

Anthropotonymic structures in discourse

Abstract

The authors of this research article examine the anthropotonymic structures (anthroponyms, eponyms, toponyms) of English scientific and technological discourse (the sphere of nanotechnology and fibre optic technology). The classification of the above mentioned lexical units according to their composition is provided.

Keywords: scientific and technical discourse, anthroponym, eponym, toponym

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Introduction

English scientific discourse is characterized by a certain amount of anthropotonymic structures. They include anthroponyms, eponyms and toponyms. The aim of the research is structural analysis of the above mentioned items. The theory of the issue covers such concepts as “anthroponym”, “anthroponymy”, “eponym”, “eponimy” and “toponym”. Anthroponymy (from Greek “anthropos” – man and “onyma” – name) is a branch of onomastics, studying anthroponyms, patronyms, surnames, patronimics, nicknames, pseudonyms, cryptonyms and anthroponyms of the literary work.² Myaskovskaya TV & Semina VV³ have proposed the following classification: personal name (the name given at the birth), patronymic name (the name after your father, grandfather and so on), surname (family name), nickname, pseudonym (individual and group), cryptonym (a hidden name), anthroponyms formed from ethnicons (the names of nations).² It should be noticed that not all of the above mentioned types have been fixed in the discourse under study. This is explained by its chastity and officialism. “Name”, “surname”, “initials+surname”, “name+surname”, “name+numeral”, “name+middle name+surname” and “position (degree)+name (initials)+surname” have been discovered in the discourse. The works of Varnavskaya EV⁴, Minkova D & Stockwell R⁵ as well as of many others are devoted to the study of eponyms. According to Varnavskaya EV,⁴ eponimy is “a nomination of things and events after real and mythic characters widely used while nominating geographic features, rewards, film companies and industrial groups”.⁴ One more definition was provided by Minkova D & Stockwell R:⁵ “These are new words based on names (epi- ‘upon’ onym ‘name’)”.⁴

The analysis of the discourse from the point of view of its anthropotonymic organization made it possible to initiate the following classification of eponymic models: N (Noun), Anthr.+N (Anthroponym+Noun), Anthr.+Anthr.+N (Anthroponym+Anthroponym+Noun), Anthr.suf.+N (Anthroponym with a suffix+Noun), Anthr.’s+N (Anthroponym in the possessive case), eponyms-units of measure and eponyms-abbreviations. Toponyms have been thoroughly studied by Syperanskaya AV,⁶ Uspenski LV,⁷ Coats R,⁸ Gelling M,⁹ Smith C¹⁰ and the others. Toponyms are defined as names of geographic features. Many

classifications of toponyms have been proposed, but in this research only two of them have proved appropriate. One of them is based on the morphologic structure,¹¹ the second one correlates with the type of the denoted geographic features.⁶ According to the morphologic structure, Leonovich OA¹¹ divides toponyms into four groups: “simple toponyms” (one base morpheme), “secondary toponyms” (one base morpheme + suffix), “complex toponyms” (two base morphemes) and “composite toponyms” (two and more words).¹¹ Superanskaya AV⁶ offered a division based on the type of the denoted geographic features. They are hydronyms (water object names), oronyms (mountains names), place names (cities names), urbanonyms (intra-city objects names), macrotoponyms (the names of big geographic features such as countries and so on) and microtoponyms (small undeveloped lands).⁶

All the anthropotonymic structures examined were divided into four groups:

1. Simple structures
2. Two-component structures
3. Three-component structures
4. Complex structures (four and more components)

Simple structures

Ex. 1 For example, large optical gain has been obtained by Klimov and coworkers using chemically synthesized NCs, which allows the application of these NCs in the field of quantum-dot lasers.¹² The anthropotonymic structure here is “surname”. The large optical gain obtained by Klimov and his coworkers is described in Ex. 1. This discovery allows nanocrystals to be used in studying quantum-dot lasers. Ex. 2 Rather than expressing the energy in Joules, it can be interesting to write it as photon number which is four.¹³ There is a full name of the unit of measure in Ex. 2. There is also a short version of it, J. It was named after James Joule, an English physicist.¹⁴ Ex. 3 in 1992/1993, the same technology is used in the Pacific for TPC-4.¹³ “The Pacific” is a simple toponym, hydronym complicated by the definite article. The most important thing in such a sentence structure is a place, not the one who has performed the action.

Two-component structures

Ex. 4 In 1959, Richard Feynman, another Nobel Prize winner in Physics, proclaimed that there's plenty room at the bottom.¹⁵ The combination "another Nobel Prize winner in Physics" is used after the anthroponym "Richard Feynman". This stylistic tool is called parenthesis. The aim of its use is to provide the reader with some extra information that promotes clear understanding of the described issues. Richard Feynman, an American physicist, a key person and the author of the lecture "There is a plenty room at the bottom". This lecture has become a start to studying tiny things. Ex. 5 The performance of DWDM systems in PMD transmissions over long-haul fiber links is limited by the ASE noise and linear and nonlinear interference (NLI) caused by Kerr effect in the fiber.¹⁶ The eponymic structure is "Anthr.+N" is used. Kerr effect was discovered by John Kerr,¹⁷ a Scottish physicist and a pioneer in the field of electro-optics in 1875.¹⁷ Ex. 6 In the experiment shown in Fig. 10 the PCS Alice and Bob are linked via 28 km of standard telecommunication fiber installed in the Ipswich area of BT's public network.¹⁸ In this example "Alice and Bob" denotes transmitters in the Ipswich area (a composite placename) where a standard telecommunication fiber was installed.

