the same as a *necessity* to refer to word-boundaries — "word-boundary" could simply be a short-hand for "the result of a regular phonetically conditioned sound change that was generalized from utterance-final position". Utterance-finality and phonetic effects at phrasal or sentential boundaries thus became part of the strategy that Hock employed in his counter-analyses to putative cases of a need to refer to word-boundaries in sound change was utterance-final position .

Hock argued that reference to word-boundaries is often the result of reinterpretations by speakers and analogical generalizations they make, so that the actual diachronic event that ultimately is mirrored in some synchronic alternations that may refer to word-boundaries *need* not have been conditioned by word-finality at all. A key example where the outcome may appear to refer to word is the statement of Sanskrit voicing assimilation processes (which affect word-final stops, e.g. *avada**d** **r**ajakah≥* 'the washerman spoke' vs. nonoccurring **avada**t** **r**ajakah≥*, but not word-internal stops, e.g. *atra* 'here' is perfectly well-formed), yet he argues that these synchronic processes can be seen as the result of a reinterpretation and subsequent generalization of a sound change by which there was utterance-final or pre-pausal devoicing, triggered phonetically by assimilation to the silence represented by the end of the utterance or the pause, and aided, in his view, by the position of the vocal folds at rest being essentially that of the absence of voicing. Such an account would allow one to maintain the ban on nonphonetic conditioning of sound change, since the Sanskrit word-final voicing assimilation would not be the direct reflection of a sound change, but rather would be the result of the workings of a phonetically conditioned sound change and other well-understood, widely recognized, and, crucially, independently needed, mechanisms of change, namely reanalysis and analogical generalization.

Similarly, Anttila himself (1972/1989:72) describes both sporadic excrescent consonant formation found in a word like *nope* and the common loss of segments in word-final position (e.g. *slep* for *slept* in some dialects of English) in terms of assimilations to silence in utterance-final position. This type of account, then, allows additionally for a tighter and more constrained overall view of phonological and morphological change — there is phonetically conditioned sound change as well as reanalysis and analogy, instead of one needing to recognize both phonetically and nonphonetically conditioned sound change as well as reanalysis and analogy.

Since Hock's discussion in 1976, there have been relatively few published works dealing with the grammatical conditioning issue directly (though see Sihler 1977, Johnson 1982, and Hyman & Moxley 1996 for some putative cases), although discussions of lexical diffusion (Chen & Wang 1975, Kiparsky 1988, Labov 1994) have naturally recognized a nonphonetic component to the linguistic environments for sound change (or at least for the spread of sound change). At the same time, however, there have been numerous advances in our understanding of utterance-final phenomena from a variety of perspectives, e.g. from a phonetic standpoint, from a discourse-analytic standpoint, and from a purely descriptive/typological standpoint. Reports such as Woodbury 1992 on Yupik and Michelson 1990, 1996 on Oneida, for instance, have provided rich descriptions of languages with utterance-final phenomena, and work such as Bruce 1977 on Swedish prosody and word order, and Beckman, Edwards & Fletcher 1991 on final lengthening has furthered our view of the phonetic side, with all of these studies providing a key link to discourse analysis and pragmatics through a consideration of the function of utterance- or phrase-final intonation contours (see also Woodbury 1987).

3. Relevant Issues

The range of issues pertaining to utterance-finality and utterance-final phenomena in natural language is thus quite large and certainly of great significance to the field of linguistics in general. Besides the matter of whether the Neogrammarian hypothesis can withstand claims of grammatically conditioned sound change, there is much more to examine: phonetics, discourse analysis, language-related typology, pragmatics, and so on, all with consequences for synchronic phonological theory regarding the role of phonetics and interfaces with other components of the grammar.

As an indication of just how extensive this range is, I offer here a number of questions that are relevant and thus which together frame the relevant issues:

- What is the range of phonological phenomena that can happen in utterance-final position? What general characteristics do they have? Can we develop a typology of utterance-final effects, a sense of which are more likely to occur than others? Are there some that cannot occur utterance-finally?
- What phonetic effects are found utterance-finally? How perceptible are they? Are they found in other positions in connected speech? Are they a matter of assimilation to following silence ("the rest is silence") or are there other factors that they respond to?
- Are these effects phonetic or phonological in nature?
- What sorts of grammatical markers occur in utterance-final position?
- What are the processes, analogical or otherwise, by which a variant of a word could be generalized from utterance-final position to other positions in an utterance?
- Is invoking "analogy" in this context explanatory or ad hoc?
- How is utterance-finality linked to intonation?
- What contribution do final intonational patterns play in the interpretation of utterances?
- What relationship is there between utterance-finality and other domain-final phenomena, e.g. word-final and phrase-final?
- Is utterance-final a special or privileged position, or can any utterance-final effects be "assimilated" to other domains?
- Ultimately, can the Neogrammarian ban on grammatical conditioning of *sound change* be maintained?
- What relationships, between synchrony and diachrony, between sound change and synchronic phonological rule, between phonetics and phonology, emerge from the Neogrammarian hypothesis and the phonetics of utterance-final phenomena?

