

THE "C-14" PROBLEM

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William Shakespeare--the 16th-century dramatist and poet, not the 19th-century musical composer and pianist--is credited with using the longest English word faithfully alternating consonants and vowels: the 27-letter HONORIFICABILITUDINITATIBUS. The term is, unfortunately, both a nonce word and obviously Latin, not truly English. The Funk & Wagnalls Unabridged, apparently by way of a back formation, has converted the word into HONORIFICABILITUDINITY, a 22-letter term wholly English in appearance, possessed of a simple meaning ("honorableness"), and also alternating consonants and vowels regularly. Since 1913, when that dictionary was first published, these two words have stood unchallenged in point of length.

Given these circumstances, how do we go about providing the subject of consonant-vowel alternations with the depth and complexity needed to make it a full-fledged member of the logological spectrum? One way of doing so is to consider somewhat shorter words, which are more plentiful, and to lay down a series of conditions that words must satisfy to qualify. Let us, to illustrate, require that acceptable words be exactly 14 letters long, always begin with the letter C, be written solidly (excluding hyphenated and apostrophized words as well as two- and three-word terms), and be words as opposed to biographical, geographical, and fictional names. We can also choose to exclude obsolete, dialectal, slang, and colloquial words, and limit candidates to dictionary words and their inflectional or other standard derivative forms. What sort of logological experience does the problem just defined offer us? An extraordinary one!

Making a stab in the dark, CATEGOREMATIC is a 13-letter word meeting all other specifications; CATEGOREMATICAL, a 15-letter such word. Is there, perchance, a 14-letter intermediary, CATEGOREMATICA, the feminine form of a once Latin adjective CATEGOREMATICUS? Alas, such is not the case--we shall have to exert ourselves a little to find what we want. Yet, Latin does seem to have the requisite potential as the original source of a word satisfying us. For example, CATAGELASIMUS ("serving for ridicule") is a properly-structured 13-letter word; its masculine and neuter genitive plural form, CATAGELASIMORUM, has 15 letters in proper order.

A literally letter-by-letter examination of the contents of the five so-called collegiate dictionaries published in the United States--a search consuming endless months of dreary, wearying concentration on nearly 8,000 pages of fine print--fails to unearth even

one qualifying word. What this failure means is that the 150,000 most common English words do not include any 14-letter word alternating its consonants and vowels unflinchingly. Have we priced ourselves out of the market, so to speak? If the first 150,000 words of the English language do not include such a word, what reason is there to hope that the second 150,000, or any subsequent group of 150,000, words will harbor such a highly elusive word? Have we made a mistake in requiring eligible words to begin with the letter C?

Apparently we have, for a mind-wrenching, backbreaking, letter-by-letter search through the 2,782 large pages of fine print in the 1981 printing of Webster's Third Edition--today's final English language authority--also fails to produce a word fitting our requirements. Not even the monumental Websterian collection of 450,000 words--three times the number in the collegiate dictionaries--includes one that we can use! Mathematical intuition tells us that a sampling of our language as enormous as this one must be thoroughly representative of the entire language. Any further searching will assuredly be useless.

One 14-letter word that comes readily to mind and which meets all of our conditions but one begins with the letter V: VERISIMILITUDE ("an appearance of truth"). It strikes us as the other side of our coin: we are contemplating Consonants and Vowels, so that V is the necessary twin or companion of C. Judging by its inclusion in some of the smaller pocket dictionaries, VERISIMILITUDE is one of the 25,000 or 30,000 most common English words. Should we abandon C and turn to V? Since there are more than 5 times as many English words beginning with C as there are beginning with V, the suggestion seems preposterous and we decide to examine the C sections of other comprehensive dictionaries: The Random House Unabridged (RHD); Webster's First, Second, and Third Editions (W1, W2, W3); The Funk & Wagnalls Unabridged (FW); The Oxford English Dictionary (OED); and The Century Dictionary and Cyclopedia (CD). Surely, the prize we seek will be found lurking somewhere within their pages!

