

MORPHOLOGICAL TRANSLATION OF FORMING OF OIL AND GAS TERMS: BASED ON MATERIALS IN ENGLISH AND KAZAKH LANGUAGES

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Abstract: *The study was carried out in line with German studies, and it provides a morphological method of forming of oil and gas terms of movement with postpositions as a frequent and expressive explanation of the category of movement in the English language and their comparison with compound and analytical terms in the Kazakh language. Neither analysis and synthesis, nor abstraction and generalization are possible without comparison. Just as comparison permeates the forms of thinking, from elementary to the highest one, it permeates diverse and numerous language units at their various levels: lexical, morphological at the level of terms and sentences. Terminological word-formation actively uses all the methods of the word-formation system: syntactic, lexical, morphological and semantic. The article investigates research into the use of the morphological set strategy for reaching oil and gas terms in Kazakhstani universities. The author comes to the conclusion that morphological terms of the oil and gas industry in the languages being compared reveal the generating bases forming the poly-lexemic terminological phrases.*

Keywords: terms of the oil and gas industry, morphological method of forming terms of oil and gas, affixes, suffixes and abbreviations

The high derivational potential of the sphere of functioning creates the opportunity to observe new trends in term formation. Thus, the formation of definitions in the new terms of the Kazakh language and terminological combinations of English origin, as well as the formation of terminological combinations in the Kazakh language illustrates the emergence of new terms reflecting the missing concepts, phenomena in oil and gas. The terminology of the Kazakh language, therefore, confirms the theoretical position about the existence of a third sphere of existence of terms – the scope of the theory. For many decades, the interest of linguistic thought in the study of movement, the most amazing phenomenon in the world, and a vitally important concept of human activity, has not become weaker; on the contrary, it is constantly growing.

Movement in the modern world is considered as main feature and main sign of life. Interpretation of movement in linguistics is the focus of attention due to the prevalence of the principles of anthropocentrism. It is considered to

be one of the central problematic issues in linguistic semantics¹. The number of terms is growing every day, and the frequency of their use also increases. Terms that are more frequently used in conversation have already moved to the language of the oil and gas sphere. In addition, there are even some combinations that have been replaced by the words of the same meaning². The question of word formation, respectively, of thermogenesis, has always been the focus of attention of researchers. Determining the volume and content of word formation, E.V. Sevortyan described it as “a set of forms and techniques, with the help of which other words are created from one words and bases”³.

In many studies devoted to questions of word formation, a number of types of word formation has been established. Replenishment of the lexical composition of the language is also carried out by moving certain classes of words to another, that is, by conversion, as well as desemantization. Some researchers also refer to the abbreviation, borrowing and tracing to methods of word-formation in accordance with the norms of the morphology of certain specific Turkic languages⁴. In the second half of the twentieth century, in general linguistics, word formation separated from morphology becomes an independent discipline interconnected with all spheres of grammar. In the morphological method of the formation of terms, a new term is created on the basis of one or several producing bases with the help of derivational affixes. Morphological terminology covers the following ways: suffixing, prefixing, compounding and abbreviation.

Verbose affixes coexist with different functional and grammatical indicators. In the works and grammars of modern Turkic languages, affixes are classified by function into word-formation and word-changing⁵. In modern Kazakh linguistics, there is also an opinion about the existence of only

¹ B. Abilkhasimov, *Alkashky kazak gazinternin tili*, Ulym, Almaty, 1981; U. Aytbayev, *Basics of Kazakh terminology*, Arys, Almaty, 2000.

² V.N. Yartsev, *Scientific and technical revolution and language development. Scientific and technical revolution and the functioning of the languages of the world*, Nauka, Moscow, 1977.

³ C. Brockelmann, “Vokskundliches aus Affurkesten”, in *Asia Major*, 1925, vol. II, p. 110-124; V.V. Gorodilov, *Interlanguage description of the semantic structure of the term system*, Oblagroprom, Kalinin Agricultural Institute, Kalinin, 1989; R.N. Seer, *Paramagnetism of oils and rocks of the Caspian*, Nauka, Moscow, 1993.

⁴ S. Amanzholov, *Орыс alphabetical negizdelgen қазақтың зһаа alphabets men spelling*, Ata, Almaty, 1940; U. Aytbayev, *Kazak sozi*, Cross Press, Almaty, 1977; V.A. Isengaliyeva, *Turkic verbs with the basics, borrowed from the Russian language*, Nauka, KazSSR, Almaty, 1966; T. Khazretali, Y. Amantai, G. Mustafa, O. Nurlan, K. Berkimbaev, “Kazakh-Turkish cultural relationship of the 20th century: through a scientific biography and the works of Shakarim Kudaiberdyuly”, in *ASTRA Salvensis*, 2018, vol. VI, no. 11, p. 209-222.

⁵ A.D. Hauti, *Compound terms – the functional type of complex linguistic units – from the standpoint of lexicography*, Voronezh, Voronezh State University, 1984.

derivational and formative affixes, which is confirmed by language features⁶. Derivative affixes, as K. Brockelman argues, go back to independent words that have lost their semantic significance in historical development and turned into service morphemes⁷, they also contribute to the formation of new words. The definite composition of affixes forms the grammatical form of the word, “with the help of which new words are not created, but forms are changed”⁸.

Materials and methods

In the study of terminological material with regard to its specificity, descriptive, synchronous-comparative, structural-semantic, quantitative methods, techniques of elementary statistics and continuous sampling were used. Modern processes of formation and functioning of new terminological systems increase the requirements for oil and gas terms, the need for which is increasing. Such terms are often borrowed from the English language or international lexical fund⁹. Their main purpose is the ability to provide communication between professionals and ensure the effectiveness of social communication. This is becoming especially important today — during the period of rapid development of the economy of the republic, the development of its interstate relations in the differentiation and integration of sciences that are facilitating the rapid processes.

The complex internal correlation of modern science and technology puts forward in the English and Kazakh languages the traditional way of forming terms by forming phrases of various types, that is, the syntactic method of terminology¹⁰. The ratio of this method of word formation in the general literary language and in terminology is incommensurable. In terminology, the syntactic method creates numerous compound terms, term-phrases, the very same method is the most productive, “one of the most common ways of

⁶ S. Baishev, *Kazak tilini terminologiyasyn zhasaudy җ negizi konfeterteri menniterteri*, Almaty, KSM, 1949; M. Balakayev, *The term Zhasau principle of principle and Jninde. By the academic academy's Khabarlars*, Ata, Almaty, 1947; S.K. Kenesbayev, *Studies in Kazakh linguistics*, Nauka, Almaty, 1987; B. Kaliev, *Lexical-semantic system of plant names*, Mektep, Almaty, 1996.

⁷ L.A. Morozova, *Definitions in technical standards. Linguistic aspect of standardization of terminology*, Nauka, Moscow, 1993.

⁸ A.S. Sokolova, *Grammar of the modern Russian literary language*, Moscow, Nauka, 1970.

