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## MORPHONOLOGICAL PHENOMENA IN THE ENGLISH SCIENTIFIC AND TECHNICAL VOCABULARY

The purpose of this article is the study of morphonological phenomena in the word-formation of the English language of science. Morphonology is a relatively new discipline, and before proceeding to the study of specific material. The authors consider it necessary to acquaint the reader with its main provisions. Morphonology word formation of modern English scientific and technical literature contributes to the standardization of terminological systems based on the mutual influence of the general standard language and the language of science as its functional type. It should be noted that there is no strict dependence between the parameters of word families and modifications of the basis, except for one thing: there is no change of the basis in the adverbial direction of the derivative. Morphological modifications of the producing base in one direction or another, as a rule, are obligatory, but optional. The scientific value is that the wide prevalence of morphological phenomena in the word-formation of the English language puts forward the provision on taking into account morphological modifications in the producing basis in the formation of producing words, which is very important in the process of teaching professionally oriented scientific English.

The practical value of this research is that special research in the field of teaching reading literature in the specialty is the main purpose of teaching a foreign language to scientific and technical workers and students of non-linguistic universities. The article concludes that the practice of teaching foreign languages shows that the use of word formation achievements as one of the linguistic disciplines greatly facilitates learning a foreign language. The research uses a comparative method, transformational, descriptive, and semantic. The studies' results indicate the regularity and wide prevalence of morphonological modifications in the generating basis for the formation of derived words in the process of teaching English.

**Key words:** English language, word formation, scientific and technical vocabulary, morphonology, morphonological phenomena, derivatives; derivation model, a family of words.

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### Ағылшын тілінің ғылыми-техникалық лексикасындағы морфонологиялық құбылыстар

Бұл мақаланың мақсаты – ағылшын тілі сөзжасамындағы морфонологиялық құбылыстарды зерттеу. Морфонология салыстырмалы түрде жаңа пән және белгілі бір материалды зерттеуге кіріспес бұрын авторлар оқырманды оның негізгі ережелерімен таныстыру қажет деп санайды. Қазіргі ағылшын тіліндегі ғылыми-техникалық әдебиеттердің морфонологиялық сөзжасамы жалпы стандартты тіл мен ғылым тілінің оның функционалды түрі ретіндегі өзара әсерін негізделген терминологиялық жүйелерді стандарттауға ықпал етеді. Айта кету керек, сөз семьяларының параметрлері мен негіздің модификациялары арасында қатаң байланыс жоқ, тек туынды үстеу бағытында негіздің өзгеруі жоқ. Туынды негіздің бір бағытта немесе басқа бағытта морфонологиялық модификациясы әдетте міндетті емес. Ғылыми құндылығы мынада: ағылшын тілінің сөзжасамында морфонологиялық құбылыстардың кең таралуы кәсіби бағытталған ғылыми ағылшын тілін оқыту процесінде өте маңызды болып табылатын туынды сөздерді қалыптастыру

кезінде туынды негіздегі морфологиялық модификацияларды есепке алу туралы ережені алға тартады.

Бұл зерттеудің практикалық құндылығы мынада: мамандық бойынша әдебиеттерді оқуды оқыту саласындағы арнайы зерттеулер ғылыми-техникалық қызметкерлер мен тілдік емес жоғары оқу орындарының студенттеріне шетел тілін оқытудың негізгі мақсаты болып табылады. Мақалада шетел тілдерін оқыту практикасы сөзжасам жетістіктерін лингвистикалық пәндердің бірі ретінде қолдану шетел тілін үйренуді едәуір жеңілдететінін көрсетеді деген қорытынды жасалады. Зерттеу салыстырмалы әдісті, трансформациялық, сипаттамалық және семантикалық әдісті қолданады. Зерттеу нәтижелері ағылшын тілін оқыту процесінде туынды сөздерді қалыптастыру үшін өндіруші негіздегі морфонологиялық модификациялардың жүйелілігі мен кең таралуын көрсетеді.

**Түйін сөздер:** ағылшын тілі, ағылшын тілінің сөзжасамы, ғылыми-техникалық лексика, морфонология, морфонологиялық құбылыстар, туынды сөздер, деривациялық модель, сөздер семьясы.