Early in our expanded quest, we stumble on a pair of fully qualified words obvious in meaning: COLONIZABILITY (W1, W2, W3) and COLONISABILITY (RHD). Inspired by this double success, we pursue our search with enhanced vigor, and another seemingly simple word eventually falls into our laps: CAPACITATIVELY (W2). Actually, however, the word is a highly technical term in the realm of electrophysics, and its status is not quite as indisputable as that of our first find: W2 is the only dictionary including that adverb, and it fails to spell it out, indicating its existence only by means of the run-on word fragment -TIVELY following the adjective CAPACITATIVE. Puzzle contests limiting entrants to using words appearing in boldface type in contest-sanctioned dictionaries would not permit us to use CAPACITATIVELY.

A continued scrutiny of the pages of W2 leads us to another esoteric discovery: CYCADOFILICALE (W2), a fernlike plant of the Pale-

ozoic Era. Again, W2 is the sole dictionary to recognize this word. More importantly, we suddenly realize that, in significant contrast to VERISIMILITUDE, all four of the C words we have found use the letter Y as one of their vowels. In these words, Y really is a vowel, but there are others (YES, YIELD) in which it functions as a consonant. For that reason, word problems involving the vowels often limit them to the five letters A, E, I, O, and U. Isn't it possible to locate a 14-letter C word that respects this limitation?

After a long and tedious search, we light upon the word CONICO-SUBULATE (CD)--"slenderly conic; tapering toward a point." Not only have we found the word in an out-of-the-way dictionary, but we had to look for it in its two-volume supplement, for it is not in the main section of the work. Interlexical comparisons quickly establish that the word is also in W1, W2, FW, and the OED--but usually without any definition and always hyphenated (CONICO-SUBULATE). The Demon of Antilogology is testing us again!

Our herculean efforts have produced a grand total of five 14-letter words. To find more of them, we investigate various medical, chemical, botanical, geological, and other dictionaries. Searches through most of them are dishearteningly unavailing. One--Dorland's Illustrated Medical Dictionary--yields another two words. One is COLOHEPATOPEXY ("the suturing of the colon of the liver to take the place of adhesions between the liver and the stomach which form after gallstone operations"). The other is the second word of the term LIGAMENTUM CORACOHUMERALE ("a broad band that arises from the lateral border of the coracoid process of the scapula and passes downward and laterally to be attached to the major tubercle of the humerus"). The second word is a treacherous one: it is far out of alphabetical order (among the L's), and it is not an independently-used word--it appears only in the two-word combination just defined. Its acceptability is, accordingly, less than indisputable.

We thirst for more than a mere 7 words--our incredible act of self-sacrifice in doing what was needed to find them deserves a greater reward. Returning to W2, we begin reading between the lines, as it were. Four of the 12-letter adjectives in that dictionary attract our interested attention: CANALICULATE, CAPITULATORY, CIVILIZATORY, and COTYLEDONARY. In standard English, adjectives spawn their associated adverbs by adding the suffix -LY. That suffix instantly produces four 14-letter adverbs suiting our tastes:

CAPITULATORILY	CANALICULATELY
CIVILIZATORILY	COTYLEDONARILY

"Seven, come eleven!", gamblers say, and we have certainly increased our stock from 7 to 11 words. Unfortunately, three of the newcomers include one Y, and one includes two representatives of that questionable species.

Perhaps we can do better by reading between the lines more skillfully. An examination of W2 and W3 discloses that the devotee or practitioner of Anglomania is an Anglomane; of balletomania, a

balletomane; and of bibliomania, a bibliomane. It follows, as day follows night, that a victim of CACODEMONOMANIA (W2)--"insanity in which the patient has the delusion of being possessed by an evil spirit"--is a CACODEMONOMANE, living up to our specifications. What if the patient is really possessed by an evil spirit--what do we call him then?

