

Some Problems in the Description of English Accentuation*

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O. This paper is a direct result of recent correspondence between J. R. Ross and myself regarding some possible reanalyses of the rules for English accentuation as given by N. Chomsky and M. Halle in The Sound Patterns of English (henceforth SPE). Sections 1 and 2 of this paper deal briefly with some of Ross' proposed revisions of the main stress rule (MSR) and alternating stress rule (ASR) of SPE, and with the relationship of the ASR to a rule with similar effects which operates in compounds--the rhythm rule (RR).

In Section 3, I propose a rule which stresses certain syllables which precede a primary stressed syllable, and a complementary rule which destresses those same syllables. In Section 4, the anticipatory stress rule is generalized. Section 5, which is the heart of this paper, deals with the various destressing rules which have been proposed so far, one due to J. Fidelholtz, two that were pointed out to me by Ross, and the destressing rule of Section 3. It is shown that there are two very general destressing rules (which can perhaps be combined into one rule) which do the work of the previously discussed four rules. Finally, in Section 6, a very simple statement of the MSR for English is stated and partially justified.

1. According to SPE, the last syllable of a noun regularly receives primary stress only if it contains an underlying tense vowel. Thus we have: machíne, paráde, valet, careér, canoeé; but Égypt, désert, róbot, city. The accentuation of nouns such as eclipse, marionéte, cement, dessért is handled by postulating an underlying final -g, which is deleted. If necessary, as in the case of marionéte, the stressed vowel is assumed to be followed

by a geminate cluster, which is later simplified. The tertiary stress on the ultima in deverbal nouns like tórmènt is accounted for by positing that this word is analyzed $[[\text{torment}]_V]_N$; that it receives final stress on the first cycle by the MSR for verbs, and that this stress is reassigned to the first syllable by the MSR applying on the second cycle (case "c" of the MSR, SPE p. 99,) which considers a stressed final syllable in nouns and adjectives as part of the environment of the MSR.

Ross suggests a reanalysis of these facts which allows nouns to receive final stress by the MSR in a larger number of cases than is allowed in the SPE account. According to his analysis, all the nouns cited in the previous paragraph receive final stress by the MSR--there is no need for any vanishing final e to handle the facts of stress assignment, nor for a transformational cycle for words. The ASR applies after the MSR to shift the stress in nouns like tórmènt.¹

¹The exact formulation of the ASR is difficult to arrive at. Basically, it locates the primary stress one, two, or possibly three syllables away from a stressed ultima, or (in Ross' account) stressed penult if the final syllable ends in i, Vr, VL, and possibly u. This version eliminates entirely the need for case "c" of the MSR as formulated in SPE.

By and large, words must be lexically marked for the ASR, although there is some regularity which can be exploited (this matter is given some attention also in Section 5). Disyllabics whose ultima contains a tense vowel or diphthong generally do not undergo it, for example sàrdíne (the tertiary stress on the initial syllable of this word is discussed in Section 3), Kùwaít, Détroít, Chínèse, boudoír, Louíse; but cómbíne, écrù, détour, sírlóin. Conversely those disyllabic words which do not contain a final tense vowel or diphthong generally do, thus tórmènt, convèrt, mustàng, ássèt, mónàrch; but Corvètte, Cèylón, éclípse

(although eclipse does occur dialectally). Trisyllabic nouns marked as undergoing ASR include Oregon (the alternate form Oregón (the symbol ° designates weak stress and vowel reduction) is obtained by an additional rule which destresses certain tertiary final syllables; similarly adjective, which is underlyingly /æd=jekt+iv/ --compare adjectival), alphabet, ampersand, Bolshevik, Horowitz; those marked as not undergoing it include macaroon (here the initial tertiary stress is supplied by a rule which, in long words, places secondary (later reduced to tertiary) stresses on those syllables which would get primary stress if the word were to end on the syllable preceding the one which actually gets primary stress; compare such forms as Adirondack, electrostatic, Monongahela²), suffragette, kangaroo, Timbuctú (the symbol ˇ designates

²This rule can be subsumed under the ASR in a relatively straightforward way which I do not pursue here.

a quaternary stress which protects the quality of the vowel so stressed from reduction; just how that stress is assigned is discussed in Section 4.), Istanbul, lingerie, avant-garde, bourgeoisie, Tel Aviv, San José, liaison, chimpanzee (the variants liaison, chimpanzee are obtained by applying the ASR to move the primary stress to the penult).

