

Structural Peculiarities of Units in the Professional Sublanguage of Fire Protection Services

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Abstract

The article shows the results of an original study aimed at identifying structural characteristics of non-codified units in the professional sublanguage of fire protection services. The authors carry out a comparative analysis of these features and present the structural and linguistic classification of the units in the Russian and English variants of the given sublanguage. It is stated that there is symmetry of the structural and linguistic parameters of the nuclear and peripheral groups including standard units of I and II levels, the nuclear position is occupied by nouns and substantive phrases. The most productive model of multi-word units in the Russian and English variants of the fire protection services' professional sublanguage is a model consisting of an adjunct element expressed by adjectives or nouns and a kernel represented by nouns.

Key-words: Language Unit, Model, Frequency, Highly Productive, One- word Units, Phrases.

1. Introduction

The implementation of the professional sublanguage (Merriam-Webster Dictionary, n.d.) in its two varieties (codified and non-codified) indicates a certain parallelism that exists between the national language and the professional sublanguage. Each of the two varieties of the sublanguage has certain self-sufficiency and differs in functions. This means that the same member of the language community, having a common set of communication tools, uses them depending on the communicative situation. Although many studies have been done on professional sublanguages (Dickson, 2011; Ismaeva & Kornilova, 2016; Malyuga & Tomalin, 2014); Morozova & Yakhina 2019); Terpak, 2018) little information is available on the sublanguage of fire protection services.

Comparing the structure of the Russian and English variants of the professional sublanguage of fire protection services (FPS) the authors reveal that the differences in structure and composition, manifested in substandard units, depend on the existing features in national languages and cultures, ethnic cultures and social subcultures. The general in the structure and semantics of the compared sublanguages is determined by the presence of similar referents and correlated concepts.

2. Materials and Methods

The material of the research is non-codified vocabulary in the Russian and English variants of the professional sublanguage of fire protection services, used by the employees of the fire service. The total number is 844 units: 480 units in Russian and 364 units in English.

In this study the authors apply descriptive method to monitor and interpret language material, the method of structural analysis to determine the morphological and syntactic features of language units, perform comparative analysis to establish the similarities and differences between the units in the Russian and English variants of the professional sublanguage of FPS, use elements of the statistical method to identify the number of linguistic units in various groups and subgroups.

3. Results

Studies on the structural characteristics make it possible to establish that all the units in the professional non-codified sublanguage of FPS can be divided into 2 groups: single-word units (345 units in the Russian variant (RV) and 173 units in the English variant (EV)) and multi-word units (135 and 191 units, respectively). For example, RV: **nachkar** *the chief of the fire department guard on duty*; **vodozashchitnik** *car water protection service*; **hot guy** *firefighter*; **fiery hyena** *fire of the highest and last category of complexity*; **fire-resistant overalls** *combat clothing for firefighters*; EV: **heli-stepping** *landing helicopter*; **bum box** *first aid kit for minor injuries*; **hose bed** *a fire hose storage compartment*; **propeller head** *a fire brigade that uses helicopters to save lives, deliver firefighters and equipment*.

Let us present the structural and linguistic classification of units in the Russian and English variants of the professional sublanguage of FPS (see Figures 1, 2).

Figure 1 - Structural and linguistic classification of units in the Russian variant of the professional sublanguage of FPS

