

An Investigation of the Two Different Pronunciations
 for the Suffix *-ed* in English
 ——Is there a rule for how to choose one?——

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Abstract

The suffix *-ed* as both a past-tense and past-participle marker is pronounced in two different ways in English. One is as a coda consonant (/d/ or /t/) with no nucleus (vowel), as shown in “a boy aged 5,” and the other is as a VC syllable as in “my aged parents.” As Wells (2016) has claimed, in general, the suffix *-ed* of adjectives in attributive use derived from the past participle of verbs is likely to be of the latter pronunciation, while that used as part of a verb is to be of the former (e.g. “a learned man” vs. “He has learned the rule”). However, this rule does not always work. Such words involving the suffix, as in “alleged” and “accused” for example, may be pronounced in either way, even though these are being used as adjectives in attributive use (e.g. “an alleged crime,” “an accused fellow”). Moreover, the addition of an adverb marker *-ly* to these adjectives can be another factor to change the word’s pronunciation. For example, although someone pronounces “alleged” with no nucleus, the same person may pronounce “allegedly” with a nucleus (Wells 2016). This implies that the pronunciation of *-ed* can also vary with idiolects.

The purpose of this paper is to investigate why the suffix *-ed* has developed two different pronunciations in English. One of the possible answers is the effect of “stress clash” in prosody. It is a well-known fact among English phonologists that stress clash has been influential on the change of word order in syntax as is observed in such a case as “**hólf an hóur**” (← “a **hólf hóur**”) and “**quíte a símple process**” (← “a **quíte**

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simple process”). That is why *-ed* is likely to be pronounced with a nucleus when used as the suffix of an adjective in attributive use (e.g. a **learned** **mán** = /strong-weak-strong/). Note that, in English, an adjective in attributive use is likely to be followed by a noun with primary stress on the initial syllable.

1. Introduction

In English, the suffix *-ed* is added to a verb to make it either past tense or past participle form (e.g. age-**aged**-aged) unless the verb is of irregular form such as “eat” (eat-**ate**-**eaten**). The past participle form can also be used as an adjective (e.g. “children **aged** 5”). In addition, the suffix can be added to a noun for the same purpose (e.g. talent-**talented**: /-ɪd/, dog-**dogged**: /-ɪd/). This paper will examine why the pronunciation of the *-ed* suffix varies depending on the particular adjective. It is sometimes pronounced without a vowel as in the case of “children **aged** 5” (/eɪdʒd/) referred to above, while at other times the vowel is pronounced (e.g. “my **aged** parents” /eɪdʒɪd/). Note that in the latter case, *-ed* is treated as one syllable inclusive of a nucleus. The number of words in English that use *-ed* is quite numerous if words ending in *-edly* (e.g. **allegedly**) and *-edness* (e.g. **nakedness**) are counted as well. In Fowler’s dictionary (1926), there are as many as 70 words of this kind having the pronunciation of /-ɪd/. For example, they are “blessed” (/st, -sɪd/), “learned” (/nd, -nɪd/), “beloved” (/vd, -vɪd/), “crooked” (/kt, -kɪd/), “unabashedly” (/ɪdli/), “markedly” (/ɪdli/), “markedness” (/ɪdnəs/), “supposedly” (/ɪdli/), “allegedly” (/ɪdli/), etc.

In the case of words ending in *-ed*, according to Wells (2016), it is possible to predict the grammatically proper pronunciation depending on whether the word is one in the past participle or an adjective in attributive use. A word in the past participle should be pronounced without a nucleus, and with a nucleus when the word is an adjective in attributive use. However, this is not a strict rule that can be applied to all instances. Some adjectives such as “alleged” and “accursed” can have either form, even though they are in attributive use (e.g. “an **alleged** crime” /-dʒd/ or /-dʒɪd/, “an **accursed** fellow” /-st/ or /-sɪd/). As a further complication, not all words ending in *-ed* seem to have originated from verbs or nouns, e.g. “**wicked**,” “**wretched**.” The bases (i.e. part of speech) of these words are unknown. Moreover, there is another type of adjective ending in *-ed* like “**naked**” and “**sacred**.” These words originated from verbal bases,¹⁾ but they exist only as adjectives in modern

1) The adjective “naked” originates from a verb “nacod” in Old English, while “sacred” from another verb “sacren” (Stevenson 1998).

