



# Distinction and Examples of Morpheme, Morph and Allomorph in English Linguistics Teaching

Panpan Cao<sup>(✉)</sup>

Foreign Language School, Sichuan Minzu College, Kangding, Sichuan, China  
140464@scun.edu.cn

**Abstract.** In the process of learning morphology, students have difficulty in understanding terms such as morpheme, morph and allomorph, they feel confused about the differences between these terms and other terms like phone, phoneme and allophone, and they are totally at a loss about the different types of allomorphy. To help students better understand and distinguish these concepts and help them learn morphology better, this paper first reviewed the definitions of these terms and explained their differences. Then, it highlighted the distinctions between morpheme, morph, allomorph and phoneme, phone and allophone through definitions and examples. Last, it summarized and sorted out the typical types of allomorphy and the reasons behind. To answer these questions, it is found: first, morpheme, an abstract functioning unit, is realized phonologically or orthographically by different morphes, all of which are the allomorphs of the same morpheme, while phoneme, an abstract phonological unit with contrastive value in sound system, is realized by different phones actually produced in the mouth, all of which are allophones of the same phoneme; second, the typical allomorphs of freestanding morphemes are grammatical words such as indefinite article, the accented or weakened forms of the linking verbs, modal words and conjunctions in connected speech, while the typical allomorphs of bound morphemes are the plural forms of nouns {-s}, the past tense of regular verbs {-ed}, the negative prefix of adjective {in-} and the noun suffix {-tion}. Last, most allomorphs are caused by phonological rules and predictable, but some allomorphs such as the past tense and past participle of irregular verbs base on no rules and are thus, unpredictable.

**Keywords:** Morpheme · Morph · Allomorph · Distinction

## 1 Introduction

When teaching the chapter of morphology in the linguistics course to English majors in minority areas, students do not understand such concepts as morpheme, morph and allomorph clearly, they often confuse themselves between morpheme, morph and allomorph and phoneme, phone and allophone, and they feel extremely puzzled about allomorphy, because these concepts are not explained much and elaborated in detail in the textbook, and there is also no related exercise to help them digest these concepts. However, as the key and difficult points of morphology, it is necessary to make these concepts clear to students, whether out of the requirements for the study of linguistics courses at

the undergraduate stage or the requirements of exams such as Teachers' Qualification Examination and Postgraduate Entrance Examination or even for the in-depth language learning and research, since all the students are trained to be future teachers and even some students try to be postgraduates.

## 2 Definition and Distinction of Morpheme, Morph and Allomorph

### 2.1 Definition of Morph, Morpheme and Allomorph

"Morpheme is the smallest unit of language in terms of the relationship between expression and content, a unit that can't be divided into further smaller units without destroying or drastically altering the meaning, whether it is lexical or grammatical" [1], p. 15.

From this definition, two points should be noted: one is that morpheme is the smallest unit with meaning and sound, and the other is that morpheme can not be further analyzed, otherwise, the original meaning will be lost. For example, in the word *editors*, there are three morphemes: one minimal unit of meaning, *edit*, another minimal unit of meaning *-or*, meaning "person who does something", and a minimal unit of grammatical function *-s*, indicating plural form of noun. Since *edit*, *-or*, and *-s*, are the smallest units with both meaning and sound, they cannot be further segmented into smaller units like *e-*, *-dit*, because there is no relationship between parts like "e-", "-dit" and the whole "edit".

However, a morpheme is an abstract notion and it is realized or represented by concrete or actual forms, which are called morphs. "Morphs are the phonological (spoken) or orthographic (written) forms to realize morphemes, and they are minimal carriers of meaning" [2], p. 56. In other words, morphs are the smallest meaningful segments of an utterance from the perspective of language production, and are the actual spoken and written realizations of their abstract morphemes.

Most morphemes have only a single form in all contexts, like boy, explain, good, etc. These morphemes can stand alone and function as words. However, some morphemes, may have different shapes or phonetic forms, that's to say, they are realized by more than one morph depending on the context in which they occur. For example, the plural form of noun in English can be represented by a few variations, such as the voiceless /s/ as in desks, the voiced /z/ as in tables, the vowel-consonant structure /iz/ as in boxes, the diphthong /ai/ found in the irregular forms of /mais/ as in mice, the nasal sound /n/ in oxen /ɑksən/, the long vowel /i:/ in teeth /ti:θ/ and the zero form /i:/ of sheep /ʃi:p/ and others [1], p. 17.

