

Executive summary:

1. English usage of the word *rivalrous* is rare (about one per hundred uses of *rival*) in the Google Ngram corpora of published material today and non-existent in corpora consisting of social interaction general language (SUBTLEX-US).

2. Usage of *rivalrous* has remained rare for hundreds of years very likely through the linguistic phenomenon of *blocking*, i.e., the conscious or unconscious resistance of language users to a new form synonym for an established form of a particular word meaning. Here we are talking about the adjective describing the condition of being in competition, which is succinctly covered by the word *rival* itself. This is a particularly potent mechanism when the proposed synonym is less efficient, e.g., longer, more syllables and when the formation is not accomplished through a commonly familiar route (see next point).

2. The word *rivalrous* is not formed by a standard *root* + *-ous* suffix attachment rule, so it appears even more anomalous (being unfamiliar to begin with, given the rare use) when encountered. By *rule* we mean here the observable commonly used pattern of construction (whether unconsciously or consciously applied) by language users, inferred from present-day English corpora and the descriptive framework of current grammars of English, including as a specialized area in the latter the classic *The Categories and Types of Present-Day English Word-Formation* by Hans Marchand, 1960. We will argue that *rivalrous* appears to have been constructed on analogy with *chivalry* --> *chivalrous* (this has not been previously discussed by Marchand or anyone else that I could find).

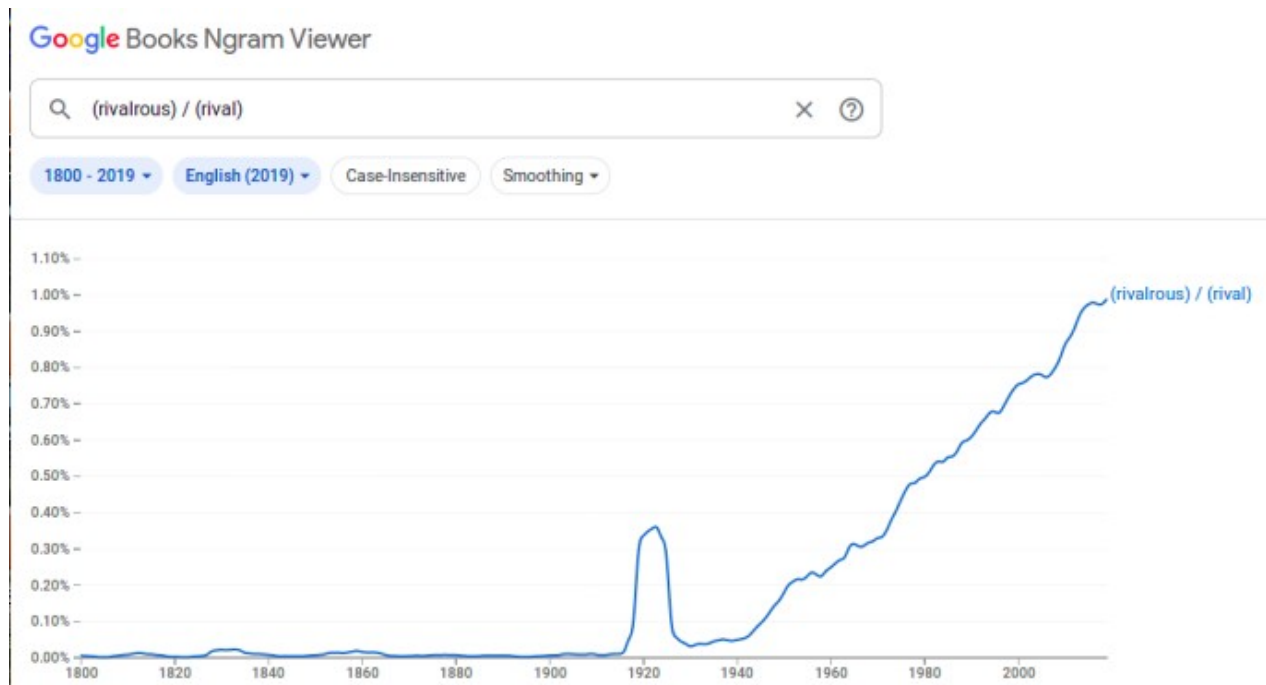
3. The word *rivalrous* does not seriously violate the grammatical rule system of English, but the data show that most writers prefer the word *rival* when describing entities standing in competition for superiority (and *rivalrous* is not found at all in corpora sourced from spoken conversation). If your goal is to put your ideas into words with simplicity and intelligibility (as H.L. Mencken wrote in *The American Language* in 1919), you have no reason to use the word *rivalrous*. I should note that Mencken was not hostile to evolving language, saying, without sarcasm, that "the American vulgate is not only constantly making new words, it is also deducing roots from them," and, criticizing overly prescriptive grammar, he opined that no first-rate writer has ever written a textbook on the art of writing.

