

Realia of Modern Computer Science Terminology Development

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Abstract. Modern computer science terminology as the terminology of any science in general is influenced by both extralinguistic and linguistic factors. Due to the rapid development of science and technology, to the abundance of information and to other phenomena associated with recent information technologies and regarded as extralinguistic factors the terms become more and more international. However, linguistic factors, i.e., the possibilities of the native language, the harmony between the criteria of the standard language and principles of terminology, etc. determining the development of terminology of various branches of science, should remain the priority of term building in computer science. Being the words of the common language terms should get standardized by means of variants and synonyms.

Key words: computer science terms, information technologies, linguistic and extralinguistic factors, synonymy, variants.

1. Introduction

The development of science is connected with the achievements which are accumulated constantly. Every result of such an achievement is included into the general stock of science. Recently because of abundant scientific and technological information and rapid changes there the terms become more and more international. The phenomenon covers terminological systems and subsystems not only of some one but of most languages. For this reason one can speak about the global unification of the terms of science (Куль, 1983).

As early as 1987 J. Stoberski maintained that special terminology is scientific heritage not only of some one nation but of the entire humanity. So when exchanging scientific and technological information borrowed terms should be unified (Neoterm, 1987). Besides, in his opinion, borrowed terms having the same stem are more universal as they are readily identified when reading scientific literature even if one does not know well the language the literature was written in (Neoterm, 1984). Lately quite a few specialists of different fields of science in Lithuania are of such opinion. No doubt, from the point of extralinguistics borrowed terms are more suitable. However, the development of terminology is determined usually not only by extralinguistic factors. Linguistic approach is necessary, too.

With respect to a language it is not always possible to decide which term – the native or the foreign – fulfills its functions better. In such a case the attention is paid to the possibilities of word building in the native language which permit to put into practice the principles of reproduction (the possibility to make as many derivatives from the term as possible) and of homogeneity (with respect to word building the new term usually should be homogeneous with the terms of the same field of science). On the other hand, one should mind the usage of the term (especially their stability) having in mind that native terms become established sooner than the foreign ones, the borrowed. Besides, one should take into account the fact that the borrowed terms and the native ones are very often used synonymously, thus making as if certain rows of synonyms. Such a motivated synonymy of terms has already acquired some traditions of usage (Kaulakienė, 1994). Those traditions are thought to be observed nowadays in the terminology of computerization the rapid development of that branch of science still being.

2. The Development of Computer Science Terminology

In comparison with the terminology of other sciences computer science terminology is created a bit unusually: it develops not evenly but by leaps and bounds. It might have been connected with the specificity of science. In the second half of the 20th century together with the new computing technique a lot of new equipment, devices, details, phenomena, their peculiarities appeared. They had to be named. Specialists faced evident lack of Lithuanian terms concerning computing technology. At that time the gap was filled partly by the "Russian–Lithuanian–English Dictionary of Counting Technical Terms" (Rusų, 1971) in which the terminology of the mentioned field was inventoried. For a long period of time (for over 20 years) it was perhaps the only one dictionary.

Only during the last decades of the 20th century an enormous leap was made. Some computer terminology dictionaries appeared "Lithuanian–English–Russian Dictionary of Computing", edited by K.V. Paulauskas (Paulauskas and Jasinevičius, 1995); English–Lithuanian Dictionary "Informatics and Computers Hardware" (Informatika, 1995); "Explanatory English–Lithuanian Dictionary of Computers Terms" (Aiškinamasis, 1997); Lithuanian–English–Russian–German Dictionary "Informatics", edited by R. Valatkaitė and Z. Kudirka (Informatika, 1997); "Vocabulary of Computing Abbreviations", English–Lithuanian (Paulauskas, 2000).

These dictionaries as well as the first one abound in manifestation of well-grounded synonymy as well as of variant-building, for example: *adaptuvinimas, prisitaikymas* – adaptability; *distributyvinimas, skirstomumas* – distributivity; *failas, byla, rinkmena* – file; *makroiškieta, makrokreipinys* – macrocall; *markeris, žymeklis, žymiklis* – marker; *sumatorius, sudėtuvas* – summator; *skaičiuoklis, kalkuliatorius* – calculator; *tvarkymas, formavimas, formatavimas* – formation, etc.

What does it indicate? It indicates that twenty-year-long period in the development of computer terminology is only its initial stage of formation, the main peculiarities of the stage being synonymy and variation.

In Lithuania the terminology of other fields of science developed in a similar way. For example in 1850–1900 during the first period of evolution in the terminology of physics one notion could often be named by two, three or even four words. For example: *pirmokas (atomas)* – atom; *sziltameris (termometras)* – thermometer; *meridianas, dienovidinis, dienojas* – meridian; *pilas, rezervuaras (bosas), bakas* – reservoir, etc.

So it possible to maintain that the synonymy and the variant at the initial stage of the Lithuanian computer terminology is the natural process of its development (A. Kaulakienė, 2000). Such synonymy which in the computer terminology could be considered as quasisynonymy (Aukšoriūtė, 1997) is especially obvious. Recently various kinds of dictionaries of computer terminology having appeared (for example, abbreviations of computer terms, the dialogues with computer terms, the computer command terminology), it might become possible to speak about the second stage of computer terminology formation.

