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Resyllabification vs Prosodic structure in English vowel shortening*

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1. Introduction

There have been a number of proposals to the effect that English phonology contains a rule of RESYLLABIFICATION, which removes a single consonant from the onset of a stressless syllable and adjoins it to the coda of the preceding syllable. Selkirk (1982) proposes such a rule as one means of accounting for stop allophones in English without resorting to ambisyllabicity, such as proposed by Kahn (1976). Borowsky (1986) extends the function of this rule to additional cases. For Selkirk, Resyllabification applies regardless of the stress on the preceding syllable; for Borowsky, resyllabification into a stressless syllable is optional. Myers (1985; 1987) has extended the role of this rule still further, using it to account for vowel shortening in English as well. In this paper, I show that neither stop allophony nor vowel shortening can be explained in terms of a putative rule of Resyllabification. Rather, I show that these processes can be understood only in terms of prosodic categories higher than the syllable, specifically, the Foot and the phonological word. The result is that there is no rule of Resyllabification in English.

In SPE, and in the tradition of studies in English phonology that followed it, three basic laxing rules are proposed. As presented by Halle & Mohanan (1985), these are Trisyllabic Shortening (or Laxing), Cluster Laxing, and *-ic* Laxing. Because laxing occurs in such a disparate set of environments, when expressed in a linear theory, there was little hope of uniting or collapsing these rules within the

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SPE framework or even within the lexical, autosegmental approach of Halle & Mohanan. However, if we assume that phonological rules can have prosodic categories, in addition to segmental information, as their domains, it becomes possible to try to collapse rules of this sort with similar effects. Here I will discuss one such attempt to collapse the laxing rules, that of Myers (1987), which relies on syllable structure but not on any higher prosodic categories, such as the Foot and the phonological word. I contend that higher prosodic structure is indispensable for an adequate description of English phonology. Myers's analysis of laxing crucially involves a rule of Resyllabification, introduced originally by Selkirk (1982) to account for stop allophonics in English. I will show that the resyllabification account does not provide a complete account of the allophony of English stops, failing in particular to predict alveopalatalized and palatalized allophones. Its application to laxing can make correct predictions here only at the expense of deriving incorrect stop allophones. The appeal to higher prosodic units resolves certain paradoxes that result from a purely syllable-based approach.

2. Prosodic units

The Foot was introduced in Liberman & Prince (1977) primarily to account for stress assignment. They also introduced the metrical grid, as a means of accounting for rhythmic adjustments, but the existence of two parallel, redundant representations seemed unsatisfactory, and the early development of metrical theory concentrated on tree representations. Kiparsky (1979) showed, in fact, that rhythmic adjustments were amenable to a treatment using trees also. Later, particularly with Prince (1983), the grid regained prominence, and recent investigations of prosodic structure, such as Itô (1986; 1989), Borowsky (1986; 1989) have concentrated on syllable structure to the exclusion of higher prosodic categories. These authors assume that the grid handles the prosodic organization that originally motivated higher prosodic units like the foot and the phonological word. Selkirk (1984, 31) even claims that prosodic structures higher than the syllable can be replaced by the stressed-unstressed distinction, although she is particularly inexplicit as to how this should work. In fact, Selkirk's (1982) account of stop allophonics has real problems that cannot be resolved by appeal to syllable structure alone. This enables us to return to the conception of prosodic structure as a hierarchy of categories including the syllable, the foot, the prosodic word, and higher structures, which in turn undermines support for the grid, since the information it encodes is largely redundant.

Kahn (1976) first developed an account of English stop allophonics in terms of syllable structure, arguing that a number of these processes are more perspicuously stated this way than in terms of purely segmental representations, even with the availability of boundaries of various types. Since higher prosodic structure had not been made available in the theory of the time, Kahn introduced the notion of AMBISYLLABILITY, equivalent to the concept INTERLUDE of certain earlier authors,

