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On some persuasive strategies in technical discourse: Cross-cultural analysis of directives in English and Czech technical manuals

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Abstract

The aim of the paper is to provide a cross-cultural analysis of selected linguistic realizations of persuasion in the language of technical communication represented by the genre of technical manuals (TM) and to identify the differences and similarities between the ways persuasion is expressed in this type of specialized discourse in English and Czech. More specifically, the paper attempts to discover which linguistic realizations of directives are applied to persuade the readers of the correctness of the instructions and the necessity of reading and following them. The results demonstrate that the main lexico-grammatical devices are quite similar in all the data. There are only minor frequency differences between English and Czech manuals, which are naturally reflected in their parallel Czech and English translations. The findings indicate that the quality of written instructions, including the degree of persuasiveness, is of great importance since it can influence prospective users of particular technical devices when making a choice about what to buy.

Key words

technical discourse (TD), technical manuals (TMs), user guides, persuasion, persuasive strategies, directives, imperatives, modal verbs, predicative adjectives

1. Introduction

As a result of globalization the use of English as an international lingua franca has increased the need to study various communicative strategies, including persuasion in English discourse (cf. Adam, 2017; Dontcheva-Navratilova, 2018; Vogel, 2018) and to compare them to those used in non-Anglophone cultures in order to enhance effective intercultural communication, including communication in a technical environment.

Persuasion can be viewed as a dynamic and interactive process involving various rhetorical strategies and “those linguistic choices that aim at changing or affecting the behavior of others or strengthening the existing beliefs and behaviors of those who already agree, the beliefs and behaviors of persuaders included” (Virtanen and Halmari, 2005, p. 5; cf. Jucker, 1997, p. 122). Persuasion has always been an integral part of all human communication since in fact all language use can be considered persuasive (cf. Miller, 1980).

The concept of persuasion can be explicated by means of the three classic Aristotelian types of appeal to the audience (cf. Virtanen and Halmari, 2005, p. 5): 1. ethos, i.e. the ethical voice of the persuader,

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the conveyed message of their believability, reliability, and competence (realized e.g. in the form of direct appeal to the reader, sharing personal experience, claiming common ground, and building speaker credibility on the basis of expertise); 2. pathos, i.e. emotional appeal to the audience (not typical of specialized professional discourse such as technical communication, cf. below); 3. logos, i.e. appeal to the rationality of the audience (realized e.g. in the form of causality mechanisms, reference to statistics and facts, presenting the present and/or future as natural consequence of the past, evidence, exemplification) (cf. e.g. Halmari, 2005; Dontcheva-Navratilova, 2011). While some types of discourse tend to foreground ethos, pathos or logos, their appropriate combination can contribute to persuasive communication. In TD, appeal to the rationality of the audience, i.e. logos, is expected to be the most powerful, followed by appeal to the reliability and competence of the persuader, i.e. ethos. Accordingly, persuasion can be conceived, in agreement with Dontcheva-Navratilova (2018, p. 232), as “a function of the assessment of the trustworthiness of what is communicated [...] carried out on the basis of two types of epistemic vigilance processes: (i) assessment of the credibility of the source and (ii) assessment of the reliability of the content conveyed (cf. Aristotle’s ethical and logical appeals)”.

Various persuasive strategies can be adopted by the users of a language to highlight important points, to present one’s ideas and to foster one’s arguments with the intention of convincing others. These strategies fall into broader categories of individual persuasive features (stance and evaluation, dialogicity and engagement, intertextuality) and can be manifested overtly in explicit linguistic realizations applied by the users of the given language (e.g. the use of imperatives, modal verbs, questions, evaluative adjectives, ways of addresses and greetings, and the choice of personal pronouns) or covertly in the language behaviour of the persuaders (e.g. employment of emotions, humour, interactive features) (cf. e.g. Dillard and Pfau, 2002; Virtanen and Halmari, 2005, p. 14). The overt expression of persuasion tends to be prevalent in TD, where it is manifested in concrete linguistic realizations, such as directives; these are usually supported by some visual means, for example, pictures, charts, graphs, diagrams and tables, which clearly contribute to the persuasive character and effectiveness of the language of technical instructions.

The present study focuses on linguistic realizations of directives as one of the most direct ways of expressing the persuasive power of the writer over the reader, with the aim of discovering differences and similarities between English and Czech TMs, represented here by both L1 and L2 texts. Accordingly, the study aims to answer the following research questions (RQs):

RQ1: Which linguistic realizations of directives are applied in English and Czech manuals?

RQ2: Are there any differences between the ways technical communicators express directives when producing L1 and L2 texts?

RQ3: Is it possible to identify some pragmatic factors which can influence the use of directives and the choice between the three possible ways of their linguistic realization?

2. Technical discourse and technical manuals

English technical discourse, also labelled English for Science, English for Technology, Technical English or English for Science and Technology (cf. Trimble, 1985) can be viewed as part of English for Specific Purposes. It constitutes the means of disseminating knowledge and the latest technological developments to both expert and lay audiences. Communication of technology or TD is represented here by the genre of TMs since the overwhelming majority, i.e. “70 percent of global technical communication is technical instructions, encompassing such things as instructions for end-users (manuals), instructions for installation and constructions, and instructions embedded in products, including user-interface” (Sharpe, 2014, p. 15), and yet this field remains relatively under-researched.