W2 also includes the word CATAKINETOMER (a certain molecule of protoplasm low in energy content). W3 informs us that the combining form -MER has -MERE as a variant. It follows that our find can also be spelled CATAKINETOMERE, for yet another 14-letter word of our kind. By way of support, Chambers's Technical Dictionary does use the -MERE ending for the word, but switches to a variant spelling of its prefix CATA- and presents the plural instead of the singular form of this noun: KATAKINETOMERES.

We try yet once more. Dorland's yields CERATOPOGONIDAE, an alternate name for HELEIDAE, a blood-sucking, disease-carrying family of dipteran flies. The family name is a Latiniform plural. Its singular is CERATOPOGONIDA, becoming our fourteenth C word steadfastly alternating consonants and vowels.

Have we reached the end of the line? Perhaps it is possible for us to expand our collection by relaxing our standards. Are there additional hyphenated words satisfying all of our other specifications? Astonishingly, we find not even one. Large numbers of hyphenated words turn out to end either in -ED or in -ING, and many others also end in consonants, not in vowels, categorically disqualifying themselves from competition for our honors.

What about two-or-more-word phrases appearing as dictionary entries? Here, too, the results of our search are surprisingly meager. The FW includes the term CAPITOLINE GAMES (certain ancient Roman games held at first annually, later quinquennially). The term is a plural; its singular is CAPITOLINE GAME, qualifying for our select coterie. Various dictionaries, including W2 and W3, list the entry COLORADO POTATO BEETLE. Its first two words, COLORADO POTATO, live up to our standards. Reflecting on the insect, we realize that it would be impossible for an insect in Colorado to be destructive to potatoes unless there were also potatoes in that state. In short, the COLORADO POTATO is a prerequisite to the Colorado potato beetle, whether or not the term is listed in dictionaries. Based on their cash return, potatoes are, in fact, one of Colorado's major crops.

Can we synthesize personal first-and-last-name combinations exhibiting the desired characteristics? If we restrict ourselves to thoroughly English and reasonably common names, we encounter considerable difficulties, producing only a few combinations:

CAROLINE LOWERY	COLEMAN, ADELINE
CAROLINE MALONE	COLEMAN, IMOGENE

All of these combinations are feminine. Why? Because the structures just displayed require all first names to end in vowels, and many

more feminine than masculine forenames end in vowels.

Are there any eligible 14-letter geographic names? Our first impulse is to search for entries in atlas indexes and gazetteers. Our sole discovery is the entry COLORADA, LAGUNA in the Times Index-Gazetteer of the World. The name is that of a small, obscure lake in Cuba, northwest of the city of Cienfuegos. The name of the lake is also feminine.

What about synthesizing geographic location names, as by combining city and state names in the United States? Here, we meet with modest success, even though we decide to exclude locations without any population (places such as railroad stations and grain silos) and locations within cities (most probably, names of post office stations in the larger cities). On that basis, five acceptable combinations turn up:

CALUMET, ALABAMA	CAHONE, COLORADO
CONIFER, ALABAMA	COLONA, COLORADO
CAMERON, ARIZONA	

Altogether, we have found 14 single, solidly-written words and 12 combinations marred by word breaks, with 8 of the latter also disfigured by internal commas, for a grand total of 26 solutions to the problem we had set ourselves. For a starting letter as common as C, that total is very poor.

We could produce many more solidly-written solutions by attaching the suffix -LIKE to 10-letter nouns such as CARICATURE, COLORATURA, and COPULATIVE. We have refrained from doing so because there are too many such nouns, so that the tactic would eliminate the element of challenge posed by the problem.

Have we overlooked something? Is there a hidden key to producing many more 14-letter terms that alternate their consonants and vowels--without resorting to a tactic as underhanded as the -LIKE maneuver? Is there any other combination of starting letter and reasonably substantial word length that produces as many interesting consequences as does the C-14 combination? We invite readers to experiment for themselves--and find out.