2. In addition to the ASR, there is another rule which has the effect of moving the main stress in a word to an earlier syllable; this rule however works only in compounds, and has roughly the effect:

\ ... ^ ... / → ^ ... \ ... /

where the dots symbolize possible more weakly stressed syllables. The primary stress is in the second word of the compound, the tertiary and secondary ones are in the first. We may call this the rhythm rule (RR)--a similar rule for German has been discussed by

P. Kiparsky in "Über den deutschen Akzent." Its effect can be seen in such expressions as Chinèse language (cf. Chinèse), sàrdine sandwich (cf. sàrdine), Nèw York Giants (cf. Nèw York), Tìmbuktù industrialist (cf. Tìmbuktù), màcaroon ice cream (cf. màcaroon), Tènnesseè Ernie (cf. Tènnesseè), etc. In some cases, the rule is optional; for me either Détroît Lions or Détroît Lions is acceptable (as is Détroît Lions, for which see Section 3). Similarly, either Còrvette station wagon or Corvètte station wagon (cf. Còrvette); either Tyròne Power or Tyròne Power (cf. Tyròne); either Màrlène Deétz or Marlène Deétz (cf. Màrlène).

In still other cases, the rule is inapplicable; thus I accept only Louïse Tucker, and not *Louïse Tucker (cf. Louïse); only Elàine Morison, and not *Elàine Morison (cf. Elàine). That the ASR and RR are intimately related can be seen from the following implications: if a word is subject to ASR it necessarily undergoes RR (more precisely, the application of the ASR prior to the phrase cycle has obviated the need for RR on the cycle for phrases); conversely, if a word cannot undergo RR, it cannot undergo ASR either (cf. Louise and Elaine). Words which are not subject to ASR may or may not undergo RR, and in some cases RR is optional.

In the above discussion only disyllabic nouns were considered. In nouns of three or more syllables in which the MSR assigns primary stress to the ultima, RR always appears to be at least optionally applicable, even to those to which ASR cannot apply. Thus I obtain, besides the examples already given, Jàpanèse fisherman (cf. Jàpanèse); both Kàlamazòò zòò and Kalamazòò zòò; (cf. Kàlamazòò); both chìmpánzèè còlony and chimpánzèè còlony (cf. chìmpánzèè); both lìngeriè sàlesman and lingerie sàlesman.

Despite the obvious relatedness of ASR and RR, they are not to be considered the same rule, for if they were to be so considered (the version known as ASR applying to words and that known as RR to compounds), it would not be possible to provide coherent lexical representations for the classes of nouns including alphabet (ASR obligatory, RR vacuous), sardine (ASR inapplicable, RR obligatory),

Tyrone (ASR inapplicable, RR optional), and Louise (ASR and RR both inapplicable) respectively. Moreover, RR is applicable to many nouns to which the application of ASR is excluded (i.e. ASR is not simply inapplicable because of a lexical mark to that effect), for example Colorado. ASR cannot apply to this word for the simple reason that the primary stress is on the penult rather than the ultima; however RR is applicable to this word, as in Colorado Democrat. Many similar examples could be given.

3. We turn now to the problem of accounting for the tertiary stress on the initial syllable of words like sardine. As Ross observes, an initial syllable of a word may receive a tertiary stress if it is a strong syllable (in the sense of SPE) and if the second syllable of the word has primary stress. Thus besides sardine, we have bandanna, Arlene, Afghanistan, sectarian, success, electric, o'clock, fatality, tonality, humidity, leukemia, cooperate, psychology, foundation, autonomy, naive, chaotic, atypical, Bostonian, etc.; but banana, alone, susceptible, anemia, capacity, etc.³

³There are a number of apparent counterexamples; words with a stressed, apparently weak initial syllable preceding a stressed syllable, but in these the initial vowel is æ followed by a labial consonant: tabu, snafu, cafe, trapeze, Hamitic (cf. Semitic). This suggests that such vowels should be regarded as tense for purposes of stress assignment, for which one has additional support in words like Alabama, Biafra, etc.

