NEUTRALIZATION IN ENGLISH SYLLABLES
AND ITS RELATION TO RHYME IN POETRY

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All lax vowels in English reduce before a single consonant plus an optional liquid in unstressed position in a word (cf. Fidelhoitz 1978). In other positions, lax vowels sometimes reduce when unstressed. Even unstressed tense vowels sometimes reduce, and often even in stressed positions certain vowels are neutralized (as before /r/, e.g.). In this paper I will attempt to examine the facts, and their consequences for rhyming poetry. An appendix will deal with the question of the reality of syllables.

I will use the phonemic system of Chomsky and Halle (1968) for English vowels (but see Fidelhoitz and Browne 1973 for some modifications). Pronunciations are as in Kenyon and Knott (1933).

We first examine unstressed lax vowels before single consonants. /e/ and /i/ normally reduce to [ɪ], as is seen from the following words, each followed by forms of that word, affix, or root with the vowel stressed:

<table>
<thead>
<tr>
<th>(1) exact extract</th>
<th>exact cœphalopod</th>
<th>écréphalopod</th>
<th>poëtic</th>
<th>acréd</th>
<th>acrédité métälanguagé financier</th>
</tr>
</thead>
<tbody>
<tr>
<td>cephalic post</td>
<td>cephalopod poëtic</td>
<td>acrédité métälanguagé financier</td>
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<tr>
<td>acrédæmetæthesiss finance</td>
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</tbody>
</table>

and in

<table>
<thead>
<tr>
<th>(2) fidelity fidelité</th>
<th>fidelity fidelité pirogue</th>
<th>bâtard</th>
<th>etplæ</th>
<th>etplægious</th>
</tr>
</thead>
<tbody>
<tr>
<td>pirogue</td>
<td>bâtard etplægious</td>
<td></td>
<td></td>
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<td>martlet</td>
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<tr>
<td>egregious</td>
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</tbody>
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1 This paper is a revised version of a paper originally written in a course taught by Prof. Roman Jakobson, to whom it is respectfully and humbly dedicated. He is unlikely to agree with the appendix.
we see examples where no form with the vowel in question stressed occurs, i.e., where the ‘archiphoneme’ /i, e/ obtains.

All the other lax vowels of English (viz., /æ, /ə/ [and /ʌ/], /o/, /o/) when unstressed reduce to shwa (/ə/):

(3) farad
   parabolica
   cinema
   agrarian
   metalanguage
   cephalopod
   (?!) upon
   (?!) forgetful
   full,

and

(4) parabola (/ə/)                 parabólica
   photography (/ə/)               photographic;

and in

(5) charlatan
   cushion
   mulatto
   safari
   azalea

we see examples of the archiphoneme [æ, a, u, o, ə] (i.e., the archiphoneme [− tense], [+ syllabic]).

Before two consonants, lax unstressed vowels normally only reduce if the word in which they appear is a frequently-used word (more frequently used than about five times per million words used, as I have shown in Fidelholtz 1975). For example, we see the following pairs of words, with each word followed by its frequency (the underlined vowels in the first column normally reduce, but the corresponding ones in the second column normally do not).³

(6) obtain 4/10⁴ (= 4/M)  abstemious 16/18 M
   aspersion 1/M  aspectral  4/18 M
   dragonoon 4/M  ragout 11/18 M
   canoe 32/M  vamoose  4/18 M
   saloon 12/M  shallown 4/18 M
   poem >50/M  proem  9/18 M

³ Frequencies taken from Thorndike and Lorge (1944).
Neutralisation in English syllables

"... Shwa tends to replace [i]/ and /u/. Shwa can be regarded as the true obscure vowel sound toward which unstressed syllables [sic] gravitate ..." (Long 1961: 428).

"... However, some of the higher front vowels tend to become an obscure /i/ in unaccented syllables ..." (Kennedy 1985: 191).

"But -ment, which is generally /-ment/, is by some speakers pronounced /-mint/, while others have /-mont/ in some words, /-mint/ in others ..." (Jespersen 1909, I: 264).

"The less colloquial a word is, the oftener the full vowel is retained ..." (Jespersen 1909, I: 256).

