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Model of Bilingual Electronic Glossary of Scientific Terminology (on the Example of Fire Science Vocabulary)

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The paper focuses on conception and technology of a scientific glossary creation which could contribute to coordination of terms within the language and harmonization of terms between the languages. There are examples of logical-conceptual schemes for systematization of Fire Science terminology, detailed description of the glossary structure, and a comparative analysis of Russian and English terminological fields in Fire Science.

Keywords: terminology, glossary, fire science, coordination of terms, harmonization of terms

Introduction

Development of any science follows the paradigm: “normal science” explaining each new phenomenon from the point of view of the dominant paradigm; extraordinary science with various scientific schools and contrasting ideas and approaches; and “revolutionary science” with systematized ideas and approaches which are approved to exist and eliminate existence of contrasting paradigms (Kuhn, 1962). Many modern sciences, including the Fire Science, are on the second, “extraordinary”, stage in their development. Different scientific schools and trends, each suggesting its own terms and notions of existing terms, create detrimental terminological confusion which leads to data garbling and misunderstanding among scientists of different scientific schools and countries. Coordination and harmonization of terms and

notions is a long impending issue in present fire science due to integration and globalization and is a key recommendation of the Food and Agricultural Organization (FAO) of the United Nations for the near future. This was pointed out in the report of a FAO Forestry Officer Petteri Vuorinen at the IV International Wildland Fire Conference held in Spain in May, 2007. During the last several years, attempts are undertaken to mechanically compare fire science terms in different languages. As a result, it breeds more confusion. Therefore, a linguistic approach is needed to solve this problem.

In our modern time of “an information outbreak”, the number of dictionaries grows; however, the value of each reference material can be hardly assessed by a specialist or translator (Krupnov, 1987). Therefore special importance should be given to the creation of

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comprehensive bi- and multilingual electronic dictionaries or glossaries in each field of science and industry.

By “comprehensiveness” we imply multifunctionality of a dictionary which could satisfy the needs of both specialists (of our country and abroad) and translators. The contemporary stage of terminography development is characterized by creation of new types of dictionaries rich in content owing to the fact that official state standards lost their monopoly in development of terminological dictionaries and official lexicographical instructions. Presently, computer technologies allow diversifying and differentiating the structure of dictionaries and increase their size (Tatarinov, 2006).

The aim of our research is to develop a model of an electronic glossary which would coordinate and harmonize scientific terminology in the field of Fire Science.

Materials and Methods

Sources for the research are the following reference materials:

A) *Terminological glossaries:*

1. Glossary of wildland fire management terms used in the United States. – Society of American Foresters, 1990. (About 1,500 terms in an alphabetical order)
2. Glossary of forest fire management terms / Canadian Interagency Forest Fire Centre. – Manitoba, 2003. (About 1,000 terms in an alphabetically nested order)
3. Wildfire Glossary / Prepared by rural and land management group for Australasian Fire and Emergency Services Authorities Council Agencies. January 2009. (About 560 terms in an alphabetical order)
4. Scott, J. H. and E.D. Reinhardt, compilers. 2007. FireWords Version 1.0: Fire Science Glossary [electronic]. U.S. Department of Agriculture, Forest Service, Rocky

Mountain Research Station, Fire Sciences Laboratory (Producer). (About 300 terms in an alphabetically nested and thematic order)

B) *Encyclopedic dictionaries:*

1. Encyclopedia of Forestry (Moscow, 2006).
2. Forest Encyclopedia (Moscow, 1985).
3. Forestry: Terminological Dictionary, ed. by A.N. Filipchuk (Moscow, 2002).

C) *Bilingual forestry dictionaries:*

1. Russian-English Forestry and Wood Dictionary (1966) / Compiled by Williams Linnard. Commonwealth Agricultural Bureaux, Farnham Royal, Bucks., England.
2. English-Russian and Russian-English Dictionary of Forestry and Forest Industries / Compiled by Mozhayev D.V., Novikov B.N., Rybakov D.M. (Moscow, 1998).

D) *State standards:*

Nature Conservation. Forest Protection. Terms and Definitions. State Standard 17.6.1.01–83 (Moscow, 1983).

Unfortunately, the enumerated reference materials represent Fire Science terminology incompletely and lack systematization. Therefore, other sources for research are specialized Fire Science works (monographs, papers, dissertations), which contain rich terminological material and significantly supplement the Fire Science, for example:

1. N.P. Kurbatsky, “Terminology of Forest Fire Science”, in Questions of Forest Fire Science (Krasnoyarsk, 1972).
2. I.S. Melekhov, Wildland Fire Impact on Forest (Moscow, Leningrad, 1948).
3. I.S. Melekhov, Forest Fire Science (Moscow, 1978).
4. M.A. Sofronov et al., Wildland Fire Danger (Krasnoyarsk, 2005).

