

## USE OF INTERNATIONALISMS MOTIVATED BY GREEK ROOT MORPHEME «HAEMAT-» IN MEDICAL TERMINOLOGY (FIRST COMMUNICATION)

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Key-words: internationalism — Greek root morpheme «haemat-» — medical terminology — term formation

Numerous derivation forms originate from the noun *αἷμα, αἵματος* already in classical old Greek language. In them the following variants of the initial stem occur: *αἱματ-, αἱμα-, αἱμ-,* and *-αἱμ-*. They appear as «haemat-», «haema-», «haem-», and «-aem-» having passed into the medical terminology in the form of Greek loanwords with Latin phonetic and orthographic transformation. These variants exist in contemporary medical terms some of which originate from the antiquity but most of which are nominations created by numerous scientists in various epochs.

In the present work a typological characterization of medical terms containing the aforementioned term elements in the following modern languages — English, French, German, Russian, and Bulgarian is carried out. In this first communication we treat their term-formation possibilities in medical terminology of.

1. In the terminological field studied consisting of approximately 550 terms three models of term formation can be observed: lexico-syntactical, lexico-morphological, and lexico-semantic. Simple word «haema» is nowhere used amidst terms considered. Instead of it every language makes use of an original lexical unit: blood, sang, Blut, кровь, кръв that has terminologized.

1.1. One root terms formed affixally: suffixally, prefixally (single cases only), and suffixally-prefixally (most often) belong to simple terms formed lexico-morphologically:

a) suffixally: hematoma — hématome — Hématom — гематома — гематом;

b) prefixally: hyphema — hyphéma — Hyphaema — гип(г)ема — хип(х)ема;

c) suff.-pref.: anemia — anémie — Anémie — анемия — анемия.

Combining of Greek term element with affixes only of Greek origin is established.

Group of complex terms is considerably more numerous. They are distinguished by a great diversity of term-formation models. These models are characteristic of the source language and continue to exist in terminological systems of contemporary languages because they suit to a great extent requirements as preciseness, syntheticity, maximal semantic capacity. Every term-formation model presents a matrix which can be illimitably used for new term creation.

Without affixes:

2 roots: haemothorax, hémothorax, Hämothorax, гемоторакс, хемоторакс; haemogram, hémogramme, Hämoqramm, гемограмма, хемограма;

3 roots: hemopneumothorax, hémopneumothorax, Hämopneumotrhorax, гемопневмоторакс, хемопневмоторакс;

4 roots: hemoxitensiograph, hemoxyteniograph, Hämoxytensiograph, ре-мокситензиограф, хемокситензиограф.

Affixally:

root+root+suffix: hematemesi, hématemèse, Haematemesi, гематемезис, хематемеза;

root+root+root+suffix: oxyhaemoglobin, oxyhémoglobine, Oxyhämoglobin, оксигемоглобин, оксхемоглобин;

prefix+root+root+suffix: hyperphosphoraemia, hyperphosphorémie, Hyperphosphorämie, гиперфосфоремия, хиперфосфоремия.

Appearance of linking vowel -o- between two roots is a natural phenomenon when the first radix ends on consonant and the second one begins with consonant. «Hyper» and «hypo» are prefixes most commonly used in complex terms: hypercalcemia, hypocalcemia.

Term «tularemia» has an extraordinary mode of formation. In it geographic proper name Tulare, a region in California where the disease has been described for the first time is used.

Preposition of term element denoting «blood» dominates in complex terms. However, variant «aem-» is always in postposition combined with suffix «-ia»: uremia, leukemia, toxemia.

Variants «haemat-» and «haem-» are duplicated in series of terms: hematopoietic and hemopoietic; hematostyptic and hemostyptic. Two terms meaning specific substances are exceptions: hematin and hemin. There exists no doubleness but distinction function of variants when these terms are concerned. Other doublet variants are «haema-» and «hem(o)-», e. g. hemaphobia and hemophobia as the second prevails in frequency.

At complex term level term element «haemat-» (and variants inc.) proves coupling and productivity not only in Greek but also in Latin term elements and affixes: hemoglobin, hemafacient, hemorrhagiparous, aemia. Valency of Greek term element towards words from contemporary languages is rather rare, e. g. in German heterogenous term Hämochock.

From the point of view of term formation terms such as hemoglobinemia and hematinemia are interesting, indeed. In them term element considered is twice used. This ascertains its high cohesiveness with other term elements and terms meaning concrete substances where its perception as an independent element reduces.

With complex terms consisting of more than two meaningful term elements connection can be successive, e. g. calc-emia hyper-calcemia: hemo-globin hemoglobin-emia, or parallel, e. g. hemo-pneumo-thorax: ...hemo... pneumo... thorax. With parallel connection change of the position of the first two elements does not disturb the definite value of the term; it is equivalent to pneumo-hemo-thorax. With successive connection such an inversion in term structure is impossible.

1.2. Lexico-syntactical term formation is presented in formation of terminological combinations, so-called compound terms. They are commonly bicomponential: definitable (most often a noun — denomination of a generic notion) and defining (denomination of a notion of a species — adjective or participle made agree, substantive not made agree in genitive case, preposition substantive group). This binarity can present concretization of a given initial term consisting of one word only but also contains a possibility for further specifying of the term-

denotation and term transformation into three- or more component coupling: hyperemia>arterial hyperemia; cells>hemopoietic cells>human hemopoietic cells>human hemopoietic progenitor cells.