TD can be aptly defined while using Trimble’s definition (1985, p. 129), according to which it is “that type of discourse that has as its purpose the transmission of information (fact or hypothesis) from writers to readers; therefore it uses only a limited number of rhetorical functions. It does not, for example, make use of such rhetorical functions as editorializing, non-logical argumentation, poetic images, or those functions that create emotions such as laughter, sadness, etc.” Thus TD clearly does not represent expressive communication but should be rather viewed as strategic communication.

When classifying texts as belonging to technical communication, the following four criteria can be taken into consideration: audience, relationship, purpose and context (Rus, 2014, p. 656). Good technical communicators have to keep in mind who they are writing for, since the receivers of the message can be, for example, colleagues, clients or customers, which means both professional and lay audiences. The

choice of rhetorical strategies, including their linguistic realizations, is highly dependent on the addressee of the message. This is closely related to the relationship between technical writers and their audience. Of the three traditionally identified purposes of communication acts (i.e. persuasion, instruction and entertainment), the first two are of particular importance in TMs: persuasion as the intention of technical writers to persuade the audience of the rightfulness of the guidelines they are presenting, and instruction as the information intended to be transmitted by the text with the aim of enriching the audience's knowledge with regard to some specific aspects. As for the fourth criterion – context (i.e. the technical settings for communication) – its role is indisputable. Since all forms of communication arise from a certain social and cultural context (Rus, 2014, p. 655), communication on a specialized technical topic is deeply rooted in the professional technical environment

The factual information provided in TMs, often labelled as user guides, user's guides, user manuals or user's manuals, must be easily accessible to a specific audience, i.e. the users of particular technical devices. Consequently, technical communicators aim at clear organization of information into a series of clearly defined steps. They try to avoid ambiguity of expression since the primary goal is to transmit technical information accurately. They have to bear in mind the expected level of technical proficiency and understanding of the target audience in order to create a persuasive and useful set of instructions and give guidance to people using a particular technical device (cf. "socioliterate competence" in Johns, 1997, p. ix). According to Blake and Bly (1993, pp. 3-19), there are ten standard principles which make a good technical text, and these are all important for instructions provided in TMs: technical accuracy, usefulness, conciseness, completeness, clearness, consistency, correct spelling, punctuation and grammar, a targeted audience, good organization and interest.

The characteristics of the language of written instructions, also labelled technical English by the authors, are briefly mentioned in Crystal and Davy (1969, p. 336), who emphasize the "paramount need to organize the information into a series of clearly defined stages, to avoid ambiguity, and to bear the level of one's audience clearly in mind".

TMs can be defined as documents containing instructions on installation, operation, use and maintenance, a parts list, and training requirements for the effective deployment of equipment, a machine, process or system. They are written according to specific purposes and audience needs and expectations and can take various forms such as user's, owner's, operator's, instruction, service-and-maintenance and training manuals. Those analysed here represent user's manuals. They usually contain several sections, such as a cover page, a title page, a preface, a contents page, a guide, a troubleshooting section, an FAQ, information about further help, and, in the case of longer manuals, also a glossary and an index. Since some of the afore-mentioned sections clearly do not comprise directives (e.g. cover page, title page, contents page, glossary, index), these have been excluded from the analysis.

3. Data and methodology

3.1 Data

The specialized corpus compiled for this study comprises 20 TMs for various technical devices (e.g. TV set, iron, electric kettle, bread maker, mobile phone, vacuum cleaner, bottom freezer fridge) and amounts to approximately 137,000 words. It can be divided into four groups of texts, i.e. five manuals written in Czech (labelled CZ-1 – CZ-5), five manuals translated from English into Czech (CZ-TR-1 – CZ-TR-5), five manuals written in English (ENG-1 – ENG-5), and five manuals translated from Czech into English (ENG-TR-1 – ENG-TR-5). The length of the texts varies, the average being 6,850 words. It is worth noting that the English L1 texts in the data are in general slightly longer than the Czech L1 texts. Therefore, all the results discussed in this article have been normalized to the frequency of occurrence of directives per 1,000 words, actual numbers being mentioned only occasionally. It must also be noted that in order to obtain data for the comparative analysis it was necessary to exclude from the texts all parts which comprise tables, figures, graphs, references and addresses.

3.2 Methodology

All the 20 TMs were manually excerpted for the first 20 tokens of the structures under examination. In this way lists of imperatives of the full verbs, modal verbs expressing obligation, necessity and prohibition, and predicative adjectives expressing the writer's judgement of the necessity or importance of the action to be performed were compiled. Then, two concordance programs (Sketch Engine and AntConc 3.2.1w, Window 2007) were used to search for the realization types selected for the analysis.

