Cross-linguistic and cross-cultural conceptualization of specialized terms in corporate culture

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Abstract This study is at the crossroads of cognitive linguistics, lexicography and terminology, and explores the cross-linguistic and cross-cultural boundaries of their approaches to perception and categorization in order to expose any cultural constraints superimposed on the creativity of specialized translators. Objects of analysis in this study are conceptualization and designation as emerging from specialized text types that are not typically associated with creativity or culture specificity, texts that are more descriptive or prescriptive rather than expressive or persuasive. By investigating specialized terms that only apparently seem to be unrelated to the relevant source culture (SC) or target culture (TC), the study proves that not only are they actually culturespecific items themselves, but also that they refer to archetypal categories (e.g., form, size, color, etc.) that defy conceptual universals. Starting from the concepts themselves, as represented in pictures, graphs, charts, or similar visual aids, the association between signifier and signified is reconstructed in multiple languages, giving priority to none of them, so as to expose the cultural differences of each in denoting (and connoting) the referent, and the difficulties the translator would meet in providing acceptable solutions for the target culture. Based on the outcome of this study, the cross-cultural constraints acting upon and limiting the creative performance of specialized translators appear to be unsurmountable within the same specific domain if the SL/SC terms have already been lexicalized in the Target Language (TL)/Target Culture (TC), but less so when the translation crosses domains to achieve other goals, in which case the translator is left free to even transcreate.

Keywords: cognition, conceptualization, construal, terminology, lexicography, metaphors, lexicalization, semantics, specialized translation, creativity, culture, transcreation

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1 Introduction

This study draws from the theoretical underpinning of cognitive science, and cognitive linguistics in particular (Geeraerts & Cuyckens, 2008; Goldberg, 2003; Nuyts, 2007; Rojo & Ibarretxe-Antuñano, 2013; Rosch, 1975; Sharifian, 2011; Ungerer & Schmid, 2006; Van der Auwera & Nuyts, 2007; Wierzbicka, 1996, 1997), and the methods of lexicology and terminology, in an interdisciplinary study of conceptualization and designation of culture-bound, domain-specific terms.

The objective of the study is to investigate whether and to what extent culture affects the conceptualization and designation of terms derived from specialized text types, i.e., from texts that are not typically associated with culture specificity, texts that are more descriptive or prescriptive than expressive or persuasive. Literature about the latter (e.g., advertising, marketing or tourist texts) and their rhetorical devices abounds (Leech, 1966; Cook, 1992; Myers, 1994; Dann, 1996; Goddard, 1998; McQuarrie & Phillips, 2008), and so does literature on the translation of culture-bound terms in such text types (Newmark, 1988; Kelly, 1998; Hatim, 2004; Katan, 2009; Agorni, 2012; Katan & Taibi, 2021). Conversely, when it comes to descriptive or prescriptive texts (e.g., technical documentation, operating manuals, instruction booklets or product sheets), not much academic literature has been produced as to their general features (Wright, 1993; Byrne, 2006; Scarpa, 2008), and few scholars have put some effort into writing about the challenge of translating culture-bound terms in specialized text types (Harvey, 2000; Olohan, 2016).

In line with the methods of lexicology/(meta)lexicography and terminology, the concepts observed are examined in terms of their processes and *representations*, within the analytical framework of cognitive linguistics and translation studies. The investigation starts with the concept (the referent) to be analyzed, and re-constructs both the meaning (the *signified*) – usually shared among the languages and cultures under investigation (i.e., Chinese, English, French, German, Italian, Russian, and Spanish) and the designation of the concept (the *signifier* in Saussurean terms) (de Saussure, 1916).

The results of this analysis provide a useful description of the most relevant crosslinguistic and cross-cultural modifications that the concept undergoes as it is affected by the different *Weltanschauung* of the culture and language involved, and how they relate to corporate culture/s. The findings of the study demonstrate to what extent this imposes limitations and constraints upon the development of translators' creativity in the relevant specialized language, which in turn has implications for the development of trainee-translators' competence and relevant translation teaching materials.

2 Theoretical background

The most relevant theories underpinning this study are briefly described below in selected details which serve the purpose of supporting the analysis of the case study that follows.

2.1 Visual perception and culture

Perception is an active process in which different levels of analysis interact to determine what we perceive and understand (Medin, Ross & Markman, 2005, p. 71). The visual system forms internal representations of the visual world, and extracts useful information that allows people to interact with their three-dimensional environment (Medin, Ross & Markman, 2005, p. 72). According to Marr (1982), low-level vision involves extracting preliminary information such as edges, motion and depth, while high-level vision is concerned with the perception of large-scale elements of the world like whole objects or faces. Gibson (1950) remarked that, since the perceptual systems are designed to serve a person's goals, the visual system will seek out information to help individuals achieve their own goals. However, the sensitivity to goals may help constrain the way information about the visual world is interpreted (Medin, Ross & Markman, 2005, p. 72). This remark is fundamental in the discussion of the case study that follows.