The remainder of this article takes the reader through my investigations supporting the above summary, hopefully providing some information and techniques of interest in analyzing English language generally. We will occasionally use a heading format like "Grammar.morphology.blocking," meaning that each item to the right of the periods is included in the scope of the subject to the left (it being prudent to identify my discussion as legitimately falling within the interests of linguists, etymologists and serious English language enthusiasts in word choice and usage, grammar and etymology).

Usage

Interrogating the *Google Ngram Viewer* (more on *Google Ngrams* below) shows *rivalrous* appearing about once for every 100 appearances of the word *rival* as of 2019. The usage ratio *rivalrous/rival* has

been growing approximately linearly with time about 0.0125%/year over the last 80 years, i.e., since around 1940. However, use of the adjective *rivalrous* remains relatively rare.



Because *rival* is used as a noun *or* as an adjective, you might expect at least twice as many appearances as *rivalrous*, which is solely an adjective, other considerations being equal. However, the observed 100:1 *rival*:*rivalrous* ratio dwarfs the ratio 2:1, so the additional part of speech rôles of *rival* do not explain the difference in rate of appearance vis-à-vis *rivalrous*. You can search *Ngram* with query "*rival_**", i.e., append underscore + asterisk to the word *rival*, to see usage frequencies for *rival* as a noun, adjective and verb on the same graph. Though *rival* is also used as a verb, the verb use appears about a third as frequently as its use as a noun or adjective.

The pulse around 1920 in the *Ngram* graph above represents primarily occurrence of the bigram "*rivalrous disposition*." You can see that with an *Ngram* query "*rivalrous **", i.e., *rivalrous* followed by asterisk and the year range (buttons below graph area online) set to 1903 - 1930. A *Google* search of "*rivalrous disposition*" in search category "books" (the *Ngram* page makes book search available also) date range Jan. 1, 1920 - Dec. 31, 1921 produced social science titles. A *Google Books* search for "*rivalrous*" 1925-2006 produced mostly economics titles, a few social science, and one study in perception.

It is interesting that the increasing usage of *rivalrous* relative to *rival* began near 1940 and that it is approximately linear (the graph above appears more straight line than a curve). There were, of course, many changes in America from 1940 or so onward. By 1940 most colleges and universities had established sociology departments. Many sociologists fled Germany and France for America during the Nazi years. The study of economics had increased also, we suppose motivated by the problems of America in the Great Depression of the 1930s and the work of Keynes, the WWII production imperatives and the post-war boom. The number of people attending college increased, particularly with the funding provided by the GI Bill post-war (7.8 million veterans had made use of funds from the Servicemen's Readjustment Act of 1944 for education or training by mid-1956), which, in turn,

increased the size of academic departments to support the additional students. Larger faculties implies more academic publishing.

For example, if about a million dollars more was available to an institution each year, this could translate into a constant increase added each year to the number of faculty, and thereby the percentage of faculty that could publish papers in journals. If the increase in the usage ratio of *rivalrous/rival* was directly related to growth of American population, on the other hand, you would expect to see an exponential increase, the former year's usage multiplied by a factor greater than one, e.g., next year equal to 1.01 times this year's ratio and next year's usage multiplied by 1.01 to obtain the subsequent year and so on. That would produce a steep, upward curving graph rather than the line we observe on the *Ngram* graph (which we should note has linear x and y axes, the magnitude associated with the distance between two successive tick marks being equal throughout each axis, not logarithmic).

about Google Ngram corpus

The *Google Ngram* data used in the graph above is a corpus scanned in from books published predominantly in the English language in the United States 1800 – 2019. We note that there are some caveats about using the Google Books corpus for linguistic analysis. Being a library of sorts, a single prolific writer (or a group of writers in a particular academic field) might be able to insert new words or phrases into the lexicon inferred from the corpus (whether the books or journals are widely read or not). Also, there are a large number of scientific texts included, which means phrases or words common to academia but less common in the population generally might skew the distribution (see *Characterizing the Google Books Corpus: Strong Limits to Inferences of Socio-Cultural and Linguistic Evolution*, Pechenick et al, PLOS ONE | DOI:10.1371/journal.pone.0137041 October 7, 2015).