If we consider, however, such words as ragout [rægu], tatoo [tætú], tableau [tæbló:], we observe that æ may be regarded as tense provided there is a rounded vowel in the following syllable and that no palatal intervenes. When followed by n, æ may also be the representative of tense a (not SPE A, but the stressed vowel of father), as in banana, Montana (cf. Nevada). In Hanoi [hənoí] the æ may be considered tense either because it is followed by n, or because the vowel of the following syllable is rounded.

Monosyllabic prefixes also tend to receive a tertiary stress, even if the first syllable of the word is weak: unusual, disarm, inert, etc.

There are speakers of American English for whom these are the only possible pronunciations of these words, but there are other speakers who, in fast speech, tolerate weak stress and consequent vowel reduction in the initial syllable of many words of the first group. For such a weakening to take place, the word must be a relatively familiar one, and if of known foreign origin, reasonably Anglicized. The weakening is most common in words whose first syllable contains a lax vowel followed by a consonant cluster which is not introduced by an occlusive or which is not unusual in some way. It is also common in words in which the initial syllable contains one of the tense vowels A, E, or O (in the sense of SPE) followed by a single consonant. Examples include: Cámbodia, énthúsiásm, cómpóse, cántánkerous, Móngólian, últérior, Sýlvester, óρθógraphy (initial [ɔ], however, reduces only if followed by [r]; the pronunciations Bóstónian, áutónomy would be very unusual), pártáke, Virgínia, mýstérious, áscórbic, Ísráeli, áthlétic (the fact that áthlétic is also possible suggests that we are here dealing with an initial strong syllable), díphthéria; électric, Détroít, fátality, tónality. Initial [u] before a single consonant in an initial syllable generally may weaken if it is preceded by a [y], as in húmidity, fútality, but much less likely otherwise: couvade, stúpidity, brútality, leukémia would be very unusual.⁴

⁴I pronounce Teutonic with a [y] on-glide to the [u]; nevertheless I fail to weaken the initial syllable as if that [y] were not there (which it "shouldn't", given the fact that the [u] follows an initial dental and is pretonic).

An initial vowel immediately preceding the tonic vowel may be reduced, provided it is permitted to turn into a glide, as in cóöperate [kwáperèt], méander [myánder]. Less likely examples are Suez, réality, óasis, while *cháotic, *náive, *áorta would be impossible.

Words which would be expected to show a reduction of the sort described here, but which do not, can usually be explained on morphological grounds, or on the grounds that the word has not been completely Anglicized. Thus, words with the privative prefix a- never show this reduction, despite their phonological status, for example àtypical, amóral; never *atypical, *amóral. Non-completely assimilated foreign words include détente, Dèscartes, règime, Beirút, Pàscál, Sàn Juan, Tàngiers, Mànchúria.⁵ Morphology

⁵Examples like these are doubtless in more or less of a state of flux for many speakers. An interesting example is Los Angeles ~ Lòs Ángeles. We should not expect weakening if the initial vowel were [ɔ].

has been forgotten; apparently, in ò'clock, but not in Irish names like ò'Riley (although I suspect pronunciations like ò'Riley are not uncommon).

Weakening is possible, but less usual, in case the initial vowel is followed by an unusual consonant cluster, as in anhýdrous, Álhámbra, Áfghánistan, spásmódic, ásbestos, etc.; or a cluster introduced by an occlusive, as in ábdóminal, signíficant, êcstátic, lúxúrious, Fitzgérald, etc.⁶ I have no independent operational

⁶Proper names in Mc or Mac, however, generally show such weakening, for example Mácdonald, Mácfhérsón, etc.

test for unusualness of consonant clusters, however, and must regretfully leave this matter in its present unsatisfactory state.