⁹ K.M. Musaev, *Terminology development in the languages of the Union Republics of the USSR: terminology in Uzbek, Kazakh, Georgian, Azeri*, Nauka, Moscow, 1987; K.K. Tungushbaev, *Production – professional vocabulary of the modern Kazakh language associated with the coal industry*, Ata, Almaty, 1956; K. Zhubanov, *Research On The Kazakh Language*, Ulym, Almaty, 1999; V.P. Sinyachkin, “Conceptology of linguistic tasks in the cultural concept of lexicographic discourse”, in *ASTRA Salvensis*, 2020, no. 1, p. 463-485.

¹⁰ A. Kaydarov, *Paired words in the modern Kazakh language*, Nauka, Almaty, 1958; A. Yskakov, *Kazırgı Kazak tili*, Ana Tili, Almaty, 1991.

building”¹¹. As it was noted, among the poly lexical terms in the considered languages two-word, three-word, four-word constructions are revealed. In the structure of two-word compound terms, both words can be both terms and one-word term, and the other one can be a common word that defines the basic term element. Such a word in a term combination acquires a terminological meaning, for example, in the Kazakh language: *бұрғыныңбасы* (drill head), *бұрғыныңдүмі* (drill shank), *бұрғылық шығыр* (drilling winch), *бұрғылау жеңі* (drilling sleeve), *мұнайлы бұрқақ* (oil fountain), *газды тақия* (gas cap), *өлі мұнай* (dead oil), *қышқыл мұнай* (acid oil). In the oil and gas terminology of English and Kazakh languages, two-component combinations consist of the following parts of speech:

1) “noun + noun” formed by model **N+N**: eng. – *antifriction grease*, *compressor oil*, *fuel oil*, *paraffine wax*, *seal grease*, *viscosity index*, *turbine fuel*, *refrigerator oil*, *smoke point*, *soap grease*, *brake fluid*; kaz. – *бұрғы қондырғысы*, *бұрғылыққұбыршек*, *бұрғылықсорғыш*, *бұрғылықстаног*, *бұрғынының сыйымдылығы*, *бұрғылы шлам*, *бұрғылау жеңі*, *бұрғылау жылдамдығы*, *бұрғы дүмі*, *бұрғылау құрал*, *газ абсорбциясы*, *газ каротажы*, *кокс газ*, *домна газы*.

2) “adjective + noun” formed by model **Adj + N**: eng. – *automotive gasoline*, *hydraulic fluid*, *industrial oil*, *inorganic grease*, *organic grease*, *microcrystalline wax*, *recovered oil*, *used oil*; kaz. – *-айналмалы пеш*, *аршу жұмыстары*, *бұрғылау ауданы*, *іздеу ұңғымасы*, *жабық ұңғыма*, *жеңіл мұнай*, *қаттық мұнай*, *қоңыр көмір*, *геологиялық талдау*, *геологиялық әсерлілігі*, *технологиялық газ*, *анкер бұрандама*, *барлама аудан* —, *шоғыр аудан*, *доломиттенген әктас*, *көмірлі балама*, *мұнайлы балама*, *жылулық баланс* — *бос жыныс*, *буферлік көлем*, *айналмалы бұрғылау*, *алмастық бұрғылау*,

3) “noun + participle” formed by model **N+Participle I** *petroleum prospecting* – *мұнай іздеу*, *oil settling*- *мұнайдың шөгуі*.

4) “participle + noun” formed by model **Participle I +N**: *reduced pressure* – *төмен қысым*, *bedded structur* – *құрылым қабаты*.

5) in the Kazakh language, numeral + noun: *біріншілік мұнай*, *екіншілік мұнай*, in the English language, primary oil is translated as *mother oil*.

6) The terminological system of the Kazakh language is represented by the construction “a noun in the genitive case without an affix + a noun with the end of belonging”: *мұнай шоғыры*, *бұрғы дүмі*, *мұнай фонтаны*, *карьер контуры*, *қорлар тығыздығы*, *қат қалыңдығы*, *ұңғыма тереңдігі*, *ұңғыма сағасы*, *өнім шығымы*.

¹¹ I. Nugmanov, *The problem of terminology in the teaching of chemistry in the Kazakh secondary school: Author's abstract. Dissertation PhD*, Al-Farabi Kazakh National University Publishing House, Almaty, 1966.

In these composite terms, along with the attribute value, components expressed by a noun in the form of an indefinite genitive case, means an object with the meaning of the holder, since a component expressed by a noun with the end of its membership requires that the object be called. Similar values appear in the construction of the “noun in the genitive case with the ending + noun with the end of belonging: *мұнайдың көрінуі, мұнайдың шығымсыз, су-мұнай жапсарының беті*. In compound terms of the Kazakh language, there are qualitative adjectives: *тірі мұнай, өлі мұнай, тәтті мұнай* and etc. The syntactic relationship between the components of terminological phrases in the Kazakh language is usually expressed by ezafe I: *илу берикік*, ezafe II: *мұнай өндірісі*, ezafe III: *өндірістің өнімдігі*, management: *дешифровка жасау, бұрғылауды бастау*. Such a structure of phrases is peculiar mainly to two-component phrases..

1) As stated above, in English and Kazakh terminology, three-component phrases have been identified, in a quantitative ratio inferior to two-component phrases and consisting of the following parts of speech: “noun + noun + noun”, formed by model **N+N+N**: eng. – *corrosion prevention grease, corrosion prevention oil, furnace fuel oil, gas turbine oil, liquid oil fuel, aviation turbine fuel*; kaz. – *газдың мұнайда ерігіштігі, су-мұнай жапсарының беті, тау жынысының бекемдігі, тау жынысының жемірлігі*.

In English, terminological phrases of this type are also constructed with the preposition *of*: *corrosiveness of petroleum product, combustibility of petroleum product, evaporation of petroleum product, flammability of petroleum product, pumpability of petroleum product, syneresis of petroleum product, toxicity of petroleum product, ash of petroleum product, volatility of petroleum product, group of petroleum products, type of petroleum products sub-group of petroleum products*;

2) in English there are such combinations of parts of speech: “adjective + noun + noun” formed by model **Adj +N +N**: *conditioned petroleum product, unconditioned petroleum product, used petroleum product, open-hearth fuel oil* and noun + adjective + noun in Kazakh: *беттік активті зат, заттың қауыпсіздік сипаттамасы, жер қойнауының геометриясы, баланстан тыс қорлар, пайдалы қазбалар ресурстары*;

3) in the Kazakh language there is such a combination of a part of speech: the noun + verb + noun: *мұнай өңдеу зауыты, мұнай өңдеу имараты, мұнай өңдеу өнеркәсібі, мұнай сақтайтын қойма, мұнай жатынының сарқылуы, мұнай құю кемесі, мұнара құрастыру жұмыстары*. In English, this type of oil and gas terms are not identified..

In the studied terminological material of the oil and gas industry of the Kazakh language a small number of four-component combinations were revealed.: *мұнай кең орнының аудан, екіншілік қайта айдау қондырғын құрастыру, термиялық әсер ету аймағы*.