English. For all of these reasons, it is not an easy task to choose the proper pronunciation out of the two possible options for the suffix *-ed*.

The goal of this paper is to investigate why the suffix *-ed* has been pronounced in two ways, deviating from the general phonological rules, and what, if any, are the rules that should be applied.

2. Generalized pronunciation of suffix *-ed* in English

In this section, let us observe how the suffix *-ed* should be pronounced under the present generalized phonological rules in English. The rules can be classified into three categories as shown below.

- ① *-ed* is pronounced as /t/ after /p, k, f, θ, s, ʃ, tʃ/ (i.e. voiceless consonants)
E.g. cross-crossed /kɹɒst/, watch-watched /wɒtʃt/, wish-wished /wɪʃt/, etc.
- ② *-ed* is pronounced as /ɪd/ after /t, d/ (i.e. alveolar plosive consonants)
E.g. edit-edited /editɪd/, head-headed /hedɪd/, etc.
- ③ *-ed* is pronounced as /d/ after any voiced consonant other than /d/
E.g. budge-budged /bʌdʒd/, hug-hugged /hʌgd/, rain-rained /reɪnd/, etc.

Of the above rules, the second rule is always applied strictly, thus it causes no problem in choosing the proper form in terms of the pronunciation for the suffix. For example, the *-ed* of “reportedly” is always pronounced as /-ɪd/ in accordance with the second rule. This is because /t/ and /d/ in verbal bases are both the same in quality as the consonant of the following suffix *-ed* without a nucleus (i.e. /t/ or /d/). It would be hard to demarcate between word-final /t/, /d/ and suffix-initial /t/, /d/ in recognition unless there was a vowel intrusion between them. This vowel intrusion must occur following the Obligatory Contour Principle²⁾ (OCP).

Rules 1 and 3 above can be somewhat problematic because of the many exceptions to both. For example, the *-ed* of “unabashedly” (unabash + **ed** + *ly*) is pronounced as /-ɪd/ although it is preceded by a voiceless consonant (/ʃ/). Moreover, the *-ed* of “four-legged” is pronounced as /-ɪd/ although it is preceded by a voiced consonant other than /d/. Why do these anomalies occur? Some English teachers may insist that there will be no problem if their students learn all the adjectives and adverbs involving *-ed-* separately without referring to any phonological rule. However, it is worthwhile to investigate the reason as to why *-ed* has developed into having two different pronunciations deviating from the general rules and whether or not any phonological rules other than the ones listed above have

2) One could argue that there is a tendency that the occurrence of the same or homorganic sounds is prohibited within a phonological word. That is why tongue twisters are difficult to utter, because they are made against this principle.

developed in modern English.

3. What is the rule to determine the pronunciation for *-ed*?

If there are any rules to help decide which pronunciation of the two to use, it would be helpful for Japanese learners of English to know them. In this section, let us explore at this issue.

There is one quasi-rule that we should consider, though it cannot always be applied rigidly. That is, the grammatical difference between verbs and adjectives in attributive use. The *-ed* of the former is pronounced without a vowel, while that of the latter with a vowel as seen in the examples below.

E.g. My dog has learned to wait for food. (/nd/)

I've never seen such a learned scholar. (/nrd/)

We blessed him in the occasion of his success. (/st/)

Do you know the expression of “blessed ignorance”? (/sɪd/)

Now, we understand why the suffixes of such adjectives as “wretched,” “naked,” “rugged,” “wicked” are always pronounced with a vowel. These are likely to be used in attributive use, but there are some exceptions. For example, the *-ed* of the adjective “aged” in attributive use may differ in pronunciation depending on the meaning of the adjective in a given sentence as illustrated below.³⁾

E.g. They are my aged parents. (/dʒɪd/: aged = ‘old’)

I like to drink aged wine. (/dʒɪd/: aged = ‘ripened’)

This illustrates that semantics can also be influential in the choice between the two ways of pronunciation for the suffix.