So, how do we identify objects in the world based on visual properties like their shape? According to *feature detection theories*, recognizing an object involves decomposing a complex stimulus into its features (i.e., separate, distinct parts of the object) and then matching the features against the features in the representations of objects in the long-term memory (Medin, Ross & Markman, 2005, p. 85). The popularity of feature-based models also lies in their productivity, i.e., the fact that features provide a vocabulary for constructing objects, just like the letters of the alphabet can be used to compose hundreds of thousands of words. However, featural models can address only part of the problem of object recognition as they do not take spatial relationships into account, while *structural description theories* include both features describing parts of objects and spatial relations describing how the parts connect (Palmer, 1977). A third theory of object recognition (template matching) assumes that the representations of images are actually two-dimensional arrays of picture elements, and template matching consists in finding corresponding elements between the current visual image and the template, and determining how well they match up (Medin, Ross & Markman, 2005, p. 91).

A fundamental question concerns the influence of culture on visual perception. A number of culturally oriented psychologists have recently investigated how cultural practices might influence relatively low-level perception and attention, and hypothesized that "in Western cultures people tend to focus attention toward a distinct object and its attributes in lieu of the broader context in which the object is embedded. In contrast, in East Asian cultures people tend to attend more holistically to both an object and its context" (Ishii, Tsukasaki & Kitayama, 2009, p. 104). The cultural differences observed in object recognition substantiate the assumption that in East Asian cultures people are socialized in such a way that they can "see the forest", while in Western cultures people are accustomed to "scrutinizing the trees" (Ishii, Tsukasaki & Kitayama, 2009, p. 108). Of course, these (hyper)generalizations are directly proportional to the cohesiveness of the group, i.e., the more cohesive the group, the more coherently distributed the visual perception.

2.2 Conceptualization and construal

How we conceptualize the same scene in different ways is fundamental to the individual's cognition and is reflected in the lexis (and grammar) of the language used. Langacker (1987) called the different ways of conceptualizing a scene *construal*, and observed that languages systematically provide means for different kinds of construal. One type of construal involves *frames* of knowledge with respect to which the conceived situation is characterized. Another type focuses on the *compositionality* of the conceptualization, e.g., by combining several elements into a whole in some particular way. Several are the types and configurations of construal that have been identified by scholars (Talmy, 2000a, 2000b; Langacker, 1987, 1990, 2019; Slobin, 1996; Bowerman, 1996; Levinson, 2003; Croft & Wood, 2000; Croft & Cruse, 2004; Pederson, 2007), also in a crosslinguistic perspective (Jarvis, 2011); however, organizing them in an all-encompassing classification system seems to be a daunting task (Verhagen, 2007).

Construal operations are the natural conclusion of a conceptual, enactive approach to meaning rather than a perceptual, passive approach to meaning. "They show the observer not as simply representing their world but as shaping an image of it, locating themselves in different vantage points and taking different perspectives" (Holme, 2009, p. 112).

2.3 Cultural cognition and conceptualization

Conceptualizations refer to fundamental cognitive processes such as *schematization*, involving the systematic selection of certain aspects of the referent over others (Talmy, 2000) and *categorization*, involving the association of distinct entities by similarity (Rosch, 1978).

At the cultural level of cognition, they are generally distributed across the members of a cultural group as a result of their interaction, and are referred to as *cultural conceptualizations*, conceptualizations that embody group-level cognitive systems such as worldviews. In fact, different cultural groups may produce unique instantiations of their own cultural conceptualizations, which can be reflected in such cultural artefacts as painting and language, and are constantly (re)negotiated across generations (Sharifian, 2011).

Language embodies cultural schemas and categories that characterize the cultural cognition of a particular speech community, and acts as a carrier and repository for their cultural conceptualizations. Therefore, "the cultural grounding of language can facilitate communication between those who share certain cultural conceptualisations while it can complicate or even impede fluid communication between those who do not." (Sharifian, 2011, p. 92), which translates into even greater complexity when dealing with cultural conceptualizations at a cross-linguistic, cross-cultural level. It is worth noting that cross-cultural differences in conceptualizations do not always lead to differences in language use, as well as cross-cultural similarities in language use

do not always stem from similar conceptualizations shared by different cultures.

According to Wierzbicka's *Natural Semantic Metalanguage* (1996), all languages share about 60 semantic primitives, i.e., elementary units of meaning that are building blocks of complex and culturally specific meanings. Wierzbicka's approach thus offers a way to explore the cultural underpinning of speech acts ('cultural scripts') in terms of a set of fundamental meanings ('semantic primes'), which are assumed to be universal. These primitives include activities such as *see*, *move*, and *get*; qualities such as *color*, *intensity*, *shape*, and *size*; and relations such as *is*, *part*, *in*, *before*, *cause*, and *intend*. Wierzbicka postulated that the meaning of a word does not depend on the meaning of other words in the lexicon, but rather is to be seen as a configuration of semantic primitives, and added:

[...] although the meaning of a word does not depend on the meanings of other words, to establish what the meaning of a word is one has to compare it with the meanings of other, intuitively related words. By comparing a word to other words that intuitively are felt to be related to it, we can establish what each of these words really means; having done this, we can compare them again, this time more precisely, being able to identify the elements that are different. Proceeding in this way, we can often discover remarkable symmetries and regularities in the semantic structure of many words—as well as unexpected asymmetries and irregularities. We can discover self-contained fields of semantically related words with analogous semantic patterning. We can also discover irregular and open-ended networks of interlacing networks. (Wierzbicka, 1996, p. 170).

