

# MEDICAL METAPHORS IN ECONOMICS NEWS ARTICLES IN ENGLISH AND ITALIAN

Barbara Cappuzzo  
(University of Palermo, Italy)

## Abstract

As Lakoff and Johnson (1980: 3) state in *Metaphors We Live by*, “our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature.” From a linguistic point of view, metaphors not only exist in everyday language but in specialized discourse too, where they are frequently the result of interdisciplinary borrowings. The language of economics, replete with medical metaphors, is one of the most representative examples of this phenomenon.

This paper offers a quantitative and qualitative analysis of medical metaphors in English and Italian economics news discourse, as no research seems to have been conducted so far on the topic from a cross-linguistic perspective for the two languages in question.

Medical metaphors were investigated in two corpora of economic articles published between 2014 and 2016 and drawn, respectively, from the *Financial Times* (<https://www.ft.com/>) for the English language, and *Il Sole 24 Ore* for the Italian language (<http://www.ilsole24ore.com/>).

The contrastive analysis aims at highlighting the level of pervasiveness of medical metaphors over non-metaphorically used medical terms/expressions in both corpora, and at identifying categories of metaphorical reasoning in the two languages.

The results show that both corpora were replete with metaphorically used medical terms, with the Italian corpus showing a higher tendency to use medical terms metaphorically as compared to the English corpus. Moreover, the investigation revealed ten categories of metaphorical meaning in both the English and the Italian data and equivalent realizations within the same metaphorical category. Only a limited number of cases of different realizations within the same metaphorical category were identified from the comparison between the two languages.

The results ultimately highlight that health/medical-related matters are a crucial source of inspiration in the conceptualization of English and Italian economics news discourse.

## 1. Introduction

### 1.1. *The traditional view and the Conceptual Metaphor Theory (CMT)*

Metaphor has attracted human interest ever since ancient times. Views on metaphor fall into two main schools, the traditional metaphor school and the modern metaphor school, following, respectively, the line of rhetoric and the line of cognition. Studies

on metaphor in the line of rhetoric can be traced back to Aristotle who, in his *Poetics* (1457b), offers a definition of metaphor:

Metaphor consists in giving the thing a name that belongs to something else; the transference being either from genus to species, or from species to genus, or from species to species, or on grounds of analogy.

Here Aristotle presages the central tenet of the traditional view of metaphor, namely that metaphor is the transfer of one word to another, a deviation from the literal meaning to a figurative one, therefore a rhetorical device used to enhance vigour and embellishment in expressions. In other words, metaphor is a stylistic ornament and, as such, only a select few can create and manipulate it.

Lakoff and Johnson's seminal work *Metaphors We Live By*, published in 1980, brought a revolution in studies of metaphor and marked the beginning of the Conceptual Metaphor Theory (CMT) – which would enormously affect future metaphor research.

In Lakoff and Johnson's (1980: 3) view, metaphor is not just a matter of language but first and foremost a fundamental mechanism of the mind that shapes the understanding of our experience:

The concepts that govern our thought are not just matters of the intellect. They also govern our everyday functioning, down to the most mundane details. Our concepts structure what we perceive, how we get around in the world, and how we relate to other people. If we are right in suggesting that our conceptual system is largely metaphorical, then the way we think, what we experience, and what we do every day is very much a matter of metaphor.

What is innovative in their theory is that metaphor is conceived as being an integral part of our sensory system, like sight, touch and all the other senses which allow us to perceive the world. In *The Contemporary Theory of Metaphor*, Lakoff (1993: 205) claims that “metaphor can be understood as a mapping (in the mathematical sense) from a source domain to a target domain.” The scholar explains that there are ontological correspondences according to which entities from a given domain correspond systematically to entities in another domain. These correspondences – that characterize the human mind – are called *conceptual metaphors*.

Within this view, the linguistic utterance – also referred to as “linguistic expression” (Lakoff and Johnson 1980: 6; Lakoff 1993: 202), “metaphorical expression” (Lakoff and Johnson 1980: 7) or “metaphorical linguistic expression” (*ibid.*) – is nothing but the manifest realization of our cognitive processing of reality. In other words, “linguistic metaphors are the reflection in language of the conceptual metaphors that structure our thought and help define our understanding of reality” (Nacey 2013: 19).

A strong tenet of CMT is that metaphors do not stem from existing similarities between two different conceptual domains but rather they *create* similarities. By doing so, “metaphors may create realities” (Lakoff and Johnson 1980: 145). Hereunder (*ibid.*; 146) is one of the central moments where the scholars give an insight into the cognitive role of metaphor as a means of understanding and constructing reality:

The social reality defined by a culture affects its conception of physical reality. What is real for an individual as a member of a culture is a product both of his social reality and of the

way in which that shapes his experience of the physical world. Since much of our reality is understood in metaphorical terms, and since our conception of the physical world is partly metaphorical, metaphor plays a very significant role in determining what is real for us.

Another crucial belief in Lakoff and Johnson's (*ibid.*: 3) view concerns the fundamental role that language plays in helping understand how our conceptual system works. They state:

Since communication is based on the same conceptual system that we use in thinking and acting, language is an important source of evidence for what that system is like.

Therefore, like two sides of the same coin, investigating language means investigating the mind, and since language is the primary vehicle through which the mind gives evidence of how it perceives reality, the linguistic approach to metaphor is paramount.

### 1.2. *Aims of the present study*

Lakoff and Johnson's (1980) new insights into the understanding of metaphor have resulted in a more complex and articulated investigation of metaphor in recent years, as scrutiny of metaphor entails encompassing several – often interrelated – disciplines ranging from cognitive linguistics to philosophy, from psychology to psycholinguistics, from sociology to education, and from descriptive and applied linguistics to translation and cultural studies.

To limit the boundaries of the research, the present study aims at describing, mainly from a linguistic point of view, medical metaphors used in the domain of economics, and, by adopting a cross-linguistic perspective, at comparing English and Italian, as no contrastive research seems to have been carried out to date on the specific topic in the two languages in question. The paper, which falls within the theoretical framework of the CMT discussed above, will mostly aim at exploring possible similarities and differences in patterns of metaphorical use of medical terms/expressions between the two languages. From a quantitative point of view, the contrastive analysis will focus on the investigation of the probability of medical terms/expressions included in an economic context being used metaphorically. Previous studies (Urbonaitė and Šeškauskienė 2007; Clément 2003) have, in fact, highlighted the remarkable influence of medicine on economic discourse. Thus, in this study, frequency of metaphorically used terms/expressions drawn from the field of medicine is expected to be high in both languages.

