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Word-formation Strategies of Native and Non-native (French) Speakers of English: a Cognitive Onomasiological Approach to the Study of Formal Economy and Semantic Transparency in Word-formation

Анотація.У статті визначено словотвірні стратегії, характерні для носіїв мови та тих, хто не є її носіями з ономасіологічної точки зору. Стратегії розглянуто в ракурсі когнітивної ономасіологічної теорії словотвору за допомогою так званих онмасіологічних типів, які служать інструментом для класифікації номінацій відповідно до різних ступенів неясності значення та економії вираження. Продемонстровано, що ті, хто є неносіями мови, виявляють тенденцію до неясності значення більше, ніж до економії вираження.
Ключові слова: словотвірні стратегії, носії та неносії мови, когнітивні ономасіологічна теорія, неясність значення, економія вираження.
Abstract.The paper examines preferred word-formation strategies of native and non-native speakers of English from an onomasiological perspective. The strategies are examined within a Cognitive Onomasiological Theory of Word-formation, by means of the so-called Onomasiological Types that serve as tools for classifying the created naming units according to different degrees of transparency of meaning and economy of expression. What was expected is demonstrated in the measurable stronger preferences of the non-native speakers towards transparency of meaning rather than towards economy of expression.
Keywords: word-formation strategies, native and non-native speakers, Cogniitive Onomasiological Theory, onomasiological types, transparency of meaning, economy of expression.

Introduction

Word-formation mechanisms form an inherent part of every living language. They themselves are, as rightly pointed out in Körtvélyessy et al. [Körtvélyessy et al. 2015], a manifestation of the economical use of language, whereas instead of longer phrases, new and more economical naming units are established and used. The economy in language, however, does not end there. It is possible to see different degrees of economy of expression even within a naming unit or, more precisely, within the various possible formal representations of a single concept. A formal representation of a concept is, however, bound to and restricted by the concept itself.

This is why studying economy in word-formation should use what is known as an onomasiological approach, moving from concept to form. This approach is opposed to the semasiological approach to word-formation, which, in turn, focuses on the already existing form and interpretation of its meaning. Furthermore, in word-formation, the economy of expression is in gradual opposition to transparency of meaning. The term seems to be self-explanatory but, as will be shown in later sections, it has different interpretations and applications. We are going to take the same approach as Körtvélyessy et al. [Körtvélyessy et al. 2015], which is consistent with the cognitive onomasiological theory of Štekauer [Štekauer 1998, 2005a, b].

In line with this approach, the more a word is semantically transparent, the less it is economical, and vice versa. Onomasiological types are used in this approach as tools for capturing both of these tendencies to different degrees according to the nature and completion of onomasiological structure by morphemes. The main aim of this paper is to examine these two tendencies in word-formation from two samples of respondents – Canadians, i.e. native English speakers from Canada, and French, i.e. non-native English speakers from France - by employing onomasiological types.

This research aims to prove 3 hypotheses based on the conclusions of the research of Körtvélyessy, Štekauer and Zimmermann, *Word-formation strategies: semantic transparency vs. formal economy* [Körtvélyessy et al. 2015]. The first hypothesis claims that the tendency towards semantic transparency in word-formation will be stronger than the tendency towards formal economy in both groups. The second hypothesis states that even though it was proved that a different mother language does not play any evident role in the creation of words in a target language, the French group will nevertheless show a stronger tendency towards semantic transparency than the Canadian group. The third hypothesis supposes that both groups will prefer more specific, yet less semantically transparent Onomasiological Type 3 than equally economical, as well as more general and more semantically transparent Onomasiological Type 2.

Before heading directly to the experiment with native and non-native English speakers, some of the following terms used will be explained in greater detail: a notion of onomasiology in word-formation, Cognitive Onomasiological Theory of Word-formation, semantic transparency, and finally, onomasiological types. These are followed by the above mentioned experiment, its results, and a discussion of those results. In the conclusions, the most striking findings are summarised along with suggestions for further possible research. The presented research and data come from my diploma thesis submitted in 2015.