In English, four-part phrases in parts of speech are divided as follows: “noun + noun + preposition + noun + noun” formed by model **N+N+Prep+N+N**: *antifriction property of petroleum product, autoignition point of petroleum product, carbon residue of petroleum product, oxidation stability of petroleum product, trade mark of petroleum product, performance characteristic of petroleum product, deposition tendency of petroleum product, yield value of petroleum product*; “adjective + noun + preposition + noun + noun” by model **A+N+Prep+N+N**: *apparent viscosity of petroleum product, dynamic viscosity of petroleum product, functional compatibility of petroleum product, kinematic viscosity of petroleum product, physicochemical characteristics of petroleum product, thermal stability of petroleum product, congealing point of petroleum product, dispersing ability of petroleum product, dropping point of petroleum product, freezing point of petroleum product*.

Terms – phrases that express a single, holistic concept, possessing varying degrees of semantic decomposability, are generally more stable than free phrases of a literary language. According to the lexico-semantic organization, they can be attributed to the number of lexically limited phrases, a characteristic feature of which is that “the place of one of the components ... is not filled with any word of the appropriate category, but only with some that form a certain semantic group or a closed row”¹². Based on the foregoing, terms – phrases can be divided into two types according to the degree of semantic decomposability and the degree of reflection in them of the systematic nature of the given terminological series.

The first type includes indecomposable terms – phrases that represent the actual terminological phraseological units, in which words are combined with each other by the inability to designate systems of certain distinct terminological concepts. In terms of this type, only certain external signs of named objects and concepts are reflected. This is the least common type of terms – phrases: *drilling carriage — бұрғы арбасы, drill head — бұрғыныңбасы, drill pipe string — бұрғылықбилте, production performance — бұрғыныңдүмі, slush pump — бұрғы сорғыdraw works — бұрғылышығыр, drill hose — бұрғылаулықжөңі, gas cap, — газды тақия, uncovering of horizon — деңгейжиекті ашу, vibration screen — дірілді елеуіш.*

Indestructible terminological phrases, in turn, are divided into:

a) terminological phrases, one of the components of which is a term, and the other is an ordinary word that has no terminological meaning, but is used in a figurative sense: *shear modulus — жылыжу модулі, rod rotator — қарнақ айналдырғышы, oil bearing seat — мұнайлы қат, cathodic protection — катодты қорғаныш, free phase — еркін фаза, light oil — жеңіл мұнай, oil on place — қаттық*

¹² V.P. Danilenko, *Actual areas of linguistic study of Russian terminology. Modern problems of Russian terminology*, Nauka, Moscow, 1986.

мұнай, acid oil – қышқыл мұнай, fuel oil – отынды мұнай өлі мұнай, sweet crude oil – тәтті мұнай, live oil – тірі мұнай ;

б) terminological derivations, both components of which are terms: *drill cuttings* – бұрғы шламы, *drill bit* – бұрғылаулық қашау, *core drilling* – құбырлы бұрғылау, *rotary drilling* – роторлық бұрғылау, *auger drilling* – шанақты бұрғылау, *roller drilling* – шарқашаулы бұрғылау, *cyclic hydrocarbons* – көмірсутектер, *naphthenic hydrocarbons* – нафтен көмірсутектер, *oil separation* – мұнайды айыру.

Both types of terminological phrases are divided into simple and complex and may consist of two or more components. A simple terminological combination is the primary option, in the absence of one of the components, it is a word – a term. For example, if in the terminological phrase *мұнай битумы* – мұнай, the remaining component bitumen will become an independent term, the same applies to the following combinations: *бұрғы сорғы*, *бұрғы станогы*, *бұрғы шламы*, *бұрғылаулық қашау*, *роторлық бұрғылау*, *шанақты бұрғылау*, *кокс газы*, *парафиндік мұнай*, *мұнайдың шоғырлануы*.

The type considered includes nonfree combinations of words, in which one of the components is not a term. Such phrases do not have the transparency of the internal form, as the terms are perceived only as a whole *erosions surface* – мұжылу бет surge volume – буферлік көлем, *percussion drilling* – соққылы бұрғылау, *shear modulus* – жылыжу модулі, *rod rotator* – қарнақ айналдырғышы, *sweet crude oil* – тәтті мұнай¹³.

The second type includes numerous terminological constructions characterized by the formal decomposability of components. This type is divided into two subtypes of formations, distinguished by the fact that they include free combinations, consisting in general of terminological elements and preserving the independence of the conceptual content of each of the words – terms included in the word combination: *anchor bolt* – анкерлік бұрандама, *drill cuttings* – бұрғы шламы, *drill bit* – бұрғылау қашау, *drill pipe* – құбырлы бұрғылау, *rotary drilling* – роторлық бұрғылау, *auger drilling* – шанақты бұрғылау, *roller drilling* – шарқашаулы бұрғылау, *naphthenic hydrocarbons* – нафтен көмірсутектер, *oil separation* – мұнайды айыру, *oil degasification* – мұнайды газсыздандыру, *shut-in well* – жабық ұңғыма, *wildcat* – іздеу ұңғымасы, *crooked well* – қисайған ұңғыма, *crooked well* – сарқылған ұңғыма, *bulk density* – үйінді салмақ, *vertical heater* – тік пеш, *compressed air* – сығылғын ауа, *water-oil contact* – су-мұнай жансапы, *piston pump* – пісnek сорғы, *motten puddle* – пісіру астауы, *oil viscosity* – мұнайдың тұтқырлығы, *high pressure* – жоғары қысым, *bottom hole pressure* – забойлық қысым, *well-head pressure* – саға қысымы, *rock pressure* – тау қысымы.

¹³ V.V. Gorodilov, *Interlanguage description of the semantic structure of the term system*, Oblagroprom, Kalinin Agricultural Institute, Kalinin, 1989.

As can be seen from the examples, the most common among polylexemic terminological combinations are constructions characterized by formal decomposability, within which the number of terms in the second subtype dominates. In the formation of the terminological combination of the oil and gas industry in the languages under consideration, adjectives play an active role. They act as some limiters of abstract meanings of nouns, detail concepts, act as a structural element of the term, create a relatively indivisible phrase together with a noun¹⁴. Adjectives are widely represented in terminology due to the fact that in the termination of a large proportion falls on the definition of concepts and phenomena in terms of their inherent properties, qualities, characteristics. Also, the active use of this part of speech is due to the fact that an adjective in a terminological phrase is the most “economical” lexical unit due to the fact that it takes on practical information and cannot be omitted without affecting the perception of the text, for example: *мұнайлы аймақ* – *oil-bearing region*. By language, terminological phrases of the English and Kazakh languages are divided into the following groups:

1) terminological phrases, the first part of which consists of primordial words, and the second – of borrowed words: eng. – *gear oil*, kaz. – *айналмалы пеш, жылулық баланс, бұрғыныңстаногы, бұрғылы шлам, еркін фаза, жер қойнауы, бұрғылық камера, кертеш қран, көпірлі қран, мұнай эмульсиясы, мұнайды жинау пункті, мұнайдың түсім коэффициенті, негізгі металл, өзінтүсіргіш вагон, бұрғылаулыплатформа, пайдалы қазбалар ресурстары, сертімділік модулі, сулану гистерезисі, түсім коэффициенті*;