Before going into the core of the work, an overview of the main studies on metaphor in specialized discourse in general and on the language of economics in particular will be given in the three following subsections. More specifically, for the purpose of this work subsection 1.5 will give an account of the research carried out on metaphors drawn from the field of medicine.

### 1.3. *Linguistic research on metaphor in specialized discourse*

In the last twenty years, linguistic research on metaphor has shifted its attention to what has been perceived as lacking in metaphor studies, namely investigation in specialized discourse (Giles 2008; Grishman and Kittredge 1986; Hermann 2013; Hermann and Sardinha 2015; Kermas 2009; Klamer and Leonard 1994; Krennmayr 2011; Littlemore 2012; Muschard 2007; Musolff 2004; Pasma 2011; Richardt 2005; Semino

2008; White and Herrero 2012). Semino (2008) discusses the use of metaphor across several genres, from politics to education, to literature and advertising, and analyses different text types, e.g. election leaflets and scientific articles. Giles (2008) examines the fundamental importance that metaphor has in explaining science, and by highlighting its epistemological relevance he suggests foregrounding the use of metaphor in both textbooks and in the classroom. Muschard (2007) explores categories and frequency of occurrence of metaphors in the language of linguistics as a language for specific purposes (LSP), while Kermas (2009), who focuses her attention on the role of metaphor in the demarcation between academic discourse and popular texts, agrees with Richardt's (2005: 249) claim that "metaphorical thinking can [...] not be overcome by scientific formalization and precision [...] and that] metaphor-free science is an illusion."

#### 1.4. *Metaphor research in the language of economics*

The ever-increasing enrichment of metaphorical expressions and words in economic discourse justifies the considerable amount of linguistic research carried out on the phenomenon so far (Arrese 2015; Boers 1999; Cardini 2014; Charteris-Black 2000; Clément 2003; Esager 2011; Gotti 2003; Horner 2011; Joris *et al.* 2014; Kermas 2006; Klamer and Leonard 1994; Langer 2015; McCloskey 1983; Picard 2015; Resche 2013; Richardt 2005; Telibaşa 2015; Wang *et al.* 2013; Warren 2013). Nowadays, numerous metaphors have become so well established that their metaphorical value is no longer perceived. "Elasticity of demand", "economic depression", "imbalance in market trends", and "competition among firms" (Gotti 2003: 57) are but a few examples. These and other expressions are by now referred to as 'dead metaphors' as their markedness has gradually been lost. However, it is worth mentioning that Lakoff and Johnson (1980) reject the term 'dead' when referring to even the most conventional metaphors, as their use is so deeply-rooted that they cannot be considered 'dead' in any way. The abundance of metaphors in the language of economics is pointed out by McCloskey (1983: 507) who states that "if economists are not comparing a social fact to a one-to-one mapping, thus bringing two separate domains into cognitive and emotional relation, they are not thinking." Richardt (2005: 115) justifies the widespread use of metaphors in economics by explaining that economic matters are particularly complex and economic processes do not have physical activity or direct experiential phenomena. The complexity and breadth of economics can be found in *one* of the many definitions that have been offered of the subject. As a matter of fact, no unanimous opinion exists among modern experts. The most commonly accepted definition is that offered by Samuelson (1976: 3) who, taking inspiration from the English economist Lionel Robbins (1932), states:

Economics is the study of how people and society end up choosing, with or without the use of money, to employ scarce productive resources that could have alternative uses, to produce various commodities and distribute them for consumption, now or in the future, among various persons and groups in society. It analyses the costs and benefits of improving patterns of resource allocation.

Previous studies on economic metaphors have revealed that the economy is generally conceptualized in terms of the source domains MACHINE (Picard 2015; Telibaşa 2015; Richardt 2005), BODY/ HUMAN BEING (Telibaşa 2015; Richardt 2005; Cardini 2014), WAR (Richardt 2005, Kovács 2007), NATURAL PHENOMENA including WEATH-

ER CHANGES or NATURAL DISASTERS (Charteris-Black and Ennis 2001; Kovács 2007), BUILDING (Picard 2015; Richardt 2005), LIQUID, SPORTS, JOURNEY, UP/DOWN (Richardt 2005).

### 1.5. *Medical metaphors in the language of economics*

The close relationship between medical and economic sciences dates back to the beginning of the 17<sup>th</sup> century. Gradually, medical discoveries began to transfer knowledge to the nascent science of economics, thus providing the latter with a more structured and concrete framework for new abstract concepts. The ever-increasing use of medical metaphors in the language of economics has attracted much attention in linguistic studies in recent years. Research has been carried out from different perspectives, with the focus of attention being either on a specific type of metaphor or on different types of metaphors in more fine-grained and comprehensive investigations. Boers and Demecheleer (1995) carried out a contrastive analysis of HEALTH metaphors (besides PATH and WAR metaphors) in English, Dutch, and French, and found major quantitative differences between English and Dutch, while no significant contrast was identified between English and French. Urbonaitė and Šeškauskienė (2007) compared HEALTH metaphors in English and Lithuanian economic and political discourse and discovered that both languages use health metaphors to conceptualize (economic and political) problems, with English showing metaphors twice as frequently in comparison with Lithuanian. Picard (2015) points out that in newspaper language economics-related problems and difficulties are often conceptualized in terms of various conditions. Markets “may need to pause and GO ON A DIET in order to avoid INDIGESTION” (Resche 2013: 158). An economic crisis is frequently described as an illness or an ailment of the organism (Charteris-Black and Ennis 2001; Horner 2011; Wang *et al.* 2013), or as a transmittable virus or contagion (Peckham 2013). Miettinen (2010: 211-212) speaks about the medicalization of the economy, while Clément (2003), who carried out a study on the influence of medicine on political economy discourse, defines economists as “prisoners of metaphor” as they “justify their own practices by analogy with medicine.”

## 2. Corpus and methodology

The corpus used for cross-linguistic investigation of medical metaphors in English and Italian economic language consists of texts from two newspapers, respectively *Il Sole 24 Ore* for Italian, and the *Financial Times* for English. Besides the level of specialization in the field, the criteria for choice took into account such homogeneity of features as periodicity and type of readership. Both *Il Sole 24 Ore* and the *Financial Times* are highly specialized economic and financial dailies, and both newspapers are recognized as the most authoritative information tools in the field of economics in their respective countries (Wikipedia 2016). Readers are often experts in the field, namely specialists, public administration managers, and financial investors. The long tradition of both *Il Sole 24 Ore*, founded in 1865, and of the *Financial Times*, founded in 1888, in dealing with economic and financial topics was an additional factor of similarity that contributed to opting for the two dailies for the purpose of the present study.

