

Understanding the Innerworks of Word Stress in RP and Cameroon English: A Case for a Competing Constraints Approach

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Abstract

This work pursues the investigations conducted in existing comparative descriptive studies on word stress in Received Pronunciation (RP), Cameroon English (CamE) speech and related accents which have provided the data for this paper, and further generative studies. Its purpose is to submit a pioneer comprehensive argument for a Competing Constraints Model of analysis of English word stress. According to this model, word stress placement in both Inner Circle and non-native accents represented by CamE is best seen as the outcome of a competition between several constraints, the winner or winners of which determine the position of stress. The constraints reviewed, or analysed when they are new findings, are those already established in older Englishes, as well as those which have developed in the course of indigenization of English in Cameroon. The complexity of English word stress is due to the diversity, and the conflicting, variable and unpredictable nature, of these constraints. The model proposed here is not helpful in predicting the position of stress as such, but does help in understanding why it falls where it falls. It helps indeed in accounting even for data hitherto regarded as exceptions to given patterns.

Keywords: Affix, Cameroon English, Competition, Constraint, Phonology, Received pronunciation, Syllable, Word stress

1. Introduction

Why do *se' mester* and *' sinister* have different stress patterns in RP although they are phonologically similar? Which two opposing pressures account for the stress difference between words such as RP *a' tomic*, *e' lectric*, *ge' neric* on the one hand, and *' Arabic*, *A' rithmetic*, *' rhetoric* on the other? What makes *' spiritual* a unique irregularity in the RP stress system, and what are the possible motivations for this stress pattern? Considering the RP and CamE stress positions in the derivatives *maintain + ance* and *insure + ance*, what accounts for the internal inconsistency, within each variety, and across the two varieties, in RP *' maintenance* and *in' surance* on the one hand, and CamE *main' tenance* and *' insurance* on the other? What are the motivations for the three different stress patterns of *safari* (*' safari*, *sa' fari*, *safa' ri*) heard in CamE speech? What general patterns of stress motivate CamE *capi' talism*? Why is the stress pattern of CamE (verb) *' record* a conspicuous exception in terms of the general rules of word stress in this variety of English?

The paper attempts an answer to these and many more puzzles, using the notion of *constraint* which, in the context of this analysis, refers to the appeal for stress to fall on a particular syllable. This appeal is based on a number of internalised rules of stress placement, conscious or unconscious. It should be stressed that the term “constraint” is not quite used in the Optimality (OT) sense, and that the analysis offered here is not based on OT, although it resembles it. This work follows studies showing data on stress peculiarities in Cameroon English (CamE) and neighbouring varieties such as Nigerian English (Kujore 1985; Atoye 1991; Simo Bobda 1995, 1997, 2004; Peng and Jean 2001), and further studies on the predictability of stress in these varieties (Peng and Jean 2001; Simo Bobda 1994, 2008). The data for CamE is clearly established in the literature, and shown in Chapter Three of Simo Bobda (1994), for example. The present study is motivated by the fact that an approach to English word stress based on the search for rules has proven limits, and argues for the safer “competing constraints” approach, which identifies constraints and the way they compete for stress placement, in Received Pronunciation (RP) and one non-native variety, CamE. The constraints, which are given only a cursory treatment in Simo Bobda (2010), are discussed in much greater detail in this paper. They include general constraints which operate in RP and older Englishes, and *sui generis* ones which have developed in the process of localization of English. Terms like *constraint*, *conflict*, *victory*, *win* and its derivatives are used in the discussion of similar

phenomena by earlier writers such as Bauer (1994); Roach (2000: 97) further uses the word *decision* to refer to the choice of a particular syllable for stress placement. But the present study can be claimed to pioneer a Competing Constraints Model of analysis of English word stress. In other words, while some of the analyses found in the work can be found here and there in the literature, the competing mechanisms examined constitute the focus of the contribution made in the study.

2. The constraints

The complexity of word stress in English is matched by an equally complex network of constraints which influence stress placement. Those discussed below are, however, arguably among the most salient and the most active.

2.1 Some Constraints in RP

It will be recalled (see Simo Bobda 2010) that the major constraints which regulate word stress in Inner Circle English accents - RP taken as the reference - and which this paper expands, include the Backward Stress (BWS) constraint, the Antepenultimate Stress constraint (APS), the Heavy Syllable Stress constraint (HSS), the Noun-Verb Alternation (NVA), Base Stress (BS), the Affix Stress Property (ASP), and the Donor Language Stress (DLS) constraints.

Backward Stress refers to the general rule of English word stress that each learner assimilates, which is that, unlike most human languages (Hyman 1975: 210), including Italian where stress generally falls on the penultimate syllable or French where stress falls on the final syllable, English has a predominantly backward stress, that is, stress that tends to fall somewhere towards the beginning of words. Two-syllable words are thus stressed mostly on the penultimate syllable, three-syllable words mostly on the antepenultimate syllable, words of more than three syllables mostly on the antepenultimate or the preantepenultimate syllable. The chart by Delattre (1966: 29) in (1) captures this phenomenon and provides statistics which the recent evolution of the language, arguably, may not have altered significantly:

Insert Table 1 Here

It is on the basis of this awareness that a French-speaking learner of English, for example, is able to understand and assimilate the fact that the English cognates of French *per 'sonne*, *inter 'valle*, *cine 'ma*, *tempera 'ture*, for example, should be *'person*, *'interval*, *'cinema*, *'temperature*.

But just how acceptably far back can stress be placed on English words? There are visibly constraints there too. English stress is generally not placed farther back than the fourth syllable from the end of a word. That is why, in a discussion of stress placement such as that of Kreidler (1989), there are consecrated terms like *ultimate*, *penultimate*, *antepenultimate* and *preantepenultimate* syllables to designate stress position, but no term for the fifth syllable.

In fact when, in a derivative, stress might fall farther back than the preantepenultimate syllable, it is generally shifted to a later syllable. This phenomenon is seen in the way *-ly* adverbs are derived from some adjectives in *-ary*, typically in *military+ly* and *necessary+ly*. The suffix *-ly* is normally a typical example of a stress-neutral affix, as in *'happy+ly* → *'happily*, *'final+ly* → *'finally*, *'ultimate + -ly* → *'ultimately*, *'competent +ly* → *'competently*. On this basis, one expects *'militarily + -ly* → *'militarily* and *'necessarily + -ly* → *'necessarily*. But because stress in these derivatives falls on the fifth syllable backwards, it is readjusted to a later syllable as *mili 'tarily* and *neces 'sarily* which are the traditional RP stress patterns for these words. Other words in *-arily* like *tempo 'rarily* and *volun 'tarily* are currently aligning themselves to this pattern, although the influence of Base Stress remains strong in all *-arily* words, resulting in a sizeable minority of RP speakers producing initial stress in such words (see Wells 2000, Jones *et al* 2003).

It is arguably the same motivation for stress not to fall too far back which accounts for patterns like *'Catholic + -ism* → *Ca' tholicism* and *'infantile + -ism* → *in' fantilism*. In fact, *Catholicism* and *infantilism* are the only words where *-ism* is not stress-neutral. A close examination of the innerworks of English stress shows that this violation of the stress-neutrality of *-ism* is part of the constraints to prevent stress from falling on the initial syllable of these words. These lexically conditioned cases are, however, marginal, since many English words in *-ism* (e.g. *'patriotism*, *'nationalism*, *bi 'lingualism*,) do have the stress pattern expected.

Of the early syllables which thus tend to receive stress in English words, the antepenultimate is the favourite, hence the **Antepenultimate Stress (APS)** constraint. As Allen (1965: 175) rightly notes, English speakers find it natural and comfortable to stress a word on the antepenultimate syllable. Recall the chart above which shows that 55% of words of three syllables are stressed on this syllable. Of those of four syllables, 36% are stressed on the antepenult, 33% on the preantepenult and 29% on the penult.