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### Морфонологические явления в научно-технической лексике английского языка

Целью данной статьи является изучение морфонологических явлений в словообразовании английского языка науки. Морфонология – относительно новая дисциплина, и прежде чем приступить к изучению конкретного материала авторы считают необходимым ознакомить читателя с его основными положениями. Морфонологическое словообразование современной англоязычной научно-технической литературы способствует стандартизации терминологических систем, основанных на взаимовлиянии общего стандартного языка и языка науки как его функционального типа. Следует отметить, что нет строгой зависимости между параметрами семейств слов и модификациями основы, за исключением одного: нет изменения основы в наречном направлении производного. Морфонологические модификации производящей основы в ту или иную сторону, как правило, но необязательны. Научная ценность заключается в том, что широкая распространенность морфонологических явлений в словообразовании английского языка выдвигает положение об учете морфонологических модификаций в производящей основе при образовании производящих слов, что очень важно в процессе преподавания профессионально-ориентированного научного английского языка.

Практическая ценность данного исследования заключается в том, что специальные исследования в области обучения чтению литературы по специальности являются основной целью преподавания иностранного языка научно-техническим работникам и студентам неязыковых вузов. В статье делается вывод о том, что практика преподавания иностранных языков показывает, что использование достижений словообразования как одной из лингвистических дисциплин значительно облегчает изучение иностранного языка. В исследовании используется сравнительный метод, трансформационный, описательный и семантический. Результаты исследования указывают на регулярность и широкую распространенность морфонологических модификаций в производящей основе для образования производных слов в процессе преподавания английского языка.

**Ключевые слова:** английский язык, словообразование английского языка, научно-техническая лексика, морфонология, морфонологические явления, производные слова, деривационная модель, семейство слов.

### Introduction

L.A. Bedouin de Courtenay's idea of phoneme alternations is regarded as a crucial turning point in the development of linguistics. Its impact can be seen in the development of the independent subfield known as "morphology", also known as "mor-

phophonology" or "morphophonemics". The specific definition of this subdiscipline varies among linguists. N.S. Trubetzkoy deserves most of the credit for developing the conceptual foundation of morphonology. He defined it as

1) a branch of word phonology concerned with the phonological structure of morphemes;

2) a crucial aspect of grammar;  
 3) a discipline that bridges morphology and phonology. The first and third of these definitions are accepted.

Despite the name “morphoneme”, which some linguists have introduced but which lacks empirical support, morphonology remarkably lacks an autonomous unit. Instead, morphonology investigates phonemic and stress-related changes while doing morphonological tasks, using the terms “phoneme” and “morpheme” from other linguistic strata. The study of combinatory phonetic shifts within particular morphemes and the investigation of the phonological structure of morphemes, however, are outside the purview of morphonology.

Morphonology is an intermediate, non-basic level linking two basic levels of language structure: phonology and morphology (Reformatskiy, 1975). Word formation also has a dual character: it has the right to claim independence, and numerous works performed in this area confirm its relative independence. At the same time, it is characterized by close contact with nearby levels – morphemic and lexemic. We can talk about more complex inter-level relationships, in particular, between morphonology and word formation. Proceeding from the position that morphonological modifications contribute to the differentiation of primary and secondary forms, we set the objective to determine how wide the scope of this phenomenon is in English word production and what is its regularity.

Since one of the characteristic features of word formation is its consistency, it seems interesting to combine the search for regularity of morphonological phenomena with the description of the word-formation group (hereinafter “a family of words”). The complexity and consistency of the latter will likely contribute to determining the status of morphonological means as regular, functionally significant phenomena in the language.

This objective was solved based on the vocabulary of scientific and technical prose - one of the variants of the language of science, which, as noted, is one of the functional varieties of the general literary language. The vocabulary of the language of science is heterogeneous. In addition to terminology, there are common words that make up the neutral deverbial fabric of special texts, and general scientific vocabulary, the use of which is not limited to any one specific science.

Accordingly, the analyzed families of words can be divided into three subgroups:

1. Terminology proper;

2. Formed by general scientific lexical units;  
 3. Everyday words.

The affiliation of the last two subgroups to the vocabulary of the language of science is indicated, in particular, by the fact that they are registered with special terminological words, for example: to apply “apply”, adequate “adequate”, etc.