check social interaction corpus

In order to get an idea of the possible usage of *rivalrous* in another language register (i.e., one less academically sourced), we downloaded and searched a copy of the SUBTLEX-US corpus from the *SubtlexUS – Lexique* website, approximately 51 million words in lines from 8,388 different subtitle files from films and television programs: Brysbaert, M. & New, B., 2009, *Moving beyond Kucera and Francis: A Critical Evaluation of Current Word Frequency Norms and the Introduction of a New and Improved Word Frequency Measure for American English. Behavior Research Methods*, 41 (4), 977-990. Research (e.g., Brysbaert et al *Behav Res* 2012 44:991–997, DOI 10.3758/s13428-012-0190-4) indicates that word frequency estimates based on this corpus are the best available predictor of lexical decision and naming times. To measure lexical decision time, a participant in such an experiment might be asked to discriminate between real words and made-up words as they appear on a computer screen by pressing appropriate buttons or keys. The difference in the average time before pushing the word or not-word button can then be measured and statistically analyzed. The implication of the response time improvement with the SUBTLEX corpus is that it contains somewhat more familiar words than corpora derived from published text, which seems a plausible inference.

Using the Python programming language (on a Linux machine, but this commonly used open-source programming language also runs on Windows) and its support for pattern matching (regular expressions), we found 307 occurrences of *rival-* stem words (in the 50 million word SUBTLEX-US corpus). The forms and counts were as follows:

'rival': 178, 'rivals': 61, 'rivalry': 52, 'rivalries': 5, 'rivaling': 5, 'rivalled': 3, 'rivaly': 1, 'rivalled': 1, 'rivalli': 1

There were no occurrences of the word *rivalrous*. That outcome is not entirely unexpected, given the *Google Ngram* analysis above, i.e., *rivalrous* is a rarely used word and when it does appear, it is predominately in published academic work in social science, economics and in occasional perception-related studies, rather than in social interaction (the latter the focus of the SUBTLEX-US corpus).

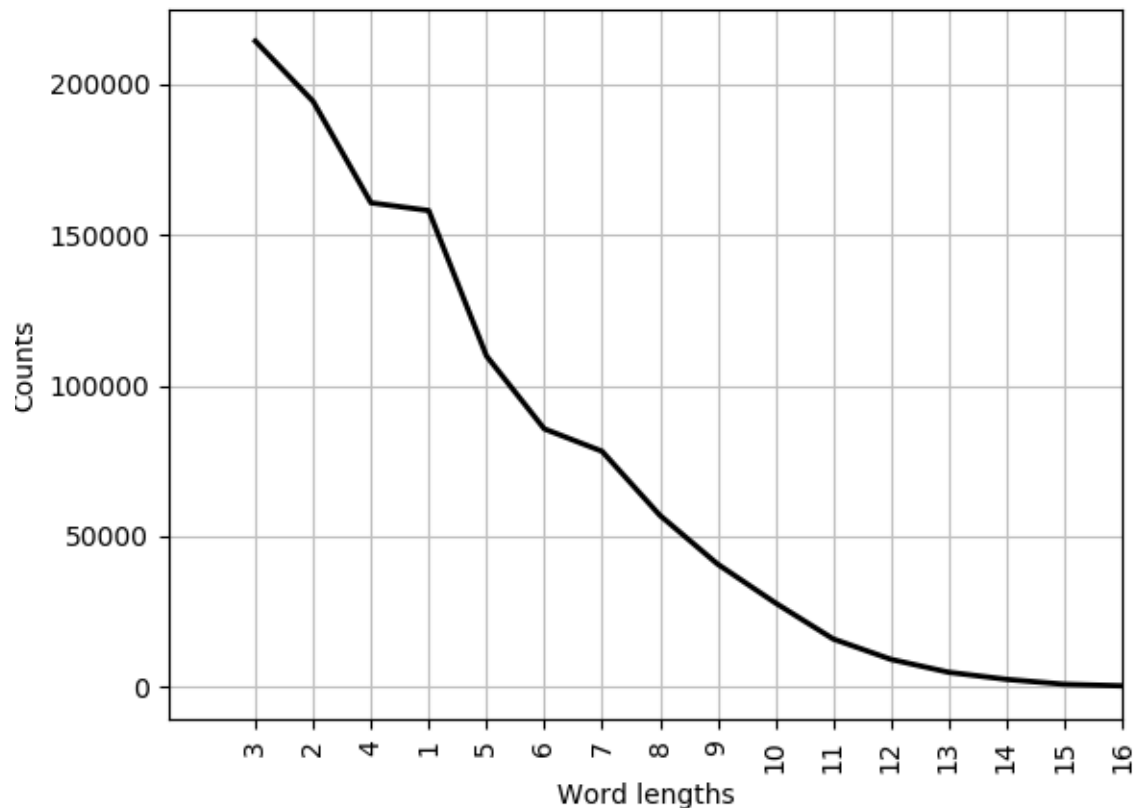
Grammar.morphology.blocking

In the context of morphology, David Crystal (*A Dictionary of Linguistics and Phonetics, 6th Edition*) defines *blocking* as the prevention of word formation due to the existence in the language of a word with the same meaning as the one to be formed. He provides an example, "Although we may obtain *curiosity* from *curious*, English does not allow *gloriosity*, because *glory* already exists in the language, and therefore blocks it."

