

A CORPUS-BASED APPROACH TO BUSINESS ENGLISH METAPHORS¹

CRINA HERȚEG

***1 Decembrie 1918 University of Alba Iulia,
Romania***

Abstract: *Conceptual metaphors refer to understanding one domain, Target Domain in terms of another, Source Domain by means of the entailments which establish between Source Domain and Target Domain. We can look at metaphors from different perspectives: cognitive, semantic, pedagogic. The different aspects in the research of metaphor are better explored and investigated with the help of corpora. Corpus-based approach enables an in-depth investigation both of the synchronic aspect and of the diachronic one.*

There are two possibilities of exploring a corpus electronically: corpus-based approach and corpus-driven approach. Corpus-driven approach represent a higher stage of electronic processing of the corpus, the results are interpreted automatically. (Tognini-Bonelli, 2001, cited by Deignan 2008a). The corpus-based approach enables quantitative and qualitative research of the metaphor. Our tenet is that corpus-based approach provides the researcher with higher amounts of data for conducting a linguistic research.

Key words: *corpus; metaphors; business English; linguistics.*

1 Introduction

A comprehensive study of economic metaphors should encompass all the aspects pertaining to metaphorical and figurative language: metaphor variation, diachronic or synchronic perspectives, political and cultural mappings, the relationship between the Source Domain and the Target Domain, the pedagogical implications as well as the advantages of resorting to business English metaphors in the language class. Since the publication of Lakoff's work, different facets of metaphors have been exploited: conceptual categories, the textual and social phenomenon, the cognitive phenomenon, diachronic approach, the applied linguistic approach, metaphors as pedagogic tools during the language class, metaphors as a result of the translation process in the contrastive approach. The methodological means of exploiting metaphors range

¹*This work was supported by a grant of the Romanian National Authority for Scientific Research and Innovation, CNCS – UEFISCDI, project number PN-II-RU-TE-2014-4-2785*

from quantitative research, qualitative research, combination of quantitative and qualitative research. The instruments that facilitate these approaches are the corpora.

Alice Deignan (2008b) explores another facet of conceptual metaphors: the relationship between CMT and corpus linguistics (Deignan, 2008b: 149), exploring metaphors with the help of corpora. This brings into discussion another area of linguistics: corpus linguistics.

2 Corpora in linguistic research

Corpus linguistics is a branch of linguistics which fosters interdisciplinarity and which is widely applied in an array of linguistics-related disciplines: lexicology, lexicography, grammar, terminology, terminography, linguistics, sociolinguistics, foreign language teaching, language acquisition, metaphor research. Corpus linguistics provides tools and methods that facilitate an effective investigation of language specific issues seen from a use perspective.

The instruments corpus linguistics operates with include corpora and concordancing programs. Corpora can be spoken or written, they represent collections of texts, speeches which can easily be explored with the help of concordancing programs or manually. Corpora explore language in use, if the researcher intends to study a particular aspect of language the best way to explore it is the corpus-based approach. If properly exploited corpora can provide many additional kinds of information about language use. Thus, corpora prove useful and efficient tools in compiling dictionaries, in foreign language teaching, in language acquisition.

There are two ways of exploring corpora: corpus-driven research and corpus-based research (cf. Tognini-Bonelli 2001, cited by Deignan, 2008b:155). Tognini-Bonelli contrasts corpus-driven research with corpus-based research and characterizes corpus-based research as that in which the corpus is used as a source of data to support and develop existing theory. (cf. Tognini-Bonelli, cited by Deignan, 2008b:155). On the other hand, Tognini-Bonelli 2001 cited by Deignan states that corpus-driven research does not start with pre-existing theories, it starts with the corpus (Tognini- Bonelli 2001 cited by Deignan 2008a: 282). The idea underlying this theory is that these two approaches are not complementary: corpus-driven research relies on electronic processing of information (Deignan, 2008b: 156). Deignan points out that in the corpus-based approach, the selection of texts and examples might lead to a confirmation of pre-existing hypothesis (Deignan, 2008b: 156). Corpora also add new findings on language use. In other words, researchers need to resort to corpora in order to confirm and support their theories on the one hand and to discover new aspects of language in use on the other hand. As regards metaphor research the corpus-

based approach brings new data in the investigation of metaphors without altering the theory/ the hypothesis.

