

SPECIFICS OF TRANSLATING OSTEOPATHIC TERMINOLOGY FROM ENGLISH INTO LATVIAN

IRINA KAĻIŅINA

University of Latvia, Latvia
University of Lyon 2, France

Abstract. The present article explores the complex issue of translation in the field of biodynamic osteopathic terminology. Due to the status of this discipline in Latvia, terms in the source language (English) still need to be transposed into Latvian, implementing the process of secondary term creation. The research examines community-generated translation practices and provides an overview of the resulting situation. The principles of terminological work are based on the communicative and frame-based theories of terminology, with the grounding principles of the General Theory of Terminology (GTT). The methodology includes qualitative and quantitative analysis of term translations obtained from 7 respondents, based on a corpus of 229 terms extracted from course books and didactic CDs in the field of biodynamics in osteopathy. The resulting data on user-generated translation practices can serve as a basis for further exploration of the given terminology in a more prescriptive key.

Key words: terminology, translation, equivalence, term creation, terminological metaphor, biodynamic osteopathy

INTRODUCTION

This article aims to provide an overview of translation practices and challenges with a focus on user-generated translation in a specific domain of manual medicine – osteopathy in the cranial field, also known under the title of ‘biodynamics’. The purpose of such a review is descriptive, the goal of determining a central term for each notion in question being beyond the scope of this particular research.

Osteopathy is a branch of manual medicine based on physical contact. The discipline originated in the United States in the late 1800s. Today, it is taught both as a medical school program and as a residency specialty for doctors in Latvia. Osteopaths, or Doctors of Osteopathy (D.O), develop their sensory apparatus to a very high degree, increasing their perceptual skills far beyond what a normal person can feel.

The profession uses an extensive original vocabulary in English as its main source language. This terminological pool presents a number of difficulties that I have been able to observe over my more than ten-year experience as a translator and interpreter in the field.

The biodynamic branch of osteopathy does not provide a uniform glossary for its terms. Definitions are rarely present in textbooks and can differ from one text to another, as the notions they mirror are very complex and seemingly abstract. Thus, the meaning of many terms remains rather vague for beginner students, especially those who embark upon the biodynamic journey. Translation only exacerbates this problem, since translators are even less initiated into the sensory worlds of osteopathy, and whenever the translation is managed by osteopaths themselves other difficulties arise.

Teachers of biodynamic osteopathy consider language as a deficient tool for the transmission of knowledge. They actively support the transmission of information by other sensory means and advocate continued use of the oral tradition. Consequently, there are relatively few publications in the field. Another factor is the apparent esoteric nature of most biodynamic terms, which has been amply criticized, undermining the level of credibility of the few D.Os who ventured to write their thoughts down.

The principle challenge of biodynamic terminology in Latvia is the fact that it has not yet been translated, since it is not a part of the basic training of osteopaths, but an elective postgraduate program. I will therefore attempt to observe the linguistic choices made by specialists in the field and establish patterns of translation practices for further elaboration and research. This research can serve as a starting point for further elaboration in the prescriptive light of lexicographical work.

THEORETICAL BACKGROUND

Translation and terminology are both conditioned by semantic, pragmatic, contextual, and cultural factors that operate both on the level of source language and that of the target language (House, 2000: 150). In order to approach the specifics of rendering terminology into different target languages, we need to delineate the subject field and point out some of the characteristics of terminological units.

In the case of biodynamics in osteopathy, we are dealing with what is considered specialized language. Michele A. Cortelazzo (2007) proposes to consider specialized language as a functional variety of common language, a variety that depends on the knowledge sector or on a specialized sphere of activity and that can be used in its entirety only by a rather restricted group of speakers in order to satisfy their communicative needs. Therefore, according to him, its primary function is referential for a given specialized sector: more precisely, on the level of lexis, the specialized language is composed of additional correspondencies, compared to the general language, and on the morphosemantic level it presents the totality of selections, regularly recurring inside the inventory of the available forms of the natural language in question (*ibid.*).

Cortelazzo goes on to say that, even though the research of specialized or special languages includes various parameters, such as morphology, lexis,

syntax, etc., the vocabulary of these languages is what most often allows us to establish their status. He adds that the lexical side of specialized languages, i.e. terminology, is distinguished from general language not only quantitatively (a higher level of lexical needs), but also qualitatively (different criteria related to the specific type of relationship between the signified and the signifier) (ibid.).

Rogers (2007: 13) gives the following definition of a term:

term: a lexical unit with a specialized meaning relating to a particular domain e.g. virus (information technology) versus virus (microbiology), platform (general language relating to train stations) versus platform (software); a term can be multiword e.g. computerized axial tomography or an abbreviation e.g. CAT or CT.

The principles of terminological analysis depend on the theoretical framework that determines the approach to empirical research. Over time, several approaches and theories regarding terminology and terms have been developed, each of them providing a unique appreciation and detail of the units in question.

The first theoretical introspection of terminology, later known as General Terminology Theory (GTT), was based on the work of Eugen Wüster in the 1930s. The GTT principles as exposed by Felber (1979) emphasize the priority of concepts, their monosemy and univocity, harmonization, the absence of synonymy, precision and neutrality, giving priority to written registers and synchronous investigation. The principles of GTT have laid out the basis for the International Organization for Standardization and continue to be present in the form of guidelines for terminological standardization and systematization, such as outlines in Skujiņa's work (Skujiņa, 2002; Skujiņa, Ilziņa, Vasiļjevs, Borzovs, 2006), for example.