We believe that the very small usage of *rivalrous* vs *rival* as an adjective in English is probably a result of blocking. In *Natural Selection in Self-Organizing Morphological Systems, c. 2011*, Lindsay and Aronoff suggest that the "primary driving force behind competition in the lexicon of a language is that, in general, languages do not tolerate true synonymy...one *stem* + *affix* combination will be preferred over another." The *Ngram* and SUBTLEX-US data above imply that most users of English find the "slot" for the concept "of the nature of rivals" (in particular the slot related directly to forms from the root *rival*) already occupied by *rival* used as an adjective, though *rivalrous* seems to be making some headway slowly in particular registers (e.g., social sciences, as mentioned earlier).

This proposed competition between rival *stem* + *affix* combinations probably is related also to economy, e.g., which form is easier to say or which has fewer syllables (see Chapter I, *The Principle of Economy Applied to Words*, in Herbert Spencer's 1884 *Philosophy of Style* for an interesting discussion of the subject). That being said, Zipf (George Kingsley Zipf, *Human Behavior and the Principle of Least Effort*, 1949) suggested that there is a tension between, on the one hand, the speaker's desire to use a simple construction (e.g., easier to pronounce), and on the other hand the improved probability of decoding by the hearer if more pieces of information are available (making the word distinct from another). We use the terms *speaker* and *writer* synonymously in this document, while acknowledging that, at least in the early years of a language-using individual or species, sound is the primary medium of language (substitute the external observable of your choice linked to meaning, e.g., hand signs, if sound seems too restrictive).

For example, the frequency of word lengths in Ernest Hemingway's work decreases rapidly at 7 characters and up compared to several of his contemporaries, from a 2016 informal statistical study by Justin Rice (a programmer with a degree in comparative literature), *What Makes Hemingway Hemingway?* For comparison, we graphed (using *NLTK*, the *Natural Language Toolkit* by Steven Bird and collaborators, in a *Python*, *NumPy*, *Matplotlib* computing environment) the word length frequencies from the venerable 1961 *Brown Corpus*, the first million-word electronic corpus of English, produced from 500 published sources categorized in 15 genres, e.g., news, learned (academic), fiction, etc.:



If you filter out so-called stopwords, e.g., 'I', 'me', 'my', 'myself', 'here', 'there', 'when' (179 words in the English portion of the *Stopwords Corpus* by Porter *et al* distributed with *NLTK*) and punctuation, the top four word lengths, 3, 2, 4, 1 in the graph above, are replaced by 5, 4, 6, and 7 and the total word count drops from 1,161,192 to 509,267. In English, it appears that the competing motivations of ease of production and ease of understanding settle out in the 4-7 character range for words referring to other than the simple concepts loosely categorized by stopwords. I suppose that one could argue that we are merely exhausting the grammatically possible combinations of letters in English to denote the entities of the world of human experience and gradually having to add more letters to new words to accommodate a more complex reality. German constructs such new terms easily by concatenating previous terms, creating fairly lengthy words by English standards (without providing statistics for this observation).

While we were examining the *Brown Corpus*, we found no occurrences of *rivalrous*, but the word *rival* appeared, 5 times as an adjective, 4 as a noun, and twice as a verb (we used the *Brown Corpus* Form C, which tags each individual word with a part of speech class).

Another factor is that, "conscious word formation being imitative" (borrowing an apt phrase from a discussion on word formation by Meagan Ayer at Dickinson's College), the form of a new word is more probable when it mimics a pattern occurring in other words known to the speaker. Of course, speech errors, along with neologisms and borrowings, continually introduce random change into the system (from 2011 *Lindsay and Aronoff* cited earlier). We will have more to say about this familiar pattern concept later.

It appears that *rivalrous* seems has been blocked in the sense discussed above for at least 200 years. We processed the *Google English One Million* corpus with a computer and found the first occurrence of *rivalrous* in this corpus in the year 1810, specifically, one occurrence out of 113,677,334 words (single ngrams) total, from 960 books scanned. For comparison, there were 2697 occurrences of the word *rival* that year.