2) terminological phrases, both parts of which consist of borrowed words, but the second word is affixed: eng. – *instrument oil, industrial oil, kerosene oil, lubricating oil, organic grease, compressor oil, damping fluid, diesel fuel*; kaz. – *газ абсорбциясы, газ қаротажы, кокс газы, технологиялық газ, домналық газы, домналыпеші, карьер контурсы, муфель пеші, процестерді модельдеу*;

3) terminological phrases, the first part of which consists of borrowed words, and the second – of the original: eng. – *cetane number, seal grease, turbine fuel*; kaz. – *анкер бұрандама, доломиттенген әктас, буферлік көлем, алмастық бұрғылау, механикалық бұрғылау, роторлық бұрғылау, стратиграфиялық бұрғылау, вакуумдық қайта айдау газдыұңғыма, газ шығаратын қат, газды тақия, газдың мұнайда ерігіштігі, геологиялық әсерлілігі, геологиялық талдау, забой сызығы, газоконденсатты кең орны, коррозиядан қорғаныш, нафтен көмірсутектері, катодты қорғаныш, баланстық қорлар, забойлық қысы, металдың қайнауы, минералды мақта, минералдың басылуы, парафиндік мұнай, синтетикалық мұнай, эталонды мұнай, роторлық үстел, спектрлі талдау*;

¹⁴ А.А. Abdrakhmanov, *On the principles of the Russian-Kazakh branch terminological dictionaries. Questions of terminology*, Nauka, Moscow, 1961.

4) terminological phrases, one word in which is partially translated into Kazakh (by translating an affix, one of the roots): *кенттехникалық инспекция, мұнайды газсызданды;*

5) terminological phrases, all words in which consist of the original words: *eng. – soap grease, a smoke point; petroleum engineering, oil separation, oil settling, dump car, rich liquid, liquid level, recovery factor, production well, well hole; kaz. – арыу жұмыстары, барлама ауданы, бұрғылау ауданы, мұнай кенорнының ауданы, бұрғылыбилте, бұрғыныңдүмі, бұрғыныңжабдығы, бұрғы қондырғысын құрастыру, бұрғылыққұбыршек, бұрғылықсорғыш, бұрғы сыйымдылығы бұрғылықшығыры, құйындата бұрғысы, бұрғылаудыбастау, бұрғылаулы ерiтiндi, бұрғылау жеңi, бұрғылау жұмысы, бұрғылау жылдамдығы, бұрғылау қашау, бұрғылау құралы, бұрғылау тәсілі, айналмалы бұрғылау, бағдарлы бұрғылау, еңiстене бағдарланған бұрғылау, игерiм бұрғылауқөмекшi жабдық, жабылғы жыныс, жалынсыз жанарғы, желдетiс арна, жерге қосу, жыныс қаттылығы, заттың қауыпсіздік сипаттамасы.*

The analysis of the grouping of terms in the oil and gas industry led to the following conclusions. Among the terms of the oil and gas industry, the smallest group in English is represented by terminological combinations, in which the first part consists of the original word, and the second – from the borrowed, in Kazakh language terminological combinations, of which both parts consist of borrowed words. The largest group in English is represented by terms, the first part of which consists of a borrowed word, and the second one – of the primordial, in the Kazakh language – terminological combinations consisting of primordial words, most of which are formed by calculating, for example: *Өндiрiстiк қатынастар – productionrelations, сұйылтылған табиғи газ – liquefied natural gas, газды тазарту – gas cleaning, көмiрлi сутегiлiкшиикізат – hydrocarbon feedstock.* The term combinations translated by tracing have the same meaning as in Russian, that is, each word of them corresponds to the Russian original in meaning. Three-component phrases formed by tracing are more common than two-component term combinations.

Thus, the method of nominating special concepts by means of syntactic word-formation is among the traditional and at the same time preserving high productivity in modern linguistics. The general trend in the traditional way of forming terms by adding bases and words is reduced, as mentioned, to the development and use of a set of standard term elements. The nature of these structural addition particles is different, however, as a rule, most of them go back to independent words. For their modern state in special vocabulary, the standard is the significance of the meaning and the fixedness of the parts of the addition to the classification series of titles in terminology. Structurally, terminological phrases are a truncated basis of the names of nouns or adjectives acting as the first component of the addition, or related components, acting as both the first and second (reference) component of the addition.

Among the standard parts of addition (truncated bases and related components) a significant place in the Kazakh language belongs to the terminological combinations in which all the components are translated into the Kazakh language, and most of them are by tracing. Affixes that give grammatical meaning to formations are called formative. It can be ranked as formative formants. Brockelmann does not separate from forming affixes from word-formations, noting the parallelism of the function of word-forming and form-building formant, which depends on the motivation of the foundations. Both kinds of affixes interact with each other. Further, in determining each formant, the point of view of K. Brockelmann¹⁵ is taken.

The following affixes are actively involved in the oil and gas terminology of the English language: **-tion, -ing, -er, -or, -man, -ment, -re, -de, -inter, -dis, -mis, -trans, -ent, -ure, -ity, -ane/ine/ene, -ol, -yl, -ate, -ize, -a, -ab, -ac, -bi/di** etc. The collected material contains a large group of nouns with suffixes **-tion, -ing**. In English, nouns with the suffix **-tion** are formed from verb stems and denote action, condition of action, result of action and process. During the analysis, two ways of transferring the English suffix **-tion** into the Kazakh language were recorded.

Results and discussion

An analytical form of suffixes in compare languages

An analytical form of a suffixes in compare languages is a natural phenomenon in the development of language, occupying a special place in its morphological structure and performing a complex function. The relatively scarce study of this question is determined by the fact that the nature of a verb is not discovered enough, while it continues to play an important role in morphological structure of languages. In this regard *an analytical form of a suffixes in English and Kazakh languages* is studied, describing a complex morphological structures, is particular importance.

Suffix **-tion** transmitted by affix **-y**: *denitrogenation* – азотсыздандыру, *benification* – байыту, *protection* – бекіту, *degradation* – бұзылу, *vacuum evaporation* – вакуумдау, *gasification* – газдандыру, *degasification* – газсаздындыру, *graphitization* – графиттендіру, *migration* – көшу, *distillation* – қайта айдау, *saturation* – қанығу, *қанықтыру*, *protection* – қорғау, *prevention* – қылту, *contamination, pollution* – ластану, *oil separation* – мұнайды айыру, *exploitation* – пайдалану, *argillization* – саздану, *desulfurization* – күкіртті сүтегінен тазарту, *imbibition* – сіңдіру, *purification* – тазарту, *sedimentation* – тұнбалану;

¹⁵ C. Brockelmann, *Vokskundliches aus Affurkesten*, in *Asia Major*, 1925, no. II, p. 110-124.

Suffix **-tion** transmitted in words that end in **-a**: *exploration* – *барлама*, *cross section* – *қима*, *production* – *қазба*. The examples that demonstrate two ways of mastering the suffix **-tion** are that Kazakh language confirm the absolute mastery of these terminological units in the morphological level of the Kazakh language.

