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Between tradition and progress in translation of technical standards

Między tradycją a postępem w tłumaczeniach norm technicznych

The paper analyzes modifications in Polish, British and Australian titles of the international technical standard ISO 1219. It is claimed that the modifications are language-independent and result from the process of adaptation of the standard to national traditions and preferences.

Słowa kluczowe: normy techniczne, adaptacja, tłumaczenia
Key words: technical standards, adaptation, translation

1. Introduction

The objective of this paper is to highlight some problems that may appear in translation of international standards ISO into national languages. The empirical evidence for the analysis comes from a case study: a comparison of the title of the original, international standard ISO 1219 and its equivalents in Poland, Great Britain and Australia. On the basis of this analysis we argue that there exist pressures from cultural and social context, independent of a national language, that may have an effect on the officially approved text of a technical standard. We believe that these pressures apply to other areas of language practices as well, however, it is the area of technical standards that is particularly vulnerable to their impact.

The structure of the paper is as follows: First, we briefly discuss the issue of technical standards in context of globalization. Next, we present the title of the standard ISO 1219 and its equivalents in Poland, Great Britain and

Australia. Finally, we discuss the observed modifications of the standard title and look for motivations behind these modifications.

2. Technical standards in context of globalization

Globalization entails communication and exchange among a great number of different communities. This diversity is manifested not only in cultural and technical artifacts but also in value judgements (e.g. what is considered as correct and aesthetically pleasing). Although diversity is undeniably stimulating for intellectual development, efficient cooperation demands efficient and unambiguous communication which, in turn, calls for setting standards.

Formally, global standardization could be seen as dominance of one point of view and thus as a form of intellectual totalitarianism. However, the system of global standardization is built with care and caution. A number of procedures adopted in international standardization allow for protection of justified local practices and traditions. At the same time, the procedures of international standardization involve identification of institutions that do not conform to prescribed global regulations. Local requirements higher than prescribed by global standards are best documented, while requirements that are lower are less commendable and more difficult to study. In the long term, one may expect an increase in quality expectations rather than a decrease. International standardization institutions encourage all people to participate in improving formal records of standards. This paper intends, at least in a small degree, to contribute to this process.

3. A case study: The technical standard ISO 1219

Technical standards are "documents that provide requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose" http://www.iso.org/iso/home/standards.htm. The original, international issue of a standard is usually expressed in English, though theoretically it can be written in any of more widespread world languages. Such standards are translated into national languages for the ease of communication and propagation, however, the international issue of a standard is kept for reference due to problems with translations and frequent updates and amendments in the original standard. The procedures

involved in translation and approval of a translation are time-consuming and it is not uncommon that the original standard is amended shortly after the whole process had been completed.

In this part of the paper we present a comparative analysis of the title of the standard ISO 1219. We begin with its international wording, then present its Polish equivalent and finally juxtapose it with its counterparts in British and Australian systems of standardization. The title of the discussed standard published by the International Organization for Standardization is *Fluid power systems and components – Graphical symbols and circuit diagrams* and is designated as ISO 1219. Currently, the standard is made up of two parts: Part 1 *Graphical symbols for conventional use and data-processing applications* (ISO 1219-1:2012) and Part 2 *Circuit diagrams* (ISO 1219-2:1995). Our analysis focuses on the main title as it reveals the most interesting alternations.

The Polish equivalent of this standard has the designation PN-ISO 1219-1: 1994 and its title reads *Napędy i sterowania hydrauliczne i pneumatyczne* [lit. Hydraulic and pneumatic power and control systems]. As it can be easily noticed, the Polish standard significantly changes the contents of the original title: instead of *fluid power systems*, the words *hydrauliczne* (hydraulic) and *pneumatyczne* (pneumatic) are used. What is more, an almost literal translation *płynowe (i gazowe) systemy napędowe* is perfectly possible.