The *Google English One Million* corpus we used above contains approximately 262 million lines, with each line a word match count for each of the 393 years with samples within the 488 year range between 1520 and 2008 derived from scans of 999,999 books (hence "Google *One Million*") published in English.

Etymology

rival, rivalry

Let us attempt to rough out the etymology of the English word *rival*, with the goal of understanding how the form *rivalrous* might arise. The oddity here is that there appears to be no *-rous* suffix nor root *rivalr-* in standard English.

By "standard English," we mean the language generally expected in formal communication in various disciplines (from *The English Language: From Sound to Sense*, by Delahunty and Garvey, a 2010 textbook intended for teachers of English K-12). It is also true that "language runs its own course and previously discouraged usage can become normal," to quote from the 2011 *Oxford Modern English Grammar* by Bas Aarts. Aarts, nevertheless, adds that "this does not mean that everything uttered by a speaker of English will be regarded as acceptable." His aim, after all, was to write a grammar textbook. Still, short of memorizing all possible sequences of utterances (which is not possible if you want to retain the unlimited potential to construct novel sentences that are nevertheless understood), it is helpful to have some concept of how things fit together as visible in the present snapshots (synchronic linguistics) of English in corpora and publications. This is the *descriptive approach* that the Oxford text avows, which may be opposed to the *prescriptive* approach of years past, which demanded adherence to grammar rules rather than giving less authoritarian suggestions about how to have the best shot at being understood and respected by your target audience today. Aarts relies primarily on the *ICE-GB International Corpus of English* to illustrate grammatical points that are systematized in his preferred grammar texts by Quirk *et al* and Huddleston and Pullum *et al*.

We are briefly looking at etymology (which is more diachronic or historical linguistics than synchronic description as we set out above) simply because we are curious about how *rivalrous* came to be, e.g., is there some root or affix we are unaware of, some mechanism at play other than rebracketing or morphological reanalysis (more on that later).

Consulting *A Latin Dictionary*, founded on Andrews' edition of *Freund's Latin Dictionary*, by Charlton T. Lewis, 1879 Oxford University Press (a dictionary of ancient Latin which cites Roman era authors and works), we find an entry for **rivalis**, an *adjective* (first part of speech under that entry) derived from the *noun rivalis*. **rivalis** has a separate lemma (a headword with its own entry in the dictionary) as a noun with meaning *a small stream of water, a brook*. The adjective meaning for **rivalis** given by Lewis, as one might guess, begins with *the sense of, or belonging to a brook*.

The Lewis entry for **rivalis** (we note that this is the Latin nominative singular masculine or feminine gender in the third declension¹, neuter being **rivale**) includes a noun (substantive) second part of speech use. The plural substantive is **rivales** (note the suffix change to **-ales**), *those who have or use the same brook, neighbors*. The second meaning under the substantive **rivales** is a figurative extension of the first meaning, using a singular form identical to the adjective, i.e., **rivalis**, *one who has the same mistress as another; a competitor in love, a rival* (we assume "using the same brook" is a clear, if crude, analogy for "using the same mistress," in irrepressible Roman style).

Marchand (*The Categories and Types of Present-Day English Word-Formation* by Hans Marchand, 1960) §4.6.1 tells us that the English suffix **-al** derives from Latin (Classical, Medieval and Modern) suffix **-alis**. We have a clear path, then, from a Latin adjective or noun **rivalis** to an English adjective or noun *rival*, where the Latin suffix **-alis** is replaced by the English **-al** suffix on the conversion of the loaned foreign word. Johnson (Samuel Johnson, *Dictionary of the English Language*, Sixth Edition 1785) agrees with this path, i.e., the English adjective *rival* derives from Latin **rivalis** and his noun sense of *rival* proceeds from that identically.

Rival is our **root**, "the base form of a word which cannot be further analysed without total loss of identity...the part of the word left when all the *affixes* are removed" (David Crystal, *A Dictionary of Linguistics and Phonetics*, 6th Edition). One of Crystal's senses for a definition of the concept *word* seems adequate for our purposes, i.e., "*words* are the physically definable units which one encounters in a stretch of writing (bounded by spaces)...."

By *affix* we mean the *formatives* or *morphemes* that enter into the construction of *words*. Following Aronoff and Fudeman, *What is Morphology?*, we regard *morphemes* as the smallest *linguistic* pieces with a *grammatical function*. The authors "take a no-holds-barred approach to *linguistics* [and] use any tool or method that will tell [them] *how language works*." That is sufficient definition of *linguistics* here. When we say "*grammatical function*," we mean a function that helps us recognize the way a word is formed and understand how it could be used in a sentence, grammar being "concerned with the structure of words (*morphology*), and of phrases and clauses (*syntax*)" (quoting 2011 *Oxford Modern English Grammar* by Bas Aarts).