For a long time, GTT remained the only framework for terminological work. But later, as a result of 'the cognitive shift' (Faber Benitez, 2009), new theories of terminology arose later in the 20th century, incorporating knowledge from other branches of science and concentrating more on the communicative, social and cognitive aspects of terminology. New approaches to terminology, such as socioterminology (Boulanger, 1991; Guespin, 1991; Gaudin, 1993, 2003), the Communicative Theory of Terminology (Cabré Castellví, 2000) and sociocognitive terminology (Temmerman, 2000) largely in tune with the two previous ones, have made it possible to include this science into a wider spectrum of research (L'Homme, 2003).

As a result of the cognitive shift, new aspects of term management have come within the scope of consideration. First of all, a certain stratification of terms has become accepted in relations to the communicative situation. Cabré (2003: 172) writes that a translation, including those in a technical field, 'must be literal regarding its content, appropriate regarding its expression, adequate regarding the register and precise regarding the rhetoric of the receptor community'.

This way, the resulting text is fully comparable to the original. Translators will obviously need to apply terminology appropriate for the specialists of the target

community, use similar range of variation of expression and select designative structures that are most appropriate to the text type in question.

Cabré proposes to evaluate a terminological unit via the theory of ‘doors’, which takes into consideration the term’s cognitive, linguistic or communicative aspect. Thus, cognitively, terms constitute ‘conceptual units representing nodes of knowledge which are necessary and relevant in the content structure of a field of specialty and which are projected linguistically through lexical units’, and thus play a ‘representation function’ for specialized knowledge (Cabré, 2010: 357). In terms of linguistics, ‘terms are lexical units of language that activate a specialized value when used in certain pragmatic and discursive contexts’ (ibid.). Finally, terms as discourse units identify their users as members of a professional group, providing a communication tool for interaction in any format, including didactic.

Modern theories of terminology also attempt to integrate the pragmatic aspect of term evaluation into terminological practice. Sager claims that term formation is influenced by the subject area in which it occurs, the nature of people involved and the stimulus for term creation (Sager, 1990: 80).

Another feature, which has been closely scrutinized within another approach called frame-based terminology, is contexts and how terms behave in texts. Faber Benitez (2009) explains how frames consider both the potential semantic and syntactic behavior of specialized language units. This necessarily includes a description of conceptual relations as well as a term’s combinatorial potential. Semantic and syntactic information is extracted from corpora using various tools. This practice can potentially provide a wealth of information for the translator and contribute to the establishment of terminological equivalents.

As stated by Faber Benitez (ibid.: 123-124), ‘conceptual networks are based on an underlying domain event, which generates templates for the actions and processes that take place in the specialized field as well as the entities that participate in them’.

Within the framework of socio-cognitive terminology model, diachronic study of terminology and the ‘splicing’ of terms used to determine the evolution of different aspects of meaning for a particular unit, has led researchers to suppose that one of the mechanisms consciously or unconsciously used in the creation of scientific terms is metaphorical modelling (Kerremans, Temmerman and Vandervoort, 2005).

In fact, when dealing with the terminology of biodynamics, one realizes that the majority of terms in biodynamics in osteopathy are metaphors. This brings about specific challenges on the level of translation due to some unique characteristics of terminological metaphors. Metaphor is one of the main ways (along with morphological, syntactic, lexical and stylistic devices) for new term formation in medical terminology (Divasson and León, 2006: 59-61), of which osteopathy is part.

As noted by Dunbar (1995: 142), ‘metaphors occur most frequently in areas where the phenomena described are not fit for our everyday language’, which is exactly the case with biodynamic osteopathy. Cognitive sciences view metaphor as a central figure of cognitive phenomena, a constitutive element of our thinking, our experience of the world, not just a tool for expressivity. A terminological metaphor or a metaphorized term, in turn, can be seen as a conceptual metaphor anchored in a particular domain, such as medicine, or more specifically, osteopathy, or social practice, where it becomes the expression of a new concept.

Terminological metaphor, according to Oliveira (2005: Online) forms a direct link with the ‘incarnate experiences’ of the specialist in a given domain, their daily practices whether those are sensory-motor, cultural, social or linguistic. Thus, anchored in a specific social practice, terminological metaphor becomes an identifier of a new concept. In a similar light, ‘it is far from a simple manner of speech’ (Assal, 1995: 23). Assal (1995) continues that the metaphor is essentially a manner of thought. Being a borrowed image in the first place, it is inserted into a particular social practice, where its meaning becomes clarified by the actors of the domain. As a result, it becomes an expression of a new concept.

Metaphors in biodynamic terminology present instances of ‘interactive metaphors’ (Oliveira, 2005: Online) that compares two domains implicitly and aim to surprise the mind, thereby inciting scientific research of similarities between the domains in question. After a certain cognitive conflict, specialists begin to consider the object of the metaphor in a different perspective, which predisposes them to proceed to conceptual change. In terms of translation and equivalence, metaphorized terms can present a rather important challenge. As Knudsen (2003: 63) remarks, newly-produced metaphorical expressions require certain clarification, they are to be ‘subsequently [...] tested, accepted or discarded, questioned and extended in order to be scientifically acceptable’. The clarification process is reproduced several times until the metaphor in question is officially scientifically accepted.

While that protocol may be the ideal way to proceed, it has not happened this way for osteopathy in the biodynamic field. Metaphors were created by various authors and groups, some presenting obscure motivation, often without sufficient explanation or pragmatic perspective.