Several phenomena in the English language confirm this predilection for antepenultimate stressing, or conspire for its achievement. They include the large number of antepenultimate stress assigning suffixes, the historical and contemporary movement to the antepenult, the fact that exceptions to some patterns are in fact cases of compliance to antepenultimate stressing, the Alternating Stress Rule and the phenomenon of stem-forming augments feeding this rule.

A large number of suffixes such as those in (2) are quasi-systematically antepenultimate stress assigning.

Insert Table 2 Here

Those shown in (3) very commonly assign antepenultimate stress

Insert Table 3 Here

The fact that most of these suffixes are extremely productive suggests the impressive number of antepenultimate stress patterns they yield in English and, indeed, the weight of this stress pattern in the language.

For the past two hundred years, words such as those in (4) have changed to antepenultimate stress

Insert Table 4 Here

The words in (5) are in the course of changing to the same pattern.

Insert Table 5 Here

Knowing that most roads lead to the antepenult enables the analyst to reassess some apparent exceptions and find out that they are in keeping with the antepenultimate stressing principle. Affixes offer a very good illustration. Some unique cases where they depart from their usual stress property are conspiracies to establish stress in its favourite position. For example, Table (6) shows in the first column the example affixes, their common stress properties in the second column, example words in the third column, and the exception(s) to the rule with antepenultimate stress in the fourth column.

Insert Table 6 Here

According to Chomsky and Halle's (1968: 78) generative analysis, the Alternating Stress Rule (ASR) refers to the phenomenon whereby stress, underlyingly on the final syllable by virtue of its heavy rhyme conditioning the Main Stress Rule (MSR) in the first transformation cycle, shifts to the antepenult at the end of the process. This shift is shown below for the words *indicate*, *verify* and *colonise*.

Insert Table 7 Here

After the ASR, a Stress Adjustment Rule (SAR) arranges the three levels of stress (1, 2, 3 in descending order of prominence) as follows:

Insert Table 8 Here

That all roads lead to antepenultimate stress is interestingly further seen in the way the stem-forming augments

e, *i* and *ʌ* feed the ASR. Many words underlyingly in $-CVC+ate$, which underlyingly do not meet the structural description for the ASR to apply because they are disyllabic, are lengthened to three syllables by the addition of *e*, *i*, or *ʌ* before $-ate$ to allow for the process. We thus have in (9)

Insert Table 9 Here

Previous writers (eg Roach 2000: 93-103; McMahon 2002: 120-121) have acknowledged and discussed the influence of word class on stress placement. Lexical words, namely nouns, verbs, and adjectives, have thus been shown to have characteristic stress patterns depending on some parameters including syllable weight, which will be discussed in greater detail below. **Noun-Verb alternation (NVA)** offers a sterling example of the influence of word class on stress placement. NVA refers to the phenomenon whereby disyllabic words which can have a noun form and a verb form are generally stressed initially in their noun form and finally in their verb form. Classic examples are ' *contract* (N) ~ *con* ' *tract* (V), ' *convict* ~ *con* ' *vict*, ' *discount*, *dis* ' *count*, ' *export* ~ *ex* ' *port*, ' *transfer* ~ *trans* ' *fer*, etc.

The stress alternation in such pairs is usually accompanied by an alternation between a strong vowel in a stressed and a weak vowel in an unstressed syllable as in [*kɒn*trækt ~ *kən*trækt, *ɛk*sɒrt ~ *ɪk*sɒrt]. The

exceptions include *import* [ɪmpɔ:t], *transport* [trænsɔ:t] and *discount* [dɪskɑʊnt] where the alternants are segmentally identical, and *increase* [ɪnkri:s / ɪŋkri:s ~ m'kri:s] where the segmental variation between the alternants is minimal.

Many pairs also differ both phonologically and orthographically, like *applause* N ~ *applaud* V, *success* ~ *succeed*, *advice* ~ *advise*, *extent* ~ *extend*.

According to Aitchison (2001: 90), the existence of a large number of such dissyllabic alternations in English is in keeping with a slow evolution which has been affecting English since the second half of the 16th century. The author of *Language Change: Progress or Decay?* reports that every two-syllable word which could either be a noun or a verb was stressed on the second syllable in the early sixteenth century. The origin of the final stress can be attributed to the influence of French, as we are then only about a century after the Norman period.

Then by 1570, Aitchison reports, three words, *outlaw*, *rebel*, *record*, had shifted the stress on the nominal form to the first syllable, yielding pairs like ' *outlaw* N ~ *out* ' *law* V, ' *rebel* N ~ *re* ' *bel* V, ' *record* N ~ *re* ' *cord* V. There were five such pairs by 1582, 24 by 1660, 35 by 1934. This evolution is represented in the graph (10) below.

Insert Table 10 Here

Aitchison (ibid.) reports cases such as *address* and *research* where stress is still wavering between the first and second syllable in the nominal form in British English, contrasting with generalised initial stress in American English, in fact a factor which may further reinforce the trend towards backward stress. She further reports one thousand words including *dislike*, *mistake*, *report* which are not yet involved in the process and are still systematically stressed finally both in the nominal and verb forms. The long list of further examples of such items with final nominal and verbal stress include *abuse*, *acclaim*, *accord*, *advice*, *dislike*, *rebuke*, *escape*, *recruit*. The converse list of initial nominal and verbal stress patterns includes *combat*, *kidnap*, *comment*, *focus*, *hijack*, *interest*, *promise*. More systematic exceptions to add to this list are words ending with sonorants which almost all have initial stress when used as nouns and verbs; eg *answer*, *conquer*, *wonder*, *envy*, *marry*, *study*, *rally*; *travel*, *quarrel*, *pardon*, *fathom*, *programme*.

In other words, there are many exceptions to the noun-verb alternation in the two directions in the sense that in a large number of pairs both members are stressed finally or initially.

The notion of syllable weight is at the centre of the discussion of stress placement in English. For example, it accounts for penultimate stress in *a* ' *genda* and antepenultimate stress in ' *Canada* (when neither of the later syllables is heavy). The **Heavy Syllable Stress (HSS)** constraint, as in these examples, has to do with the distinction between heavy (or strong) syllables which attract stress, and light (or weak) syllables, which tend not to. The weight of a syllable, it will be recalled, is determined by its rhyme. Put simply, a heavy syllable is one which (a) has a tense vowel or (b) has a diphthong as its nucleus, and /or (c) ends with a consonant cluster, while a light syllable is one which has none of the characteristics. (a) is illustrated in the literature (eg Chomsky and Halle 1968, McMahan 2002) by words such as *arena*, *supreme*, *obese*, *serene*, *supreme*, *discreet*, (b) by *diploma*, *secure*, *sincere*, and (c) by *eclipse*, *occult*, *immense*, *august*. The parameter (c) poses no particular problem as long as we understand that the constraints discussed here are rough clues with countless exceptions rather than rigid rules. The parameters (a) and (b) are somewhat more problematic as they involve the relationship between word stress and vowel quality. The question is: which one determines the other? Is it

because *pertain*, *arena*, *diploma*, *doctrinal* [pə'teɪn, əri:nə, dɪpləʊmə, dɒktrɪnəl] have

[eɪ, i:, əʊ] and [æ], respectively, that they are stressed as *per* ' *tain*, *a* ' *rena*, *di* ' *ploma*, *doc* ' *trinal* as the

literature often claims, or is it because they are stressed like this that they have the vowels shown above?

federative) and PS1 when attached to a base that ends with a heavy syllable (eg *acci' dental*, *incre' mental*; *argu' mentative*, *de' monstrative*).