The number of unstressed syllables within a word may be influential as well. In the word “designedly,” for example, the *-ed* can sometimes be pronounced with a vowel, but this is not the case for that of “determinedly.” The morpheme *-ed* of the latter is always pronounced without a vowel even though *-ed* is preceded by nasal consonant /n/ just as it is in the former word. This is probably because the latter word has one unstressed syllable (-min-) after the stressed syllable (-tér-), while the former has none. The number of unstressed syllables before the stressed syllable within a word seems to have no influence on the *-ed* pronunciation (e.g. “a. bashedly” /-ʃɪd/ vs. “un.a.bashedly” /-ʃɪd/). This will be addressed in further detail in the next section on “stress clash.”

The variation among individuals (i.e. idiolects) is another factor that contributes to the lack of a strict rule. In Wells (2016), the author argues that as a native, British, English speaker, he pronounces the *-ed* of “alleged” without a vowel, but

3) *Shogakukan Progressive English-Japanese Dictionary* (Konishi eds. 2012)

that there are many British people who produce it with a vowel. In regard to the pronunciation of the adverbial form “allegedly,” Wells says he always pronounces it with a vowel as do others around him. Like “alleged,” many other adjectives ending in *-ed* are given another suffix *-ly* as an adverbial marker, changing the pronunciation for *-ed* into that for a vowel-containing syllable (e.g. “resolved” /-d/ vs. “resolvedly” /-id-/).

Thus far, we have observed the variations in the way we can pronounce the suffix *-ed*, but further investigation is needed to clarify this issue. Based on the findings above, it is certain that pronouncing the suffix *-ed* with a vowel is comparatively rare in the modern English phonology for adjectives.

4. Investigation of the suffix *-ed* from a historical point of view

Since we have not yet reached a reasonable conclusion as to why the suffix *-ed* has two pronunciations in modern English, let us examine the development of the grammar from a historical point of view. This investigation may provide some hints for this unusual situation.

In the Oxford English Dictionary (OED 1998), the suffix *-ed* that is added to a noun to make adjectives (e.g. talent → talented /-id/, feather → feathered /-d/, rag → ragged /-id/, four-legs → four-legged /-id/) is different from that used in the past participles of regular verbs in classification⁴⁾. Note that the suffix added to a noun gives a sense of ‘possession’ and ‘attribution.’ Some scholars argue that the former examples originate from the suffix *-ede*, while the latter derive from the Old English forms ending in *-de*, *-ede*, *-ode*, and *-ade*. Based on this, we can begin to comprehend why the *-ed* placed after nouns tends to be different in pronunciation than when it is placed after verbs; they are different in terms of origin. When added to a noun, the suffix is likely to be pronounced as a vowel. A common exception occurs in the word “feathered” (/d/). The *-ed* of “feathered,” composed of a noun plus a suffix, is not pronounced with a nucleus due to the effect of stress clash referred to earlier. Note that the noun “feather” consists of two syllables as opposed to one in “rag” and “leg.”⁵⁾

The suffix *-ed* was always pronounced with a vowel in Old English. Thus, we can argue that this pronunciation was historically most common. We can further theorize that the devocalization of *-ed* occurred as a result of applying the Principle

4) However, the possibility is also pointed out that both of them originated from the same root in old days.

5) Regarding another disyllabic noun “talent,” the *-ed* added to this word is always pronounced as /-id/ with a nucleus. The reason for this is that “talent” ends in /t/ which is homorganic with the morpheme /d/ (alveolar plosives).

of Economy⁶ in Modern English. In other words, the pronunciation of the suffix *-ed* with a vowel has been fossilized to remain intact in Modern English which is why this remains grammatical in some cases, even though it goes against the current standardized phonological rules observed in Section 2. It is still unclear why and how this fossilization occurred.

One possible answer is the effect of stress clash in English prosody. Its effect on syntax is well-known to researchers of English (Kubozono and Mizokoshi 1991, Kubozono 1995, Schlüter 2005, et al). In Modern English, such noun phrases as “a hálf hóur” and “a quáite símple process” can be replaced by “hálf an hóur” and “quáite a símple process” without changing their grammaticality due to the effect of stress clash in which a speaker tends to avoid the succession of two stressed syllables. This is why the *-ed* placed after monosyllabic words is likely to be pronounced with a nucleus (e.g. wícked, náked, ragged, legged, dogged, learned, marked, etc.) regardless of their origin. Observe the following two noun phrases differing from each other in structure.