5. A.V. Volokitina et al., Surface Fire Behavior Prediction Using Vegetation Fuel Maps (Krasnoyarsk, 2005).
6. A.V. Volokitina, and M.A. Sofronov, Vegetation Fuel Classification and Mapping (Novosibirsk: SO RAN, 2002), in Russian.

According to one of the founding fathers of lexicography Kh. Kasares (1958), “alphabetical order is organized disorder” (Grinyov, 1993). Therefore, thematic principle should be given preference to revealing the notional structure of a field and, correspondingly, systematic links among terms in the coordinated terminological systems. Field theory and field modeling in linguistics (Ufimtseva, 1961; Shchur, 1974; Karaulov, 1976; Grinev, 1993; etc.) can be of much benefit for creation of this glossary. Study of terminological fields and selection of notions that are part of them are integral for creation of special dictionaries.

The current is based on structural and systematic description of the vocabulary, creation of terminological fields, and comparison of terminological notions and terms between languages. Comparative method, field method, and lexicographical method are applied.

Results

Russia has no special glossaries in this field so far. The idea and the first attempt to create a brief terminological glossary on fire science were published in 1972 (Kurbatsky, 1972). About 300 terms were thematically arranged by N.P. Kurbatsky. Branch terminological State Standards (1983) can be of help in Russian glossary creation; however, their quality is not always high for they are frequently made up privately by not well-known and sometimes insufficiently competent authors. In branch encyclopedias, a corresponding article for a term is usually ordered only to one expert who gives

only one version of it revealing his/ her personal point of view (Sofronova, 2007a).

In view of integration of the Russian Fire Science into the world science there is an urgent need to create a special glossary with the following features:

Terminology:	Fire Science:
Method of field modeling	Carrying out library and archive research on fire nature and management
Inventory	Further training and study of innovations on the analyzed topic
Systematization	Field experiments and observations
Coordination and adjustment	
Harmonization	
Method of creating dictionaries	

- Language – bilingual (Russian↔English)
- Subject – special (wildfire science terminology)
- Time – modern
- Scope – reference – interlingual
- Address – for specialists
- Function – inventory and standardizing
- Volume – small (up to 500 basic terms without nomenclature)
- Order – thematic with alphabetical and nested indices in appendices

Each dubious term or a pair of terms in both languages should be accompanied by a comment provided by a linguist-translator, who is at the same time a specialist in the given field and works in cooperation with highly qualified experts (Sofronova, 2007a; Sofronova et al., 2007). Or the experts in the field of science or technology, terminologists and translators should join their attempts. Only then one can expect improvement of notions and definitions (Krupnov, 1987).

An electronic output of a glossary can be made with the help of a system for elaboration of technical documentation MadCap Flare, US. This program helps to structuralize the database and provide a user-friendly format: electronic HTML document of a minimum size with maximum information; publication of the glossary on the

Table 1. Current logical-conceptual scheme of the Fire Science (Sofronova et al., 2007).

Macrofields	Microfields
1. General terms	
2. Nature of wildfires	2.1. Problem of wildfires, fire statistics 2.2. <i>Vegetation fuels (VF)</i> 2.2.1. <i>VF properties</i> 2.2.2. <i>VF classification</i> 2.2.3. <i>VF combustion</i> 2.3. Structure of a wildfire 2.4. Characteristic and classification of wildfires 2.5. Wildland fire danger (fire danger, fire hazard, fire risk and their estimation)
3. <i>Wildfire management</i>	3.1. Wildfire protection arrangement 3.2. Wildfire detection 3.3. Means and methods of fire suppression 3.4. <i>Information database</i> 3.5. <i>Wildfire behavior prediction</i> 3.6. Fire prevention measures
4. Wildfire effects	4.1. Characteristic and classification of areas over which a wildfire has spread 4.2. Prediction of wildfire effects
5. <i>Use of the positive fire role</i>	5.1. <i>Prescribed burning in clear cut areas</i> 5.2. <i>Prescribed burning in forests</i>

website; and a printout document in doc-format. The program was used to create the model of the bilingual glossary of fire science terminology.