Finally, weakening is impossible, or nearly so, in case the initial syllable contains a diphthong, either [ay], [aw], or [ɔy], or [a] in incompletely assimilated French loans. Thus we have poinséttia, never *poinséttia; foundátion, never *foundátion, icónic, never *icónic; Cointreáú, never *Cointreáú. There are,

however, a number of examples with initial syllable [ay] which may be reduced in very fast speech by some speakers, notably identity, ironic, digestion, which possibly can be explained on the basis of the I ~ i alternation, as formulated in SPE.

Similarly, many speakers tolerate weakening of the first syllable of psychiatrist, roughly [səkáɪətrɪst]; but the same speakers will not so readily agree to the weakening of the first syllable of psychologist. This is apparently due to the application in the first example of an optional rule which dissimilates I to i in a syllable preceding a stressed I:

$$I \rightarrow i / \text{--}C, \acute{I}$$

It is hard to find other examples in which this rule has applied; bye-bye [bəbáɪ] and fly-by-night [fláɪbənáɪt] are possible candidates.⁷

⁷The rule under discussion is not to be confused with another rule in English which obligatorily dissimilates I to i when it follows a stressed I and is itself followed by another syllable. Examples which illustrate the application of this rule are bicycle, tricycle; compare motorcycle, unicycle. The proviso regarding a following syllable is needed to prevent the rule from applying to words like finite, pyrite, Sinai, and Illini.

4. On the basis of the discussion in Section 3, we see that a rule is needed which assigns a low-degree of stress to the nucleus of a word-initial strong syllable preceding the main stress. Let us call this rule the primary stress anticipation rule (PSAR). Later, for fast speech, certain of the stress assigned by PSAR may be eliminated. We ask now, first, is there reason to generalize PSAR to be applicable to syllables other than word-initial ones? And second, is the rule applicable to

syllables which precede stresses other than primary ones? The answer to both questions is apparently affirmative, for which reason we hereby change the name of the rule to the stress anticipation rule (SAR).⁸

⁸This acronym, unfortunately, is the same as the one in SPE for a rule which weakens all secondary stresses in a word to tertiary ones. Chomsky and Halle call it the stress adjustment rule, but so that the acronym for that rule will not be confused with that of the stress anticipation rule, I take the liberty here of renaming the former rule the weakening of secondary stresses rule (WSSR).

To see that SAR is applicable to non-initial syllables, consider the problem of how the quaternary stresses are to be assigned in such words as: chímpanzéé, Tímúktú, Istánbul, liáíson, ávánt-garde, bourgeoísié, Pénnsílvánia. To my knowledge, there is no mechanism in SPE whereby these stresses can be assigned, but it is obvious that the proposed SAR automatically accounts for them. Moreover, as Ross has pointed out to me, the rule also can be used to account for the quaternary stress in words like reláxá-tion, condénsation without appealing to a word-cycle, as in SPE.⁹

⁹In SPE, Chomsky and Halle follow Trager and Smith in distinguishing between the accentual patterns of condensation and compensation, the latter being compensation. They explain this difference as arising from the fact that while there is a verb condense underlying condensation, there is no verb *compense underlying compensation. I question this distinction. I find that I get both condénsation and condensation and both compensation and compensation in free variations--precisely what one would expect if the stress in question is assigned by SAR. Moreover, the formulation in SPE is totally unable to handle such examples as ammunition, masturbátion, etc., and conversely the possibility of weakening in such examples as condémnation, réformation, etc., all of which are handled straightforwardly in the present account.

Notice also, that weakening is common in precisely those examples in which we would expect it from the discussion of Section 3,

namely liaison, Pennsylvania, and condensation (see also footnote 9).

That the rule must be extended to anticipate other than primary stresses can be seen by considering the accentuation of such words as accéntuátion, antícipátion, and accéntuáte. In the first two examples, such an extension is needed to assign a quaternary stress on the initial syllable in anticipation of the tertiary stress on the second syllable. In the third example, the extension is needed to assign quaternary stress on the third syllable, anticipating the tertiary stress on the fourth. The need for both extensions (applicability to non-initial syllables and applicability to syllables preceding non-primary stresses) is apparent for examples like électróstátic (one can also get électróstátic, of course, in fast speech).