However, a clear division of families of words is not always possible: in some cases, the vertex of the family of words and the derivatives are ambiguous and, along with the terminological meaning, have a common one. In addition, the semantic structure of derivatives is not entirely determined by the semantic structure of the producer, and therefore a derived word may have a terminological meaning that is not directly deducible from the semantic structure of the motivating word. The search for common patterns of morphonological variation in families of words with a different ratio of terminological and non-terminological meanings of their members can once again demonstrate the interconnectedness of the term and non-term.

The study of morphonological variation in the family of words can be approached from different positions. We limited ourselves to the study of the variation of the generating base in suffix word production. This choice is explained by the following: in the works devoted to the system of word production of the English language and morphonology itself, it is indicated that suffixal word production is characterized by the morphonological marking of both the basis and suffixes. Morphonological changes in some suffixes have been investigated very thoroughly, which cannot be said about the basis. In the works on morphonology, attention was paid to changes in the root, which, strictly speaking, is not a unit of word formation, morphonological changes in the producing base within the family of words have not yet been investigated.

The main purpose of this study – the establishment of regular features of variation of the producing base in the family of words – identified specific tasks:

1. To determine how much variation is characteristic of the generating base within the family of words and whether it has distinctive features in the terminological family of words in comparison with the families of words formed by units of general scientific and everyday vocabulary;

2. Find out if there is a connection between the parameters of the family of words (configuration, valence, depth, and volume) and modifications in the base;

3. To determine the influence of specific derivational models on the fact of variation of the base and its types: alternation of vowels, consonants, truncation of the base, etc.

The main objective of morphonology is to show the place of alternating morphemes in the language system, answer the question of which area of the language is marked morphonologically, and thoroughly investigate it. At the present stage of the development of the English language, morphonological phenomena (alternation, truncation, extension, superposition of sounds at the junctions of morphemes) are characteristic of it primarily in the field of word formation. They allow differentiating primary forms: for example, the secondary nature of the units “description”, and “descriptive” is formally expressed primarily by suffixes, but along with this, morphonological alternation is used as the main means on the basis: [dis:kraib-] – [diskripf-, diskript-], signaling the derivation process.

### Materials and methods

In the process of the work, we used the following ways:

– descriptive research method aimed at empirical research and description of the word-forming process in modern English;

– the comparative method used in the study, considers the average depth of a word in the Old English word forming;

– the use of the transformational approach is connected with the possibility of certain transformations to identify differences in semantic and syntactic nature between the components of word-forming elements.

In the study, we also use component analysis, which is considered a discrete analysis, the competence of which includes:

1) decomposition of lexical meaning into semes;

2) their matrix description;

3) opposition of the semantic level to the linguistic one;

4) quantitative method.

The material of the study was 200 families of words of the English language formed by suffix derivatives in which at least one pair of “producing-derivative” is marked by morphonological variation of the basis. The families of words number 674 derivatives. The vertices of the families of words are word-formatively simple.

### Literature review

The origins of morphonology are in the theory of phonetic alternations, created by I.A. Baudouin de Courtenay (Baudouin de Courtenay, 1963), and N.S. Trubetsky (Trubetsky, 1963) created a unified generalizing theory of alternations. In his works, the term “morphonology” is used for the first time and a research program is given. N.S. Trubetsky defined morphonology as an independent scientific and linguistic discipline, whose task is to study the use of phonological alternations in grammar and the language system as a whole. N.S. Trubetsky’s approach to changes in the morpheme structure from the point of view of their functional significance is still relevant today. There is another point of view on morphonology, according to which morphonological alternations do not correlate with meaning. “Morphonology is distracted from the content side of language, from the relation of the sound side of language to the content plan”.

According to the approach of developing the positions of N.S. Trubetsky, morphonology deals with the organization of the plan of expression, but it is interested in such phenomena that carry certain morphonology information. This point of view was put forward and substantiated by E.A. Makaev and E.S. Kubryakova (Makaev and Kubryakova, 1972) in a series of works on theoretical and practical problems of the morphonological description of languages.

