Class 17, 5/25/15: Syllable Quantity in English

1. **Readings and assignments**
   - For this topic (on course web site)
   - Class presentations scheduled for 10th week, following the Course Summary and Evaluations.
   - Talk with us about research project.

2. **Outline**
   - Ryan’s Law of Syllable Weight
   - English syllable weight
     - in phonology
     - in folk song
     - Gerard Manley Hopkins
     - Tennyson

3. **Stating the Law**
   - When a language makes reference to syllable quantity in gradient/stochastic fashion, then all typologically known weight criteria enter in, producing statistical effects.

4. **What things make syllables categorically heavy in various languages?**
   - Having at least two segments in the syllable rhyme (Hausa)
   - Having a long vowel (Yidiñ)
   - Having a lower vowel (Nganasan)
   - Having a sonorant coda (Kwakwala)
   - Being superheavy (Arabic, English verbs)

5. **How are all these factors relevant?**
   - Matthew Gordon suggests some sort of perceptual integration of acoustic energy.
   - He has written extensively about the phonetics of weight:
     - Vowel and consonant sonority and coda weight: a cross-linguistic study, 2008, West Coast Conference on Formal Linguistics 26, 208-216. [co-authored with Carmen Jany, Carlos Nash, and Nobutaka Takara] (pdf)
6. Ryan’s study

- Go to various quantitative meters
- Compare different locations that require heavy syllables.
- Some appear to be “weightier” than others.