5.0. In Section 3 we found that there is an optional rule for destressing certain syllables which receive stress from the SAR, which we henceforth shall refer to as the destressing of anticipated stress rule (DASR) and that the statement of the conditions of the applicability of DASR is tied up primarily with the phonological structure of the potentially affected syllable. One way of stating those conditions, which is perhaps the most elegant of all, involves altering the notion of weak and strong syllables from that of a binary distinction, as in SPE, to that of a scale or hierarchy of syllable strength, in which syllables ending in a lax vowel are weakest of all (this may be indicated by the specification [0 Strong]), those ending in a lax vowel plus a non-occlusive are [1 Strong], as are those which end in a non-diphthongal mid or high tense vowel, those which end in a lax vowel plus an occlusive are [2 Strong], while those which end in a diphthong or low tense vowel are [3 Strong]. We then say that ASAR assigns a stress to all syllables marked [α Strong], $\alpha > 0$, while DASR freely eliminates stress from syllables

marked [1 Strong], less freely from those marked [2 Strong], and rarely, if ever, from those marked [3 Strong]. While this formulation is still incorrect in detail (it fails, for example, to handle the facts regarding u noted in Section 3, and it treats tense æ and o alike, which is probably wrong), it nevertheless captures the basic facts regarding the SAR and the DASR.

We now examine three other destressing rules in English to see to what extent the hierarchy of syllable strength is relevant to the statement of those rules. Those rules are:

(1) a rule which destresses an ultima following a primary stressed weak (i.e. [0 Strong]) penult. We call this rule Fidelholtz's Law (FL) after its discoverer (cf. SPE, p. 146). The rule accounts for the pronunciation of Árāb [æ̀ræ̀b] and the non-existence of *Arāb [æ̀ræ̀b], but (dialectally) Arāb [é:ræ̀b]. The derivation of Árāb proceeds as follows:

Arab
 0 1 MSR
 1 2 ASR
 1 0 FL

(2) a rule which destresses the penult of a trisyllabic word when the first syllable has primary stress; we call this rule, following Ross, the 10XR (read "ten XR") from its effect in such words as industry:

industry
 0 1 MSR
 1 2 ASR
 1 0 10XR

(the final syllable counts as "X").

(3) a rule which destresses an ultima after ASR has applied; we already commented on this rule in Section 1 in connection with such words as Oregon, adjective. We call this the ultima destressing rule (UDR); notice that UDR applies to certain disyllabic words to which FL cannot apply, for example óctave, the derivation

of which is as follows:

<u>octave</u>		
0	1	MSR
1	2	ASR
1	0	UDR

5.1. Unlike DSAR, FL is generally obligatory, and it appears to have few true exceptions among word ends in a consonant. Some apparent exceptions, such as ásset, áddict, synáuse, do not meet the conditions of FL, which requires that the word to which it applies contains no internal boundaries other than SPE +. Since these words contain the SPE boundary = between the Latin or Greek prefix and stem, FL is inapplicable to them. A similar explanation might be feasible for a word like léssor, which is often pronounced with the accentuation as indicated (and according to standard dictionaries of English, must be).

Some genuine exceptions to FL, for me at least, include Hickòk, hubbùb, hiccùp (hicclùp is also possible), pótàsh [pátàš], hàshish. All these examples, it will be noted, consist of final syllables which begin and end with obstruents, and presumably the reason for their exceptionality is to be found there.

There are, apparently, only a very few exceptions to FL involving final syllables ending in two consonants, which might be thought of as surprising since such syllables would probably count as stronger than those which end in a single consonant. The explanation, presumably, is that a larger proportion of disyllabic words which end in a consonant cluster do not undergo ASR; that is, the primary stress is more likely to be retained on the ultima of such words. Some exceptions to FL among such words that I have found are fàscìsm, mónàrch, áddàx, and ádułt (ASR is optional in the latter; if it is not applied we obtain ádułt).