Compound terms containing a definition made agree:

meningeal leukemia, leucémie aigue, unreifzellige Leukämie, кожная лейкемия, вторична анемия.

Compound terms containing a definition not made agree without preposition: sickle cell hemoglobin, Anämie der Bergarbeiter, гематома наружного уха.

Compound terms containing preposition-substantive groups:

hemorrhage from the eye, anémie par manque de cuivre, Ikterus bei hämolytischer Anämie, гемолитическая анемия у новорожденных, хемолитична анемия у новородените.

In some combinations term element studied (and variants) appears in generic as well as in aspectual term, e. g. leukemic patients, meningeal leukemia.

It is possible that terminological group incorporates homogenous and heterogenous in origin words as well (such heterogeneity occurs rather more frequently than that in complex terms): aleukemic stage of disease, hémarthrose du genou, nächtliche Hämoglobinurie, гематома травматическая, гематома субдуральная, гематома твердой мозговой оболочки.

The latter examples with «гематома» demonstrate coupling with Greek, Latin and native language term elements.

Repetition of this term element within the limits of one term can be observed with compound terms, too: hemolytic anemia, anémie hémolutive, hämolytische Anämie, гемолитическая анемия, хемолитична анемия. This is not an arbitrary structural tautology but an event induced by the necessity of denominating more differentiated terms in the logic-term system of continuously advancing medical science. The adjective «hemolytic» is one of the existing more than 80 definitors which specify the cause or character of the disease «anemia».

Cases of eponym term formation can also be found: Cooley's anemia, anémie de Cooley, Cooley'Anämie, эритробластическая анемия (Кули), анемия на Кулей.

1.3. Lexico-semantic term formation is rather scanty in the terminological field studied — predominantly by means of substantivation which is, however, not always disseminated in all languages investigated: hemostatics, hemostypics; hémostatique, hémostyptiques, antihémorrhagiques, but: Hämostatika, Hämostyptika, гемостатические средства, хемостатици, хемостиптици.

When summarizing term formation the following conclusions can be drawn:

Greek-Latin root morpheme «haemat-» (and variants inc.) participates in series of medical terms as standard term element utilized by living languages. Term formation is performed according to ready models descending from old Greek and Latin which are vital and suitable for modern medical terminology of all languages discussed. These synthetic models are restored even in languages with an analytical structure such as French and Bulgarian. A gradation of term formation capacity of the morpheme is outlined:

Its productivity is the lowest one with compound terms with preposition-substantive group. In them native language means are preferred: bleeding from the nose, saignement de nez, Blutung ins Rückenmark, кровотечение из носа, кръвотечение от носа.

Morpheme productivity is relatively low in simple one root terms and in compound ones with definition not made agree. It is higher in compound terms with definition made agree. Morpheme demonstrates the highest productivity at complex term level.

In other words, Greek root morpheme «haemat-» (and variants inc.) displays selectivity to more synthetic term-formation models.

In German complex term formation corresponds to its term-formation specificity. Complex nominations are formed not only from international but also from its own term-formation means: degree of hemoglobin, teneur en hémoglobine, содержание гемоглобина, ниво на хемоглобин, but, Hämoglobingehalt; hemorrhage post-partum, hémorragie du post-partum, послеродовая геморагия, хеморагия след раждане, but Nachgeburtsblutung.

The internationalisms motivated by Greek root morpheme «haemat-» (and variants) are characterized by regular adoption common for the terminology of all the languages studied whose specificity is determined by orthographic and functional peculiarities of any particular language. English terms are most closely related to source language (old Greek) and to mediator one (Latin). Terms are changed to a smallest extent in English and possess relatively more seldom equivalents in the national language.

There exists a characteristic trend of language of science towards an isolation from the literary language, towards a strict stylistic stabilization within a closed professional sphere when these languages analyzed are concerned. On the other hand, there is a tendency towards an unification of particular terminologies realized to a maximal degree by means of internationalisms.

#### **ИСПОЛЬЗОВАНИЕ ИНТЕРНАЦИОНАЛИЗМОВ В МЕДИЦИНСКОЙ ТЕРМИНОЛОГИИ, МОТИВИРОВАННЫХ ГРЕЧЕСКОЙ КОРЕННОЙ МОРФЕМОЙ «НАЕМАТ-» (ПЕРВОЕ СООБЩЕНИЕ)**

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#### **Р Е З Ю М Е**

Проведено типологическое исследование медицинских терминов, содержащих греко-латинский терминологический элемент НАЕМАТ- и его варианты haema-, haem-, -aem- в английском, немецком, французском, русском и болгарском языках.

В настоящем первом сообщении рассматриваются в сопоставительном плане словообразовательные модели, по которым оформляются производные от этих элементов, зафиксированные в медицинской терминологии. Прослеживается терминологическое словообразование этой группы медицинских терминов: а) лексико-морфологическое, б) лексико-семантическое, в) лексико-синтаксическое.