Logical-conceptual analysis of special texts (Melekhov, 1948, 1978; Sofronov et al., 2005; Volokitina and Sofronov, 2002; Volokitina et al., 2005) allowed us to create a logical structure of the Fire Science (Table 1 “Current logical-conceptual scheme of the Fire Science”) (Sofronova, 2007b; Sofronova et al., 2007). Its logical-conceptual system considerably differs (italic stands for new structural elements of the Fire Science) from the structure suggested by N.P. Kurbatsky (1972) since fire science does not cease to develop. Thematically classifying modern US, Canadian and Australian terms we came to the conclusion that the paradigmatic structure of the Fire Science in Russia corresponds to that in the US, Canada and Australia.

Since the Russian Fire Science developed rather independently, Russian terms are not always found equivalents in the international terminological systems. For example, there are at least three terms to differentiate kinds

of post-fire territories in Russia, whereas the US and Canada apply only a general term and additional characteristic is introduced through attributes. Fig. 1 “Classification of post-fire areas in relation to time of their existence” and Table 2 “Example of a glossary entry content oriented towards English speaking recipients” shows an example of the glossary entry content on the thematic group “Post-fire territories” (Sofronova et al., 2007). This proves the need to create special bilingual electronic glossaries of coordinated and harmonized notions and terms.

The developed by us multifunctional bilingual electronic glossary of Russian and US Fire Science terminology fulfills four typological lexicographical functions:

- systematizing function which is realized by means of the thematic classification of terms together with their alphabetical order as well as logical-conceptual schemes of specific terminological fields and hyperlinks providing links both within one terminological system

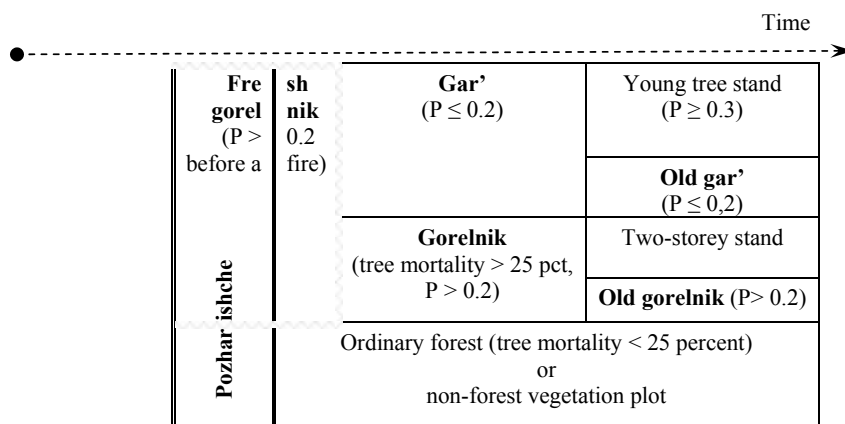


Fig. 1. Classification of post-fire areas in relation to time of their existence (P – relative basal area of a tree stand)

Table 2. Example of a glossary entry content oriented towards English speaking recipients

RUSSIAN TERMS	ENGLISH TERMS
<p>POZHARISHCHE (“fire site”) – a vegetation site over which a fire has recently spread so that combustion traces are evident on the soil (e.g. ashes, carbons, firebrands). <i>Fresh gar’</i> is an unwanted term¹.</p> <p>GORELNIK (i.e. “fire-disturbed forest”) – a post-fire forest site with died (dead-standing) trees (tree mortality is over 25 percent) and relative basal area over 0.2 falling on live trees¹.</p> <p>GAR’ (“open burnt area”) – post-fire forest site with died (dead-standing) trees (tree mortality over 80 percent) and relative basal area of 0.2 and less (or 0.3 and less in young tree stands) falling on live trees¹.</p>	<p>BURN or BURNED AREA (US, Canada) an area burned over by wildland fire^{2,3}.</p> <p><i>This term is absent (is missing) in the Australian Glossary¹⁰</i></p>
<p>Comments.</p> <ul style="list-style-type: none"> Available definitions of POZHARISHCHE in Russia: a site where a wildfire took place^{4,5}. This interpretation is too broad and indefinite since it involves all vegetation plots <i>ever</i> passed by a fire, and traces of wildfires, take for example ancient ones, can be found almost everywhere. Available definitions of GORELNIK in Russia: 1) synonym to GAR’⁶; 2) sites with partially died tree stands after a wildfire^{4,7,8}. Gorelnik always has trees, fire-damaged forest, and GAR may be devoid of trees as a result of repeated fires. Available definitions of GAR’ in Russia: 1) <i>any</i> forest site over which a fire has spread^{6,9}; 2) <i>pozharishche</i> (forest area) with <i>totally</i> died off trees^{4,5,7,8}. One should take into consideration a forest inventory definition of “gar”, since the forest inventory gives information about burnt areas: during forest inventory “gar” is referred to “<i>area not covered by forest vegetation</i>”⁸. This means that “gar” may have even live trees on condition that their relative basal area does not exceed 0.2 (or 0.3 in young stands). In the US and Canada a generalized term is used for all post-fire areas: BURN or BURNED AREA. Therefore, in English-Russian translation one should resort to specification, and in Russian-English translation – to descriptive rendering of the term. 	

