The Metrical Mind

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Outline

Overview
  Evolution
  Theory

English
  Typology

Welsh
  Rhyme
  Cynghanedd
  Analysis

Conclusion
There are strange things done in the midnight sun
   By the men who moil for gold;
The Arctic trails have their secret tales
   That would make your blood run cold;
The Northern Lights have seen queer sights,
   But the queerest they ever did see
Was that night on the marge of Lake Lebarge
   I cremated Sam McGee.

_The Cremation of Sam McGee_, Robert Service
Poetry and peacocks

“From a pragmatic biological viewpoint, art and music seem like pointless wastes of energy. Human morality and humor seem irrelevant to the business of finding food and avoiding predators” (p.2).

“I shall argue that the most distinctive aspects of our minds evolved, largely through the sexual choices our ancestors made” (p.3).

“Of a fine, stout, healthy love it may. Everything nourishes what is strong already. But if it be only a slight, thin sort of inclination, I am convinced that one good sonnet will starve it entirely away.”

Elizabeth

*Pride and Prejudice*, Jane Austen
Hypothesis: poetry involves a repeated count: rhythm. Certain units of language processing and grammatical organization are available for this: moras, syllables, stresses/feet.

Rhyme and alliteration clarify the count/rhythm.
Another view

Hypothesis: poetry involves a repeated count: rhythm. Certain units of language processing and grammatical organization are available for this: moras, syllables, stresses/feet.

Rhyme and alliteration clarify the count/rhythm.

- This gives us most kinds of regulated verse.
- Why is Welsh so weird?
Service again

There are strange things done in the midnight sun
    By the mën who mónil for gold;
The Árctic tráils have their zéerét táles
    That would make your blóod run cóld;
The Nórthern Líghts have zén queer síghts,
    But the quéerést they éver did sée
Was that níght on the márge of Láke Lebárge
    I crémated Sám McGée.

▷ 4+3 beats per “line”.
▷ 1 or 2 stressless syllables between beats or at beginning of line.
▷ Beats are overt, making lines easier to identify.
▷ Rhyming line-pairs and half-lines.
▷ Is rhyme necessary because the length of lines varies?
The Second Coming, William Butler Yeats

Túrning and túrning in the wíd(e)ning gyre
The fáltcon cannot hear the fáltconer;
Things fall apart; the cénitre cannot hold;
Mere ánarchy is loosed upon the world,
The blood-dimmed tide is loosed, and everywhere
The cáremon(y) of ínnocence is drowned;
The best lack all convíction, while the worst
Are full of pássionate inténsity.

- 10 syllables per line.
- No rhyme requirement.
- Restrictions on stress, enhancing the perception of the line itself, and of the line as a sequence of five two-syllable units.
Whoever can praise cleanness as it deserves,
And count up all of the arguments that it claims by right,
Fair examples might he find in furthering his speech;
But in doing the opposite, difficulty and great trouble.

- 4/5 stresses per line
- All beats but the last alliterate.
- Alliteration thus marks beats and marks lines.
Properties of meter

- Syllables or stresses/beats are counted to define units like lines.

- Rhyme or alliteration are used to mark units like lines.
Welsh poetry

Many different kinds of Welsh poetry. We focus on the cywydd [kéwið] form.

- 7 syllables per line.
- Pairs of lines rhyme.
- All lines must exhibit cyngghanedd ‘harmony’ [kəŋhánde].
A Welsh Poem

Yr wybrwynt, helynt hylaw,
Agwrdd drwst a gerdda draw,
Gŵr eres wyd garw ei sain,
Drud byd heb droed heb adain.
Uthr yw mor eres y’th roed
O bantri wybr heb untoed,
A buaned y rhedy
Yr awr hon dros y fron fry.

Sky-wind, unhindered course,
mighty commotion passing yonder,
you are a harsh-sounding minstrel,
world’s fool without foot or wing.
It’s amazing how wondrously
you were sent
from the pantry of the sky
without any feet,
and how swiftly you run
now across the hilltop on high.

Y Gwynt, ‘The Wind’, Dafydd ap Gwilym
Yr wybrwynt, helynt hýlaw,
Agwrdd drwst a gerdda dráw,
Gŵr eres wyd garw eiánh, sáin,
Drud byd heb droed heb ádain.
Uthr yw mor eres y’th roed
O bantri wybr heb úntroed,
A buaned y rhény
Yr awr hon dros y fron frý.
Cynghanedd in the wild

Yr wybrwynt, | hêlynt | hîlaw, sain
Agwrrdd drîst | a gerdda dráw, croes
Gŵr eres wyd | garw ei síin, croes
Drud byd hêb | droed heb âdain. croes
Uthr ýw | mor eres y’th róed traws
O bantri wybr | heb untróed, croes
A buáned | y rhédy llusg
Yr awr hón | dros y frón | frý. sain

red line-internal rhyme
blue alliteration in first half
orange alliteration in second half
tiebar “|” caesura (break)
Cynghanedd lusg

A buáned | y rhédy

- Line must end in a polysyllabic word.
- The penult of the line rhymes with the final syllable of some previous word. (Notice that the line-penult rhyme isn’t a constituent.)
- Those two words are “emphasized”.
- No alliteration is necessary.
The line is divided into two parts.

The two parts are anchored by “emphasized” syllables in words at the right edges.

