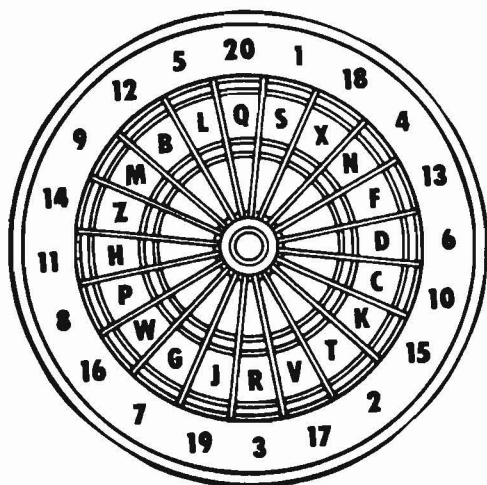


# BEYOND QUINQUENNIALLY

JOEL FUNK  
Rumney, New Hampshire

The July 1988 issue of Games magazine contains a contest entitled "Hit The Jackpot" which ought to appeal to logologists. The contest is based on the lettered dartboard shown to the left. The challenge is to throw four imaginary darts at the board, collecting letters (or a bull's eye) with each dart. Then add any number of vowels (including Y) to the letters collected and rearrange all of the letters to form a word. The only consonants that may appear in the word are the ones collected by the four darts.



As in the real game of darts, a single dart can score a single, double, or triple. A dart hitting "double L", for example, means that two Ls can be used in the word; a triple L is good for three Ls.

One or more darts may be used to hit the bull's eye. Such darts do not collect any letters, but they are worth 25 points each.

The score is determined by adding up the number of points scored by all of the darts (including doubles, triples, and bull's eyes), then multiplying this total by the number of letters in the word. For example, the four darts used in the word DARTBOARD are double D, double R, B, and T (vowels, remember, neither use darts nor score points). This is equivalent to  $12 + 6 + 12 + 2 = 32$ , times 9 letters = 288 total points.

Note that if a consonant appears more than three times in a word it will take at least two darts. ASSESS requires a triple S, a single S, and two bull's eyes ( $54 \times 6 = 324$  points).

The point of the contest is to find the acceptable word that has the highest total score. Acceptable words must be listed in Webster's Third New International Dictionary (Unabridged) as a bold-face entry or an inflected form of one. Plurals are acceptable. Words that are capitalized, hyphenated, made up of several components separated by spaces, etc. are invalid.

It might be objected that this contest is of only marginal log-

logical interest due to the arbitrary nature of the scoring system. However, the Spearman's rho correlation between the points assigned to the consonants and their inverse frequency of occurrence (ETA-OINSHRDLU..., but omitting the vowels) is a very respectable +0.84 (perfect correlation would be represented by +1.00). Thus, the scoring system is in fact not all that arbitrary.

As Q is the highest scoring letter, it is perhaps not surprising that the winning word turned out to be QUINQUENNIALLY (reported in the November 1988 issue of Games magazine). With double Q, triple N, double L, and a bull's eye, it totals 87, which, multiplied by 14 letters, scores 1218 points. There were over 6000 correct entrants, including the author.

The rules for the contest are rather confining, however. Surely there are many interesting words not listed in, or listed unacceptably (i.e., hyphenated) in Webster's Third, that would outscore QUINQUENNIALLY. Challenged, I set out to find these illegitimate (IL) words. I did, though, impose some restrictions: with one major exception, I limited myself to words in the English language very inclusively defined. Thus slang, archaic terms, literary neologisms (i.e., in print), and scientific terms were considered fair game. It might be objected that this last category is mostly Latin, but since scientific names are universal (i.e., translingual) and would be used by an English-speaking scientist, they were deemed acceptable.

The exception to words in the English language is geographical names, including, albeit marginally, the names of peoples and indigenous flora and fauna where no other English name is available. Many of the places cited are in America (including Alaska and Hawaii), but some are not. My reasoning is that place names, although foreign in origin, are nearly as translingual as scientific names, and ought to be appropriate. Personal names and non-geographic words from other languages are not included in my essay, although the more dauntless of readers may wish to pursue this avenue.

