греческих терминоэлементов, префиксов и суффиксов на образование немецких медицинских терминов. В статье указано, что среди отраслей науки, в которых латынь все еще используется сегодня, несомненно, является медицина. Наиболее специфическая особенность медицинской терминологий — традиционное применение латинского и греческого языков. Актуальность тематики заключается в том, что латинско-греческое влияние на современный немецкий язык и большое количество заимствований является одной из важнейших и недостаточно изученных лингвистических проблем. Современная немецкая медицинская терминосистема использует терминологию, истоки которой уходят во времена Древней Греции и Рима. Невозможно овладеть профессиональным языком медицины не усвоив термины, номенклатурные наименования, словообразовательные элементы латинского и греческого происхождения, которые до сих пор остаются основным средством для образования растущего числа немецких терминов. Особенностью профессионального вещания врачей в Германии, как и в других странах мира является то, что значительный процент научных понятий они передают на латинском языке. В одних случаях это является обязательным (анатомо-гистологическая номенклатура), в других — латинские термины употребляются факультативно, иногда они заменяются аутентичными наименованиями немецкого языка, в основном как синонимичные образования. В основе многих немецких медицинских терминов лежат латинские и греческие корни, что делает их интернациональными.

**Ключевые слова:** медицинская терминология, немецкие медицинские термины, заимствования, латиногреческие термины, латинские и греческие терминоэлементы.

Vorona Ivanna, Savaryn Tetiana. Latin and Greek Borrowed Words in the German Medical Terminology. The study considers the question of the genetic dissimilarity of the German vocabulary which used in the medical field. It has been determined role and place of Latin and Greek borrowed words as an effective way for expansion of the German medical terminology vocabulary. It has been determined the influence of Latin and Greek terminoelements, prefixes and suffixes on the German medical terms formation. The article indicates that among different fields of study the medicine is one where Latin is still used nowadays. The most specific feature of medical terms is using there Latin and Greek languages. Relevance of the subject is that Latin and Greek influence on the modern German language and significant part of borrowed words are one of the most important but poorly known linguistic problems. The modern German medical terminology system uses terminology whose origin dating back to ancient Greece and Rome. It is impossible to become proficient in professional medical language without getting known terms, nomenclature names, word-formation elements of Latin and Greek origin, which is still the main means for formation of the great, constantly growing amount of German terms. Peculiarity of the professional language of doctors in German like in other countries of the world is that the significant percentage of scientific concepts they expresses by means of the Latin language. It is necessary in some cases (anatomic-histological nomenclature) but in other cases Latin terms are used optional, sometimes they are replaced by authentic names of the German language, mostly as synonymous formations. The basis for the many German medical terms is Latin and Greek roots and because of this these terms are international.

Key words: medical terminology, German medical terms, borrowed words, Latin and Greek terms, Latin and Greek terminoelements.

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Liudmyla Herasymenko

## DOMINANT EXCHANGE STRUCTURES IN AVIATION RADIOTELEPHONY DISCOURSE

The article deals with the analysis of dominant exchange structures in English radiotelephony discourse. The author states that the usage of standard phraseology is one of the most important factors in aviation safety, as it enables fast and efficient communication despite language ambiguity and it reduces misunderstandings. The article proves that incidents and accidents have occurred in which a contributing factor has been the use of non-standard procedures and phraseology. All these cases show the influence of human factor in aviation. In some instances, the use of language contributes directly or indirectly to an accident. At other times, language is a link in the chain of events which exacerbates the problem. Three ways are determined as contributing factors in accidents and incidents: incorrect use of standardized phraseologies; lack of plain language proficiency; and the use of more than one language in the same airspace. The term «professional discourse» is defined as the text immersed in professional life. The main features are described, they are professional orientation; verification; dialogueness; closeness; linguistic normativity; special stylistic layering. Aviation radiotelephone discourse is defined as aviation specialists' communication which aims at the verbal exchange of professional information in the flight process with the help of radiotelephony. Exchange structures are based on the most frequently occurring conversational patterns in the given contexts. Familiarity with the scripts for a given situation plays an important role in the fluent and accurate production and comprehension of language in dialogue situations. It facilitates the ability to plan participation ahead of time on the basis of the expected course of the conversation. The principal components of these scripts are "moves" and "exchanges". Three basic types

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of exchange patterns are defined: two moves initiated by the controller; three moves initiated by the pilot.

Key words: radio communication, aviation radiotelephony discourse, exchange structures, human factor.

