The Neuroscience of Poetry

Sound Symbolism
Poetry = Sound
Product of Culture

Clues of Survival

The Poem on the page

We hear the sounds in silent reading

The Sounds have Meaning beyond the Words
Jabberwocky

’Twas brillig, and the slithy toves
Did gyre and gimble in the wabe:
All mimsy were the borogoves,
And the mome raths outgrabe.

“Beware the Jabberwock, my son!
The jaws that bite, the claws that catch!
Beware the Jubjub bird, and shun
The frumious Bandersnatch!”

He took his vorpal sword in hand;
Long time the manxome foe he sought—
So rested he by the Tumtum tree
And stood awhile in thought.

And, as in uffish thought he stood,
The Jabberwock, with eyes of flame,
Came whiffling through the tulgey wood,
And burbled as it came!

One, two! One, two! And through and through
The vorpal blade went snicker-snack!
He left it dead, and with its head
He went galumphing back.

“And hast thou slain the Jabberwock?
Come to my arms, my beamish boy!
O frabjous day! Callooh! Callay!”
He chortled in his joy.

’Twas brillig, and the slithy toves
Did gyre and gimble in the wabe:
All mimsy were the borogoves,
And the mome raths outgrabe.

—Lewis Carroll
https://www.youtube.com/watch?v=Q_Um3787fSY
I say, “What does this poem mean?”

And You say, “It can’t mean anything. It’s a ‘Nonsense’ poem.”

“But it sounds like it means something.”

“Doesn’t it?”

“Twas brillig, and the slithy toves
Did gyre and gimble in the wabe:  ???

How should I know?  Ask Humpty Dumpty
"I can explain all the poems that ever were invented—and a good many that haven't been invented just yet."

'Brillig' means four o'clock in the afternoon—the time when you begin broiling things for dinner."

"Well, 'slithy' means 'lithe and slimy'. 'Lithe' is the Same as 'active'. You see it's like a portmanteau—there are two meanings packed up into one word."

"Well, 'toves' are something like badgers—they're something like corkscrews."

"To 'gyre' is to go round and round like a gyroscope. To 'gimble' is to make hole like a gimlet."

"And 'the wabe' is the grass plot round a sun-dial, I suppose?" said Alice, surprised at her own ingenuity. "Of course it is."
The Raven
read by Vincent Price
No aspect of the poem was an accident, Poe claims, but is based on total control by the author.

He purposely set the poem on a tempestuous evening, causing the raven to seek shelter.

Even the term "Nevermore," he says, is based on logic following the "unity of effect." The sounds in the vowels in particular, he writes, have more meaning than the definition of the word.

He purposefully chose a pallid bust to contrast with the dark plume of the bird. The bust was of Pallas in order to evoke the notion of scholar, to match with the presumed student narrator poring over his "volume[s] of forgotten lore."
Compare Carroll and Poe

’Twas brillig, and the slithy toves
Did gyre and gimble in the wabe:
All mimsy were the borogoves,
And the mome raths outgrabe.

Once upon a midnight dreary, while I pondered, weak and weary,
Over many a quaint and curious volume of forgotten lore—
While I nodded, nearly napping, suddenly there came a tapping,
As of some one gently rapping, rapping at my chamber door.
“’Tis some visitor,” I muttered, “tapping at my chamber door—
Only this and nothing more.”

Meanings are understood
Both are Playing with Sound

Pattern
Context

Mood Is at Play
But Differently

Patterns and Contexts:

Meanings are understood
Both are Playing with Sound

Syllabic structure of a verse[^6]:

<table>
<thead>
<tr>
<th>Stress</th>
<th>Syllable</th>
</tr>
</thead>
<tbody>
<tr>
<td>/</td>
<td>Once</td>
</tr>
<tr>
<td>x</td>
<td>up-</td>
</tr>
<tr>
<td>/</td>
<td>on.</td>
</tr>
<tr>
<td>x</td>
<td>a</td>
</tr>
<tr>
<td>/</td>
<td>midnight</td>
</tr>
<tr>
<td>x</td>
<td>dear-</td>
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<tr>
<td>/</td>
<td>y, while</td>
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<tr>
<td>x</td>
<td>I pondered</td>
</tr>
<tr>
<td>/</td>
<td>weak and</td>
</tr>
<tr>
<td>x</td>
<td>weary</td>
</tr>
</tbody>
</table>

[^6]: Syllable structure of a verse from [Carroll, 1871].
A work of fiction should be written only after the author has decided how it is to end and which *emotional* response, or "effect," he wishes to create, commonly known as the "unity of effect."

