

SHAKESPEARE'S PANGRAMMATIC SONNET

A. ROSS ECKLER

Morristown, New Jersey

Among Shakespeare's 154 sonnets, is there one that contains every letter of the alphabet? The letter Z occurs in 14 sonnets, the letter Q in 44, the letter X in 43, the letter J in 50, and the letter K in 151. Assuming that letters occur independently and at random—not unreasonable for rare letters—the probability that all five letters occur in a single sonnet is $(.09)(.29)(.28)(.32)(.98)$ which equals 0.0023. The probability that all 154 sonnets fail to produce is equal to $(1 - .0023)$ raised to the 154th power, or 0.67, so the probability of at least one pangrammatic sonnet is 0.33.

Mirabile dictu, Sonnet 27 qualifies:

Weary with toil, I Haste me to my bed,
 The Dear Repose for limbs with travel tired;
 But then begins a joUrney in mY head
 to work my mind when body's work eXpired.
 For then my thoughts, from far where i abide,
 intend a Zealous pilgrimage to thee,
 And Keep my drooping Eyelids Open wide,
 looking on darkness which the blind do see;
 Save that my soul's imaginary sight
 Presents thy shadow to my sightless View,
 which, like a Jewel hung in Ghastly Night,
 Makes blaCk night beauteous and her old face new.
 Lo, thus, by day my limbs, by night my mind,
 for thee, and for myself, no Quiet find.

Z amazeth 20, authorizing 35, blazon 106, freezings 97, gaz'd 2, gaze 5 24, gazers 96, gazeth 20, gazing 125, glazed 24, prize 48 151, prizing 143, raz'd 122, sympathiz'd 82, zealous 27

Q acquaintance 77 89 89, acquainted 20, antique 17 19 59 68 106, banquet 47, bequest 4, conquest 6 46 74, conquer'd 90, eloquence 23, equal 84, equipoise 32, exchequer 67, frequent 117, iniquity 62, liquid 5, obsequious 31 125, qualify 109, quality 14, queen 96, quenched 154, quest 46 129, question 12 57, quicker 45, quickly 153, quiet 27, quietus 126, quill 83 85 88, quite 72 103, requite 57, sequent 60

X annex'd 99, betwixt 47, complexion 18 99 132, ever-fixed 116, example 84, exceed 83, exceeded 32, exceeds 150, excel 5, excellence 94 105, excellent 38, except 147, excess 146, exchang'd 109, exchequer 67, excuse 2 42 51 51 51 139, executor 4, expense 30 94 129, expiate 22, expire 73, expired 27, extant 83, extern 125, external 53, extreme 129 129, extremity 51, fix'd 21, next 110, phoenix 19, self-example 142, swart-complexion'd 28, transfix 60, 'twixt 75 115, vex 92 135, vex'd 147

J adjunct 91 122, enjoy 29, enjoy'd 129, enjoyer 75, enjoys 9, injuries 88 139, injurious 44 63, injury 40 68, jacks 128 128, jade 51, jail 133, jaws 19, jealous 57, jealousy 61, jewel 27 65 96 131, jewels 48, jollity 66, journey 27 50, joy 8 25 42 45 50 91 129, judgment 14 87 116 137 148, jump 44, just 121 150, justify 139, majesty 7 78, marjoram 99, object 20, objects 113 114, perjurd 129 152 152, subject 38 8284 124, subjects 59 100, unjust 138