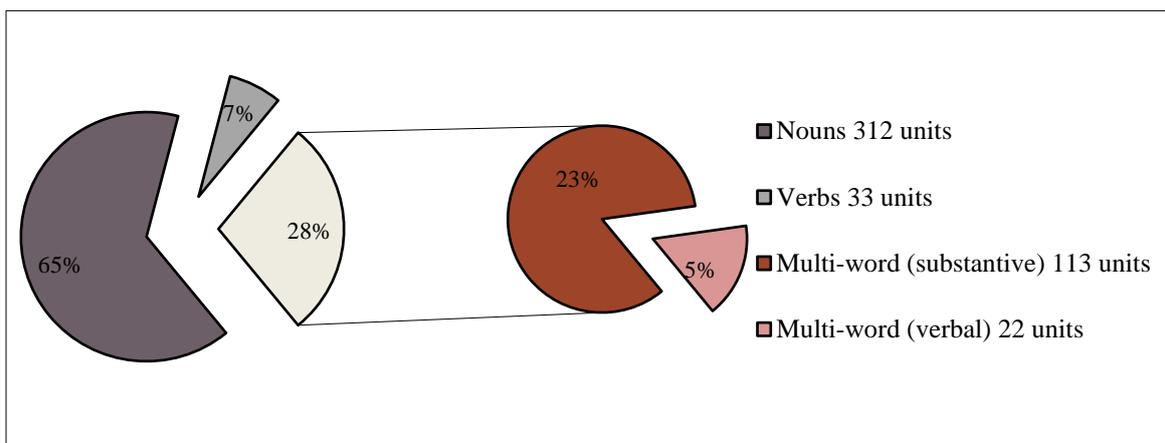
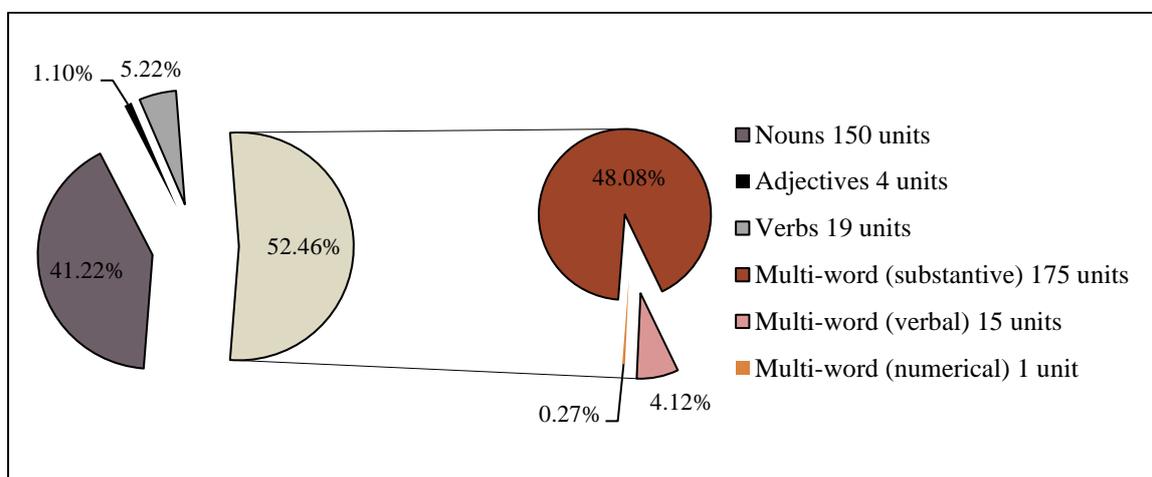


Figure 2 - Structural and linguistic classification of units in the English variant of the professional sublanguage of FPS



The number of one-word units in the Russian variant of the professional sublanguage is 71,88% (345 units) and 47,53% (173 units) in the English variant. The number of multi-word units is 28,12% (135 units) and 52,47% (191 units), respectively.

One-word units are characterized by the use as a productive basis of linguistic lexemes related to the main parts of speech: nouns (312 units; 65% and 150 units; 41.22%) RV: **accessory hose fittings**; **barrel tank-truck**; **bucket foam generator**; **Zil AS-40 (130) 63B**; **well trigger post**; **salamander fire engine**; **spillage the stage of extinguishing a fire, when "localization" is applied and it remains to carefully and gradually extinguish what is left of the fire**; EV: **boot disparaging recruit**; **lid helmet**; **wagon ambulance**; **wye y-shaped jet**; **ladder fire ladder**; **pulaski a combined tool with a straight handle, with an axe on one side, and a hoe on the other**; verbs (33 units; 6.88% and 19 units; 5.22%) RV: **to turn off to silence**; **to burn to go to the fire**; **to dig in to hide, take cover, retreat to safety**; **to**

blacken to shoot down the main flame in places of the most intense combustion in order to reduce the temperature effect and get closer to the hearth; **otpetushit'** to set fire; EV: **to bank down** to settle, form several layers (about smoke); **to go in** to enter a burning building; **to hose** to cheat; **to hump** to take and carry heavy equipment. Commands are recorded in English only: **Saddle up!** Break is over! **Tool up!** Get to work!