## I

Before embarking on our journey beyond QUINQUENNIALLY, it might be worth noting, as a means of gaining perspective, which of the tens of thousands of legitimate words managed to score over 1000 points. I found only eight! In descending order, they are

1218 QUINQUENNIALLY	1053 QAIMMAQAM
1122 QUINQUENNIA	1036 CHINCHERINCHEE
1079 KILLICKINNICK	1032 QUINQUENNIUM
1066 QUINQUENNIALIA	1012 KINNIKINICK

Several of these are closely related, even variants of one another. In short, the rules of the contest and English spelling and phonology have conspired such that 1000 points is rarely exceeded and 1220 points, never.

Never? Let's consider relaxing the rules slightly to include words that are technically IL. If no reference for an IL word is given, the source is Webster's Second or Third.

By allowing place names, we can outscore QUINQUENNIALLY by a hair: KUPIKUPIKIO [Point, in Hawaii] scores 1221 points [1]. Strangely, no fewer than three words or phrases manage to score exactly 1260 points: CONVEXO-CONCAVE (IL, due to hyphenation), XIQUE-XIQUE [2, Gazetteer], and AJAJA AJAJA, the scientific name for the roseate spoonbill [3].

Slightly higher are CONVEXO-CONVEX at 1274, and two words totalling 1284: CHIQUICHIQUI [palm] (IL since only the compound phrase is listed in Webster's), and BIBBLE-BABBLE.

There are two northern lakes with the identical score of 1320: KILEKALE LAKE in Canada [1], and KUKAKLEK LAKE in Alaska [4]. Note that the full address, KUKAKLEK LAKE, ALASKA scores a whopping 1908 points!

Undoubtedly the most agonizing moment in my search occurred when, poring through a dictionary that I had assumed was Webster's, I came across the chemical compound BENZENEAZOBENZENE at 1394 points. A helpful librarian pointed out that I was in fact perusing the Random House Dictionary of the English Language [2], not Webster's. I rushed to the nearby Webster's only to find to my utter dismay that it was not listed! If the rules had stated that the word had to appear in any dictionary, this is probably the word that would have won.

In Hawaii, there is a place on the map called KAUAKAIKAOLA HEIAU [1] which totals 1462 points.

Searching through dictionaries of organic chemical compounds proved very frustrating, for almost all of these mouthfuls contained more than four consonants. I did find a winner, though, in BENZENEAZOBENZOIC [acid] [4] at 1496, obviously related to BENZENEAZOBENZENE above.

Borgmann [3] lists a "terrible tautonym" that, inelegant as it may be, manages to score even higher: YACK-YACK-YACK at 1500 even.

The highest IL word found in Webster's is HOOCHIE-COOCHIE at 1582 points.

An even higher score, 1696, is attained by a mathematical term, ZENZIZENZIZIC, meaning a number raised to its eighth power [5]. This was the highest score I found for a single, uncapitalized, unhyphenated, unspaced, non-neologistic English word!

To go higher, we have to relax the rules even further. For example, the scientific name for the African weaverbird is QUELEA QUELEA [3], a triple tautonym scoring 2250 points.

Next comes an address. Before Oklahoma City was so named, it was actually the city of Oklahoma, in the county of Oklahoma,

in the state of Oklahoma [6, p. 104]. Thus, before 1923 its full address was OKLAHOMA, OKLAHOMA, OKLAHOMA at 2880 points.

From here we make a quantum leap to literary coinages. Generally acknowledged as a masterpiece of English writing, James Joyce's *Finnegans Wake* contains, at the end of Section 1, Episode 7, a word with 8 Qs: QUOIQUOIQUOIQUOIQUOIQUOIQUOUIQ, which scores an amazing 5365 points. If we only had some idea what it meant! Incidentally, there are other high-scoring neologisms in this work, such as ATTABOMBOMBOOM at 1288 and QUISQUIQUOCK at 1032.

The absolutely highest score I found, however, is from Philip Roth's novel *Portnoy's Complaint*. Near the very end, the "hero" emits a scream: AAAAAAAAAA [to a total of 321 As]...HHHH. This howl of anguish scores an unbelievable 22,090 points! Are there other screams out there, that, unbeknownst even to their authors, might score even higher?