in which a medial consonant (or consonants) can belong to both the preceding and the following syllables. In her criticism of this approach, Selkirk (1982, 355) notes that “ambisyllabicity would constitute the sole instance we know of where the tree structures of phonological representations are not well formed, in the formal sense that a node of the tree (in this case, a terminal element) is immediately dominated by two separate nodes, giving overlapping constituents.” This is largely a theory-internal argument which perhaps carries more weight in a strictly tree-based approach to metrical structure than in one where the grid plays an important role. Selkirk replaces ambisyllabicity with a language-specific rule of Resyllabification, which moves a consonant from the onset of a stressless syllable leftward into the coda of the preceding syllable. It is possible to criticize Resyllabification on theory-internal grounds also. For example, Resyllabification violates certain generally accepted principles of syllable structure, in that it converts a natural syllabification CV.CV into the unnatural configuration CVC.V. For example, Itô (1986, 1989) proposed the ONSET CONDITION, which reflects the general agreement that CV is the universally least marked syllable structure by stating “avoid onsetless syllables.” The rule of Resyllabification violates this condition, and thus should be considered at least very highly marked. We will see that there are considerable empirical difficulties with the resyllabification analysis as well.

3. Vowel shortening

Myers (1985; 1987) carries the resyllabification analysis a step further by using it to provide the environment for all shortening processes in English. Myers starts from the premise that Shortening represents the natural process of shortening in a closed syllable, of which cluster shortening provides the basic case. Shortening in *left* occurs because the vowel is in a syllable closed by the consonant *f*, assuming that the final consonant *t* is extrametrical. Shortening does not occur in *leave* because the final *v* is extrametrical so that the vowel is in an open syllable at the relevant stage of the derivation. The novelty of Myers’s approach is to extend closed syllable shortening to Trisyllabic shortening and *-ic* shortening. He accomplishes this by invoking Selkirk’s rule of Resyllabification (actually a slightly different form of the rule that has consequences that we will explore later). Myers’s version of Resyllabification shifts a consonant from the onset of an unstressed syllable to the coda of a preceding stressed syllable. Resyllabification must apply cyclically in order to feed the cyclic (i.e., level 1) shortening rules. Thus, Resyllabification produces the syllabifications *san.ity*, *grat.itude*, *nat.ural*, and *met.ric*, conditioning the shortening of the nonitalicized vowels in these examples. The novelty here is in using syllable structure to condition morphophonemic rather than allophonic rules. Conceptually, there does not seem to be any good reason to suppose that the shortening rules of the level 1 phonology, which are morphophonemic in nature and subject to a host of lexical exceptions, should have a phonetically natural conditioning environment. However, the main difficulty with Resyllabification is

empirical, having to do with the allophonics of English stops, to which we now turn in greater detail.

4. Stop allophones

Myers mentions stop allophones as a possible source of evidence for the resyllabification analysis. Thus in *atom*, “[t]he /t/ is attracted out of the unstressed final syllable and tacked onto the end of the preceding stressed syllable, where it is transformed into the syllable-final allophone [D]. In *atomic*, on the other hand, the stress pattern does not allow for resyllabification of the /t/, so it is realized as the syllable-initial allophone [t^h].” (1987, 496) Myers observes that this analysis requires Resyllabification to be mirror image as well as cyclic, because resyllabification in *atom* on the first cycle must be undone on the second cycle of *atomic*, to return the /t/ to the syllable it started out in.

Even with a rule that allows consonants to flip back and forth to and from onsets and codas, it is not clear that this can work, given the range of allophonic facts that need to be accounted for. Let us consider the case of alveopalatalization, which retracts alveolar stops before *r*. We can assume that this rule is postcyclic, probably postlexical, since it is not structure preserving. As formulated by Nespor & Vogel (1986, 81), this rule applies only when the stop and *r* are in the same syllable,¹ as in (1a), but not when they are in different syllables, as in (1b).

- (1) a. *treat*
 street
 retrieve
 citrus
 destroy
 nitrate
- b. *night rate*
 raʔ race
 cut rate
 tight rope

Now consider one of Myers’s examples: *metric*. As we have seen, Resyllabification (either Selkirk’s or Myers’s version) produces the syllabification *met.ric*. This puts the vowel of the first syllable into a closed syllable, which is supposed to account for its shortening. But this syllabification bleeds alveopalatalization, which Nespor & Vogel formulate as in (2) (slightly modified).

¹ This rule could be reformulated so as to apply just in case *t* and *r* are in the same Foot. But this would negate any advantages of the resyllabification analysis anyway by acknowledging the role of prosodic structures above the syllable.