In the English variant of the professional sublanguage of FPS, adjectives with low repeatability are identified (4 units; 1.10%). For example, **dead** disapproving *drunk*; **rum** *drunk*; **strong** *wealthy*. It should be noted that these adjectives are combined with nouns denoting a person.

The high productivity of nouns is explained by the variety of objects that firefighters encounter in the process of work, and high frequency verbs demonstrate low productivity, which indicates a small number of activities in firefighting.

The specific weight of multi-word units is high in both variants of the sublanguage. The structural and linguistic models of these units are presented in Table 1.

Table 1 - Structural and linguistic models of multi-word units in the Russian and English variants of the professional sublanguage of FPS

Russian variant	Function	Model	Function	English variant
59 rescue rope, hot guy, eternal flame, hawaiian eagle	O1 S	A ^a /n/num/p +(A ^a) + K ⁿ²	O S	148 red army, hot zone, blue hut, indirect attack, Green Army
33 enemy of fire, a pot of porridge, source of knowledge	O S	(Aa)+K ⁿ⁺ An/num	O S	10 code 2, ignition of dust, warehouse of junk
7 pharmacy with music, saucepan on the stove, tap water in the bathroom	O S	K ⁿ + Pr + A ⁿ + (Pr) + (A ⁿ)	O S	10 dope on a rope, hoods in the woods, pigs in blankets
7 'master uzkoj spetsial'nosti' (master of narrow specialty), 'Petukh Gamburgskiy' (Rooster of Hamburg), 'stvol pervoy pomoshchi' (first aid barrel)	O S	K ⁿ + A ^a +(A ⁿ)	O S	1 Ladies left
6 into the smoke, at the end, on the ground	Attr Adv P	Pr + (Aa) + K ⁿ	Adv P	1 in cluster

1 eyes and ears	O S	Kⁿ + and + Kⁿ	O S	5 anchor and hold, lickies and chewies, coot and carp
12 grab by the road, находится в лѐжке, посидеть на спине	Pr	K^v + Pr + Aⁿ	Pr	2 be on duty
9 roll out the lip, sniff smoke, led the red rooster	Pr	K^v + (A^a) + Aⁿ	Pr	10 hump the hose, roll a turd
1 swim down	Pr	K^v + Ad	–	Not found.
Not found.	–	K^v+ and + K^v	Pr Attr	3 mop and glow, bump and run, foam and go
Not found.	–	K^{num} +K^{num} +K^{num} +K^{num}	S	1 five-one-five-zero

¹O – object; S– subject; Pr – predicate; Attr – attribute; Adv – adverbial modifier; P – predicative.

²A – adjunct element; K – kernel element; a – adjective; d – adverb; n – noun; v – verb; pr – preposition; num – numeral; p – participle.

It is obvious that both variants demonstrate the diversity and parallelism of structural and linguistic models. The most productive model of multi-word units in the Russian and English variants of the fire protection services' professional sublanguage is the model: A^{a/n}+Kⁿ (adjunct element adjective/noun + kernel element ^{noun}). Differences are revealed only in two cases: the model **K^v + A^d** is implemented in the Russian variant, while models **K^v+ and + K^v**, **K^{num} +K^{num} +K^{num} +K^{num}** are objectified in the English variant of the professional sublanguage of FPS.

Both languages are characterized by the use of two-, three- and four-component units, since verbose units are able to express complex concepts and concepts of human consciousness, characteristic of the professional sublanguage of the fire brigade. In both cases, the number of two-component word combinations prevails. Three- and four-component phrases are presented in almost equal shares. It is noteworthy that verbose word combinations are less typical for the Russian language.