Another common suffix in English is **-ing**, denoting sign of the subject of action. In the terminological vocabulary of the oil and gas industry revealed a large number of terms with the suffix: *stripping* – *аудау*, *stripping work* – *аршу жұмыстары*, *weighting agent* – *ауырлатқыш*, *aerial mapping* – *аэросуреттік түсіріс*, *cold working* – *бекемдеу*, *cold working* – *беріктету*, *шегендеу*, *supporting surface* – *тіректік бет*, *stripping* – *булау*, *casing* – *бүркеніш*, *drilling carriage* – *бұрғы арбасы*, *fixed drilling rig* – *бұрғы қондырғысы*, *drilling* – *бұрғылау*, *drilling mud* – *бұрғылау ерімінді*, *drilling work* – *бұрғылау жұмысы*, *drilling tool*, *boring tool* – *бұрғылау құрал*, *drilling method* – *бұрғылау тәсілі*, *rotary drilling* – *айналмалы бұрғылау*, *diamond drilling* – *алмастық бұрғылау*, *encovering of horizon* – *деңгейжиекті ашу*, *fire flooding* – *іштеу жану*, *electrical grounding* – *жерге қосу*, *lifting capacity* – *жүккөтергіштік*, *loading* – *жүктеме*, *салмақ*, *жүк*, *flushing* – *жуу*, *underlying rock* – *төсенді жыныс*, *drilling chamber* – *бұрғылық камера*, *logging* – *каротаж*, *coking* – *кокстау*, *coking efficiency* – *кокстенгіштік*, *breaking of foam* – *көбікту басу*, *nucleate boiling* – *көпіршікті қайнау*, *roasting* – *күйдіру*, *swelling* – *қабару*, *coating* – *қантама*, *oil bearing seam* – *мұнайлы қат*, *bedding* – *қатталу*, *cutting movement* – *кесу қозғалыс*, *fencing* – *қоршау*, *casting* – *құймабұйым*, *degreasing* – *майсыздану*, *metal boiling* – *металды қайнауы*, *oil refining* – *мұнай қайта өндеу*, *oil processing facility* – *мұнай өндеу имараты*, *oil gathering* – *мұнай жинақтау*, *oil separation* – *мұнайды айыру*, *oil degasification* – *мұнайды газсыздандыру*, *petroleum bearing province* – *мұнайлы-газды провинция*, *processing* – *өндеу*, *aciding* – *қышқылмен өндеу*, *process modeling* – *процестерді модельдеу*, *racking*, *filling* – *салма*, *swabbing* – *свабтау*, *circulating water* – *қайтарымды су*, *water flooding* – *сумен тоғыту*, *sparging* – *сулау*, *dewatering* – *пропитка*, *sampling development* – *сынама алу*, *bailing* – *тармандау*, *plugging* – *тығындыу*, *well narrowing* – *ұңғыма жіңішкерні*.

Among English borrowings, the most active and productive are the nouns denoting a profession, occupation, document, subject and content in the suffixes **-er**, **-or**: *separator* – *айырғыш*, *detector* – *ақаутанқы*, *blower* – *ауаүрегіш*, *mixer* – *бұлауыш*, *gas analyzer* – *газталдауыш*, *juniper* – *далда*, *transmitter* – *датчик*, *vibrator* – *дірілдеткіш*, *batcher*, *dozer* – *дозалағыш*, *burner* – *жанарғы*, *оттық*, *damper* – *жанқыш*, *velometer* – *желөлшеуіш*, *indicator* – *индикатор*, *көрсеткіш*, *inhibitor* – *ингибитор*, *chamber* – *камера*, *condenser* – *конденсатор*, *crater* – *кратер*, *boiler* – *қазан*, *қазандық*, *log marker* – *қадабелді*, *heater* – *қыздырғыш*, *surveyor* – *маркшейдер*, *bailer* – *науашық*, *blister* – *отқабыршық*, *perforator* – *перфоратор*, *analyzer* – *талдауыш*, *anchor* – *тіреуіш*.

To denote characters, the suffix is also used. **–man**: *oilman* – мұнайшы, *floorman*–бұрғылаушы. For the formation of nouns denoting the phenomenon, the occurrence as a result of the action expressed by the verb, is the suffix **–ment**: *equipment* – жабдық, *development*– кен орының игеру, *movement*– қозғалу, *embrittlement*-морттану.

In English, there are prefixes that are used to express repeated actions **–re**: *refining* – тазарту, *refract* – бөлікше, *recycling* – кәмірсутектер, *rerun* – қондырғы: қайта айдау, *redrilling* – қайтадан бұрғылау.

Prefix **de–** has a slightly negative value, release, disable, delete *degasification*-газсыздандыру, *degreasing* – майсыздандыру, *dehydration* – сусыздану, *denitrogenation* – азотсыздандыру.

Prefix **inter–** has a Latin occurrence meaning between, among: *interburden* – жүк, *interconnection* – кірінді.

Prefix **dis–** the has the meaning “no” and “separately, separately”: *disbalance* – баланс, *discharge* – шығу, *disassembly* – бөлшектеу.

Prefix **mis–** means "wrong": *mismatching* – әйкеңсіздік, *misadgusment* – дұрыс реттемеу, *misconnection* – дұрыс қосылмау.

Prefix **trans–** means "through, beyond": *transmission*-табыс, *transition*- өту.

Suffix **ity–** abstract noun derived from participles *continuity* – үздіксіз, *tenacity*–жабысқақ

The most common are the following suffixes: **–ane**, **–ine**, **–ene** – indicators that it is a matter of a substance, not a process. Suffix **–ane** – characteristic of saturated paraffin carbohydrates with the structural formula C_nH_{2n} : *ethylene* – этилен, *propylene*– пропилен. Suffix **–ine** – characteristic of unspecified carbohydrates of the series with the structural formula C_nH_{2n} : *ethylene* – ацетилен. In addition, the suffix **–ine** and his option **–in**. Typical for the designation of chemical elements: *chlorine* – арсин.

In the chemical literature, three homonymous suffixes are **–ol**. One of them is derived from “*alcohol*” and is characteristic of terms denoting compounds containing hydroxyl groups “**oh**”, i.e. for alcohols: *glycerol* – глицерин. Second suffix **–ol** is derived from “*phenol*” and transferred to substances belonging to the phenolic group, for example, *cresol*. Third suffix **–ol** is derived from the Latin word “*oleum*” (it often can be met in the form “*ole*”): *furfural*. Suffix **–yl**, typical for the designation of chemicals, used to designate chemical radicals. It forms the names of radicals consisting of two or more elements with a different atom. Most radicals are carbon and hydrogen, for example, *ethyl* – этил, or from carbon, hydrogen and oxygen, for example *acetyl*. Suffix **–ate** in chemical terminology, refers to salts formed by the action of acids on bases, for example *nitrate*.

As well as in modern English literary language, in scientific and technical literature the productive verb suffix is the suffix. **–ize**. This suffix of Greek origin is attached to the stem to form a verb with the meaning “bring to a state

of pronounced stem” for example *to polymerize* – *әйтiу*, *to oxidize* – *тотыу*. Sometimes the term is a complex noun consisting of two or more elements, and often the second element contains the main meaning, for example *benzoperoxide* – *бензол тотыуы*, *carbometer* – device for the determination of carbon dioxide. It should be noted that due to the high compatibility of elements “benzo”, “carbo” and the like, some dictionary compilers consider these elements as prefixes.