(2) *Alveopalatalization*

$$\begin{bmatrix} -\text{cont} \\ +\text{cor} \end{bmatrix} \rightarrow [-\text{ant}] / [\dots \text{ } r \dots]_{\sigma}$$

Alveopalatalization could only take place if the *t* of *metric* could somehow move back into the second syllable postlexically. But even the mirror image version will not do this, because the second syllable is not stressed. Myers's analysis would predict a syllable-final allophone of *t* here, for him a flap; we will see that syllable-final voiceless stops are in fact glottalized. But the fact that we get the alveopalatalized allophone, and do not get a flapped or glottalized allophone here, shows that resyllabification makes the wrong predictions in this case.

Similar considerations apply in cases like *natural*, where the *t* is palatalized to [č]. Here, the discussion is likely to be more controversial. Borowsky (1986) argues that coronals are palatalized only when followed by a HETEROSYLLABIC glide *y*. This allows Palatalization to apply to the italicized consonant in the examples in (3a) but not in (3b).

- (3) a. *natural*
 actual
 actuality
 tincture
 spacial
 official
 perpetual
- b. *tune*
 tuition
 perpetuity

In (3a), on Borowsky's account, the italicized consonant is shifted leftward into the preceding syllable, making it heterosyllabic with respect to the following *y*, which may be either underlying (as in *spacial*, *official*) or inserted by a rule (in the other examples of (3a)). In (3b), on the other hand, it is not possible for the consonant to be resyllabified, either because it begins a word (*tune*, *tuition*) or because it begins a stressed syllable (*tune*, *perpetuity*). Borowsky claims that Palatalization is blocked when the consonant to be palatalized and the conditioning glide are in the same syllable. This seems a strange claim. The syllabifications required are quite counterintuitive, especially as the length of the cluster to the left of the palatalizing consonant increases. A slow speech rendition of *tincture* is sufficient to make the point: few speakers would be inclined to syllabify *tinct.[y]ure*, as required for the resyllabification analysis. This is a welcome result, since the lack of resyllabification accounts for the absence of the syllable-final (glottalized) allophone of *t* in *natural* and the other examples of (3a). This implies that the shortening of the vowel in such words as *natural* (cf. *nature*) must be accounted for in some other way than leftward resyllabification of the consonant followed by closed syllable

shortening. In addition, we must reformulate Palatalization so that it can apply in (3a) but not in (3b), without appealing to Resyllabification. This can easily be accomplished once higher prosodic structures are taken into account. An examination of the environments for Palatalization in (3a) as opposed to those environments where it is blocked, as in (3b), show that Palatalization affects coronal obstruents which are followed by *y* and which are NOT FOOT INITIAL. This characterization of the environment is no more stipulative than Borowsky's requirement that they be heterosyllabic, and it allows us to dispense with Resyllabification. Again, we can assume that Palatalization is postlexical, certainly at least postcyclic, since it is not structure preserving.

There is at least one class of cases where my reformulation of palatalization differs in its empirical consequences from Borowsky's rule, and that is where a coronal obstruent followed by *y* occurs between two unstressed syllables, as in (4).

(4) opportunistic

Clearly, the italicized *t* is not palatalized in (4). Resyllabification of *t* would not apply OBLIGATORILY here, because the syllable before it is unstressed. But Borowsky allows OPTIONAL resyllabification between two unstressed syllables (basically Selkirk's approach also) to account for the optional flapping of *t* in cases like *sanity*. Optional resyllabification of *t* would predict the possibility of palatalizing *t* in (4), which does not seem to be an option. The same examples can be used to resolve a different but related problem in those dialects (Borowsky's A dialects) that do not allow *y* after coronals in words like those in (5a), as opposed to (5b), where the glide is required in all (standard) dialects.

- (5) a. news
avenue
numerical
tune
tuition
duke
duration
continuity
annuity
voluminous
- b. continue
annual
volume

Borowsky claims that the A dialects disallow the sequence coronal–*y*–vowel in syllable-initial position. Resyllabification in (5b) puts the coronal consonant in a different syllable than the following *y*, allowing the same sequence across a syllable

boundary. Resyllabification in (5a) is impossible for the same reasons as before: the coronal either begins a word or begins a stressed syllable. Therefore, in the A dialects, *y* cannot surface in (5a). Once again, though, an alternative explanation is available by taking the foot into consideration. In the A dialects, *y* is deleted when it follows a foot-initial consonant. Again, cases like (4) provide an interesting test. Speakers of the A dialects uniformly reject the pronunciation [tyu] in (4), suggesting that resyllabification is not an option here.