Once this effect has been determined, the writer should decide all other matters pertaining to the composition of the work, including *tone, theme, setting, characters, conflict*, and *plot*.

In this case, Poe decides on "the death... of a beautiful woman" as it "is unquestionably the most poetical topic in the world... and equally beyond doubt that the lips best suited for such topic are those of a bereaved lover."
Sounds Mean Stuff
The Sounds of Vowels

The vowels are our musical notes. . . . They have tones and overtones

My Drama Coach
Front of mouth
Nasal
Sinuses
Slide Sound
Deep in chest

Sound Symbolism Research

Front Vowels ................................................................. Back Vowels ...........................................
Modern Research on the emotional response to vowel sounds

<table>
<thead>
<tr>
<th>Front Vowels (High-Pitched)</th>
<th>Back Vowels (Low-Pitched)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High energy</td>
<td>Low energy</td>
</tr>
<tr>
<td>Busier</td>
<td>Sluggish</td>
</tr>
<tr>
<td>Invigorating</td>
<td>Mournful</td>
</tr>
<tr>
<td>Faster</td>
<td>Filled with Grief</td>
</tr>
<tr>
<td>Up-beat</td>
<td>Depressing</td>
</tr>
<tr>
<td>Reassuring</td>
<td>Fearful</td>
</tr>
<tr>
<td>Light, thin</td>
<td>Heavy, thick</td>
</tr>
</tbody>
</table>

“The muscles we use to make these sounds mimic the faces we make to their parallel emotions. The sounds at the lower end of the scale “the lips, cheeks, and lower jaw all sink downward from their own weight.”

—Charles Darwin
The study concludes that the tendency for 'i' sounds to occur in positively charged words, such as 'like', and for 'o' sounds to occur in negatively charged words, such as 'alone', in many languages appears to be linked to the corresponding use of facial muscles.
Who Will Buy This?

If you call it Frish?

If you call it Frosh?

Front Vowel or Back Vowel?

Viper

Ford Explorer

The Sounds Of Words Mean things
Choosing the Sounds

Sad Video

Happy Video

This was an unconscious decision. . .

Make Up Words To Describe What They Saw

Used oooo Sound

Used eeee Sound

What would happen If you were building A language?
Sounds and Enjoyment

eeeee

Enjoyment

00000

TV Screen Cartoons
Some Intentional Tonalities in Poetry

Shelly begins “Ode to a Skylark”
with the four highest frequency vowels
“Hail to thee, blithe spirit!”

He sets the poem in a high key,
as if to lift the reader toward the sky.

Frost uses bass tones in “An Old Man’s Winter Night”
“All out-of-doors looked darkly in at him
Through the thin frost, almost in separate stars. . .”

Prepares us to expect the worst.
Sylvia Plath uses the cutting sound of \( \text{\textipa{i}} \)

Christ! they are panes of ice,
a vice of knives.

the \textit{uh} sound has a despicable personality.

Called the “shudder vowel”

upchuck
mud
disgust
Some Consonants

**R** is dark and throaty.
Ben Johnson called it the “dog’s letter.” Grrr.
With **l** they are called the liquid letters because they flow into the next sound.

**M, n, ng** are nasals. They are warm sounds but also associated with negation:
no, non

**Ss** is the serpent’s letter. Tennyson tried to get rid of s’s by “kicking the geese out of the boat.”
Graves said that the art of poetry consists of knowing how to manipulate the letter S.

. . . if the assassination

could trammel up the consequence and catch,
with his surcease, success. . .