By way of closing, I note here that there is another type of utterance-final phenomenon that some languages have, that is, a marker of the end of an extended utterance; in colloquial Modern Greek, for informal discourses that come to an end, one can say *aftá*, literally "these things", by way of signaling a close. And, to use the marker in English that is functionally parallel: 'That's all, folks'.

References:

Anderson, Stephen R. 1981. Why Phonology Isn't "Natural". Linguistic Inquiry 12.4.493-539.

Anderson, Stephen R. 1992. A-Morphous Morphology. Cambridge: Cambridge Univ. Press.

Anttila, Raimo. 1972/1989. An Introduction to Historical and Comparative Linguistics. Macmillan Publishers (revised and reprinted in 1989 by John Benjamins Publishers).

Beckman, Mary E., Jan Edwards, & Janet Fletcher. 1991. Articulatory kinematics of final lengthening. Journal of the Acoustical Society of America 89.369-382.

Beckman, Mary E., Rebecca Herman, & Kiyoshi Honda. 1996. Subglottal pressure and final lowering in English. Proceedings of the 1996 International Conference on Spoken Language Processing, 145-148.

Bruce, Gösta. 1977. Swedish Word Order in Sentence Perspective. Lund: Liber Laromedel.

Brugmann, Karl & Hermann Osthoff. 1878. Vorwort. Morphologische Untersuchungen auf dem Gebiete der indogermanischen Sprachen 1.iii-xx.

Chen, Matthew & William S.-Y. Wang. 1975. Sound Change: Actuation and Implementation. Language 51.255-281.

Hale, Mark. 2000. Neogrammarian Sound Change. To appear in Richard D. Janda & Brian D. Joseph, eds., Handbook of Historical Linguistics. Blackwell Publishers.

Hawkins, John & Anne Cutler. 1988. Psycholinguistic factors in morphological asymmetry. In J. Hawkins, ed., Explaining Language Universals. Oxford: Basil Blackwell.

Hawkins, John & G. Gilligan. 1988. Prefixing and suffixing universals in relation to basic word order. In J. Hawkins & H. Holmback, eds. Papers in Universal Grammar: Generative and Typological Approaches (special issue of Lingua, Vol. 74.2/3), pp. 219-259.

Hock, Hans Henrich. 1976. Review of Anttila 1972. Language 52.202-220.

Hock, Hans Henrich. 1986/1991. Principles of Historical Linguistics. Berlin: Mouton de Gruyter.

Hoenigswald, Henry. 1978. The annus mirabilis 1876 and posterity. Transactions of the Philological Society, 17-35.

Hyman, Larry & Jeri Moxley. 1996. The Morpheme in Phonological Change: Velar Palatalization in Bantu. Diachronica 13.2.259-282.

Johnson, Steve. 1982. Morphological Influences on Sound Change. In A. Ahlqvist, ed., Papers from the 5th International Conference on Historical Linguistics, 171-75. Amsterdam: John Benjamins.

Kiparsky, Paul. 1988. Phonological Change. In F. Newmeyer, ed., Linguistics: The Cambridge Survey, I.363-415. Cambridge: Cambridge Univ. Press.

Labov, William. 1981. Resolving the Neogrammarian Controversy. Language 57.267-309.

Labov, William. 1994. Principles of Linguistic Change. Volume I: Internal Factors. Blackwell.

Michelson, Karin. 1988. A Comparative Study of Lake-Iroquoian Accent. Dordrecht: Reidel.

Michelson, Karin. 1990. Utterance in Oneida backformations. Paper read at Conference on Explanation in Historical Change, Univ. of Wisconsin-Milwaukee.

Michelson, Karin. 1996. Formal and Functional Domains in Oneida Intonation. Paper read at Conference on Functionalism/Formalism in Linguistics, Univ. of Wisconsin-Milwaukee.

Newton, Brian. 1972. The Generative Interpretation of Dialect. A Study of Modern Greek Phonology. Cambridge: Cambridge Univ. Press.

Ohala, John. 1993. The Phonetics of Sound Change. In C. Jones, ed. Historical Linguistics: Problems and Perspectives, 237-78. Longman Publishers.

Sihler, Andrew. 1977. Morphologically Conditioned Sound Change and OE Participles in *-en*. General Linguistics 17.76-97.

Taylor, John R. 1995. Linguistic Categorization: Prototypes in Linguistic Theory. Oxford: Clarendon Press (2nd edition).

Warburton, Irene. 1970. Rules of Accentuation in Classical and Modern Greek. Glotta 48.107-21.

Wilbur, Terence. 1977. The Lautgesetz-Controversy: A Documentation. Amsterdam: John Benjamins Publishing Co..

Woodbury, Anthony. 1987. Meaningful Phonological Processes. Language 63.4.685-740.

Woodbury, Anthony. 1992. Utterance-final Phonology and the Prosodic Hierarchy: A Case from the Nunivak Dialect of Central Alaskan Yupik Eskimo. Paper read at LSA Annual Meeting, Philadelphia.