Cognitive Onomasiological Theory of Word-formation

The Cognitive Onomasiological Theory [Štekauer 1996, 1998, 2001, 2005a] builds mainly on the works of two linguists from the Czecho-Slovak area - Czech linguist, Miloš Dokulil, and Slovak linguist, Ján Horecký. The model is also influenced by a functional-structural approach of the Prague School of linguistics. This school

pursued establishing linguistics "as an independent science based on the concept of the linguistic sign" [Štekauer 1993, p.105] and stressed the importance of external/extra-linguistic factors. Mathesius, the proponent of this school, introduced a term of naming unit which serves as a unit of word-formation, which will be frequently used here as well. One of his other important contributions encompasses also his distinction between the functional onomatology and functional syntax. The former representing the stage of encoding the content of thought into elements of language, the latter one creating the mutual relations between those elements by forming sentences [ibid.].

Štekauer's approach emphasizes the independence of the word-formation component in the system of linguistics and emphasizes the importance of the triad of relationships that exist between the word-formation component and the speech community that uses the word-formation component, between the word-formation component and the object of the extralinguistic reality that is named by means of the word-formation component, and the relation between the speech community and the object of the extralinguistic reality that is recognized by the speech community as nameworthy. To illustrate this model, let's take a fictional object from extra-linguistic reality that could be described as 'a person designated by the government to welcome back traveler birds (e. g. storks) as they return in spring'.

Figure 1Non-existing extra-linguistic reality illustration

The act of naming, according to the model, takes place when this extra-linguistic reality is recognized by a speech community (in this instance it would be the government) as needing, or deserving, a name. Such evaluation of the extralinguistic-reality by the speech community leads to the conceptual level where the extralinguistic reality is analysed through generalisation and abstraction in order to capture the prototypical features that would describe the class of such objects. This way, a set of logical predicates, constituting a logical spectrum, is created. See the logical spectrum for our linguistic reality below in (1).

(1)   The motivating Object 1 is $SUBSTANCE_1$.
      A $SUBSTANCE_1$ is Human.
      The Human performs an ACTION.
      The ACTION is the Human's Profession (=Agent).
      The Human is an Agent.
      The ACTION concerns $SUBSTANCE_2$ (=Object of Action).
      The ACTION is based on Greeting the $Substance_2$.

Substance$_2$ is a class of Animal.
Substance$_2$ is an Object of the ACTION performed by SUBSTANCE$_1$.
The Animals are characterised by their ability to fly.
Etc.

The naming act continues in the word-formation component at a semantic level and a semantic structure, a meaning, of the linguistic sign proper is created through representing each of the predicatates by semes (2).

(2)   [+Material] [+Animate] [+Human] [+Adult] [+Profession] [+Agent];
          [+Material] [+Animate] [+Animal] [+Flying] [+ Object of Action] etc.

Later, at an onomasiological level, an onomasiological base and an onomasiological mark are attributed to the chosen semes, thus creating an onomasiological structure.

(3)   Object   ⟵   Action - Agent

Morpheme-to-Seme-Assignment Principle (MSAP) is applied at the onomatological level when the chosen semes are assigned to the relevant morphemes chosen from the lexical component. This is when the notions as compounding, prefixation, suffixation, back-formation, and blending take place.

(4)   Object   ⟵   Action - Agent
       bird   greet   -er

The last step in the process of creating a naming unit happens at the phonological level where the naming unit is phonologically shaped as in (5) [Štekauer 2005].