¹ Sofronov and Volokitina, 2007

² Glossary of wildland fire management terms used in the United States, 1990

³ Glossary of forest fire management terms, Canada, 2003

⁴ Ozhegov, 1999

⁵ Kurbatsky, 1972

⁶ Melekhov, 1946

⁷ State Standard, 1983

⁸ Encyclopedia of forestry, 2006

⁹ Forest Encyclopedia, 1985

¹⁰ Wildfire Glossary, 2009

and between terminological systems of different languages;

- reference function is realized through translation and through additional encyclopedic information which helps to reveal all nuances of the considered notions and terms and to compare them with related notions and terms in the same field;
- educational function is realized through the glossary structure, comparison of terminological systems in different languages, and discussion of additional encyclopedic material;
- standardization function is provided through the specific use of terms, which is recommended in the discussion section and in the translator's comments.

The Glossary model focuses on the topic "Fire Classification" and is created to test its flexibility to be used both as a monolingual and bilingual reference material, i.e. as:

- 1) US Fire Science Glossary;
- 2) Russian Fire Science Glossary;
- 3) Comparative Fire Science Glossary of the US and Russian terminologies;
- 4) Russian-English Dictionary;
- 5) English-Russian Dictionary
- 6) Small encyclopedia of the US and Russian Fire Science.

The content of the terminological field "Fire Classification" is created according to the following scheme in the Russian and English languages:

- General information
- General terms
- Fires by an object of burning
- Fires by human attitude
- Types of fires
- Kinds of fires
- Fires by fire intensity
- Special kinds of fires

- Misleading terms

"General information" gives logical schemes of the studied terminological field in Russia (Fig. 2 A "Logical-conceptual schemes of the terminological field 'Fire Classification' in Russia") and in the US (Fig. 2 B "Logical-conceptual schemes of the terminological field 'Fire Classification' in the US"). As far as possible, each term is provided with an illustration (pictures, schemes). The way the glossary entry looks in the electronic glossary is shown in Fig. 3 "General view of the electronic glossary entry".

The anatomy of a glossary entry is similar to the FireWords Glossary entry (Scott and Reinhardt, 2007); however, some additional parts have been introduced to realize the bilingual feature of this glossary. Each entry consists of the following parts:

- Title. The title is the term to be defined or the topic to introduce general.
- Short definition. The short definition begins with the part of speech (noun, verb, etc.). If the short definition ends with a citation, then the definition was taken verbatim from that reference. However, the short definition is not always sufficient to discern the important differences from similar terms; therefore the following structural element was included.
- Discussion. In the discussion section the author relates the term to similar terms or thematically related terms, discusses its use (and misuse), perhaps its origin, and more. When a related glossary term is used in the discussion section it appears as a link – clicking the link displays either a pop-up window displaying the short definition for that term or a pop-up minimized window of the whole term entry. Clicking outside the pop-up closes the window. The glossary includes one more additional function – "Screen