Both 'relativists' and 'universalists' find some appeal in this approach, due to the consistency and stability of its notation over three decades. Chaffin also (1992, p. 259) agrees upon the idea of primitives ("relations, like other concepts, are composed of more primitive constituents"), and Lehrer, Kittay and Lehrer (1992, p. 14) support the concept of an organized lexicon providing "a way of looking at the possibility of lexical universals by grouping together conceptually related words that may not have an exact translation (or at least an exact lexicalized counterpart) in another language", and suggest cross-linguistic comparisons within a common conceptual space, where "word-for-word translations may not be available". The outcome of such comparisons may shed light on transcultural primitives (Wierzbicka, 1992).

2.4 Lexicology/Lexicography, Terminology/Terminography and Linguistic Typology

The ongoing debate on the increasingly blurred boundaries between lexicography, lexicology, terminology, and terminography (Bergenholz, 1995; Cabré & Sager, 1999) is only of some relevance to this study insofar as it concerns domain-specific lexical items. For instance, Lewandowska-Tomaszczyk (2008, p. 305) sees "no real ground to postulate a mutually exclusive division between lexicology and terminology, even though reasons to *identify terminology as a special subdomain of lexicology are methodologically and functionally valid*. From the point of view of their lexical status however – the category of terms is as fuzzy and as dynamic as classes of natural types

and artefacts."

On a more conventional note, Riggs (1989, p. 89) considers lexicology/lexicography and terminology/terminography as complementary fields at both structural and functional level. While the former adopts a semasiological model (from word to meaning), the latter basically follows the opposite direction, adopting an onomasiological model (from concept to term).

To make the situation even more complex, another sub-field of linguistics comes to the foreground: linguistic typology. Typologists describe differences and similarities in languages, with reference to one or more parameters. Van der Auwera and Nuyts's definition of linguistic typology is particularly interesting for the current research; they see it as "a cross-linguistic, descriptive as well as explanatory enterprise devoted to the unity and diversity of language with respect to linguistic form or the relation between linguistic form and meaning or function" (2007, p. 1074).

This study takes a lexicological/terminological approach in that it starts with the concept and the related terms in various languages/cultures (onomasiological process), and then turns to a metalexicographical/lexicological approach (semasiological process) in order to reconstruct the meaning of the words identified. Finally, from the typological perspective, it provides "a cross-linguistic (a) description (b) and explanation (c) of the unity and diversity of languages (d) with respect to linguistic form (e) or the relation between linguistic form and meaning/function (f)" (Van der Auwera and Nuyts, 2007, p. 1075).

3 A case study

In his "Word Grammar" (1984), Richard Hudson defines language as a conceptual network of (a) forms, (b) meanings, and (c) lexemes. His theory of language views concepts as prototypes rather than classical categories defined by necessary and sufficient conditions. All the links in the network have equal status, and the network itself has no clear boundaries between areas of knowledge. There is also no clear boundary between 'internal' and 'external' facts about words, which means that grammar also incorporates sociolinguistic facts.

We will elaborate on this idea of language starting from the conceptualization of a referent, as represented in a picture, graph, chart, or similar visual aid, and reconstructing the association between signifier and signified in multiple languages, giving priority to none of them (which means treating each as a source language), so as to expose the cultural differences of each in denoting (and connoting) the referent, and the difficulties translators would meet in providing acceptable solutions for the target culture.

It is generally assumed that culture gives specific meaning to words and concepts. By using the following example, we have the chance to prove that not only does it provide the meaning but it also determines the form. To what extent it does so (and so differently across several languages) will be apparent in this example.

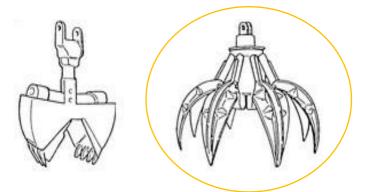


Figure 1 – Common buckets used in industry (the focus is on the second type)¹

The objects in Figure 1 will allow us to show how culture-specific items in specialized languages – the language of engineering in this case – are perceived (differently) across cultures.

The mechanical devices in Figure 1 represent the most common buckets used in industry (namely, a *clamshell grab*, on the left, and an *orange peel grab*, on the right). These devices are generally attached to a crane or excavator and used to lift objects (metal scraps, stones, wood chips, etc.). The terms in Figure 2, which designate the device on the right in Figure 1, focus on its shape – the device has six or eight segments (of 'peel') independently hinged around a central core. These terms are indicative of how a language impacts the speakers' worldview.