5. The geometry of feet in English

It could be objected that cases like (4) are problematic for the analysis I am advocating as well. That is, I require the sequence *tu* in *opportunistic* to be Foot initial in order to account for the lack of Palatalization of *t* as well as the obligatory absence of *y* in the A dialects. This requires a brief digression on the subject of Foot construction in English. According to the stress system that Hayes (1982) developed for English, modified by Kiparsky (1982), a quantity-sensitive maximally binary foot is constructed at the end of a word, then quantity-insensitive feet are constructed right to left until the beginning of the word is reached. The resulting structures are subject to a number of destressing rules. One is Poststress Destressing, which deletes a weak binary foot whose first syllable is open and which is immediately preceded by a nonbranching foot. Applied to an intermediate form like *abracadabra* (6a), this produces the form in (6b).

- (6) a. [a]_F [braca]_F [dabra]_F
 b. [a]_F braca [dabra]_F

The fate of the two unfooted syllables is now in question. Hayes assumes that both syllables are attached to the preceding foot. But, as Withgott (1982, 145ff) notes, the rule of Stray Syllable Adjunction is not iterative, and it specifies adjunction to an ADJACENT foot, so that this assumption is unjustified, even within Hayes's own theory. Withgott proposes what she calls "Smart Stray Syllable Adjunction," which splits the two unstressed syllables between the two flanking feet, producing (7). We further assume that adjoining stray syllable to the right is by Chomsky adjunction, producing the nested feet shown in this structure.

- (7) [abra]_F [ca[dabra]_F]_F

Applied to a word like *opportunistic*, Smart Stray Syllable Adjunction produces the structure in (8), where *t* is foot initial, as required for our reformulation of Palatalization and *y*-Deletion in this word. This structure presumably comes cyclically from [oppo]_F [tune]_F, and the structure in (8) represents the least amount of restructuring of the earlier cycle necessary to produce the final result.

(8) [opper]_F [tun[istic]_F]_F

A further result of assuming Smart Stray Syllable Adjunction is that we can construct maximally simple rules for the allophones of English stops. In Borowsky's and Myers's approach, these are determined entirely in terms of syllables, assuming Resyllabification. We will show that here, too, we can give up Resyllabification and reformulate the required rules in terms of higher prosodic units.

As long as metrical trees were considered simply as a means of predicting the location and relative prominence of stress, their replacement by grids had little practical consequence. Kiparsky (1979) proposed that foot structure could be used as domains for various segmental processes as well. Under this conception, grids do not fare so well, because they do not indicate constituency. ("Annotated" grids can be taken as the equivalent of metrical trees.) A fundamental insight of Kiparsky's analysis was that Aspiration is a rule that applies in Foot-initial position. Our assumption that (Smart) Stray Syllable Adjunction is by Chomsky adjunction allows us to dispense with Kiparsky's somewhat incoherent notion of "stressless foot" in applying Aspiration to a word like *potato*. Viewed in this way, following Prestress Destressing and Stray Syllable Adjunction, this word has the structure in (9).

(9) [po[tato]_F]_F

The *p* and the first *t* are both in Foot-initial position, and thus aspirated, without giving up Leben's insight (1982, 182) that "the foot is defined as containing one and only one stressed syllable." Both feet in (8) contain exactly one stressed syllable. When we consider *abracadabra*, we observe an aspirated velar stop, further confirming its foot-initial status in the structure (7). Returning to cases like *opportunistic*, given the structure in (8), we predict aspiration of *t*, along with the prediction of lack of palatalization and obligatory loss of *y* in the A dialects. All these predictions are correct.

6. Flapping vs glottalization

Selkirk, Borowsky, and Myers all assumed that syllable-initial position was the environment for Aspiration. They assumed that Resyllabification would bleed Aspiration in appropriate environments, producing syllable-final allophones, such as flaps (for alveolars) and glottalized allophones of the voiceless stops. The problem here is to distinguish between the flapping and the glottalizing environment, at least for *t*, which can undergo both processes. Selkirk (1982), which is the most complete treatment of English allophonics in this tradition, makes the distinction in terms of a new feature, [release], claiming that alveolar stops are flapped when syllable final, preceded by a [-consonantal] segment, and [+release],

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while voiceless stops are glottalized when they are [-release]. Selkirk does not treat the alveopalatal and palatalized allophones, however, and this leads to empirical difficulties. Her statement (1982, 374) that “after [-cons] and before [-syll] nonrelease [of stops] is OBL[igatory]” predicts that *t* should be glottalized in *metric*, *natural*. These stops are, however, not glottalized. Making them [+release] would not help either, since that predicts that they should be flapped. This shows that Resyllabification, even supplemented by the feature [release], cannot account for all the allophonic facts.