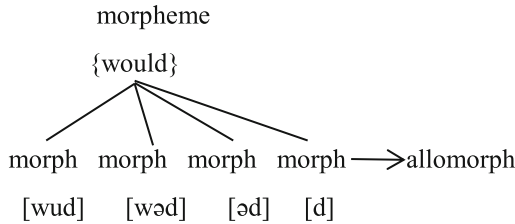
An allomorph is a member of a set of morphs which represent the same morpheme [3], p. 48. So, an allomorph refers to any of the variants or different forms of a morpheme. In the above example, any member among the voiceless /s/, the voiced /z/, the vowel-consonant structure /iz/, the diphthong /ai/, the nasal sound /n/, the long vowel /i:/, the zero form /i:/ and other variants is an allomorph of the morpheme of noun plurality.

### 2.2 Distinction of Morph, Morpheme and Allomorph

A morpheme is an abstract concept in linguistics, symbolized by brace brackets { }, which must be realized as certain phonetic forms or variants in different phonetic environments.

Each of the phonetic forms or variants is a morph. The different morphs which represent or realize the same morpheme are called the allomorphs of that morpheme.

The example [3], p. 49 is shown below:



The morpheme {would}, a linguistic abstraction “used as the past form of will when reporting what somebody has said or thought” [4], p. 2042, is realized by different morphs as [wʊd], [wəd], [əd] and [d] in sounds, depending on whether they are stressed or not in speech. All the different phonetic morphs are the allomorph of the same morpheme {would}.

Another example is that the morpheme of noun plurality {-s} is realized by more than one morph orthographically and phonologically, depending on the sound environments in which they occur.

Word	Orthographical form	Phonological form
table	tables	[-z]
book	books	[-s]
box	boxes	[-iz]
mouse	mice	[-ai-]
goose	geese	[-i]
Ox	oxen	[n]
sheep	sheep	[o] (zero change)

All the orthographic variants: “-s, -es, -i, -on, -ee” and the phonological variants: [-z], [-s], [-iz], [-ai], [-i:], [n] and [o], are the specific morphs of the same morpheme {-s}. Each can be said to be an allomorph of the plural morpheme, which is either an alternate shape in spelling or a sound variation produced in the mouth.

### 3 Distinction Between Morph, Morpheme, Allomorph and Phone, Phoneme and Allophone

The phoneme is the minimal meaningful phonological unit, with distinctive value in the sound system of a language [5], p. 19. It is an abstract unit “in the mind” instead of a particular or concrete sound in language production and it’s marked between slashes // by convention.

To identify a phoneme, we usually do a substitution test through minimal pair. Minimal pair means, when two different forms are identical in every way except for one sound segment which occurs in the same place in the strings, the two words are said to form a minimal pair. For example, *big* and *pig* are different words, which are identical in every way except for one sound segment and the only phonetic difference is in the same place. When we substitute the sound segment /b/ for /p/ in the word, a different word or a change of meaning is produced. Thus, /b/ and /p/ are two different phonemes. In the same way, the words *tan* and *ban* differ only in their initial sounds: /t/ and /b/, *tan* and *tin* differ only in their vowels: /æ/ and /i/, therefore /p/ /b/ /æ/ /i/ are English phonemes because substituting one phoneme for another results in a word with different meaning. From these examples, it is obvious that the essential property of a phoneme is that it can distinguish meaning of words.

Another example is that when we pronounce *peak* and *speak*, the sound [p] is pronounced in a different way. In pronouncing *peak*, there is a strong puff of air stream in the [p] sound, but in pronouncing *speak*, the puff of air is withheld a little. The sound [p] in *peak* is an aspirated [p<sup>h</sup>], while the [p] sound in *speak* is an unaspirated [p] [6], pp. 23–24. Though there is a slight difference in pronouncing [p] sound, but such a difference between [p<sup>h</sup>] and [p] does not produce a difference in meaning. “Rather, they are just predictable variations in pronunciation of the same phoneme /p/, it is aspirated initially in a syllable and unaspirated elsewhere” [7], p. 23. Thus, /p/ is still a phoneme in the English sound system, which are realized differently as aspirated [p<sup>h</sup>] or unaspirated [p] in different contexts.

“A phone, which means ‘sound, voice’ in Greek, is the smallest perceptible discrete segment of sound in a stream of speech. It is a phonetic unit, physically perceived, and represented between square brackets [] by convention” [5], p. 18. In other words, phones are the speech sounds we hear and produce “in the mouth” during communication. For example, all the three segments [b], [ɪ] and [g] are phones when we pronounce the word *big*.