Figure 2 – Terms designating the device on the right in Figure 1 in multiple languages, drawn from the captions under the pictures of 'orange peel grabs' available on the web search pages in the relevant languages

Of the six languages represented in Figure 2, three (Chinese, German and French) opt for a propositional meaning, while the remaining three (English, Spanish and Italian)

¹ Source: own sketches.

prefer to use a term which expresses its evocative meaning (Cruse, 2000).

3.1 The case with English

From a cursory look at the terms in Figure 2, one thing stands out: the English designation is the only one using the 'orange peel' (See Figure 3) metaphor, which is quite stunning as English (both British English and American English) has historically influenced the language of technology globally, with some notable nationalistic exceptions, including French (e.g., compare 'computer' and 'ordinateur').

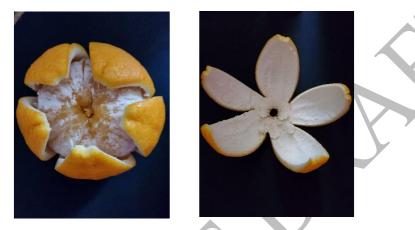


Figure $3 - Orange peel^2$

Both the propositional meaning and the evocative meaning have sifted through the domain-specific vocabulary of several languages (e.g., the 'butterfly' metaphor in 'butterfly valve' is regularly reproduced in quite a number of languages, including French: 'papillon (mécanique)', Italian: 'valvola a farfalla', Portuguese: 'válvula borboleta', Spanish: 'válvula de mariposa', and even Chinese: '蝶阀 (*diéfá*)' and Arabic: 'valvola meaning: the German and Russian, which prioritize the propositional meaning: the German 'Absperrklappe' focuses on the function of the device, while the Russian 'дисковый затвор (*diskovyy zatvor*)' basically describes its components.

It is therefore peculiar that the 'orange peel' metaphor in 'orange peel grab' has not made it through ANY of the other languages considered. What makes the 'orange peel' metaphor so unacceptable (Lakoff & Johnson, 1980)? Although we might think of it as a *cultureme*, i.e., a formalized, socially embedded phenomenon that exists in a particular form or function in only one of the two (or multiple) cultures being compared (Katan, 2008), it is difficult to find any real reason why other cultures should not accept the analogy; after all, there are not many ways in which an orange can be peeled other than in segments (e.g., in spirals, in quarters, in strips). Yet, variants could be a clue. fundamental difference between The a word (Language for General Purposes/Lexicology) and a term (Language for Specific Purposes/Terminology) lies in the specificity of the latter, which in most cases removes any ambiguity that the word might have had in the general language or provides it with a new meaning. An example

² Photos by Author.

is the word 'consideration' in everyday English, meaning 'thoughtfulness, concern, respect, kindness' (Collins Cobuild dictionary online), and the term 'consideration' in legal English, meaning 'the cause, motive, price or impelling influence which induces a contracting party to enter into a contract' (West's Law and Commercial Dictionary, 1988). Consequently, if a metaphor in one LSP culture does not evoke a specific image – and that only – in another LSP culture, it is very unlikely that the metaphor will be selected to produce the term in that culture.

As far as the 'orange peel' metaphor is concerned, the reason for the lack of assimilation of the metaphor in other languages/cultures may lie in (a) the lack of a corresponding, unambiguous cultureme that may match the image of the concept to be expressed; (b) the polysemous quality of the expression 'orange peel', which means: (1) the thick pitted rind of an orange; and (2) anything resembling this in surface texture, such as skin or porcelain (Collins Cobuild Dictionary online). As a matter of fact, even if 'orange peel' were not polysemous and could be defined in terms of (1) only, it would still lack a feature necessary to depict the orange peel grab function: motion. When we think of this grab, we imagine it in all its power as it is grasping some bulky materials with its jaws, like a mighty sea creature, which is not the way we conceive of it when associating 'grab' to 'orange peel'. The effectiveness of the metaphor to depict the concept is therefore paramount in designating, denoting and connoting a culture-bound, domain-specific term.

Katan (2008) noted that no word is entirely denotative and that even words that only apparently seem to be domain-specific can have embedded cultural references. In order to discover if this applies to languages and cultures other than English, and to occurs this in the particular case what extent at issue. a lexicological/terminological/typological analysis was conducted on each of the languages mentioned in Figure 2, and is reported in the next paragraphs. Some additional languages (Dutch/Flemish and Russian) will be used, too. To this purpose, it is worth mentioning that the terms in Figure 2 were drawn from the captions under the pictures of 'orange peel grabs' available on the web search pages in the relevant languages. They therefore represent the shared designations agreed upon by the relevant cultures. Remarkable differences were noted between those terms and the terms available in either specialized dictionaries or term bases such as IATE.