All selected articles were published between 2014 and 2016, with topics ranging from the global economic crisis to questions largely dominated by and connected to

Brexit and the last US presidential election campaign. Sixty articles including medical/health-related terminology (also when this was included only in headlines) were randomly selected for both the *Financial Times* and *Il Sole 24 Ore* subcorpora (henceforth corpus/corpora for convenience). The *Financial Times* corpus accounted for 52,210 words, and *Il Sole 24 Ore* corpus accounted for 39,420 words. All medical/health-related words were analysed independently of the grammar categories they belonged to (nouns, adjectives, verbs, etc.). Qualitative analysis was carried out, as well as quantitative investigation supported by *Wordsmith Tools 5.0* (Scott 2007) for frequency counts and word lists. Initially, a word list of all medical terms was made, including anatomical terminology. Then, all occurrences of each term were (manually) examined in context to identify their metaphorical or non-metaphorical use. As expected, not all medical terms included in the data were used metaphorically, as some articles dealt with medical/health-related topics (e.g. the incidence of vaccinations on the economy of a country). The metaphorically and non-metaphorically used terms were subdivided into three groups depending on their frequency range (see Tables 1 and 2). Finally, the metaphorical use of medical terms was described and a contrastive analysis was carried out, accompanied by illustrating excerpts from the two investigated newspapers. The study was supported by the use of specialized dictionaries for each domain and language<sup>1</sup>.

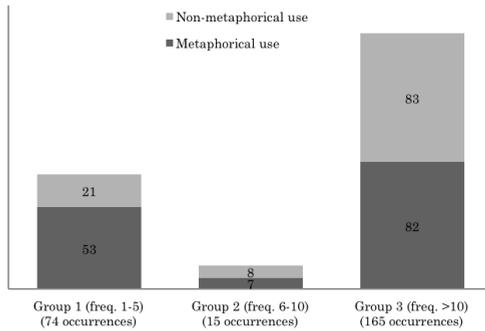
### 3. Results

#### 3.1. Quantitative analysis

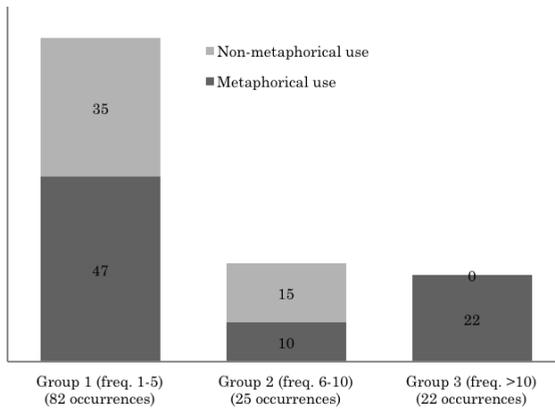
The results from the investigation of occurrences of health/medical-related metaphors in the English and Italian data are shown in Tables 1 and 2 below. All nouns were counted distinctly for both their metaphorical and non-metaphorical use. Number (singular or plural) for nouns was not considered in the word list count of medical terms/expressions and consequently nouns and adjectives with different numbers (e.g. *AILMENT/AILMENTS* for the English corpus and *SANA/SANE* for the Italian one) were counted as single words in the word list of medical terms/expressions. The same criteria were adopted for derivatives (e.g. *BLOOD/BLOODY/BLEEDING* and *DEBOLE/DEBOLEZZA/INDEBOLITO* etc.) as the common basic concept/semantic root word was considered.

The investigation of medical metaphors in the *Financial Times* corpus yielded 142 cases of 32 different metaphorically used medical terms, accounting for 55.9% of the total number of medical occurrences. By contrast, non-metaphorically used medical words accounted for 44.1% of total medical occurrences. This means that in the corpus investigated the incidence of medical terms considering both metaphorical and non-metaphorical frequencies was 0.5%, and of metaphorically used medical terms 0.3%.

<sup>1</sup> The *Stedman's Medical Dictionary* (2013), the *Merriam Webster Medical Dictionary* (<http://www.merriam-webster.com/medical>) and the *Oxford Dictionary of Business and Management* (2016) were used for the English language, and Chiampo (1988) *Dizionario Enciclopedico di Medicina, Dizionario di Medicina* ([http://www.treccani.it/enciclopedia/medicina\\_\(Dizionario-di-Medicina\)/](http://www.treccani.it/enciclopedia/medicina_(Dizionario-di-Medicina)/)), and *Dizionario di Economia e Finanza* (2012) ([http://www.treccani.it/enciclopedia/economia-pubblica\\_\(Dizionario-di-Economia-e-Finanza\)/](http://www.treccani.it/enciclopedia/economia-pubblica_(Dizionario-di-Economia-e-Finanza)/)) for the Italian language. The *Oxford Advanced Learner's Dictionary* (2015) was also consulted whenever a given word/expression was metaphorically used but a check to verify its belonging to the medical domain was needed.



**Table 1.** Distribution of use of medical terms in the 52,210-word *Financial Times* corpus



**Table 2.** Distribution of use of medical terms in the 39,420-word *Il Sole 24 Ore* corpus

The *Il Sole 24 Ore* corpus yielded 79 cases of 23 different metaphorically used medical terms/expressions, accounting for 61.2% of the total number of occurrences. As a consequence, the percentage of non-metaphorically used medical terms accounted for 38.8% of the total number of occurrences. The incidence of medical terms considering both metaphorical and non-metaphorical frequencies was 0.3%, and of metaphorically used medical terms 0.2%.