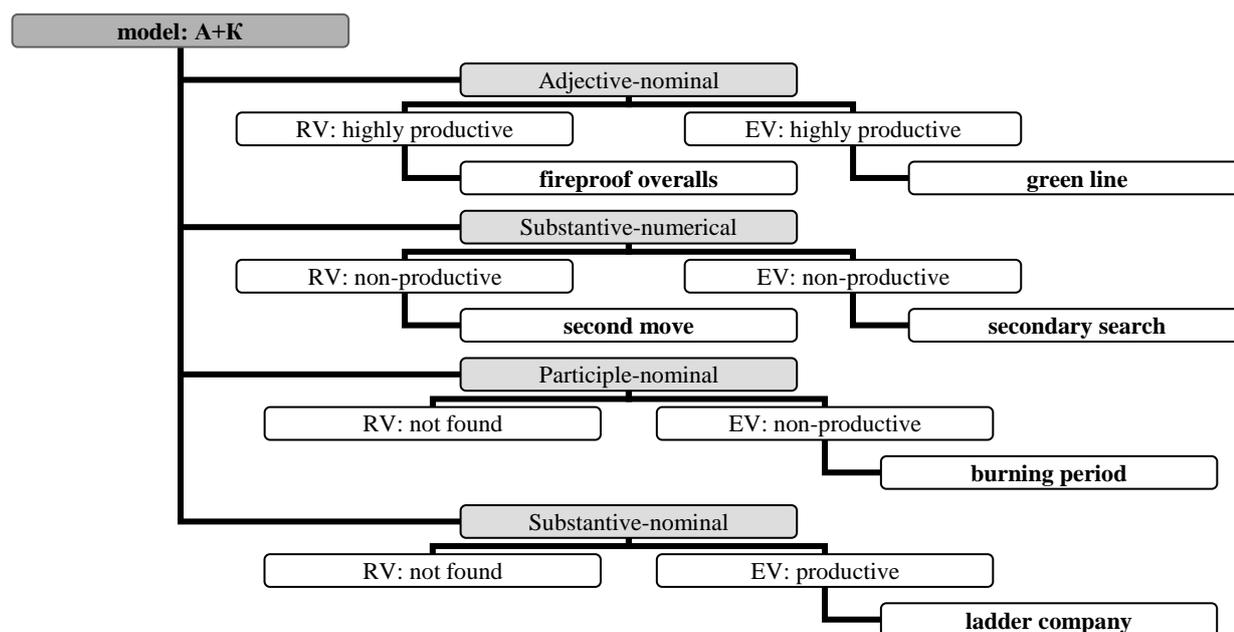
The interregister comparison made it possible to conclude that the structural and linguistic parameters of the norm units of the I and II levels of the professional sublanguage coincide: the nuclear position is occupied by nouns and substantive phrases.