In relation with the traditional approach, the corpus-based approach is a complementary one. Yet, in case of novel disciplines such as terminology and terminography corpus-based methods outflank the traditional ones. In traditional approaches there is a limit on the number of texts subject to investigation, while corpus-based approach has the advantage that the data subject to analysis outperform the data in traditional research. Corpus-based approach is a research methodology that does not advocate a prescriptive perspective in language studies.

Corpus-based research relies on the collection of corpora which represent valuable resources and instruments in conducting linguistic investigation. Corpora and concordancing programs yield higher results in lexical research. Concordancing programs identify lexical collocations, collocational patterning and provide information on the frequency of lexical units, allowing users to search for specific target words in a corpus. In research studies on metaphors these programs can facilitate the identification of metaphorical meanings and linguistic metaphors.

3 Literature review. Corpora in metaphor research

Metaphors are seen as valuable tools for linguistic research, as bridges between linguistics and other disciplines with well-established institutional identity: biology, mechanics, physics. (Resche, 2012:78).

Nowadays metaphors are widely exploited with the help of corpora. Corpora collected for the study of business metaphors can be both written and spoken, the sources can range from newspaper and magazine articles, university lectures, research papers, business literature (manuals, scientific journals), business press, business meetings to websites.

Before we proceed with drawing on the importance of corpora for metaphor research we need to establish the following aspects: ways of exploring corpora, types of corpora, purpose of corpus-based research. Corpora can be explored in different ways: manually, automatically, semi-automatically (Stefanowitsch, 2006: 2). Manual annotation is recommended in case the researcher is exploring a specific language problem. The major disadvantage is the limited size of the corpus to be investigated. Larger corpora can be explored electronically and they represent a more valuable resource for researching metaphors. Electronic annotation is fulfilled with the help of concordancing programs. In order to fully exploit the data provided by corpora in general Stefanowitsch 2006: 3 proposes three options for electronic retrieval of metaphors: 1. to search for SD vocabulary (lexical items from SD); 2. to search for lexical items belonging to TD vocabulary; 3. to search for both SD and TD

vocabulary. Searching for TD vocabulary is applied successfully in TDs like economics, sports, politics (Stefanowitsch, 2006: 3).

Veronika Koller (2006) promotes the use of corpora in analyzing metaphors for these reasons: “the potential of corpus analysis reveals the use of metaphoric expressions across word classes and large amounts of data broaden the empirical bases for testing hypothesis” (Koller, 2006: 242).

Corpus-based approach of metaphors has been successfully applied by many researchers in order to support their theories: Paloma Tejada Caller, Antonio Guzman Guerra, Tony Berber Sardinha, Veronika Koller, Catherine Resche. In their studies they try to point out different aspects and facets of metaphors. There are different ways of exploring corpora, these encompass: investigation of the diachronic perspective which entails cultural mappings, revealing the lexical perspective, drawing on the pedagogical implications, the translation oriented approach of business metaphors.

Paloma Tejada Caller and Antonio Guzman Guerra (2012) highlight the importance of the diachronic perspective in researching money metaphors. The authors compile a lexical corpus which contains Greek lexical units denominating money which proved to be an efficient and beneficial instrument in analyzing the lexical changes money vocabulary went through. These lexical changes are the result of the changes in mentality, the more people become aware of the importance money plays, the more lexical units appear in the language to denominate these changes. The corpus-based approach enabled the authors to reconstruct the use and the development of money from cultural and lexical perspectives. The study opens new avenues in reconstructing mental, cultural and social life based on studying vocabulary related to or denominating money. With the help of interactional and habitual forms as well as with the help of vocabulary the authors try to reconstruct the cognitive models associated with the concept of exchange. The authors glimpse the evolution of monetary vocabulary in ancient Greece starting from the introduction of money as a means of exchange, this aspect is reflected both lexically and culturally. This evolution ranges from imaginary perception of money as a means of exchange to the real perception of money in terms of wealth and profit. Money evolves from immovable assets (gold) to mobile assets (means of exchange).