All consonants preceding the first emphasized syllable are repeated in the same order before the second emphasized syllable. (Certain consonants are not counted in any cynghanedd: [h,w,y].)
Cynganeddd draws

Uthr ųw | mor`eres y’th rôed

Just like the previous case, cynganeddd groes, except that the second half may begin with some number of unpaired consonants.
Yr awr hón | dros y frón | frý.

- The line is divided into three spans, with an “emphasized” word at the right edge of each.
- The first two spans are linked by final rhyme.
- The second and third spans are linked by more limited alliteration. The consonants that precede the emphasized syllable in the final word must be the final consonants preceding the emphasized syllable of the second span.
Can we make sense of this?

- Why is this system so complex?
- Can we make sense of the particular complications that cynghanedd exhibits? (Not today.)
- In particular, can we make sense of the extraordinary alliteration facts?
We define a consonantal melody, much as in Semitic morphology, e.g. as in Arabic [McCarthy(1981)].

We define a correspondence relation between the half-lines [McCarthy and Prince(1995)].

We require identity of the consonantal melodies, e.g. as in Hebrew reduplication.


### Arabic morphology

<p>| | | | | | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td><strong>kataba</strong></td>
<td>‘he wrote’</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
b. | **kattaba** | ‘he caused to write’ |
c. | **kaataba** | ‘he corresponded’ |
d. | **takaatabuu** | ‘they kept up a correspondence’ |
e. | **ktataba** | ‘he wrote, copied’ |
f. | **kitaabun** | ‘book (nom.)’ |

There are other language domains than poetry where the consonants matter.
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>xam</td>
<td>‘hot’</td>
<td>ximem</td>
<td>‘to heat’</td>
</tr>
<tr>
<td>xamuc</td>
<td>‘sour’</td>
<td>xamcic</td>
<td>‘sour grass’</td>
</tr>
<tr>
<td>hed</td>
<td>‘echo’</td>
<td>hidhed</td>
<td>‘to echo’</td>
</tr>
<tr>
<td>daf</td>
<td>‘page’</td>
<td>dafdefet</td>
<td>‘paper pad’</td>
</tr>
<tr>
<td>lax</td>
<td>‘damp’</td>
<td>laxluxi</td>
<td>‘slightly damp’</td>
</tr>
</tbody>
</table>

There are other language domains than poetry where an identity requirement holds of spans of consonants.
A sequence of identical consonants may count as identical to a single consonant.

In Arabic morphology, it is possible for a single root consonant to correspond to two surface positions, e.g. \textit{kataba} corresponds to \textit{kattaba} and \textit{muktaabib}.

We expect the same thing to be possible in cynghanedd.

\textit{Gŵr eres wîd | garw ei sâin},
More examples

- drwg y gwédda | dragwéiddi (1.107)
- Sul énw | ddisalw oléuni (4.5)
- gwedi dárffo | gwawd órffwyll (5.61)
- ymenyn gwýn | am un gáir (25.23)

Is cynghanedd special?

There are no other poetic systems with such extreme alliterative requirements.

- That there is alliteration is expected.
- That alliteration functions as it does, to demarcate the line and establish units within the line, is expected.
- Alliterative cynghanedd can be treated with orthodox grammatical machinery.
- But cynghanedd is still at a poetic extreme.
- Why?
Factors that make Welsh poetry special

- Consonant mutation: the grammar requires special attention to be given to consonants.
- Praise poems for the nobility.
- Court poets.
- Eisteddfodau
Word-initial consonants change in systematic ways in different morphosyntactic contexts.

<table>
<thead>
<tr>
<th>word (IPA)</th>
<th>gloss</th>
<th>‘my’ (IPA)</th>
<th>‘his’ (IPA)</th>
<th>‘her’ (IPA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>barn [barn]</td>
<td>‘opinion’</td>
<td>fy marn [əmarn]</td>
<td>ei farn [ivarn]</td>
<td>ei barn [iβarn]</td>
</tr>
<tr>
<td>gair [gayr]</td>
<td>‘word’</td>
<td>fy ngair [əŋayr]</td>
<td>ei air [iəyɾ]</td>
<td>ei gair [iɡayr]</td>
</tr>
</tbody>
</table>
The big picture

- Welsh poetry makes use of the same raw machinery as other poetry: meter, rhyme, alliteration.
- The grammatical system of Welsh grants consonants a special status.
- The sociolinguistics of Welsh poetry encourages extreme ornamentation.
- Grammatical theory provides sufficient technology for extended alliteration.
- Hence: cyngghanedd.
Rhythm, the repetition of sequences, is central to poetry.

Certain units can be counted, e.g. syllables, quantity, and stresses.

Repetition—rhyme and alliteration—can be used to enhance rhythmic units.

Sociolinguistic variables can intrude to exaggerate these properties.
Grist for the experimental mill

We already do rating tasks in our lab for nonsense words. We could do similar experiments with candidate lines of poetry.

- Counting the uncountable.
- Repeating the unrepeatable.
Cynghanedd and the world

- Poetry generally does not require an audience: *Stealing Beauty*.
- Poetry generally does not contribute to the survival, power, sex appeal of the individual: William Carlos Williams, Wallace Stevens, etc.
- However, poetry can be used for those purposes and, when it is, its general properties can be exaggerated: cynghanedd.