(5)   'bird,greeter

This, nevertheless, exemplifies only one of several possible formal representations of the given concept, as will be shown later, through onomasiological types. The onomasiological types, as already mentioned, represent tools for recording different degrees of formal economy and semantic transparency in various naming units. The possibility of a word coiner to choose from a variety of word forms for the same concept is also what Štekauer [Štekauer 2005a, b] refers to when speaking about his approach to creativity, as also explained in the following paragraph:

> It is the interaction between the conceptual, onomasiological, and the onomatological levels that – within the limits of productive types and rules and the relevant constraints – provides certain space for a creative approach to word-formation[.]The inclusion of speech community in the model and viewing each new naming unit as a result of a very specific and real act of naming by a coiner makes it possible to reflect individual preferences, the influence of one's age, education, and profession, one's linguistic background (in bilingual setting), fashionable trends, etc. i.e. the sociolinguistic factors which may affect the application of the MSAP in those cases that provide more than one option [Štekauer 2005a, p.18].

This creative approach of a coiner is also reflected in the different degrees of formal economy and semantic transparency measurable by onomasiological types. Before introducing the onomasiological types as proposed by Körtvélyessy et al. [Körtvélyessy et al. 2015], and then proceeding to the experiment with two samples of word-formators, which will further demonstrate this view of creativity, the following sections explain different approaches to the notion of semantic transparency in word-formation.

Semantic Transparency

The traditional view of semantic transparency starts with a premise that "semantically transparent complex words are those whose constituents are used in one of their fundamental meanings" [Körtvélyessy et al. 2015, p.87].

Dressler [Dressler 2005] differentiates between morphosemantic and morphotactic transparency. Morphosemantic transparency, as he explains, is based on the principle of semantic compositionality, where full transparency is only possible in case of inflectional meanings and in syntactic units, but not in word-formation. Neologisms represent only one of their potential readings and eventually become lexicalized, even fossilized. This leads Dressler to distinguishing between transparency of word-formation meaning and transparency of lexicalized word meaning. Furthermore, Dressler provides a four-degree classification of morphosemantic transparency, starting with (1) transparency of both members of the compound, continuing with (2) transparency of the head, opacity of the non-head member, (3) opacity of the head member, transparency of the head, and finally, (4) opacity of the two members of the complex word [ibid.]. A further subdivision is possible, metaphorical motivation of one constituent results in less transparent variants of transparency degrees. With regards to morphotactic transparency, the most transparent are purely phonological processes and application of compound-stress rules, the least transparent is suppletion.

Borgwald and Luttenberg [Borgwald and Luttenberg 2010] distinguish between semantically transparent compounds, semantically opaque compounds, and partially transparent compounds. The last category concerns cases where only one of the constituents has a clear meaning. This classification is based on the strength of the relation between the meaning of its individual constituents and the meaning of the compound as a whole [Körtvélyessy et al. 2015].

Libben [Libben 2014] suggests to measure a degree of semantic transparency based on (1) whether the constituents are used in their original meanings and (2) whether the meanings of constituents form families of words [Körtvélyessy et al. 2015, p.19]. Körtvélyessy et al. [ibid.] provide an example of a compound *bedroom* which should be, according to Libben's just-described model, a completely transparent compound. This will be commented on in subsequent paragraphs within the onomasiological approach to semantic transparency. The conclusion that Körtvélyessy et al. [ibid., p.89] made for this part reads:

> It may be hypothesized that meaning predictability of a particular interpretation depends on the interplay of a speaker's experience with the language use (exposure to complex words with the particular constituent), on the structure of his/her mental lexicon (the number of words with that particular constituent in his mental lexicon), and the prevailing relations between the complex word constituents at the onomasiological level, i.e., the dominant onomasiological type for both constituents of a particular complex word.

As the final remark to the above mentioned notions of semantic transparency of complex words, Körtvélyessy et al. [ibid.] suggest not to neglect potential relations between constituents that contribute to understanding the whole complex word. This remark is, of course, not accidental, as it is a starting point for what forms a cornerstone of understanding semantic transparency within an onomasiological framework, as introduced by Štekauer [Štekauer 1996, 1998, 2001, 2005a,b] and which is going to be explained in the following section.