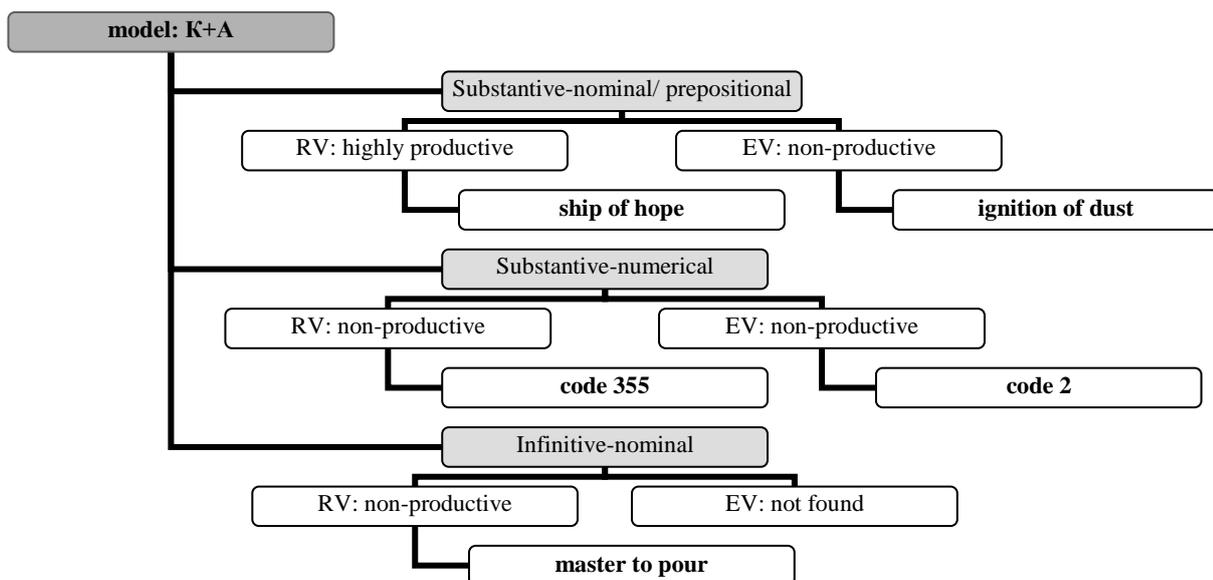
Let us illustrate the functions of units in the Russian and English languages:

- in the function of object (RV): “*This is due to the incredible number of tasks that have to be solved, from delivering **ognebortsev** (firefighters) to the required height and rescuing **pogoreltsev** (fire victims) to providing communication and lighting in the place of hostilities against fire*” (Shtany s rukavami, 2005);
- in the function of predicate (RV): “*I picked her up, put her on the stairs, and she: “I called you, I’m Valya! What are you staring at? People are there, in the next room!” I stared at her because her hair was burnt, but I was silent. Working with the barrel and putting on a gas mask (**vklyuchayus' v KIP**) I climbed into the room* (Sanin, 1986);
- in the function of compound nominal predicate (RV): “*Although he grumbled that “we had weapons, as under Peter, and you also have foam generators, ladders ...”, but he mastered the new weapons better than others: and he was very sorry that it appeared so late, when he was already “at the end” (**na izlote**)”* V.M. Sanin. The Great fire; in the function of attribute (EV): “*Their buddies call them “The **Mop and Glow Boys**”* (Doubled Tongued Dictionary, n.d.);
- in the function of adverbial modifier (EV): “*Three firefighters were slightly injured **battling** the fire, which investigators suspect was started by a short circuit or a faulty boiler*” (Jacobs, 2006).
- Models of word combinations based on the morphological type of the main word are shown in Figure 3.

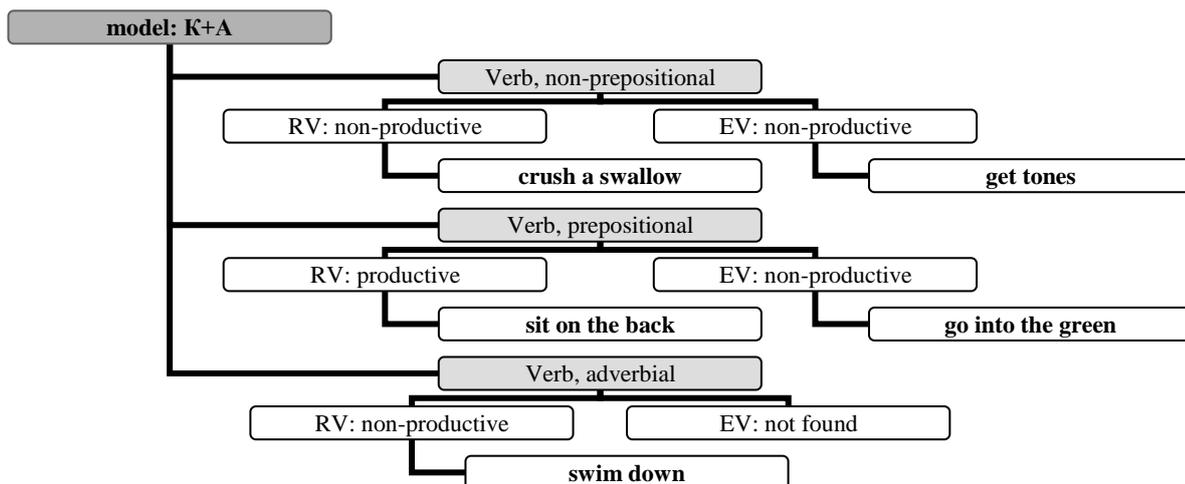
Figure 3 - Models of word combinations based on the morphological type of the main word