3.2 The case with Chinese

The entry for $\mathfrak{M} \not\triangleq (zhu\bar{a} \ dou)$ 'grab' from a monolingual Chinese Mandarin Dictionary³ provides a description of the device that actually fits both types of grabs as it does not specify the composition of the jaws. $\mathfrak{M} \not\triangleq [zhu\bar{a} \ dou]$, grab

[詞語, cíyǔ, words]: 抓斗 [zhuā dǒu], grab

[拼音, pinyin, pinyin]: zhuā dǒu

[解釋, *jiěshì*, explanation]: 自動抓取和卸出散料的一種吊具。由專用絞車驅動的兩根鋼絲繩 和顎板組成。一根鋼絲繩控制抓斗的升降,另一根控制顎板的開合。廣泛用于機械化作業。 [A spreader that automatically grabs and unloads bulk materials. It is composed of two steel wire ropes driven by a special winch and a jaw plate. One wire rope controls the lifting of the grab, and the other controls the opening and closing of the jaws. Widely used in mechanized operations.]

After searching Chinese web sites for a more detailed description of $\pi \stackrel{>}{\to} (zhu\bar{a} d\partial u)$ 'grab', a micro-corpus was compiled out of the first 10 pages of hits returned by the search engine (100 industrial websites), and it was found out that:

- 1) 抓斗(*zhuā dòu*) 'grab' is the institutionalized designation of the generic idea of 'grab';
- 2) $\[mu]{} \$ $(zhu\bar{a} \ dou)$ 'grab' does not collocate very often with pre-modifiers (adjectives or nouns in adjectival position);
- 3) most pre-modifiers relate to the grab operating mode: e.g., 机械抓斗(*jīxiè zhuā dòu*) 'mechanical grab', 液压抓斗 (*yèyā zhuā dòu*) 'hydraulic grab', 电动液压多 瓣抓斗(*diàndòng yèyā duō bàn zhuā dòu*) 'electro-hydraulic multi-jaw grab';
- 4) the last example in (3) contains the closest equivalent to the term 'orangepeel grab', namely 多瓣抓斗 (*duō bàn zhuā dòu*) 'multi-jaw grab'.

Confirmation of this came also in the form of a more detailed description of the grab, which reads: 抓斗,是指起重機抓取干散貨物的專用工具。由兩塊或多塊可啟閉的斗狀顎板合在一起組 成容物空間 (*zhuā dòu, shì zhǐ qĭzhòngjī zhuā qǔ gàn sàn huòwù de zhuānyòng gōngjù*. *Yóu liǎng kuài huò duō kuài kě qǐ bì de dòu zhuàng è bǎn hé zài yīqĭ zǔchéng róng wù kōngjiān*) 'A grab is a special tool for cranes to grab dry bulk cargo. **Two or more openable and closable bucket-shaped jaws** are combined to form a container space.' [bold type added]⁴

The linguistic material collected was enough to confirm the findings as long as Standard Mandarin (Simplified characters) was concerned: an orange-peel grab is generally addressed with the hypernym $\overline{M} \stackrel{\text{d}}{=} (zhu\bar{a} d\partial u)$ 'grab' and, if need be, with the more specific $\overline{S}_{\overline{M}} \stackrel{\text{d}}{=} (du\bar{o} b \partial n zhu\bar{a} d \partial u)$ 'multi-jaw grab'. This English version of the Chinese term should not mislead the reader into thinking that the Chinese term has opened up to a different kind of metaphor than the orange peel, i.e., an animal metaphor

³ https://word.aies.cn/ci/9433.htm

⁴ The very same description appears in thirty-two Chinese websites.

(because of the jaws). As a matter of fact, $\Im \not\equiv (du\bar{o} b \dot{a}n)$ actually means 'multi-part', which does not collocate with grab, while 'multi-jaw' does, even though not very often and only in British English. However, the findings are confirmed: Standard Mandarin does not require or accept any metaphorical designation of the referent, along with German and Russian (see below).

Findings differ completely in the case of other Mandarin dialects that use traditional characters, such as Taiwanese Mandarin, a variant of the Standard Mandarin. In Taiwan, the standard dialect is called 國語 (*Guóyǔ, Kuo-yü*), while the Standard Mandarin widely used in the People's Republic of China (PRC) is called 普通话 (*Pǔtōnghuà*). Taiwanese Mandarin makes use of the traditional Chinese characters as opposed to the simplified Chinese characters used in the PRC. The pronunciation, the grammar and some vocabulary may differ. Some technological words or idioms are only specific to Taiwan and are not used in Mainland China. The so strongly resisted metaphor of the orange peel seems to appear profusely in Taiwanese Mandarin. The term 橘皮型抓鬥(*jú pí xíng zhuā dòu*) [lit. 'orange peel type grab'] contains the immediate equivalent of 'orange peel' followed by the character meaning 'type, model', and the Taiwanese traditional version of the character ⊣ (dòu) which is pronounced in the same way as the mainland simplified version: ⊣ (dòu). The Taiwanese term, however, raises a couple of cultural issues.

Palmies (2017, p. 103) observed that culturemes are not necessarily ethnospecific: "In spite of their dependence on local culture, nothing prevents culturemes from being shared by several languages, since the limits of linguistic communities do not necessarily match the cultural ones"; however, once culturemes are acquired by a different language community, they should remain and be recognized as cultural symbols. If the metaphorical relations are not recognized, there is no shared knowledge, thus there is no cultureme.

