



Identification and Distinction of Root, Stem and Base in English Linguistics Teaching

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Abstract. Based on the author’s observation and confusions of undergraduates in ethnic minority college, it is found that most students are not able to distinguish such terms as root, stem and base in specific words. They do not know to what level they should analyze the root, they feel confused about the stem in words without inflectional affix attached and they do not know how to identify the base in words with both derivational and inflectional morphemes or in words with two or more than two derivational morphemes. To help students clearly understand, identify and distinguish the three terms, this paper first reviewed the definitions and types of the three terms, and highlighted their differences and relationship. Then, it analyzed the specific words in terms of the three concepts. Last, to answer students’ questions, it is concluded that to identify the root, all the affixes should be removed and the root usually belong to a lexical category that can be found in the English dictionary, that to identify the stem, only inflectional affixes should be removed and if there is no inflectional affixes attached, stem will not be discussed and that to identify the base in words with both derivational and inflectional morphemes, the inflectional morpheme should be deleted first and then derivational morphemes and in words with more than two derivational morphemes, which one should be removed first depends on the contribution it makes to the formation and meaning of the words.

Keywords: Root · Stem · Base · Identification · Distinction

1 Introduction

When teaching English majors the third chapter “morphology” of the course “English linguistics: An Introduction”, students feel lost and couldn’t identify and distinguish such terms as “root” “stem” and “base” in specific words, especially in the following three cases, first, to what level should root be analyzed? Should its Latin or other origin be traced back? Second, if there is no inflectional suffix attached, how to identify the stem in words like “inequality, denationalize”? Third, about base, when words are attached with both derivational and inflectional morphemes like “understatements, denationalizing” or with more than two derivational morphemes like “impracticality, inequality, unluckiness”, how to identify the base? Which morpheme should be first removed and why?

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Since the textbook offers neither detailed explanation nor related corresponding exercises, students haven't a clear idea of them. However, "root" "stem" and "base" are three basic terms in morphology, it is necessary to make them clear to students, whether it is due to the requirements for the study of linguistics courses at the undergraduate stage, or the requirements for the in-depth study and research. So, this paper is written to answer the above-mentioned questions, trying to facilitate students' understanding of the three terms.

2 Root, Stem and Base

2.1 The Definition and Type of Root

According to Hu Zhuanglin, "A root is the base form of a word that cannot be further analyzed without destroying its meaning. It is that part of the word that remains when all the affixes are removed" [1]⁵³. Wen Xu also believes that "A root is the irreducible core of a word, with absolutely nothing else attached to it. It is the part that must always be present, possibly with some modifications" [2]³³.

From these two definitions, three points should be noted as follows:

First, a root is the unanalyzable and unchangeable part of a word conveying the main lexical meaning of the word [3]³², which defies further analysis, otherwise, its original identity will be lost or changed, for example, "desk" couldn't be divided into "de-" and "-sk" since there is no relationship between these two parts and the whole word.

Second, a root is the part of the word left when all the affixes are removed and the affixes include both inflectional affixes and derivational affixes. About inflectional affixes, they are mainly the grammatical markers and there are eight types [4]⁷⁵: the plurality of nouns "-s" as in "jobs", the possessive case of nouns "-s'" as in "people's", the third person singular present "-s" of verbs as in "he buys wine", the past tense "-ed" as in "he bought wine", the past participle "-ed" as in "he has bought wine", the present participle "-ing" as "he is buying wine", the comparative degree of adjectives or adverbs "-er" as in "happier" and their superlative degree "-est" as in "happiest". While the derivational affixes mainly refer to prefixes and suffixes as "un-" in "unhappy" and "-ly" in "happily". So, by removing all the affixes, the root is found as "fruit" in "unfruitfulness", "teach" in "teachers" and "care" in "carelessness".

Third, every word contains a root morpheme whether it is free or bound. "Free root morphemes are those that can stand by themselves and are the base forms of words" [1]⁵⁴, as "mate" in "classmate" "deskmate" "roommate" and "schoolmate". To the contrary, bound root morphemes can't constitute words by themselves, there must be some other affixes attached to them, such as "-ceive" in "receive", "perceive", and "conceive" or "-tain" in "retain", "contain" and "maintain" [1]⁵⁴. In English language, most roots are free morphemes and bound root morphemes are relatively a few in number.