The **Base Stress (BS)** constraint refers to the fact that the stress pattern of many morphologically complex words is often determined by that of the base. This phenomenon is observed in the many cases where the affixes are stress-neutral as seen above. The role of the base in stress placement is further illustrated by the fact that some historical stress shifts are motivated by the attraction of the stress pattern of the base. It can thus be argued that the movement of stress from the traditional RP *'comparable*, *'preferable*, *'reparable* to the emerging patterns *com parable*, *pre ferable*, *re parable*, in addition to the appeal of Antepenultimate Stress, is suggested by the stress pattern of the bases *compare*, *prefer* and *repair*. Further examples from Bauer (Bauer 1994: 101) are given in (16).

Insert Table 16 Here

Stress can be suggested by transparent bases or by opaque ones.

Notwithstanding the foregoing analyses, there are many cases where stress resists the appeal of BS. This is generally under the influence of ASP as in *'China + ic* → *Chi' nese*, *'German + ic* → *Ger' manic*, *'accident + ent* → *acci' dental*, *'argument + ative* → *argu' mentative*. BS often also yields to APS as in *com'pete + ence* → *'competence*, *ex'cell + ence* → *'excellence*, *ig'nore + ance* → *'ignorance*, *pre'fer + ence* → *'preference*, *pre'side + ence* → *'presidence*, *re'fer + ence* → *'reference*. One of the most recent examples of change from BS to APS involving the suffix *-ence* is that from *pre'cedence* (cp *pre'cede*) to *'precedence* seen above.

In fact, the history of English word stress is fraught with competition between BS and other stress constraints, especially ASP and APS, with remarkable gains here and there. One such spectacular gain is that of BS which, with the combined effect of APS, wins the stress pattern of *spiritual* in traditional RP from the expected ASP-induced *spi'ritual* to *'spiritual* (cp *'spirit*). In fact, *spiritual* is the only word in *-ual* which does not have penultimate stress (where *-ual* is not PS1).

The **Donor Language Stress (DLS)** constraint refers to the attraction that the stress pattern of the borrowing language exerts on loans, especially the recent ones. Recent loans from French thus tend to have final stress as in *e'lite*, *la'trine*, *po'lice*, *bur'lesque*, those from other Romance languages (eg Latin, Italian, Portuguese, Spanish) penultimate stress as in *ver'batim*, *maca'roni*, *po'tato*, *di'ploma*, those from Swahili penultimate stress as in *Swa'hili* itself, *ma'tatu* (public transport bus), *ma'gendi* (bribe), *Nai'robi*, and so on.

Note that the age of a loan from French, a major provider of new words to the English lexicon, is a useful but not sufficient clue to determine the degree of alienness or nativisation of its stress. It is, for example, surprising that a word like *chauffeur*, which entered the English lexicon as recently as 1899 (Chambers 2008) and which still has a foreign appearance in many other respects, bears native initial stress as *'chauffeur*. Other similar loans with native stress, many of which have also maintained a foreign segmental appearance, include the following which date from the 18th century, according to Chambers (ibid.): *'avalanche* (first attested in 1771), *'cinema* (1909), *'encore* (1712), *'entree* (1724), *'epaulet(te)* (1783), *'restaurant* (1927).

As seen in the above examples, the process of nativisation of loans in English often includes a backward movement of stress, to the initial syllable in dissyllabic words and to the antepenultimate syllable in longer words where DLS competes with, and often yields to APS. The evolution from *ciga'rette* to *'cigarette* is the outcome of this type of competition.

2.2 Some Constraints in Cameroon English

CamE basically shares all the RP constraints discussed above. That is part of what ensures the “Englishness” of this and other similar varieties of English. Indeed that is part of what makes the CamE speaker “sound” English. As far as these RP constraints are concerned, the major differences lie in their lexical distribution: they do not apply in the same way in all the words.

For example, CamE speakers are aware that the English word stress is mostly backward, in accordance with the BWS principle. But they inordinately (in comparison with the RP speaker, for example) come up with initial stress in *'despite*, *'instead*, *'already*, *'towards*, *'professor*, *'semester*, sometimes in violation of other constraints which operate in the language. Speakers' awareness of the APS constraint yields *'diploma*, *'arena*, *'umbrella*, *'lumbago*, *'verbatim* in violation of DLS, *a'dolescent*, *ef'fervescence*, *'component*, *'opponent*, *'professor* in violation of BS; *a'postolic*, *e'conomics*, *sci'entific*, *di'agnosis* comply with APS, in violation of ASP. The HSS constraint produces CamE *ca'lendar*, *cy'linder*, *or'chestra* which instead yield

to APS in RP. Conversely, ' *agenda*, ' *semester* have APS-induced stress patterns. The NVA constraint applies in noun forms and verb forms which are exceptions in RP and other Inner Circle accents; thus CamE (nouns) ' *advice*, ' *applause*, ' *assault*, ' *consent*, ' *success* and (verbs) *boy* ' *cott*, *com* ' *ment*, *chal* ' *lenge*, *kid* ' *nap*.

BS is the winning constraint in CamE *ad* ' *mirable* [ad'mairebəl], *main* ' *tenance*, *pro* ' *testant*, *sus* ' *tenance*, over APS which prevails in RP.

Also of great importance for the understanding of the CamE stress system are *sui generis* constraints which have developed in the course of indigenization of English in Cameroon. They include the Forward Stress, I-Stress, N-Stress, Final Obstruent Verbal Stress and New Affix Stress Property constraints.

The **Forward Stress (FWS)** constraint refers to the tendency for stress to fall a later syllable than its position in older Englishes. Admittedly, there are a substantial number of cases where CamE stress does fall earlier than its position in Inner Circle Englishes. These cases include the many nominal stress patterns motivated by NVA, by the pressure of APS, by Base Stress, and miscellaneous cases motivated by the general pressure of BWS as seen all along.

But most cases of stress difference in CamE do involve a forward shift. This is by far the more noticeable phenomenon, which induces Atoye's (1991) arguably too general assertion that, in the sister Nigerian English, which has basically the same word stress pattern as CamE, backward stress shift occurs in only five words, the rest of the shift being forward. Some examples of forward stress shift from RP to CamE, chosen out of a multitude, are given in (17) below. The RP stress is shown for the first word in each set of data.

Insert Table 17 Here

It is a difficult but fascinating task to monitor the trail of word stress in its forward migration. Words of one syllable, two syllables, three syllables and more offer different kinds of pictures. Monosyllabic words, obviously, are not normally concerned by the phenomenon under investigation. But some monosyllabic diphthongal words with the structure CjuVl are of interest. They tend to undergo the phenomenon of dieresis, yielding clearly disyllabic words with final stress such as [du'aɪ, du'eɪ, fu'eɪ] *dual*, *duel*, *fuel*, for RP

[djuəl, djuəl, fjuəl]. Forward stress in two-syllable words is even more straightforward. In three-syllable words, forward shifting stress may fall on the ultimate syllable if there are constraints for final stress such as I-Stress, N-Stress and Final Obstruent Verbal Stress to be discussed below (yielding, for example, *Somal* ' *li*, *sure* ' *ty*; *charla* ' *tan*, *mara* ' *thon*, *Cathe* ' *rine*; *embar* ' *ras*, *inter* ' *pret*, respectively). The default position of forward shifting stress in three-syllable words seems to be the penultimate syllable as shown by the number and diversity of data illustrating this pattern (cf *ten* ' *tative*, *pas* ' *toral*, *De* ' *borah*, ***Chris*** ' ***topher***)². The default position in words of four or more syllables seems also to be the penultimate (eg *cumu* ' *lative*, *peri* ' *pheral*, *photo* ' *grapher*) except if, as in the above case, there is motivation for final stress by some particular constraints, or pressure for antepenultimate stress (eg *de* ' *magogy*, *capi* ' *talism*) by others.