In cases like this, translators are often at risk terminologically, since misunderstood metaphors can result in differing interpretations across cultures or even within the same one. Conversely, whenever specialists themselves translate terms, the risk is that they invest their own personal interpretation into the target language neology. Assumptive frameworks, which allow us to filter out the unnecessary information and focus on the pertinent statement, are not automatically activated in ambiguous cases, and metaphor mapping (the correspondences that exist between the source and the target domain) may differ.

As stated previously, the particularity of this research resides in the fact that no translations into Latvian have yet been made for this discipline, nor have any

of the teaching seminars in biodynamics been interpreted into Latvian. Thus, the terminology in the target language is virtually non-existent. This way, we cannot speak of various degrees of translators' involvement into the process (such as in the levels according to Cabré (2010: 363), since no translators are engaged in this work. Instead, we are dealing with units produced by true native-language experts in the field, which has its advantages and disadvantages. Obviously, experts in osteopathy cannot act as professional terminologists, but they do have a unique perspective regarding the concepts in question. The proposed work is not qualifiable as terminography (that is why the term 'translation' is used). Cabré (1999: 115) writes that terminological work does not indicate pure translation of a term 'based on supposedly equivalent designations', but rather it requires gathering the designations employed by language users in order to refer to a concept. If necessary, the translator can propose alternatives in cases where existing designations are unsatisfactory.

Reconciling the principles of terminology with those of translation studies is indeed not as obvious as it might seem. As Pym puts it, 'If a distinction must be made, let us propose the following: translation involves the obligation to select between more than one viable solution to a problem, whereas terminology seeks situations where there is only one viable solution' (Pym, 2011: 93). Certain adjustments will clearly have to be made in order to find the most fitting definition of the principle of terminological equivalence, inseparable from translation practice.

In terminology, there are at least two levels of equivalence for the units according to Rogers (2007): denotational and textual. The first one corresponds to the level of lemmas and helps specialists or machines retrieve information where they serve as labels for structured sets of data – it relies mainly upon lexicographic resources. The semantic information is provided by definitions. Thus, denotational equivalence includes grammatical and semantic components, as well as some pragmatics, if such information is included in glossaries.

When dealing with biodynamics though, we need to look at the second type of equivalence – textual due to the absence of lexicographic resources. In their joint article, Faber Benitez and Montero Martinez (2009: 88) point out that textual equivalence occurs 'in real life contexts and situates these specialized knowledge units within the context of dynamic communication processes'. They go on to point out that within the context of translation, terms should be studied in texts, 'as they really occur' rather than 'from the perspective of an idealized conceptual structure determined by organizations that must standardize terminology in specialized domains' (*ibid.*: 94).

Equivalence requires the recourse to specific strategies or translation procedures for interlinguistic transfer. In the absence of interlinguistic correspondences based on existing concepts in the specialized field, we are dealing with the issue of secondary term creation. Although the concepts of biodynamics are adopted into the target language with the corresponding denominations, we cannot claim that they are culture-specific, since they reflect

universal reality, valid for any culture. They do have a lot in common with culture-specific terms though in that they present gaps in terms of linguistic signs and thus belong to the category of 'equivalentless lexis' (Ivanov, 2006): more precisely, the lexicosemantic kind as defined in the tradition of the Russian school of linguistics – words and word combinations that lack ways of expression in a target language due to the absence of the notion itself in the target language worldview.

Sager (1990: 61-99) explores term formation in detail: there is planned and conscious creation of terms according to a specific plan, like in chemistry, for example. Osteopathy does not present that high a degree of organization, but this does not exclude consciousness in word choices in English. Watching the terms of biodynamics in osteopathy, the first observation made was that there was little chance of establishing rules of primary naming applicable to the field, rather than metaphorization. In biodynamics, the language of metaphor has become a convention from the start of the profession, unlike in many other technical specialties where compounds are formed on the basis of hierarchical relations between units.

Sager proposes to distinguish three major approaches to term creation: '1. the use of existing resources, 2. the modification of existing resources, 3. the creation of new linguistic entities' (ibid.: 71). These approaches call for more specific translation procedures that can be observed. Translation procedures as methods used for rendering small units from one language to another have been discussed at length in Translation Studies.

The central question of this piece of research consists in determining the translation or secondary term creation choices made by professionals in the field when rendering the terminology in their target language (Latvian) from English. The particularity of the observation process is going to reside in the fact that we will be witnessing user-generated translations without the component of the web, as defined by Perrino (2009: 62). This type of solicited community translation could hardly be qualified as a type of 'crowd-sourcing', since the number of people contributing to it in our particular field of research is rather scarce, but it still contains an element of effort on the part of the users to generate words in the target language for notions familiar to them in a foreign language.

METHODS

In order to proceed with the analysis, we first need to single out terms in the chosen field – the Biodynamics of Osteopathy. Drouin and Doll (2008) identify four criteria of termhood: formal, semantic, quantitative and textual. The formal criteria are based on statistical and linguistic methods that measure the strength of association or analyze regular term formation patterns. Indicators of termhood include such parameters as frequency, along with the reuse of lexical material between term candidates (TC) that can be an indicator of semantic

relations. The authors also cite the C-Value and NC-Value proposed by Frantzi, Ananiadou and Mima (2000), which factor the length of multiword TC as an indicator of termhood. Other formal criteria include the reuse of single word term candidate in multiword term candidates (Nakagawa and Mori, 2003). Semantic criteria include indicators of semantic relationships that are established using existing terminological resources, such as glossaries and dictionaries (Maynard and Ananiadou, 2000). Quantitative approach is based on statistical methodology in the frequency of TCs. Textual parameters imply contrastive work using corpus and ATE tools.

