

The Role of Metaphoric Competence in Medical English Instruction

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Abstract: *The article deals with the growing need for developing greater metaphoric competence in Medical English courses, this need being addressed, in particular, by influencing the elaboration of the major didactic tool, the textbook. The paper examines conceptual metaphors in Medical English in accordance with the stipulations of the Cognitive Metaphor Theory of Lakoff and Johnson. It highlights the dichotomy of metaphor proper and metaphoric instance, which corresponds to the existence of metaphor in thought as opposed to its embodiment in language. We analyze Medical metaphors and highlight major umbrella metaphors. The issue of dead metaphors in Medical English is addressed. We conclude that hidden metaphors in Medical English must be elucidated, such resurrection of the original source mapping playing an important role in achieving metaphoric competence. We insist that this competence is, in fact, twofold: metaphoric competence at the level of lexis and metaphoric competence at the level of thought.*

Keywords: *conceptual metaphor, Medical English, metaphoric competence*

Conceptual Metaphors

We have long stopped seeing metaphor as pertaining solely to the imaginative world of poetry, fiction, and drama. Metaphor is now understood as a phenomenon that permeates all spheres of human life: it is the very fiber of language; it is an intrinsic aspect of thought itself. Reason is “largely metaphorical and imaginative” (Lakoff, Johnson *Philosophy in the Flesh* 17).

The works of George Lakoff and Marc Johnson form the basis of the Cognitive Metaphor Theory which, while extending the realm of metaphor, simultaneously narrows it. On one hand, metaphor is all-present: without it, we cannot talk; without it, we cannot embody our thoughts in language. Aristotle first examined metaphor in his *Poetics*: Lakoff and Johnson drastically enlarged its realm in *Metaphors We Live By*. From being a tool to endow something with “a name that belongs to something else” (Aristotle, *Poetics* XX 1457b 7-9), metaphor has become that which we cannot live without: “the way we think, what we experience, and what we do every day is very much a matter of metaphor” (Lakoff, Johnson *Metaphors* 3).

On the other hand, the term *metaphor* as employed by Lakoff and Johnson has been reserved to metaphor in thought only as opposed to

metaphor in language. The former is *metaphor proper* or *conceptual metaphor*, while the latter is a *metaphoric expression*, an instance, an embodiment of the conceptual metaphor. In a sense, conceptual metaphor is an idea while a metaphoric expression is its particular incarnation: the original form and its shadow in Plato's cave allegory.

“*Metaphor means metaphorical concept*” such as ARGUMENT IS WAR (Lakoff, Johnson, *Metaphors* 6). This understanding of metaphor as *metaphorical concept* or *conceptual metaphor* signifies that “metaphor is not merely in the words we use – it is in our very concept of argument” (Lakoff, Johnson *Metaphors* 5). It is not “just a matter of language”: it is a question of human thought itself (Lakoff, Johnson, *Metaphors* 6).

A *conceptual metaphor*, LOVE IS WAR, is embodied in the following metaphorical instances:

He is known for his many rapid *conquests*. She *fought* for him, but his mistress *won out*. He *fled from* her *advances*. She *pursued* him *relentlessly*. He is slowly *gaining ground* with her. He *won* her hand in marriage. He *overpowered* her. She is *besieged* by suitors. He has to *fend them off*. He *enlisted the aid* of her friends. He *made an ally* of her mother. There is a *misalliance* if I've ever seen one. (Lakoff, Johnson, *Metaphors we live by* 49)

These instances are “metaphorical expressions in our language” or “metaphorical linguistic expression”, which can be employed to “study the nature of metaphorical concepts” (Lakoff, Johnson, *Metaphors* 7).

Thus, even though the Cognitive Metaphor Theory treats metaphors as a thought phenomenon, the theory does not turn its back to language: it is namely through the linguistic expressions of a conceptual metaphor that the nature of this metaphor can be understood.