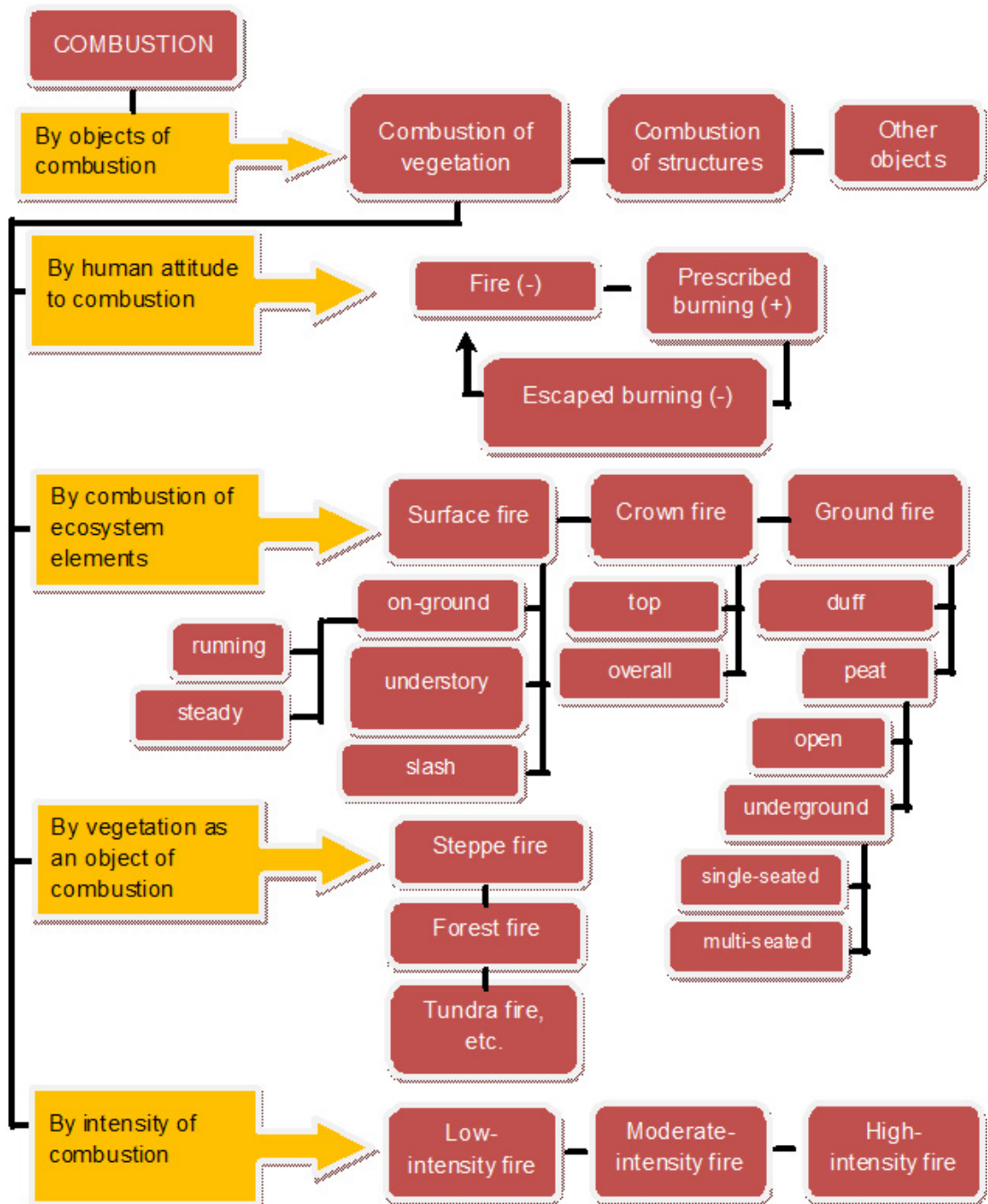


Fig. 2 (A). Logical-conceptual schemes of the terminological field “Fire Classification” in Russia