In the absence of dictionaries and glossaries in biodynamics, the only reliable parameter for termhood was quantitative – measuring the frequency of particular units in Sketch Engine, but it had to be combined with semantic criteria, and finally, necessitated consultations with professionals in the field, as frequency alone could not serve as an indicator. A list of candidate terms was submitted to the evaluation of experts who validated the TCs and added the missing terms based on their experience and knowledge.

Thus, the present investigation relies on a corpus of 229 terms. The terminological units were collected from the following didactic resources of osteopathy in the cranial field: 9 manuals for the corresponding ‘phase’ seminars in Osteopathy, 3 manuals for seminars on Pediatrics in biodynamics, 57 CDs recorded by the doctor James Jealous for educational purposes, each treating a specific aspect of biodynamics. The CDs have been transcribed in order to obtain measurable written material that could be analyzed with tools like Sketch Engine.

The list of terms was submitted to 7 osteopaths who have undergone a complete training in biodynamics (at least 9 basic seminars), and thus are familiar with the concepts in question. All of them are native Latvian speakers. Five of them responded and agreed to participate in the study. The participants have undergone their training with an English-speaking teacher with or without translation into Russian. The terms submitted to the participants were arranged in an Excel table in the following way: term in English, term in Russian, with an example of the term used in context and an empty field for the term in Latvian (see Table 1) where the participants were to register their responses.

Table 1 Term table

English term	Russian term	Latvian term
flame of intention (Pediatrics manual, 3 phase): The flame of intention is a therapeutic force that you can see in the patient and that communicates us the intention of the Breath of Life	plamja namerenija (Učebnik po Pediatrii, 3 faza): Plamja namerenija – èto terapevtičeskaja sila, kotoruju možno uvidet' v paciente, i kotoraja soobšæet nam namerenie Dyhanija žizni.	This field was left blanc for the participants to register their responses.

The participants were asked to fill in the term in the empty field, without translating the contextual explicitation given in the source language. They were asked to write the best possible equivalent according to their personal judgement and feeling that the concept evoked for them.

Having observed the results, I identified the underlining translation procedures. By combining Sager's (1990) approach with those of Newmark (1988: 84) and Harvey (2000: 2), I obtained a reference table for secondary term creation practices (see Table 2).

Table 2 **Term creation and translation procedures**

Term creation approach	Translation procedures
<i>use of existing resources</i> extension of meaning for the linguistic sign to embrace a new concept or exploration of the polysemic nature of general language words	<i>Functional equivalent</i> (using a referent in the TL culture whose function is similar to that of the source language (SL) referent), but also the use of a different 'culture-neutral word' (Newmark, 1988: 83). By functional equivalent, I mean a term that, in the case of metaphor, does not copy the metaphorical base of the source term, but transmits its meaning, even if with a certain degree of approximation. <i>Descriptive equivalent</i> (describing the term in several words)
<i>modification of existing resources</i> derivation, compounding, conversion and compression	
<i>creation of new linguistic entities</i> producing unique linguistic forms in the source language or by borrowing a form from the source language into the target language	<i>Calque</i> (word-for-word, formal equivalent) and <i>borrowing</i> (transcription or transliteration), subject to 'naturalization': the SL word is first adapted to the normal pronunciation, then to the normal morphology of the TL (Newmark, 1988: 82). Calques are usually multiword formations. However, in case of terminological metaphor, we may propose to consider even a one-word term calqued when its underlying metaphorical structure is copied into the target language.

This way, we have four main procedures for the translation of terms in biodynamics at our disposal: the use of a functional equivalent, descriptive translation, a borrowing and a calque. The calque can be qualified both as the use of existing resources and the creation of new linguistic entities: some calques exploit the polysemy of language by meaning extension, others are unconventional combinations of linguistic signs that can be qualified as new creations.

Regarding the modification of existing resources – this approach is especially productive for primary term creation in English but has not been observed in

Latvian. One important note is that such terms do present a certain challenge in translation, mainly because of complex relationships between term components that have to be deciphered by the translator or term user, which is not always easy. An example from our corpus is *motion testing* which is a test performed by the doctor in order to determine the range of motion permitted by the structure and its function. The interpretation of ‘test of the motion’ could be misleading, because it would mean ‘what kind of motion do we find’ rather than ‘is there motion, and if yes, how much and in which direction’. All of this information is difficult to compact into a two-word expression in target languages (especially when it comes to inflected Russian and Latvian).

With terminological metaphors, I added more parameters to help evaluate translation procedures. It seems necessary to identify the relationship between the source and the target domain for the source term and the target term and note its mapping. According to Lakoff (1993: 6), mappings are ‘a fixed set of ontological correspondences between entities in a source domain and entities in a target domain’. Since metaphorical projection is always partial – only a part of experiential gestalts that constitute the source domain structure are projected onto the target domain (Oliveira, 2005: Online), whenever a word or expression from the general language is metaphorized into terminology, a semantic modification takes place – some components of meaning are activated, while other are suppressed.

Rossi (2016: 8-9) suggests three possible scenarios for secondary term formation in the field of terminological metaphors:

- 1) Both metaphors share the same underlying metaphoric mechanism (this principle corresponds to a calque if the mapping principles coincide).
- 2) The metaphorical lexical field of the source is adapted (this one corresponds to a partial calque (or structural calque where the surface structure is calqued, but the deep relationship between meaning components changes) – if the mapping principles differ, or other meaning components are activated due to additional associations the source domain brings into the target culture).
- 3) Metaphor loses all of its heuristic power (here, borrowing renders it opaque, or the term is translated by a functional analogue, or descriptive translation, without recourse to metaphor).