2.2 The Definition and Type of Stem

"A stem is any morpheme or combination of morphemes to which an inflectional affix can be added" [1]⁵⁴, or "any form to which an inflectional affix is attached is a stem" [5]⁵⁶.

From the definitions, it is learned that a stem is part of a word left when all inflectional affixes are removed. For example, “girl” in “girls”, “eat” in “eating” and “old” in “older”, are all stems by deleting the inflectional affix such as the plural form “-s”, the present participle “-ing” and the comparative degree “-er” respectively. Besides, a stem is also the part of a word that is common to all its inflected variants just as “take” is the stem to all its inflected forms “takes”, “took”, “taken” and “taking” and “rich” is the stem to “richer” and “richest”.

A stem can be further classified into three types [6]⁵³ as follows:

First, a stem may consist of a single root morpheme as “class” in “classes”, “pick” in “picks” and “sweet” in “sweeter”.

Second, a stem may be made of two root morphemes as in a compound, as “classroom” in “classrooms” and “pickup” in “pickups”, which is a compound stem.

Last, a stem can be a root morpheme plus one or more derivational morpheme(s) as “handful” in “handfuls”, “naturalize” in “naturalizing” and “understatement” in “understatements”, which is a derived stem.

2.3 The Definition and Explanation of Base

A base, “often used as an all-purpose term, refers to a form to which affixes of any kind (both derivational and inflectional) can be added” [5]⁵⁶. To know more about it, there is an example below:

“nation”	(base = root = stem)
“national”	(base = root + a suffix = stem)
“international”	(base = root + a prefix & a suffix = stem)
“internationalist”	(base = root + a prefix & two suffixes = stem)

“internationalists”

In “national”, “nation” is a root because it couldn’t be further analyzed, “nation” can be a stem as the plural form “-s” can be added to it and “nation” is a base because it can be added either an inflectional morpheme “-s” or a derivational morpheme “-al”. Here, a base, a root and a stem can be the same form.

In “international”, “national” is not a root because it can be further divided into smaller morphemes as “nation” and “-al”, but can be a stem since the inflectional affix “-s” can be added to it when it is used as a noun, which means “a citizen of a particular country” [7]¹¹⁴⁹ and thus it is a base for the same reason. Here, the base is the stem, or the root plus a suffix.

In “internationalist”, “international” can be a stem because the inflectional morpheme “-s” can be attached to it to show plurality when it is used as a noun, meaning “a player who takes part in a sports competition against another country” [7]⁹²⁴, and thus, also a base. Here, the base is the stem, or the root plus a prefix and a suffix.

In “internationalists”, “internationalist” is both a stem and a base because the plural form “-s” is attached to it. In this case, the base is also the stem, or the root plus a prefix & two suffixes.

So, to conclude what has been mentioned above, from the perspective of root, the base can be a root as “nation” in “national”, a root plus one suffix as “national” in “international”, a root plus both a prefix and a suffix as “international” in “internationalist” or a root plus both a prefix and two suffixes as “internationalist” in “internationalists”. While from the perspective of stem, the base is the same as a stem as “nation” in “national”, “national” in “international”, “international” in “internationalist” and “internationalist” in “internationalists”.

3 Distinction and Relationship Between Root, Stem and Base

3.1 Distinction

From the above-mentioned definitions, it is clear that to identify the root, all the affixes including both derivational and inflectional morphemes should be removed, as in “memberships”, by removing the plural form “-s” and the derivational suffix “-ship”, the root is “member”.

To find the stem in a word, only its inflectional affix should be deleted from the word, as in “memberships”, by removing only the plural form “-s”, the stem is “membership”.

While to locate the base, one of its affixes should be removed, still as in “memberships” by removing the inflectional affix “-s”, the base is “membership” and in “membership”, by removing the derivational suffix “-ship”, the base is “member”.

It is clear that a base is derivationally analyzable, as “membership” in “memberships” while a root cannot be further analyzed, as “member” in “membership”.

As mentioned before, a base can be added by both inflectional and derivational affixes, while a stem can be added only by inflectional affixes, as “friend” in “friends” is a base and also a stem, but “friend” in “friendly” is only a base, not a stem, because “-ly” is a derivational suffix.