In the case of the Chinese term $\frac{1}{4}b(j\hat{u}p\hat{i})$ 'orange peel', there is no metaphorical (in)tension in that it only provides its propositional meaning, i.e., "1) the thick pitted rind of an orange", and "2) anything resembling this in surface texture, such as skin or porcelain" (Collins English Dictionary, 2014). The more so, as it collocates with other nouns to form compounds such as 'cellulite': 橘皮组织 or 橘皮組織(both júpízǔzhī). Again, the problem lies in the stativity of the image produced: a still picture of the skin of an orange. What if a more dynamic term is used, e.g., 剥皮(*bāopí*) 'peeling', which means 'to skin, to peel, to escoriate'? Would the metaphorical level be at least partially restored? If it is culturally accepted and shared that an orange is peeled like the one shown in Figure 3, that is possible; however, we should consider why, if that is true, the choice has not been made before. Apparently, as the recipe for preparing Chenpi shows (https://www.douguo.com/cookbook/1635010.html), the procedure seems to follow the same pattern, even if the skin is removed from the fruit in quarters instead of multiple sections. The result is perfectly comparable to Figure 3 and can establish a metaphorical relationship with the orange peel grab; however, the potential of the metaphor has remained unexplored. As a matter of fact, this seems to be a case of partial borrowing: what has been borrowed is the signifier only, while the signified has been zeroed, or at least made unproductive, as it does not generate any relevant image in spite of the figurative language used or, if it does, it is not functional.

One last question that concerns Chinese should now be asked: If the orange peel metaphor has been made inoperable, is there any chance that the second metaphor found in two other languages (Italian and Spanish) in Figure 2, i.e., the 'octopus' metaphor, may be successfully transferred to Chinese?

The octopus has a long history in the Chinese collective imagery. To start with the latest realization, we should note that the largest airport in the world, the new Beijing Daxing airport (Big Star airport), viewed from the air, looks like a giant octopus, although, in the eyes of its architects, the airport has nothing to do with an octopus or a starfish, but it should rather recall a phoenix, rising from the ashes. However, the image of the octopus does not enjoy the best reputation in the West, and this reflects on the East in many ways. For instance, the yellow octopus is one of the most iconic and recurring yellow perilism (anti-Asian racism) in images of the West (http://www.multiculturalaustralia.edu.au/library/media/Image/id/623). Even though this particular meaning of the octopus has varied across time and space, the image of the yellow octopus has resurfaced in connection with periods of anti-Asian racism. Therefore, the 'octopus' metaphor used in Italian and Spanish to designate the orange peel grab might not be the most appropriate choice for a transferable metaphor applicable to Chinese as well.

3.3 The case with Italian and Spanish

As anticipated, the designations in Italian and Spanish – *benna a polipo* (IT) and *pulpo* (ES) – both refer to the 'octopus' metaphor. However, while the former consists of a head noun (expressing the propositional meaning, i.e., the name of the device) followed by its modifier (expressing the evocative meaning, i.e., the pictorial metaphor associated to the referent), in the latter the modifier has taken over the head noun, thus conveying a doubly metaphorical meaning, at both propositional and evocative level. In both cases, the powerful image of a giant octopus evokes the glorious past of the two countries as sea powers (positive symbolism), although the same image, in other contexts, has taken on a negative connotation, as in the case of Mafia with its tentacles entwined around Italy (and, in this globalized world, many other countries).

The octopus has the same symbolism and meaning in many cultures: it is a symbol of strength. In some other cultures, it is shown in a negative light, as the beast of the Underworld. The Western symbolism of the octopus as an all-enveloping communist state, strangling dissent and individuality, is counterbalanced by the link existing between the Swastika symbol and the octopus in many parts of the world. It is most likely that, because of the latter connection, the 'octopus' metaphor is struggling to replicate itself in such a domain-specific context as engineering.

Conceptualization and designation of the type of grab at issue in other languages will reflect the same cultural dilemma as the two cases briefly discussed above. While the idea of the orange peel would deliver a rather weak image of the grab in most cultures, since the stative representation of the orange peel does not exceed the pictorial analogy, the dynamic representation of the octopus seems to deliver a much more transferable metaphor of power (both pictorial and multimodal) that can be usefully associated to the grab function. However, the latter metaphor has found multiple, unsurmountable culture-bound obstacles on its way to success.

3.4 The case with French, German, and other languages

The French term *grappin* is a polysemous word meaning both 'anchor' and 'grab', which have similar shape, but reverse function. When denoting a grab, *grappin* is generally used alone to include all types of grabs and, occasionally, it is integrated by its functional goal (e.g., *grappin à ferraille* 'scrap grab') and/or compositional details (e.g., *grappin a 6 brins* 'six-jaw grab'). However, even with such specifications, the grab may still describe both types in Figure 2. What derives from these basic considerations is that the French designation is the most generic designation among those included in Figure 2: it privileges the propositional meaning while rejecting any figurative transfer (with the exception of the original similitude between 'anchor' and 'grab').