According to H.M. Zyuzkina and H.V. Olimova, morphonological phenomena in the English language system have already been the subject of special research (Zyuzkina, 2014), (Olimova, 2015). The main objectives that were solved in this case were to identify the inventory of morphonological phenomena in modern English and their phonological substrate (Aloyan, 1967), (Telegin, 1975), (Patlaty, 1969), (Saurbayev, 2013), (Saurbayev et al., 2013), (Saurbayev et al., 2021), comparative analysis of the specific weight and role of morphonological means in ancient and modern English (Ermatov, 1971) and the creation of economical ways to describe the phenomena of sound variation of morphemes, i.e. identification of laws of morphonological modifications that would relate not to individual units, but to whole classes of units (Pankratz). In the research of Bashkir linguists, the main attention is paid to morphological phenomena occurring in the formative system of the modern Bashkir language according to the authors,



the following morphonological phenomena types are highlighted in modern Bashkir language: stem clipping, morpheme augmentation, and juxtaposition of phonemes, phoneme alternation (Abdullina et al., 2016).

## Results and Discussion

The study of morphological variation in nests involves analyzing and identifying the characteristic features of variation that occur in three groups based on the lexical and grammatical affiliation of the vertex: verb, adjective, or noun. Each group is examined separately to determine the unique properties of the families of words.

The group of verbal families of words is the largest, consisting of 112 families of words. However, there are relatively few families of words with an exclusively terminological meaning of the vertex and its derivatives. An example of such a family of words can be seen in the following:

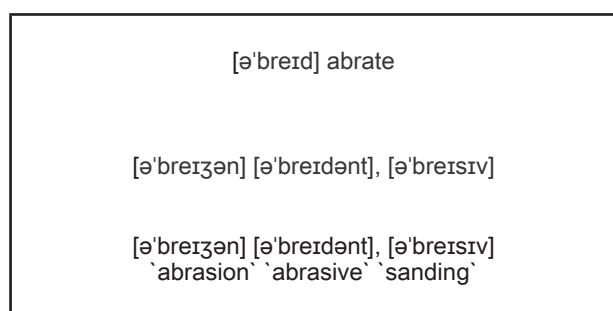


Figure 1 – A family of words

Verbs and their derivatives are characterized by both terminological and commonly used meanings. For instance, cohere [kou,hi] means “to interlock (those)” or “to be consistent,” while coherence [kou,hiaps] means “connectedness” or “consistency,” and cohesion [kou,hi:ʒən] means “spike” or “cohesion.” Similarly, cohesive [kou,hi:siv] means “capable of cohesion” or “binder.”

The preliminary analysis reveals that terminological and non-terminological verbal vertices form families of words of the same type in terms of basic parameters. Hence, the study of morphological variation is conducted undifferentiatedly.

The material of the study was 200 families of words of the English language formed by suffix derivatives in which at least one pair of “producing-derivative” is marked by morphonological variation

of the basis. The families of words number 674 derivatives. The vertices of the families of words are word-formatively simple.

Preliminary analysis showed that terminological and non-terminological deverbal vertexes form families of words of the same type according to the main parameters, and therefore the study of morphonological variation was carried out undifferentiated. So, having determined the typical parameters of the marked families of words, we conclude the predominant variation of the basis of nouns of the first, second, and third stages of derivation and the basis of adjectives of the first stage.

Nevertheless, variation may not occur in families of words with such parameters. The fact of morphonological modifications is influenced by several factors, including such a parameter of the family of words as its volume.

The resulting configurations give an idea of the valence of the vertex and derivatives in the marked families of words, i.e., the realization of the lexical unit’s ability to word production. Vertexes and deverbal nouns of the first step are most active in the formation of nouns and adjectives; adjectives of the first and second steps most often serve as the basis for the formation of nouns and adverbs.

Nevertheless, variation may not occur in families of words with such parameters. The fact of morphonological modifications is influenced by several factors, including such a parameter of the family of words as its volume.

As a rule, the volume of the family of words is on average two or three units more than the number of realized directions, since several different derivation models can operate in the same direction of derivation. It can be assumed that the fact of the marking of the family of words directly depends on which suffix model a particular derivative is formed.