Compared languages

Despite the fact that many languages are distinguishable by a system of specific forms, against which universal conceptual categories in all the natural languages find their expression, and each language in its own way divides the world and has its own way of conceptualization, the comparison is one of the most crucial issues in the conceptual system of any language. Linguistic typology is a comparative study of structural and functional features of languages regardless of genetic relationships nature among them. Typological study of languages is aimed at identifying similarities and differences between languages (language systems), which are rooted in their most common and highly important properties. Since there is no such a linguistic phenomenon as terms in Kazakh language, in order to compare the systems of Kazakh and English languages, analyzing both direct and analytical suffixes is suggested, for example in Table 1.

Nouns in Turkic languages are formed using deverbal, denominal affixes, as well as those affixes that contribute to the formation of nouns from the verbal and nominal bases concurrently. In derivative words forms of all Turkic languages, the suffixes are **-ы/ /-ғы**. The significance of name of the process is dominant, for example, in the Kazakh language: *бұрғы*, *қондырғы*. Also in the Kazakh language, the affix **-у** is encountered in the names of nouns, formed from an indefinite verb form with the meaning of the name of objects. Regarding scientific and technical terms in the field of oil and gas, can be cited many examples: *азотсыздандыру* – *diazotization*, *айдау* – *distilling*, *анықтау* – *definition*, *бұзылу* – *crash*, *байыту* – *enrichment*, *бекіту* – *mount*, *беріктету* – *standarting*, *бөліну* – *selection*, *булау* – *stripping*, *бұлану* – *volatilize*, *вакуумдау* – *vacuuming*, *газсаздындыру* – *degassing*, *графиттендіру* – *graphitization*, *кокстау* – *coking*, *көшу* – *migration*, *күйдіру* – *roasting*, *қазу* – *development*, *қанғыу*, *қанғықтыру* – *saturation*, *қамталу* – *bedding*, *қоюқалқу* – *download*, *қоршау* – *fencing*, *құйындау* – *vorticity*, *бұрау* – *torsion*, *ластану* – *pollution*, *майсыздану* – *degreasing*, *минералдану* – *mineralization*, *процестерді модельдеу* – *process modeling*, *мормтану* – *embrittlement*, *оқшаулау* – *localization*, *өндіру* – *mining*, *өндеу* – *treatment*, *пайдалану* – *exploitation*, *сздану* – *claying*, *свабтау* – *swabbing*, *сулану* – *water cut*, *сусыздану* – *dehydration*, *сулау*

– irrigation, сынама алу – Sample selection, сынау, сынақ – test, тартандау – taring мозу – wear, тазарту – cleaning up.

Table 1: Suffixes English language oil and gas terminology and their productivity

Suffix	Use, %	Example
-ing	61	Stripping – айдау
-er/-or	26	Separator – айырғыш, blower – ауаурдегіш,
-tion	21	Exploration – барлама
-ment	4	Equipment – жабдық
-re	4	Refining – тазарту
-de	4	Degasification – газсыздандыру
-ent	4	Absorbent – жұтқыш
-ity	4	Continuity – үздіксіз
-dis	3	Disassembly – бөлшектеу
-mis	3	Mismatching – әйкессіздік
-inter	2	Interburden – жүк
-trans	2	Transmission – табыс
-ent	1	Absorbent – жұтқыш
-yl	2	Acetyl – ацетил
-ate	2	Nitrate – нитрат
-ize	2	Topolymerize – айтысу

The general patterns of morphological word formation are similar for the whole language. Mainly, the formation of terms occurs, according to the word-formation models and using the same word-forming affixes, on which the words of the general literary language are formed. The affix method in terms formation is one of the leading and productive ways in the formation of literary words. As applied to terminology, the morphological method has a number of significant differences. Thus, identifying features of the implementation of the affixal method in terminology helps to observe some particular features of terminological word-formation as a whole. They revealed by considering several questions, what constitutes a set of tools that is included in active affixing terminology, the characteristic features of terminology in the use of word-forming affixes, etc. First of all, it should be pointed out that, the range of means used as term elements is much wider and more diverse in terminology.

In the set of tools involved in the creation of terms, as already noted, can be distinguished into two groups: verbal and symbolic. The use of the existing words of the national language is verbal: жең – sleeve, шүмек – crane, тиянақ – shoe as well as the use of word-forming morphemes and conducting bases of both national and other languages. Symbolic tools include signs, graphics,

numbers. Symbols are widely used as components of complex special titles, making up the combined word-symbol “in the work”: V– shaped connections, X– shaped connections, U– shaped connections (*V-тәрізді компенсатор*). However, for a number of branch terminology of modern sciences, symbolic terminology elements are not without relevance. Greek and Latin terms are widely used in modern scientific terminology.

In the formation of terminology, it is important to widely use both productive affixes of a literary nature, as well as the actual word-forming terminological means. In the terminology of oil and gas in Kazakh language, terms are formed in an affixal way, both from native Kazakh words and borrowed ones. Moreover, the same affix would have several meanings (for example, a face, an object, a sign). The affix method of forming terms began to actively develop in the 20-30s of XX century. In the 1950s – 1960s, a number of monographs appeared in which word formation issues in Turkic languages were discussed in detail, among which there were works of linguists studying Kazakh word formation: N.A. Baskakova, T. Garipova, A.I. Iskakova, G.M. Musabaeva, N. Oralbayeva, A. Kalybaeva. In particular, they defined the characteristics of all word-forming affixes: **-шы/-ші, -лық/-лік, -дық/-дік, -тық/-тік, -ма/-ме, -ба/-бе, -ды/-ді, -ты/-ті, -қы/-кі, -ғы/-гі, -ы/-і/-и/-ған/-ген, -қан/-кен, -тын/-тін, -сіз/-сыз, -у** etc.

Consider the productivity of these affixes in the formation of terms of oil and gas in Kazakh language: affixes **-шы/-ші** at all stages of the development of Kazakh language, actively participated in formation of new words denoting persons by profession, state, and type of activity: *мұнайшы – oilman, бұрғылаушы – driller, зерттеуші – laboratory assistant*; by affixing affixes **-лық/-лік, -дық/-дік, -тық/-тік** adjective formation occurs: *механикалық бұрғылау, теңіздік бұрғылау, беттік активті зат*.