The affixes that precede the root are called *prefixes*. Those affixes that follow the root are *suffixes* (we ignore infixes, which are uncommon in English).

We are interested only in *lexical* morphemes, i.e., those affixes that produce *new* words when attached to a root. This contrasts with *inflections*, which *modify* a word to indicate a new tense, as in look-->looked, or a plural form cat-->cats. The affix may attach to a *stem* (some prefer the term *base*), i.e., certain combinations of a root and a morpheme which we may consider as a single unit at times, e.g., the adjective *careful*, which could become an adverb with attachment of the suffix *-ly* to form *carefully*, so we consider *careful* the stem in that case, though *careful* itself could be further analyzed into

[_{ADJ} [_{NCare}] ful]

where *-ful* is the suffix that changes the noun *care* into the adjective *careful*. In that context, *care* is the stem, and is also the root, since it cannot be further analyzed. Following 1913 *Webster's* and *An Anglo-*

1 Verbs and nouns, adjectives, pronouns may change form, i.e., may be inflected, depending on their relation to the other parts of a sentence. The inflections of nouns, pronouns and adjectives are called declensions. The inflection of verbs is called conjugation.

Saxon dictionary, by T. Northcote Toller, 1921, we see that the word *care* derives from the AS (Anglo-Saxon) adjective *cear*, meaning "sorrowful, anxious, solicitous." AS *cear* in turn attaches the AS suffix *-ful* with sense "full" (this suffix terminates many AS adjectives).

It is not impossible, of course, that *rival* passed from Latin first to French, and from French to English. The 1740 *Dictionnaire de l'Académie française* does have an entry for the noun *rival*, meaning "competitor in love;" and noun *rivalité*, "competition between lovers," i.e., our word *rivalry*, but that does not alter our course here. Also, derivations of new words constructed from *rival* (e.g., *rivalrous*) in the French could have come into English, rather than having been constructed within English directly by affix attachment to *rival*. This is further complicated by the fact that many English affixes were taken from the French and became part of the word construction toolbox of native English. However, we found no evidence of *rivalrous* in French.

What about the word describing the *state of being rivals*, e.g., the noun *rivalry*? Johnson lists *rivalry* and *rivalry* as synonyms in this sense. He tells us that *rivalry* derives from Latin **rivalitas**. The Lewis Latin dictionary has an entry for **rivalitas**, *rivalry* in love.

Marchand §4.55.1 tells us English **-ity** forms an abstract substantive (noun) from adjectives, but in §4.55.2 he describes a variant where the English substantive is instead formed directly from a Latin substantive in **-itas**. We thus have, as Johnson asserts, the English substantive condition of being rivals, i.e., *rivalry*, coming in directly from the Latin **rivalitas**. We recall from above that the French have the word *rivalité*, "competition between lovers," i.e., their form for our word *rivalry* (though far more common today in English is *rivalry*).

Johnson implied that *rivalry* was derived from *rival* (which came in from Latin **rivalis** as we discussed above), but he did not state explicitly that the suffix **-ry** was attached to *rival* to form *rivalry*, possibly because he considered it a trivially common derivation. In *Dictionary of the English Language* he apologizes for some of his perhaps needless concern for primitives, "for who does not see that *remoteness* comes from *remote*, *lovely* from *love*, *concavity* from *concave* and *demonstrative* from *demonstrate*?"

rivalry

Marchand comments in §4.1.5 that just as the introduction of foreign words into a language is essentially uncomplicated, so is their combination with native derivative elements. Since there is no structural problem involved in the use of a foreign lexical unit, it can be treated like a native word. Accordingly, native prefixes and suffixes were added to French words almost immediately after their introduction. For example, native suffixes like *-ful*, *-less* and *-ness* were early-on attached to incoming French words like *faith* to produce *faithful*, *faithless*, etc. by 1300.

The case is somewhat different with foreign affixes added to native words, since a structural pattern is involved (e.g., English *rival* + French *-ry*). In this case the native speaker must become familiar with the pattern of combination of the foreign affix in the foreign words of its origin in order to learn how to apply the affix to native words. For example, the affix **-ous**, which Marchand tells us (in §4.70.1 of *The Categories and Types of Present-Day English Word-Formation*, 1960) came into English through Middle English loans from the French (e.g., *avantageous*, *courageous*, etc., which we believe would have been in form *avantageux*, *courageux* in the French), was picked up as an English formative, and

combined with *burden* (Anglo-Saxon **berðen** or *burthen*), to form the English adjective *burdenous* (becoming obsolete in favor of *burdensome* these days apparently).