Likewise, the German term *Mehrschalengreifer* discloses its propositional meaning denoting shape: it literally means 'multi-shell grab'. German, though, also offers two evocative variants: *Apfelsinenschalengreifer*, derived from the original American term *orange peel grab*, and *Polypgreifer*, used by the German company Demag GmbH, Duisburg, and also in the Flemish and Dutch compound noun *poliepgrijper*. Both variants appeared in a Springer Verlag publication dated 1937, probably the most comprehensive and detailed manual of mechanical engineering in construction industry ("Handbuch des Maschinenwesens bei Baubetrieb") of all times: it consists of 3 volumes edited by Georg Garbotz, professor at the Technical University of Berlin, the third of which (650 pages) is devoted to all equipment for moving earth and other heavy loads, and is packed with pictures, tables, graphs and examples.

From the propositional variant of the German term, the Russian calque *многочелюстной грейфер* 'mnogochelyustnoy greyfer' (lit. multi-part grab) is derived, while the more general *грейферное оборудование* 'greyfernoye oborudovaniye' relates more to the French term *grappin*. Both, however, keep away from any figurative designation of the equipment described, as is apparent from the somewhat hilarious comment in the description of grabs in an article of *OchoBHDE cpedcmea* 'Osnovnyye sredstva', *Basic means* (of earth moving and transportation) (https://osl.ru/article/5554-rakushka-apelsin-kaktus-greyfery): "Часть их поэтично сравнивают с апельсином: orange peel grab или даже с кактусом cactus grab. В отечественной технической литературе такого разделения нет, любое устройство такого типа называется «грейфер»." [translated as "Some of them are **poetically** compared with an orange: *orange peel grab*, or even with a cactus: *cactus grab*. There is no such division in the domestic technical literature; any device of this type is called a "grab"."⁵]

⁵ Author's translation and emphasis.

4 Discussion and further prospects

As discussed earlier, cultural conceptualizations are the ways in which people across different cultural groups construe various aspects of the world and their experiences (Sharifian, 2011). These include people's view of the world, including conceptualization of the corporate culture, organization and reputation.

The advent of globalization has resulted in a plethora of product choice, and promotional activity, which may determine the success of a company. In such a market situation, corporate reputation has become even more important, as companies with a good reputation are likely to attract more customers and investors. Companies that are able to improve their perceived reputation will be in a better position to increase stakeholder satisfaction and build loyalty to the brand. Multinational corporations in particular need to monitor the global consistency of their stakeholder perceptions, and make sure that the company brand and product names contribute to improving it.

The examples below will illustrate both fallacious and successful reasoning behind brand product names of grabs, other than those examined in section 3.

4.1 Example 1

In the English translation of their web sites, quite a number of Italian manufacturers of orange peel grabs have stubbornly kept the figurative language of their source texts, thus translating *benna a polipo* as *Polyp grab* without checking for possible cross-cultural misunderstandings.

As a matter of fact, the English term *polyp* is a polysemous word meaning: 1) [zoology] – one of the two forms of individual that occur in coelenterates. It usually has a hollow cylindrical body with a ring of tentacles around the mouth. – 2) *Also called* polypus – [pathology] – a small vascularized growth arising from the surface of a mucous membrane, having a rounded base or a stalk-like projection (Collins Dictionary). As regards (1), for many years both *polyp* and *octopus* have commonly been used to refer to the same animals; however, the English preference for *octopus* has made *polyp* redundant. For this reason, when the word *polyp* is used in English, it is the 2nd meaning in the dictionary that is more likely to be associated with it, which makes it a bad choice for marketing ANY product.

The Italian companies Marchesi (https://www.marchesigru.com/en/cranemanufacturers/), Rozzi (https://www.rozzi.it/en/azienda.php), and Toro Loco (http://www.torolocoitaly.com/en/) use *polyp grabs* (or *polyp grapples*) instead of *orange peel grabs* in the English version of their websites. Gusella, now Gusella-Bakker, used to do the same, but recently, after merging with the Dutch company Bakker Hydraulic Products, turned to the correct translation, as in the case with Negrini (http://www.negrini.org/index.php/en/).

Unexpectedly, one of the Italian grab manufacturers, Minelli (https://www.minellisrl.it/en/products), has come up with an idiosyncratic solution: *polygrab*, which reduces the recourse to the figurative language of the source term (*polyp* is turned into *poly*), while retaining the morphological 'likeness', and the meaning of 'multiple'. However, a second problem surfaces: the term conflicts with

the same name given to various products in totally different industries (see https://www.medicalexpo.com/prod/olympus-america/product-78904-651494.html, http://geminiadhesivesgroup.com/product-polygrab.php, and the Keychains POLYGRAB ZERO Anti Corona Touch Aid available in Asian markets).