Metaphors in Medical English

Metaphors in Medical English are examined in the same way: we draw conclusions about the conceptual metaphor based on its metaphorical expressions. With medical metaphors, it is often the system of metaphors that gets addressed, i.e. the *umbrella metaphor*. A common example of such an overarching metaphor is TIME IS MONEY: it metonymically characterizes the whole system of conceptual metaphors that includes TIME IS MONEY itself, as well as TIME IS A LIMITED RESOURCE and TIME IS A VALUABLE COMMODITY (Lakoff, Johnson, *Metaphors* 9). Each one of the conceptual metaphors of this system of metaphors has its own metaphorical expressions. For instance, TIME IS MONEY is embodied in

expressions such as *How do you spend your time these days?*; TIME IS A LIMITED RESOURCE – with *You’re running out of time*; TIME IS A VALUABLE COMMODITY – with *Thank you for your time* (Lakoff, Johnson, *Metaphors* 8-9).

In medical discourse, it is also true that “metaphorical entailments can characterize a coherent system of metaphorical concepts of metaphorical expressions for those concepts” (Lakoff, Johnson, *Metaphors* 9). Thus, we are faced with the umbrella metaphor (DISEASE) TREATMENT IS WAR which represents a system of metaphorical concepts that includes DISEASE IS THE ENEMY, PHYSICIAN IS A WARRIOR CAPTAIN, PATIENT IS A BATTLEGROUND (Napolitano 2). Sometimes, instead of referring metonymically to this system (by using a member of the system, TREATMENT IS WAR, to refer to the whole system of metaphoric concepts), researchers use other umbrella terms such as *Military* metaphors (Khullar 2) or *War* metaphors (Vaisrub 7-12) or even *Violence* metaphors (Demjen, Semino 394). Metaphorical expressions of conceptual metaphors of the system include: *The doctors at the CDC led the way to victory against the flu epidemic*; *The cancer patient fought a long, hard, battle, but she eventually succumbed to her disease*; *A Triumph in the War Against Cancer*; *With nothing left in their leukemia-fighting arsenal, the doctors were down to Dilaudid* (“DISEASE TREATMENT IS WAR” MetaNet). As can be seen, conceptual metaphors of a system can have overlapping metaphorical expressions: for instance, *The doctors at the CDC led the way to victory against the flu epidemic* is an embodiment of TREATMENT IS WAR, DISEASE IS THE ENEMY, and PHYSICIAN IS A WARRIOR CAPTAIN.

Another umbrella metaphor in Medical English is BODY IS MACHINE, also known as Engineering metaphors. These include metaphoric concepts such as *The heart is a pump*, *The brain is a computer*, *The eye is a camera*, *The universe is a clockwork*, *DNA is a code*. *Genes are blueprints* (Nerlich 1). In this way, the patient is viewed as “the sum of the body’s parts, e.g.... “The digestive system is plumbing”,... “A cell is a machine”,... “Cells contain machinery”” (Micic 226).

A very popular medical umbrella metaphor is HEALTH IS UP, ILLNESS IS DOWN. Here we find metaphoric instances such as *he’s at the peak of health*, *as to his health*, *he’s way up there*, *he fell ill*, *he came down with the flu*, *his health is declining* (Lakoff, Johnson, *Metaphors* 15) Even though often these instances are not subdivided along the health-illness axis, the umbrella metaphor actually accommodates two major orientational conceptual metaphors: HEALTH IS UP and ILLNESS IS DOWN. We can view instances of the latter in

we fall ill, come or go down with something, and are laid low, or even prostrated as a result. We collapse or keel over and the illness is said to strike or cut us down. We describe people who contract an illness as going down/falling/dropping like flies or ninepins.... As a result of our illness, we feel low, run down or under the weather. The patient whose condition is getting worse is said to be sinking fast (Nicholls 1),

and instances of the former in “when we recover from an illness, we bounce back and, instead of being on our last legs, we get back on our feet. We throw the illness off like a duvet, or, like a defeated enemy” (Nicholls 1).

