# mfm25 Fringe Meeting / GDRI PTA Dataset Workshop on Ternarity in English 

24 May 2017, Manchester

## PROGRAMME

| 2:00-2:15 | Opening |
| :--- | :--- |
| 2:15-2:45 | Ternarity is not an issue: secondary stress is left edge marking <br> Quentin Dabouis, Jean-Michel Fournier and Isabelle Girard, <br> UMR 7270 LLL, Université François-Rabelais, Tours and Univer- <br> sité du Littoral-Côté d'Opale |
| 2:45:3:15 | Deriving English ternarity and prosodic weight in the Onset Promi- <br> nence framework <br> Geoff Schwartz, Adam Mickiewicz University in Poznań |
| 3:15-3:30 | Break |
| 3:30-4:00 | English stress is binary and lexical <br> Péter Szigetvári, Eötvös Loránd University |
| 4:00-4:30 | Ternary rhythm as a complex morphological domain <br> Nicola Lampitelli and Gillaume Enguehard, Université François- <br> Rabelais, Tours and Université Paris Diderot-Paris 7 |
| 4:30-4:45 | Break <br> $4: 45-5: 15$ <br> Chung's generalization predicts long retraction in English non- <br> derived words |
| Javier Sanz Álvarez, Universität Trier |  |
| "Latin first, Germanic second"; English word stress as a hybrid sys- |  |
| 5:15-5:45 | tem with Latin or lexical primary stress right and Germanic stress <br> left <br> Janet Grijzenhout, Universität Konstanz |
| Concluding remarks and Business meeting |  |



# Ternarity is not an Issue: Secondary Stress is Left Edge Marking 

Quentin Dabouis ${ }^{1,2}$, Jean-Michel Fournier ${ }^{1,2}$ and Isabelle Girard ${ }^{1,3}$<br>${ }^{1}$ Laboratoire Ligérien de Linguistique (UMR 7270)<br>${ }^{2}$ Université de Tours - ${ }^{3}$ Université du Littoral-Côte d'Opale

When it comes to secondary stress assignment in simplex and bound base English words, two general approaches can be distinguished (although they are not necessarily mutually exclusive). The first sees the position of stress as being determined by segmental, moraic and foot structures (Burzio 1994; Hammond 1999; Pater 2000). The second sees secondary stress placement as being fundamentally left edge marking. This second approach is consistent with both the fact that English words generally begin with a stressed syllable (Cutler \& Carter 1987) and with the history of English: modern English would simply have preserved Germanic root-initial demarcative stress (Fournier 2007). In this second approach, ternary rhythm is in no way an issue, because the only requirement is for stress to mark the initial syllable of the word.

In this paper, we argue in favour of the second approach and we do so by looking at an exhaustive inventory of words with at least three syllables before primary stress taken from Wells (2008), which the words of the dataset are meant to exemplify.

All the words which contain transparent prefixes (which can have their own phonological domain, (Kaye 1995, Raffelsiefen 1999; Szpyra 1989), which are suffixal derivatives from free bases (which preserve base stress, see Collie 2007; Dabouis 2016; Hammond 1989; Kiparsky 1979), which are compounds or neoclassical compounds (whose constituants are stress-invariant, Guierre 1979; Fournier 2010), were left out. This was done to eliminate potential morphological influence. After data cleaning, the inventory contains 122 proper names and 70 other words.

Some words still show potential biases because they are related to other existing free forms. Hence, the secondary stress on the second syllable of Illùmináti, Apòllodórus or comèdiénne could be argued to be a form of preservation of the stress in illúminate, Apóllo and comédian, respectively.

If we leave aside such potentially problematic cases, we are left with 84 proper names and 58 other words. Before going any further, it is worth pointing out that these are very low numbers, especially if we take into consideration the fact that Wells (2008) contains around 130,000 entries. These words are also generally rare and are often borrowed from other languages (e.g. French: caricature, espionage, Valenciennes or Italian: aficionado, Machiavelli, Savonarola).