Altogether 232 different forms of directives were identified, 108 in Czech and 124 in English. The following step was the manual assessment of the individual tokens found with the help of the above concordance programs, since some of the identified forms can perform other functions than those under scrutiny. For example, when interpreting the functions of modal verbs it was necessary to bear in mind that “the epistemic and deontic/dynamic systems of English [...] use the same modal verbs, especially MAY, CAN and MUST” (Palmer, 2001, p. 14).

Finally, the results from all the texts were recorded in the form of tables and the results were compared (cf. Section 5): first, the results from English L1 and L2 texts, second, those from Czech L1 and L2 texts, and third, all the English manuals were compared to all the Czech ones. Moreover, in some cases parallel texts in English and Czech were related to each other to see the differences and similarities between the texts conveying the same content, although the analysis was not conducted on a strictly parallel basis. It was quite interesting to discover that not all the information was always translated into the L2 texts and that in many cases the order of the information provided in the manuals was not identical in the parallel texts, i.e. in L1 texts and their corresponding translations (for a definition of parallel texts, cf. *English Oxford Learning Dictionary*).

4. Directives as important persuasive strategies

Directives as one of the most direct ways of expressing persuasive force can be characterized as speech acts that try to make the addressee perform an action, or, to use Searle’s words (1976, p. 11), “they are attempts [...] by the speaker to get the hearer to do something.” Their “propositional content is always that the hearer H does some future action A”. According to Jucker (1997, pp. 122-123), persuasion in speech-act theory is a “perlocutionary effect”, which clearly requires the existence of an audience. Since audience reactions cannot be a decisive factor in whether a text is persuasive or not, Jucker assumes that a text is persuasive if its “persuasive intention can be taken for granted” (1997, p. 123). Although in Searle’s taxonomy and in the literature on speech acts in general (cf. Searle, 1976; Leech, 1983), directives also include speech acts such as requests, invitations and offers, those analysed in this article are viewed as utterances which “instruct the reader to perform an action or to see things in a way determined by the writer” (Hyland, 2002, p. 215) and normally refer to some future action which the reader is urged to perform. If they are expressed by imperatives, the subject “is semantically predictable, and therefore dispensable” (Quirk, et al., 1985, p. 87). Directives can be potentially risky strategies since they are often regarded as bald on-record threats to face (Brown and Levinson, 1987, pp. 94-101). However, those that are used in TMs mostly concern actions that are clearly to be performed in the reader’s interest, so that no redress is required to minimize the degree of imposition imposed on the reader by the writer.

In agreement with Hyland (2002), this study conceives directives as utterances typically realized in the surface structure in three main ways: 1. the use of imperatives of the full verbs (e.g. *use, connect, make sure*); 2. the presence of modal verbs of obligation, necessity or prohibition addressed to the reader (e.g. *the fridge should be operated, this appliance must be properly grounded*); and, finally, 3. the presence of predicative adjectives expressing the writer’s judgement of the necessity or importance to perform an action (e.g. *it is necessary to check the device*).

Directives can be further classified according to the principal form of activity they refer to (Hyland, 2002), since they can direct the reader to engage in three main types of activities: textual, physical and cognitive. The first type (textual acts) guides the reader to refer to another part of the texts (e.g. *see the information on the display*). The second type instructs the reader to perform physical acts, either involving a research process (e.g. *please read this owner’s manual thoroughly*) or an action in the real world (e.g. *insert the lid to the nozzle in the opposite direction*; these are by far the most typical in TMs). And, finally, directives of the third type impose on the reader some kind of cognitive act, for example, the adoption of a different line of argumentation and reasoning (e.g. *consider the instructions for use as a part of the appliance*). The third type is viewed in agreement with Hyland (2002, p. 218) as representing the highest degree of imposition, since it is assumed to be more imposing to instruct someone on how to understand a certain point of view rather than how to perform a concrete real-world action. However, directives of the third type are rarely represented in the data.

5. Results and discussion

The following sections discuss the most important results drawn from the analysis. First, the overall findings are given in the form of summation tables and illustrated by a few examples and, second, details about concrete linguistic realizations of directives are presented and exemplified.

5.1 Overall results

The results in Table 1 prove that the highest proportion of directives is expressed by imperatives in the whole corpus, ranging from 70 to 84% of all cases in which directives were identified. The predominance of imperatives is most striking in English L1 texts (ENG), where they represent 84%. This may be the reason why the writers of the Czech translations of these texts (CZ-TR) also use imperatives very frequently (81%). By contrast, in Czech L1 texts (CZ), the frequency rate is much lower (72%), which is reflected in the English translations of these texts (ENG-TR; 70%). Consequently, there is a relatively large difference between the proportion of imperatives in English L1 (84%) and L2 (70%) texts on the one hand, and on the other, between Czech L1 (72%) and L2 (81%) texts.

If parallel English and Czech texts are compared, then it can be tentatively concluded that the writers of the TMs tend to use imperatives to express directives slightly more frequently when writing in their mother tongue, since both English and Czech L1 texts resort to the use of imperatives to a higher degree (2-3%) than their L2 counterparts (cf. ENG vs CZ-TR and CZ vs ENG-TR texts); this may be caused by the imperatives of the full verbs being the most direct and explicit way of how to instruct people to perform an action (cf. Crystal and Davy, 1969: 237), thus being naturally selected by L1 writers not only as the most direct but also as the simplest and clearest way in which persuasive force can be expressed.