Among the analyzed terms in the oil and gas industry, the following words were identified with these affixes: *аралық – interval, жылулық баланс – heat balance, беріктілік – strength, құрымдылық бұрғылау – structural drilling, механикалық бұрғылау – mechanical drilling, роторлық бұрғылау – rotary drilling, бұрғылық болат – drilling steel, бұрғылық құбыры – drill pipe, вакуумдық қайта айдау – vacuum distillation unit, технологиялық газ – process gas, геологиялық талдау – geological analysis, жабдық – equipment, жемірлік – абразив, заттың қауыпсіздік сипаттамасы – material safety, characteristic – бұрғылық камера – drilling chamber, кәделейіш қазандық – boiler heat recovery, кентехникалық инспекция – mining inspection, кернеулік – tension қазандық – cauldron, қарқындылық – intensity, түсімдік қорлар – recoverable reserves қалыңдық – power, гидростатикалық қысым – hydrostatic pressure, мүмкіндік құаты – potential, екіншілік мұнай – secondary oil, өнімділік – flow rate, өтімділік – permeability, роторлық үстел – rotary table,*

сағалық жабдығы – *wellhead equipment*, тозутөзімділік – *wear resistance*, тығыздық – *density*, тереңдік қалдық кен орны – *deep residual deposit*, техникалық – *technical*, сейсмикалық – *seismic*, химиялық – *chemical*, белсінділік – *activity*, тұтқырлық – *viscosity*, бірқалыптылық – *(soil).resistance*.

Affixes –ма/–ме, –ба/–бе, –па/–пе, form nouns by joining to verbs: *анкер бұрандама – anchor bolt*, *барлама аудан – exploration area*, *аэрокірме – aerosol*, *бұрандама – bolt*, *жыныстың ашылымы – rock outcrop*, *Қантмама – покрывтие*, *Қойма – storage*, *салма – nozzle*, *сынама алу – sample selectio*, *сындырма – break*, *тартпа – tightening*, *таңба – stamp*, *озба – advance*, *кузібсе – casing*, *қамба – sumр*, *серіппе – spring*. From the above examples you can see that the affix **–па/–пе** are less productive.

Affixes –лы/–лі, –ды/–ді, –ты/–ті having something, possessing something: *айналмалы пеш – rotary kiln*, *көмірлі балама – coal equivalent*, *мұнайлы балама – oil equivalent*, *бұрғылау ерімінді – drilling mud*, *бұрғылау тәсілі – drilling method*, *бағдарлы бұрғылау – directional drilling*, *құбырлы бұрғылау – core drilling*, *соққылы бұрғылау – percussion drilling*, *деңгейжиекті ашу – opening the horizon*, *айданды – distillate*, *күрделі жұмсалымдар – savings costs*, *жылжу модулі – shear modulus*, *төсенді жыныс – underlying breed*, *кірінді – turning on*, *көміртектегі – carbonaceous*, *көпіршікті қайнау – bubble boiling*, *көпірлі қран – bridge crane*, *қадабелді – bench mark*, *өлшенді – hitch*, *жерасты сыйымдылық – underground tank*.

Adjective is formed with **affixes –ы/–і/–и**: *табиғи газ – natural gas*, *көрнекті геология – visual geology*;

Participle is formed with **affixes –ған/–ген (–қан/–кен), –тын/–тін**: *тұзсыздандырылған мұнай – desalted oil*, *байытылған сұйық – liquid enriched*, *суланған, ұңғыма – watered well*, *сарқылған ұңғыма – depleted well*, *қисайған ұңғыма – crooked well*; *деломиттенген әктас – dolomitised limestone*, *зерттелмеген кен орны – undiscovered deposit*, *мұнай сақтайтын қойма – oil storage*, *жыныстың ашылымы – rock outcrop*, *газ шығаратын қат – gas reservoir* (Table 2).

Table 2: Suffixes of the Kazakh language in oil and gas terminology and their productivity

Suffixes	Using%	Example
–у	43	<i>Өндіру – production</i> , <i>өндеу – treatment</i>
–лық/–лік –дық/–ді –тық/–тік	38	<i>Механикалық бұрғылау – mechanical drilling</i> , <i>вакуумдық қайта айдау – vacuum distillation unit</i> , <i>теңіздік бұрғылау – offshore drilling</i> , <i>беттік активті зат – surface, active substance</i>
–лы/–лі –ды/–ді –ты/–ті	19	<i>Айналмалы пеш – rotary kiln</i> , <i>көмірлі балама – coal equivalent</i> , <i>бұрғылау ерімінді – drilling mud</i> , <i>айданды – distillate</i> , <i>күрделі жұмсалымдар – costs are cumulative</i> ,

		<i>төсенді жымыс – underlying breed, көміртекті – carbonaceous</i>
–ма/–ме –ба/–бе –па/–пе	16	<i>Аякер бұрандама – anchor bolt, аэрокірме – aerosol, таңба – stamp, кигізбе – casing, серіппе – spring</i>
–Ғыш/–гіш –Қыш/–кіш	14	<i>Айырғыш – separator, ауаүрдегіш – blower, дірілдеткіш – vibrator, жапқыш – damper, желдеткіш – fan</i>
–ған/–ген (–қан/–кен) –тын/–тін	10	<i>Тұзсыздандырылған мұнай – desalted oil, деломиттенген Әктас – dolomitic limestone, мұнай сақтауының қойма – oil storage, жыныстың ашылығы – rock outcrop</i>
–қы/–кі –ғи/–ғы	8	<i>Ақауапқы – flaw detector, ауытқы – anomaly, көтерігі – rise, сыртқы күш – external force, ішкі құбыр – inner tube</i>
–лар/–лер –тар/–тер –лар/–лер	7	<i>Күрделі жұмсалымдар – costs are cumulative, нафтен көмірсутектер – naphthenic hydrocarbons</i>
–ым/–ім –дік/–ік	6	<i>Бұйым – product, игерімдікбұрғылау – production drilling, қысымдық – pressure</i>
–шы/–ші	3	<i>Мұнайшы – oilman, зерттеуші – laboratory assistant</i>
–қын/–кін	3	<i>Көшкін – landslide, сғылғын ауа – compressed air</i>
–ныш	3	<i>Катодты қорғаныш – cathodic protection</i>
–сіз/–сыз	2	<i>Сусыз мұнай – dehydrated oil</i>

Affixes –дар/–дер, –тар/–тер, –лар/–лер constituted plural forms: *күрделі жұмсалымдар, нафтен көмірсутектер, қорлар негізі, баланстан қорлар баланстық қорлар, түсімдік қорлар, қорлар тығыздық. Affixes –сіз/–сыз* constituted the absence or lack of something, for example: *жалынсыз жанарғы, сусыз мұнай*. The following affixes have been identified with a certain meaning among the terms of the oil and gas industry in the Kazakh language:

–қы/–кі, –ғы/–ғи in verbal nouns in the Kazakh language is used: names, tools, means of action, tools, adaptations of the processes: *ақауапқы – flaw detector, ауытқы – anomaly, белгі – mark, көтерігі – rise, қаңқа – frame; алғашқы өндіріс – initial mining, сыртқы күш – external force, ішкі құбыр – inner tube;*

–ғыш/–гіш, –қыш/–кіш are used to name instruments, tools, tools or means to improve actions: *айырғыш, ауажылытқыш, ауаүрдегіш, ауырлатқыш, белгібергіш, дірілдеткіш, дозалағыш, ертгіш, жапқыш, желдеткіш, жинағыш, көреткіш, қыздырғыш, сорғыш;*

–қын/–кін, –ғын/–гін denote the process of what – either action or the name of the actor: *көшкін – landslide, сғылғын ауа – compressed air, скважина ішкілігі – well capacity;*

–ЫМ/–ІМ, –ДІК/–ІК, –ЛЫҚ/–ЛІК indicate the result of the action: *бұйым* – *product*, *изерімдік бұрғылау* – *production drilling*, *қысымдық* – *pressure*, *опырлым* – *collaps*, *еб өнім* – *product*, *мазартым имараты* – *the construction is clearing*.