Semantic Transparency and Formal Economy in Onomasiological Types

This section explains how Körtvélyessy et al. approach semantic transparency and formal economy, and how onomasiological types are used to measure them [Körtvélyessy et al. 2015]. Körtvélyessy et al. claim that "semantic transparency of complex words is crucially determined by the process of word-formation" [ibid., p.90]. Within the onomasiological approach described in the previous sections [Štekauer 1996, 1998, 2001, 2005a,b], the ideal new complex word for interpretation has a three part onomasiological structure. It consists of a base and a complex mark which consists of determining and determined elements [ibid.]. This brings us back to the previously mentioned example of *bedroom*. Even though both of the constituents, *bed* and *room*, provide us with clear semantic information, the meaning of the word is not semantically transparent. The absence of the morphematic representation of the determined constituent in this case hinders the clear interpretation of this complex word. It is the absence of this constituent, the determined constistuent of a mark, which causes problems in interpretation of the possible relation between otherwise clear meanings of *bed* and *room*. Körtvélyessy et al. conclude [ibid., p.91]:

[T]he central role in terms of semantic transparency is played by the determined constituent of the onomasiological structure because it is this component that identifies the actual, coiner-determined relation (word-formation aspect) between the other two constituents of the onomasiological structure, and thus substantially facilitates prediction of the meaning of a novel complex word (word-interpretation aspect).

The semantic transparency is then defined as "the degree and the nature of completeness of morphematic representation of the onomasiological structure" [ibid., p.92]. The degree of completeness of morphematic representation of the onomasiological structure means the number of the morphemic representation of the semantic categories and the nature concerns the constituents of the onomasiological types present or absent in their morphematic representation [ibid.]. An illustration of the individual 6 onomasiological types follows in the subsequent paragraphs.

Our research was based on the research of Körtvélyessy et al. [Körtvélyessy et al. 2015] who examined the word-formation strategies in the creation of new words in the category of Agent. This paper also works with the onomasiological types suitable for the category of Agent. There are 6 such onomasiological types and they are represented with examples in Table 1. Each of the onomasiological types are also described in more detail below.

Semantic Transparency			Formal Economy		
	HIGH			HIGH	
OT1		birdgreeter	OT4		greet
OT6		birdman-greeter	OT2, OT3, OT5		greetist, birdist, birdgreet
OT5		birdgreet			
OT2		greetist			
OT4		greet	OT1, OT6		birdgreeter, birdman-greeter
OT3		birdist			
	LOW			LOW	

Table 1 - 6 onomasiological types with examples

Onomasiological Type 1 (OT1) concerns complex words with a complete, ternary, onomasiological structure. Since the onomasiological mark is expressed in this case, this onomasiological type is considered to have a high semantic transparency. Consequently, the formal economy is quite low. See the example in Table 1.

(7)   Object   –   Action   –   Agent
      bird   greet   -er

Onomasiological Type 2 (OT2) features good semantic transparency because the determined constituent of the mark is represented together with the base. It is more economical and yet less semantically transparent than Onomasiological Type 1.

(8) Action – Agent
     welcome   -ist

The onomasiological structure of **Onomasiological Type 3** (OT3) is represented by the determining element of the onomasiological mark and the onomasiological base. Since the determined element is missing within this structure, the semantic transparency is lower. It is the economical equal of OT2.

(9) Object - Agent
     bird   -ist

Onomasiological Type 4 (OT4) represents the cognitive recategorisation, traditionally called conversion. It is very economical but the semantic transparency is very low.

(10) Object - Action - Agent
                     greet

Onomasiological Type 5 (OT5) combines OT4 with a determining element of the onomasiological mark. The semantic transparency of OT5 is thus higher than that of OT4. Consequently, the formal economy is smaller in OT5 than in OT4.

(11) Object – Action – Agent
      bird   greet

Onomasiological Type 6 (OT6) is a two-base structure present in copulative compounds. Its semantic transparency is very high but it is rather non-economical (birdman-greeter).

Experiment

Having explained the notions of economy and transparency within the Cognitive Onomasiological Theory of Word-formation, as well as the tools for measuring their different degrees in naming units, now we can proceed to the experiment, the separate parts of which are introduced in the sections that follow.