The **I-Stress (IS)** constraint refers to the phenomenon whereby stress tends to fall on the last syllable of a word or a disyllabic prefix if its final rhyme contains a high front vowel; eg *cur* ' *ry*, *pet* ' *ty*, *Pakista* ' *ni*, *Soma* ' *li*; *Mag* ' *gie*, *Vi* ' *cky*, *se* ' *mi-final*, *he* ' *misphere*, *de* ' *mi-God*, *am* ' *phitheatre* (see Simo Bobda 2010: 68 for more extensive data). Note that some suffixes with a final rhyme high front vowel are sensitive to the IS constraint, such as *-ist* in *typist*, *bap* ' *tist*, *cathe* ' *chist*, *ty* ' *pist* while others (eg *-is*, *ive*) are not (*crisis*, *creative*). In fact, as with most other constraints, the lexical distribution of the IS constraint is unpredictable. It is a puzzle, for example, why *petty* has a systematic final stress in CamE, while *pretty*, which is phonologically very similar, does not.

The **N-Stress (NS)** constraint induces stress placement on the final syllable of a word if this syllable has a final /n/, as in *carton*, *hormone*, *Susan*, *hygiene* (see Simo Bobda 2010: 68 for more data). NS is a unique example of a gender-sensitive constraint, or a rule in general. Female English forenames are more prone to the constraint than male ones, as seen in *Cathe* ' *rine*, *Vivi* ' *an*, *He* ' *len* vs *Au* ' *gustine*, ' *Martin*, *Benson*. Note finally, yet

again, the unpredictable nature of the lexical distribution of NS, in data such as CamE *car' ton* vs *' pardon*; *chap' lain*, *plan' tain* vs *' captain*, *' fountain*, *' mountain*, and so on.

Forward Obstruent Verbal Stress (FOVS) causes stress to fall on the final syllable of a verb if it ends with an obstruent, as in *embar' rass*, *inter' pret* above, and also *boy' cott*, *kid' nap*, *soli' cit*. Note the drastic contrast with other verbs ending with a sonorant such as *' envy*, *' answer*, *' conquer*, *' travel*, *' parallel*, *' programme*, *' pardon*, *' fathom*, which maintain the RP stress. Apparent cases of violation of FOVS like *encourage*, *manage*; *finish*, *tarnish* can be accounted for by the stress property of the suffixes *-age* and *-ish*, which are stress-neutral in RP as well as in CamE. We would be left with verbs like *edit*, *limit* and *develop* which can be seen as genuine exceptions, the only constraints motivating them being BWS. In fact, there is a slow shift in *limit* in the speech of a minority of speakers who say *li' mit*; an even more significant minority of CamE speakers shift stress forward in inflectional forms like *li' mited*, *li' miting*. Forward stress is even more frequent in *deve' lop* and its derivatives *deve' lops*, *deve' loped*, *deve' loping*, *deve' lopment*.

The **New Affix Stress Property (NASP)** constraint refers to the phenomenon whereby affixes are assigned new stress properties different from the ones they have in older Englishes. For example, recalling the data shown above, the negative prefix *in-*, which is generally stress-neutral in Inner Circle Englishes (eg *in active*, *in different*), is systematically self-stressed in CamE (*'inactive*, *'indifferent*); by extension, the prefix *in-* in all contexts tend to be stressed (eg *' inquisitive*). Another repeated example is *-ism*, which is also stress-neutral in Inner Circle Englishes (eg RP *bi' lingualism*, *' capitalism*), but PS1 in CamE (eg *bilingu' alism*, *capi' talism*). And a final re-stated example is the suffix *-osis* which is self-stressed in these older Englishes (eg *diag' nosis*, *symbi' osis*) but PS1 in CamE (eg *di' agnosis*, *' symbiosis*).

3. The competition

The central argument in this submission, it will be recalled, is that, for any word of more than one syllable, there are generally a number of appeals, based on a range of parameters, for stress to fall on a particular syllable. The range of options is even wider in Outer Circle accents exemplified by CamE, whose stress systems are based both on Inner Circle Englishes and on their own *sui generis* constraints. While some constraints lead to the same stress placement, others lead to different stress patterns. This is where the notion of *competition* comes in. The charts in (18) show some examples of words with ranges of constraints that compete with each other for stress placement. The CamE stress patterns of these words are, respectively: *capi' talism*; *bulle' tin*; *embar' rass*; *' incumbent*; *' ingredient*; *' opponent*; *' safari*, *sa' fari*, *safa' ri*; *' success*.

Insert Table 18 Here

Since the constraints, when they conflict, yield divergent stress patterns, stress placement on a particular syllable suggests that one or more constraints have won, while others have lost. If winning constraints are represented by the + sign, losing constraints by the - sign and 0 represents inapplicable constraints, then what I will call constraints matrix will appear as shown in (19) for the above example words in CamE speech. The RP stress is shown at the end of each row for comparison.

Insert Table 19 Here

A more comprehensive table showing a much wider range of data and constraints can be seen in Simo Bobda (2010: 72)

When the constraints conflict, which is often the case, it is difficult to make a general rule to determine which one or which ones win. In Optimality Theory, it is the strength of the constraint that determines the winning candidate. In the present approach, it is often the case that the highest number of constraints yielding the same result determine the place of stress. For example, the CamE stress of the words below (20) is supported by the combined effect of at least two constraints which follow. The constraints shared by RP are listed first, separated from the local *sui generis* constraints by a semi-colon.

Insert Table 20 Here

A possible concern similar to the above is about the hierarchy between constraints: are some constraints stronger, that is, more likely to determine stress than others? Although it is also still early days to make a general statement, some phenomena clearly stand out. For example, it seems possible to argue that, in CamE, NVA with regard to nominal stress assignment is stronger than FWS and BS, given the high frequency of systematic initial nominal stress in such examples as *' advice*, *' applause*, *' extent* seen above, and in emerging data such as *' decree*, *' event*, *' mistake*, *' receipt*, *' regret*, *' reply* sporadically supplanting the iambic Inner Circle rhythm here and there, especially among speech-conscious educated speakers.

It is important to note that, while stress placement results from the outcome of a competition between several constraints as seen in the foregoing analyses, this outcome is inconsistent within each variety of the language, and across varieties. This can be illustrated by the following derivations in RP and CamE: *main* ' *tain+ance*, *in* ' *sure+ance*, *pro* ' *test+ant* (21).

Insert Table 21 Here

Concerning inconsistency within RP, we can see that, although *main* ' *tain+ance* and *in* ' *sure+ance* have the same stress pattern at the beginning of the process, they surface differently as *maintenance* and *in* ' *surance*, respectively. The constraints involved here are FWS (in CamE) and BS on the one hand which have the same effect, and BWS and APS on the other, which equally have the same effect. ' *maintenance* results from BWS and APS winning over FWS and BS, while *in* ' *surance* results from the reverse phenomenon. With regard to inconsistency between RP and CamE, the situation is even more interesting. *Main* ' *tain+ance* and *in* ' *sure+ance* swap patterns altogether from RP to CamE. This results from the change of winning constraints. FWS and BS win over BWS and APS to yield (CamE) *main* ' *tenance*³, while BWS and APS, reinforced by NASP, win over BWS and ASP to yield (CamE) ' *insurance*.

