Vowel Epenthesis vs. Schwa Lexicalization in Classical Armenian[*]

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In an article that unfortunately has not received much attention in the relevant literature, Schwink (1994) argues that vowel epenthesis, as in forms like *n[ə]man* man 'similar', was a lexicalized alternation in Classical Armenian, in contrast to the traditional view, which holds that vowel epenthesis was a living phonological alternation. This paper critically evaluates Schwink's proposal, and argues that three main factors contradict it. First, vowel epenthesis is a robust phonological phenomenon in Modern Armenian, and the simplest historical account of this is that it was also alive and well in Classical Armenian. Second, Schwink's suspicion about the age of the alternation is unfounded, as phonological alternations may indeed exist for centuries without becoming lexicalized or fossilized. Finally, the existence of various layers of loan words that are treated differently with regard to a phonological alternation or restriction is also unremarkable. Therefore, in the absence of compelling evidence supporting it, Schwink's proposal must be rejected in favor of the traditional assumption that epenthesis was an active phonological process in Classical Armenian.

In an article that unfortunately has not received much attention in the relevant literature, Schwink (1994) argues that vowel epenthesis, as in forms like *n[ə]man* 'similar', was a lexicalized alternation in Classical Armenian, in contrast to the traditional view, which holds that vowel epenthesis was a living phonological alternation. Until Schwink's arguments are discussed and countered, his analysis remains a viable alternative to the traditional account. This paper therefore offers a critical evaluation of his proposal. I begin with a brief discussion of epenthesis in general, then present a number of forms that are generally agreed to exhibit epenthesis in Classical Armenian, and finally consider Schwink's proposal at

some length.

Epenthesis can be defined either synchronically or diachronically; in synchronic terms, it is the insertion of any segment not contained in the underlying representation, while in diachronic terms, it is the insertion of any segment not found at an earlier stage (or stages) of the language, as in the following examples.[1] In Axininca Campa, an Arawakan language spoken in the Amazon region, for instance, [t] is inserted between vowels to resolve hiatus, as in forms like [nompisiti] 'I will sweep', derived from an underlying /noN-pisi-i /, as opposed to forms like [nompoki] 'I will come', from an underlying /noN-pok-i/ (Itô 1989: 237).[2] The history of Romance yields a diachronic example, as Latin initial *s*C clusters have shifted to *es*C in Spanish, e.g. Latin *spiritus* > Spanish *espiritu* 'spirit', and Latin *schola* > Spanish *escuela* 'school' (Hock 1991: 125).

There are a number of possible triggers for epenthesis. It can occur in order to break up a dispreferred consonant cluster, as in non-standard pronunciations of Modern English *athlete* as *ath*[ə]*lete*, or to conform to general syllable preference laws, e.g. so that all syllables have onsets, as in the Axininca Campa example cited above. There can also be historical or sociolinguistic motivations, as in the case of Eastern Massachusetts *r* insertion, e.g. *He put the tuna*[r] *on the table*, where the loss of *r* in words like *car* and *yard* has led to reanalysis and hypercorrection, resulting in *r* insertion.[3] Classical Armenian vowel epenthesis is normally viewed as an example of the first type, in that consonant clusters were dispreferred and thus eliminated through epenthesis, as indicated in the statements from the handbooks cited below. Why vowel epenthesis was used to eliminate consonant clusters and not some other strategy, e.g. deleting one of the

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[1]One terminological point is in order, as a number of different terms are used for the insertion of segments. For example, Hock (1991: 117) distinguishes between the insertion of consonants and that of vowels, which he refers to as 'epenthesis' and 'anaptyxis' (or 'svarabhakti'), respectively, and furthermore uses the cover term 'epenthetic changes'. In line with the literature on Armenian, I use the term 'epenthesis'.

[2]The symbol /N/ represents a "nasal archisegment … which always assimilates to the following consonant" (Itô 1989: 237).