The quantitative comparison between the English and the Italian data did not show significant differences in the incidence of metaphorical use of medical terms. More than half of the total number of occurrences of medical terms were used metaphorically in each corpus. More precisely, considering the frequency of medical metaphors in relation to the total number of occurrences of medical terms (metaphorically and non-metaphorically used) in each corpus, the Italian data showed a higher tendency to use terms metaphorically as compared to the English data. Interestingly enough, from the quantitative comparison of the two corpora it emerged that the most frequently used medical metaphors in both languages were those included in the lexical group *WEAK/WEAKEN/WEAKENED/WEAKNESS/ES* (44 overall occurrences, accounting for 30.9% of all metaphors) for the English data, and the corresponding Italian *DEBOLE/DEBOLEZZA/INDEBOLIMENTO/INDEBOLIRE/INDEBOLIRSI/INDEBOLITO* (22 overall occurrences, accounting for 27.8% of all metaphors) for the Italian data. Moreover, the *WEAKNESS*

group, all lexemes of which were used metaphorically, was distributed across 17 different texts (28.3% of all texts), and in the Italian data the corresponding *DEBOLEZZA* group was distributed across 14 texts (23.3% of all texts). The most frequent term within the *WEAKNESS/DEBOLEZZA* metaphor group in both corpora was the adjective *WEAK/DEBOLE*, respectively, 54.5% of occurrences within the group and 16.9% of all metaphors in the English data, and 59.0% of occurrences within the group and 16.4% of all metaphors in the Italian data.

The following three most frequent metaphors were, respectively, *RECOVERY* (19.0% of all metaphors) and *DIAGNOSIS* (7.7%) for the English corpus, and *CURA/CURARSI* (12.6%) and *PATOLOGIA/E* (6.3%), for the Italian corpus. Finally, the English data manifested a larger variety of metaphorically used medical terms as compared to those in the Italian counterpart, possibly due to the relatively higher number of overall English tokens.

### 3.2. Qualitative analysis

In this subsection an account will be given of medical terms/expressions resulting from the comparison between the English and the Italian economic corpora. Initially, the investigation will focus on the metaphors the two corpora have in common. First, these will be listed according to the types of mappings between source and target domains; then they will be investigated separately and accompanied by the most significant extracts showing how economic issues are conceptualized in both languages data<sup>2</sup>. Finally, metaphors the two corpora do not have in common will be examined. The shared mappings fall into the following types:

1. THE ECONOMY IS A PATIENT/PAZIENTE
2. THE CONDITION OF THE ECONOMY AND ECONOMIC INSTITUTIONS IS HEALTH/SALUTE
3. BAD CONDITION IS WEAKNESS/DEBOLEZZA
4. PROBLEM IS PATHOLOGICAL CONDITION/CONDIZIONE PATOLOGICA
5. PROBLEM IS VIRUS
6. MANIFESTLY NEGATIVE CHARACTERISTICS ARE SYMPTOMS/SINTOMI
7. PROBLEM LASTING A LONG TIME IS CHRONIC/CRONICO
8. IDENTIFICATION OF PROBLEMS IS DIAGNOSIS/DIAGNOSI
9. INTERVENTION IS CURE/CURA
10. GETTING BACK TO NORMALITY IS RECOVERY/HEALING/GUARIGIONE

In the extracts 1-43 below all medical metaphors will be underlined, including those which are not the object of investigation in a specific part of the present subsection.

<sup>2</sup> With regard to excerpts, it seems worth clarifying that since the description of economic issues in newspapers often involves the actions of public authorities, economic journalism often overlaps with political journalism (see Richardt 2005: 116). Therefore, it will be no surprise if a few quoted text strings manifest a predominantly political character and do not include strictly economic-related topics.

## 1. THE ECONOMY IS A PATIENT/PAZIENTE

1. En: The role of the economic doctor is to keep the patient alive: preventing the financial system from collapse and sustaining demand. (*FT*, Nov 25, 2014)

2. It: La politica espansiva della Banca Centrale Europea è una cura ipotetica. Ma nessun paziente che non abbia voglia di superare il male può davvero guarire. (*Il Sole*, Sep 13, 2014)

(The expansive policy of the European Central Bank is a hypothetical cure. No patient who is unwilling to overcome the ill can actually recover)<sup>3</sup>.

As can be seen from the extracts above, the economy is openly conceptualized in terms of a *PATIENT/PAZIENTE* in both the English and the Italian data.

Despite not being the most significant from a strictly numerical point of view (3.8% in the English data and 1.3% in the Italian data), *THE ECONOMY IS A PATIENT* metaphor is discussed first, as it represents the superordinate anthropocentric metaphor which all other metaphors converge on in both corpora. It is the most important metaphor type in the data in that the other metaphors originate from it. In *THE ECONOMY IS A PATIENT* metaphor the source domain (*PATIENT*) is mapped onto the target domain at different levels. If the economy is perceived as a *PATIENT*, consequently the general conditions of the state of the economy are conceptualized as *HEALTH*, problems and difficulties become *DISEASES* and/or *AILMENTS*. Moreover, the identification of problems is conceptualized in terms of *DIAGNOSIS* (as the following metaphors will illustrate), etc. In the above-mentioned English extract (1), the expert economist is conceptualized as a *DOCTOR* whose task is that of preventing the economy/*PATIENT* from collapsing. In the same way, in the Italian extract (2) the politics of the European Central Bank is thought of as a cure (*CURA*) and returning to normality is ‘recovering’ (*GUARIRE*).

## 2. THE CONDITION OF THE ECONOMY IS HEALTH/SALUTE

3. En: The IMF’s warning on banks’ health came as it fretted that low interest rates in the eurozone were not sufficient to support risk-taking that was beneficial to economic growth, but might nevertheless be encouraging the build-up of financial vulnerabilities. (*FT*, Oct 8, 2014)

4. The UK has to rectify longstanding supply-side failings. The list includes: low investment [...] and a corporate sector whose leaders are motivated more by the share price than by the long-term health of the business. (*FT*, Sep 29, 2016)

5. It: Se le banche vengono private della capacità di erogare credito, si mette in pericolo la stabilità economica dei mercati in cui operano, con ulteriori danni alla salute delle banche stesse. (*Il Sole*, Nov 13, 2016)

<sup>3</sup> The translations are mine.

(If the banks are deprived of the capability to allocate credit, the economic stability of the markets where they operate is endangered, with further damage to the health of the banks themselves).

**6.** La salute dell'economia italiana può essere apprezzata da molti altri buchi della serratura. Che cosa ci dice la spigolosa stenografia dei dati? (*Il Sole*, Aug 15, 2016)

(The health of the Italian economy can be appreciated through many other keyholes. What does the prickly stenography of the data tell us?).

The **CONDITION OF THE ECONOMY IS HEALTH** metaphor (2.1% of metaphorical occurrences in the English data, and 5% in the Italian data) is used in the same way in the English extract (3) and in the Italian extract (5) to refer to the condition of banks. **HEALTH** is also used to refer to the situation of business in the two remaining occurrences of the English data (one in extract 4), and to that of the economy in the three remaining occurrences of the Italian data (one of which is illustrated in extract 6).