Term lists submitted to the study participants were copied into an Excel table for analysis. The responses were noted in the respective cells. Since, quite frequently, the respondents noted more than one equivalent for each term, the total number of equivalents was recorded. Then, translation procedures were identified for each variant (calque, borrowing, functional analogue, descriptive translation or other).

Finally, with metaphorized terms, mapping was established in order to account for more subtle aspects of meaning.

RESULTS AND DISCUSSION

For the 229 source language terms, the four study participants submitted 1258 possible equivalents total, some of which coincided and some of which did not. The average number of variants per term amounted to 2.77. Only in the case of 19 per cent (43 terms) did the respondents come to a spontaneous unanimous choice of wording.

Translation procedures chosen by the respondents (in percentage) were distributed in the following way (see Figure 1): calque, functional analogue, then descriptive and borrowing.

Not surprisingly, calque is far and away the preferred choice of rendering foreign terms in the target language. Shuttleworth (2017: 18-19) mentions a strong 'gravitational pull' the source language exercises on the target-language user: whenever possible, it is much easier to use a calque than an analogue. For one thing, a calque is a ready-to-use unit, and transposing it into another language requires minimal effort, while a functional equivalent, in comparison, is much more energy consuming. Secondly, translators (professional or unprofessional/circumstantial) may prefer to stay true to the creator of the term: in the case of osteopathy, it means conserving the form coined by the founding fathers or at least some other figure of authority, rather than 'reinventing the wheel' in the target language. Thirdly, to people used to receiving information on their field of expertise in a foreign language, particular word combinations may have come to evoke a certain experiential resonance the structure of which they unconsciously copy into their native language.

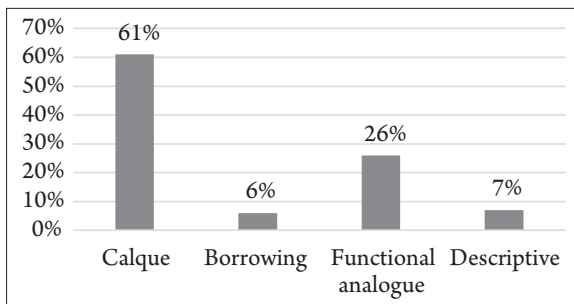


Figure 1 Translation procedures: all terms

There are, however, a few particularities that are noteworthy. Many times, calques are not uniform, divergencies ranging from:

- Slight: *divided attention* as *dalīta uzmanība* or *sadalīta uzmanība*, both meaning 'divided'. Or a change in number in *life force* as *dzīves spēks* or *dzīves spēki*.
- Moderate: *doorway of the fulcrum* as *izeja uz fulkrumu*, *fulkruma durvis*, *ceļš uz fulkrumu* or *ieeja fulkrumā*. While the underlying principle is the same:

an entry point to the fulcrum, - the wording ranges from ‘fulcrum entry’, ‘fulcrum door’ all the way to ‘fulcrum exit’.

- Considerable: *fluid drive* as *fluīda dzinulis* (a calque consisting of a borrowing + a functional analogue of the word *drive* in the sense an impetus, moving power, urge), closest to the source term. Other versions include other calques: *fluīda kustība* (fluid movement) and *fluīda spēks* (fluid power), as well as *šķidrums jauda* (fluid/liquid power) and a more descriptive *fluīda potenciālais piemītošais kustības spēks* (potential indwelling fluid movement power). The accents are placed in a different way in all of the suggested translations.

In some cases, these divergencies seem innocuous, and the perception of the term remains more or less the same, such as in *living substance* translated by *dzīva substance* (living substance) or *dzīva viela* (living matter). In other cases, the choice of words brings about different associations: *liquid light* translated as *plūstoša gaisma* (flowing light), *šķidra gaisma* (liquid light) or *ūdeņaina gaisma* (watery light) – the accents are obviously diverse.

Therefore, in each particular case, the candidate terms have to be closely examined in order to choose the one that does not bring on significant additional associations, without falling into excessive borrowing and foreignization. As an example, with the term *longitudinal fluctuation* we have a set of possible combinations including more foreign elements: *longitudinālā* and *fluktuācija*, and more domestic one: *gareniskā* and *svārstības*. All of the four elements are in use in the Latvian language, but *gareniskais* means the same as *longitudinālais*, while providing a more euphonic, ‘palatable’ and comprehensible term for the target language. Meanwhile *fluktuācija* and *svārstības* are not quite equivalent: *svārstības* is closer to oscillations that do not include the wavelike motions of the sea that the term *fluctuation* is meant to convey. Thus, the choice should probably fall on *gareniskā fluktuācija*.

Some choices are governed by consistency: when the term *lesion* is rendered as *bojājums* in the presence of another term *dysfunction* which translates as *disfunkcija*, it is only logical to choose the term *lesion field* as *bojājuma lauks*, not *disfunkcijas lauks* (as a respondent suggested), even if *lesion* and *dysfunction* are very close in meaning.

In other cases, we have to filter out some instances in which the respondents suggest confusing translations such as, for example, when *indwelling therapeutic forces* are translated as *būt terapeitiskiem spēkiem* (be therapeutic forces) or *būt klātesošam* (be present). Here, the choice obviously falls on *iekšējie piemītošie terapeitiskie spēki* (a calque with a slightly descriptive element: inner inherent therapeutic forces). Another example is where a descriptive translation is inapplicable because it is too long: *lock up* is translated as *fluīds no pārlietu lielas uzmanības var aizvērties* (fluid can lock up from excessive attention). The translation is true to the context given as an example but cannot be applied everywhere. A similar phenomenon can be observed in another translation:

motion present is rendered as *ir kustība* (there is motion) – this obviously cannot be used as a term in context, therefore the choice is between *klātesoša kustība* (present motion) – the closest calque and *esoša kustība* (existing motion), or *piemītoša kustība* (inherent motion).