Table 1. Proportions of all directives in the whole corpus (percentages of occurrence)

Types of texts	CZ	CZ-TR	ENG	ENG-TR
No. of words	15,772	42,861	49,269	19,080
imperatives	72 %	81 %	84 %	70 %
modals	13 %	10 %	13 %	20 %
predicative adjectives	15 %	9 %	3 %	10 %
Total (%)	100 %	100 %	100 %	100 %
Total (No. of occurrences)	492	1,207	1,718	621

If the proportions of modal verbs in parallel English and Czech texts are compared, then it follows that writers of the English manuals apply modal verbs to express directives more than those of the Czech manuals, the difference ranging from 3% in the case of ENG texts compared to CZ-TR texts to 7% in the case of ENG-TR texts compared to CZ texts. However, when L1 texts are compared (ENG vs CZ), it is interesting to see that L1 writers of both languages resort to the use of modal verbs not only in the same proportion of all directives (13%; cf. Table 1) but also with a similar normalized frequency rate (4.55 vs 4.12, cf. Table 2b), the differences between L1 texts being rather in the use of imperatives (29.33 vs 22.51) and the presence of predicative adjectives (0.99 vs 4.57); these differences will be discussed below.

The higher normalized frequency rates of modal verbs in the English manuals can be considered to be compensated by the lower frequency rates of predicative adjectives in these texts; by contrast, predicative adjectives tend to be more common in all Czech manuals. This is also evident from the comparison of the parallel texts in Table 1 above, where the proportion of predicative adjectives in Czech texts is 5 to 6% higher than in their English counterparts.

Table 2a. Distribution of all directives in the corpus (raw numbers)

Types of texts	CZ	CZ-TR	ENG	ENG-TR
No. - words in the corpus	15,772	42,861	49,269	19,080
imperatives	355	978	1,445	435
modals	65	119	224	126
predicative adjectives	72	110	49	60
Total (No. of occurrences)	492	1,207	1,718	621

Table 2b. Distribution of all directives in the corpus (normalized frequency rates)

Types of texts	CZ	CZ-TR	ENG	ENG-TR
imperatives	22.51	22.82	29.33	22.80
modals	4.12	2.78	4.55	6.60
predicative adjectives	4.57	2.57	0.99	3.14
Average frequency (1,000 words)	31.19	28.16	34.87	32.55

Tables 2a and 2b show the same results as Table 1, but this time the realization forms of directives are given in raw numbers in the former table and in normalized frequency rates per 1,000 words in the latter one. The frequency of imperatives is about 23 tokens per 1,000 words in all groups of texts with the exception of English L1 texts, where it exceeds 29. This rate, together with the highest proportion of imperatives in the same subcorpus, proves that directives expressed by imperatives are by far the most typical of English L1 texts. These are shown in the following examples:

- (1) *Use* the TV and accessories only as intended by the manufacturer.
(ENG-1: TV set)
- (2) *Disconnect* the power cord immediately if you hear a noise, smell a strange odor or detect smoke. *Turn* the power *off* if dust or water from above or below penetrates into the fridge.
(ENG-3: Bottom freezer fridge)

As can be deduced from Example (2), the use of imperatives is often associated with conditional clauses. The technical writer usually instructs the readers that if they do or do not do something, or if something happens or does not happen, then they are expected to take action (cf. *disconnect* and *turn off* above). The same strategy occurs in all the other subcorpora, including Czech TMs, illustrated in Example (3), where the imperative *odstraňte nečistoty* ‘remove dirt’ follows the conditional clause *pokud se tato skutečnost potvrdí* ‘if this reality is confirmed’:

- (3) *Pokud se tato skutečnost potvrdí, nečistoty odstraňte.*
(CZ-3: Electric vacuum cleaner)

The frequency rates of modal verbs in Table 2b are far from being the same in the four groups of texts: they are neither similar when parallel texts are compared, nor when English L1 and L2 or Czech L1 and L2 manuals are related. The frequency varies from approximately 3 to 7 tokens per 1,000 words, the highest being in English L2 texts, although in their parallel Czech L1 texts it is 4 tokens only. The former are illustrated here:

- (4) Children *must not* play with the appliance. User cleaning and maintenance *must not* be performed by children if they are younger than 8 years and unsupervised. Children younger than 8 years *must* be kept out of reach of the appliance and its power cord.
(ENG-TR-4: Digital steam iron)
- (5) The electric kettle *cannot be used* for heating other liquids than water!
(ENG-TR-5: Stainless steel water kettle)

Example (4) demonstrates that modals expressing prohibition are frequently associated with a description of a particular situation, often expressed by a conditional clause (cf. *if they are younger than 8 years and unsupervised*).