### 3. BAD CONDITION IS WEAKNESS/DEBOLEZZA

As already mentioned in subsection 3.2., the **WEAKNESS** group metaphor was the most represented shared metaphor in the English and Italian corpora. Its several uses in both languages will be shown below:

**7.** Even Germany, with many fewer structural rigidities, is sputtering because of continued weakness in domestic demand. (*FT*, Dec 10, 2014)

**8.** Le indicazioni provenienti dalla Fed hanno indotto gli investitori sui mercati Forex a scommettere contro lo yen [...]. Inoltre ha inciso la debolezza dello yen sulla sterlina dopo la sconfitta degli indipendentisti scozzesi al referendum. (*Il Sole*, Sep 19, 2014)

(The directions coming from the Fed have led investors on the Forex markets to bet against the yen. Moreover, the weakness of the yen over the pound after the defeat of the Scottish independentists weighed heavily).

**9.** Household income growth, after taking account of inflation, was weak, with disposable income falling 0.6 per cent in the quarter. (*FT*, Dec 23, 2016)

**10.** Chiusura debole per le Borse europee, con l'attività ridotta ai minimi termini in vista delle festività natalizie e della chiusura dell'anno. (*Il Sole*, Dec 22, 2016)

(Weak closing for the European stock markets, with activity being reduced to the lowest terms in view of the Christmas holidays and the end of the year).

**11.** Yields on sovereign bonds have fallen and the euro has weakened. (*FT*, Dec 10, 2014)

**12.** Brexit ha indebolito l'Occidente? [headline] (*Il Sole*, Oct 25, 2016)

(Has Brexit weakened the West?)

13. The UK economy is highly dependent on inward foreign direct investment, which Brexit would seem virtually to weaken. (*FT*, Sep 29, 2016)

14. La ripresa economica dell'Eurozona resiste bene allo shock di Brexit [...] Ma – ha ricordato Williamson – se in Spagna e in Italia la crescita continuerà a indebolirsi, l'ondata al rialzo dell'occupazione verrà inevitabilmente messa sotto pressione. (*Il Sole*, Aug 3, 2016)

(The economic recovery of the Eurozone is resisting the shock due to Brexit [...] However – as Williamson said – if growth keeps on weakening in Spain and Italy, the rising wave of employment will inevitably be put under pressure).

As can be seen, in both the English and Italian data the source concept of “lack of strength or potency” (*Stedman's Medical Dictionary* 2013) is transferred to several target economic topics, ranging from demand (7) to currencies (yen and euro, respectively in extracts 8 and 11), from incomes (9) to stock markets (10), from investments (13) to economic growth (14). The use of the adjective *WEAK* did not show significant differences in two languages. In most cases it collocated with banks, currencies, economic growth, and European stock markets.

As for the noun *WEAKNESS*, in the English corpus it was also used as a synonym of “disease”, as the following example illustrates:

15. The implications of a realistic view of the UK economy is that, even without the looming shock of Brexit, the economy suffers from big weaknesses relative to the European economies that many Brexiteers despise. [...] Yet devaluation will not cure UK weaknesses. (*FT*, Sep 29, 2016)

The identification of *WEAKNESS* with “disease” is generated from the use of the verb *SUFFER* before the first occurrence of *WEAKNESSES*, and that of *CURE* before the second occurrence. As already shown by the quantitative results, the use of *WEAK/DEBOLE* and their corresponding derivatives is rather pervasive in both the English and Italian corpora. Its contextual meaning is basically that of “not financially strong or successful” (*Oxford Advanced Learner's Dictionary* 2015), with the phenomenon basically representing a sign of conventionality of the metaphor in question in the language of economics.

#### 4. PROBLEM IS PATHOLOGICAL CONDITION/CONDIZIONE PATOLOGICA

16. Anecdotal evidence of paralysis and decline abounds. Some younger employees at Tata are struggling to obtain mortgages or loans [...]. (*FT*, Oct 9, 2016)

17. La trappola della liquidità si sostanzia nella paralisi di due anelli di trasmissione: uno che va dalla banca centrale alle banche ed i mercati finanziari, l'altro che arriva all'economia reale<sup>4</sup>. (*Il Sole*, Mar 11, 2016)

<sup>4</sup> The concept of liquidity trap was developed by the 20th-century British economist J. M. Keynes to describe a “situation in which investors hold on to cash because they are worried about the likelihood of a fall in the price of financial assets. Keynes argued that in these circumstances monetary policy becomes ineffective.” (*Oxford Dictionary of Business and Management* 2016).

(The liquidity trap consists in the paralysis of two rings of transmission: one goes from the central bank to the banks and the financial markets, the other arrives at the real economy).

18. Even for debts that are no longer being serviced by the commonwealth, prices have climbed. [...] It's a recognition that the board will focus on the real causes of the ailment. (*FT*, Sep 20, 2016)

19. Nessuna recessione è mai stata così lunga. [...] E non sappiamo ancora fino a che punto durerà la notte. La nostra patologia politica ha davvero tratti anoressizzanti. (*Il Sole*, Sep 13, 2014)

(No recession has ever been so long-lasting. [...] And we still don't know how long the night will be. Our political pathology really has anorexia traits).

20. Radical cures for unusual economic ills. (*FT*, headline, Nov 25, 2014)

21. Nessun paziente che non abbia voglia di superare il male può davvero guarire. (*Il Sole*, Sep 13, 2014)

(No patient who is unwilling to overcome the illness can actually recover).

The metaphorical use of *PARALYSIS* in extracts 16 and 17 is rather striking at an emotional level. In medicine the term “paralysis” refers to the “loss of power of voluntary movement in a muscle through injury or disease of it or its nerve supply” (*Stedman's Medical Dictionary* 2013). The source concept of paralysis, therefore, encompasses those of immobility, motionlessness, and impotence, which are all mapped and transferred onto target economic issues, in the specific cases the difficult condition of a group of employees of a steel-making company (Tata) in extract 16, and the finance and banking situation consequent to the liquidity trap in extract 17. Moreover, as in medicine paralysis is a pathological condition generally caused by another disease (or injury), the result is that in a context other than the medical one its cause is also perceived as a disease (or an injury). The crisis hitting the Tata company in extract 16 and the liquidity trap in extract 17 are the diseases/injuries which, respectively, caused the above-mentioned problematic economic conditions.