The types of specific base changes in word production may depend on both the producing base and the derivational suffix. For example, the N1 model is accompanied by a truncation of the generating base if it ends in –ate: penetrate – penetrable “penetrate – permeable”. This operation is regular. When attaching the derivational suffix –ion or its allomorphs to a verb ending in [t], [d], [s], [z], there is a regular alternation of the consonant outcome of the base with [ʃ] or with [ʒ] accelerate – acceleration [æk:seləreɪt – æk:seləreɪʃən] divide – division [dɪ:vəɪd – dɪ:vi:ʒən].

**Table 1** – Table of Suffixal models in deverbal families of words

The derivation model	D.S.	Variation of basics	Examples
1. V+able A	1	+	navigate – navigable
2. V+ive A	1	+–	demonstrate – demonstrative
3. V+ory A	1	+–	compensate – compensatory
4. V+ant A	1	–+	coagulate – coagulant
5. V+ate	1	–+	define – definite
6. N <sub>v</sub> +al	2	–	motion – motional
7. V+ion N	1	+	destroy – destruction
8. V+ant <sup>n</sup>	1	–+	lubricate – lubricant
9. V+age	1	–+	pass – passage
10. V+anse / ence	1	–	cohere – coherence
11. V+ment	1	–	move – movement
12. V+er / or	1	–	conduct – conductor
13. V+ate <sup>n</sup>	1	–	condense – condensate
14. V+ing	1	–	dip – dipping
15. V+y	1	–	discover – discovery
16. A <sub>v</sub> , A <sub>n+</sub> +ity	2,3	+	additive – additivity
17. A <sub>v</sub> , A <sub>n</sub> +ness	2,3	–	active – activeness
18. N <sub>v</sub> +ist	2	–	motor – motorist
19. N <sub>v</sub> , A <sub>n,v</sub> +ism	2,3	–	conventional – conventionalism
20. A <sub>v</sub> +ize	3	–	conventional – conventionalize

Note. V – verb, N – noun, A – adjective, N<sub>v</sub> – verbal noun, A<sub>v</sub> – verbal adjective etc. Sign «+» – the probability of marking the basis is close to 60-100%, «+–» – 30-60%, «–+» – to 30%, «–» –

Model 16 also causes similar changes in the basics: a change in the accent structure without a change in vocalism (·active – activity) or with alternating vowel or diphthong (corrosive – corrosivity) If the suffix of this model is attached to the base, which includes the suf. –able or its allomorphs, then regular alternation occurs [i / əbl – I / əbiliti]: compressible – compressibility [kəmˈpressibl – kəmˈpresɪbiliti].

As can be seen from the above techniques, more often there is not one kind of variation, but several at once. Typical combinations of species will be the following:

1) change of accent structure and vocalism: define-definite [diˈfaɪn-defɪnɪt];

2) change of accent structure and consonant outcome: dissipate-dissipation [dɪsɪˈpeɪt-dɪsɪˈpeɪ ʃən];

3) change of vocalism and consonant outcome: receive-reception-receptive [rɪˈsiːv-rɪˈsep ʃən-rɪˈseptɪv].

Let us summarize the results of the study of the variation of the basis in deverbal families of words:

1) modification of the generating base is observed in all three groups of families of words, which means that the family of words belonging to the technical terminology vocabulary is not a limiting factor for its labeling;

2) marked families of words formed by verbs terms and non-terms form the same type of family of word parameters. Knowing the configuration and volume of the family of words, it is possible to predict with relative probability in one or another direction of the derivative and the depth of the family of words the presence of variation of the generating base;

3) the models by which suffix derivatives are formed in different semantic families of words are basically the same type. Knowledge of the derivation models helps to speak with a greater degree of confidence about the possibility of variation of the base in the family of words;

4) the addition of a number of suffixes to the generating base is accompanied by regular morphological modifications of the latter. The action of

some models is accompanied by not one type of variation, but several.

So, the course of the study of morphological character modifications in the generating base with suffixal word production was outlined on the example of a group of deverbal families of words. The same principles and stages of the study were observed in the study of denominative and deadjective families of words, so let's focus on the final results of each stage and compare them with the results of the analysis of deverbal families of words.