Experiment Samples

As has already been mentioned, the respondents for this experiment were chosen to fit within two categories – native English speakers and non-native English speakers. In order to make the research different from that of Körtvélyessy et al. [Körtvélyessy et al. 2015], the native English speakers were chosen from Canada and the non-native English speakers were chosen from France. The respondents from Canada were from Salt Spring Island in British Columbia where the official language is claimed to be English. Only responses with mother tongue English were taken into consideration within this sample. The sample of respondents from France consisted of Parisians living in the region of Ile de France. Only the responses from people whose mother tongue is French were taken into consideration for the French sample. Given the samples of people that were available to us at the time of collecting the data (in 2015), the Canadian group consisted mostly of high school students (average age 16.4) and the French group consisted mostly of university students and older (average age 27.6). There were 100 informants altogether, 62 from Canada and 38 from France.

Questionnaire, Procedure, and Evaluation of Responses

The questionnaire was written in English for the two groups of respondents. The two groups were given questionnaires consisting of 17 semi-closed questions (see appendix for the questionnaire with its tasks). At the end, answers from the questions 10 and 14 were not considered despite having appeared in the questionnaire. It is because these tasks elicited mostly pre-existing naming units in both groups of respondents, such as *Infoman* and *Firekeeper*, and it seemed a better solution to discard the tasks entirely instead of solely discarding the responses, as the questionnare aimed to elicit new naming units. Each task in the questionnaire asked respondents to name an Agent described by simple sentences. The respondents were given multiple choices for answering each question, the last of which allowing them to create a naming unit of their own. The category of Agent was chosen for all of the questions because this category provides coiners with numerous options for forming one and the same concept possibly realised through different onomasiological types, thus enabling us to examine the naming strategies of both groups in word-formation through classification of the individual coinages into the 6 onomasiological categories.

The respondents provided us with 1332 naming units, although ideally 1500 naming units would be provided. This is because some informants left questions unanswered and also not all answers were taken into consideration. The aim of the questionnaire was to analyse the word-formation strategies leading to semantic transparency or economy of expression, of new complex words, new in both form and meaning. For this and the reasons listed below some of the proposed naming units had to be eliminated.

The elimination criteria:

a) The proposed naming unit was based on a semantic shift of the pre-existing naming unit and therefore no new naming unit was proposed.

b) The proposed naming unit did not meet the description of the concept in a question or had a meaning that was just the opposite.

c) The proposed naming unit was ungrammatical.

d) The proposed naming unit was a descriptive phrase.

e) The proposed naming unit designated Patient, a bearer of state, instead of Agent.

f) The proposed naming unit was a blend.

Experiment Results

The collected data from the two groups, Canadians and French, classified into onomasiological types, as demonstrated in Table 2, serve as a basis for evaluation of word-formation strategies - the preferences towards semantic transparency and the preferences towards economy of expression in forming new naming units of the category of Agent in the English language. Table 2 also contains some illustrative examples of naming units from the most popular answers as provided by the respondents. Where not specified, the answer was equally the most popular in both samples. Sometimes there is no example because any answer for an onomasiological type was provided by respondents, other times there is an example of a single count for an onomasiological type and a given concept.