Tony Berber Sardinha (2008, 2012) analyses economic metaphors in the Brazilian space from a diachronic perspective. His approach is corpus-based, the author relies on both written and spoken corpora. The data under investigation include headwords related to specific aspects in the Brazilian economy during 40 years` timespan. The author`s tenet is that the political and economic development in the evolution of the country is reflected linguistically in the choice of metaphors. All the economic measures adopted by the government have linguistic counterparts.

Pedro Fuertes-Olivera and Marisol Velasco Sacristan (2012) rely on corpora in analyzing the metaphorical nuances of accounting terms translated

from English into Spanish. The corpora which the authors resort to in supporting their analysis are the electronic dictionaries.

Methodological approach resorting to corpora has widely been studied by Deignan (1999, 2005, 2008a, 2008b), Stefanowitsch (2006), Semino (2006).

As regards the types of corpora Deignan (2008a) distinguishes between two types: “ready-made corpora” compiled by groups of academic and commercial researchers and a second category, corpora compiled by researchers to study a specific aspect of language. (p.282). A second difference which arises between these corpora is in size, ready-made corpora are larger, while the second category of corpora is smaller. Ready-made corpora must be explored with the help of computer software, while corpora compiled by researchers can be investigated manually. Alice Deignan promotes smaller corpora in the research of metaphors as they allow for an in-depth analysis of metaphors. (Deignan, 2008a). On the other hand, large corpora enable quantitative analysis.

4 Advantages and limitations of corpora in the study of conceptual metaphor

The utmost advantage provided by corpora lies in the fact that large volumes of data can be investigated. A second advantage provided by corpora is that metaphors are analysed in context, it is difficult to analyse decontextualized words, especially those which are to be translated. In translating metaphorical terms the lack of context makes difficult the reconstruction of meaning of the word in SL. Another advantage is that “corpora enable researchers to study linguistic patterns on a large scale and can therefore provide the basis for more reliable hypotheses about possible underlying conceptual metaphors.” (Semino, 2006: 37).

Corpus linguistics provides the instruments to study metaphor variation in business texts and to approach metaphors from a pedagogic perspective: based on the corpora collected and on the findings there can be designed drills. These offer students a better perspective on language learning on the one hand and facilitate teaching on the other hand.

Researchers can rely on the use of concordancing programs in the study of metaphor, however, in most cases the identification of conceptual metaphors and the way conceptual metaphors are realized are done manually, either intuitively or according to a theoretical framework. The concordancing program identifies the headword/ node in collocations, idioms and the researcher intuitively analyses the metaphorical load of the findings.

In a series of articles which address the topic of corpus linguistics in the research of metaphor, Alice Deignan studies in detail the advantages and disadvantages of corpora. Deignan highlights the importance of corpora in the study of metaphors as they reveal findings about language use that might

otherwise remain hidden (2008a: 280), she also points out the limitations of corpora. Among these limitations she mentions: corpora reveal frequent and typical patterns of language without highlighting innovative metaphors. Concordancing programs help the researcher identify the node, yet, these programs do not analyze the metaphorical load of the identified phrase, they also do not identify the conceptual metaphors this node contains. (Deignan, 1999). Deignan also draws on the issue of representativeness of the language patterns inside a corpus outlining the idea that in order to be reliable for linguistic research corpora need to be balanced. The corpus linguist may fall in the trap of analyzing selected samples of language which raises the issue of representativeness discussed by Deignan 1999. If the researcher compiles a corpus from a certain genre different samples belonging to that genre can be amassed in the corpus.

5 Methodology

Corpora are efficient linguistic tools for identifying linguistic metaphors, they enable the researcher to analyse whether the linguistic metaphor embodies a conceptual metaphor, as well as the linguistic means through which this metaphor is realized. Corpora enable both quantitative and qualitative analysis, qualitative analysis reveal the frequencies of metaphors, while qualitative analyses reveal categories of metaphors which would otherwise remain hidden (Deignan, 2008a: 280).

As Alan Partington points out “Complementing the qualitative with a more quantitative approach, as embodied in Corpus Linguistics, not only allows a greater distance to be preserved between the observer and the data but also enables a far greater amount of data to be contemplated.” (Partington, 2006:268).