Although neologisms not found in print were not an official part of my search, brief mention should be made of MICROMICROCURIE at 1230 and JINGLEJANGLINGLY at 1376, both suggested by Games magazine contestants in November 1988, and my inventions of QUASQUINQUENNIALLY at 1577, BENZOXYAZOBENZENE at 1632, SESQUIQUINQUENNIALLY at 1680, and SESQUIQUINQUENNIA at 1683. Most of these are plausible. One could imagine them being used in speech, print or poetry, and the chemical name might actually exist somewhere. Are there any organic chemists among *Word Ways* readers?

Surely there are other words beyond QUINQUENNIALLY yet to be unearthed!

### III

So much for relaxing the rules. Oddly enough, part of the fun of this contest for me was finding words that scored high with certain restrictions or conditions added. In this section, I consider the highest scoring words found with the higher scoring consonants successively eliminated. We already know that QUINQUENNIALLY is the highest scoring Q word, but what is the highest scoring legitimate J word? By a J word, I refer to a word that has at least one J in it (preferably more than one), but which has no letters with higher scores than J (in this case, only Q). Similarly, a C word will have at least one C in it and no consonants that score more than 10 (that is, H, B, F, Z, K, W, V, X, J or Q). As the reader can observe, there are at least two K words that outscore the highest scoring J, X, V, and W words. That is why a J word must have at least one J present; otherwise, the highest scoring word with Q eliminated would be KILLICKINNICK.

I now go through the twenty-one possible conditions--no consonants at all being the twenty-first--to ascertain in each case the two to four highest scoring LG words. I also point out any other interesting LG words. For example, in general too few or too many bull's eyes can make high scores difficult to attain: too many and the word is probably going to be a bit short, no bull's eyes means the loss of a 25-point dart. Where possible I will point out the highest scoring triple bull's eye [3BE] and sans bull's eye [SBE]

words, respectively.

I make no claim to finality; in fact, I welcome any revisions or additions to this list.

Q: I found 14 words, all but one with a pair of Qs, that score over 800 points. The highest-scoring three words were QUINQUENIALLY 1218, QUINQUENNIA 1122, and QUINQUENNALIA 1066. QAIMMAQAM 1053 contains no U, and furthermore is the only word under 10 letters to score over 1000 points. QUINQUAGENARIAN 930 is SBE, and QUIAQUIA 920 is the top-scoring 3BE word. The only one of the 14 words not beginning with Q are EQUIVOQUE 963 and EQUIVOCACY 820; the last is the highest-scoring single-Q word.

J: I found 6 words scoring over 700 points, the top four being JIPPIJAPPA 950, CRACKERJACK (top SBE) 935, JIPIJAPA (a variant) 832, and HALLELUJAH 810.

X: I found 7 words scoring over 700 points, the top four being AZOXYBENZENE (top SBE) 792, LEXICOLOGICAL and EXOCYCLICA tied at 780, and DEOXIDIZED 750. The top score for a word beginning with X is XANTHOXENITE 708.

V: I found 5, possibly 6 words that score over 800, the top three being CACIOCAVALLO 984, KAVAKAVA 912, and INVASIVENESS 840. OVOVOVIPARITY 832 is SBE. ALLEVIATIVE 781 is in Webster's Third, and by the rules of the contest its inflected form ALLEVIATIVELY should be legitimate. If so, it takes top honors at 988.

W: I found 7 words that score over 800 points, the top four being KAWAKAWA 896, KAKAWARIKI and WILLOWWEED tied at 890, and WILLOWLIKE 870. WILLOWWORM 700 is SBE.

K: I found 6 words that score over 850 points, the top three being KILLICKINNICK (top SBE of all) 1079, KINNIKINICK 1012, and KNICKKNACKY 968. The highest scoring K word that does not begin with K is COCKIELEEKIE 960.

Z: I found only 2 words that topped 700 points, AZOBENZENE 730 and ZIGZAGGED 720; ZIGZAGGER 693 came close.