In extracts 18 and 19, two other economic phenomena are conceptualized as diseases, that is, respectively, inflation and recession. More precisely, the former is referred to by the general term *AILMENT*, the latter by *PATOLOGIA* first, and identified as a specific emotional and behavioural disorder later (“*ANOREXIA*”).

Finally, a particular type of *PROBLEM IS PATHOLOGICAL CONDITION* metaphor found in both the English and the Italian data concerns the English *ILLS* and the corresponding Italian (in the singular form) *MALE*. Both are used, respectively, in the sense of “illness” and “malattia” (see extracts 20 and 21), as confirmed by *Stedman's Medical Dictionary* (2013) which does not include “ill” in the list of its headwords, and by the *Dizionario Enciclopedico di Medicina* (1988) where “male” is registered as mere synonym of “malattia.” As for the English language in particular, the *Oxford Advanced Learners' Dictionary* (2015), which does not frame the term within the medical domain (as non-specialized), offers the following definition of “ill”: “a problem or harmful thing;

an illness”, and registers the examples “social and economic ills”, where the metaphorical use of the term in question is manifest.

#### 5. PROBLEM IS VIRUS

**22.** What links this advanced economy political risk with its EM cousin is low trust in institutions and elites – political and business elites, [...]. It is trust, plus belief in the future, not growth alone, that immunises the body politic against the populist virus. (*FT*, Nov 1, 2016)

**23.** In questo discorso entra anche l'allarme per il rischio di focolai di violenza destabilizzante, eversiva che non possiamo sottovalutare, fuori da ogni etichettatura di destra o sinistra. Virus di questo genere circolano ancora in certi spezzoni di sinistra estremista [...]. (*Il Sole*, Dec 11, 2014)

(There is also agitation over the risk of foci of destabilizing, subversive violence that we can't underestimate, beyond any left or right wing labels. Such viruses still circulate in certain extremist left-wing groups).

In the extracts above, the conceptual mapping is between *VIRUS* (source) and populist behaviour (target) in the English data, and between *VIRUS* (source) and violent conduct (target) in the Italian data. In medical terms, a virus is defined as a group of “infectious agents that are capable of growth and multiplication and that cause important infectious diseases in humans, animals, and plants” (*Merriam-Webster Medical Dictionary*). Therefore, the contextual meaning of virus in both English and Italian examples is “something negative” which, perceived as a virus, circulates, spreads, and is communicable. As a consequence, in the Italian example “destabilizing violence” is perceived as a disease, more precisely as a serious and contagious disease that is also likely to have socially dangerous hubs of violence, in the same way as a disease may have focuses of microorganisms which are harmful for health. The same considerations can be expressed for the English extract, where populism is a disease too, and where protective measures (“trust” and “belief in the future”) are thought of as something that *IMMUNIZES* the *BODY* politic.

As was observed for THE ECONOMY IS A PATIENT metaphor, also the PROBLEM IS A VIRUS metaphor characterizes itself as a metaphor activating mental schemata which are mapped from familiar source domains onto abstract and more complex target domains.

#### 6. MANIFESTLY NEGATIVE CHARACTERISTICS ARE SYMPTOMS/SINTOMI

**24.** European markets threw a tantrum last week. Investors expected more than the European Central Bank president's open-ended pledge to keep buying €60bn of bonds each month until, or even beyond, March 2017. But I think Mario Draghi, ECB president, actually got the prescription just right. His diagnosis is not an easy one – weaning the eurozone economy off its monetary stimulus is like taking a patient off its medicine. Too quick and you leave the patient suffering withdrawal symptoms. But if the patient is already in recovery, too many drugs can be detrimental. Drug-dependent markets might have hoped for more of an injection but, with the patient looking surprisingly “normal”, increasing

quantitative easing (QE) at this stage could do more harm than good, boosting a recovery that might already be under way. (*FT*, Dec 9, 2015)

**25.** Bce. La terapia è quella giusta o no? Ecco i sintomi che Draghi deve tenere d'occhio. E' sufficientemente efficace la cura che la Bce guidata da Mario Draghi sta somministrando a Eurolandia? E' poco o troppo espansiva la sua politica? (*Il Sole*, Jan 13, 2014)

(ECB. Is the therapy the right one or not? Here are the symptoms that Draghi must keep an eye on. Is the cure that Draghi is administering to Euroland effective enough? Is his policy not expansive enough or too expansive?).

The extracts reported above were chosen to show another metaphorically used medical term in both investigated corpora, i.e. *SYMPTOMS/SINTOMI*. *SYMPTOMS* (extract 24) was included within an article where medical metaphors abounded. For this reason, it was decided to quote the whole string of text containing all metaphors used in the article and show it as a valid example of how rich the medical domain is as a source of cognitive and therefore linguistic inspiration for reasoning in an economic context. As can be observed by reading extract 24, THE ECONOMY IS A PATIENT metaphor is the basic metaphor pervading the discourse. All other metaphors are the result of the consequential mappings that THE ECONOMY IS A PATIENT metaphor has activated. These are: RECOMMENDATION IS PRESCRIPTION, IDENTIFICATION OF PROBLEM IS DIAGNOSIS, SOLUTION/REMEDY TO PROBLEM IS MEDICINE/DRUG, NEED FOR SPECIFIC POLICIES IS DRUG-DEPENDENCY, INTERVENTION MEASURE IS INJECTION, RETURN TO NORMALITY IS RECOVERY.

As far as the use of *SYMPTOMS/SINTOMI* is concerned, in the English extract it is adopted to conceptualize the manifest negative characteristics consequent to the interruption of financial measures, the withdrawal of which is perceived as the unpleasant effects of not taking drugs after having become addicted to them. As for the Italian extract, *SINTOMI* is used to conceptualize the negative manifestations of the European Central Bank that (President) Draghi must take into account in order to find the right corresponding solution (*CURA*).

Most likely, the choice for *SYMPTOMS/SINTOMI* was due to the need for the use of a familiar and unequivocally medical-related term, whereas the possibly more appropriate “signs”/ “segni” would have seemed too technical and/or not immediately perceived in its metaphorical value, thus appearing less effective.

#### 7. PROBLEM LASTING A LONG TIME IS CHRONIC/CRONICO

**26.** The lack of symmetry in the Eurozone is a major reason for chronic and unsustainable imbalances. (*FT*, Dec 30, 2016)

**27.** Il rischio è che alcuni meccanismi deflattivi si miscolino a fenomeni psicologici e producano prima un intorpidimento cronico e poi una necrosi del nostro sistema industriale. (*Il Sole*, Sep 13, 2014)

(The risk is that some deflationary mechanisms can be blended with psychological phenomena and produce initially chronic numbness and later necrosis of our industrial system).