FL is inapplicable to words whose ultima ends in a vowel or diphthong. By a general rule, that vowel, if not reduced, must be tense, and the only final vowel which stands in phonological

alternation with a reduced vowel is [o], as in fellõw ~ fellõw [féla]. While one might wish to consider this a matter for FL to handle, I feel this alternation is probably more appropriately handled by a special rule which involves just final [o]. Not all such vowels freely reduce, compare bellõw (we do not obtain *bellõw); and notice that the same alternation is found in words which are outside the domain of FL to begin with because the penult is strong, for example windõw ~ windõw [wíndə] and potatõ ~ potatõ [pəté:tə].

There are virtually no examples in English of words containing a primary stressed weak penult and an ultima containing a long vowel or diphthong followed by a consonant, which is to say that ASR is inapplicable (or practically so) to words of the form $C_0 \overset{\vee}{VC} \overset{\vee}{VC}_1$. This suggests that ASR is sensitive, to some extent at least, to the relative strengths of the syllables involved: the stressed syllable and the syllable to be stressed; if the latter is very weak compared with the former, ASR is not applicable. One example of this sort which I have managed to come up with is hashish [hási:s], which is also strange because it contains a tense vowel tautosyllabic with a following s. As already noted, this word is an exception to FL too.¹⁰

¹⁰ Another example, possibly, is Hittite. It might be argued that this word genuinely does contain a medial geminate, however, in light of the fact that it is more likely to be pronounced with a fully aspirated alveolar stop rather than a flap, which is the expected result of a posttonic medial t. Sapphire, graphite, and caffeine are not examples of this sort, since the initial vowel is tense (see also footnote 3 for discussion of tense a before labials). The same is true of Raphaél, Samuél when pronounced as disyllabic words.

5.2. In this section we take up the LOXR and show among other things that it is a special case of the DASR. An excellent source of examples which illustrate the need for LOXR are words in -y, such as industry (a derivation of which is given in Section 5.0

above), Lombardy, and cuckoldry. That the rule is sometimes inapplicable can be seen from examples like autopsy and biopsy; a fact which I believe can be only explained by noting that the syllable in question is high on the strength of hierarchy. Moreover, I believe it is the case that the LOXR rule is generally optional in those examples to which it is applicable, a consequence of the fact that the affected syllable is never a weak syllable.

An important question which has yet to be raised is how stress is assigned to the penult of trisyllabic words in the first place, and the related question of how to account for whatever stress there is on the ultima in such words as industry. If we compare the accentual pattern of this word with that of Algernon or Valentine, we find that it is essentially the same; that is, we can represent it thus: industry. Now the derivation of the accentuation of, say, Valentine is as follows:

<u>Valentine</u>			
0	0	1	MSR
1	0	2	ASR
1	0	3	WSSR
1	4	3	SAR
1	0	3	DASR or LOXR

Notice that the destressing of the penult in Valentine can be handled either by the DASR or the LOXR, and since the former is a more general rule than the latter, we can view the LOXR rule as simply a special case of the DASR, provided the derivation of the accentuation of words like industry proceeds along the same lines as that of Valentine, i.e. as follows:

<u>industry</u>			
0	0	1	MSR
1	0	2	ASR
1	0	3	WSSR
1	4	3	SAR
1	0	3	DASR

If this is correct, then the accentuation of such words as autopsy and biopsy should be: autópsy, biópsy; and not as given above. The accentuation, however, should be autóp̄sy, bióps̄y; therefore a rule whose effect is:

$$\check{V}C_1 \check{V}\# \rightarrow \check{V}C_1 \check{V}\#$$

must be added to the grammar (we call this the 4-3 switching rule (4-3SR)).

There are further reasons for assuming that the MSR assigns primary stress to the ultima of such words as industry--such an assignment furthermore is automatic if the vowel contained in it is given as tense; i.e. SPE E. First of all there are doublets such as Galílee ~ Galíleeé, which shows that some words ending in E need not have the ASR applied to them at all. The suffix spelled -ee provides numerous examples of this sort, for example emp̄loyéé ~ emp̄loyééé,¹¹ and there is also, of course, our old friend chimpanzéé ~

¹¹It will be noted that the ASR assigns main stress to the first syllable of trisyllabic words in -y regardless of the strength of the penult (Epoxy is not a counterexample, since the final y in it is not the suffix -y), whereas it assigns main stress to strong penults of trisyllabic words in -ee. When the penult is weak, ASR is generally inapplicable to words in -ee, for example addréséé (I have no explanation for the quaternary stress on the penult of this word, unless it is assumed that the syllable division in this word follows the morphological division--an attractive hypothesis, or at least one which is more attractive than one which assumes there to be a geminate g present).

chimpanzéé.