In the 142 words of our inventory, we tested a number of segmental variables (presence/absence of an initial onset, vowel length, closedness of the first two syllables) and only one came out as having a convincing effect on the position of secondary stress: the closedness of the second syllable. Words which have a closed second syllable (e.g. amontillado, Monongahela) are more likely to have secondary stress on that syllable that those with an open second syllable (e.g. abracadabra, Winnepesaukee), as shown by the following table:

| Second syllable Stress | Open |  |  | Closed |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Initial only | $\begin{gathered} 117 \\ (91 \%) \\ \hline \end{gathered}$ | 99 (78\%) |  | $\begin{gathered} 5 \\ (56 \%) \\ \hline \end{gathered}$ | 0 |  |
| Variable |  | 18 (13\%) | 29 |  | 5 (56\%) | 9 |
| Second only |  | 11 (9\%) | (22\%) |  | 4 (44\%) | (100\%) |

However, only 9 words ( $6 \%$ of total) have a closed second syllable so that parameter is relevant only marginally. In the rest of the words, initial stress is predominant ( $91 \%$ can have initial stress and $78 \%$ have only that pattern).

Deriving English ternarity and prosodic weight in the Onset Prominence framework Geoff Schwartz (geoff@wa.amu.edu.pl) - UAM Poznań

In the Onset Prominence representational framework (Schwartz 2010 et seq.) prosodic units must conform to one single universal constraint, MinimalConstituent (MC; Schwartz 2013), which conflates traditional 'syllabic' requirements favoring a CV structure. MC in turn may be supplemented by language-specific requirements for word minimality. The familiar requirement in English that minimal words must contain either a long vowel or a coda is formalized as a constraint, MinimalProsodicWord-English, (MPW; Schwartz 2016) for structure below the lowest, Vocalic Target (VT), level of the basic OP hierarchy. Through this requirement, OP provides a unified representation of trochees, long vowels, and coda consonants in English, defined as recursive iterations of the basic CV structure. These iterations are the result of a submersion mechanism (Schwartz 2016) that serves as a repair to satisfy both the MC and MPW constraints.

Ternary structures in English fall out naturally from the submersion mechanism and MPW. Importantly, OP constituent formation proceeds from right to left, and submersion may be motivated if either the structure on the left or the structure on the right is sub-minimal. Consider catamaran ['k ${ }^{\text {h }}$ (təmə, ræn], which has a ternary foot that is formed as follows. The fourth syllable $/ \mathrm{ræn}$ / satisfies MPW and is prosodically well-formed. The $/ \mathrm{m} /$ sequence violates MPW, so it is submerged under the $/ \mathrm{t}$ / sequence. This creates a binary foot/təmə/ which on its own satisfies MPW. However, the first syllable is also sub-minimal, so /təmə/ is submerged to make the first constituent prosodically viable. This is shown in the structures below. Submersion is indicated by the arrows in the string of trees on the left, and the final foot structure is given on the right.






Submersion also offers a natural expression of prosodic weight to explain whether the stress that appears is primary or secondary. If we compare the catamaran with Kalamazoo, submersion would give us identical foot structures in both words, yet the position of primary and secondary stress is reversed (final in Kalamazoo, initial in catamaran). The reason that primary stress lands on the final syllable in Kalamazoo is that the long vowel in -zoo is heavier than the VC sequence in ran. This extra weight may be read directly of the OP structures of the two constituents, shown below, since the long vowel descends deeper into the OP hierarchy. This presentation will unify these basic prosodic considerations for English stress with other 'segmental' effects (aspiration, flapping, syncope, etc.) that can act as diagnostics for English ternary structures.


## English stress is binary and lexical

Péter Szigetvári [szigetvari@elte.hu](mailto:szigetvari@elte.hu)

Accounts of English take stress to be a scalar phenomenon, distinguishing three or even more degrees (eg, Halle \& Vergnaud 1987, Wells 1990, Giegerich 1992). I argue that while this may be justified at a phonetic level, it is unnecessarily detailed from a systematic point of view. Phonologically stress is not scalar, it is a binary property in English: any vowel is either stressed or unstressed, there are only these two "degrees" of stress. There is consensus that reduced vowels are all unstressed, I argue that any nonreduced vowel is stressed, in other words, foot initial.

The reason why several degrees of stress are distinguished in English is to make tonic placement automatic in the neutral reading of an utterance: the tonic is on the last primary stress, posttonic stress is subsidiary. Distinguishing degrees of stress is simply a means of maintaining the generalization that the tonic is on the last ("real") stress. If we admit that the tonic may be earlier than the last stress, there remains no reason to distinguish different degrees of stress in posttonic position. In fact, in compound words (this is a bláckbird) and in utterances with contrastive tonic (this bird is not white, it's a bláck bird), the tonic is often not on the last stressed vowel, so we are forced to allow this possibility.