3.2 Relationship

“A stem may contain a root plus one or more than one derivational affix” [1]⁵⁴, which can be shown as follows:

word	root	stem	base
works	work	work	work
workers	work	worker	worker
workshops	work	workshop	workshop

In “works”, “work” is both a root, also a stem and a base by deleting the only plural suffix “-s”. In “workers”, the root is “work” by removing both the inflectional suffix “-s” and the derivational suffix “-er”, the stem is “worker” by removing only the inflectional suffix “-s”, which is the root plus a derivational morpheme, and the base is “worker” too, by removing the last suffix. In “workshops”, the root is still “work” after all the affixes are removed, the stem is “workshop”, which is also the root plus a derivational morpheme and the base is also “workshop” for the same reason.

From the above example, three points are concluded: first, a root, a stem and a base can be the same form. Second, a stem may be a root or a root plus one or more than one derivational morpheme(s). Third, a base may be the same with a stem or a base may also be a root or a root plus one or more than one derivational morpheme(s).

The above example gives people the impression that the base is always the same as a stem, which is not always true because in some case when words have only derivaitonal affixes, the base may neither be a root nor a stem, but just a base as in “impracticality” [5]⁵⁶⁻⁵⁷:

- “impracticality”
- “impractical” (base)
- “practical” (base)
- “practice” (root, stem, base)

By removing the derivational suffix “-ity”, the base is “impractical” and by removing the derivational negative prefix “im-”, the base is “practical” and by further removing the derivational suffix “-al”, the base is “practice”, which is also a root and a stem. So, a base may only be a base sometimes.

From what has been mentioned above, two points are shown: one is that in English, all the roots are bases, but not all the bases are roots and the other is that all the stems are bases, but not all the bases are stems because some words have only derivational affix(es).

4 Identification and Distinction of Root, Stem and Base in Words

4.1 Analysis of Words in Terms of Root, Stem and Base

In the analysis of words, “root” is left when all the affixes are removed, “stem” is located when the inflectional morpheme(s) is deleted and “base” is found when one of the affixes is taken off. For example,

word	root	stem	base
undesirables	desire	undesirable	undesirable
undesirable	desire		desirable
desirable	desire		desire

In “undesirables”, the root is “desire” by removing all the affixes “-s” “un-” “-able”, the stem is “undesirable” by deleting the inflectional affix “-s” and the base is also “undesirable” by taking off one of the affixes, here “-s” instead of “un-” should be removed because “-s” is the noun plural marker while “un-” is an adjective negative prefix, which can’t be added to the noun.

In “undesirable”, the root is “desire”, and the base is “desirable” by taking off the one of the affixes, here “un-” instead of “-able” should be removed because “un-” is the adjective or verb negative prefix instead of noun prefix.

In “desirable”, the root is still “desire”, and the base is “desire” by taking off the only one suffix “-able”.

4.2 The Level of Root Analysis

“The root constitutes the core of the word and carries the major component of its meaning. Roots typically belong to a lexical category, such as nouns, verbs, adjectives, or prepositions” [8]³⁴. When analyzing the root of a word, there is no need to go beyond the English word to its Latin origin or other origin as below:

In “relation”, the root is “relate”, which comes from Latin “relatus”, consisting of three morphemes “re-” “lat-” and “-e” [9], but those are not English morphemes, so the root is “relate”, not “-lat”.

Similarly, the root of “faithfulness” is “faith” instead of the Latin morpheme “fai-” and the root of “composer” is “compose”, not “-pos” and so on and so forth.

4.3 Identification of the Stem in Words with no Inflectional Suffix Attached

Stem is the form of word that inflectional morpheme(s) can be added to, so the remaining word form after all inflectional morphemes are removed is stem. When a word has no inflectional morpheme, for example, “inequality, denationalize”, how to identify the stem in each word?

“To make things more clearly, the stem is used only when we deal with inflectional affixes” [5]⁵⁶. If there is no inflectional morpheme attachment, there is no need to talk about stem. Only when there is inflectional morpheme attachment will we talk about stem, such as in “inequalities”, the stem is “equality” by removing the plural affix “-es”, in “denationalizing”, the stem is “denationalize” by removing the present participle “-ing” suffix and in “quicker”, the stem is “quick” by removing the comparative degree maker “-er”.

Attention should be paid that in words with no inflectional suffix attached, if inflectional affixes can be added to them, then, they can be “stems”, such as “equality”, it is a noun and the inflectional affix “-es” can be added to it, which will make it a plural noun “inequalities”, so in this case, “equality” can be a stem. This is also true with “denationalize”, it is a verb and inflectional affixes such as “-s”, “-ed” and “-ing” can be attached to it respectively to show the third person singular in present tense, the past tense, the past participle and the present participle, thus, “denationalize” can be a stem.