As already mentioned, the slightly lower normalized frequency of imperatives and modal verbs in all Czech manuals is compensated for by a relatively high normalized frequency rate of predicative adjectives, which is highest of all in Czech L1 texts (almost 5 tokens); this is partly reflected in the presence of predicative adjectives in their English counterparts (3 tokens). These are illustrated in Examples (6) and (7), respectively. It must be noted that Czech L2 texts also have a frequency rate of predicative adjectives worth mentioning (approximately 3), although only 1 token per 1,000 words has been identified in their English counterparts (cf. Table 2b).

- (6) Pro bezporuchový chod vysavače je *nutné* používat testované prachové filtry a mikrofiltry doporučené výrobcem.
'For trouble-free operation of the vacuum cleaner, it is *necessary* to use the tested dust filters and micro-filters recommended by the producer.'
(CZ-3: Electric vacuum cleaner)
- (7) It is not possible to set the size of the loaf in this mode. For this program it is *necessary* to use water (or other liquid ingredients) with temperature 48-80 °C.
(ENG-TR-1: Electric bread maker)

Technical writers of Czech L1 manuals resort to predicative adjectives to express directives when a suitable adjective such as *nutné* 'necessary' is at their disposal, as in Example (6). However, Czech predicative adjectives, also called modal predicatives (cf. Šipková, 2017), are often translated by different means into English (i.e. ENG-TR), as is the case of the imperative *please use the tested dust filters* in the parallel text shown here:

- (8) For trouble-free operation of the vacuum cleaner, please *use* the tested dust filters and micro-filters recommended by the producer.
(ENG-TR-3: Electric vacuum cleaner)

While the results above show general tendencies in the expression of directives in English and Czech manuals (both L1 and L2 texts), the following section offers further details on the three realization forms of directives found in the data.

5.2 Details of concrete realization forms of directives

Let me start this section with the verbs most typically used in the imperative forms when expressing directives. The verbs are grouped according to Hyland's classification (2002), i.e. whether they refer to textual, physical or cognitive acts (cf. Section 4). Those found in the English manuals (ENG and ENG-TR) are listed in Table 3 by decreasing frequency in each type of acts while those identified in the Czech manuals (CZ and CZ-TR) are mentioned in the same lines as the verbs in the former group so that the normalized frequency rates of English verbs and their Czech equivalents can be compared. These are given in brackets after every verb. Sometimes, there are two equivalents of the same verb in one of the compared languages. For example, the imperative *make sure* in English has two Czech equivalents, namely *ujistěte se* and *přesvědčte se*.

Table 3. Most important verbs used in the imperative forms listed in normalized frequency rates (based on Hyland's classification, 2002)

Types of texts	ENG and ENG-TR	CZ and CZ-TR
No. of words	68,349	58,633
Textual acts	<i>refer</i> (0.4), <i>read</i> (0.34)	<i>přejděte</i> (0.39), <i>přečtěte si</i> (0.56)
Physical acts	<i>press</i> (7.27), <i>use</i> (3.79), <i>remove</i> (1.29), <i>tap</i> (1.19), <i>make sure</i> (0.88), <i>check</i> (0.85), <i>place</i> (0.7), <i>connect</i> (0.63), <i>disconnect</i> (0.48) or <i>unplug</i> (0.47), <i>insert</i> (0.45), <i>keep</i> (0.42), <i>turn off</i> (0.41), <i>pull</i> (0.37), <i>put</i> (0.37), <i>store</i> (0.37), <i>plug</i> (0.32)	<i>stiskněte</i> (6.14), <i>použijte</i> (2.81), <i>odstraňte</i> (0.53), <i>klepněte</i> (0.82), <i>ujistěte se</i> (0.36) or <i>přesvědčte se</i> (0.07), <i>zkontrolujte</i> (1.5), <i>umístěte</i> (0.46), <i>připojte</i> (0.73), <i>odpojte</i> (0.94), <i>zasuňte</i> (0.63), <i>udržujte</i> (0.17), <i>vypněte</i> (0.61), <i>zatăhněte</i> (0.05), <i>položte</i> (0.05), <i>skladujte</i> (0.15), <i>zapojte</i> (0.17)
Cognitive acts	<i>consider</i> (0.1)	<i>považujte</i> (0.09)

Table 3 demonstrates that the verbs referring to physical acts related to real-world actions (i.e. Physical acts) naturally prevail in all the manuals under scrutiny. The highest frequency rates were recorded for the verbs *press* (*stiskněte*), *use* (*použijte*), *remove* (*odstraňte*), *tap* (*klepněte*), and *disconnect* or *unplug* (*odpojte*), all referring to concrete real-world actions. Since all the manuals provide guidance for various technical devices (e.g. electric kettle, iron, TV set, bread maker, vacuum cleaner), they mostly require the performance of concrete actions in the real world, as is the case of the imperatives in the following example:

- (9) *Remove* all packing material, *take out* the vacuum cleaner and the accessories. *Pull out* necessary length of power cord A10 and *plug* the power cord into a socket.
(ENG-TR-3: Electric vacuum cleaner)

Only occasionally are the readers directed to refer to another part of the texts, thus performing textual acts according to Hyland (2002), as in Example (10), and, even less frequently, the readers are instructed to perform cognitive acts, which is the case of the imperative *consider* in Example (11).