	Examples:	Canada		France	
OT1	different socks wearer, foreigner-friender (CA), foreigner-friendmaker (FR), decafdrinker, lastpagereader, heavendescriber, peacetalker (CA), peacepromoter (FR), culturepreserver (CA), culturepreservist (CA and FR), cookieseater, birdswelcomer, lightbulbchanger, lightbulber, treesleeper, cornwalker, paintinghanger, grasshater, cityclinger (CA and FR), city-stayist, city-stayer, and stay-at-homer (FR)	406/799	50.81%	322/533	60.41%
OT2	preferist, anti-foreshadower (CA), describist (CA), preservist, welcomist, airless wanderer and mare walker (CA), hangist (CA), avoidist, clinger	68/799	8.51%	28/533	5.25%
OT3	socksman, foreignerist, decafist (CA), decafman (FR), lastpager, heavenist, peaceperson (CA), peaceman (FR), cultureman, cookie person (CA), cookiesman (FR), birdist, treeman (CA and FR), treepie (FR), cornmazeman, paintinger, antigrasser, cityman	272/799	34.04%	146/533	27.39%
OT4		0/799	0.00%	0/533	0.00%
OT5	different-sockswear, foreigner addict (FR), a decaf addict (FR), lastpageread (CA), peacepromote (CA), peacefreak (FR), culturepreserve (CA), cookies-eat and cookies addict (FR), birdgreet, cornmazewalk (FR), paintinghang (CA), grassavoid	29/799	3.63%	20/533	3.75%
OT6	foreignerer-liker, heavenexpert describer (CA), heaven-expert describer (FR)	24/799	3.00%	17/533	3.19%

Table 2 - Experiment results with examples of most frequently used answers

In the following sections, the two tendencies will be discussed.

Semantic Transparency in Experiment

Semantic Transparency			
	HIGH	Canada	France
OT1		50.81%	60.41%
OT6		3.00%	3.19%
OT5		3.63%	3.75%
OT2		8.51%	5.25%
OT4		0.00%	0.00%
OT3		34.04%	27.39%
	LOW		

Table 3 - Experiment results for semantic transparency

Onomasiological type 1, which is characterised by the highest degree of semantic transparency within the onomasiological types, dominates in both of the tested groups as seen in Table 3. It presents 50.81% of the new naming units coined by Canadians and 60.41% of the new naming units coined by French. This means that both groups prefer to coin new naming units with the onomasiological structure represented by all three constituents – the determining, determined constituents of the onomasiological mark and the onomasiological base. As was stated earlier, the crucial constituent for the semantic transparency of a newly coined word is the determined constituent of the onomasiological mark representing the category of Action. This is why Onomasiological Type 3 is assigned the lowest degree of semantic transparency. The Action in this type is not expressed, which hinders the prediction of the meaning of the newly coined naming unit. In our survey, 34.04% of new naming units proposed by Canadians and 27.39% proposed by the French were of this type. This finding is rather interesting - it is clear that the overall tendency for both groups is towards semantic transparency, nevertheless, the percentage of naming units falling into OT3 is quite high.

Onomasiological Type 4, representing a very low degree of semantic transparency, was not used even once, neither Canadians nor the French used it. Onomasiological Type 6 presented only 3.00% within Canadian coinages and 3.19% within French coinages. This type is not so common despite its very high degree of semantic transparency probably because it consists of a two base structure which, in some cases, might be seen as redundant. Slightly higher percentages opt for a less semantically transparent Onomasiological Type 5 – 3.63% in Canada and 3.75% in France. This onomasiological type is a more semantically transparent version of OT4 since OT5 also contains a determining constituent besides the joint representantation of Action and Agent. This more semantically transparent OT5 was employed by both groups of informants contrarily to the OT4 that none of the respondents used. This could also be interpreted in favour of stronger semantic transparency preferences from both groups. Finally, Onomasiological Type 2 was

the 3rd most popular onomasiological type in Canada and France, opting for 8.51% and 5.25% respectively. Despite its position in the table, OT2 shows a considerably good semantic transparency because it consists of a determined constituent of the mark standing for Action and the base standing for a category of Agent. In comparison to OT1 and OT3, however, the percentages are almost negligable. The semantically less transparent OT3 is preferred over the more transparent OT2 in both groups. This finding, although unexpected, is not a new phenomenon, nor is it a new finding. It could be explained by the fact that OT2, although more semantically transparent than OT3, is probably perceived as too general (as also noted in Kortvelyessy et al, 2015). Despite a high percentage of use of OT3, the overall tendency in creating new naming units towards semantic transparency remains very high.