Another argument has to do with the history of words in final E. Many if not most of them have entered the English language via French. It strikes me as quite reasonable that when, say, majesty became Anglicized, that the ASR was applied to a form accentuated as majéstý yielding májéstý and ultimately májést̄ý. There is, on the other hand, no reason to assume that the word

was ever accentuated with primary stress on the penult: *májesty; and therefore I conclude that there is no reason to posit a derivation of this word in which primary stress is ever assigned to the penult.

If we examine words of four or more syllables, we observe that DASR does not generally apply if the syllable to be affected is preceded by an unstressed syllable. Consider, for example, the words sécretáry, óρθόδοxy. The derivation of these words proceeds as follows:¹²

<u>secretary</u>				<u>orthodoxy</u>				
0	0	0	1	0	0	0	1	MSR
1	0	0	2	1	0	0	2	ASR
1	0	0	3	1	0	0	3	WSSR
1	0	4	3	1	0	4	3	SAR
1	0	3	4	1	0	3	4	4-3SR

¹²In British English, however, DASR is applicable to secretary, resulting in sécretáry, but not to orthodoxy. The reason is that DASR is applicable in British English to syllables preceded by an unstressed syllable only if their strength is less than 2, the same restriction which holds on DASR in other contexts in both British and American English.

5.3. In this section I attempt to show that FL is a special case of the UDR. Recall that FL states that an ultima is destressed after a primary stressed weak penult. The UDR, on the other hand, states that an ultima is destressed after a stressed strong penult or after an unstressed penult whatever its strength. Obviously

the effect of the two rules is the same, and since the environments are in complementary distribution, we can conclude that the two rules are really one, unless it can be shown that some other rule must intervene between the two destressing rules, or that one is subject to a host of conditions that the other is not.

I know of no rule that must intervene between FL and UDR, so given my present knowledge, I see no objection to collapsing the rules on ordering grounds. Moreover, the sorts of words to which the UDR is not applicable are essentially the same sorts to which FL is not applicable, e.g. mólal (cf. on the one hand lèssor and, on the other, mólár--molal was a deliberate coinage); aardvark, torment (cf. adult and potent); Adirondack, Baghdad (cf. potash and sordid); and mangrove (cf. Hittite). The only sorts of examples to which UDR is not applicable and to which FL generally is are certain words ending in short æ or o (phonetic [a]) followed by n, for example nylon, Darvon, Teflon, sampan. Even among such words, many can be found to which UDR is applicable, e.g. Satan (cf. satanic), mason (cf. masonic). As with FL, UDR is less likely to be applicable the stronger the ultima, but for ultimas of medium strength, individual lexical items will have to be marked to indicate whether or not the rule applies.¹³

¹³The interpretation given above in Section 5 regarding the two pronunciations of Arab [æ:ræb] and [é:ræb], which is due to Fidelholtz, is wrong. It is not the case that the second pronunciation is due simply to the tensing of the first vowel so that the quality and tertiary stress of the (supposedly) lax ultima is retained. Rather, the second pronunciation represents a tensing of both vowels of the word; the [æ] of [é:ræb] is the tense æ before labials that we discuss in footnote 3. This same phenomenon--two pronunciations of a disyllabic word with both vowels tense or both lax, with one rendering being pejorative--is found in Negro ([ni:gro:] ~ [nigə(r)]).