- (10) *See* the technical specifications to make sure that your TV supports DVB-T or DVB-C in your country.
(ENG-1: TV set)
- (11) *Consider* the instructions for use as a part of the appliance and pass them on to any other user of the appliance.
(ENG-TR-2: Electric vacuum cleaner)

My results concerning imperatives and their classification into different groups of acts are different from Hyland's findings (2002). However, he analysed three genres of academic discourse, namely research articles, textbooks and student reports, in which, for example, directing readers to perform textual or cognitive acts is quite common.

As regards the most important modal verbs expressing obligation, necessity or prohibition, the results in Table 4a (English manuals) and Table 4b (Czech manuals) are broken down according to whether the particular modal verb is affirmative or negative, thus clearly illustrating the distinction, for instance, between the necessity to perform an action and being prohibited from doing it. Only modal verbs with a normalized frequency rate higher than 0.5 tokens per 1,000 words in at least one group of texts are included. In addition, modals with frequency counts higher than 0.5 are highlighted in bold.

Table 4a. Modal verbs of obligation, necessity, prohibition (normalized frequencies) in English manuals (ENG and ENG-TR)

affirmative modals	negative modals	ENG: aff.	ENG: neg.	ENG-TR: aff.	ENG-TR: neg.
<i>must</i>	<i>must not</i>	1.28	0.18	2.36	1.05
<i>have to/has to</i>		0.08		1.10	
<i>need to/needs to</i>	<i>do not/does not need to</i>	0.51	0.06	0.26	
<i>should</i>	<i>should not</i>	1.16	0.06	0.31	
	<i>cannot</i>		0.37		0.58
<i>could</i>		0.39		0.63	
Average normalized frequency		3.41	1.14	4.66	1.94

The most typical modal verbs expressing obligation, i.e. *must* and *have/has to* are both more frequent in English L2 than L1 texts; the former verb is shown in Example (4) above and the latter in Example (12). The verb *must* carries a greater degree of writer's authority (Svartvik and Leech, 1994, p. 163) than the other verbs listed in Table 4a, and its more prominent use in English L2 texts is probably caused by the frequent occurrence of its Czech counterpart (i.e. *musí/musejí/musíte*) in Czech L1 texts (cf. Table 4b).

- (12) The power cord plug *has to* be connected to the properly connected and grounded socket according to the national standard.
(ENG-TR-5: Electric kettle)

The most typical modal verb used to express prohibition, i.e. *must not* (cf. Example (4) above) and its Czech equivalent *nesmí/nesmějí* are both relatively frequent. The Czech verb amounts to 1.71 in Czech L1 texts and therefore its English counterpart in English L2 texts also has a frequency rate worth mentioning (1.05). When expressing prohibition this modal is more commonly used than its slightly weaker equivalent *cannot* (0.58) in English L2 texts. The modal verb *cannot* also occurs in English L1 texts (0.37), where it is more common than *must not* (0.18). "A weakened prohibition (more like negative advice) can be expressed by *shouldn't*, *oughtn't to* <esp BrE>, and *had better not*" (Leech and Svartvik, 1994, p. 165), which are, however, almost non-existent in the English manuals under scrutiny (cf. Table 4a).

Based on the above-mentioned frequency rates of modal verbs, it can now be stated that when expressing obligation, necessity or prohibition most technical writers of Czech manuals, in particular Czech L1 texts (CZ), and thus also those of their parallel English L2 texts (ENG-TR), tend to give preference to those modal verbs that carry a higher degree of persuasive force.

Of the remaining modal verbs, the most prominent one is the verb *should*, which expresses a lower degree of obligation than the verbs *must* and *have/has to*. The use of this modal is often associated with what can be understood as recommendations or giving a piece of advice (cf. Perkins, 1983). The verb *should*, which is shown in Example (13), is relatively common in English L1 texts (1.16), unlike its Czech equivalents *měl by/měli by* in the parallel Czech L2 texts, which are not even listed in Table 4b because of their low frequency. Consequently, it can now be concluded that technical writers of English manuals sometimes tend to be slightly less direct than Czech writers when providing guidance to readers on what to perform, and therefore they rather give their instructions in the form of what looks more like recommendations, as in:

- (13) If an image was on the monitor for one hour and a "ghost" of that image remains, the monitor *should* be turned off for one hour to erase the image.
(ENG-5: Monitor)

As exemplified above, the presence of modal verbs is often associated with the use of conditional clauses, which, similarly to the cases in which imperatives are used, describe some kind of condition or situation that enhances the necessity to take an action.

Table 4b. Modal verbs of obligation, necessity, prohibition (normalized frequencies) in Czech manuals (CZ and CZ-TR)

affirmative modals	negative modals	CZ: aff.	CZ: neg.	CZ-TR: aff.	CZ-TR: neg.
<i>musí/musejí/musíte</i>	<i>nemusí/nemusejí/nemusíte</i>	1.72	0.06	1.33	0.42
	<i>nesmí/nesmějí</i>		1.71		0.30
<i>mohl by/mohlo by/mohli by</i>		0.63		0.42	
Average normalized frequency		2.35	1.78	2.01	0.77

Table 4b proves that Czech equivalents of the English modal verbs *must* and *have to*, i.e. *musí/musejí/musíte* are most typical in the Czech manuals. The same applies to the negative verbs, i.e. *nesmí/nesmějí* (English *must not*), which express prohibition. These modals, which express the highest degree of their modal meanings (i.e. obligation and prohibition), are more prominent in Czech L1 than in English L1 texts.