F: I found 10 words scoring at or over 750 points, the top three being INEFFICIENCY 948, CHIFFCHAFF (top SBE) 940, and INSUFFICIENCIES 840. FEOFFEE 798 is 3BE. Two sets of antonyms made the list, EFFICACY 768 and INEFFICACY 750, INEFFICIENCY 948 and EFFICIENCY 750.

B: I found 3, possibly 5, words that topped, or nearly topped, 750 points, the highest scoring three being BOIULLABAISSSE 793, BICYCLICAL 770, and BEARBERRY 747. The adverbial form of BICYCLICAL, i.e., BICYCLICALLY 984, might be acceptable; if so, it's by far the top scorer. The adverbial form of BILABIAL, i.e., BILABIALLY, might also be acceptable at 890.

H: I found 5 words that topped, or nearly topped, 800 points, the top three being CHINCHERINCHEE (top SBE, top CH) 1036, CHINCHERICHEE (a variant) 910, and CACHUCHA 816. The highest scoring word with a "hard" CH is HIERARCHICALLY 812, and the high-

est scoring words containing PH are HIPPOPHAGY, HYPOPHOSPHATE, and HYPOPHOSPHITE, tied at 780. HYPOPHOSPHOROUS [acid] would have been the highest PH word, but it is listed in compound form. The highest scoring word with unpaired Hs is HELLHOLE 696; the highest scoring SH word is HASHEESH 680, and GH is HICCOUGHING 660.

C: I found 6, possibly 7 words that score over 800 points, the top three being GLACIOLOGICAL 962, CYCLICALLY 950, and ACETO-ACETATE 912. ALICYCLIC 810 is on the list, and its inflected form ALICYCLICALLY might be acceptable; at 975 it tops the list.

M: I found 5 words that score over 700 points, the top three being NONMAMMALIAN 828, MAMMILLAE 783, and IMMEMORIALY 780. MONOGRAMMING 624 is SBE.

P: I found 5 words that score over 650 points, the top four being APOSIOPEsis 759, PAPILLULE 729, and SUPPOSITITIOUS and PARALLELEPIPED tied at 672. The latter is also the top SBE.

G: I found 6 words that score over 600 points, the top two being DINGDONGING 770 and LALLYGAGGED 737. UNINTELLIGENTLY 570 is SBE.

D: I found 3 words that score over 600 points, the top two being DILLYDALLIED 756 and DISSUADED 630. DEADEYE 609 is 3BE. There are no high scoring SBE words for obvious reasons. The top 1BE word is DETERIORATED 564.

L: I found 9 words that equal or outscore 600 points, the top three being ALLELUIA (top 3BE) 720, SOULLESSLY 680, and INTENTIONALITY (top 1BE) 672.

N: I found 5 words that score over 600 points, the top three being INATTENTION 748, INTONATION 660, and INSTANTIATIONS (top 1BE) 630. AEONIAN 581 is 3BE. The highest scoring word using all four of the lowest scoring letters (N, R, S, T) is TRANSITORINESS 294, unless its opposite, INTRANSITORINESS 400, is considered acceptable.

R: I found 12 words that score over 500 points, the top three being TRITURATOR 650, IRRITATOR and TERRITORY tied at 567. ORRERY and ROARER, both 504, are 3BE. The highest scoring word that uses all three of the lowest scoring letters (R, T, S) is RESTAURATEURS 520.

T: I found 7 words that score over 450 points, the top two being OTIOSITIES 560 and TATTOO (top 3BE) 486.

S: I found 8 words that score over 400 points, the top two being OSSEOUS and SEESEES (also a palindrome) tied at 546. All the words that made the list were 3BE except ASSESSES 440.

No consonants: If one simply throws all 4 darts at the bull's eye, one can then construct words consisting entirely of vowels. The length of the word, multiplied by 100, is then the score. I found 3 words that scored 400: AIEE, IEIE, and YAYA, the last two being types of trees.