Marchand, §4.32.1, says the **-ery**, **-ry** suffixes originated with French words in **-erie** forming concrete and abstract substantives from substantives. His examples of direct loans (from French to English) in this context include the word *ribaldry*. We would add the example of French *chevalerie* (chivalry) from French *chevalier* (knight), i.e., English *chivalry* could have come in more or less directly (with slight form modification of the French noun root *cheval* meaning "horse," to *chival*, which apparently did occur in Norman French) from the French *chevalerie* using the typical affix transformation **-erie** to **-ry**. We note that we could find no French *rivalerie* in current French word lists or in the 1740 *Dictionnaire de l'Académie française*.

Marchand tells us also in §4.32.1 that the word *husbandry* was first recorded in English in 1290, implying that the originally French suffix **-ry** had already been established as an English formative by then. This is because *husband* was a native English word with Old English origin **hús-bonda**, from page "d0574" of the [electronic version](#) of *An Anglo-Saxon dictionary*, by T. Northcote Toller, 1921. Similarly, in §4.32.2, Marchand tells us that OF (Old French) *jeulerie* is not quoted before 1434 (i.e., the 15th century), though English *jewelry* occurs at the beginning of the 14th century (i.e., the 1300's).

This suggests the **-ry** suffix was already in use by the English to make new derivations. Among those English derivations, Marchand lists *rivalry* 1598, meaning "competition." We see then that English speakers attached the assimilated French suffix **-ry** to the word *rival* (or through French intermediary *rivalerie* if that existed for a time).

Grammar.morphology

Based on our work above, we can confidently state that *rivalr-* is not the root in the adjective *rivalrous* (the root is *rival*). On the other hand, **-rous** is not a suffix. Complex lexemes can, over time, become a single unit with specific content, losing their nature as a syntagma or combination of smaller units to a greater or less extent (referring to lexicalization, Claudia Pisoschi in *Considerations of Some English Words of Latin Origin* citing *English Lexicology, Lexical structure, word semantics and word-formation*, L. Lipka 2002). However, neither *rivalr-* nor **-rous** have developed that character, the root *rival* still being dominant (prevalent in usage), as is its derived form *rivalry*.

conglutination, affix reanalysis

Martin Haspelmath (*The Growth of Affixes in Morphological Reanalysis*, in *Yearbook of Morphology* 1994, 1-29) talked about *conglutination* in his Section 2.2, the case of affix reanalysis where an inner affix (our **-ry**) and an outer affix (our **-ous**) are combined such that the inner affix becomes part of the outer affix, but the meaning of the original outer affix is not changed. **-ry** + **-ous** produces **-rous**, having the same meaning as **-ous** would normally (as **-ous** had in infrequent use of the word *rivalous*). It is possible that English users first became familiar with the forms *chivalry* and *chivalrous* (English users may actually have created the form *chivalrous*, e.g., we finding no occurrence in the 1839 French text of *Chanson des Saxons*, written c. 1200 by Jean Bodel, of any forms other than *cheval*, *chevalerie*, and *chevalier*) and some feel that *rivalry* could similarly become *rivalrous*.

present usage of consonant + suffix *-rous* form

As we mentioned earlier, Marchand (*The Categories and Types of Present-Day English Word-Formation*) §4.70.1 tells us that the affix *-ous* is an adjectival suffix which came into English through Middle English loans from the French (who had adapted Latin *-osus* and *-us* word endings), acting as an English formative from the 14th century on. Adjectives constructed with this suffix have the meaning "full of, of the nature, character or appearance of" (Marchand).

Words ending in a *consonant* + *-rous* are relatively infrequent and appear to be used primarily in learned words or scientific terms from Latin or Greek. For example, we analyzed (with a computer) 210,687 words (the length of the corpus after removing any proper nouns) in the Words Corpus included in NLTK (Natural Language Toolkit). The Words Corpus is the spell checker word list from the Unix operating system. We first counted all words ending with the suffix *-ous*, obtaining 6,395 words. Then we extracted all words with a suffix consisting of a *consonant* followed by *-rous* (because it would not be unusual to see *-ous* appended to a word ending in a *vowel+r*, e.g., *-er* in *murder* to *murderous*, *-or* in *clamor* to *clamorous*). Our list of words ending with *consonant* followed by *-rous* totaled 194, i.e., only 3% of the total number of *-ous* suffix words.