One abstract phoneme can be pronounced differently in different words and have different versions in actual speech. These different version are phones. For example, the phoneme /p/ in English can be realized by two phones: one is an aspirated [p<sup>h</sup>] in the word *peak* and the other is an unaspirated [p] in the word *speak*, both of which are phones of the same phoneme /p/.

Phones do not function contrastively, some phones distinguish meaning, some don't. For example, [b] and [p] as in *bee* [bi:] and *pea* [pi:] are two words with different meanings, and [p<sup>h</sup>] and [p] don't, as in *peak* [p<sup>h</sup>i:k] and *speak* [spi:k], which mean the same to a speaker of English.

“The different phones which can represent a phoneme in different phonetic environments are called the allophones of that phoneme” [6], pp. 23–24. It means that when a set of phones, all of them are versions of one phoneme, they are allophones of that phoneme. Just like [p] and [p<sup>h</sup>] are two allophones of the same English phoneme /p/.

“The crucial distinction between phonemes and allophones is that substituting one phoneme for another will result in a word with a different meaning (as well as a different pronunciation), but substituting allophones only results in a different (and perhaps odd) pronunciation of the same word” [8], p. 56.

In short, a morpheme, like a phoneme, is an abstract concept, which must be realized by certain phonetic forms or variants in different phonetic environments. Each of the actual phonological forms or variants to realize morphemes is a morph, which is similar to phone, the actual phonetic realization of phonemes. A single morpheme may be phonologically or orthographically realized by two or more morphs. The different morphs used to realize one morpheme are called the allomorphs of that morpheme, as the different phones are “allophones” of a particular phoneme.

## 4 Types and Reasons of Allomorph

### 4.1 Allomorph of Free Morphemes

#### 4.1.1 Allomorph of Indefinite Articles

In English, the morpheme which expresses indefiniteness, has two forms: a before a word that begins with a consonant and an before a word that begins with a vowel [6], pp. 33–34.

an apple	a tree
an hour	a minute
an important visitor	a meaningful trip

The variant forms “a” and “an” are the morphes of the abstract indefiniteness morpheme and its allomorphs.

#### 4.1.2 The Allomorphs of the Link Verb Morpheme {be}

The past tense of the link verb morpheme {be}, is realized by two different orthographic forms “was, were”, representing {singular} and {plural} respectively and each has its own phonetic form [wəz] and [wɜr]. Here, both the orthographic forms “was, were” and their phonetic forms [wəz] and [wɜr] are morphs [3], pp. 47–48.

In English, the freestanding functional morphemes in particular, such as linking verb, modal verbs, pronoun and prepositions, have more than one allomorph. Especially “when they occur in connected speech, they may be represented by different variants, depending on whether they are accented or weakened as shown below:” [3], pp. 47–48.

Morpheme	allomorph strong	allomorph weak
{am}	[æm]	[əm], [m]
{have}	[hæv]	[həv], [v]
{he}	[hi:]	[hi], [i:], [i]
{for}	[fɔ:r]	[fər]

## 4.2 Allomorph of Bound Morphemes

In addition to the allomorph of the plural morpheme {-s} mentioned previously in the second part, there are many other allomorphs of bound morphemes, the typical examples are as follows:

### 4.2.1 Allomorph of Negative Prefix of {-in}

[im-]	[in-]	[iŋ-]	[ir-]	[il-]
Impolite	indefinite	incomplete	irregular	illegal
Impossible	indelicate	incapable	irresponsible	
Imbalance	intolerance	ingratitude	irrational	illogical

The five phonetic forms [im-], [in-], [iŋ-], [ir-] and [il-] are the variants (allomorphs) of the same morpheme {in-}, they are the three specific morphs of [in-] realized in different phonological environments. To be exact, [im-] appears with the adjective stem that begins with the sound of a bilabial stop like [p] and [b], [in-] appears with the adjective stem that begins with the sound of an alveolar stop like [d] and [t], [iŋ-] appears with the adjective stem that begins with the sound of a velar stop like [k] and [g], [ir-] appears with the adjective stem that begins with the sound of an alveolar approximant “r” and [il-] appears with the adjective stem that begins with the sound of an alveolar lateral sound “l”.