The corpora amassed for analyzing business metaphors are known as specialized corpora. For our analysis we compiled a specialized corpus comprising 50,000 words which encompasses business English texts taken from daily broadsheets. We compiled a balanced corpus made up of three different newspapers in order to avoid the issue of representativeness. The sources we resorted to for our investigation are the online versions of *The Economist*, *The Independent*, *The Telegraph*. From the last two newspapers we consulted the sections *Business* and *Money*.

6 Findings

We conducted an investigation to identify the conceptual metaphor *People are animals*. According to Cameron and Low as cited by Koller metaphor research

has to begin with known linguistic expressions: Since metaphor generation and extraction programs are not readily available to end users, corpus research into metaphor necessarily has to begin with attested linguistic expressions (Cameron & Low, 1999: 79 as cited in Koller, 2006: 241). To this end, we inserted nodes related to the Target Domain of animals. We resorted to concapp concordancing program and we tried to identify a series of nodes which represented clues that a linguistic metaphor occurs in the text. Therefore, our analysis comprised words from the Target Domain of animals. We started from attested linguistic expressions, the first node investigated is **bear** frequently encountered in the idiom **bear market**

Figure 1. Target Domain animal: bear

1 i 225, London's FTSE 100 and France's CAC-40 into
bear-market territory (see chart), since all had declined
 2 y Russians, phase two will not seem much better.
BEARmarkets are triggered, by convention, when share p
 3 s of last year. Mind you, another old saw is that
bearmarkets do not end until prices pass their previou
 4 its 1989 high, is still caught in a 26-year-long
bearrun. The rich world is not alone in its ursine in
 5 , but it's the foreign-exchange moves that really
bearwatching, for those worried about the Chinese econ

In figure one there are the results yielded by the node **bear** in a corpus amounting to 50,000 words, **bear market** occurs three times in the corpus. The second lexical item processed by means of the concordancing program is **bull**.

Figure 2. Target Domain animal: bull

1 s and exports in November was read differently by
bulls and bears; though the value of imports of commodi
 2 become too painful to put up with any longer. A
bullish broker note triggered a rally in building suppl
 3 ows of capital as investor sentiment flipped from
bullish to bearish. Governments were forced to abandon
 4 ipulating supply. That, Taylor says, is "complete
bull----. The market's too big for us to be able to inf

The morphological realizations of the idioms bull market and bear market usually consist of nouns in the singular and plural: *bear market, bulls and bears* and adjectives: *bullish and bearish*.

Concordancing programs used in our investigation yielded the frequency of headwords belonging to Source Domain and Target Domain.

Based on the findings we tried to identify or reconstruct the conceptual metaphor. However, these nodes did not point out to the existence of conceptual metaphors in the texts under investigation, conceptual metaphors were explored and identified manually in the texts. To this end, the corpus was also manually processed. Manual annotation revealed the following results:

People/ Economies are animals

1. someone **gave** me free **rein** over the German economy

Source Domain: animal

Target Domain: control

General mapping: Interaction between progress and external events affecting progress is interaction between two moving individuals, Special Case: *Person and Horse*

Lexical realization: Noun

2. Europeans still **flock** to the US for holidays, even though American guns kill far more people than terrorism (11,500 so far this year and counting) because they are familiar with the country and do not feel at threat.

Source Domain: animal

Target Domain: motion

General mapping: People are animals

Lexical realization: verb

3. This week a report showing a slump in China's imports and exports in November was read differently by **bulls and bears**.

Bull market

Bear market

4. In essence, the pair thought they could survive only by moving forward, like **sharks**.

Source Domain: animal

Target Domain: motion

General mapping: Progress is forward motion

Lexical realization: noun

5. Yet these humble entities turned out to be the proverbial **canaries in the coal mine**: their spasm was one of the first signs of the impending credit crunch.

Source Domain: animal

Target Domain: economy

General mapping: Economy is a living organism

Lexical realization: idiom

5. The mining giant was hit by a slew of **bearish broker** notes and revisions to its target price, in response to its radical restructuring plan announced on Tuesday.

Source Domain: animal

Target Domain: market

General mapping: Market changes are physical movements

Lexical realization: adjective

6. Civil servants are expecting a **mammoth pay** bump as a result of a once-a-decade wage negotiation; there is also a boost to military pensions that will cost around 1.1 trillion rupees (\$16 billion), or 0.8% of GDP.