Formal Economy in Experiment

As was already pointed out, the tendency towards semantic transparency is higher than towards formal expression. The onomasiological types are subdivided into three homogenous groups based on their degrees of economy of expression (see Table 4). The tendency towards the least economical solutions of new naming units is very clear to see and it is represented by Onomasiological Type 4. However, this onomasiological type was not employed in any of the proposed new naming units.

Formal Economy			
	HIGH	Canada	France
OT4		0.00%	0.00%
OT2, OT3, OT5		46.18%	36.39%
OT1, OT6		53.81%	63.60%
	LOW		

Table 4 - Experiment results for formal economy

The second group consists of Onomasiological Types 2, 3 and 5. These three onomasiological types are considered to be represented by an equal degree of economy, occupying the middle position within the scale of the economy of expression. OT2 and OT3 are represented by two semantic categories and their corresponding morphemes. Even though the onomasiological structure of OT5 is represented by all three semantic categories, only two morphemes are used for their representation. The sums of the three types in both groups present 46.18% for Canada and 36.39% for France. These solutions are less economical than OT4, which is presented by a single morpheme, but more economical than the third group consisting of OT1 and OT6.

The onomasiological structure of OT1 is fully represented by three morphemes and is the least economical type. OT6 is also fully semantically transparent as it has a two base structure and features the smallest degree of formal economy together with OT1. This third group of the least economical solutions occured in 53.81% of proposed new naming units by Canadians and in 63.60% of new naming units proposed by the French. A stronger tendency towards the least economical solutions of newly coined naming units is obvious in the two tested samples of informants.

Canada vs. France Discussion

The overall tendency of the Canadian and French groups for creating new naming units in English is already evident from the discussion above. Both groups tend to form semantically transparent naming units and consequently they tend to form less economical naming units. Interestingly enough, the percentage within the onomasiological types used in creating new naming units by Canadians was very similar to that of the French group. For that reason, it was possible to draw shared conclusions for universal preferences of onomasiological types within the two groups. Even though the results were roughly the same for the two groups, there were some differences in the percentages and it might be interesting to take a closer look at them.

Semantic Transparency				Formal Economy			
	HIGH	Canada	France		HIGH	Canada	France
OT1		50.81%	60.41%	OT4		0.00%	0.00%
OT6		3.00%	3.19%				
OT5		3.63%	3.75%	OT2, OT3, OT5		46.18%	36.39%
OT2		8.51%	5.25%				
OT4		0.00%	0.00%				
OT3		34.04%	27.39%	OT1, OT6		53.81%	63.60%
	LOW				LOW		

Table 5 - Experiment results - semantic transparency and formal economy

The dominant onomasiological type in both the Canadian and the French samples was Onomasiological Type 1. We already interpreted this fact as being a high preference of both groups for semantically transparent new naming units. 50.81% of the new naming units proposed by Canadians were of the OT1 while French created 60.41% of the new naming units using OT1. The difference between Canadians and the French in the frequency of OT1 employment is almost 10%, which should not be neglected. Based on this fact, we could claim that the preference of the French for the semantic transparency represented by all three constituents of

the onomasiological structure is stronger than the preference for semantic transparency of Canadians. Nevertheless, both groups show a tendency towards semantic transparency.

Comparison of Onomasiological Type 3, the least semantically transparent onomasiological type, within the two groups will also support the above stated claim. While this onomasiological type ranks second place in the two groups, it represents 34.04% of all new naming units created by Canadians and 27.39% of all new naming units created by the French. The reason these numbers support the claim that French prefer more semantically transparent new coinages resides in the fact that the French used this least semantically transparent onomasiological type less frequently than Canadians.

What does not support this claim, although not surprising, is shown through the comparison of the usage of Onomasiological Type 2 in the two groups. Canadians used this type more frequently, in 8.51% of their coinages, in comparison to the French who used OT2 in 5.25% of their new coinages. It does not support our claim because this onomasiological type has a fairly good semantic transparency and so we would expect the French to use it more frequently than Canadians. However, as it was already stated, despite its good degree of semantic transparency, this onomasiological type might be considered too general. This could explain why this onomasiological type was less popular amongst the French than amongst the Canadians.