E.g. a dógged schólar (dogged /-ɪd/ = ‘stubborn’)
a detérmined scholar (/ -d/)

In prosody, the duration between two stressed syllables is called the “foot⁷.” Note that in the first example the *-ed* is given a nucleus to avoid the stress clash. This is not the case for the second example due to the existence of an unstressed syllable (-min-) within the foot.

We can also observe the effect of stress clash in word order (i.e. syntax) in other established expressions in English. For example, let us take up the adjectival phrase “many a,” which sounds less colloquial compared to “many” and “a lot of.” This phrase was alternatively used as “mania” in Old and Middle English. There is no difference in pronunciation between them, the distinction lies only in spelling.

E.g. There was many a man in the party last night.

Why does a singular form follows the adjective (or quantifier) “many” indicating ‘plurality’ in meaning? In order to answer this question, let us postulate that the form “**many a**” originated from the inverted forms of “a great many” or “a good many.” The phrases “**many a** great” and “**many a** good” are both found in Middle English literature. The two figures below are from the Ngram viewer bearing out the use of these expressions in past literature (1500-2008).

6) This is another powerful principle observed in language. The well-known phenomena called “deletion,” “weakening,” “abbreviation,” etc. are all triggered by this principle.

7) The foot is an Inter-stressed Interval (ISI) consisting of one stressed syllable followed by null or 1 to 3 unstressed syllables (Lehiste 1970).

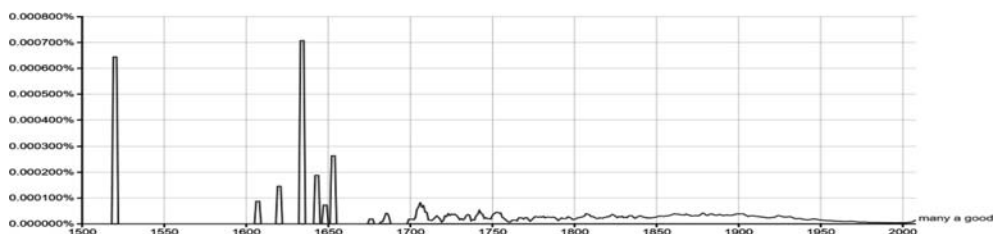


Figure 1 Change of the occurrence of “many a good”

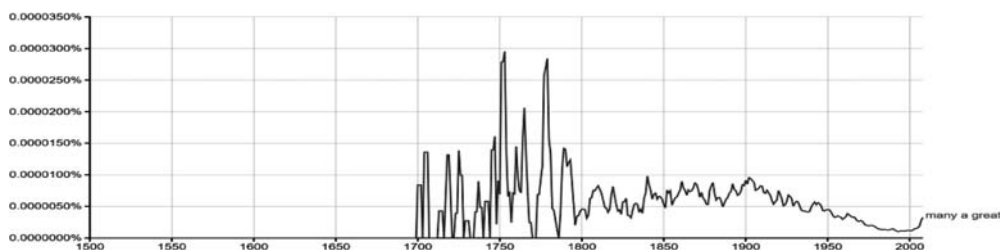


Figure 2 Change in the occurrence of “many a great”

Inversion is especially common in verse. This is because rhythm has been necessarily considered by poets. To maintain necessary meter, “great” and “good” were deleted from the forms used in verse, resulting in “**many a**” or even “**mania**.” Figure 3 below shows a diachronic change in the ratio of occurrence of “mania.” It is interesting to note that “mania” had been established as a full-fledged adjective in addition to “many a” in as early as the 16th century.