These were almost all scientific, medical, or technical words from Latin and/or Greek. For example, *arthrous*, which we interpret as meaning "pertaining to the joint," from Greek noun *αρθρον* or *arthron* meaning "a joint."

There were also a few appearances in our list of 194 by words like *thunder* that produce the same adjective in two forms, e.g., *thunderous* or *thundrous*, the latter form thereby slipping through our filter which otherwise rejected forms like *murderous* where the root ends in *-er* and *-ous* has been appended. The only words of general usage in this list (words ending in *consonant* followed by *-rous*) were *rivalrous* itself, along with *chivalrous*, *revelrous* and *ribaldrous*.

Perhaps the sound of words like *thunderous* or *thundrous* and *wonderous* or *wondrous* have conditioned the English ear as it were to preferring that final *-rous* sound. Though technically possible, *rivalous*, *chivalous*, *revelous* and *ribaldous* are not often used, e.g., we found zero occurrences in the *Brown Corpus* and zero in the SUBTLEX-US corpus.

Look at usage *rivalrous*, *chivalrous*, *revelrous* and *ribaldrous*

If we interrogate Google Ngram 1800-1900 English with

rivalrous/rivalry, *chivalrous/chivalry*, *revelrous/revelry*, *ribaldrous/ribaldry*

We see:

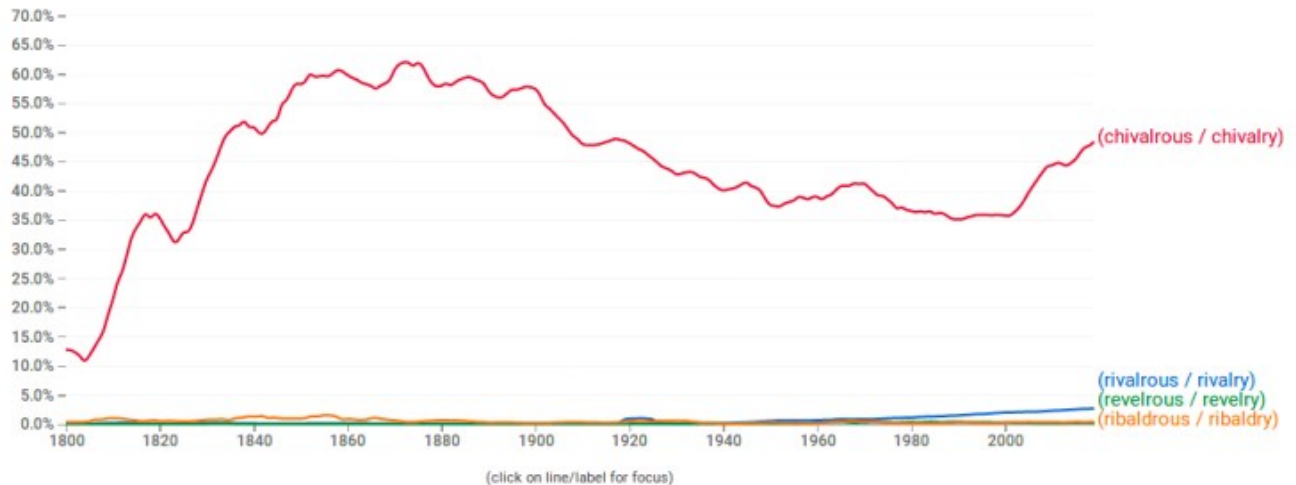
Q rivalrous/rivalry,chivalrous/chivalry,revelrous/revelry,ribaldrous/ribaldry

1800 - 2019

English (2019)

Case-Insensitive

Smoothing



This graph is consistent with the idea that *chivalrous* satisfies a unique need for this semantic set headed by *chivalry*, i.e., the construction is not blocked because there is a need for an adjective to describe activity that is honorable and courageous as required under the code of chivalry.

The graph is also consistent with the concept of blocking. *Rivalrous* is superfluous (one can simply use *rival* to describe one of the entities involved in a *rivalry*), *revelrous* is superfluous (one rarely needs to describe activity at a party as being party-like; the usual declaration is about *reveling* in some occurrence, or engaging in *revelry*, rather than describing *revelrous* behavior at a party; excessive revelry would be more *riotous*), and *ribald* behavior is exactly that which *ribaldrous* would seek to describe, redundantly.

Conclusion

We have shown that the construction of *rivalrous* is indeed unusual in terms of what is expected in that attachment of the *-ous* suffix and what is observed in present usage. Our analysis of English corpora demonstrates that, by a large margin, most users of English feel no need for a derivative of *rival* to characterize entities standing in competition for superiority, the word *rival* already serving that purpose.