Interestingly, in one case we observe the preference of the respondents to use a calque from another target language (Russian), rather than from English: *waterbeds* are rendered as *ūdens spilveni* (water pillows), like the Russian *vodianye podushki*, probably because the meaning is that of fluid spaces of the sacrum, where the word *beds* translated literally seems inadequate. In fact, the English language offers more flexibility: *beds* here can be interpreted not as a piece of furniture for sleeping, but rather as a layer (as in geology).

Borrowings can differ in their spelling: *afferent* is translated as ‘*aferents*’ or ‘*afferents*’, the second one being inapplicable to Latvian due to grammatical reasons. Another example is *strain* rendered both as transcription: *streins* or transliteration *strains*. Sometimes, there is a shift in meaning: *potency* is translated as *potence* – and we consider it a borrowing even though the word existed in the language before, but with a different meaning and contextual use (the *Tilde dictionary of the Latvian language ELED-T* (Online 1) cites two main meanings: *apslēptas iespējas*; spējas, spēki, kas nepieciešami kādai darbībai, bet vēl nav īstenoti (hidden possibilities; powers, forces which are necessary for a particular action but not yet applied) or *vīrieša dzimumspēja* (male sexual function)). In biodynamics, *potency* can describe a range of phenomena, none of which coincide with the general language meaning.

With functional analogues, we observe that, sometimes, the necessity for a functional analogue is guided by morphology: the English term *nothingness* becomes unpalatable if rendered by the calque **nekātība*. Therefore, the choice is between the following suggested analogues: *tukšums* (emptiness), *nekas* (nothing), *nebūtība* (non-existence). Most experts concord on *nekas*, it remains to be seen how this term can be incorporated into context: *nothingness* is used as a noun, most often as a subject, so one of the solutions would be to use *nekas* as a noun as well, attributing it a gender (probably masculine, since it ends in an -s).

In one of the cases, we can witness a rather delicate situation regarding terms: *stillness* and *peace* (which are not synonyms) are both translated as *miers* (peacefulness, stillness) by all the respondents. Tilde’s dictionary (Online 1) suggests using *miers* or *klusums* to translate *stillness*. *Klusums*, however, also means the absence of sound – quiet, therefore, it is not considered as a viable option for the osteopathic *stillness*, unrelated to sound. *Peace* in Tilde dictionary (Online 1) is rendered by *klusums*, *miers* and *kārtība*. The osteopathic *peace* is closer to *inner peace*, *peace of mind*, which still brings about the word *miers*. In this case, one of the possible solutions would be to come up with a convention – set *miers* for *stillness*, for example, which is one of the central terms in biodynamic osteopathy. And the much less frequent *peace* could be rendered by *iekšējais miers* (inner peace), as an option, or by *mierīgums* (peacefulness) to distinguish it from *miers*.

With almost 60 per cent of the entries in the corpus (135 out of 230) as terminological metaphors, it is interesting to observe how the mapping is transferred into the target language and how the terms are rendered in Latvian.

For the 135 metaphorical terms, 727 variants of translation have been proposed. The procedures are spread as such: the vast majority are translated by calque, while functional analogues account for 19 per cent, with descriptive translation and borrowings forming a minority (see Figure 2). In contrast, the non-metaphorized terms are translated in the following way: the calque still dominates, but to a lesser degree, while functional analogues represent a higher number of cases, and descriptive translation and borrowings still forming the minority (see Figure 3). Most notably, calque dominates among the terminological metaphors, while with non-metaphorized terms functional analogue is almost equally important.

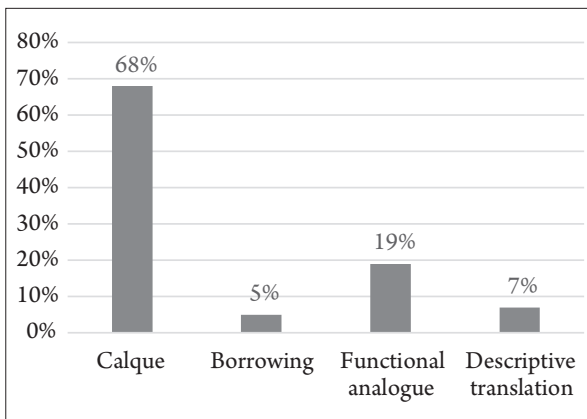


Figure 2 Translation procedures of metaphorized terms

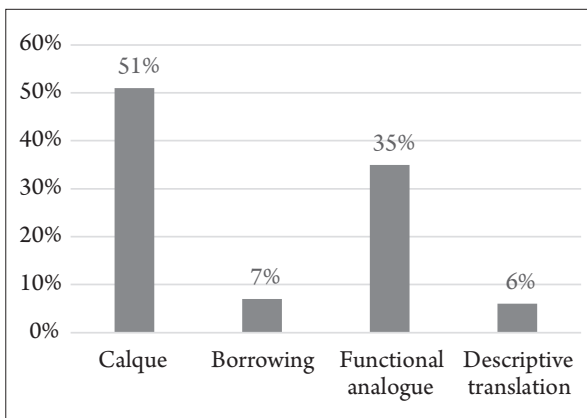


Figure 3 Translation procedures of non-metaphorized terms

When it comes to mapping, we get three possibilities: the mapping can stay approximately the same in the target language, when the metaphor is based on the same image, such as in *lesion field* – *bojājumu lauks*. It can be mapped differently, such as when *gear* is translated as *zobrats* (cogwheel). Finally, the mapping, as well as the metaphor, is lost when the term is translated by a descriptive translation or borrowing, such as in *thrust* – *trasts*. In terms of percentage, this is how the statistics unravels: in most cases (76%), the mapping remains the same, while in 18 per cent of the cases it changes. The remaining 6 per cent account for terms in which the mapping is lost.