In both extracts, a long-lasting phenomenon is thought of as a chronic disease or dysfunction. The image of the economy perceived as a patient is more marked in the Italian extract, where *CHRONIC* is associated with *INTORPIDIMENTO* (numbness) and followed by another metaphorically used medical term, i.e. *NECROSI*, which is employed to conceptualize the ‘death’ of the industrial system.

#### 8. IDENTIFICATION OF PROBLEM IS DIAGNOSIS/DIAGNOSI

**28.** The Eurozone needs a fiscal capacity independent of that of the national governments [...] The fiscal compact is not fit for purpose, first and foremost because it panders to a fantasy that the euro crisis was a fiscal crisis. Wrong diagnosis leads to wrong prognosis. (*FT*, Jan 4, 2015)

**29.** La riunione di giugno della Banca centrale europea, che non ha reintrodotta l’attesa deroga sui titoli greci, ha solo leggermente alterato la diagnosi sulla situazione economica di Eurolandia. (*Il Sole*, Jun 2, 2016)

(The June meeting of the European Central Bank, which did not reintroduce the expected dispensation to the Greek bonds, has only slightly altered the diagnosis on the economic situation of Euroland).

As previously mentioned, the contextual meaning of *DIAGNOSIS* in the economic data is that of ‘identification of a problem’, and this may refer to any problem which is going to take place or has already taken place. *DIAGNOSIS*, the basic meaning of which is “the determination of the nature of a disease, injury, or congenital defect” (*Stedman’s Medical Dictionary* 2013) is one of the medical metaphors which best highlight the image of the economist perceived as a physician and whose role is that of determining the type of problem/disease, and finding the appropriate solution/cure (as will be shown below).

#### 9. INTERVENTION IS CURE/CURA

**30.** Today’s incentives are hopelessly biased towards boosting the short-term share price. [...] Mrs Clinton is right to point out that America is short-changed because of it. But her cure is no match for her diagnosis. She would introduce a tapered capital gains tax [...]. (*FT*, Jul 26, 2015)

**31.** La cura contro la crisi non può essere che quella delle riforme e della semplificazione del Paese a tutti i livelli. (*Il Sole*, Sep 15, 2014)

(The cure against the crisis must necessarily be that of reforms and of the simplification of the country at all levels).

As can be seen, in both extracts the solution to problems is conceptualized in terms of medical treatment. What is notable is that the metaphorical use of a medical term affects the way the remaining part of the text is perceived by the reader. “Short-term share price boosting” in the English extract, and “crisis” in the Italian extract are implicitly identified as diseases (which require intervention/*CURE/CURA*).

## 10. GETTING BACK TO NORMALITY IS RECOVERY/HEALING/GUARIGIONE

**32.** On average, economists expected Eurozone growth of 1.47 per cent and inflation of 1.26 per cent next year. Twenty-six of 28 respondents said the recovery would outlast 2017. (*FT*, Dec 30, 2016)

**33.** We've healed the wounds from the crisis: the banks are back to normal. (*FT*, Aug 7, 2015)

**34.** Nonostante la confusione, la Bce ha mantenuto diritto il timone. L'ossigeno ci sarà ma la guarigione è ancora lontana. (*Il Sole*, Jul 17, 2015)

(In spite of the confusion, the ECB has kept the helm straight. There will be oxygen but recovery is still far away).

As can be seen, the use of *RECOVERY* (extract 32) and of the corresponding Italian *GUARIGIONE* (extract 34) is the result of the association between the (source) medical concept of “process of overcoming a disorder or shortcoming” (*Merriam Webster's Medical Dictionary*) and a situation of economic upturn (target). The mapping between the economic and medical domains is more manifest in the Italian extract, where the term *GUARIGIONE* is used in the above-mentioned sense, and where the cross-reference to medicine is emphasized by the presence of another metaphorically used medical term, i.e. *OXYGEN*. This is not used in the general sense of “gaseous element which is essential to animal and plant life” (*Stedman's Medical Dictionary* 2013) but in the specific medical sense of *drug*, more precisely of “medicinal gas” (*Stedman's Medical Dictionary* 2013) used for therapeutic purposes. By contrast, in the English extract, *RECOVERY* does not allow an immediate association with the medical domain. More precisely, despite being originally based on the concept of regaining health after an illness or injury, *RECOVERY* is mostly used in the generic sense of “process of improving or becoming stronger again” (*Oxford Advanced Learners' Dictionary* 2015), thus showing a lower level of metaphoricity in comparison with the Italian *GUARIGIONE*<sup>5</sup>. On the contrary, *HEALED* is immediately associated with the medical domain as its basic meaning is “to restore to health” (*Stedman's Medical Dictionary* 2013).

The investigation of the English and the Italian corpora also showed non-shared linguistic realizations of medical metaphors. More precisely, in some Italian articles the concept of crisis was conceptualized in terms of specific diseases/disorders, namely *NECROSI* (two occurrences in two different texts), *ANEMIA* (one occurrence) and *ANORESSIA* (four occurrences in two different texts), and not only as generic ‘malattia’ or ‘patologia’ as was shown in the extracts illustrated so far. As for *ANORESSIA* and *NECROSI*, their use was already shown, respectively, in extracts 19 (where the precise lexical item was *ANORESSIZZANTI*), and 27.

Extract 35 below displays the occurrence of the concept of *ANEMIA* in the English

<sup>5</sup> In fact, the corresponding Italian term for the English “recovery” in the sense given by the above-mentioned *Oxford Advanced Learners' Dictionary* (2015) is not “guarigione” but “ripresa” (see extracts 14 and 39). The latter term is not specific to the medical domain.

data, and extract 36 includes another interesting example of conceptualization of a crisis in terms of the emotional/behavioural disorder *ANORESSIA*:

**35.** Prima del 2002-2003, l'export aumentava del 2% annuo nella Germania considerata il malato d'Europa, afflitta da mancanza di competitività e crescita anemica. (*Il Sole*, Mar 22, 2016)

(Before 2002-2003, export increased by 2% a year in Germany, which was considered the sick man of Europe, afflicted by lack of competitiveness and anaemic growth).