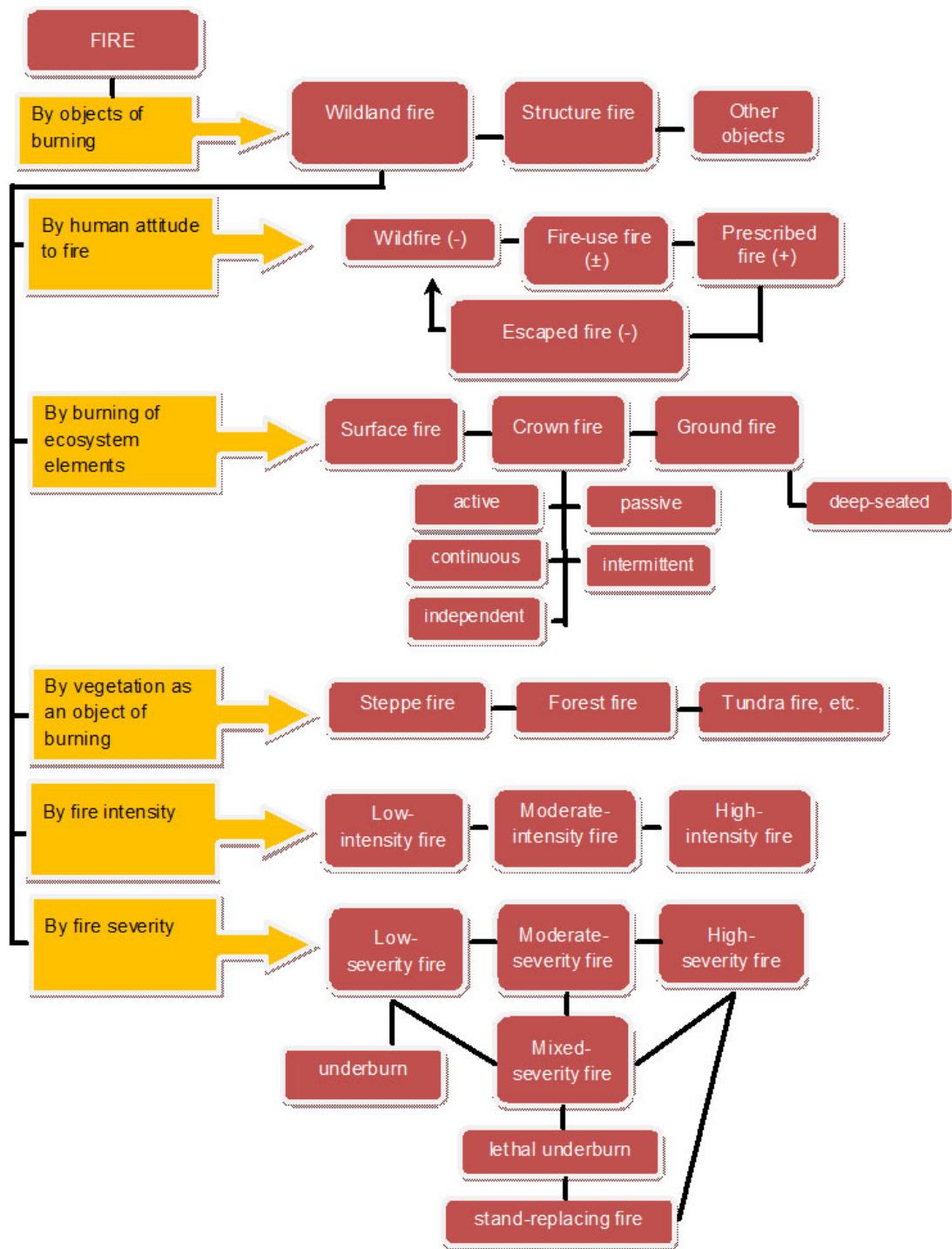


Fig. 2 (B). Logical-conceptual schemes of the terminological field “Fire Classification” in the US

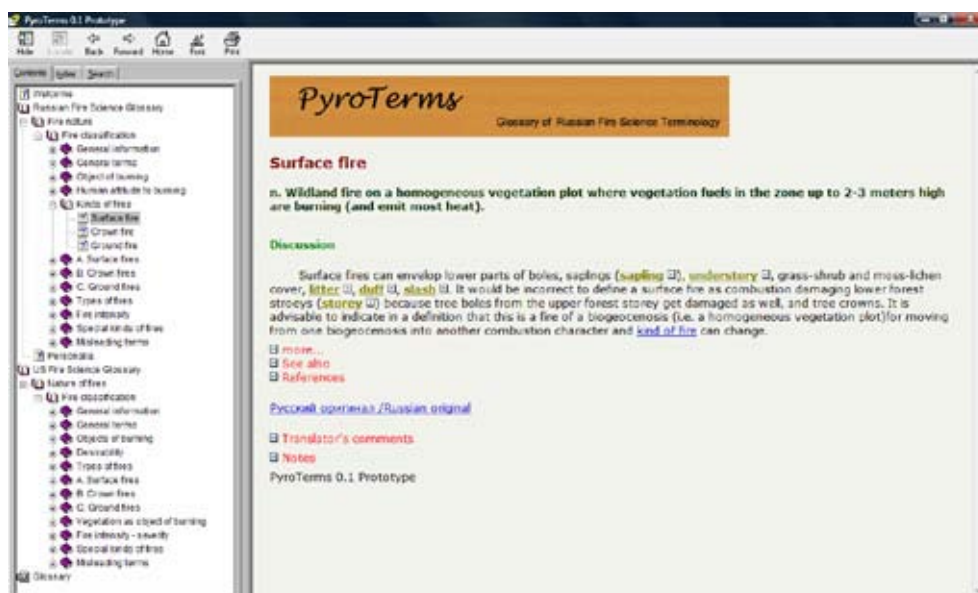


Fig. 3. General view of the electronic glossary entry

Tip”. If you set your mouse cursor on the hyperlinked term, a small window with translation of this very term appears. To view the full glossary entry of these related terms, use the “See Also” section. Besides, forestry terms in the Russian glossary are colored green and have their definition entries in a subglossary. The definition of a forestry term appears as a pop-up window. Only the first paragraph or two of

the discussion is shown. If more discussion has been written, click on the “More...” link to display the full discussion.