A look at the lexical distribution of the stress property of the suffix *-ic(s)*, internally in RP and in CamE, and across the two accents of English further shows this type of inconsistency but also highlights the autonomy of each variety. In RP, *-ic(s)* is penultimate stressing (PS1) in a large majority of words, such as *aca* ' *demic*, *agro* ' *nomie*, *apos* ' *tolie*, *ar* ' *tistic*, *cos* ' *metie(s)*, *fa* ' *natic*, *Mathe* ' *matics*, *scien* ' *tific*, *sta* ' *tistic(s)*. It is antepenultimate stressing (PS2) in some ten common words which include ' *agarie*, ' *Arabie*, *A* ' *rithmetie*, ' *Catholic*, ' *choleric*, ' *heretic*, ' *lunatic*, ' *politic(s)*, ' *rhetoric*, ' *turmeric*. In CamE, *-ic(s)* is equally PS1 in a large number of words, but also in some words which are exceptions to penultimate stressing in RP, having antepenultimate stress; these words include CamE *A* ' *rabic*, *cho* ' *lerie*, *he* ' *retie*, *lu* ' *natic*, *rhe* ' *torie*. Conversely, *-ic(s)* is PS2 in a large number of words which are penultimately stressed in RP, such as systematically (CamE) *a* ' *postolic*, *e* ' *conome*, ' *fanatic*, ' *phonetic(s)*, *sci* ' *entific*; very often *de* ' *magogie*, *pe* ' *dagogie*, *de* ' *mocratic*; sporadically *a* ' *cademie*, *e* ' *pidemie*. This lexical re-distribution of the stress property of the suffix *-ic(s)* for some words in RP and CamE can be schematized as (22):

Insert Table 22 Here

It can be seen that the competition throughout is between Affix Stress Property (the accentual property of *-ic(s)* which is normally penultimate stressing) and the Antepenultimate Stress constraint.

The model proposed here arguably enables a better reading of a number of stress phenomena, such as historical changes. For example, the Competing Constraints model can contribute to the search for motivation for stress shifts in at least some of the following data where stress shifts away from the antepenult and which Bauer (1994; 102) acknowledges she cannot account for (23).

Insert Table 23 Here

Indeed, the favourite APS constraint is the surprising loser in all the data, but the origins of the other appeals are identifiable in some cases. Thus, for *ex* ' *pletive* and *ex* ' *quisite*, we can invoke the ASP in the sense that the stress shift makes the prefix *ex-* regain the stress-neutrality it has in a number of words such as the verbs *examine*, *exclaim*, *explain*, *expire*, the adjectives *ex* ' *plicit*. In the case of *sub* ' *stantive*, the ASP constraint is equally at work, de-stressing the prefix *sub-* as in *submerge*, and other adjectives such as *subjective*, *subjunctive*. For *jubilee*, Bauer (ibid), though not convinced by her own explanation, is arguably right to attribute the final stress to the usual stress property of the suffix *-ee* as in *employee*, *nominee*, *referee*. *Trachea* is yet another ASP-induced stress pattern, deriving from the fact that *-ea* and *-ean*, though not very productive suffixes, trigger final stress in many words in which they occur, such as *Eri* ' *trea*, *diar* ' *rhea*, *gonor* ' *rhea*, *Ko* ' *rea*, *Euro* ' *pean*. The shift to penultimate stress in *Gladiolus* and *Uranus* is defendably encouraged by their Latin origin, testified by the suffix *-us* found typically in old Biblical Christian names such as *Albertus*, *Donatus*, *Modestus*, *Nicodemus*, *Romanus*. The constraint here is the DLS. In the case of *doctrinal*, and *urinal*, we want to resist the temptation to say that the penultimate stress is due to the possible diphthong /aɪ/ in the medial syllable (which makes it a heavy syllable), having previously dismissed the fact that stress is suggested by vowel quality. If we reject this

hypothesis, the stress shifts to *doctrinal*, *urinal* and *obscurantist* remain the real puzzle, supported only by the general observation that when stress shifts must occur in English, they generally occur in the forward direction, unless the backward movement is motivated by specific constraints like the APS, NVA or nativisation of foreign stress in loans.

But in general word stress changes in English, be they historical, geographical, social, stylistic or lectal, can be seen as the outcome of the competition in each particular instance between several constraints.

4. Conclusion

The foregoing analyses arguably provide convincing answers to the puzzles posed in the Introduction. There are three constraints in competition for stress placement in *semester* and *sinister*: Backward Stress and Antepenultimate Stress, which produce the same result in this case, and Heavy Syllable Stress. In RP *se' mester*, HSS is the winning constraint, over BWS and APS. In RP *' sinister*, the winning constraints are BWS/APS. In words ending with *-ic* (*-ics*), the two constraints in competition are Affix Stress Property and Antepenultimate Stress. ASP is the winner in the majority of words including *aca' demic*, *a' tomic*, *ge' neric*, *pho' netic*, losing to the pressure of APS in a handful of words including *' Arabic*, *A' rithmetic*, *' rhetoric*. In *maintenance* and *insurance* the following constraints are involved, which operate in ways which are neither consistent nor parallel, both within each variety considered in this study, and across the two varieties: BWS, APS, BS and New Affix Stress Property. In RP, BWS and APS win in *' maintenance* while BS wins in *in' surance*; in CamE BS wins in *main' tenance* while BWS and APS, reinforced by New Affix Stress Property (*in-* has the new property of self-stressing in CamE) win in *' insurance*. Of the three stress patterns of *safari* heard in CamE, *' safari* is induced by BWS or APS, *sa' fari* by Donor Language Stress, and *safa' ri* by I-Stress. CamE *capi' talism* is induced by the winning FWS, APS and New Affix Stress Property (*-ism* has the new property of Pre-Stressed One (causing stress to fall on the preceding syllable) in CamE, contrasting with its stress-neutrality in RP). The oddity of CamE (verb) *' record* comes from the fact that it violates a wide range of constraints that operate in this very accent: the general Forward Stress constraint, Noun-Verb Alternation, and Final Obstruent Verbal Stress. The general BWS constraint curiously wins over all the others.

Admittedly, the many questions about the predictability of word stress in English remain unanswered. To borrow Crystal's (1984) pun, life will continue to be "stressful" to the countless English learners world-wide trying more or less successfully to "tame the madness" (Simo Bobda 2001) of English word stress. It is hoped that this submission provides the consolation that we can at least have better insights into this madness and know better how it works. The appendices at the end of the paper suggest practice activities which can be conducted in a World Englishes class on the model presented above

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Notes

Note 1. There are of course striking exceptions like (noun) *trans'fer* and (verb) *'record* where the divergence from RP is altogether in the opposite direction.

Note 2. It may be of interest to note that in Cameroon Francophone English still under investigation, which can be considered a sub-variety of Cameroon English, penultimate stressing is even more frequent, as exemplified by data like *re'gister*, *A'frica*, *mo'nitor*, *in'ternet*, *con'sequent* systematic in the speech of many Francophone secondary and high school teachers in Cameroon.

Note 3. In fact, a spelling reflecting this stress pattern would be **maintainance* (not uncommon in Cameroon, though not to be considered a standard), to fit the *detain, obtain, pertain, retain* pattern.