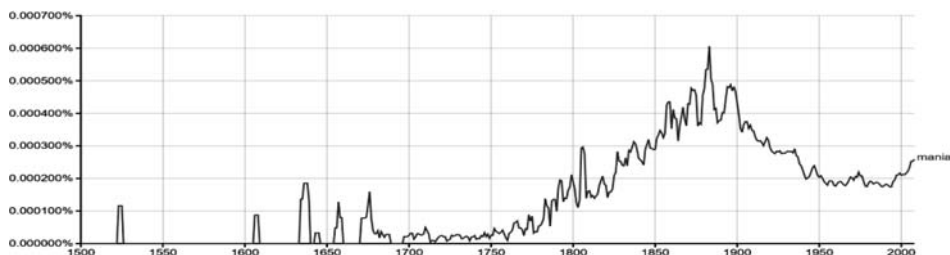


Figure 3 Change in the occurrence of “mania”

The inversion between “a great/a good” and “many” was probably triggered by the stress clash which often occurs between “many” and the following noun phrase unless the inversion is applied or the noun (phrase) begins with an unstressed syllable.

E.g. a góod mány húsbands → mány a góod húsband → mány a húsband

↑
↑
 Stress clash

Note that in the right-most phrase “**mány a húsband**” above, the stress clash is avoided due to the deletion of “gréat/góod.” Both “many a” and “mania” form a specific metrical foot called “dactyl” consisting of /strong-weak-weak/. From a rhythmic point of view, this form may have been useful as well as other types such as “Iamb” (/strong-weak/) in poetry. We can argue that due to stress clash it is useful to study syntax in English, because rhythmicity has been involved in changes of word order. Stress clash is also one of the factors to maintain rhythmicity as well as anti-paste.⁸⁾

5. Conclusion

This paper examines the different pronunciations for the suffix *-ed* which do not strictly obey the generalized phonological rules established in Modern English as observed in Section 2. The morpheme *-ed* can be pronounced as /-ɪd/ with vowel epenthesis even though the preceding morpheme ends in a consonant heterorganic of alveolar plosives /d/ and /t/ for *-ed* (e.g. “ragged coat,” “learned men,” “blessed people,” “allegedly”). This seems to go against the Principle of Economy. A possible reason for this is because the suffix *-ed* was always pronounced with a nucleus in Old English. Because of this, we can argue that this pronunciation has been fossilized in Modern English. That is why it remains intact in the grammar of Modern English, disobeying two of the three generalized rules (i.e. ① and ② listed in Section 2). On the other hand, it has been found out that *-ed* placed after nouns (e.g. rag, leg, dog) tend to retain a vowel (nucleus) as opposed to when it is placed after verbs (e.g. hang, dodge, bathe). This is because the *-ed* originally belonged to two different morphemes. In other words, the difference in etymology between the two groups has resulted in different pronunciations. As mentioned earlier, *-ed* placed after nouns tend to be pronounced with a nucleus indicating the possession of the character that the noun has in meaning (e.g. dogged = with stubbornness dogs own by nature).

The present paper has also examined why the above-mentioned fossilization of the original pronunciation for *-ed* occurred through English history. One possible answer is stress clash in English prosody. This allows us to explain why the *-ed* of adjectives in attributive use is more likely to be pronounced with a nucleus than its counterpart in predicative use. Note that in the former case, stress clash is more likely to occur due to the subsequent noun or noun phrase beginning with a stressed

8) This is the tendency in which the succession of too many weak syllables within a foot tends to be avoided (Refer to footnote 7). The most prosodically-stable foot is supposed to be composed of one stressed syllable and one weak syllable that follows (Nespor and Vogel 1989, Schlüter 2005).

syllable. Nouns beginning with a stressed syllable are abundant in English vocabulary.⁹⁾

There remain further questions to be answered in the future. For example, this paper has not considered semantics to answer questions about *-ed*. As we discussed earlier, the pronunciation of adjective “aged” differs depending on its meaning even though they are both in attributive use (e.g. my aged /eɪdʒɪd/ parents vs. aged /-eɪdʒd/ wine). It would seem that semantics are relevant to the difference in pronunciation, but additional research is needed to explain this. Furthermore, scholars should investigate why some words involving the *-ed* suffix vary in pronunciation depending on idiolects. How can we possibly answer this question in terms of variation?

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9) This is characteristic of Germanic languages inclusive of English. In the Icelandic for example, stress is even now placed rigidly on the first syllable of words.