Types of Medical Metaphors

Various classifications of medical metaphors have been suggested. Such classifications are very useful in Medical English instruction, “a classification on their patterns of analogy, or likeness, would allow us to present pedagogical guidelines which would facilitate the teaching of this component of medical lexis” (Salager-Meyer, *Metaphors in Medical English prose* 147). Thus, it is not surprising that many of the classifications depend upon thematic fields such as war, myth, fiction, dreams, etc. (Vaisrub 5-60).

Often, medical metaphors are classified according to the source domain or the target domain. Examples of such possible classifications are the source-domain classification based on the metaphoric models of plants, animals, food, etc. (Pacheva-Karabova 85-140) or the target-domain metaphor division into Anatomy, Pathology, etc. (Pacheva-Karabova 146-167) using a denotative descriptor (which the linguist herself does not view as the basis of a new classification – Pacheva-Karabova 145).

Another way of classifying medical metaphors is into “morphological, or structural metaphors, referring to forms and structures, and physiological, or functional metaphors, which refer to processes, functions, and relations” (Salager-Meyer 148).

Yet others could take a diachronic turn (depending on the origin of metaphors), or focus on certain characteristics of the lexical unit (Amudzhieva, *Obrazno-setivni nazbvaniya* 69).

While it is true that “metaphors used in medical discourse are constructed on the basis of visual input” (Karska, Prazmo 105), we believe that it is important to differentiate medical metaphors along the hidden/apparent axis since the initial resemblance or transfer motivation may become obscure with time. Thus, metaphors in medicine may be seen as either *dead* or *alive*, or better yet, *hidden* or *apparent*. Of course, it is hard to find a truly *dead* medical metaphor as the one Lakoff finds in *pedigree*: a metaphor whose source image and the source domain term are both dead, and

there is no image-mapping or terminology mapping (Lakoff, *The death of dead metaphor* 2). Rather, in the case of medical metaphors, and especially – the ones of medical terminology, the source terminology is unrecognizable as such since it is typically Latin or Ancient Greek-based. Thus we do not see such metaphors as *dead*, but rather as *hidden*: the source image is alive, and it is enough to reveal the meaning of the source terminology to *resurrect* or *uncover* the original image mapping.

We embrace Lakoff's abandonment of the traditional meaning of *dead metaphor* as a “linguistic expression that had once been novel and poetic, but had since become part of mundane conventional language” (Lakoff, *The death of dead metaphor* 1). Furthermore, we believe that *hidden* metaphors in medicine are mostly of the third type of *dead* metaphors suggested by Lakoff. The first type is an absolutely dead metaphor: lost are the source domain structure, conceptual mapping, source domain terminology, and linguistic mapping (Lakoff, *The death of dead metaphor* 3) as in *pedigree*. The second and fourth types (as in *dunk* and *grasp* correspondingly) preserve their source domain structure, conceptual mapping, source domain terminology, and linguistic mapping (Lakoff, *The death of dead metaphor* 3), and we would not consider either type as *hidden*, even though they classify as *dead* (trite, not novel metaphors) according to the traditional understanding of the term. The third type is the kind of dead metaphors in the field of medicine that we consider *hidden* metaphors *par excellence*: the source domain structure and the conceptual mapping are both present; lost are only the source domain terminology and linguistic mapping. Lakoff points out *comprehend* as being such a dead metaphor (Lakoff, *The death of dead metaphor* 2): this metaphor is dead to an English speaker with no knowledge of Latin (since the terminology and linguistic mapping are absent), yet this same metaphor is not dead to the English speaker who knows Latin or to the English speaker to whom the original meaning of the Latin *comprehendere* as a fusion of *com* – *together* and *prehendere* – *seize* has been explained. This process of bringing back to life and light the original terminology and linguistic mapping is to us the *elucidation* of hidden metaphors, their *disclosure* or *revelation*. The elucidation of the hidden metaphorical nature of medicinal lexis is referred to as “waking up of sleeping metaphors” (Pacheva-Karabova 304), or as *revitalization* of dead metaphors (Pawelec 118). Examples of metaphors in need of such elucidation can be found even among very popular medical terms as in the case of *bulimia*. The original metaphor is lost to professionals for whom the reference to extreme hunger is hidden, *bus* meaning *ox*, and *limos* – *hunger* in Greek (Amudzheva, *Spetsifika na klinichnite termini* 44).