Source Domain: animal

Target Domain: economy

General mapping: More is up

Lexical realization: noun

7. Then, fast-growing countries like Indonesia, South Korea and Thailand faced outflows of capital as investor sentiment flipped from **bullish to bearish**.

Source Domain: animal

Target Domain: market

General mapping: Market changes are physical movements

Lexical realization: adjectives

8. **Banks have been beefing up** wealth-management arms even as they curb trading, in the hope they will provide steadier profits at less risk.

Mapping: Institutions are animals

Source Domain: animal

Target Domain: economy

General mapping: Well-being is wealth

Lexical realization: phrasal verb

9. None of these problems is fatal. According to Goldman Sachs, Citi has the biggest exposure to energy firms among **banking behemoths**, at a modest 3.3% of its loan book.

Source Domain: animal

Target Domain: wealth

General mapping: More is up

Lexical realization: noun

10. The **profitability of beasts** like Rosneft, Lukoil and Bashneft is higher than it was in 2014, according to Moody's, a rating agency.

Source Domain: animal

Target Domain: wealth
General mapping: Well-being is wealth
Lexical realization: noun

11. **BEAR markets** are triggered, by convention, when share prices fall by more than 20%.

Source Domain: animal
Target Domain: motion/ development
General mapping: Market changes are physical movements
Lexical realization: idiom

12 It will take skill to sell an accord to opposition politicians who have spent years resisting a compromise with “**vulture funds**” like Elliott Management, which bought the debt in question at a hefty discount.

Source Domain: animal
Target Domain: competition
General mapping: Competitors are predators
Lexical realization: noun

Manual processing of the corpus yields higher results in comparison with the electronic processing of the text. The conceptual metaphors identified manually outnumber the ones identified with the help of the concordancing program.

7 Conclusions

Most recent research in the field of metaphor converges towards approaching metaphors from a corpus-based perspective. Nowadays almost every attempt to study economic/ business metaphors is approached from a corpus perspective. Corpora represent efficient tools in discovering and revealing linguistic metaphors, they can facilitate both synchronic and diachronic study of metaphors.

Conceptual metaphors in a text are not necessarily related to the presence of individual metaphorical expressions, in most of the cases to identify the metaphorical load of a text the researcher relies on intuition more than on concordancing programs. These programs are more efficient in lexical research, they easily identify collocations and collocational patterning. As regards the study of conceptual metaphors the best way to analyse them is the manual annotation. We believe corpora can prove quite efficient in the study of conceptual metaphors categories in business English genre: metaphors stemming from biology, medicine (animal metaphors, plant metaphors, weather-related metaphors). This approach proves useful up to a certain extent, animal-related words can be inserted in the program, yet the manual analysis

offer a better picture of the conceptual metaphors. In order to yield valid results a corpus needs to be balanced, texts compiled from the same source raise the issue of representativeness which might not confirm the validity of the findings.

After investigating the business English sources we came to the conclusion that Business English press is the richest source of figurative language.

References

- Biber, D., Conrad, S., & Reppen, R. (2006). *Corpus linguistics. Investigating language structure and use*. Cambridge: Cambridge University Press.
- Cameron, L., & Low, G. (Eds.). (1999). *Researching and applying metaphors*. Cambridge: Cambridge University Press.
- Charteris- Black, J. (2004). *Corpus approaches to critical metaphor analysis*. Basingstoke: Palgrave-MacMillan.
- Cunningham, T. (2015, December 9). Shares in building supplies group SIG jump after Canaccord Genuity begins covering the stock with a buy rating. *The Telegraph*. Retrieved from www.telegraph.co.uk
- Deignan, A. (1999). Corpus-based research into metaphor. In *Researching and applying metaphors* (pp.177-199) Cambridge: Cambridge University Press.
- Deignan, A. (2005). *Metaphor and corpus linguistics*. Amsterdam: John Benjamins.
- Deignan, A. (2008a). Corpus linguistics and metaphor. In R.W. Gibbs (Ed.), *The Cambridge handbook of metaphor and thought* (pp. 280-294). Cambridge: Cambridge University Press.
- Deignan, A. (2008b). Corpus linguistic data and the conceptual metaphor theory. In M.S. Zanotto, L. Cameron & M.C. Cavalcanti (Eds.), *Confronting metaphor in use. An applied linguistic approach* (pp.149-162). Amsterdam/ Philadelphia: John Benjamins Publishing Company.
- Fuertes-Olivera, P.A., & Velasco-Sacristan, M. (2012). Translation metaphor in business/ economics dictionary articles: what the theory says and what the lexicographers should do. In H. Herrera-Soler & M. White, (Eds.), *Metaphors and mills. Figurative language in business and economics* (pp. 155-173). Berlin: De Gruyter Mouton.
- Gibbs, W.R. (2008). *The Cambridge handbook of metaphor and thought*. Cambridge: Cambridge University Press.
- Goatly, A. (1998). *The language of metaphors*. London and New York: Routledge.
- Gorda, S. (2015, December 12). Mining firms and oil producers reel from another downward lurch in prices. *The Economist*. Retrieved from www.economist.com/.../21679837-mining-firms-and-oil-producers-reel-another-downward-lurch-prices-hole