**36.** L'economia sta sperimentando una forma traslata di anoressia. L'anoressia è una patologia dell'anima e del corpo. Nell'anima concentra il desiderio su pensieri ossessivi cristallizzati dalla paura e dall'angoscia. Nel corpo produce una riduzione della carne e dei tessuti, scavando i muscoli. Qualcosa di simile sta succedendo al capitalismo produttivo italiano. La deflazione è – insieme – causa ed effetto della recessione industriale. (*Il Sole*, Sep 13, 2014)

(The economy is undergoing a metaphorical form of anorexia. Anorexia is a pathology of the soul and the body. In the soul it concentrates desire on obsessive thoughts that are crystallized by fear and anguish. In the body it produces a reduction in the flesh and tissues, wearing out the muscles. Something similar is happening to the Italian productive system. Deflation is both the cause and the effect of the industrial recession).

It can be observed that in both extracts problems afflicting the economy (lack of competitiveness and slow growth in extract 35, and deflation in extract 36) are all conceptualized in terms of very debilitating medical disorders (especially *ANORESSIA* in the Italian extract), thus offering the image of an extremely weak and fragile economy/*PATIENT*.

None of the three diseases encountered in the Italian corpus were found in the English data which, however, displayed other types of serious and/or devastating, if not potentially deadly, medical conditions to conceptualize economic crises and/or economic-related political attitudes. *CARDIAC ARREST*, *HEART ATTACK*, and *ALLERGY* may serve as examples:

**37.** Crises are cardiac arrests of the financial system. They have potentially devastating effects on the economy. [...] The time to worry about a patient's lifestyle is not during a heart attack. The need is to keep them alive. (*FT*, Nov 25, 2014)

**38.** Quarterly capitalism was king during Bill Clinton's administration. The chief mark of today's Republican field was its allergy to new ideas. (*FT*, Jul 26, 2015)

Of a certain interest in the Italian data is the reference to recovery from crises in terms of a patient being anaesthetized or reanimated, as in the following sentences:

**39.** Le Borse Europee sono state anestetizzate dai segnali di una lenta ripresa dell'economia continentale. (*Il Sole*, Aug 14, 2015)

(The European stock markets have been anaesthetized by the signals of a slow recovery of the continental economy).

40. La Banca Centrale Europea sta provando a rianimare l'economia. (*Il Sole*, Aug 7, 2016)

(The European Central Bank is trying to reanimate the economy).

Moreover, in the English data, problems caused by crises are thought of in terms of *WOUNDS* (two occurrences in two different texts), and other occurrences were found of conceptualization of economic conditions referring to blood images (three occurrences in three different texts):

41. The economy is in better shape than it was a few years ago. We've healed the wounds from the crisis: the banks are back to normal; housing is back to normal [...]. (*FT*, Aug 7, 2015)

42. (Criminal charges for fraud) Ms Lagarde has argued that she approved of bringing the case into one single arbitration instead of nine pending cases because those cases were bleeding the taxpayers in legal fees. (*FT*, Dec 12, 2016)

Finally, even though only two occurrences were found in one article, the English corpus also showed an example of coinage of a new expression, as shown in the sentence below:

43. Demand deficiency syndrome has afflicted Japan since the early 1990s and the other economies since 2008 at the latest. (*FT*, Nov 25, 2014)

Here, not only is lack/scarcity of demand (for goods and services) conceptualized in terms of a syndrome but first and foremost the pattern of its superficial form shows the same morphosyntactic structure as that of specific codified medical expression such as "immune deficiency syndrome." *DEMAND DEFICIENCY SYNDROME* is a significant example of word/expression formation process, with the metaphor representing an interdisciplinary calque from the medical domain.

#### 4. Conclusions

The results of this study confirmed the initial hypothesis that English and Italian economics news discourse is replete with metaphorically used medical terms. More precisely, the incidence of medical metaphors in comparison with non-metaphorically used medical terms showed more than half of occurrences of medical terms being used metaphorically in both languages. Noteworthy was both the frequency of use of specific terms (e.g. *WEAK/DEBOLE*; *RECOVERY* for the English data, *CURA* for the Italian data) and the variety of the linguistic realizations displayed. The cross-linguistic investigation showed significant similarities between the two languages as regards frequency of metaphors, with the Italian data manifesting a slightly higher tendency to metaphorical reasoning as compared to the results in the English data. First and foremost, the outcomes obtained were clear evidence of the extent to which the medical domain in

general and the bodily experience in particular are a source of inspiration for knowledge construction and conceptual organization in economic discourse. The systematic conceptual schema activated by the basic THE ECONOMY IS A PATIENT mapping was well defined in both corpora. The expert economist is a *DOCTOR* who, after having correctly identified difficulties/having made the right *DIAGNOSIS*, must find the appropriate solution/*CURE* to problems/*AILMENTS/ILLS - PATOLOGIE/MALI* of the economic system/*PATIENT* and support return to normality/favour *RECOVERY/HEALING/GUARIGIONE*. The manifestation of the same schemas drawing on health-related images in both the English and the Italian data must come as no surprise. As highlighted by Boers (1999: 48), bodily experience is universally shared. Therefore, problematic economic issues are easily associated with health-related matters in general and particularly with human body diseases, independently of the specific culture.

As for occurrences of metaphors that the two corpora did not show to have in common, if on the one hand these were not quantitatively significant and might only have been an expression of individual authors' preferences, on the other hand they represented further interesting examples of *similarity-creation* between the economic and the medical domains. The English data showed instances of conceptualization of economic crisis in terms of cardiovascular system-related conditions, i.e. *CARDIAC ARREST* and *HEART ATTACK*, whereas the Italian data showed a preference for other types of pathological conditions/diseases, namely *NECROSI* and *ANORESSIA*.

It seems appropriate to highlight that from a quantitative and also a qualitative point of view this research was intended to be only a starting point for the study of the metaphorical use of medical terms in an economic context from a comparative perspective. Due to the small size of the corpora investigated, any tentative generalization would have led to indecisive conclusions. Further studies with larger corpora are needed to confirm (or disconfirm) the results of this study, search for other possible different realizations within the same category of metaphorical meaning in the two languages, and as a consequence discuss potentially culture-specific features.

Finally, independently of the results obtained, it is hoped that this work will contribute to highlighting the importance of the linguistic approach to the study of metaphor and the close relationship existing between language and mental processes. Language is the most immediate and tangible means giving insights into the way our conceptual system is constructed – in everyday thought as well as in specialized discourse.

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