[3]This particular case of epenthesis has recently taken on increased importance as a *Paradebeispiel* in the debate between proponents of Optimality Theory and those of derivational phonology (cf. Vaux 2003).

consonants in the cluster, remains an open question, although it can be formalized with relative ease.

The Armenian handbooks largely agree with each other in their statements about vowel epenthesis. Here I give two relatively typical descriptions of the phenomenon for reference purposes. Schmitt (1981: 30-31) states that "gesprochen wurde der 'Murmelvokal' [ə]...vor oder zwischen jeder anlautenden (graphischen) Doppelkonsonanz CC." Schmitt further notes that the position of the (inserted) schwa depended on the first consonant of the cluster: if the first consonant was a sibilant, then the schwa was inserted preceding the first consonant, while otherwise the schwa was inserted between the consonants. Godel (1975: 15-17) suggests that "all initial clusters were resolved by inserting [schwa]," before listing the various permissible word-final clusters and indicating that "all other final clusters have to be resolved by inserting [schwa] before the last consonant."

The following forms, culled from the extensive list of examples in Thomson (1989: 116-121), exhibit vowel epenthesis. Syllable breaks are indicated with a period, and Thomson's division of the data into groups according to the number of consonants in the relevant cluster is retained. Note the different treatment of sibilant + consonant clusters, in that the epenthetic schwa is inserted before the cluster, not within the cluster.

(1) Forms that exhibit vowel epenthesis
    (a) Clusters of two consonants
        nman>> nə.man 'similar', *krap>> kə.rap* 'fire', *sreł>> sə.rel* 'to cut', *otn>>o.tən* 'foot'
        BUT *zgał>> əz.gal* 'to feel', *štapel>> əš.ta.pel* 'to hasten'
    (b) Clusters of three consonants
        xnłal >> xən.łal 'to rejoice', *otnharel>> o.tən.ha.rel* 'to trample'
        BUT *ambcowtʻiwn>> am.bə.cow.tʻiwn* 'purity'
    (c) Clusters of four consonants
        cnndakan>> cə.nən.da.kan 'birth', *bžškowtʻiwn>> bə.žəš.kow.tʻiwn* 'doctor'
    (d) Clusters of five consonants
        trtnšiwn>> tər.tən.šiwn 'murmur', *anxndroł>> an.xənd.roł* 'not demanding'
    (e) Clusters of six consonants
        anxłčmtankʻ>> an.xəłč.mə.tankʻ 'lack of scruple'

To account for these alternations, Schwink (1994: 289-290) proposes the following system of rules:[4]

(2)   Rules for Classical Armenian vowel epenthesis
       (a)   Ø→ ə/ C __ R'
       (b)   Ø→ ə/ # __ {s,l,z}'C
       (c)   Ø→ ə/ # __ š't
       (d)   Ø→ ə/ C'__

The problem with this rule system is that it makes some incorrect predictions (as Schwink himself indicates), e.g. Rule (2a) will produce forms like *anxəłčəmtankʻ 'lack of scruple', instead of the attested *an.xəłč.mə.tankʻ* The contrasts between forms like *manawand* 'especially', which lacks epenthesis, but *banəd* 'word', which shows epenthesis, although the two forms represent identical phonological environments, are also troublesome[5] Furthermore, while Schwink's rules successfully account for the position of the inserted schwa in sibilant + stop clusters, exactly why the schwa is inserted before the cluster, instead of within it, remains unclear.

As Schwink (1994: 291) points out, a number of the exceptions to his rules can be accounted for by treating some of these putative cases of vowel epenthesis as cases of vowel reduction, and he therefore postulates a rule of vowel reduction, by which underlyingly full vowels are reduced to schwas when unstressed. Such schwas may not be deleted if that would result in unsyllabified elements. Since these schwas are reduced surface versions of underlying full vowels, their distribution is not necessarily predictable, hence the seeming exceptions to Schwink's rules.[6]

The most important aspect of Schwink's work is his proposal that vowel epenthesis has been lexicalized (i.e. that the schwa was underlying) — a conclusion he reaches for two major reasons, namely (1) his analysis of the Classical Armenian data requires nearly the same rules as those proposed for Modern Western Armenian in Levin (1985), and

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[4]Here R stands for 'resonant' and <'> following a segment indicates that the segment is as yet unsyllabified.