7. Example of a preference: Greek dactylic hexameter

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- {−}  - {−}  - {−}  - {−}  - {−}  - {−}  etc.
```

*biceps* — are stronger
*longum* — are weaker

8. We are in trouble re. our theory of quantitative-meter-with-grids

- We must use Strong is Long to get the non-alternation of - with vv in even metrical positions.
- Yet per Ryan the positions that alternate with vv are the stronger ones!
- Cf. also the schoolboy recitation of the meter, evidently is wrong.

9. Evidence for the Ryanian strength difference

<table>
<thead>
<tr>
<th></th>
<th>VV rhyme</th>
<th>VC rhyme</th>
<th>VV:VC ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>longum</td>
<td>75,931</td>
<td>58,862</td>
<td>1.290</td>
</tr>
<tr>
<td>biceps</td>
<td>19,143</td>
<td>8,946</td>
<td>2.140</td>
</tr>
</tbody>
</table>

- The corpus is huge, so the difference here is vastly significant.
10. Making the argument more sophisticated

- Ryan is very careful, covering a variety of Russian-method-like procedures to make sure his generalizations are not true by accident.

11. Expanding the syllable types tested

- Method: linear mixed effects model with phonological context (defined by weight) as a random effect.
- Solid arrows are $p \leq 0.001$

12. Formal modeling

- Ryan suggests some constraints are Flemmingian: penalize appearance in a weakish position according to how much a syllable is phonetically heavy (e.g., energy integral, duration).
- Other constraints are categorical, of the character we have been using for Hausa.
- Depending on how you weight them, you get different predicted scatterplots.
  - These nine are from Ryan UCLA dissertation, 2011 *Gradient Weight in Phonology*

> What sort of weighting gives 1? 9?
13. Etc.

- More languages, more criteria, like vowel height

WEIGHT PHENOMENA OF ENGLISH PHONOLOGY

14. Sources

- e.g.
  - SPE
  - Hayes (1981, LI)
  - Selkirk “The role of prosodic categories in English word stress,” LI (1980)

15. Heavy penults attract stress when final is stressless

- Especially true when final vowel is schwa
  - *Daytóna, agenda [ou], [ɛn]
  - occasional exceptions when final is not schwa: calendar, galaxy

16. Superheavy finals attract stress in verbs

- Superheavy: *colléct, manifest [ɛkt], [ɛst]
- merely heavy: *édit, open [ɪt], [ən]

17. Light syllables (by Hausa criterion) are too short to be words

- *[bɛ], *[ɡɾ], *[mu]
- with odd not-quite-word forms like nah, yeah, duh, Seuss’s letter Nuh
  - None of these have a high vowel, i.e. [i] or [u]!
- Compare bet, bow [ɛt], [oʊ]

18. Light syllables do not tolerate initial pretonic position

- heavy with long: *Daytna, donation, idolatry, powhatan [ɛt], [ou], [aɪ], [au]
- heavy with closed: *Montana, factorial, quintessence [ɑn], [æk], [ɪn]
  *[kwɪ]tessence

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1 Hard to find examples with i: and u:
19. Syllabic consonants seem to count as light, somewhat

- See Kiparsky (1979, LI) on “Sonorant Destressing”; extended to all nouns by Hayes (LI 1982)

  a. Hóttentôt, Jáckendöff, b. dávenpört, Áppelbàum
 bálderðash, ámpersând, cávalcàde, pálindròme
 Háckensàck, Árkansás, mérchandíse, mísanthrópe
 Algernòn, máckintòsh, Áberdèen, níghtíngåle

- Most such words have a final secondary stress, but there are also a few that have pure antepenultimate stress with a skipped penult: cavernous, chivalrous
- Compare syllables closed by obstruents, which cannot be treated as syllabic sonorants:

  | Monádnòck  | delíctí |
  | Hopátcòng  | Ójíbwày |
  | Aquídnèck  | decáthlòn |
  | Penòbscót  | Aròóstòok |

SYLLABLE QUANTITY IN ENGLISH FOLK SONG

20. We covered this

- …in the discussion of textsetting.
- Light syllables take fewer metrical positions than heavy.
- There are hints of Ryanian vowel height effects, though more data are needed.

SYLLABLE QUANTITY IN SELF-CONSCIOUS ART VERSE

21. Occasional Experiments

- Renaissance poets
- Tennyson
- Always the result of highly educated poets who knew their classical languages and felt them prestigious.
- Never greatly admired as English poetry — the stress gets in the way!
- Here is a 19th century example, Alfred Tennyson’s “Hendecasyllabics”

22. Text

O you chorus of indolent reviewers,
Irresponsible, indolent reviewers,
Look, I come to the test, a tiny poem
All composed in a metre of Catullus
All in quantity, careful of my motion,
Like a skater on ice that hardly bears him,
Lest I fall unawares before the people,
Waking laughter in indolent reviewers.

23. Greco-Latin model

The Phalacian hendecasyllable

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<thead>
<tr>
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<tr>
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24. Scansion

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```
O  you  cho  rus  of  in  do  lent  re  view  ers
əʊ  jʊː  kɔː  rə  sə  vɪn  də  lənt  ri  vjuː  əz

Ir  res  pon  si  ble  in  do  lent  re  view  ers
ɪ  rɪs  pɒn  sɪ  bɔ  lɪn  də  lənt  ri  vjuː  əz

Look,  I  come  to  the  tes.t,  a  ti  ny  po  em
lʊk  aɪ  kəm  tə  ðə  test  ə  tæɪ  ni  pəʊ  əm

All  com  posed  i.n  a  me  te.r  of  Ca  tʊl  lus
ɔːl  kəm  pəʊz  dɪ  nə  miː  tə  rəv  kə  tə  laʃ

All  in  quan  ti  ty  care  fu.l  of  my  mo  tion
ə  lɪn  kəʊn  ti  ti  kɛə  fu  ləv  mæɪ  məʊ  ʃən

Li.ke  a  ska  te.r  o.n  ice  tha.t  hard  ly  bears  him
ləɪ  kə  skɛɪ  tə  əʊ  nəs  də  t(h)əd  li  bɛə  z(h)əm

Lest  I  fall  u.n  a  wares  be  fore  the  peo  ple
lɛs  təɪ  fɔː  lə  nə  wəz  bɪ  fɔʊ  də  piː  pəl
```

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2 I did this for my review of Fabb and Halle’s book on metrics.
Walking laugh to in done review ers