4.2 Example 2

The Dutch company Nemag has used (and possibly coined) another term for the same device: *cactus grab*; since there is no apparent connection between the actual form of the crane attachment and the idea or image of a cactus, we must conclude that the coinage is the result of the creative use of language, and very likely a marketing operation itself, meant to differentiate and identify the product uniquely on the global market. Global marketers would tend to use a term that can be pronounced similarly in different languages without giving rise to unwanted cross-cultural ambiguities. The word *cactus* seems to work fine in this regard.

From a linguistic viewpoint, the question arises as to whether a translator should localize the term in the target culture and, if so, in which way. A quick web search in national domains (e.g., .it and .fr) showed that the term *cactus grab* is not translated, but as such it tends to be interpreted as a brand name, capitalized and preceded by the localized version, namely *benna a polipo Cactus Grab* (on Italian websites), and *grappin Cactus Grab* (on French websites), which means that the aim of Nemag marketers has actually been achieved.

Some final words of caution need to be presented as to the use of specialized dictionaries and data banks such as IATE. Although this study mainly relies on a lexicological approach, and adopts an onomasiological model (from concept to term), which means that the designations in the various languages analyzed have been drawn from the specialized knowledge base shared by the relevant domain-specific communities of practice (specialized literature, technical encyclopedias, webpages of images in national domains, and relevant captions and descriptions), during the investigation conducted, specialized dictionaries and IATE data bank were checked to confirm whether they provided aligned information for each term. From the lexicographic point of view, many were the entries that should have been amended or even deleted (e.g., 'cactus-type bucket' and ' shaft-sinking grab' in English, 'benne preneuse de fonçage' and 'benne preneuse multi-bras' in French, 'benna a spicchi multipli' in Italian, to name a few), while from the pedagogical point of view, a translator trainee should better be taught how to consult primary sources in the target language, how to design, compile and use comparable corpora, and how to apply conceptual models such as the translation equivalence model (Gaballo, 2010) in order to achieve fully functional terms that are recognized by the relevant domain-specific communities of practice.

5 Conclusions

This study is located at the interface of language, cognition and culture.

From the theoretical point of view, it refers to a growing body of research

indicating that cultural or experiential differences cause disparities in the way we see or interpret the world. For instance, people from East Asian cultures are socialized in such a way that they acquire the cognitive tools of "seeing the forest", so they are more likely to spot changes in the background of a scene, whereas Westerners seem to acquire the cognitive tools of "scrutinizing the trees", as they tend to notice changes in central objects. These different habits are likely to reflect the different socialization goals of culture, which may vary across different cultures (Keller, 2003) as well as across different individuals within any given culture (Ishii, Tsukasaki & Kitayama, 2009, p. 108). Therefore, the role of socio-cultural experiences in shaping different styles of processing is undeniable (Ishii, Tsukasaki & Kitayama, 2009, p. 109). Cultural conceptualizations emerge from the interactions between the members of a cultural group, and are constantly (re)negotiated across generations (Sharifian, 2011, p. 17).

This study reflects the assumption (Evans, 2007) that language users generally construe a conceptual representation as encoded in language, which in turn affects the conceptual representation that the utterance evokes in the hearer's/reader's mind. These conceptualizations also have language-specific effects in the relationship between language and cognition that emerge in the form of cross-linguistic influence. For example, the choice of words for referring to objects and actions often reflects ways of conveying meaning and intentions that are specific to particular language backgrounds (Jarvis, 2011).

From the methodological point of view, this study has taken a lexicological/terminological approach to the concept and the related terms in various languages/cultures (onomasiological process), and then reversed the process (semasiological process) applying a metalexicographical/lexicological approach in order to reconstruct the meaning of the terms identified. Finally, from the typological perspective, it provided a cross-linguistic description and explanation of the unity and diversity of languages with respect to the relation between linguistic form and meaning/function (Van der Auwera and Nuyts, 2007: 1075).

The terms analyzed are indicative of how a language impacts the speakers' worldview, and the analysis conducted showed how culture-specific items in specialized languages – the language of engineering in this case – are perceived (differently) across cultures. Unexpected asymmetries and irregularities have been discovered in the semantic structures of the terms examined: 'orange peel grab' in Chinese, English, French, Italian, Spanish, and Russian.



Figure 4 – Distribution of culturemes in 'orange peel grab' designations

In a hypothetical cross-linguistic distribution of culturemes, the 'orange peel' metaphor has revealed to be the least productive cultureme, in that it only shows in English, and partially in Taiwanese Mandarin (Traditional Chinese characters), where the semantic level has been neutralized, while it shows complete divergence with any other of the languages observed. Conversely, the 'octopus' metaphor seems to have succeeded as an accepted cultureme in both Spanish and Italian, but also in Flemish and Dutch, in spite of the cultural limitations imposed by its figurative content.

Based on the findings of this study, specialized translators seem to be affected by cross-cultural limitations that act upon their creative performance. The constraints seem to be unsurmountable within the same specific domain if the SL/SC terms have already been lexicalized in the TL/TC, while they seem to be less stringent when the translation crosses domains to achieve additional goals (such as marketing goals as in the examples above), in which case the translator is left free to even transcreate (Gaballo, 2012).

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