There should be an objective to achieve correspondence between equivalents of terms and norms and compliance with rules. This can be done in a few ways: a) the foreign language term should be suitably given an existing Lithuanian equivalent having in mind monosemy, accuracy, systematicity, regularity, convenience of formation and other requirements; b) the new equivalent should be made using derivational tools of standard language; c) a foreign language term could be borrowed having in mind transcription, transliteration and hybridization; d) a derivational, semantic or phraseological calque could be made by translating a foreign language term.

No doubt, some things had an influence on the formation of the initial stage of the Lithuanian computer terminology. First, other languages had as the preface of K.V. Paulauskas and R. Jasinevičius dictionary indicates many scientific centers and laboratories build quite a good deal of the same or very close notions at the same time, which are often given different names. There are many English computer terms as the countries using this language are the initiators of the computing technology. Such abundance of English synonymy is partly determined by the fact that in America and in Great Britain there are no state institutions standardizing the language of science and engineering. Thus such a numerous stream of English computer notions having some synonymous terms having flown, the Lithuanian specialists face the problem of choice: which term should be chosen – the borrowed one or its Lithuanian equivalent. In such cases when computer specialists do not come to an agreement the easiest way to do is to borrow the term from the English language without great discussions.

Referring to the principle of language purity made by the initiator of our terminology S. Šalkauskis, saying "that borrowing of a term is justified only then when the necessary term can be obtained neither by the application of the common language of people nor by forming the new term by deriving it nor by adding nor cutting something" (S. Šalkauskis, 1991). A proper Lithuanian equivalent should be given to the borrowing. The manifestation of this attitude which nowadays has become one of the principles of terminology can be found already in the second half of the 19th century (Kuršaitis, 1864).

A century – and – a half – old tradition should be observed when building computer terminology. It's quite understandable that not all borrowed terms should be substituted

by Lithuanian ones. Some international terms became used widely and are clear. Sometimes it is impossible to find Lithuanian equivalents for some terms. However, one should not abandon attempts to build Lithuanian terms (Sirvydis, 2002). For example, scientists of Iceland which has only 300 000 population have even found their equivalent for the world-widely used term computer.

The principle of language purity does not mean as it was already mentioned that we should refuse all used borrowings and not to let the new ones into terminology. Terms, too, as the words of the common language, should be standardized by means of variants and synonyms. Such synonyms as the initial stage of formation computer terminology shows compete and only time will show which of them wins. The problem is what to do when there is no choice, when borrowings are perforce driven, for example, such as *digitaizeris*, *debiuigeris*, *hostai*, *cursoris*, *panelis*, *pikselis*, *portas*, *pulingas*, *routeris*, *routingas*, *semplaris*, *svopingas*, *utilitas*, etc.

3. Conclusion

We can make the following conclusion: first of all it is necessary to make the existing Lithuanian equivalents to borrowed words active and to build more Lithuanian computer neologisms which could compete with the borrowed words. Or else, because of the continuous flow (sometimes even numerous and disorderly) of borrowed computer science terms the situation may be that the entire terminological computer vocabulary becomes borrowed. So it would not be possible then to speak of any Lithuanian language of computer science.

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Dabartinės kompiuterijos terminijos realijos

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Dabartinę kompiuterijos terminiją, kaip apskritai kiekvieno mokslo terminiją, paprastai veikia ir ekstralingvistiniai, ir lingvistiniai veiksniai. Dėl ekstralingvistinių veiksnių (sparčios mokslo ir technikos plėtros, informacijos gausos, kitų su naujausiomis informacinėmis technologijomis susijusių reiškinių) vis labiau tarptautėja terminija. Tačiau vis dėlto lingvistiniai veiksniai, t.y. savos kalbos išgalės, bendrinės kalbos kriterijų ir terminijos principų darba turi išlikti. Todėl labai svarbu su nauja sąvoka atėjusiam kitakalbiui terminui parinkti gerai apgalvotą ir labiausiai tinkantį savos kalbos ekvivalentą. Parenkant tokią ekvivalentą, paprastai keičiama kitakalbio termino forma, bet išlaikomas nepakeistas jo turinys. Tam, kad lietuviški ekvivalentai kiek įmanoma atitiktų normas, paklustų logizuotoms taisyklėm ir būtų griežtai reglamentuoti, būtina laikytis tokios jų parinkties sekos. Pirmą, tinkamai parinkti kitakalbiui terminui bendrinėje kalboje esamą lietuvišką ekvivalentą, atsižvelgiant į vienareikšmiškumą, sistemiskumą, taisyklingumą, produktyvumą ir kt. terminų reikalavimus. Antra, sudaryti naują ekvivalentą remiantis savo bendrinės kalbos žodžių darybos būdais, tipais ar potipiais. Trečia, skolintis kitakalbį terminą, turint omenyje transkripciją, transliteraciją, hibridizaciją. Ketvirta, išversti kitakalbį terminą sudarant darybinį, semantinį ar frazeologinį junginį.