The material of the study includes 69 denominative families of words, most of which belong to terminological ones.

The deadjective group of families of words is the smallest – only 19 families of words, most of the vertices are non-terminological, or their semantic structure includes the terminological meaning.

Deadjective and denominative families of words of a terminological nature, unlike deverbal families of words, have some features in comparison with families of words formed by common and general scientific vocabulary. Thus, adjectival vertices-terms more often form a family of words with a minimum volume – two terms: a vertex and a noun; the adjectival direction of derivation does not develop in the family of words; the maximum depth of the families of words, as a rule, does not exceed two steps. In the denominative families of words, the nominal direction of derivation is more often realized.

If a deverbal family of words is modeled by a relatively small number of configurations, then families of words with adjectives and nouns are characterized by a large number of very diverse configurations. Therefore, some configurations presented in the tables do not simulate real-life families of words but are the sum of several configurations with low

modeling power. They are marked with the letter “C”.

It follows from the tables that in the group of de-adjective families of words, variation of the base is characteristic primarily for nouns of the first stage – it is noted in five of the six configurations. Changes in the basis can occur during the formation of verbs in the first stage. In the second stage, the same pattern of variation can be traced as in deverbal families of words: it is characteristic of deverbal nouns.

In the group of the denominative families of words, morphological modifications appear in the basis for the formation of adjectives, nouns and verbs of the first stage of derivation. At the remaining stages of derivation, the same directions of derivation are marked as in deverbal and deadjective families of words: deverbal and deadjective nouns, deverbal and desubstantive adjectives.

As in deverbal families of words, the marking of the base is not obligatory. There is a similar tendency for the volume of the families of words to exceed the number of realized directions of the derivative by two or three units. Consequently, several derivational models operate in the same direction of derivation, some of which are accompanied by modifications of the generating basis. These models are listed in Tables 1 and 2.

Models of the formation of nouns in the first stage are not given because of the large number (17 models). As noted, the formation of derivatives in this direction is characteristic primarily for terminological families of words. As a rule, according to these models, the name of another substance is formed from the name of a substance. At the same time, one of the types of morphological modifications of the basis occurs – its truncation. For example, arsenic-arsenide “arsenic-arsenide”, “chlorine-chloryl”, “chloro-chloryl”, etc.

**Table 2** – Suffixal models in deadjective families of words

The derivation model	D.S.	Varieties of basics	Examples
1. A+ity N	1	+	tensile – tensility
2. A+ion N	1	+	adequate – adequation
3. A+ance N	1	+	aberrant – aberrance
4. A+ness N	1		capacious – capaciousness
5. V <sub>a</sub> +ion	2	+	complete – completion
6. A+ate <sup>v</sup> V	1	+	mature – maturate
7. A+ize V	1	+	mobile – mobilize

As for the substantive characteristics of variation, its types are the same regardless of the lexical and grammatical characteristics of the top of the families of words. There is only a greater or lesser proportion of one or another type of modification in different directions of productivity. Just as in

deverbal families of words, combined changes in the base occur more often in the denominative and deadjective families of words: for example, a change in the accent structure and a vowel or consonant of the base, a change in the accent structure and an increase or truncation of the base.

**Table 3** – Suffixal models in the denominative families of words

The derivation model	D.S.	Varieties of basics	Examples
1. N+ic A	1	+	argent – argentic
2. N+iferoue A	1	+	pore – poriferous
3. N+ar $\Phi$	1	+	angle – angular
4. N+al A	1	+	mercury – mercurial
5. N+ine A	1		argent – argentine
6. N+less A	1		base – baseless
7. V <sub>na</sub> +ory A	2,3	+	circulate – circulatory
8. V+able A	2		modify – modifiable
9. N <sub>n</sub> +ous A	2	+	alumina – aluminous
10. N <sub>n</sub> +al <sup>a</sup> A	2		paraboloid – paraboloidal
11. N+ate <sup>v</sup> V	1		mercury – mercurate
12. N+ify V	1	+	mode – modify вид – видоизменять
13. N+ize V	1		atom – atomize
14. A <sub>n</sub> +ate <sup>v</sup> V	2	+	circular – circulate
15. A <sub>n</sub> +ize V	2		artificial – artificialize
16. V <sub>n</sub> +ation N	2	+	carbonize – carbonization
17. V <sub>n</sub> +ation N	3	+	normalize – normalization
18. A <sub>n</sub> +ity N	2	+	angular – angularity

Table 3 provides an overview of the typical structures of subjective and nominal families of words. While verbal clusters are modeled by a relatively small number of structures, word families with adjectives and nouns are characterized by a wide variety of structures. Some of the structures presented in the table do not represent real-life families of words, but rather a combination of several structures with limited modeling power.