Czech equivalents of the English verb *could*, i.e. *mohl by/mohlo by/mohli by*, which express above all possibility of what might happen but in my data also contribute to the expression of directives, have been identified in all the TMs under scrutiny. It is worth noting that the Czech manuals (CZ) and their parallel English translations (ENG-TR) have exactly the same frequency rate (0.63); these verbs are included in the examples that follow:

- (14) *Nenaplňujte* konvici studenou vodou za účelem rychlého ochlazení. Mohlo by to snížit životnost topného tělesa.
(CZ-5: Electric kettle)
- (15) *Do not fill* the kettle with cold water in order to cool it down quickly. It could reduce life of the heating element.
(ENG-TR-5: Electric kettle)

Examples (14) and (15) show the same piece of text; the former includes the Czech modal verb *mohlo by* and the latter its English equivalent *could*. The sentence which comprises these verbs is preceded by a sentence with a directive expressed by the imperative of the full verb *nenaplňujte* ‘do not fill’. The first sentence represents the context against which the second sentence must be interpreted, thus causing the modal verb to function as a directive while conveying the meaning ‘do not reduce life of the heating element by filling the kettle with cold water’. The above examples clearly demonstrate how complex the interpretation and identification of directives can be and, moreover, show that the function of a modal verb as a directive can often be achieved by the whole context. This is in agreement with Halmari (2005, p. 116), who states that both the form of the language and its content “contribute to the overall persuasive effect”.

Finally, let me discuss and exemplify briefly the use of predicative adjectives. Table 5a offers the results from the English manuals while Table 5b those from the Czech manuals. Since predicative adjectives are the least common of all directives, even those with normalized frequency rates as low as 0.1 tokens per 1,000 words are included and those with a frequency rate higher than 0.5 are highlighted in bold.

Table 5a. Predicative adjectives (normalized frequencies) in English manuals (ENG and ENG-TR)

affirmative adjectives	negative adjectives	ENG: aff.	ENG: neg.	ENG-TR: aff.	ENG-TR: neg.
<i>dangerous</i>	<i>not dangerous</i>	0.16		0.10	0.05
<i>important</i>		0.06		0.10	
<i>intended</i>	<i>not intended</i>	0.08	0.02	0.84	0.52
<i>necessary</i>		0.16		0.42	
	<i>not permissible</i>				0.10
	<i>not possible</i>		0.04		0.37
	<i>not responsible</i>		0.04		0.21
<i>subject to</i>	<i>not subject to</i>	0.16			0.05
	<i>not suitable</i>		0.04		0.16
Average normalized frequency		0.85	0.14	1.68	1.47

Table 5a proves that the variety of predicative adjectives commonly used in the English manuals is not great, although their possible repertoire is relatively rich. The only adjectives with a frequency rate higher than 0.5 are the affirmative *intended* and its negative counterpart *not intended*. The more prominent use of these adjectives in the English L2 texts is probably caused by the relatively frequent use of their Czech equivalents *určen* and *není určen* in Czech L1 texts (cf. Table 5b). These are all included in Examples (16) and (17), which show the same piece of text while comprising both the affirmative adjective *intended* ‘určen’ and its negative counterpart *not intended* ‘není určen’.

Table 5b. Predicative adjectives (normalized frequencies) in Czech manuals (CZ and CZ-TR)¹

affirmative adjectives	negative adjectives	CZ: aff.	CZ: neg.	CZ-TR: aff.	CZ-TR: neg.
<i>je možné</i> ‘it is possible’	<i>není možné</i> ‘it is not possible’	0.25		0.30	0.05
<i>je možno</i> ‘it is possible’		0.13		0.05	
<i>je nutné</i> ‘it is necessary’		1.20		0.40	
	<i>není odpovědný</i> ‘it is not responsible’		0.32		0.02
	<i>není přípustné</i> ‘it is not acceptable’		0.19		
<i>je třeba</i> ‘it is needed’	<i>není třeba</i> ‘it is not needed’	0.13		1.19	0.05
<i>je určen</i> ‘it is intended’	<i>není určen</i> ‘it is not intended’	1.20	0.63	0.09	
<i>je vhodný</i> ‘it is suitable’	<i>není vhodný</i> ‘it is not suitable’	0.25	0.19	0.02	0.02
Average normalized frequency		3.23	1.33	2.36	0.21

¹ It must be stated that in Table 5b it was necessary to list Czech predicative adjectives carrying negative meaning together with the verb *to be* ‘být’, since the expression of negation cannot be separated from the verb in this case. For example, *not responsible* is listed as *není odpovědný* ‘it is not responsible’. This table also offers English equivalents of the Czech adjectives.