At this point an explanation concerning engineering practice is due. The word 'hydraulic' refers, strictly speaking, to water systems. Occasionally, it may be extended to cover systems which use oil or some unspecified working fluid. Analogically, the word 'pneumatic' refers to the air. Although compressed air is the working fluid most frequently used in power systems, other working gases (e.g. nitrogen) can be used as well. Unfortunately, the importance of the choice of words goes far beyond the mere stylistics. Because standards function as legal documents, the words they consist of have practical and legal consequences, that is, the presence of the words 'hydraulic" and 'pneumatic' in the standard enforces their use in Polish technical texts. Thus, paradoxically, a system with nitrogen as a working fluid **has to** be described as 'pneumatic', which can easily lead to fatal maintenance errors. This is precisely the kind of confusion that the international standard wants to eliminate. The expression 'fluid power systems' is vague enough to both permit and encourage further specifications: what kind of fluid is used. What is more, it reflects the present-day technology with a variety of possible working fluids, while the title of the Polish standard is grounded in the past, when only water and air were technically available working fluids.

The modification in the title of the Polish standard could be easily explained off by mistranslation, however evidence coming from an analysis of British and Australian standards broadens the perspective and suggests the existence of processes that can manifest themselves outside the context of translation.

In Great Britain the standard bears the designation BS 2917 and its title is *Graphic Symbols and Circuit Diagrams for Fluid Power Systems and Components*. In Australia its designation is AS 1101.1 and the title is *Graphic symbols for general engineering. Part 1: Hydraulic and pneumatic systems*. As in the case of the Polish equivalent, we can notice a number of discrepancies between the national variants and the international English original. Firstly, both variants change the designation to match local records. This in itself is surprising because the designation is intended to facilitate identification of standards on the global level, however they are at least motivated by the desire of unified records on a national level. Secondly, while the British title maintains all the crucial elements of the international title only slightly changing the word order, the modifications in the Australian standard are significant and analogous to the ones we have noticed in the Polish translation. We can safely assume that the use of the words 'hydraulic' and 'pneumatic' may cause the same technical and legal problems in Australia as it does in Poland. The changes in the Australian standard are especially surprising as they were unnecessary: the official international standard was already expressed in English and there was no communicative need to alter it in any way. These changes also go against the whole idea of creating international standards for globally recognized unambiguous communication.

The juxtaposition of the international standard's title and its three national equivalents has revealed modifications introduced at the local level. While such modifications are often observed in translations, it was unexpected to find them in British and Australian standards. In the final part of the paper we speculate on possible reasons of the observed alternations and discuss their consequences for translators.

4. Discussion and conclusions

Our analysis of the four titles of the standard ISO 1219 yields the following observations. Firstly, the title of the international issue of the standard is technically most correct and up-to-date as it takes into account different working fluids. What is more, it is sufficiently vague (i.e. the working

fluid is unspecified) to encourage further specification in descriptions of specific devices. Shortly, it ideally serves its purpose. Secondly, the title of the Polish standard makes use of obsolete and technically confusing terminology, although a literal translation is fully available and linguistically correct. Thirdly, the title of the Australian standard makes use of the same obsolete and confusing terminology, although no modification of the title was required. Finally, the terminology used in Polish and Australian standards is a source of problems when used to describe a power system. On the one hand, when the expressions "hydraulic" and "pneumatic" are used, the default interpretation is that the working fluid is water/air. On the other hand, these expressions exclude the possibility of additional description leading to semantic incoherence (e.g. a **hydraulic** system with **oil** as a working fluid). Consequently, we face a situation in which the better terminology of the international standard has been exchanged for worse in national equivalents. We believe that the reasons for that are complex and more psychological in nature than purely linguistic or technical. We also suspect that these reasons may be at least partially grounded in the procedure of approval of standards by groups of experts appointed for that task in a given country.

The first reason to consider is the need to express a culture's identity. The fact that all national equivalents irrespective of language depart from the international standard in some degree suggests that this need is very strong and exercised even at the cost of accuracy and against the benefits of global standardization. That need is most easily noticed in translations, but our data point out that language does not have to be the issue: it seems that in the British standard the word order was changed just to give the standard "a personal touch".