Three-component structures

Ex. 7 Dr. Subodh Mhaisalkar¹⁹ is an Associate Professor at the School of Materials Engineering, Nanyang Technological University (NTU), Singapore.²⁰ Anthroponymic structure "degree+name+surname". This person is a professor in School of Materials Science and Engineering (Nanyang Technological University). In this case the reader is given extra information about one of the authors of the article.²¹ Ex. 8 By interpolation between glass and air indices according to air fill fraction using the Lorentz–Lorenz equation²¹ one obtains the values indicated by arrows on the left.¹³ The eponymic structure is "Anthr.+Anthr.+N". The Lorentz–Lorenz equation²¹ relates the refractive index of a substance to its polarizability. The Lorentz–Lorenz equation²¹ is named after a Danish mathematician and scientist, Ludvig Lorenz, who published it in 1869, and the Dutch physicist Hendrik Lorentz, who discovered it independently in 1878.²¹ Ex. 9 Later, a whole grid of such lines was built across all of France, eventually reaching a total length of 4800km (Figure 1).¹³ A simple toponym, placename is used in this example. Due to this toponym an evaluation of the invention use area size is given. This invention is a telegraph.

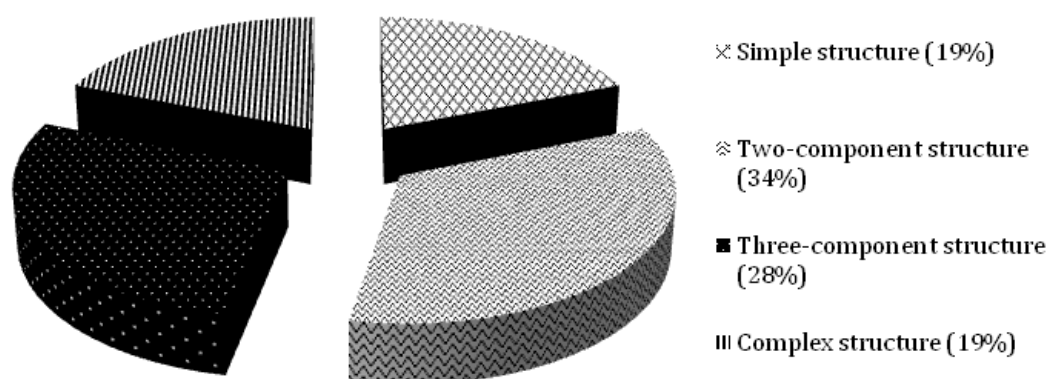


Figure 1 Frequency of anthropotonymic structures in English discourse.

Complex structures (four and more components)

Ex. 10 The authors thank NOVX Systems for providing the random optical add/drop switch (ROADX) that was used as transmission filter in the experiments and Dr. Andrew J. Hudson for his technical assistance.²² The anthroponymic structure is "degree+name+initial+surname". The author of the article expresses acknowledgment to Dr. Andrew J. Hudson for his technical assistance. Ex. 11 Monitoring the Interaction between MPOCs and Lipid Bilayer Membrane by Förster Resonance Energy Transfer (FRET) Using Cell-Sized Liposomes.²³ The name of this physical phenomenon varies in the technical literature: Förster resonance energy transfer (FRET), fluorescence resonance energy transfer (FRET), resonance energy transfer (RET) or electronic energy transfer (EET). The scientific sphere gives preference to the term containing the name of the inventor. The phenomenon was named after Theodor Förster, a German physicist and chemist. Ex. 12 The sponsors' approach was initiated with the fiber-optic link around the globe (FLAG) system which came in service in November 1997, followed by projects like Southern Cross (Australia-New Zealand-United States).²⁴ The chain of macrotoponyms (Australia-New Zealand-United States) is used in

Ex. 15 which denotes the place of the invention use. The last one is fiber-optic link joined the mentioned states.

Material and methods

The authors of the paper have worked at 576 pages of English scientific discourse (the sphere of nanotechnology and fibre optic technology). They are the following articles: Arayachukiat S,²³ Beaufils JM,²⁴ Castrillon MA,¹⁶ Gupta S,²² Heurlin M,²⁵ Nakazawa M,²⁶ Priyadarshi A,¹⁹ Townsend PD,¹⁸ Wei H¹² and monographies: Kelley S¹⁵ & Mitschke F.¹³ In the course of the analysis 335 text passages (the average length of each is mostly one sentence (simple or compound)) have been picked out by the means of the continuous sampling method.

Results and discussion

This part of the research article gives a very compact presentation of the results obtained. Having studied the anthropotonymic structures in English scientific and technical discourse, the authors of this article came to the following conclusions:

- a. Scientific discourse is a complex language phenomenon. Its texts are rich in a very specific lexical units presented by anthropotonymic structures;
- b. All the anthropotonymic components of the discourse under study were classified according to their structures: simple, two-component, three-component and complex;
- c. As it shown in Figure 1, the most frequent model is that of a two-component structure, the less frequent model is that of three components. This frequency index can be explained by science acceleration and knowledge growth. The units analysed tend to become multi-faceted to reflect the growing knowledge of nature.

Conclusion

Scientific and technical discourse as a genre has been thoroughly studied in linguistics. It got a full coverage and description in the papers of Russian and foreign scholars. As for its anthropotonymic structure it has not been so far investigated. So this paper is intended to fill this gap by enumerating its structural anthropotonymic nomenclature. It has been proved that scientific and technical discourse abounds with anthropotonymic structures of four structural patterns the frequency indexes of which are almost isometric.

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Conflicts of interest

The authors declare that there is no conflicts of interest.

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