**Formulation of a research problem and its significance.** One of the most important factors in aviation safety is the usage of standard phraseology, because it enables fast and efficient communication despite language ambiguity and it reduces misunderstandings. Constant attention should be given to the correct use of ICAO phraseologies in all instances in which they are applicable. Incidents and accidents have occurred in which a contributing factor has been the use of non-standard procedures and phraseology. The importance of using correct and precise standardized phraseology cannot be overemphasized. Obviously, it is not practicable to detail phraseology examples suitable for every situation which may occur. However, if standard phrases are adhered to when composing a message, any possible ambiguity will be reduced to a minimum [3].

Analysis of the research into this problem. Radiotelephony communications between pilots and controllers have been receiving special attention due to the significant role of the language in many accidents and incidents, thus promoting a greater interest also to applied linguists (D. McMillan, N. Mod, A. Monteiro, V. Kmita, S. Cushing). The issue of Aviation radiotelephony structuring was studied by V. Asmukovich, N. Dupikova, A. Kyrychenko, T. Malkovska.

The goal and the specific tasks of the article are to define dominant exchange structures in aviation radiotelephony discourse.

Statement regarding the basic material of the research and the justification of the results obtained. The use of language in radiotelephony communications is governed by Standards and Recommended Practices (SARPs) and Procedures for Air Navigation Services (PANS) contained in Annex 10 – Aeronautical Telecommunications and the PANS-ATM. Specific language proficiency requirements are contained in Annex 1 – Personnel Licensing. ICAO phraseologies are published in Annex 10, Volume II – Communication Procedures including those with PANS status and the PANS-ATM. The phraseologies contained in these documents are not intended to be exhaustive, and both documents refer, in several instances, to the need for "additional phraseologies", or "appropriate subsidiary phraseologies", or "plain language". An explanation of the role of phraseologies in radiotelephony communications will clarify their appropriate use. Phraseologies have evolved over time with periodic initiatives by bodies responsible for codifying and standardizing their use. ICAO phraseologies are developed to provide maximum clarity, brevity, and unambiguity in communications [4].

Phraseologies are applicable to most routine situations; however, they are not intended to cover every conceivable situation which may arise. The success and widespread adoption of the ICAO phraseologies has given rise, to some degree, to an expectation on the part of some users that phraseologies alone could suffice for all the communicative needs of radiotelephony communications. ICAO provisions related to the use of language adopted by the ICAO Council in 2003 better clarify that, while ICAO phraseologies should always be used whenever they are applicable, there also exists an inherent requirement that users also have sufficient "plain" language proficiency. ICAO documents make this clear in a number of instances.

In the PANS-ATM, it is further emphasized that the phraseologies contained therein are not intended to be exhaustive, and when circumstances differ, pilots, ATS personnel and other ground personnel will be expected to use appropriate subsidiary phraseologies which should be as clear and concise as possible and designed to avoid possible confusion by those persons using a language other than one of their national languages. "Appropriate subsidiary phraseologies" can either refer to the use of plain language, or the use of regionally or locally adopted phraseologies. Either should be used in the same manner in which phraseologies are used: clearly, concisely, and unambiguously. Additionally, such appropriate subsidiary phraseologies should not be used instead of ICAO phraseologies, but in addition to ICAO phraseologies when required, and users should keep in mind that many speakers/listeners will be using English as a second or foreign language.

The use of plain language required when phraseologies are not available should not be taken as license to chat, to joke or to degrade in any way good radiotelephony techniques. All radiotelephony communications should respect both formal and informal protocols dictating clarity, brevity, and unambiguity.

The term «professional discourse» is defined in the text as «immersed» in professional life. The main features are the following: professional orientation (compliance of texts with the participants' requirements in professional communication); verification (information validity in the text); dialogueness (special text as a fragment of general professional discussion); closeness (limited access to the information determined by the level of addressee's professional competence); linguistic normativity (adequate registration of special information by language means); stylistic layering according to the structural part of professional discourse and forms of communication (oral, written) [2, p. 123].

Under "aviation professional aviation discourse", we understand English language texts in the field of aviation taking into consideration the broad context considering all the accompanying factors. Aviation English includes Radiotelephony, Airspeak, Skytalk, Radio phraseology, Radio exchange in English, Radiotelephony "Ground-Air". It serves a special, separate, self-sufficient field of aviation activity. T. Malkovska considers radio exchange as a subset, a set of phonetic, grammatical and lexical units of the language used in the dialogues between the participants of the air traffic (aviation controller and pilot) in the course of flight performance [2, p. 23].

In our opinion it is more appropriate to define aviation radio exchange as a professional discourse for the analysis of syntactic peculiarities, since this study involves the analysis of functions in live professional speech rather than linguistic units. Following A. Kyrychenko, under the aviation radiotelephone discourse, we understand aviation specialists' communication which aims at the verbal exchange of professional information in the flight process with the help of radiotelephony [1, p. 63].