Shouuld I floun de a while wi. thout a tum ble

Through this me. tri fi ca tio n of Ca tul lus

They should speak to me not wi. thout a wel come

All that cho rus of in do lent re view ers

Har.d, har.d, hard i.s i.t on ly not to tum ble

So fan tas ti cal is the dain ty me tre

Where fore slight me not who lly nor be lie ve me

Too pre sump tu ou.s in do lent re view ers

O bla tant Ma ga zines, re gard me ra ther

Since I blush to be laud my self a mo ment

As some rare lit tle rose a piece o.f in most
25. Remarks

- *Catullus* Is -tul- heavy by orthography? Or simply because it is stressed?
- *metrification* Ditto, with the additional possibility of the syllabification met.ri, apparently sometimes attested in Latin verse.
- *myself* There are dialects in which the first syllable here is light; not clear how Tennyson would have pronounced it.

26. Roman Jakobson’s dictum

- I think he says this in his book *On Czech Verse*
- The meter of a language is heavily constrained by its phonology (cf. Czech, with vowel length and no phonemic stress, vs. Russian)
- Pure-quantitative meter in English seems to be a foppish flop.

27. So how to incorporate quantity into English poetry?

- Do it *nicely*, as an addition to a fundamentally stress-based system.
- You can see Tennyson doing it above, actually: the meter seldom deviates from an “ordinary” stress-based Phalacian hendecasyllable.

GERARD MANLEY HOPKINS’S SPRING RHYTHM

28. Hopkins

- Lived in Victorian times
- (Bruce gives brief riff on his life)
- Patronized a bit by his few poet friends, who also posthumously ill-edited his work (taking out his diacritics)
- Verse is always pushing the edge, occasionally seems just nutty but always brave.
- He is appreciated much more now than during his own lifetime.
29. The “slot-filling” system

- Reference for the general approach:
- Procedure:
  - specify a meter as an alternating sequence of S and W
  - select from a universal inventory the ways that S and W can be filled
- Comment:
  - Works great for Hopkins, various other systems
  - Perhaps dubious for stuff like phrasal stress differences (two syllables, both stressed, one stronger); dipodic meters

30. The meters

- The peripheral W positions are “ambistichic”
- Here is tetrameter:

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- The break (such as it is) between lines must fall before, after, or within the ambistichic W.
- So every tetrameter line contains four S positions
- But the W between lines is just one W and must obey the rules for W.

31. Sample scansion of a line

```
\[\text{To-} \quad \text{we-} \quad \text{ry} \quad \text{ci-} \quad \text{ty} \quad \text{and} \quad \text{bra-} \quad \text{chy} \quad \text{be-} \quad \text{tween} : \emptyset \quad \text{to-} \quad \text{wers}\]
```

32. Ways to fill W

a. A single stressless syllable
b. A sequence of stressless light syllables (see below for weight criterion)
c. A stressed monosyllable
d. A resolved sequence (defined below)
e. Null (“sprung”)