The table shows that in the category of subjective families of words, noun base variation is primarily characteristic of the first stage, as noted in five of

the six structures. Changes in the base can also occur during the formation of first-stage verbs. In the second stage, a similar pattern of variation is observed in verbal word families, primarily in verbal nouns. In the group of nominal families of words, morphological modifications form the basis for the creation of adjectives, nouns, and verbs in the first stage of derivation. In the other stages of derivation, the same patterns of derivation are observed in verbal and non-verbal families of words, including verbs and non-nouns, and verbal and substantive adjectives.



The analysis of the marking of the families of words allows us to draw the following conclusions.

1. Morphonological modifications in the generating base within the site of the family of words suffix derivatives are not a random and isolated phenomenon in the vocabulary of the modern English language of science, but widespread and regular, with a wide scope of action. It is observed in all semantic groupings of vocabulary: proper terms, general scientific words and commonly used. At the same time, the variation of the basis in the families of words of a terminological nature has its own peculiarities.

2. There is no rigid dependence between the parameters of the families of words and the modifications of the base, except for one: there is no variation of the base in the adverbial direction of the derivative. Morphonological modifications are most characteristic of the basis when forming nouns from it; adjectives are in second place, followed by verbs. Variation of the basis is possible in several directions of the derivative in the family of words at once.

3. Morphonological modifications of the producing base in one direction or another, as a rule, are not obligatory, but optional. A specific model for the formation of a derivative allows you to clarify the probability of changes. From this point of view, models can be divided into three groups: models that are never accompanied by modifications; models with an average probability of modifications, and models that are mainly accompanied by morphonological changes. The appearance of modifications can be influenced by factors such as the number of syllables in the generating base, its outcome, the suffix, or its allomorph attached to the base.

4. The differences in the substantive characteristics of variation in the families of words with vertices of different parts of speech are small. It can be based on either one type of morphonological modification or several at the same time.

5. As a rule, the phenomenon of variation of the basis is not affected by its derivational complexity. Several models are accompanied by a modification of the basis, regardless of the degree of derivation at which they operate.

## Conclusion

Knowledge of how morphonology manifests itself in the field of word formation of the modern English language of scientific and technical literature can contribute to the ordering and standardization of existing terminological systems, as well as the identification of new points of contact and mutual influence of the general literary language and the language of science as its functional variant.

As a result of the analysis just presented, it is clear that the most effective method for assisting students in comprehending novel lexical elements is to help them improve their capacity for determining the meanings of unfamiliar words while taking into account the word-formational architecture. On the other hand, giving vocabulary to students for memorizing inside conceptual clusters bound together by word-formational derivations speeds up the acquisition process. Pairs of “producing derivatives” word-formational trajectories, and term families are all included in these clusters. Yet, the combination of words into such groupings is frequently accompanied by a number of difficulties. The main cause of these difficulties is modern English’s propensity for morphonological phenomena, which is a feature shared by the language of science and technology, including its terminological vocabulary.

English language learners and instructors occasionally run into unique difficulties while examining a term’s word-formational makeup or when classifying it within these categories. This is because morphonological changes occasionally obscure a word’s grammatical makeup and its word-formational affinities with other terms. Therefore, the clarity of the simultaneously established word-formational relationship between verbs like “distract” and “distract” is compromised due to morphonological shifts in the phonological framework of the base form, which complicates the correlation between the noun and the verb and hinders their memorization. This emphasizes how important it is to incorporate findings from morphonological research into pedagogical strategies for teaching English.

The conclusion concludes the regularity and wide prevalence of morphonological modifications in the generating base in the formation of derived words in the process of teaching English.

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