The relationship between pilots and air traffic controllers is a process that is vital for flight safety. The pilot must inform promptly the air traffic controller of his position, flight situation and intention, and the air traffic controller must respond adequately to the request, give clear and unambiguous instructions. The communication process is important and must be successful, even in the extreme conditions. The adherence to the radio discipline is essential for this process. The typical scenarios for violation of the rules for radio communication are as follows: 1) the pilot does not listen to the information before the transmission; 2) the air traffic controller permission is addressed to another aircraft; 3) use of nonstandard phraseology. Let us provide an example of the first situation. Rushair 1234 pilot requested permission to descend: "1234, request FL 120". The air traffic controller accepts this request, but gives permission to descend to another Jetair 314 by mistake: "314, FL 120 descending". Rushair aircraft accepts this instruction as intended for it, which leads to a distance violation between the planes. The second condition of the use of language can be illustrated with the case when air traffic controller gives instructions in the local language. As a result, if the pilot does not understand this language, he does not know the instructions given by the controller to the other aircraft in the airport maneuvering area, this may cause disturbance between the aircraft. One more common mistake is lack of information confirmation. The pilot hears mistakenly the air traffic controller's instructions, but instead of repetition, he replies: "Roger", which means "Understood".

All these cases described above show the influence of human factor in aviation. Accident investigators usually uncover a chain of events lining up in an unfortunate order and finally causing an accident. In some instances, the use (or misuse) of language contributes directly or indirectly to an accident. At other times, language is a link in the chain of events which exacerbates the problem. There are three ways that can be a contributing factor language in accidents and incidents [4]: a) incorrect use of standardized phraseologies; b) lack of plain language proficiency; and c) the use of more than one language in the same airspace.

Exchange structures (also called schemata or scripts) are based on the most frequently occurring conversational patterns in the given contexts. They tell us, for example, who will open the exchange and how the exchange will be closed. They tell us what are the different steps of the exchange between opening and closing, and what meanings will be exchanged.

Familiarity with the scripts for a given situation plays an important role in the fluent and accurate production and comprehension of language in dialogue situations. It facilitates the ability to plan participation ahead of time on the basis of the expected course of the conversation. The principal components of these scripts are "moves" (separate messages from one speaker) and "exchanges" (combinations of several moves going from initiation to completion).

In aeronautical radiotelephony these scripts have been described [5, 6] and may be assumed to contribute to the shared knowledge of pilots and controllers. Exchange patterns are of three basic types [4]:

- a) two moves initiated by the controller (Maintain flight level 270/Maintain 270);
- b) three moves initiated by the controller (Say heading/173/173 roger);
- c) three moves initiated by the pilot (*Requesting descent/Descend flight level 1 3 0/Descend flight level 1 3 0*).

The examples given above are made up of "simple" moves — that is to say single short utterances each expressing a single communicative function.

One feature of communications in non-standard situations is the replacement of simple moves by "complex" moves such as the following:

Pilot: I've got an emergency, short on fuel, and I'm steering to the beacon on 112.3, and I've been told to tune onto the ILS to get me into an airfield. I have less than 15 minutes fuel supply sir. Have you copied? Over.

The linguistic challenge of complex moves is for the listener to locate and identify the core function of the move. By way of illustration the above example is reproduced below with the core function in bold characters: *Pilot: I've got an emergency, short on fuel, and I'm steering to the beacon on 112.3, and I've been told to tune onto the ILS to get me into an airfield. I have less than 15 minutes fuel supply sir. Have you copied? Over.* 

Furthermore, the basic exchange structures will sometimes be extended by the embedding of subordinate exchanges thereby producing complex exchanges. For example:

ATC: Are you direct BRC?

Pilot: Yes sir. Do we need to come right a little?

ATC: I think you proceed initially to ABB, if you wish ABB by the right.

Pilot: Understand turn right. We could go to ABB VOR, BRC.

ATC: Negative. Proceed ABB, BRC or if you prefer BRC direct.

Pilot: Direct to the BRC.

Knowledge of the basic script will enable users to track complex structures so as to locate and identify the core moves.

By way of illustration the above example is reproduced below with the core moves in bold characters:

ATC: Are you direct BRC?

*Pilot: Yes sir. Do we need to come right a little?* 

ATC: I think you proceed initially to ABB, if you wish ABB by the right.

Pilot: Understand turn right. We could go to ABB VOR, BRC.

ATC: Negative. Proceed ABB, BRC or if you prefer BRC direct.

Pilot: Direct to the BRC.

Conclusions and prospects for further research. Language is an imperfect means of communication. Occasionally, unforeseen difficulties arise due to misinterpretation, the use of extra words and wrong lexical-grammatical structures. "Air-to-Ground" radio communication needs special attention, since flight safety depends on it. Understanding of the basic linguistic principles and rules in radiotelephony and use of radio exchange structures enhance the efficiency of aviation communication and thus it will decrease the rate of accident due to human factor.