Verbal names with affix –НЫШ in modern Kazakh language means a process or a sign of the process: *жарылғыш газ*, *катодты қорғаныш*, *қорғаныш*. These examples allow us to conclude that the word-forming affixes in the Kazakh language are not strictly assigned to any part of speech. Affixed terms can be either nouns or verbs. The exception is affix –У, which in Kazakh is an indicator of action and infinitive: *мазарту*, *сұйылту*, *қазу*, *қозғалу*.

Conclusions

As a result of the conducted analysis, it was determined the main directions in the interpretation of described combinations nature in their classification under the category of complex/composite/analytical terms with a suffixes unit. As a result of a conductive analysis it was determined the main direction for the morphological method of word formation of the oil and gas industry terms of English language, affixes are productive –*tion*, –*ing*, –*er*, –*or*, Kazakh languages –*лық*, –*ма*, –*ақ*, –*ды*. Affixes are distinguished by low productivity –*ыр*, –*ір*, –*р*, –*лы*, –*лі*, –*л*, –*ша*, –*ше*, –*шы*, –*ші*, –*қы*, –*кі*, –*ғы*, –*гі* in the oil and gas terminology of Kazakh language. The significant role in scientific and technical literature is played official (functional) words that create logical connections between individual elements of penalties.

These are prepositions and conjunctions (mostly compound) like: *on*, *upon*, *in*, *after*, *before*, *besides*, *instead of*, *in preference to*, *apart from*, *except*, *for the purpose of*, *in order to*, *etc*. In addition, adverbs such as: *however*, *also*, *thus*, *on the other hand etc.*, which are integral elements of logical reasoning development. Of particular interest is the formation of complex terms, which are formed by adding the bases, doubling or repeating two or more words, which by their morphological structure can be both root and derivative in considering languages. The complex terms of the oil and gas industry in English and Kazakh languages appear in the form of three structural varieties: in the form of merged, pair, and also compound words, each of which is characterized by structural-derivational and structural-semantic features:

1) fused terms are formed on the basis of the composition of a very ancient and still productive way to create new words by combining two or more bases into one lexical whole. The components of such terms are used independently outside these entities and are not dependent on each other: eng.– *petroleum* – *petra* + *oleum*, *antifreeze* – *anti* + *freeze*, *petrochemical* – *petro* + *chemical*; kaz – *ауажылытқыш* – *ауа* + *жылытқыш*, *аэрокірме* – *аэро* + *кірме*, *белгібергіш* – *белгі* + *бергіш*, *электрбұрғылау* – *электр* + *бұрғылау*, *гидроқақпақ* – *гидро* + *қақпақ*, *желөлішеуіш* – *жел* + *өлішеуіш*, *жерасты* – *жер* + *асты*, *жүкқоран*

– жүк + қоран, жүккөтергіштік – жүк + көтергіштік, жылуалмасу – жылу + алмасу, қызусынғыштық – қызу + сынғыштық, пневмобұрғылық – пневмо + бурғылық, гидроқондырма – гидро + қондырма, гидрожүйе – гидро + жүйе;

2) paired terms are formed from two different words. At the same time, the basics are morphologically identical, semantically correlative, independent lexical units of the language. The components of such paired terms are composed on the basis of a coherent connection, but are not in grammatical, but in dependence on each other in lexical-semantic feature, for example: eng. – *open-hearth fuel oil, deicing fluid*; kaz. – *су-мұнай жапсарының беті, газ-мұнай жапсарының беті, алдын-ала зерттеу, кеңістіқисайма, шыны-мата*; Composite terms are formed on the basis of two, three, four, five or more words in one lexical whole, i.e. by acceding various word-forming affixes to the roots of the first component.

Word formation, with reference to the terminological field, is distinguished by a more rigorous semantic specialization of word-forming morphemes and models. Within names for the same category of concepts, well-known assignment to specific branch-specific terminologies of word-formation models with certain suffixes can occur. In connection with the distinctive features in oil and gas terminology, two opposing trends have been identified. On the one hand, the formation of abbreviations **BGG** (*British Gas Corporation*), **MSDS** (*Materials Safety data Sheet*), **NGL** (*natural gas liquids*), **ASTM** (*American Society for Testing Materials*), **BGC** (*British Gas-Corporation*), **BNOC** (*British National Oil Corporation*), **BTU** (*British Thermal Unit*), **MTBF** (*meantime between failures*), **POM** (*pulse oil method*); **ТШО** (*Теңізшевроил*), **МӨЗ** (*мұнай өңдеу зауыты*), **ШМОС** (*Шымкентмұнай органикалық синтез*), **МДҚ** (*мұнайды дайындау қондырғысы*), **МГӨБ** (*мұнай газ өндіру басқармасы*), **ЭОТҰ** (*электірлісортдан тепкіш ұнғы*), **ТӨАҚ** (*топтан өлшейтін айырғыш қондырғылары*), **ОАҚ** (*орталықтандырылған айырғыш қондырғылары*), **ҚҚҰТЦ** (*қабат қысымын ұстап тұру цехы*), **МҚС** (*май құю станциясы*); on the other hand, the creation of unlimited long names *пневмобұрғылау машинасы – мұнай және газ өндіру – oil and gas production, бурғылау жабдығы*.

In the language system of word formation, researchers note the following main trends:

- a) increasing in the productivity of a number of models serving the main categories of names (processes, persons, abstract qualities, etc.);
- b) increasing the regularity of derivational models;
- c) strengthening the specialization of derivational tools for the expression of certain values¹⁶;

¹⁶ V.P. Danilenko, *Actual areas of linguistic study of Russian terminology. Modern problems of Russian terminology*, Nauka, Moscow, 1986.

d) all three trends are interconnected and mutually reinforced each other. In these areas, terminological word-formation is mainly developing. In addition, in the formation of terminology, other tendencies are seen that reinforce the three general main tendencies: enhanced growth of the terminological fund of word formation (affixes and ready-made parts of addition, ready-made constructions), which simultaneously provide regular models and specialization of termizing agents: *гидросоққыш, пневмосоққыш, жынысталқандауыш*¹⁷;

e) the tendency to word formation, to the creation of a complex of names connected by a common production basis: *газ – газды, газдандыру – газсаздындыру – газталдауыш, діріл– дірілдеткіш – дірілді, кокс – кокстау – кокстенгіштікқарық – қарықша, науа – науашық*;

f) enhancement in certain situations of interdependence of derivational model productivity and using of the names created by this model.

From our observations it follows that the most productive way to form the oil and gas industry terms in English and Kazakh languages is to addition of roots.

¹⁷ V.V. Gorodilov, *Interlanguage description of the semantic structure of the term system*, Oblagroprom, Kalinin Agricultural Institute, Kalinin, 1989.