Also referred to as *moribund*, *dormant*, *inactive* (Alm-Arvius 12), *hidden metaphors in medicine can and ought to be exposed to the light of knowledge*: while a student of Medicine and Medicine-related sciences does not need to be proficient in Latin and Ancient Greek, he/she must be armed with enough knowledge of roots and suffixes in the two languages, and must be further encouraged to look underneath the surface of each metaphorical term in order to comprehend its original source domain terminology and linguistic mapping.

It is important to reiterate that all discussion of *dead* or *hidden* metaphors actually concerns *dead* or *hidden* instances of metaphors. In fact, a lot of the criticism that Lakoff's understanding of *dead* metaphor has attracted is due to not accounting for the difference between a conceptual metaphor itself and its linguistic representations: when we talk of *hidden* metaphors, we refer to *hidden* instances of conceptual metaphors. While “there is hardly such a thing as dead metaphor” *per se* (Kravchenko 203), there are many hidden instances of metaphors in medical discourse, especially in terminology.

Metaphoric Competence

While teaching general English lexis involves deliberately exposing students to idioms, fixed phrases, and metaphors, in specialized English the lexis focus is almost entirely on terminology. In Medical English in particular, it is medical terminology that becomes the focal point of the andragogic efforts: grammar and pronunciation being of secondary interest to lexis, and words and phrases being carefully scrutinized so that terms reign in the spotlight.

Such a focus cannot come as a surprise: on one hand, pronunciation can hardly be expected to be of primary interest since English for Medical purposes appeared as a branch of applied linguistics with the purpose of instructing non-Anglophone students of Medicine and health professionals in written English medical discourse (Salager-Meyer, *Origin and development of English for Medical Purposes* 49). On the other hand, while grammar is important for teaching Medical English, teaching it is quite different from teaching grammar in a general English course. To begin with, students who study Medical English are expected to already be fluent in English, typically at a level of B1 or above according to the Common European Framework of Reference for Languages – CEFR. In fact, research on the fluency of students of Medical English demonstrates that most students are independent (i.e. at level B1 or B2) or proficient (i.e. at level C1 or C2) users of the language (Tomic, Sendula-Pavelic 158-159). Thus they have previous, often quite extensive, knowledge of grammar. Medical English grammar is grammar in context, i.e. not removed from the medical setting. Teaching grammar is

thought of as “practicing contextualized grammar” (Angelova, Trendafilova 581), as offering “appropriate contexts to naturally recycle grammar items” (Angelova, Trendafilova 569).

Even special instances of Medical English grammar that are often contrasted and compared to general English grammar cases are closely related to terminology, hence lexis-related. For example, the plural endings inherited from Latin as in “bacteriA” or otherwise noncountable words treated as countable in Medical English such as “a fever” (Faure 44).

It is clear that lexis is deservedly the very tissue of Medical English. Textbooks of Medical English often have as their primary goal to familiarize students with “the world of medical jargon” (Ribes, Ros 200). While it has always attracted great scientific interest (which has resulted in publications epitomized by Salager’s “The lexis of fundamental Medical English: classificatory framework and rhetorical function (a statistical approach)”), the advent of corpus linguistics has made it increasingly easier and fascinating for researchers to examine the lexis of Medical English. However, since terminology is the axis of Medical English lexis, it is easy to think of metaphor as having to live on the outskirts of the specialized lexis. After all, terms are precise and literal: they seem to be on the opposite end of metaphor.