At times, the limits between same and different mapping are rather fuzzy: if we take the example of *fluid* (a living substance of the body that has its own consciousness, not a liquid), the corresponding term *fluīds* in Latvian has the same origin, and does mean a kind of fluid, but Tildes dictionary (Online 1) lists the following meanings: '1. vēst. Pēc 18. gs. fiziķu priekšstatiem — šķidrums, ar ko izskaidrojamas siltuma, magnētisma un elektrības parādības. 2. Šķidrums vai gāze. 3. Hipotētisks strāvojums, ko izstaro cilvēks, arī kādi citi ķermeņi. [1. Hist. According to the beliefs of the 18th century physicists, it is a liquid that explains the phenomena of heat, magnetism and electricity. 2. Liquid or gas. 3. Hypothetical current emitted by people or other bodies]. The meaning scope in English does contain the second point: according to dictionary.com, *fluid* is a substance, liquid or gas, that is capable of flowing and that changes its shape at a steady rate when acted upon by a force tending to change its shape. Thus, the Latvian equivalent brings about unnecessary associations with esoterism and alchemy. On the other hand, the translation *šķidrums* violates the presupposition that *fluid* is not a liquid. In the light of translation practices, it seems that one should look for the least of two evils in cases where such situations occur. In this particular example, it would appear that *fluīds*, notwithstanding its additional associations, is a better choice, since it does not violate an important premise contained in the definition.

CONCLUSIONS

In the present article I set out to begin an exploration of the complex process of translation of osteopathic terms from English into Latvian. In the absence of lexicographic or any other resources in the target language, the goal is to observe translation practices of the community members in order to subsequently use the obtained results for further terminological work.

The research showed that ad-hoc translators most often chose to render foreign terms by calques, especially when it comes to terminological metaphors. Interestingly, those calques are not uniform, as term users rarely came to an agreement as to which translation to use, judging by the great number of proposed variants. Some of these variants could easily be discarded due to their incompatibility with the terminological nature of units (long descriptive

translations, which may be grammatically irreconcilable with the term's function in context). Other units require careful observation and discussion. The premises of GTT advise strongly against the use of synonyms in terminology, but other theories, such as the communicative theory, allow for variations in designative structures, based on the situation and combinatorial potential of terminological units. This variation is determined by the communicative situation – in the case of biodynamics, it most frequently is one of knowledge transmission in a didactic setting, but other situations are not be considered as well, such as peer-to-peer communication.

Having thus laid the groundwork, the next step would be to consider the obtained results in order to choose the central term in Latvian by combining the efforts of osteopaths and linguists. The resulting outcome can also serve as material for comparative studies where translation practices of several target language communities are put to test.

ACKNOWLEDGEMENT

This work was supported by the National Research Programme project 'Latvian Language' (No. VPP-IZM-2018/2-0002).

REFERENCES

- Assal, J.-L. (1995) La métaphorisation terminologique (Terminological metaphorisation). *Terminology Update*, XXVIII-2: 22-24.
- Boulanger, J.-C. (1991) Une lecture socioculturelle de la terminologie (Sociocultural reading of terminology). *Cahiers de Linguistique Sociale*, 18: 13-30.
- Cabré, M. T. (1999) *Terminology. Theory, Methods, Applications*. Amsterdam: John Benjamins.
- Cabré Castellví, M. T. (2000) Elements for a theory of terminology: Towards an alternative paradigm. *Terminology. International Journal of Theoretical and Applied Issues in Specialized Communication*, 6 (1): 35-57.
- Cabré, M. T. (2010) Terminology and translation. In Y. Gambier and L. van Doorslaer (eds.) *Handbook of Translation Studies* (pp. 356-365). Amsterdam / Philadelphia: John Benjamins Publishing Company.
- Cortelazzo, M. A. (2007) *Lingue Speciali, la dimensione verticale* (Special languages in the vertical dimension). Padova: Unipress.
- Divasson, L. and León, I. (2006) Metaphors in English, French, and Spanish Medical Written Discourse. In K. Brown (ed.) *Encyclopedia of Language and Linguistics* (pp. 58-63). Amsterdam: Elsevier. Available from <https://doi.org/10.1016/B0-08-044854-2/02358-0> [Accessed on 2 October 2019].
- Drouin, P. and Doll, F. (2008) Quantifying termhood through corpus comparison. In B. N. Madsen and H. E. Thomsen (eds.) *Managing Ontologies and Lexical Resources*, 8th International Conference on Terminology and Knowledge Engineering (pp. 191-206). Copenhagen: TKE.
- Dunbar, R. (1995) *The Trouble with Science*. Cambridge: Harvard University Press.