- Units. The units section indicates standard choices for both scientific papers and fire management documents. In most cases conversion factors are included for converting between commonly used units for the term.
- References. All literature cited in the glossary entry is listed under this heading.
- See also. Links to the full glossary entry of terms used in this entry are listed

under this heading in a table. The table displays terms of both languages and this way links the US and Russian glossaries

- Notes. The notes section includes entries for an author or translator of the entry and a date the entry was added or last edited.
- Translation/ Original. The translation version or original version appears as a new window if clicked on the hyperlink. This window can be cascaded with the main window for comparative analysis.
- Translator’s comments. This part is included in the Russian Glossary to reveal translation challenges (e.g., translator’s false friends) and suggest a variant of translation. Besides, variants of translation suggested by two Russian-English Forestry Dictionaries are demonstrated to highlight the importance of this very glossary creation.

Search for terms can be done by four ways:

1. Look up a term by topic. In the table of contents terms are thematically arranged. Using this section you can browse all the entries pertinent to each fire science

section. Each term appears in one or more topics.

2. Look up a term in the index. The index tab (top of navigation pane, at left) is used to look for a particular term. The term can be written either in English or in Russian. The index term may have the following abbreviations at the end: ru = Russian original, en-tr = English translation of the Russian original, ru-tr = Russian translation of the English original. The terms of the English original have no abbreviations at the end. Each term is listed in alphabetical order and in alphabetical-nested order, for example, the English term “surface fire” is listed as both:

- surface fire
- type of fire : surface fire

3. Search the text or term list for a particular word (s). The search tab (top of navigation pane, at left) is used to search for terms. The search includes an additional option – it takes into account synonyms (which might be not a part of the index), and displays similar, confusing or misleading terms in the search result. Double-click on a term from the search results pane displays the glossary entry in the main window.

4. Follow a hyperlink from another term. Each reference to another Glossary term within an entry is hyper-linked to that related term:

- Links to related terms in the discussion section display the short definition for that term in a pop-up window. This link is used to view a quick definition of the related term without leaving the current entry.
- To view the full definition including annotation, illustration, etc, the link

in the See Also section is clicked. Clicking the back button returns you to the current term.

Discussion

The volume of the terminological field “Fire Classification” differs in Russia and in the US (Table 3 “Quantitative comparison of the terminological field “Fire Classification” in Russia and the US”). For example, Russia has a more developed terminological group naming surface and crown fires while the US has a more developed group naming crown fires. Some specific terms have not been created for some notions. For instance, the Russian fire science terminology has no equivalent terms for “fire-use-fire”, “fire severity”, “underburn”, “lethal underburn”, “stand-replacing fire”. The US terminology has no equivalents for the following special lexical units: homogeneous and heterogeneous fire, simple and complex fire, understory-shrub fire, bole fire, steady surface fire, etc.

After a brief analysis of 118 fire classification terms in both languages it turned out that 41 terms are unique national terms and 45 terms are often misused or easily confused within or between languages. That is the probability of misinterpretation and misunderstanding between the two countries on this topic reaches almost 75% (Table 3 “Quantitative comparison of the terminological field “Fire Classification” in Russia and the US”).

Analysis of Russian-English specialized dictionaries shows that misunderstanding is dramatically increased by the fact that in our case 39 Russian terms out of 64 analyzed cannot be found in dictionaries at all and 12 terms are provided with erroneous translations. Thus, 80% of fire classification terms are simply lost in translation (Table 4 “Analysis of Russian-English Forestry Dictionaries in covering the special

Table 3. Quantitative comparison of the terminological field “Fire Classification” in Russia and the US

	Fire classification (Russia)	Fire classification (USA)	Total	%
Number of terms analyzed	64	54	118	100
Specifically national terms	24	17	41	35
Terms often misused or easily confused within or between languages*	17	28	45	38

*Examples: types and kinds of fires; fires by intensity and severity; wildfires, wildland fires, vegetation fires, landscape fires, etc.

Table 4. Analysis of Russian-English Forestry Dictionaries* in covering the special vocabulary of the terminological field “Fire Classification”

	Examples	Total	%
Number of Russian terms analyzed		64	100
Terms absent in dictionaries	Type of fire, landscape fire, structure fire, slash fire, etc.	39	61
Terms wrongly translated	underground fire → ground fire surface fire → creeping (ground) fire escaped fire → incendiary fire low-intensity fire → hangover (holdover) fire; sleeper fire	12	19

* Dictionaries: 1. Russian-English Forestry and Wood Dictionary (1966) / Compiled by Williams Linnard. Commonwealth Agricultural Bureaux, Farnham Royal, Bucks., England, 107 p. 2. English-Russian and Russian-English Dictionary of Forestry and Forest Industries /Compiled by Mozhayev D.V., Novikov B.N., Rybakov D.M. - Moscow: Russo, 1998. - 857 p.

vocabulary of the terminological field ‘Fire Classification’’).