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Герасименко Людмила. Домінантні структури обміну інформацією в дискурсі авіаційної радіотелефонії. У статті розглядається проблема домінувальних структур обміну інформацією в англомовному радіотелефонному дискурсі. Автор стверджує, що використання стандартної фразеології є одним із найважливіших чинників безпеки в авіації, оскільки це забезпечує швидке й ефективне спілкування, незважаючи на двозначність мови. Важливість володіння пілотом та диспетчером уміннями та навичками професійного спілкування пояснюється високою ціною помилки, оскільки від діалогу залежить не тільки успіх людської діяльності, а й життя пасажирів. Аналіз авіаційних подій та катастроф констатує вплив людського фактора на авіацію, серед яких використання мови безпосередньо чи опосередковано впливає на аварію або ж вона є ланкою в ланцюжку подій, що загострює проблему. Визначено три групи факторів, що сприяють виникненню нещасних випадків та інцидентів: неправильне використання стандартизованої фразеології; відсутність компетенції із загальної англійської мови та використання більш ніж однієї мови в одному і тому ж повітряному просторі. Термін «професійний дискурс» визначається як текст, занурений у професійне життя. Подані основні характеристики авіаційного професійного дискурсу радіомовлення, а саме: професійна спрямованість; верифікація; діалогічність; замкненість; мовна нормативність; стилістична розшарованість відповідно до структурної частини професійного дискурсу та форм спілкування. Авіаційний радіотелефонний дискурс визначається як спілкування авіаційних фахівців, метою якого є усний обмін інформацією в процесі польоту за допомогою радіотелефонії. Обмін структурами базується на розмовних моделях, що найбільш часто трапляються в даному контексті. Знайомство зі скриптами для цієї ситуації відіграє важливу роль у вільному та точному продукуванні й розумінні мови в діалогових ситуаціях. Це полегшує можливість планувати участь раніше, на основі очікуваного курсу розмови. Основними компонентами цих сценаріїв є «кроки» (окремі повідомлення від одного мовця) та «обміни» (комбінації декількох кроків від ініціації до завершення. Визначено три основних типи структур обміну інформацією: два комунікативні кроки, ініційовані диспетчером; три комунікативні кроки, ініційовані диспетчером; три комунікативні кроки, ініційовані пілотом.

**Ключові слова:** професійна комунікація, дискурс авіаційної радіотелефонії, структури обміну інформацією, людський чинник.

Герасименко Людмила. Доминантные структуры обмена в дискурсе авиационной радиотелефонии. В статье рассматривается проблема доминирующих структур обмена информацией в англоязычном радиотелефонном дискурсе. Автор утверждает, что использование стандартной фразеологии является одним из важнейших факторов безопасности в авиации, поскольку это обеспечивает быстрое и эффективное общение, несмотря на двусмысленность языка. Важность владения пилотом и диспетчером умениями и навыками профессионального общения объясняется высокой ценой ошибки, поскольку от диалога зависит не только успех человеческой деятельности, но и жизнь пассажиров. Анализ авиационных происшествий и катастроф констатирует влияние человеческого фактора на авиацию. Использование языка прямо или косвенно влияет на аварию, или же является фактором, который обостряет проблему. Определены три группы факторов, способствующих возникновению несчастных случаев и инцидентов: неправильное использование стандартизированной фразеологии; отсутствие компетенции общего английского языка, а также использования более чем одного языка в одном и том же воздушном пространстве. Термин «профессиональный дискурс» определяется как текст, погруженный в профессиональную жизнь. Представлены основные характеристики авиационного профессионального дискурса радиообмена, а именно: профессиональная направленность; верификация; диалогичность; замкнутость; языковая нормативность; стилистическая расслоенность согласно структурной части профессионального дискурса и форм общения. Авиационный радиотелефонный дискурс определяется как общение авиационных специалистов, целью которого является устный обмен информацией в процессе полета с помощью радиотелефонии. Обмен структурами базируется на разговорных моделях, которые наиболее часто встречаются в данном контексте. Знакомство со скриптами для данной ситуации играет важную роль в свободном и точном продуцировании и понимании речи в диалоговых ситуациях. Это облегчает возможность планировать участие ранее, на основе ожидаемого курса разговора. Основными компонентами этих сценариев являются «шаги» (отдельные сообщения от одного говорящего) и «обмены» (комбинации нескольких шагов от инициации до завершения). Определены три основных типа структур обмена информацией: два коммуникативных инициированные диспетчером; три коммуникативных шага, инициированные диспетчером; коммуникативных шага, инициированные пилотом.

**Ключевые слова:** профессиональная коммуникация, дискурс авиационной радиотелефонии, структуры обмена информацией, человеческий фактор.