## IV

There are any number of miscellaneous ways by which to vary the restrictions so as to produce interesting results. Here are six possibilities:

a. Palindromes have always fascinated logologists. What are the highest scoring palindromes? The top three legitimate words are KINNIKINNIK 946, KAKKAK 660, and REVIVER 630. The only two palindromes found that outscore 946 are YLEVITATIVELY [3], a clever neologism scoring 949, and AJAJA AJAJA, mentioned previously at 1260.

b. Word length is another factor that deserves consideration. Most of the really high scorers contain 9 or more letters. What are the highest scoring 8 letter words? I found 9 8-letter words that score over 800 points (a "density factor" of at least 100), the top three being QUIAQUIA 920, KAVAKAVA 912, and KAWAKAWA 896. If tautonyms are barred, the highest scoring words are QAL-MAQAM and WILLIWAW, tied at 864. All other words are fairly uncommon with the exception of KICKBACK 816. Among IL words, only BZZZBZZZ [7], scoring 1064, exceeds QUIAQUIA. Incidentally, this may be the highest scoring IL word containing no vowels (although I wonder about some of the "snores" in print).

c. What about 7-letter words scoring more than 700 points? I found only two: FEOFFEE 798 and AKAAKAI 735. These are outscored by a number of IL place names: IQUIQUE [2, Gazetteer], in Chile, with 805; KOXIKUX [6] in Arizona, at 812; KOYUKUK [1], in Alaska, with 840; WAWAWAI [6] in Washington at 861; VAIVA VO [6], in Arizona, with 882.

d. Let us make the conditions really restrictive. What are the highest scoring words in which there are 4 different consonants (thus no bull's eyes), each used only once (thus no doubles or triples allowed)? My nominees are EQUIVOCATE and EQUIVOCITY, tied at 490. Among IL words, FOUQUIERIACEAE [8], a plant, scores 644, followed closely by AQUIFOLIACEAE 624.

e. Let us reverse our usual goal. What is the lowest possible score attainable in this contest? If we wish to avoid bull's eyes, doubles, and triples, the answer must be to use the 4 lowest consonants N, R, S, and T only once, in the shortest possible word. Allowing for a minimum of one vowel we have possible solutions RANTS, TERNS, STERN, RENTS, TURNS, RUNTS, TARNS, and SNORT, all tied for 50 points. Is it possible to go lower? Some large cities name streets with letters. If there is also a North and South side of town, then somewhere there may be people actually living on N. R ST. at a rock bottom 40 points!

f. One rule that has remained inviolate through all our variations has been the use of only four darts. It might be entertaining to consider what would happen if we were allowed five darts instead of four. I leave it to readers to convince themselves that it is highly unlikely that any legitimate word of four or fewer consonants would outscore QUINQUENNIALY, which, with an extra

bull's eye, would now score 1568 points. However, there may be five-consonant words that do. One legitimate example is HUMUHUMU-NUKUNUKUAPUAAA, scoring 1806. True, it's originally Hawaiian, but it is listed acceptably in Webster's Third! An IL example is the Hawaiian place name KANELOLOUMA-KIHOUNA [1], scoring 1817. Even higher is James Joyce's neologistic GRYFFYGRYFFYGRYFFS, scoring 1962. Are there any other new words that outscore QUINQUENNIALY (i.e., avoiding the contrivance of merely adding an extra bull's eye to words already cited)?

The mind begins to boggle...perhaps this is the place to conclude my oeuvre d'art!

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#### MESSAGES USING SCRABBLE<sup>R</sup> TILES

*The August 1975 Word Ways reported an item in the London Times describing a new game by Phoebe Winch: compose a sensible sentence using the letter-tiles supplied with a certain well-known word game. Fourteen years later, Pete Stickland has independently discovered this game, and has published his results -- 120 meaningful sentences -- in a 60-page, 8½x11 spiral-bound booklet, Tower of Babble, that has a prepublication price of \$3.95 (write BABBLE, General Delivery, Harcourt, Ontario Canada K0L 1X0). A sampling:*

*Soviet occupying army will quit divided Afghanistan, export woe again as mujahedeen rebels forge on to terrorize Kabul  
Queasy radioman wept: got to eye ferocious blaze of vivid aerial explosion, cremating wilted Hindenburg at Lakehurst, N.J.*

*Countrymen, I am to bury, not eulogize, Caesar; if evil lives on, bequeathing injury, good oft expires: a palsied, awkward death!*