33. A rather long W

```
\[\text{/w As a /s dare-} \quad \text{/w gale /s sky-} \quad \text{/w lark /s scan-} \quad \text{/w ted in a /s dull :} \quad \text{/w \emptyset /s cage} \quad CS 1\]
```

```[tad in a]```
34. Stressed monosyllable in \( W \)

\[
\text{\textipa{/}_s \text{March, /}_w \text{kind} /_s \text{com-} /_w \text{rade, a-} /_s \text{breast} /_w \text{him;}}
\]

\( \text{BC 30} \)

compare unmetrical:

\[
*\text{\textipa{/}_s \text{March, /}_w \text{com-} /_s \text{rade, /}_w \text{a-} /_s \text{breast} /_w \text{him;}} \quad (\text{construct})
\]

\[
*\text{\textipa{/}_s \text{March, /}_w \text{faithful} /_s \text{com-} /_w \text{rade, a-} /_s \text{breast} /_w \text{him;}} \quad (\text{construct})
\]

- We’ve seen this before in Shakespeare and Milton

35. \( \text{W as resolved sequence.} \)

- Definition: stressed light followed by a stressless non-heavy syllable in the same word.
- Resolved sequences behave like stressed monosyllables.
- The idea is fruitful for the \textit{Beowulf} meter, Chaucer, occasionally Shakespeare
- Hopkins:

\[
\text{\textipa{/}_w \text{Her} /_s \text{fond} /_w \text{yellow} /_s \text{horn-} /_w \text{light} /_s \text{wound} /_w \text{to the} /_s \text{west,}} \quad \text{SS 3, first hemistich}\]

\[
\text{\textipa{[ˈjɛloʊ]}}
\]

- Compare the line above with \textit{faithful}.

36. A very “sprung” line

\[
\text{My aspens dear, whose airy cages quelled}
\]

\[
\text{Quelled or quenched in leaves the leaping sun,}
\]

\[
\text{\textipa{/}_w \text{Ø} /_s \text{Áll} /_w \text{Ø} /_s \text{félled, /}_w \text{Ø} /_s \text{félled, /}_w \text{are} /_s \text{áll} /_w \text{Ø} /_s \text{félled;}} \quad \text{BP 1-3}
\]

37. Legal sequences filling S positions

a. A single stressed syllable
b. A resolved sequence
c. A single stressless syllable, provided it is not light.

38. \( S \) filled by a resolved sequence.

\[
\text{\textipa{/}_w \text{This} /_s \text{very} /_w \text{very} /_s \text{day} /_w \text{came} /_s \text{down} /_w \text{to us} /_s \text{af-} /_w \text{ter a} /_s \text{boon} /_w \text{he on} \} \quad \text{BC 5}\]

\[
\text{[ˈveri]}
\]

39. \( S \) filled by single non-light syllable.

\[
\text{\textipa{/}_w \text{Till a} /_s \text{life-} /_w \text{belt} /_s \text{and} /_w \text{God’s} /_s \text{will}} \quad \text{LE 16.3}
\]

\[
\text{[and]}
\]
40. Lines unmetrical because S is filled with light

a. */w Till it /s streng- /w then /s a /w man’s /s will
   [ə]

b. */w To An- /s dro- /w me- /s da /w the /s will³
   [də]

41. Weight assignment

- Vowel inventory: ([ɪ, ɛ, æ, ə, ɒ, ʊ, ə]) or long (all others, including diphthongs)
  - ɒ is the “Harry Potter” vowel, spelled o and not used by Americans.
- Light: open and short-voweled and
- Heavy: closed or contains a long vowel or diphthong.
- Final stressless CVC may optionally count as short.
- Unstressed nonlow long vowels and diphthongs ([iː, uː, əɪ, əʊ]) also may count as short when final.

42. Rules that alter weight

- Vowel-Sonorant Merger merges a stressless vowel with a following coda sonorant
  - can /kən/ → [kn]
  - and /ænd/ → [nd], optionally light
- Correption
  - V → [−long] __ (#) V
  - how he: how can be light; ditto for lion

43. Examples of weight assignment

<table>
<thead>
<tr>
<th>Example</th>
<th>IPA</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. dapple</td>
<td>[ˈdæ.pəl]</td>
<td>ə ≈</td>
</tr>
<tr>
<td>b. ample</td>
<td>[ˈæm.pəl]</td>
<td>ə ≈</td>
</tr>
<tr>
<td>c. maple</td>
<td>[ˈmeɪ.pəl]</td>
<td>ə ≈</td>
</tr>
<tr>
<td>d. havoc</td>
<td>[ˈhæ.vək]</td>
<td>ə ≈</td>
</tr>
<tr>
<td>e. dandled</td>
<td>[ˈdæn.dəld]</td>
<td>ə ≈</td>
</tr>
<tr>
<td>f. the</td>
<td>[ðə]</td>
<td>ə</td>
</tr>
<tr>
<td>g. they</td>
<td>[ðeɪ]</td>
<td>≈</td>
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</tbody>
</table>

³ Compare “Now time’s Andromeda on this rock rude”, from “Andromeda,” a poem written by Hopkins in conventional iambic pentameter; the latter meter imposes no quantitative restrictions on S position (Kiparsky 1989, 319).
h. day ['deɪ] –

i. by [bæ] –

j. its [ɪts] –

k. damask ['dæməsk] –

44. “The Windhover” 1-8 scanned

a. /w I /s caught /w this /s mør- /w ning /s mor- /w ning’s /s mɪ- /w nion, /s king-
    ɪ  kɔːt  dɪ  mɒk  nɪŋ  mɪk  nɪŋz  mɪn  nɪən  kɪŋ
    – – – – – – – – – – – – – – – – –

b. /w dom of /s day- /w light’s /s dau- /o phin, /w dap- ple- /s dáwn- /w drawn /s Fal- /w con, in his /s
    rɪ  dəm  æv  ˈdeɪ  lɪts  ˈdæm  əf  ɪn  ˈdæpəl  ˈdɔːn  ˈfɔːkən  іn  hɪz