Pretonic stress is claimed to be subsidiary because individual words are considered in their citation form, as utterances. In an utterance pretonic stress is less prominent than the tonic. But the prominence relations of the stressed syllables within a word are often not fixed: eg pòntóon, Piccadílly in isolation vs póntòon brídge, Píccadilly Círcus. I conclude that both vowels marked in póntóon and Píccadilly are equally stressed. It is a postlexical phonetic effect if the first or the second stress is more prominent in a word.

Each vowel of a word in English is lexically either stressed or unstressed. During regular ( $\approx$ postlexical) affixation stressed vowels do not become unstressed, and unstressed vowels do not become stressed. Consequently, vowel reduction is not an active phonological rule in English, it is a historical relic, like short vowel-diphthong (lax-tense) alternations. That is, academic [ákədémık] and academy [əkádəmij] are suppletive forms: the consonants are the same, but the vowels are different, like in a Semitic paradigm. (Some function words are apparently exceptional: they have a stressed and a stressless allomorph, but neither need be derived from the other. Also, contrastive tonic may land on an otherwise unstressed vowel, forcing it to be stressed, and potentially unreduced. But this is an extralinguistic event.)

It is common to choose different symbols for the reduced and unreduced variant of a vowel (eg $[\partial]$ vs $[\Lambda]$ ), but rarely is this done consistently (eg [I] is used for both a stressed and a reduced vowel; Bolinger (1986) is an exception). The possibility of "stress reversal" (Halle \& Vergnaud's Rhythm Rule) is one way of finding stressed vowels: eg corrupt [kərə́pt] vs unjust [ə́ndzást], because *[kə́rəpt ló:z] (corrupt laws), but [ándzast ló:z] (unjust laws). The presence or absence of stress can also be detected by a number of segmental effects, like syncope, high vowel gliding, consonant lenition (flapping, glottalling, lack of aspiration), presence of palatality, etc. Foot-initial and foot-internal/final vowels show a marked difference in these respects.

## References

Bolinger, Dwight. 1986. Intonation and its parts: Melody in spoken English. London: Edward Arnold.
Giegerich, Heinz J. 1992. English phonology: An introduction. Cambridge: Cambridge University Press.
Halle, Morris and Jean-Roger Vergnaud. 1987. An essay on stress. Cambridge, MA: The MIT Press.
Wells, John C. 1990. Syllabification and allophony. In S. Ramsaran (ed.) Studies in the pronunciation of English: A commemorative volume in honour of A. C. Gimson. London: Routledge. 76-86.

## Ternary rhythm as a complex morphological domain

Guillaume Enguehard (Lille 3, llf) \& Nicola Lampitelli (Tours, lll)

As is well-known, the notion of foot is generally not included in the representations of CVCV phonology (Lowenstamm, 1996) ${ }^{1}$. In this paper, we argue that the effects of foot (both segmental and rythmic) can be derived from the basic units of this framework.

1. We depart from the effects of English stress on the realization of segments: i. it involves an aspiration of voiceless plosive onsets; ii. it prevents elision of pre-tonic schwas; and iii. it prevents assimilation of pre-tonic nasal codas (Kenyon \& Knott, 1949). Scheer \& Ségéral (2001) account for the aspiration by assuming an extra [CV] inserted on the left of stressed syllables (1a). We show that this representation predicts the remaining effects of stress. First, if stressed syllables are preceded by an extra empty CV, pre-tonic schwas cannot be governed (1b). Thus, we do not expect them to be elided. Second, nasals cannot be assimilated in (1c) because the following consonant $/ \mathrm{k} /$ spreads to the empty CV provided by stress ${ }^{2}$.

| (1)a. aspiration | b. no vowel elision | c. no nasal assimilation |
| :---: | :---: | :---: |