Table 1. Distribution of stress across syllables in English (Delattre 1965: 29)

Number of syllables in a word	Percentage of stress carried by each syllable (ultimate syllable at extreme right)			
words of one syllable	100%			
words of two syllables	74%	26%		
words of three syllables	55%	39%	6%	
words of four syllables	33%	36%	29%	2%

Table 2. Some antepenultimate stress assigning suffixes

Suffix	Example words
-cide	<i>ˈGenocide, ˈhomicide, inˈfanticide, paraˈbiticide,</i>
-erie	<i>Diˈablerie, camaˈraderie, ˈcauserie, genˈdarmerie</i>
	<i>ˈDecagon, ˈhexagon, ˈoctagon</i>
-gon	<i>ˈBiblical, geoˈgraphical, rheˈtorical</i>
-ical	<i>Attiˈtudinal, longiˈtudinal, oˈriginal</i>
-inal	<i>ˈLuminous, leˈguminous, ˈmountainous, voˈluminous</i>
-inous	<i>Proˈmissory</i>
-issory	<i>ˈFugitive, ˈnutritive, comˈpetitive, proˈhibitive</i>
-itive	<i>ˈAltitude, ˈamplitude, ˈmultitude, siˈmilitude</i>
-tude	<i>ˈCasualty, ˈcruelty, iˈdentity, ˈpenalty, ˈpoverty</i>
-ty	<i>Atˈtributive, conˈsecutive, deˈfinitive, diˈmunitive</i>
-utive	<i>Biˈology, methoˈdology, phoˈtography, phiˈlosophy,</i>
-y	<i>Aˈnalysis, diˈalysis, paˈralysis</i>
-ysis	
verb-forming – ate, -fy, -ise in	see the discussion of the Alternating Stress Rule below.
polysyllabic words	

Table 3. Some commonly antepenultimate stress assigning suffixes

Suffix	Example words
-an	<i>cosmoˈpolitan, diˈocesan, metroˈpolitan</i>
-ative	<i>arguˈmentative, corˈrelative, inˈdicative, inˈnovative, interˈrogative,</i>
-ence	<i>ˈconference, ˈdeference, ˈexcellence, ˈprovidence</i>
-ous	<i>aˈdulterous, ˈbarbarous, ˈcancerous, magˈnanimous, ˈvillainous,</i>

Table 4. Historical changes of stress to the antepenultimate

Old stress	New
<i>Ab' domen</i>	<i>' abdomen</i>
<i>a' cumen</i>	<i>' acumen</i>
<i>an' chovy</i>	<i>' anchovy</i>
<i>bi' tumen</i>	<i>' bitumen</i>
<i>climac' teric</i>	<i>cli' macteric</i>
<i>' dirigible</i>	<i>dì' rigible</i>
<i>' exigency</i>	<i>ex' igency</i>
<i>' formidable</i>	<i>for' midable</i>
<i>' fragmentary</i>	<i>frag' mentary</i>
<i>' hospitable</i>	<i>hos' pitable</i>
<i>in' explicable</i>	<i>inex' plicable</i>
<i>' metallurgy</i>	<i>me' tallurgy</i>
<i>molyb' denum</i>	<i>mo' lybdenum</i>
<i>' nomenclature</i>	<i>no' m enclature</i>
<i>' pejorative</i>	<i>pe' jorative</i>
<i>pre' cedence</i>	<i>pre' cedence</i>
<i>quan' dary</i>	<i>' quandary</i>
<i>se' cretive</i>	<i>' secretive</i>
<i>so' norous</i>	<i>' sonorous</i>
<i>va' gary</i>	<i>' vagary</i>

(Sources: Bauer 1994: 96ff)

Table 5. On-going stress changes to the antepenult

Old stress	New stress
<i>'Applicable</i>	<i>Ap'plicable</i>
<i>Ar'ticulatory</i>	<i>Articu'atory</i>
<i>Carib'bean</i>	<i>Ca'ribbean</i>
<i>Clan'destine</i>	<i>'Clandestine</i>
<i>Con'template</i>	<i>'Contemplate</i>
<i>De'cadent</i>	<i>'Decadent</i>
<i>'Despicable</i>	<i>Des'picable</i>
<i>E'querry</i>	<i>'Equerry</i>
<i>Eti'quette</i>	<i>'Etiquette</i>
<i>'Explicable</i>	<i>Ex'plicable</i>
<i>Inde'corous</i>	<i>In'decorous</i>
<i>In'extricable</i>	<i>Inex'tricable</i>
<i>Ir'revocable</i>	<i>Irre'vocable</i>
<i>'Lamentable</i>	<i>La'mentable</i>
<i>'Miscellany</i>	<i>Mis'cellany</i>
<i>Prema'ture</i>	<i>'Premature</i>
<i>'Primarily</i>	<i>Pri'marily</i>
<i>'Promissory</i>	<i>Pro'missory</i>
<i>Re'condite</i>	<i>'Recondite</i>
<i>Re'monstrate</i>	<i>'Remonstrate</i>
<i>Re'plica</i>	<i>'Replica</i>
<i>U'lysses</i>	<i>'Ulysses</i>

(Sources: Bauer 1994: 100)

Table 6. Some cases of antepenultimate stress in violation of affix stress property

Affix	Usual stress property	Examples	Word with antepenultimate stress in violation of usual stress property of affix
<i>im-</i>	Stress-neutral	<i>im</i> 'possible, <i>im</i> 'moral	<i>im</i> 'potent
<i>in-</i>	Stress-neutral	<i>in</i> 'accurate, <i>in</i> 'formal	<i>in</i> 'famous
<i>-age</i>	Stress-neutral	<i>orphanage</i> , <i>vagabondage</i>	<i>con</i> 'tubinage, <i>equi</i> 'page
<i>-ean</i>			
<i>-ee</i>	Self-Stressed	<i>employ</i> 'ee, <i>nomi</i> 'hee	<i>jubi</i> 'lee, <i>pedi</i> 'gree
<i>-er</i>	Stress-neutral	<i>stammer</i> 'er, <i>wander</i> 'er	<i>pho</i> 'tographer
<i>-escent (-ce), -iscent (-ce)</i>	Self-Stressed	<i>ado</i> 'lescent, <i>effe</i> 'vescence, <i>fluo</i> 'rescence	<i>con</i> 'cupiscent
<i>-ette</i>	Self-Stressed	<i>cas</i> 'ette, <i>dis</i> 'quette, <i>kitche</i> 'ette	<i>ciga</i> 'rette, <i>epau</i> 'lette (new stress patterns)
<i>-ic(s)</i>	Pre-Stressed One	<i>Aca</i> 'demic, <i>eco</i> 'nomic(s), <i>scien</i> 'tific	<i>'Arabic</i> , <i>'Catholic</i> , <i>'politics</i> , <i>'rhetoric</i>
<i>-ment</i>	Stress-neutral	<i>a</i> 'greement, <i>'argum</i> ent, <i>bom</i> 'bardment,	<i>ad</i> 'vertisement
<i>-mony</i>	Stress-neutral / Stressed Two	<i>'alimony</i> , <i>'ceremony</i> , <i>he</i> 'gemony <i>pa</i> 'trimony	
<i>-or</i>	Stress-neutral	<i>con</i> 'queror, <i>sur</i> 'veyor, <i>e</i> 'xecutor, <i>bra</i> 'tor <i>nar</i> 'rator	
<i>-osis</i>	Self-Stressed	<i>diag</i> 'nosis, <i>prog</i> 'nosis, <i>meta</i> 'morphosis <i>symbi</i> 'osis	
<i>-ual</i>	Pre-Stressed One	<i>con</i> 'tractual, <i>re</i> 'sidual	<i>'spiritual</i>

Table 7.

indi'cate veri'fy colo'nise

Table 8.

	<i>indicate</i>	<i>verify</i>	<i>colonize</i>
MSR	1	1	1
ASR	1 2	1 2	1 2
SAR	1 3 2	1 3 2	1 3 2
Output	<i>'indicate</i>	<i>'verify</i>	<i>'colonize</i>

Table 9.