[5]This has to do with the distinction between loan words and native Armenian vocabulary, discussed more extensively below.

[6]As Schwink (1994) indicates, he was not the first to propose that vowels were reduced rather than deleted (cf. Winter 1962, for example), but the handbooks consistently refer to vowel deletion rather than to vowel reduction.

(2) the treatment of loan words. Schwink (1994: 290) notes that his reaction to this discovery was mixed: "on the one hand, I felt I had reinvented the wheel, on the other hand, I was gratified that we reached essentially the same results independently…. [A] third reaction was one of suspicion about such an epenthesis rule being preserved for so many centuries."

I begin my critical analysis of Schwink's proposal by discussing the near-identity of rules[7] for vowel epenthesis in Classical and Modern Western Armenian. It is in fact unremarkable that a phonological rule can be retained for an exceptionally long time without becoming lexicalized or fossilized. Consider the case of final devoicing in the history of German, for instance, where underlyingly voiced obstruents are devoiced word-finally, e.g. *Ta*[k] ~ *Ta*[g]*e* 'day~days'.[8] This alternation is attested orthographically during the Middle High German period (circa 1050-1350), e.g. *lîp* 'body' (nom.sg.), but *lîbes* 'body' (gen.sg.), and is therefore at least six to seven hundred years old. Final devoicing is clearly an active phonological process in Modern German, as new borrowings are subject to it, e.g. *Jo*[p] ~*jo*[b]*en* 'job ~ to work'. In fact, the same basic rule can be used to account for final devoicing throughout its long history — much like the Armenian case.

There are also a number of indications that epenthesis is a robust phonological phenomenon in Modern Armenian. Vaux (1998: 66-70) argues convincingly in favor of this position, for the following reasons. First, Vaux provided a native speaker with a list of forms taken from an Armenian dictionary published in 1944, and asked him to syllabify them. Although Vaux's consultant recognized less than twenty percent of the words (many of which are archaic or dialectal), he still produced the pronunciation recorded in the dictionary.[9] As Vaux (1998: 61) points out, if schwas were

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[7]I use the term 'rule' not in the sense of 'generative rule', but instead as 'generalization'.

[8]"Devoicing" may not be the most exact characterization of the phonetic event; the relevant distinction may well be fortis/lenis, not voiced/voiceless. I also ignore a number of issues that a full treatment of the problem would have to address.

[9]The consultant's pronunciation differed from that recorded in the dictionary in seven cases, which Vaux attributes to the consultant's lack of understanding of the internal morphemic structure of the words.

underlying (i.e. if epenthesis were lexicalized), then their distribution would not be predictable; if they are epenthetic, then their distribution would be predictable. The performance of Vaux's consultant clearly indicates that native speakers of Armenian can predict where schwas should be placed, even if they are unfamiliar with particular words — exactly the result expected if schwas are epenthetic.

Secondly, assuming that schwas are underlying entails a more complicated analysis of the Modern Armenian material, since rules deleting underlying schwas in various contexts would then be required and analyses of certain other phonological phenomena, e.g. the reduction of unstressed high vowels and various alternations involving the definite article, would also be more complex (Vaux 1998: 67-68). Third, there are various dialectal differences in schwa placement that can be accounted for more easily by assuming that these schwas are epenthetic. For example, in Standard Western Armenian, initial (orthographic) sibilant + stop clusters are preceded by schwa, but not in Standard Eastern Armenian, e.g. *spitak* 'white' is pronounced *əsdᵇidag* in Standard Western Armenian, but *spitak* in Standard Eastern Armenian (Vaux 1998: 69). Finally, newer loan words exhibit epenthesis, e.g. *traktor* 'tractor', borrowed from Russian, is pronounced [təraktor]. If schwas were indeed underlying, then such loan words would presumably not contain them, as speakers of Armenian would hear the words without schwas and store them in their mental lexicons accordingly.