### 4.2.2 Allomorph of the Past Tense {-ed}

The past tense of English regular verbs spelled as “-ed” is realized in speech by different morphs: [-id], [-d] or [-t], depending on the phonological properties of the last segment of the verb to which it is attached [7], pp. 35–36:

It is realized as:

[-id] if the verb ends in the sound of [-d] or [-t]

need,	needed,	[ni:d],	[ˈni:did]
wait,	waited,	[weɪt],	[ˈweɪtid]

/d/ after a verb ending in any voiced sound except /d/

play,	played,	[pleɪ],	[ˈpleɪd]
live,	lived,	[lɪv],	[ˈlɪvd]

/t/ after a verb ending in any voiceless consonant other than /t/

stop,	stopped,	[stɑ:p],	[ˈstɑ:pt]
like,	liked,	[laɪk],	[ˈlaɪkt]

In the above example, the past tense of regular verbs is realized orthographically by “-ed”, and phonologically by [-id], [-d] and [-t], all of them are the different English morphs of the same morpheme and all these morphs can be grouped together as allomorphs of the past tense morpheme.

### 4.2.3 Allomorph of Noun Suffix “-ation”

Noun Suffix “-ation” as in “recommendation, starvation” has following four variants: “-tion” “-ition” “-sion” and “-ion”. “-tion” can be found in words like “reduction, introduction”, “-ition” in “competition, addition”, “-sion” in “conclusion, decision” and “-ion” in “confession, action”, all of which are allomorphs of the same noun suffix “-ation” since they share the same meaning and grammatical function. They take different shapes because of the different sound environments in which they occur.

### 4.3 Reasons for Allomorph

From what has been mentioned above, allomorphy depends largely on the sound context in which it occur, which thus, results in some changes or variants in spoken forms, or written forms, or even both.

For most of allomorphs, such as the different allomorphs of the negative prefix {-in} mentioned above, each is added to the beginning of an adjective stem, each expresses the negative meaning, and each obeys the same word formation rule: [im-] appears with the adjective stem that begins with a bilabial stop like [p] and [b], [in-] appears with the adjective stem that begins with an alveolar stop like [d] and [t], [iɪ-] appears with the adjective stem that begins with a velar stop like [k] and [g], [ir-] appears with the adjective stem that begins with an alveolar approximant “r” and [il-] appears with the adjective stem that begins with an alveolar lateral sound “l”. So, if we are aware of this underlying rule (reason), it will not be difficult for us to predict what specific form of this abstract morpheme will be attached to the adjective stem, depending on the initial sound of the stem [9], p. 57.

However, not all allomorphs are based on certain rules and predictable, some allomorphs are based on no rules as follows:

Infinitive	past	past participle
cut	cut	cut
beat	beat	beaten
run	ran	run
make	made	made
sing	sang	sung
take	took	taken

The above allomorphs of the past tense and past participle of irregular verbs are all irregular and thus cannot be predictable. Therefore, the formation of such words have no rules to follow, and they are just simply stored in the mental lexicon of language users [9], p. 58.

## 5 Conclusion

This paper is mainly for the undergraduates in Minority areas and beginners in the learning and researching of linguistics, especially morphology. Undoubtedly, a clear knowledge of morph, morpheme, allomorph and their distinction with phone, phoneme and allophone is quite helpful for language learning and also beneficially prepares students to be future English teachers and lays a good foundation for their future language learning and researching.

To students' confusion about how to identify and distinguish morph, morpheme and allomorph as well as their distinction with phone, phoneme and allophone, it is summarized that morpheme is a linguistic abstraction, which is realized by different shapes or phonetic forms. These different shapes or sound forms are the concrete morphemes and also the allomorphs of the same morpheme. While phoneme is also an abstract meaning-distinguishing unit in phonology, which is represented by particular phones we actually produce in our mouth in communication, and the different particular phones are allophones of the same phoneme. For the types of allomorphs, the allomorphs of free-standing morphemes are mainly functional words such as indefinite article, the stressed or unstressed forms of the linking verbs like "is, am, are, was, were", modal words as "can, could, would" and conjunctions as "that, but, and" in connected speech and so on. While the allomorphs of bound morphemes are numeral, among which the typical are the plural forms of nouns {-s}, the past tense of regular verbs {-ed}, the negative prefix of adjective {in-}, the noun suffix {-tion}, to name just a few. For the reasons of allomorphy, most allomorphy are caused by phonological rules and are predictable, but some allomorphy such as the past tense and past participle of irregular verbs bases on no rules and thus, are unpredictable.

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