- Faber Benitez, P. (2009) The cognitive shift in terminology and specialized translation. *MonTI: monografías de Traducción e Interpretación*, 1: 107-134. Available from <http://roderic.uv.es/handle/10550/37010> [Accessed on 15 October 2019].
- Felber, H. (1979) *Theory of Terminology and Terminological Lexicography*. Vienna/New York: Springer.
- Frantzi, K., Ananiadou, S. and Mima, H. (2000) Automatic recognition of multi-word terms: the C-value/NC-value method. *International Journal on Digital Libraries*, 3 (2): 115-130. Available from https://doi.org/10.1007/3-540-49653-X_35 [Accessed on 9 October 2019].
- Gaudin, F. (1993) *Pour une socioterminologie: Des problèmes pratiques aux pratiques institutionnelles* (For socioterminology: From practical problems to institutional practices). Rouen: Publications de l'Université de Rouen.
- Gaudin, F. (2003) Socioterminologie, une approche sociolinguistique de la terminologie (Socioterminology; sociolinguistic approach to terminology). *Meta: Journal des traducteurs*, 49 (2): 384-387.
- Guespin, L. (1991) La circulation terminologique et les rapports entre science, technique et production (Terminological circulation and relationships between science, technology and production). *Cahiers de Linguistique Sociale*, 18: 59-79.
- Harvey, M. (2000) A beginner's course in legal translation: the case of culture-bound terms. *ASTTI/ETI*: 357-359.
- House, J. (2000) Consciousness and the strategic use of aids in translation. In S. Tikkonen-Condit and R. Jääskeläinen (eds.) *Tapping and Mapping the Processes of Translation and Interpreting. Outlooks on Empirical Research* (pp. 149-162). Amsterdam / Philadelphia: John Benjamins.
- Ivanov, A. O. (2006) *Bezekvivalentnaja leksika* (Equivalentless lexis). Sankt-Peterburg: Tipografija izdatelstva SPbGU.
- Kerremans, K., Temmerman, R. and Vandervoort, V. (2005) La termontographie en contexte (s) (Terminology in context(s)). In D.B Lampain, P. Thoiron and M. Van Campenhoudt (eds.) *Mots, Termes et Contextes. Actes des septièmes Journées scientifiques du réseau de chercheurs Lexicologie Terminologie Traduction* (pp. 429-439). Paris: Édition des archives contemporaines.
- Knudsen, S. (2003) Scientific metaphors going public. *Journal of Pragmatics*, 35 (8): 1247-1263.
- Lakoff, G. (1993) The contemporary theory of metaphor. In A. Ortony (ed.) *Metaphor and Thought* (pp. 202-251). Cambridge: Cambridge University Press.
- L'Homme, M.-C. (2003) Capturing the lexical structure in special subject fields with verbs and verbal derivatives. A model for specialized lexicography. *International Journal of Lexicography*, 16 (4): 403-422.
- Maynard, D. and Ananiadou, S. (2000) Identifying terms by their family and friends. *Proceedings of the 18th Conference on Computational Linguistics*, 1 (pp. 530-536). Stroudsburg: Association for Computational Linguistics.
- Montero Martínez, S. and Faber, P. (2009) Terminological competence in translation. *Terminology*, 15: 88-104.
- Nakagawa, H. and Mori, T. (2003) Automatic term recognition based on statistics of compound nouns and their components. *Terminology*, 9: 201-219.
- Newmark, P. (1988) *Approaches to Translation*. Oxford: Pergamon Press.
- Oliveira, I. (2005) La métaphore terminologique sous un angle cognitif (Terminological metaphor under the cognitive angle). *Meta: Journal des traducteurs*, 50 (4). Available from <https://www.erudit.org/en/journals/meta/2005-v50-n4-meta1024/019923ar/> [Accessed on 5 October 2019].

- Perrino, S. (2009) User-generated translation: The future of translation in a Web 2.0 environment. *The Journal of Specialised Translation*, 12 (24): 55-78. Available from <http://www.jostrans.org/issue12/artperrino.php> [Accessed on 15 September 2019].
- Pym, A. (2011) Translation research terms: A tentative glossary for moments of perplexity and dispute. *Translation Research Projects*, 3: 75-99.
- Rogers, M. (2007) Terminological equivalence in technical translation: A problematic concept? *Synaps*, 20: 13-25.
- Rossi, M. (2016) Pour une typologie des avatars métaphoriques dans les terminologies spécialisées (For a typology of metaphorical avatars in specialized terminology). *Langue française*, 189 (1): 87-102.
- Sager, J. C. (1990) *A Practical Course in Terminology Processing*. Amsterdam: John Benjamins Publishing Company.
- Shuttleworth, M. (2017) *Studying Scientific Metaphor in Translation: An Inquiry into Cross-lingual Translation Practices*. New York: Routledge.
- Skujiņa, V. (2002) *Latviešu terminoloģijas izstrādes principi* (Principles of Latvian terminology development). Rīga: Latviešu Valodas Institūts.
- Skujiņa, V., Ilziņa, I., Vasiļjevs, A. and Borzovs, J. (2006). Terminology standards in the aspect of harmonization for international term database. *Terminoloģija*, 13:17-32.
- Temmerman, R. (2000). *Towards New Ways of Terminology Description: The socio-cognitive-approach*. Amsterdam/Philadelphia: John Benjamins Publishing Company.

INTERNET SOURCES

[Online 1] <https://www.tilde.lv/tildes-birojs> [Accessed on 01 September 2019].

Irina Kaļiņina (PhD student in a joint-supervision programme in linguistics between the University of Latvia and the University of Lyon 2) is currently working on the 'Latvian language' project at the University of Latvia, as well as teaching at the University of Milan, Italy. Her research interests include translation and terminological research in English, French, Italian, Latvian and Russian. Email: Irina.kalinina8118@gmail.com