Another argument in favor of this position is orthographic. Khatchaturian (1985: 53) notes that "the mere fact that [schwa] is not consistently conveyed in orthography … in spite of the fact that a special character [for schwa] exists in the Armenian alphabet seriously questions the phonemic character of this vowel."[10] In a phonemic alphabet, phonemic alternations are generally recorded orthographically, while allophonic alternations generally are not (see Kyes 1967: 667-668 for more general discussion of this point). The lack of a

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[10] Khatchaturian further notes that some scholars have made this same connection for Classical Armenian; Godel (1975: 15), for example, states that "[t]he phonemic character of e14 can be seriously questioned in view of the very fact that it is not consistently written." This is of course not conclusive proof that schwas were allophonic in Classical Armenian, but it is more evidence in favor of this view.

consistent orthographic representation of schwa suggests that it is in fact not phonemic. I therefore conclude that schwa is not underlying in Modern Armenian. The implications of this claim are clear: given that epenthesis is alive and well in Modern Armenian, the simplest analysis is to assume that it was also a robust phonological process in Classical Armenian, since that would require no change from the classical to the modern language.

The problem of loan words must now be considered. It is clear that Armenian has borrowed heavily from various other languages; in fact, Armenian exhibits so many loan words that it was not until 1875 that Heinrich Hübschmann was able to demonstrate that it belonged to its own subgroup of the Indo-European language family and was not, as some had believed earlier, an Iranian language (see Hübschmann 1897: xvi-xvii). Schwink (1994: 296) notes that some loan words are treated differently, which he accounts for by invoking different layers of borrowings. For instance, *g[ə]ndapet* 'army leader' is an early loan from Iranian containing the morpheme -*gund*, which shows vowel reduction. A later borrowing containing the same initial morpheme, *gundsaṫar*, does not show reduction (Hübschmann 1897: 130-131).

There are at least two possible ways to account for this distinction. First, in line with Schwink's own view, it could reflect an incomplete integration of loan words into the Armenian lexicon, such that incompletely integrated loan words may have been exempt from certain phonological processes or various phonotactic restrictions, while completely integrated loan words, as well as native Armenian lexical items, were not.[11] Alternatively, schwa epenthesis could have ceased to be an active phonological process, in which case loan words arriving after this point would no longer be subject to it.

The first of these scenarios is preferable, as the second scenario involves a more complicated diachronic development. That is, the second scenario would require an active phonological process to be lost and then to be reactivated (given that schwa epenthesis is an active phonological process in Modern Armenian, as argued above and by Vaux 1998). In any event, it is unremarkable that there are various layers of loan words that are treated differently with regards to a

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[11] Compare here the well-known distinction between *Lehnwörter* and *Fremdwörter.*

particular phonological process, and therefore this development cannot be taken as evidence for Schwink's claims.

In sum, Schwink's proposal is contradicted by three major factors. First, his "suspicion" about the age of the alternation is unfounded. Phonological alternations may indeed exist for centuries without becoming lexicalized or fossilized. Secondly, epenthesis is alive and well in Modern Armenian, and the simplest historical account of this is that it was also a robust phonological phenomenon in Classical Armenian, as opposed to Schwink's analysis, which requires a lexicalized alternation to become active again. Finally, the existence of various layers of loan words that are treated differently with regard to a phonological alternation or restriction is also unremarkable. Therefore, in the absence of compelling evidence supporting it, Schwink's proposal must be rejected in favor of the traditional assumption that epenthesis was an active phonological process in Classical Armenian.

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