"... Not all words are of a colloquial nature ... Thus the word exercise does not often occur in conversation. Its pronunciation is ... with the -or- fully sounded. If it should become a popular word, it would sound just like exercise" (Kenyon and Knott 1953: xvi).

These facts have certain consequences for English poetry. The rules above, acting on the underlying forms of the language, greatly increase the number of rhymes in English (that is, over the number there would be just from the underlying forms alone). This is in evidence everywhere in poetry. For example, for each poet following, we find him using the rhymes mentioned; the words have the underlying forms indicated by the stressed forms of the underlined vowels in parentheses:

**Sir Thomas Wyatt:**
- forgetfulness (/u/)
- hinderance (/o, l/)
- dement (/e/)

**Dryden:**
- clangor (dangerous)
- anger (angry)

**Popes:**
- birds betray (/I < /e/)
- funny prey (/y/)

**John Crow Rensome:**
- orifice (/I/)
- The kiss (/e/)

**Tate:**
- element (/e/)
- sacrament (/a/)

**Byron:**
- grammar (grammarians—/a/)
- polacie (/a/)
- forgot'em (them—/e/)
- certain (/e/)
- sentence (sentential—/a/)
- damn her (/e/)
- tobacco (/o/)
- shot him (him—/i/)
- bottom (/o/)
- desert in (/i/)
- alert in (/i/)
- repentance (/a/)

Here, the N at the end of a rule is an ad hoc means of signifying that the word is a fairly frequent one (and thus has its lax unstressed vowels reduced before two consonants). It is, as it were, a measure of the degree of familiarity of the word. Also there is a "cycle" from rule (10d) back to rule (10a) in very rapid speech; or, optionally, we could, for extremely fast speech, just drop the [-tense] in rules (10a) and (10b).

Many people have noticed these effects of lack of stress on the quality of vowels. We observe the following comments by various authors:

"The tendency in weak syllables is toward short vowels — especially if followed by consonants — and toward indistinct utterance, the tongue ... resting near the neutral or passive position ..." (Jespersen 1909, I: § 9.02).

"The vowel a ... replaces almost all other vowels and diphthongs in unstressed positions. i and j, however, are exceptions; i is generally replaced by i in unstressed positions, and i remains the same ... but ... such pronunciations as bolted, scenes are occasionally heard" (Ward 1945: 1077).

"Medial unaccented [-i] not followed by a vowel may become -/a/ in nearly all words" (Kenyon and Knott 1953: xxxviii).
Consider an example from Skagit, a Salish American Indian language. A typical word might have the shape CVCX, where X can be various sequences of phonemes. The plural is an inflexion as follows: CVCX, PCVCX; the diminutive is an inflexion as follows: CVCX, VPCVCX. If we take CV as the syllabic structure, it is interrupted in the diminutive. If we take CV as the syllabic structure, we find parts of syllables (namely, Cc in CVC) being treated with other syllables as units. So no syllabic interpretation is possible here.

The point to be made here is that there are facts of language not possible to state in syllabic terms.

What is important, on the other hand, are the syllabic nuclei. For a given language, however, these will be definable in strictly phonological terms (usually the vowels and perhaps certain liquid consonants, and certain fricatives); rarely are there exceptions, even if the rules may be restricted to certain environments. Furthermore, all word boundaries are fully stable after all the phonological rules have operated; that is, what would be syllables in the underlying form may disappear after the application of phonological rules.

We see therefore that, on the other hand, syllables are inherently unstable in terms of phonological and grammatical phenomena, and, on the other hand, there are no phonological or grammatical rules requiring the specification of the syllable as such; furthermore, any phonological fact stable in syllabic terms is equally stable in terms of syllable nuclei, that is, in terms of the phonemes (or phonemes) in the sound sequence.

Thus we might conclude that the syllable is not a "reality" in language, but merely an occasionally useful abbreviation of a notion stable purely in terms of the phonology.

Nevertheless, some phenomena have been found which appear to be stable enough to warrant the notion of 'syllable', and syllables do seem to have some sort of psychological reality for speakers. What is claimed here, however, is that at least some phonological phenomena cannot be stated in syllabic terms.

REFERENCES