While it is true that “scientific terms need to be precise and distinctive”, yet medical terms can be categorized as both having vagueness and ambiguity (Navarro I Fernando 152). Such a claim may sound surprising; however, it can be justified. On one hand, since non-vagueness entails completeness, the term *ventricle* is vague: it does not *a priori* specify *heart ventricle*, *brain ventricle*, etc. (Navarro I Fernando 152). On the other hand, since non-ambiguity demands having a single meaning, the term *Paget disease* can refer to *Paget disease of the bone*, *Paget disease of the breast*, etc. (Navarro I Fernando 152).

Furthermore, even if one does not wish to see medicinal terminology in the light of ambiguity and vagueness, one still cannot ban metaphor from medical lexis and discourse in general. It is truly an “outdated” understanding of metaphor to consider it “simply as a rhetoric device or a figure of speech” (Gutierrez Perez 89). Rather, in accordance with the stipulations of the Conceptual Metaphor Theory, it is “a pervasive form of language and an intrinsic part of our conceptual system” (Gutierrez Perez 89).

Since metaphor usage is an integral and important characteristic of Medical English, developing and improving students’ metaphoric competence cannot be omitted from an instructor’s goals. Metaphoric competence represents “the ability to understand and produce linguistic

metaphors, or the ability to decode and encode metaphorically structured concepts” (Nacey 32).

In fact, it is a marker of linguistic competence that a speaker can “understand and create metaphors in a linguistic community” (Gutierrez Perez 90). In this case, we refer to metaphoric instances; if we refer to conceptual metaphors, metaphoric competence can simply be viewed as “both knowledge of, and ability to use, metaphor” (Littlemore, Low 4). In other words, new linguistic metaphors can be easily created; not so, with new conceptual metaphors.

The key point about linguistic metaphor is that the words themselves matter: the choice of ‘level’ not ‘flat’ or ‘good’, or the fact that the three words all tend to be singular, even where several situations are involved. Linguistic metaphor thus takes account of the connotations of particular words and the morphological, syntactic and collocational characteristics of the expression...With a conceptual metaphor, the words that are used are often of little interest; what is important is the abstract underlying relationship(s) between two concepts or entities. (Littlemore, Low 5).

What is referred to as linguistic metaphors represents metaphoric instances. Metaphoric instances (linguistic metaphors) operate on the lexis level, while conceptual metaphors – on the level of thought.

Getting acquainted with metaphoric instances is crucial for developing passive and active dominion of metaphors, i.e. *all-around* metaphoric competence. We believe that the classical understanding of the passive skills in foreign language instruction as being reading and listening, while the active skills being writing and speaking can be interpreted as passive dominion of a language, i.e. input-based, vs. active dominion, i.e. output-based. Thus in order to use a given metaphoric instance (output), a student must first be able to understand it (input). However, achieving metaphoric competence at the level of lexis does not automatically translate into metaphoric competence at the level of thought. In other words, if a student *knows* the expression *to be at the peak of one’s health* (by *knows* we mean both active and passive dominion of the expression), he/she can freely use it and understand it, i.e. they have achieved lexical metaphoric competence. They still need to realize the conceptual metaphor whose representation the expression is, i.e. they do not automatically *know* that HEALTH IS UP, hence they cannot produce new metaphoric instances of the

same conceptual metaphor (active dominion of conceptual metaphoric competence).

The issue of whether actual new conceptual metaphors can be produced or whether what seems as a new conceptual metaphor is simply an instance of *novel extensions of conventional metaphors* (Lakoff, *The Contemporary Theory of Metaphor* 7) is both too complex and transcending the scope of the present research. Our goal here is to suggest that not only metaphoric competence *in general* should be developed, but that *the educational effort should be aimed at developing metaphoric competence both at the level of lexis and thought, i.e. metaphoric competence of metaphoric instances and of conceptual metaphors.*

This understanding should be taken into consideration in the elaboration of the major didactic tool, the textbook. The didactic tool in question is pivotal in influencing the nature of Medical English instruction.