4.4 Identification of the Base in Words Attached with Both Derivational and Inflectional Morphemes or with More Than Two Derivational Morphemes

Base is any form of word to which affixes of any kind can be attached. To find the base is to remove one of its affixes. In words with only one derivational or inflectional affix, the base is easily found by just removing the only affix, like in “breathe”, the base is “breath” by removing the suffix “-e”, which means “change a state into an action” and in “telephone”, the base is “phone” by removing the prefix “tele-”, which means “over a long distance”.

When words attached with both derivational morphemes and inflectional morphemes like “understatements, denationalizing” or with more than two derivational morphemes

like “impracticality, inequality, unluckiness”, how to identify the base? Which morpheme should be first removed and why?

In words with both derivational morphemes and an inflectional morpheme, as in “understatements”, “state”, “understate” and “understatement” can be the base because affixes can be attached to them. In “understatements”, by removing the inflectional affix “-s”, the base is “understatement”. In “understatement”, by removing the derivational suffix, the base is “understate” instead of “statement”, because “under-” as an adjective and verb prefix will not be attached to the noun “statement” while the “-ment” is a noun suffix. In “understate”, “state” is the base by deleting the derivational prefix “under-”.

Similarly, in “denationalizing”, the base is “denationalize” by deleting the present participle “-ing”, in “denationalize”, the base is “nationalize” rather than “denation” because the “de-” is a verb prefix and “denation” doesn’t exist in the dictionary, in “natioanlize”, the base is “national” by removing the verb “-ize” suffix and in “national”, “nation” is the base after the adjective suffix “-al” is removed.

However, as for words with more than two derivational morphemes, for example, in “impracticality”, “practice”, “practical” and “impractical” are all the bases. In “impracticality”, “impractical” is the base, but “practicality” is not, because “im-” as an adjective negative prefix couldn’t be added to the noun while “-ity” is a noun suffix. In “impractical”, “practical” is the base by removing the adjective prefix “im-”, but “impractice” is not for the same reason above. In “practical”, “practice” is the base after removing the adjective suffix “-al”.

Similarly, in “inequality”, the base is “inequal”, not “equality”, because “in-” is an adjective negative prefix rather than noun prefix while “-ity” is a noun suffix and in “inequal”, the base is “equal” by deleting the derivational prefix “in-”.

In “unluckiness”, the base is “unlucky”, not “luckiness” because “un-” is an adjective or verb negative prefix instead of a noun prefix while “-ness” is a noun suffix. In “unlucky”, the base is “lucky”, not “unluck” for the same reason mentioned above and in “lucky”, the base is “luck” after deleting the adjective suffix “-y”.

Therefore, to identify the base in words with both derivational morphemes and an inflectional morpheme, the inflectional morpheme should be first deleted and then derivational morphemes and in words with more than two derivational morphemes, if all the affixes are suffixes, the suffixes will be removed one by one from the word final and if the affixes include a prefix and suffixes, the order of removing the affixes is just opposite to the order of adding them to form the word, which depends on the contribution each affix makes to the word formation and word meaning.

5 Conclusion

The terms of “root, stem and base” are basic and important in morphology which will help students to have a rational understanding of word formation and facilitate their vocabulary learning, memorization, word meaning guessing and enlargement.

The identification of “root” is to remove all the affixes, the identification of “stem” is to remove the inflectional morpheme(s) and the identification of “base” is to remove one of its affixes. The root may be the same as a stem or a base and all roots are bases. A stem is usually a root or a root plus one or more derivational morpheme(s) and all stems

are bases while a base may be the same as a root or a stem or just only be a base itself as mentioned above.

Roots typically belong to a lexical category, which can be found in the dictionary. When identifying the root, it's unnecessary to go beyond the English word to trace its Latin origin. When words have no inflectional morpheme attachment, stem will not be discussed. As for "base", when words have both an inflectional morpheme and derivational morpheme(s), inflectional morpheme will be removed first and then derivational morphemes, when words have two or more derivational suffixes, the suffix from the end of the word will be removed one by one and when words have both derivational prefix(es) and suffix(es), which one of the affixes should be removed first depends on the contribution each affix makes to the formation and meaning of the word and usually the order of removing the affixes is just contrary to the order of adding the affixes to the word.

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