- Herrera-Soler, H., & White, M. (2012). (Eds.). *Metaphors and mills. Figurative language in business and economics*. Berlin: De Gruyter Mouton.
- Herteg, C. (2013). Teaching business English vocabulary. A corpus-based approach. *Annales Universitatis Apulensis, Series Philologica, 14(2)*: 591-600.
- Herteg, C. (2015, October). *Money and money-related metaphors in business English*. Paper presented at the International Conference 5th World Conference on Learning, Teaching and Educational Leadership, WCLTA 2015, Paris. Retrieved from www.wclta.org.
- Herteg, C., Popescu, T., & Iordachescu, G-D. (2015, November). *Economic metaphors in business English*. Paper presented at the International Conference 3rd Global Conference on Linguistics and Foreign Language Teaching, LINELT 2015, Istanbul. Retrieved from www.linelt.org
- Kennedy, G. (1998). *Introduction to corpus linguistics*. Great Britain: London.
- Knowles, M., & Moon, R. (2006). *Introducing metaphor*. London and New York: Routledge, Taylor & Francis Group.
- Koller, V. (2006). Of critical importance: Using electronic text corpora to study metaphor in business media discourse. In A. Stefanowitsch & Th. S. Gries (Eds.), *Corpus-based approach to metaphor and metonymy* (pp.237-266). Berlin/ New York: Mouton de Gruyter.
- Kovecses, Z. (2005). *Metaphors in culture. Universality and variation*. Cambridge: Cambridge University Press.
- Kovecses, Z. (2015). *Where metaphors come from. Reconsidering context in metaphor*. New York: Oxford University Press.
- Lakoff, G., & Johnson, M. (2003). *Metaphors we live by*. London: The University of Chicago Press.
- Mair, Ch., & Hundt, M. (2001). (Eds.). *Corpus linguistics and linguistic theory*. Amsterdam: Rodopi.
- McCarthy, M. (2006). *Explorations in corpus linguistics*. Cambridge: Cambridge University Press.
- McEnery, T., & Wilson, A. (2004). *Corpus linguistics*. Cambridge: Edinburgh University Press.
- Meyer, Ch. (2004). *English corpus linguistics. An introduction*. Cambridge: Cambridge University Press.
- Musolff, A., & Zinken, J. (Eds.). (2009). *Metaphor and discourse*. Great Britain: Palgrave Macmillan.
- Partington, A. (2006). Metaphors, motifs and similes across discourse types: Corpus- Assisted Discourse Studies at work. In A. Stefanowitsch & Th. S. Gries (Eds.), *Corpus-based approach to metaphor and metonymy* (pp.267-304). Berlin/ New York: Mouton de Gruyter.
- Resche, C. (2012). Towards a better understanding of metaphorical networks in the language of economics: The importance of theory-constitutive metaphors. In H. Herrera-Soler & M. White, (Eds.), *Metaphors and mills*.