    – – – – – – – – – – – –

c. Of the /s ról- /o ling /w level /s ún- /w der- /s néath /o him /w stea- /w dy, /w and /s stríd- /w ing
    ɑv  ðə  rəʊlɪŋ  ˈlɛvəl  ˈʌn  ðə  ˈdɛrɪŋ  ˈnɛəθ  hɪm  ˈstɪdɪŋ  'e(r)
    and  'stræɪd  dɪŋ
    – – – – – – – – – – – – – – – – – – – – – – – – – – – – – – – –

d. /s High /o there, /w how he /s rung /w upon the /s rein /w of a /s wim- /w pling /s wing
    ˈhæɪ  ˈdeʊ  hɒw  hi  ˈræŋ  ˈpɒn  də  ˈrɛm  ˈwɪm  ˈplɪŋ  ˈwɪŋ
    – – – – – – – – – – – – – – – – – –

e. /w In his /s ec- /w sta- sy! then /s off, ; /w ɪʃ /w of /w ɪʃ /w for /w ɪʃ /w on /w swing,
    ɪn  hɪz  ˈɛk  ˈstə  ˈsɪ  ˈdən  ˈəf  ˈəf  ˈfɔːθ  ɪn  ˈswɪŋ
    – – – – – – – – – – – – – – – – –

f. /w As a /s skate’s /o heel /w sweeps /s smooth /w on a /s bow- /w bend: /s the /w hurl /w and /s glid-
    əz  ø  'sketts  ˈhɪl  ˈswɪps  ˈsmuːð  ɒn  ˈbɔʊ  ˈbend  ə  'hɜːl  ənd  'ɡlai
    – – – – – – – – – – – – – – – – – –

g. Re- /s buffed /w the /s big : /w ʊ /w wind. /w My /s heart /w in /s hid- /w ing
    rɪ  ˈbxml  ə  ˈbɪɡ  ˈwɪnd  ˈmɑːr  ˈhɑːrt  ɪn  ˈhæɪ  dɪŋ
    – – – – – – – – – – – –

h. /s Stírred /w for a /s bird,— /w the a- /s chieve /o of, /w the /s máš- /w te- ry of the /s thing!
    ˈstɪrd  ˈʃeɪv(ə)  ø  ˈbɜːrd  ɪ  ˈʃɪv(ə)  ɒv  ə  ˈmæʃ  tə  rɪ  əv  ˈthɪŋ
TENNYSON’S MIXED IAMBIC-ANAPAESTIC METER

45. Source

- Kristin Hanson (1991) Resolution in modern meters, Stanford dissertation
- Posted on course web site

46. Tennyson “The Voyage of Maeldune” (extract)

And we came to the Silent Isle that we never had touch’d at before,
Where a silent ocean always broke on a silent shore,
And the brooks glitter’d on in the light without sound, and the long waterfall,
Pour’d in a thunderless plunge to the base of the mountain walls,
And the poplar and cypress unshaken by storm flourish’d up beyond sight,
And the pine shot aloft from the crag to an unbelievable height,
And high in the heaven above it there flicker’d a songless lark,
And the cock couldn’t crow, and the bull couldn’t low, and the dog couldn’t bark.

47. Meter - iambic/anapaestic hexameter

WSWSWSWSWSWS

48. Filling S

- No light stressless syllables like the or a — just like in Hopkins

*And setting, when Even descended, so beautifully aflame,

*And setting the marina with blazing sunset aflame

- stressless CVC must count as light (stricter than Hopkins)
- You can put a resolved sequence in S, so long as you don’t create a three-syllable stressless sequence.

Our voices were thinner and fainter than any flittermouse-shriek;  (22)
And the men dropt dead in the valleys and half of the cattle went lame,  (31)
For the Spring and the middle Summer sat each on the lap of the breeze;  (38)
And each was as dry as a cricket, with thirst in the middle-day heat.  (50)
• So line 3 with winter for summer should be bad

49. Filling W

• Single stressless syllables fine.

  And the warm melon lay like a little sun on the tawny sand, (57)
  \[ s \quad s \quad s \quad s \quad s \quad s \quad s \]

  And we took to playing at battle, but that was a perilous play, (95)
  \[ s \quad s \quad s \quad s \quad s \quad s \quad s \]

• Stressed monosyllables are ok:

  And the fig ran up from the beach and rioted over the land, (58)
  \[ s \quad s \quad s \quad s \quad s \quad s \]

  And a hundred ranged on the rock like white sea-birds in a row, (101)
  \[ s \quad s \quad s \quad s \quad s \quad s \quad s \]

• Resolved sequences also allowed:

  And the red passion-flower to the cliffs, and the dark blue clematis, clung. (39)
  \[ s \quad s \quad s \quad s \quad s \quad s \quad s \]

  And the lilies like glaciers winded down, running out below (42)
  \[ s \quad s \quad s \quad s \quad s \quad s \quad s \]

  And the whole isle-side flashing down from the peak without evera tree (45)
  \[ s \quad s \quad s \quad s \quad s \quad s \quad s \quad s \]

  And the warm melon lay like a little sun on the tawny sand, (57)
  \[ s \quad s \quad s \quad s \quad s \quad s \quad s \quad s \]

• Shortening via Correction:

  But a sudden blast blew us out and away through the boundless sea. (10)
  \[ s \quad s \quad s \quad s \quad s \quad s \quad s \quad s \]

  Over that untersea isle, where the water is clearer than air: (77)
  \[ s \quad s \quad s \quad s \quad s \quad s \quad s \quad s \]

• Rarely: Resolution across word boundaries (not possible for Hopkins)
Tennyson is far less fastidious than Hopkins in defining syllable quantity, since all stressless function words count as light:

```
And the pine shot aloft from the crag to an unbelievable height, (16)
               s  s  s  s  s  s  s
```

```
And we came to the Isle of Flowers: their breath met us out on the seas, (37)
               s  s  s  s  s  s  s
```

```
For a wild witch naked as heaven stood on each of the loftiest capes, (100)
               s  s  s  s  s  s  s
```

```
Bread enough for his need till the labourless day dipt under the West; (86)
               s  s  s  s  s  s  s
```

- Tennyson is far less fastidious than Hopkins in defining syllable quantity, since all stressless function words count as light:

```
And high in the heaven above it there flickered a songless lark (16)
               s  s  s  s  s  s  s
```

```
And we left the dead to the birds and we sailed with our wounded away. (36)
               s  s  s  s  s  s  s
```

```
And the men that were mighty of tongue and could raise such a battle-cry (23)
               s  s  s  s  s  s  s  s
```

```
Till they shouted along with the shouting and seized one another and slew (34)
               s  s  s  s  s  s  s  s
```

```
And we stayed three days, and we gorged and we maddened, till every one
               s  s  s  s  s  s  s  s
```

```
drew (67)
               s
```

50. Upshot

- Ryan shows us that quantity is a great phonetic vat from which languages pull both ladles of soup and also crystallized weight criteria of various kinds.
- Hopkins and Tennyson show that the sensitive English poet, giving due heed to stress, can likewise pull crystallized criteria from the phonetic vat — each in his own way.