—Shakespeare’s Macbeth

A purposeful hissing of the lines

We Could Go On. . .
Consonants, Shapes, and Emotions

**Stop Consonants**
(Abrupt Amplitude Changes)
Percussive Sounds
P, t, k

**Sonorous Consonants**
(Gradual Changes)
Nasals, Liquids, Glides
N, l, r, j

Angular Shapes
Shock
Surprise
Happy
Sad

Round Shapes
Assonance
Repetition of vowel sounds
Slow the low gradual moan
came in the snowing

Consonance
Repetition of consonants
His rollrock highroad roaring down

Alliteration
Consonants at the beginning of words
Dogged with dew, dappled with dew

Onomatopoeia
Words that sound like the thing itself
Cough, spurt, crackle, moan
Making Words do Magic

Words have not only a **mind** (a meaning) but a **body** (the structure and sound in which the meaning lives).

—Nims.

This from a text book for magicians as to how to make words themselves magic.

*Figure 1. Breathing life into *hocus pocus*. *
Phonemes

The Human Sounds that Constitute Words

Argument
Meaning
No Meaning

Nonsense Words
(Read and Sounded)

Up Shifts
asofi

Down Shifts
azovi

Specific Acoustic Features
Have non-arbitrary emotional qualities

Inherent emotional quality of human speech sounds
Blake Myers-Schulz, Maia Pujara, Richard C. Wolf, and Michael Koenigs

Experiment
Tested the dynamic shift
Between the first two
Frequency Components
Of Nonsense words

Conclusion
Remember
Poe’s choice of Trochee
Words on the Tongue

Poets like to feel the words in their mouths, tripping off the tongue, vibrating in the guttural back throat, resonating in the sinuses, clicking by the teeth.

“I shall arise and go now, and go to Innisfree”
—Yeats

“Though I speak with the tongues of men and of angels and have not love I am a sounding brass or a tinkling cymbal.”
—King James Bible, I Corinthians 13

Gotta love us brown girls, munching on fat, swinging blue hips. decked out in shells and splashes, Lawdie, bringing them woo hips.
—Patricia Smith

This time, it’s about Pleasure

Aesthesis
Saint Francis and the Sow
by Galway Kinnell
Saint Francis and the Sow

The bud
stands for all things,
even for those things that don’t flower,
for everything flowers, from within, of self-blessing;
though sometimes it is necessary
to reteach a thing its loveliness,
to put a hand on its brow of the flower
and retell it in words and in touch it is lovely
until it flowers again from within, of self-blessing;
as Saint Francis
put his hand on the creased forehead of the sow, and told her in words and in touch blessings of earth on the sow, and the sow began remembering all down her thick length,
from the earthen snout all the way through the fodder and slops to the spiritual curl of the tail,
from the hard spininess spiked out from the spine down through the great broken heart
to the sheer blue milken dreaminess and shuddering from the fourteen teats into the fourteen mouths sucking and blowing beneath them: the long, perfect loveliness of sow.
and the sow
began remembering all down her thick length,
from the earthen snout all the way
through the fodder and slops to the spiritual curl of the tail,
from the hard spininess spiked out from the spine
down through the great broken heart
to the sheer blue milken dreaminess and shuddering
from the fourteen teats into the fourteen mouths
sucking and blowing beneath them:
the long, perfect loveliness of sow.
Do not go gentle into that good night,
Old age should burn and rave at close of day;
Rage, rage against the dying of the light.

Though wise men at their end know dark is right,
Because their words had forked no lightning they
Do not go gentle into that good night.

Good men, the last wave by, crying how bright
Their frail deeds might have danced in a green bay,
Rage, rage against the dying of the light.

Wild men who caught and sang the sun in flight,
And learn, too late, they grieved it on its way,
Do not go gentle into that good night.
Grave men, near death, who see with blinding sight
Blind eyes could blaze like meteors and be gay,
Rage, rage against the dying of the light.

And you, my father, there on the sad height,
Curse, bless, me now with your fierce tears, I pray.
Do not go gentle into that good night.
Rage, rage against the dying of the light.
Lewis Carroll, although using plenty of “jabberwocky” in his poem, never the less tells a gripping story with his use of diction, imagery, and themes that tie to the larger works the poem appears in.

Imagery is an important element to Carroll’s Jabberwock. He makes it apparent from the start that the action is occurring in a land other than our own, even a land other than Wonderland. It immediately sucks the reader into a land where imagination is king, as there is no reason to the way things are.

Alice herself exclaims that, “Somehow it seems to fill my head with ideas-only I don’t exactly know what they are”

Who do we ask?