The significance of metaphor for the didactic tool of Medical English textbooks

Any foreign language textbook is “a place where cultures meet” (Chongarova 143). Students not only imbibe the language, but inevitably get familiar with the culture of the speakers of that language as well (Chongarova 141). A student can be fluent in the grammar and lexis of a foreign language, but still fall victim to misunderstandings if interpreting the text in the context of his/her native culture instead of the foreign one (Kamburova 157).

Metaphors in particular, by virtue of reflecting a worldview, cannot be comprehended without understanding some of the cultural background they are based on. “Metaphor as a cognitive phenomenon belongs to conceptual worldview and is a method of cognition, vision, and understanding of unattainable or understudied phenomena of reality, that is, metaphorical expressions reflect and reveal metaphorical perception of reality” (Sadykova, Kayumova 554).

Medical metaphors are similar to all metaphors in that they reflect (and shape) a particular worldview; what is special about them, however, is that the worldview they reflect is not tied to a particular nationality, but rather to “one academic culture regardless of nationality” (Salager-Meyer, *Metaphors in Medical English prose* 153). It is not simply that “science is a product of Western thought” (Salager-Meyer, *Metaphors in Medical English prose* 153): the fact that modern medicine is the creation of Western culture (as opposed to the Eastern tradition) also shapes to a great extent the medical vocabulary and makes it a great debtor to Latin and Ancient Greek. Thus in the medical discourse of a Germanic language such as English and a Slavic language such as Bulgarian, the English nation being mostly protestant, while

the Bulgarian one – mostly Eastern Orthodox, we meet the same metaphor: *mitral valve* – *митрална клапа* (*mitralna klapa*). The etymological basis is the Latin term for a Roman Catholic bishop's hat, *mitre*. Based on the valve's its resemblance to a *mitre*, the metaphor of *valva mitralis* is preserved in both languages (Salager-Meyer, *Metaphors in Medical English prose* 152, Pacheva-Karabova 112).

The presence of metaphors in textbooks of Medical English has to first tackle the challenge of representing the worldview of science – students must be familiarized with concepts that they will need in their future profession. This challenge is common to all linguistic Medical varieties; however, the challenge of developing students' metaphoric concept in the Medical variant of *English* in particular is unique to the language: for instance, the structure of the English metaphorical expressions is mostly “compound-type”, which “represents an additional linguistic difficulty for nonnative English speakers” (Salager-Meyer, *Metaphors in Medical English prose* 150).

Aside from the two main challenges: one due to the scientific nature of *Medical English* (common to all Medical languages) and one due to the linguistic nature of *Medical English* (specific to each language), *Medical English* presents a special, exclusive to it, challenge. Not only is English the *lingua franca* of today and thus teaching it has special requirements such as “raising awareness of global issues” (Angelova 177), but *Medical English* is the language of communicating medical information to specialists, the main linguistic venue for advances in the science. *Medical English* is the language of medical research: when discussing the importance of *Medical English* for *Medical professionals* and students alike, it is often acknowledged that “nowadays, English is considered the global language for science communication” (Rodríguez et al 414).

Conclusions

Once having established the place of conceptual metaphor in *Medical English*, we emphasize the need that *hidden metaphors in Medical English be elucidated*. Such *resurrection* of the original source mapping plays an important role in achieving metaphoric competence. This competence is, in fact, a twofold competence: *metaphoric competence at the level of lexis and metaphoric competence at the level of thought*. In order for this understanding of dual metaphoric competence to exert influence on *Medical English instruction*, it must first be reflected in the major didactic tool, the textbook. While doing so, we must not lose track of the peculiar nature of *Medical English* and the unique set of challenges that its metaphors offer.

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