Furthermore, we could argue that the feature [release] is circular, since surely this is one of the things that we are trying to predict. Although Selkirk lists a number of environments in which consonants are released or unreleased, she does not formulate any rules for predicting the value of this feature. Even with this ad hoc feature, Selkirk’s syllable approach suffers from major inadequacies. By aspirating all syllable-initial voiceless stops, it seems to predict aspiration in many environments where it is not observed, such as the *t* of *Washington* or the *k* of *Atkins*.²

The present approach, by restricting Aspiration to foot-initial position, makes the correct predictions in these cases. Furthermore, no feature [release] is needed to distinguish flapping from glottalizing environments. When voiceless stops are in true syllable-final position (i.e., when not there by a putative resyllabification rule), they appear in the glottalized version. This is the approach of Nespor & Vogel (1986), who give examples such as those in (10).

(10)	a.	great	[greit’]
	b.	quart	[kwɔrt’]
	c.	pliant	[plaiənt’]
	d.	butler	[bət’lɜr]
	e.	witness	[wɪt’nɪs]
	f.	button	[bət’n]
	g.	great party	[greit’ pɑrɪ]
	h.	great reunion	[greit’ rɪjuːnyən]
	i.	great wonder	[greit’ wʌndər]

Flapping, on the other hand, applies within a much larger prosodic domain. It applies to alveolar stops when following a [-consonantal] segment and preceding a vowel. Kahn observed that this can even occur across sentence boundaries under certain conditions. Nespor & Vogel show that the domain of Flapping is the phonological Utterance, and that the Utterance can contain more than one sentence when the sentences have are related by certain pragmatic, phonological, syntactic,

² Kahn (1976, 47) claims that *t* is aspirated in *Washington*, but not the *k* in *Atkins*. I don’t believe that an instrumental study should be required to determine that the voice onset time is approximately equal in the two cases. If not convinced, contrast the corresponding *t* in *Washingtonian*, where the aspiration is quite striking.

and semantic conditions. If one sentence ends with an alveolar stop and the second begins with a vowel, and if these conditions are met, Flapping can occur between sentences. It is interesting to note that, when Flapping and Glottalization are both applicable, it is Flapping that normally applies, as in the examples of (11).

- (11) a. night owl
 b. headache
 c. wait a minute

Kiparsky (1979) accounted for this case by resyllabifying *t* or *d* to the onset of the following syllable.³ Nespors & Vogel claim, instead, that Flapping applies before Glottalization, bleeding the latter in cases like (11). I think that there is the possibility of considerable variation in these cases, with both Flapping and Glottalization possible, depending on speech rate, possible pauses, and other factors. None of this invalidates the claim I am making here that stop allophatics depends in crucial ways on Foot structure and other higher prosodic categories, that it cannot be determined in a theory that recognizes only the syllable as a prosodic unit, and that there is no Resyllabification.

The contention that stop allophatics depends crucially on higher prosodic structures receives additional support from Withgott's observation that aspiration can contrast with nonaspiration in identical stress environments. The pair in (12) is particularly persuasive.

- (12) a. mili[t^h]arístic
 b. càpi[r]alístic

This results from the cyclic assignment of stress feet in these words. If *capitalistic* is derived from *capital*, by the addition of the suffix *-istic*, the *t* has no chance to be foot initial, and so is realized as a flap. On the other hand, *militaristic* is derived from *military*, which has two feet: [mili]_F [tary]_F, resulting in the foot structure [mili]_F [ta[rístic]_F]_F for (12a). Since *t* is foot initial in the final structure, it is realized by the aspirated stop. In fact, in (12a), the correct environment for Aspiration can be derived directly by Smart Stray Syllable Adjunction, but (12b) requires a cyclic derivation of feet. This is the most convincing refutation of Selkirk's claim (1984, 31) that "[m]ost alleged foot-sensitive rules can be easily and with no loss of generalization recast as rules sensitive to the stressed-stressless distinction." The foot is essential to any adequate description of English stop allophatics.