2. The same segmental effects can be observed (unexpectedly) before the third component of dactylic feet (e.g. mèdit[ $\left.{ }^{[ }\right]$erránean, an[z]colúthon, mono[n]gahéla) (Davis \& Cho, 2003). In CVCV, these effects are supposed to have the same representation as in (1), i.e. a left-inserted extra [CV]. However, this CV unit does not seem to be provided by stress. This raises a question: what motivates this CV unit?
3. Morphonological boundaries have also been claimed to introduce extra CV units (Lowenstamm, 1999; Pagliano, 2003). These CV-boundaries account for the same effects as stress (see Scheer, 2000). We argue that the effects observed in dactylic feet are due to a CVboundary, not a CV-stress (2). We provide 3 arguments: i. aspiration also occurs in unstressed initial syllables, where we expect to find an initial boundary (e.g. p $\left.{ }^{h}\right]$ otáto) (Davis \& Cho, 2003); ii. nasal assimilation does not occur across a prefix boundary (e.g. i[n]corréct); and iii. this CV unit appears where expletive infixation can appear (e.g. mìli-fucking-t[ $\left.\left.{ }^{[ }\right] a r i ́ s t i c\right) . ~$

4. This boundary does not necessarily correspond to a morpheme boundary (sometimes it does, sometimes it does not). We will argue that all extra CVs correspond to the edge of a morphological template independent from the segmental content. Within this view, rhythm is a by-product of templatic activity. Accordingly, CVCV gives an interesting interpretation of what feet are: exponents of morphological organization.
[^0]
# Chung's Generalization predicts Long Retraction in English non-derived words 

Javier Sanz, Universität Trier

The marked stress pattern of English -ory derivatives can be explained by assuming an underlying specification in which all the segments in the suffix are dominated by a minimal foot. Faithfulness to this type of specification can in turn be imposed by means of a high-ranking constraint IDENT- $\Sigma^{\min }$ (Each foot's zero projection in the input has a correspondent in the output). As a result, whenever -ory attaches to an independent verb form with antepenultimate stress, a "Long Retraction" pattern arises (cf. the "Weak Retraction" pattern of inflámmat-òry, satisfáct-ory, etc.).
(1) régulat-òry

|  | Non- Finality | *Clash | IDENT- $\Sigma^{\text {min }}$ | Align-main $\Sigma$ Right |
| :---: | :---: | :---: | :---: | :---: |
| a. (.re.gju)('lei.to)ry |  |  | **! |  |
| b. (.re.gjv)('leı)(, to.ıI) |  | *! |  | * |
| c. (.re.gju)(lo('to..II)) | *! |  | * |  |
| d. ${ }^{\text {a }}$ ('..e.gju)(lə(, to..II) ) |  |  | * | * |

The effect of high-ranking IDENT- $\Sigma^{\text {min }}$ can be observed in English non-derived words as well, where it blocks the regular application of the Alignment constraints. This behavior is predicted by Chung's Generalization, which states that "If a stem-level phonological rule can sustain lexical exceptions in mono-morphemic items, then it can show cyclic reapplication in complex stem-level forms, and vice versa" (Bermúdez-Otero 2012).
(2) cátamaràn

|  | NON- Finality | * Clash | IDENT- $\Sigma^{\text {min }}$ | Align-main $\Sigma$ - <br> Right |
| :---: | :---: | :---: | :---: | :---: |
| a. (kə('tæ.mə)).ıə |  |  | *!* |  |
| b. ('kæ.tə)(,mæ..ıə) |  |  | *! | * |
| c. (.kæ.tə)(mə('ıæn)) | *! |  |  |  |
| d. ${ }_{\text {® }}($ 'kæ.tə)(mə(,.ræn)) |  |  |  | * |

Another important prediction of this approach is that, if the underlying prosodic specifications are, in the course of time, lost, both derived and underived items will show the unmarked antepenult stress pattern. Note that if IDENT- $\Sigma^{\mathrm{min}}$ is removed from tableau (1), (1a) would become the optimal candidate. Likewise, if the same constraint is removed from tableau (2), the winner would be (2a). Crucially, both regulátory and catámaran are documented British English variants (OED Online).

While problematic for some theories, both the variation found in BE, as well as the existence of underived items with initial dactylic rhythm bearing initial primary stress (e.g. cátamaràn, rígamaròle, Mánitowòc; Hayes 1979), are in fact predicted outcomes under the proposed analysis.

Ternarity in English: ‘Latin first, Germanic second’; English word stress as a hybrid system with Latin or lexical primary stress right and Germanic stress left.