When the penult is unstressed, or is weakly stressed by the SAR, then the UDR is less likely to apply. This observation

parallels one made above concerning the DASR, namely its inapplicability in American English when the affected syllable is preceded by an unstressed one, and its restricted applicability in British English depending on the strength of the affected syllable. We have already given examples of this sort in Section 1, namely Oregon and adjective; UDR is optionally applicable to the first and obligatorily applicable to the second. Moreover, a rule changing the underlying I of the ultima of adjective to i must be applied. Notice that there are in fact two variants of this word, depending upon whether DASR has or has not been applied, namely ádjēctīve and ádjēctīv̄e. The derivation of this word is as follows:

<u>adjective</u>			
0	0	1	MSR
1	0	2	ASR
1	0	3	WSSR
1	4	3	SAR
1	0/4	3	DASR (optional)
1	0/4	0	UDR

Notice that DASR must apply before UDR. Similar examples are provided by tálishmān ~ tálishmān̄ and ómbúdsmán ~ ómbúdsmán̄.¹⁴

¹⁴I am guessing about this example. I have never actually encountered this word in ordinary conversation, having learned it through print (I even own a book on the subject of ombudsmen).

When the penult is unstressed or stressed by the SAR, the applicability of UDR depends upon two factors: the strength of the ultima and the presence of formative boundaries preceding the ultima. In the absence of such boundaries, we find that UDR is generally applicable (sometimes optionally) to [1 Strong] syllables, e.g. parâgōn ~ parâgōn̄, pártisān; often applicable to [2 Strong] ones; cf. bólshēvik bólshēvik̄; inapplicable to [3 Strong] ones,

e.g., porcúpine, cántaloupe.

An intervening formative boundary can sometimes interfere with the operation of UDR; compare Swítzerlánd with Swáziland. The retention of the tertiary stress on the ultima of the latter shows it to be still analyzed as a compound.

5.4. We summarize this discussion of the destressing rules in English as follows: there are two general rules of destressing syllables in English, the DASR, which destresses syllables preceding stressed syllables, and the UDR, which destresses final syllables. If it were not for the fact that there is a need to order these rules with respect to each other (cf. Section 5.3), it would be possible to collapse these rules into one general one; and perhaps it is possible to get around the ordering problem by having the rule apply to successive syllables in a word from beginning to end. I shall not pursue the matter further here, however.

6. The MSR for English can be rather dramatically simplified if the foregoing account of the various destressing rules and of the ASR is correct. The rule would be to assign primary stress to the last syllable in a word whose strength is greater than zero, and if there are none, to the first syllable or the antepenult, whichever is the nearer to the end of the word. In particular, the MSR will assign primary stress to any ultima which ends in a consonant.

This formulation is not quite correct, however. Consider words of 3 or more syllables, such as umbrella, vendetta, etc. in which both the penult and ultima are weak, but in which the penult nevertheless receives primary stress. On the basis of these examples, we find that we will have to allow the MSR to assign primary stress to weak penults in certain marked lexical items of three or more syllables. Now consider examples like

penicillin, Armageddon, stiletto, Kentucky, colossus, solicit, flagellum, etc. If it is decided to place primary stress on the final syllables of these words, by the MSR (since the ultimas are not weak) then the ASR will be responsible for assigning the main stress to the weak penult. It would seem to me to be preferable, if at all possible, to keep the ASR out of the business of having to assign stress to weak penults, and to handle this matter solely by the MSR. In other words, we propose to allow the MSR to disregard certain strong ultimas ending in E, O, Vn, Vs, Vt, and Vm. I say certain ones, because, of course, the MSR must assign main stress to others which do end in the designated segments, for example employéé, Thoreau, Agamemnon, móráss, alphábet, and strátégem. It is possible that there are other final syllable types which can be ignored by the MSR, but I have no clear examples of any.¹⁵

¹⁵Thus one is tempted to include Vk on the basis of examples like Habakkuk and Pequannock, but these are not clear-cut because the penults in these examples can be construed as containing tense æ (cf. footnote 3).

Admittedly, this radical simplification of the MSR entails some complication of the ASR, but it seems to me that the present version of the rules of English accentuation, when compared with those of SPE, lies in the direction of truth.¹⁶

¹⁶In the present account, the MSR pays no attention to parts of speech; the ASR is however sensitive to whether a particular word is a noun, verb, adjective, preposition or whatever. For example, in the absence of any occurrences of internal boundaries, the ASR will be inapplicable to any verb ending in rt, for example désert but it will be applicable to some such nouns, for example désert (but not all, cf. dessert).