Naus+ate → naus+e+ate ('nauseate)
 perm+ate → perm+e+ate ('permeate)
 Delin+ate → delin+e+ate (de'lineate)
 Apprec+ate → apprec+i+ate (ap'preciate)
 Negot+ate → negot+i+ate (ne'gociate)
 Grad+ate → grad+u+ate ('graduate)
 Habit+ate → habit+u+ate (ha'bituate)
 Punct+ate → punct+u+ate ('punctuate)

Table 10. Stress shift in disyllabic nouns like *rebel* (Aitchison 2001: 90)

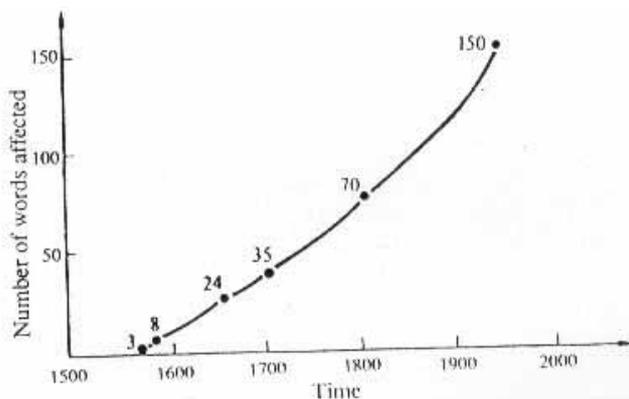


Table 11.

<i>Comparable</i>	If <i>comparable</i> , then ['kɒmpərəbl]
	If <i>comparable</i> , then [kəm'peərəbl]
<i>Controversy</i>	If <i>controversy</i> , then ['kɒntɹəvəsi]
	If <i>controversy</i> , then [kən'trɒvəsi]
<i>Preferable</i>	If <i>preferable</i> , then ['prefərəbl]
	If <i>preferable</i> , then [prɪ'fɜ:rəbl]

Table 12.

Word	Old constraint	winning	Old pronunciation	New constraint	winning	New pronunciation
<i>Precedence</i>	BS		[prɪ'si:dəns]	BWS/APS		[ˈpreɪsɪdəns]
<i>Acumen</i>	DLS		[ə'kjʊmən]	BWS/APS		[ˈækjʊmən]
<i>Preferable</i>	BWS		['prefərəbl]	BS/APS		[prɪ'fɜ:rəbl]

Table 13.

- pro + 'democrat → ,pro-'democrat*
- pseudo + 'democrat → pseudo-'democrat*
- 'democrat + ic → demo'cratic*
- 'democrat + ise → de'mocratise*
- 'democrat + y → de'mocracy*
- 'democrat + like → 'democrat-like*

Table 14. Affix Stress Property Tree

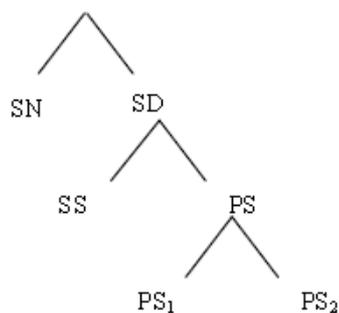


Table 15.

Property	Example affixes	Example words
SN	<i>In-</i>	<i>in'accurate, in'different</i>
	<i>-ful</i>	<i>beautiful, 'wonderful,</i>
	<i>-ism</i>	<i>socialism, terrorism,</i>
SS	<i>-ese</i>	<i>Congo lese, journa lese</i>
	<i>-aire</i>	<i>million'naire, question'naire</i>
	<i>-oon</i>	<i>bal loon</i>
PS1	<i>-ic(s)</i>	<i>aca'demic, pho'netics</i>
	<i>-iV(C)</i> where V is a vowel and C a consonant	<i>Tu'nisia, pre'cision</i>
	<i>-uV(C)</i>	<i>Con'ceptual, Per'petua</i>
PS2	<i>-gon</i>	<i>'decagon, 'polygon</i>
	<i>-tude</i>	<i>'altitude, 'promptitude</i>

Table 16.

Base form	Old stress	New stress
<i>capital</i>	<i>ca'pitalist</i>	<i>'capitalist</i>
<i>converse</i>	<i>'conversant</i>	<i>con'versant</i>
<i>demonstrate</i>	<i>de'monstrable</i>	<i>'demonstrable</i>
<i>illustrate</i>	<i>il'lustrative</i>	<i>'illustrative</i>
<i>subside</i>	<i>'subsidence</i>	<i>sub'tidence</i>
<i>transfer</i>	<i>trans'ference</i>	<i>trans'ference</i>

Table 17.

Shift from 1st to final syllable in disyllabic words:

an'hex (RP *'annex*) *bar'tier* *brain'wash* *chal'tenge* *col'league* *com'ment* (verb) *cray'fish* *ground'nut*
He'len *high'tight* *hi'jack* *kid'nap* *Lu'cy, ma'dam* *mat'tress* *pe'trol* *proof'read* *sa'lad* *Sam'my* *se'mi-*
short'hand *spe'cies* *Su'san* *ta'xi* *typ'ist* *ze'ro*

Shift from 2nd to final syllable in words of three syllables:

attribution (RP *attribution* *contribution* *embarrass* *emissage* *interpret* *New-Zealand* *prohibit* *tarpaulin*)

Shift from 1st to final syllable in words of three syllables:

alcohol (RP *alcohol*), *Catherine* *celebrate* *classify* *Emily* *gentleman* *handkerchief* *indicate*
Jacqueline *Jeremy* *jubilee* *Magdalen* *marathon* *pedigree* *pesticide* *recognize* *specify*
terrify

Shift from 1st to penultimate syllable in words of three syllables:

Agatha (RP *Agatha*) *amorous* *ancestor* *Arabic* *calendar* *Christopher* *covetous* *cutative*
cylinder *Dorothy* *Dorothy, interesting* *Johathan* *maintenance* *marital* *mountainous* *pastoral*
protestant *spiritual* *tentative* *utinal*

Shift from 2nd to penultimate syllable in words of four syllables:

informative (RP *informative*) *monogamous* *monotheist* *peripheral* *phenomenal* *photographer*
polygamist *steno-grapher*

Shift from 1st to antepenult in words of four syllables:

alimony (RP *alimony*) *corrigible* *journalism* *magistracy* *matrimony* *migratory*, *negligible*
pedagogy *saltatory* *statutory* *terrorism* *tribalism*

Shift from 1st to penultimate in words of four syllables:

cumulative (RP *cumulative*) *federative* *generative* *imitative* *quantitative* *speculative*

Shift from 1st to final syllable in words of four syllables:

characterize (RP *characterise*) *hospitalize* *macadamize* *nationalize* *regionalize*

Shift from 2nd to final in words of four syllables:

articulate (RP *articulate*) *collaborate* *computerize* *deliberate* *diversify*, *facilitate* *industrialize*
insinuate *interrogate* *negotiate*

Shift from 2nd to penultimate syllable in words of five syllables:

administrative (RP *administrative*) *authoritative* *co-operative* *determinative*

Shift from 3rd to final in words of six syllables:

institutionalize (RP *institutionalise*)

Shift from 2nd to antepenult in words of six syllables:

articulatory (RP *articulatory*) *discriminatory*, *eliminatory*

Table 18.