Models of substantive phrases:





Models of verb phrases:



Structural and linguistic analysis of the Russian variant revealed the following specifics: the adjective-nominal subtype of phrases showed the highest frequency: **gorelyye oglobli** (burnt shafts) *beggars from the village, who came to beg to Moscow*; **a good picnic fire** *of the highest and last level of difficulty*; **drunk fire** *fire caused by negligence*.

The substantive-nominal subtype is the second in terms of productivity: **burning food** *fire caused by the ignition of food left on gas and electric ovens*; **burning zone** *chest*; **zmei Gorynych** *arsonist*.

Among the verbal phrases, the object-prepositional subtype (12 units) has the maximum productivity: **vklyuchat'sya v KIP** *put on an oxygen-insulating gas mask*; **take by the throat** *to extinguish the fire*.

The adjective-nominal and substantive-nominal subtypes in the English language are dominant (about 40% of the multi-word units): **blue sauna** *temperature at the center of fire*; **little fireman** *something insignificant, trifling*; **red card** *firefighter certification card*; **red engines** *California Department of Forestry and Fire Protection*; **wet water** *water to which a wetting agent has been added*.

The rest of the models of the substantive (substantive-numerical, participial-nominal, substantive-prepositional) and verb types in the English version of the professional sublanguage of FPS are unproductive.

Thus, substantive and verb phrases are presented in Russian and English in unequal proportions (in Russian: 113 substantive and 22 verb units; in English: 175 substantive and 15 verb units), adverbial and adjective types of phrases were not found.

4. Discussion

Professional sublanguages have general linguistic and some specific features that are of interest to researchers. As additional reasons for the increased interest in professional sublanguages, one can single out informatization of society, development of international contacts in various fields of activity and intercultural differences in the functioning of the corresponding professional institutions in different societies. However, in most cases, when professional sublanguage falls into the focus of academic attention, the codified, normative part is traditionally studied. Currently, there is a tendency to study professional sublanguages in their entirety.

To establish the general and specific features of professional sublanguages, the authors perform comparative analysis of the structural and linguistic characteristics of professional sublanguages of fire protection services, railway transport (Galimova, 2008) and sports (Ismaeva, 2006). The symmetry of the systems in the Russian and English variants of the professional sublanguages under consideration is realized in the quantitative prevalence of nouns and substantive phrases. The high productivity of verb phrases is noted only in the professional sports sublanguage, which is explained by the need to

nominate various actions of an athlete. The asymmetry is determined by differences in national languages and cultures.

5. Conclusion

The sublanguage of FPS, being one of the variants of common language realization used by a limited group in conditions of official and also non-official communication, provides interaction of people employed in firefighting. Professional sublanguage has peculiar grammar, but its distinctive feature is lexical structure.

Based on the data received the authors estimate that in all the variants under consideration, one-word units occupy a dominant position. Structural and linguistic analysis shows the quantitative predominance of nouns (**base** (RV) *fire Department*; **Delta** (EV) *right side of the building, side D*). The second position in considered professional sublanguages is occupied by verbs (**to press** (RV) *to put out*; **to battle** (EV) *to put out*).

The nominal type of multi-word units is the most productive, since a phrase of this type carries the main information load, adequately reflects the essence of a huge variety of complex objects, phenomena that arise in connection with the improvement of universal human knowledge about the world around, with the further deepening and development of fire protection concepts.

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