- Figurative language in business and economics* (pp. 77-102). Berlin: De Gruyter Mouton.
- Sardinha, T.B. (2012). Metaphors of the Brazilian economy from 1964 to 2010. In H. Herrera-Soler & M. White, (Eds.), *Metaphors and mills. Figurative language in business and economics* (pp. 103-126). Berlin: De Gruyter Mouton.
- Semino, E. (2006). A corpus-based study of metaphors for speech activity in British English. In A. Stefanowitsch & Th. S. Gries (Eds.), *Corpus-based approach to metaphor and metonymy* (pp.36-62). Berlin/ New York: Mouton de Gruyter.
- Semino, E. (2008). *Metaphor in discourse*. Cambridge: Cambridge University Press.
- Sinclair, J. (1991). *Corpus, concordance, collocation*. Oxford: Oxford University Press.
- Souter, C., & Atwell, E. (1993). (Eds.). *Corpus-based computational linguistics*. Amsterdam: Rodopi.
- Stefanowitsch, A., & Gries, Th. S. (Eds.). (2006). *Corpus-based approach to metaphor and metonymy*. Berlin/ New York: Mouton de Gruyter.
- Stern, J. (2000). *Metaphor in context*. Massachusetts: Massachusetts Institute of Technology.
- Tejada Caller, P., & Guerra, G.A. (2012). From barter to coin: Shifting cognitive frames in classical Greek economy. In H. Herrera-Soler & M. White, (Eds.), *Metaphors and mills. Figurative language in business and economics* (pp. 27-48). Berlin: De Gruyter Mouton.
- Thomas, J., & Short, N. (1996). (Eds.). *Using corpora for language research*. London: Longman.
- Zanotto, M.S., Cameron, L., & Cavalcanti, M.C. (2008). (Eds.). *Confronting metaphor in use. An applied linguistic approach*. Amsterdam/Philadelphia: John Benjamins Publishing Company.
- White, M. (2003). Metaphors and economics. The case of growth. *English for specific purposes*, 22(2): 131-151.

Online sources

www.economist.com

<http://www.edict.com.hk/concordance/www.ConcappE.htm>.

www.independent.co.uk

www.telegraph.co.uk

China's leaders face a menu of unappealing exchange-rate options (2016, January 16). *The Economist*. Retrieved from <http://www.economist.com/news/finance-and-economics/21688440-chinas-leaders-face-menu-unappealing-exchange-rate-options-fight-or-flight>

- Despite benign economic conditions, India faces tricky budget decisions (2016, February 27). *The Economist*. Retrieved from <http://www.economist.com/news/finance-and-economics/21693625-despite-benign-economic-conditions-india-faces-tricky-budget-decisions-leap>.
- Investing. Why terrorism has a limited impact on markets (2015, November 16). *The Economist*. Retrieved from <http://www.economist.com/blogs/buttonwood/2015/11/investing> Not so smart. Why two big banks failed. (2015, November 26). *The Economist*. Retrieved from <http://www.economist.com/news/finance-and-economics/21679228-why-two-big-banks-failed-not-so-smart>.
- Russia's economic problems move from the acute to the chronic (2016, January 23). *The Economist*. Retrieved from <http://www.economist.com/news/finance-and-economics/21688932-russias-economic-problems-move-acute-chronic-phase-two>
- Some simple rules of thumb. (2015, November 13). *The Economist*. Retrieved from <http://www.economist.com/blogs/freeexchange/2015/11/macroeconomics>.
- Stockmarket woes worsen (2016, January 23). *The Economist*. Retrieved from <http://www.economist.com/news/finance-and-economics/21688884-stockmarket-woes-worsen-bear-necessities>.
- The good times are ending before they had really begun (2016, January 23). *The Economist*. Retrieved from <http://www.economist.com/news/finance-and-economics/21688937-good-times-are-ending-they-had-really-begun-not-yet-out-woods>.
- The government has struck one deal with holdout creditors. Others will be harder (2016, February 6). *The Economist*. Retrieved from <http://www.economist.com/news/finance-and-economics/21690109-government-has-struck-one-deal-holdout-creditors-others-will-be>.
- The suspension of several speculative bond funds carries only faint echoes of the onset of the credit crunch. (2015, December 19). *The Economist*. Retrieved from <http://www.economist.com/news/finance-and-economics/21684175-suspension-several-speculative-bond-funds-carries-only-faint-echoes>.