(16) The appliance is *intended* for home use and similar (in shops, offices and similar workplaces, in hotels, motels and other residential environments, in facilities providing accommodation with breakfast). It is *not intended* for commercial use!
(ENG-TR-5: Electric kettle)

(17) Spotřebič je *určen* pouze pro použití v domácnostech a pro podobné účely (v obchodech, kancelářích a podobných pracovištích, v hotelích, motelech a jiných obytných prostředích, v podnicích zajišťujících nocleh se snídaní)! *Není určen* pro komerční použití!
(CZ-5: Electric kettle)

Of the other predicative adjectives identified in the data, the Czech adjectives *je nutné* ‘it is necessary’ (cf. Example (6) above) and *je třeba* ‘it is needed’ are worthy of attention, owing to their frequency rates higher than 1 token per 1,000 words. The latter adjective is shown in Example (18), which represents a typical construction identified in both compared languages, i.e. the use of a predicative adjective followed by an infinitive construction, which is *to*-infinitive in English, as Example (19) illustrates.

(18) Vodní filtr je *třeba* vyměnit přibližně každých šest měsíců.
Water filter is necessary to replace approximately every six months.
‘It is necessary to replace the water filter approximately every six months.’
(CZ-TR-3: Bottom freezer fridge)

(19) This symbol warns user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is *dangerous* to make any kind of contact with any part inside this unit.
(ENG-4: Monitor)

The examples above demonstrate that the whole context must always be taken into consideration when interpreting the expression of directives. In Example (19), the first sentence clearly prepares the background against which the subsequent sentence must be considered, thus preventing the reader from taking a dangerous action.

(20) It *is recommended* that you replace the water filter approximately every six months.
(ENG-3: Bottom freezer fridge)

As already mentioned, the two compared languages do not often use the same constructions for the expression of directives, even if such parallel constructions are available. The technical writer in Example (20), which is the English equivalent of Example (18), uses the verb *to recommend* followed by a *that*-clause to provide guidance through something which looks more like recommendation rather than directly commanding the reader to replace the water filter every six months. This is a useful strategy commonly applied in all TMs. The actions are clearly to be performed in the reader’s interest, and thus the reader takes the action even if not openly directed to do so. Thus it can be stated that in both compared languages recommendations are often understood as polite commands to perform particular actions.

The above examples have provided only selected exemplifications of the directives expressed by the imperative forms of the full verbs, and the use of modal verbs or predicative adjectives, although there are other possible ways in which directive force can be achieved. Since “the interpretative contextual clues are retrievable from the overall communicative situation” (Tárnyiková, 2007, p. 64), it must be emphasized here that the whole situational context in which TMs are read and followed and the whole text of the given TM (i.e. linguistic context), which also includes many visual means such as pictures, graphs and tables, clearly contribute to the effectiveness of the technical instructions and aid the reader to perform the required actions.

6. Conclusion

With regard to the three research questions formulated in the introductory part, the following conclusions can be drawn:

RQ1: Which linguistic realizations of directives are applied in English and Czech manuals?

Although all the English and Czech manuals analysed in this study apply the same rhetorical strategies, including their linguistic realizations, there are some noticeable differences between manuals from different linguacultural backgrounds. The most remarkable distinction is the tendency to use slightly stronger persuasive means in the Czech manuals, such as the modal verbs expressing a higher degree of obligation or prohibition, and the more prominent use of predicative adjectives. By contrast, the English manuals give preference to the use of the imperative forms, which is naturally reflected in the less noticeable use of adjectives.

RQ2: Are there any differences between the ways technical communicators express directives when producing L1 and L2 texts?

The tendencies mentioned in RQ1 concern above all L1 texts (both English and Czech). The persuasive means applied in the parallel L2 texts are slightly different. On the one hand, there is a tendency to follow the conventions typical for the given language, and, on the other, the technical writers of the L2 texts, i.e. translators, are influenced by the language means applied in the parallel L1 texts. That is the reason why the results from English L1 and L2 texts as well as those from Czech L1 and L2 texts are different.

RQ3: Is it possible to identify some pragmatic factors which can influence the use of directives and the choice between the three possible ways of their linguistic realizations?

The most important pragmatic factor is to persuade the reader of any technical manual to follow the instructions provided and to perform the actions required for successful operation and/or maintenance of the given technical device. Thus the intention to persuade is the guiding force for technical writers when choosing particular linguistic strategies, including directives, to make the prospective users of particular technical devices perform the required action. Technical instructions must be clearly and comprehensibly formulated with “maximal relevance” of the message (Sperber and Wilson, 1986, p. 271) so that the reader can realize that to follow the guidelines is in their own interest. That is the reason why the most straightforward and direct ways of expressing directives (i.e. the use of imperatives) are most typically applied in both the compared languages.

Finally, it must be noted that owing to the limited size of the data and the scope of the present research, only further investigation into other texts, perhaps also including manuals for other technical devices, can prove whether the conclusions suggested above can be generalized and applied, for example, in the educational domain when providing guidance to technical communicators on how to write and/or how to translate technical instructions that are structurally and technically accurate, functionally effective and communicatively appropriate for the target audience (cf. Pérez-Llantada, 2002).

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