Janet Grijzenhout, Leiden University
We will argue that ternarity in English, Dutch and German is a remnant of the early Germanic foot ('resolved moraic trochee'). Dresher \& Lahiri $(1991,2005)$ and Lahiri \& Fikkert (1999) among others, argue that the Germanic foot was a moraic trochee of which the head or 'strong branch' (s) contains exactly two moras ([L L], [H]), or one in the first syllable and two in the second one ([L H]). The weak branch of the foot (w) contained at most one mora (L). Feet were assigned from left to right as in Modern Icelandic (data from Árnason 1980): ${ }^{1}$
(1) Initial primary stress in Modern Icelandic

| $\left([\mathrm{L} \mathrm{L}]_{s} \mathrm{~L}_{\mathrm{w}}\right)$ | $\left([\mathrm{H}]_{s} \mathrm{~L}_{\mathrm{w}}\right)([\mathrm{L} \mathrm{H}])$ |
| :--- | :---: |
| ba ka ri 'baker' | al ma nö kum |

'almanac-dat-Pl'
The Modern English foot form is a moraic trochee ([L L] or [H]). In most words, the final syllable is extrametrical, and stress is assigned from right to left as in Latin:
(2) Antepenultimate or penultimate primary stress in Modern English
(L L) <extrametrical>
(H) <ex>
hy po cri sy
a gen da
fa mi ly
pota to

Deviant words are exceptions to extrametricality (e.g., Tahiti) or involve lexical assignment of a final weak foot (Idaho, Mamaroneck) or a final strong foot (e.g., kangaroo, cigarette).

The first option for secondary stress - which is often found in Latinate or Greek loans is to assign moraic trochees from right to left. This results in secondary stresses on every even numbered light syllable preceding the primary stressed syllable or on heavy syllables (3). The second possibility is to assign the resolved moraic trochee from left to right (4):
(3) Alternating stress from right to left: moraic trochees from right to left
(L L) (H) <ex>
(H) (L L) <ex>
(L L) (H) LexWeakFt
a po the $\mathbf{o}$ sis
hy po te nuse
ma ma ro neck
(4) Secondary/primary stress left: initial resolved moraic trochee

$$
\begin{array}{cll}
\left(\left[\begin{array}{lll}
L & L
\end{array} L_{w}\right)\left(L_{s} L_{w}\right)\right. & \left(\left[\begin{array}{ll}
H
\end{array}\right)(H)_{\text {LexwekFt }}\right. & \left(\left[\begin{array}{ll}
L & ]_{s} L_{w}\right)(H)_{\text {LexWeakFt }} \\
\text { a bra ca da bra } & \text { da ven port }
\end{array}\right.\right. \\
& & \text { na ta ma ran ra lize }
\end{array}
$$

The data from Davis and Cho (2003) suggests that aspiration and /h/ may occur in initial position of every syllable, except when it is a light syllable which follows a primary stressed light syllable (i.e. when it is the weak part in the head of a resolved moraic trochee as in catamaran) or extrametrical as the second /t/ in potato. The generalization with respect to the data from Szigetvári $(2002,2007)$ seems to be that vowels in a light syllable which follows a primary stressed light syllable may undergo syncope (i.e., when it is the weak part in the head of a resolved moraic trochee as in family $\rightarrow$ fam.ly, catamaran $\rightarrow$ cat.maran). Vowels in weak branches of feet with secondary stress or vowels in unparsed syllables may be reduced to schwa, but cannot undergo syncope (cigarette $\rightarrow$ * cig.rette; Lancelot $\rightarrow{ }^{*}$ Lanc.lot). In Modern English, the weak branch of the head of the resolved moraic trochee is special in that it does not allow initial /h/ or aspiration of stops and its vowel may undergo syncope.

[^1]
[^0]:    1 Consistently with CVCV phonology, we do not distinguish between primary and secondary stress: thus, they are represented in the same way (i.e. underlined vowels).
    2 The reader certainly remarks that the representation in (1c) involves successive empty nuclei, which are illformed in (1b). Following Pöchtrager (2001), we assume that coda sonorants are able to satisfy an adjacent empty nucleus.

[^1]:    ${ }^{1}$ Primary stressed syllables are printed in bold type and syllables with secondary stress are underlined.