Constraints and stress options	Remarks
<p><i>capitalism</i> → <i>'capitalism</i> (BWS, BS, ASP) <i>capitalism</i> → <i>cap'i'talism</i> (APS, FWS, NASP)</p>	<p>ASP: <i>-ism</i> stress-neutral in RP NASP: <i>-ism</i> PS₁ in CamE</p>
<p><i>bulletin</i> → <i>'bulletin</i> (BWS, APS) <i>bulletin</i> → <i>bulle'tin</i> (FWS, IS, NS)</p>	
<p><i>embarrass</i> → <i>'embarrass</i> (BWS, APS) <i>embarrass</i> → <i>em'barrass</i> (FWS, ASP, BS) <i>embarrass</i> → <i>embar'rass</i> (FOVS)</p>	<p>ASP: <i>em</i> -stress-neutral BS: bound base <i>-barrass</i></p>
<p><i>incumbent</i> → <i>'incumbent</i> (BWS, ASP, NASP) <i>incumbent</i> → <i>in'cumbent</i> (ASP, BS, FWS)</p>	<p>NASP: <i>in</i> -self-stressed in CamE</p>
<p><i>ingredient</i> → <i>'ingredient</i> (BWS, APS, NASP) <i>ingredient</i> → <i>in'gredient</i> (ASP, BS, FWS)</p>	<p>NASP: <i>in</i> -self-stressed in CamE ASP: <i>ient</i> PS₁</p>
<p><i>opponent</i> → <i>'opponent</i> (BWS, APS) <i>opponent</i> → <i>op'ponent</i> (BS, FWS)</p>	<p>BS: Cf. <i>oppose</i></p>
<p><i>safari</i> → <i>'safari</i> (BWS, APS) <i>safari</i> → <i>sa'fari</i> (FWS, DLS) <i>safari</i> → <i>safa'ri</i> (FWS, IS)</p>	
<p><i>success</i> → <i>'success</i> (BWS, NVA) <i>success</i> → <i>suc'cess</i> (FWS, DLS)</p>	<p>DLS: Cf. French <i>succès</i></p>

Table 19.

CamE stress	Constraints based on existing rules of English							Sui generis constraints					
	BWS	APS	NVA	HSS	ASP	BS	DLS	FWS	NASP	FOVS	IS	NS	RP Stress
<i>capit'alism</i>	-	+	0	0	-	-	0	+	+	0	0	0	'capitalism
<i>bulle'tin</i>	-	-	0	0	0	0	0	+	0	0	+	+	'bulletin
<i>embar'tass</i>	-	-	0	0	0	0	0	+	0	+	0	0	em'barrass
<i>incumbent</i>	+	+	0	0	-	-	0	-	+	0	0	0	in'cumbent
<i>ingredient</i>	+	+	0	0	-	0	0	-	+	0	0	0	in'gredient
<i>opponent</i>	-	+	0	0	-	-	0	+	+	0	0	0	op'ponent
<i>sa'fari</i>	+	+	0	0	0	0	-	-	0	0	-	0	sa'fari
<i>sa'fari</i>	-	-	0	0	0	0	+	+	0	0	-	0	sa'fari
<i>safa'ri</i>	-	-	0	0	-	-	-	+	0	0	+	0	sa'fari
<i>success</i>	+	0	+	0	-	-	-	-	0	0	0	0	suc'cess

Table 20.

RP stress	for	CamE stress and constraints leading to it comparison
<i>challenge</i> (verb)		<i>Chal'enge</i> (verb): NVA, HSS; FWS, FOVS
<i>comment</i> (verb)		<i>Com'ment</i> (verb): same as above
<i>bulletin</i>		<i>Bulle'tin</i> : no constraint shared by RP; FWS, IS, NS
<i>opponent</i>		<i>op'ponent</i> : BWS, APS; no <i>sui generis</i> constraint
<i>sustenance</i>		<i>sus'tenance</i> : BS; FWS
<i>ancestor</i>		<i>an'cestor</i> : HSS; FWS, FOVS possibly on the basis of the bound base <i>ancest-</i>]verb plus agentive <i>-or</i>
<i>diagnosis</i>		<i>di'agnosis</i> : APS; NASP (<i>-osis</i> systematically PS1 in CamE, contrasting with SS property in RP)

Table 21.

	main'tain+ance		in'sure+ance		Pro'test+ant	
constraint	RP	CamE	RP	CamE	RP	CamE
FWS/BS	0/-	+	0/+	-	0/-	+
BWS/APS	+	-	-	+	+	-
NASP	0	0	0	+	0	0
	<i>ˈmaintenance</i>	<i>main'tenance</i>	<i>in'surance</i>	<i>ˈinsurance</i>	<i>ˈprotestant</i>	<i>pro'testant</i>

Table 22.

Word	RP		CamE	
	Stress	Stress property	Stress property	Stress
<i>apostolic,</i> <i>economic(s),</i> <i>fanatic</i>	<i>apostolic,</i> <i>eco'nom ic(s),</i> <i>fa' hatic</i>	PS1	PS1	<i>A'rab ic, cho'leric, he'retic</i> <i>lu' hatic, rhe' toric,</i>
<i>phonetic(s),</i> <i>scientific</i>	<i>pho' hetic(s),</i> <i>scien' tific</i>			
<i>demagogic,</i> <i>pedagogic,</i> <i>democratic;</i> <i>academic, epidemic</i>	<i>dema'gogic,</i> <i>peda'gogic,</i> <i>demo'cratic;</i> <i>aca'demic, epi'demic</i>			
<i>Arabic, choleric,</i> <i>heretic, lunatic,</i> <i>rhetoric</i>	<i>'Arabic, 'choleric,</i> <i>'heretic, 'lunatic,</i> <i>'rhetoric</i>	PS2	PS2	<i>a'p ostolic,</i> <i>e'co'nom ic(s), fanatic,</i> <i>ˈpho'netic(s), sci'en'tific</i> often <i>de'magogic,</i> <i>pe'dagogic, de'mocratic;</i> sporadically <i>a'cademic,</i> <i>e'pidemic</i>

Table 23.

Old stress	New stress
'doctrinal	doc'trinal
'expletive	ex'pletive
'exquisite	ex'quisite
gla'diolus	gladi'olus
'jubilee	'jubilee
obs'curantist	obscu'rantist
'substantive (adjective)	sub'stantive (adjective)
'trachea	tra'chea
'Uranus	U'ranus
'urinal	u'rinal

Appendix: Practice exercises

You may use the abbreviations, which are:

APS: Antepenultimate Stress

ASP: Affix Stress Property

BWS: Backward Stress

BS: Base Stress

DLS: Donor Language Stress

FWS: Forward Stress

IS: I-Stress

NASP: New Affix Stress Property

NS: N-Stress

1. Identify the constraints in competition for stress placement in the following words (a) in RP and (b) in CamE speech and give the stress options that these constraints suggest.

Examples:

Calvinism (RP): BWS → ' Calvinism; APS → Cal' vinism; ASP → ' Calvinism

(CamE): BWS → ' Calvinism; FWS → Cal' vinism; APS → Cal' vinism; NASP → Cal' vinism

Hygiene (RP): BWS → ' hygiene

(CamE): BWS → ' hygiene; FWS → hy' giene; IS → hy' giene; NS → hy' giene

List of words:

applause, challenge, curry, inactive, moron, orchestra, synopsis

2. Indicate in the “plus” (+) column the winning constraints and in the “minus” (–) column the losing constraints for the following stress patterns in RP or CamE, or any other variety where constraints have been identified. Examples:

RP stress pattern	+	–	CamE stress	+	–
'spiritual	BWS, APS	BS, ASP	'success	BWS, NVA	FWS
con'versant	BS	BWS/APS	di'agnosis	APS, NASP	ASP
'precedence	BWS, APS	BS	'umbrella	BWS, APS	DLS
ex'tent	BS	NVA	cap'i'talism	APS, NASP	ASP, BWS
Gabo'nese	ASP	BWS/APS	mat'tress	FWS	BWS
di'ploma	DLS	BWS/APS	Pet'ty	IS	BWS
se'mester	HSS	BWS/APS	insu'lin	IS, NS	BWS/APS

Now ask students to try their skills with these ones.

RP stress pattern	+	–	CamE stress	+	–
as'sassin			pe'trol		
se'mester			a'dolescence		
'ancestor			'impatient		
pho'netic			mara'thon		
con'cubinage			ca'lendar		
'capitalism			bulle'tin		
'Arabic			embar'rass		
Tanza'nia			com'ment (vb)		