Moreover, there is a need to coordinate fire classification terms within each language (Table 5 “Unsettled issues regarding coordination of notions and terms within each terminological field “Fire Classification” in Russia and the US”). For example, disputable notions in the Russian terminology include running vs. steady surface fires, spot fires, bole fires, etc. The US terminology has the following challenging notions as fire-use fire, shrub-canopy fire, prescribed fire vs. prescribed burning, etc. Besides, no classifications of surface and ground fires were found in the US terminology unlike the Russian one and most terms on fires classified by vegetation as an object of burning are absent in the official US fire management glossaries.

It should be noted that notions and terms differ not only between Russia and the US but also among major fire science English-speaking countries: US, Canada and Australia. Therefore, the bilingual glossary should include comparative analysis of the usage of fire science terms in these three countries (Table 6 “Kinds of fire barriers according to the official fire science glossaries”). For instance, in the Australian glossary, “control” line is a synonym to “fireline” while other countries treat these terms as different. The Canadian glossary does not include the term “barrier” at all. Natural barrier as a term is included in the US glossary (while absent in all other glossaries!) but the term “constructed” or “man-made barrier” or “anthropogenic barrier” is not, although it should be present as an opposing notion for systematization. Barriers –

Table 5. Unsettled issues regarding coordination of notions and terms within each terminological field “Fire Classification” in Russia and the US

Terminological issues in Russia	Terminological issues in the US
Running / steady surface fires: fast/ slow or superficial/ deeper-seated fires?	Fire-use fire: to be or not to be?
Spot fires – a type of fire or fire behavior?	Shrub-canopy fire: is it a type of fire or a description of vegetation as an object of burning?
Understory-shrub fires or sapling-shrub fires?	Prescribed fire and prescribed burning: is there any difference?
Bole fires – do they exist?	Different severity fires: theory and practice
Simple/complex fires and homogeneous/heterogeneous fires: useful or useless terms?	Is there a classification of surface and ground fires?
Landscape fires and vegetation fires: terms of application to be specified	Why terms on fires classified by vegetation as an object of burning (steppe fire, duff fire, slash fire) are absent in official fire management glossaries?

Table 6. Kinds of fire barriers according to the official fire science glossaries

Terms	USA	Canada	Australia	Russia*
Control line	+**	+	= fireline	-
Barrier	+	-	+	+
Natural barrier	+	-	-	+
Constructed barrier	-	-	-	+
Linear barrier	-	-	-	+
Polygon barrier	-	-	-	+
Fuelbreak	+	= firebreak	+	“fire shield”
Firebreak	+	= fuelbreak	-	+
Fireline	+	+	= control line	“mineralized stripe”
Fireguard	-	+	-	-

* There is no official glossary of fire management terms in Russia. This column shows application in fire science literature.

** Legend: “+” – the term is present, “-“ – the term is absent, “=” – the term is a synonym to another term.

Conclusion

any obstructions to fire spread – can be both linear- and polygon-shaped according to the US and Australian glossaries whereas in Russian, a barrier can be only linear. The terms “linear barrier” and “polygon barrier” are not included in any glossaries. Fuelbreaks and firebreaks are absolute synonyms in the Canadian glossary whereas other countries differentiate these terms. The term “firebreak” is missing in the Australian glossary. The Canadian glossary also uses the term “fireguard” as an inclusive term for firebreaks and firelines made during a fire.

Brief conclusions are as follows:

- Russian and English Fire Science terminology is poorly systematized at present.
- Field modeling can provide considerable help in coordination and harmonization of the studied terminology.
- The results of this research will be used to create a full version of the multifunctional glossary of fire science terminology.

We would like to hope that the idea of creating an electronic extended fire science glossary will

find further support and joint effort to make it first bilingual with the future prospect of developing it into multilingual reference material. Further studies of the fire science vocabulary will contribute to not only a deeper understanding of the terminology which has not been involved in the linguistic analysis before but also will help to systematize the fire science terminology both in Russia and abroad.

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Модель двуязычного электронного глоссария (на примере пирологической лексики)

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Статья посвящена описанию концепции и технологии создания глоссария научной терминологии, который способствовал бы согласованию терминов внутри языка и гармонизации терминов между языками. Даны примеры логико-понятийных схем упорядочиваемой терминологии, подробное описание структуры глоссария и словарной статьи, а также представлен сопоставительный переводческий анализ русских и английских терминов.

Ключевые слова: терминология; глоссарий; пирология; согласование терминов; гармонизация терминов.