The second reason is more important as it concerns the choice of the problematic terminology. Again, the practice of changing terminology is most acutely visible in translations and attributable to adjustments made to meet requirements of a target language or treated as a translator's error. And again our data (especially from the Australian standard) indicate a phenomenon not restricted to translation. We argue that in the process of introduction of an international standard to the regulations system of a given country (with translation potentially part of that process), aesthetic valuations play a role in the official approval of the text. Some words may be felt as more stylistically appropriate by expert groups, as was the case with the words "hydraulic" and "pneumatic". Being words of Greek origin, they may be perceived as a hallmark of a better, higher style than more vernacular expressions. Additionally, although they may be obsolete from

the technical point of view, they are well-established in the engineering tradition and for older-generation scholars, who typically are members of expert groups approving newly introduced standards, they sound familiar and simply right. That can at least partially explain the decision to adhere to less accurate but more traditional terminology.

Finally, let us focus on the translation of the standard title into Polish. Most engineers professionally involved in using this standard when seeing the discrepancy between the English original and its Polish equivalent would treat it as a translator's error or lack of expertise. It has to be admitted that even translators with masterful command of a language may lack technical experience to successfully deal with nuances in terminology and its practical consequences. However, it has also to be acknowledged that people who commission a translation often exert pressure on the translator, and the final draft may include changes either enforced on the translator or even introduced without his/her knowledge. Yet, for the sake of discussion let us assume for a moment that translators have full autonomy and expertise when approaching a technical text. Then, they inevitably face the following problems: Should technical translations conform to traditional terminology which in time becomes obsolete from the point of view of changing technologies but which is well recognized in the target community? Should they aim at improving international communication and legal transparency of a text even if it means producing texts that may be stylistically less elegant? Should they follow translation theories, including the postulate of domestication, and conform to terminology assumed in the target language, culture and community, even if it means distortion of the sense and spirit of the original? These problems are not easy to solve and have to be considered for every translated text separately. However, we would like to highlight the special character of texts such as technical standards, manuals and device instructions as contrasted with broadly understood artistic texts. The purpose of the latter is to evoke some kind of aesthetic and emotional response in the reader, so changes on the level of word equivalents made in translation that serve this purpose are legitimate. The primary purpose of the former is unambiguous and efficient communication. Semantic alternations made to enhance aesthetic reception which even slightly change the content of the original are for many engineers unjustified and unwelcome. From the point of view of the recipients of technical translations, it is direct and uncorrupted preservation of the meaning of original texts that really matters. For them, style is of secondary or even tertiary importance.

Concluding, our data indicates the presence of a phenomenon of adaptation to a culture and tradition of a local or national community. This phenomenon has been best recognized and discussed in relation to translations, because a translation from a source to target language is inevitably connected with a transfer from a source to target culture. However, our data clearly demonstrate that modifications in translation are an instantiation of a more general, language-independent process. They also indicate that the commendable idea of global unification of technical standards encounters obstacles more of psychological than technical nature.

References to the Standards discussed in the paper

ISO 1219-1:2012: Fluid Power systems and components – Graphical symbols and circuit diagrams – Part 1: Graphical symbols for conventional use and data-processing applications.

ISO 1219-2:1995: Fluid power systems and components – Graphic symbols and circuit diagrams – Part 2: Circuit diagrams.

Australian Standard AS1101.1–2007 (ISO 1219-1:2006): Graphic symbols for general engineering. Part 1: Hydraulic and pneumatic systems.

British Standard BS 2917-1 (ISO 1219-1): Graphic Symbols and Circuit Diagrams for Fluid Power Systems and Components.

PN-ISO 1219-1:1994 Napędy i sterowania hydrauliczne i pneumatyczne – Symbole graficzne i schematy układów – Symbole graficzne.

PN-ISO 1219-2:1998 Napędy i sterowania hydrauliczne i pneumatyczne – Symbole graficzne i schematy układów – Schematy układów.

Summary

The objective of the paper is a comparative analysis of the title of the technical standard ISO 1219 and its three national equivalents: Polish, British and Australian. The analysis has revealed unwarranted modifications in the title, both in its Polish translation and in national issues in the English language. The modifications concerned exchanging up-to-date expressions in the international standard for more traditional and less accurate words "hydraulic" and "pneumatic". The fact that the modification was introduced even in some English-speaking countries suggests that it is not related to translation but to a more general phenomenon of adaptation to a national tradition and practice. The paper also investigates the possible reasons of opting for less accurate and more traditional terminology in national issues. Finally, a short discussion of specific needs of technical translations closes this article.