³ This would be a *natural* resyllabification, because it conforms to Itô's onset condition, as opposed to the unnatural resyllabification proposed by Selkirk, Borowsky, and Myers.

7. Additional evidence

The same is true for other cases that are claimed to provide independent evidence for resyllabification. To cite just one further example, Myers (1987, 496) cites the distribution of *h* in (13) (from Borowsky 1986, 262).

- (13) a. ve[h]ícular, pro[h]íbit
b. vé[Ø]icle, prò[Ø]ibítion

Borowsky claims that *h* can appear only in syllable onsets, and that resyllabification of *h* into the coda of the first syllable in the examples of (13b) prevents its realization. But we need not appeal to Resyllabification to explain the distribution of *h* in (13). We need only claim that *h* can be realized only in FOOT-initial position. The appearance of *h* in *hilarious* is possible because the initial syllable is also foot initial by Stray Syllable Adjunction. Incidentally, we can dispute the facts in (13) to some extent. Brame (1972, 62, fn. 1) observes that the word *prohibition*, when it means the 'act of prohibiting,' often IS pronounced with [h]. This cannot be produced in the resyllabification analysis. We can understand this again as the result of the cyclic assignment of foot structure, where the originally assigned stress on the syllable *hi* carries over to the nominalized form, giving the foot structure [pro]F [hi[bition]F]F. When this same word refers to a particular period in American history, it is pronounced without [h], presumably because it is no longer recognized as related to *prohibit*. Stray Syllable Adjunction cannot adjoin the [h]-initial syllable rightward, because there is only one unstressed syllable between two stressed ones, and the result is no [h] because it is not foot initial.

A further argument for using prosodic categories to determine stop allophones comes from certain North American dialects which have a more restricted distribution of aspirated stops, and a more widespread distribution of flaps. Consider the three words in (14).

- (14) a. potato [p^hə'reyro]
b. Hittite ['hɪ,rəyt]
c. thirteen [,θər'ti:n]

There is no way that Resyllabification could account for the appearance of the flap before the stressed syllables in (14), since Resyllabification never removes consonants from the beginning of a stressed syllable. It is plausible to assume that these dialects have aspiration at the beginning of the PHONOLOGICAL WORD, rather than at the beginning of the foot, as we claimed for the dialects discussed earlier. This is the only change we need to make to account for (14). Since Flapping has no prosodic condition, we account for the flapping of the stops in question, because they are not in the aspiration environment in this dialect, they follow a [-consonantal] segment and precede a vowel.

So what about the shortening of vowels with which we began this discussion? Myers's collapse of all English shortening rules into one relies crucially on the rule of Resyllabification, which we have claimed does not (and cannot) exist. To have a similarly collapsed rule in our framework, we need to propose a rule that accesses higher levels of prosodic structure. In fact, the rule is relatively easy to reformulate. We need to state the rule in (15) as one that shortens (laxes) a (stressed) vowel when it is followed by at least one consonant within the same foot.

(15) $V \rightarrow [-\text{tense}] / [\dots \text{---} C_1 \dots]_F$

With this rule we get shortening in all the same environments as with Myers's rule without appealing to Resyllabification. Furthermore, we do not lose any of the advantages claimed for the resyllabification analysis. For example, we still have a local process of laxing in (15), like Myers's rule and unlike the SPE-style Trisyllabic Laxing. Also, we can explain the diachronic development (Kiparsky 1968) that Cluster Shortening and Trisyllabic Laxing both generalize in the same way in the passage from Old to Middle English by losing a consonant. Since we also have a single Laxing rule (15), we can capture this generalization just as well as the resyllabification analysis does. Finally, we can note that the same lexical exceptions that Myers notes in the appendix to his article are exceptions in the present treatment also. We should not be too hasty to accept the conclusion that derived forms have to be listed in the lexicon, however. The shortening of the long vowel of *phone*, for example, in *phonic* and *phonological* but not in *phonetician*, is probably explainable in terms of the cyclic derivation of these items. Because *phonetic* has stress on the syllable following *phone*, Trisyllabic Laxing cannot apply to this item. When *-ian* is added on the next cycle, *phone* is no longer in a derived environment and Trisyllabic Laxing cannot apply. (Of course, in *phonetic* itself, Prestress Destressing independently destresses the first syllable, whose vowel is then reduced to schwa.)

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