The comparison between Canada and France in the remaining three onomasiological types, OT4, OT5 and OT6, contributes to our analysis, although not so significantly. No conclusions can be drawn based on Onomasiological Type 4 since none of the 62 Canadians, nor any of the 38 French informants, employed this type to create a new naming unit. OT5, the onomasiological type with relatively good semantic transparency, was employed more often by the French than by the Canadians, however, the difference is rather negligable. The traditional notion of conversion, which is employed within OT5, is not uncommon to the French since even in the French language the phenomenon is employed very frequently. The Canadians employed OT5 in 3.63% of their new coinages while the French employed it in 3.75% of theirs. The last onomasiological type, Onomasiological Type 6, characterised by a very high semantic transparency, was also almost equally employed by both groups, 3.00% for Canada and 3.19% for France. Even though the French group employed this onomasiological type slightly more often, and despite its favorable value to our initial claim, the difference is not very significant. The two base structure, typical of this onomasiological type is not uncommon to Canadians, nor to the French, though neither of the groups employed it significantly often in creation of the new naming units in English in spite of the very high degree of semantic transparency of this onomasiological type. Nevertheless, taking into consideration the comparison between the Canadians and the French in each of the above mentioned onomasiological types, a tendency towards semantic transparency seems to be stronger in the French group.

Consequently, from the conclusion stated above, a tendency towards formal economy should be stronger in the Canadian group of respondents. For the verification of this statement, three subgroups of onomasiological types were consulted, divided according to their degree of the formal economy. The first group, with the highest degree of economy of expression, consisted of a single Onomasiological Type 4 and cannot be taken into consideration because no one employed it. The second group, with a medium degree of formal economy, consisted of OT2, OT3, and OT5 and was represented in 46.18% of Canadian coinages, in comparison to the representation of this group in 36.39% of all French newly formed naming units in our research. The third group, consisting of OT1 and OT6, represented the least economical group, and was employed more often by the French, in 63.60% of their proposed naming units, in comparison to the Canadians, who employed these least economical onomasiological types in 53.81% of their proposed naming units. These comparisons may be used in support of our initial claim that Canadians show greater preference for formally economical new naming units than French. However, this does not change the overall stronger tendency towards semantic transparency in word-formation within the two groups.

Conclusions

This paper examined the word-formation strategies of native (Canadian) speakers of English and non-native (French) speakers of English and supported the main expectation that the non-native speakers would place stronger emphasis on being understood/semantic transparency rather than on economy of expression. In order to come to such a conclusion, the measuring tools for these tendencies in word-formation, i.e. onomasiological types, were introduced. Onomasiological types are part of Štekauer's theory of word-formation, which builds on Dokulil's ternary notion of onomasiological structure and on Horecký's multilevel model of linguistic sign. In the Onomasiological Theory of Word-formation by Štekauer, word-formation is suggested to constitute an independent subdiscipline of linguistics. Word-formation cooperates with the lexical component from which it borrows monemes, affixes, and complex words and uses them to create new, non-existing, naming units. This model also emphasizes the importance of a triad of relationships that exist between the word-formation component and the extra-linguistic reality, between the word-formation component and the speech community, and between the extralinguistic reality and the speech community.

It is, therefore, all of these factors that contribute to the final form of a naming unit – word-formation component, speech community, and extralinguistic reality. In the experiment presented above, it was the authors of the concepts who decided for the speech community that these were the concepts the two samples, native and non-native speakers of English were going to be asked to provide names for, for the purposes of the experiment itself, although, under normal circumstances the speech community decides for itself, based on its needs and trends, based on what concept

it is in the world that is not yet captured in language that needs to, or deserves to, be named. The concepts used in the experiment were of a category of Agent, i.e. somebody who does something. This way it was possible to see various formal representations of onomasiological structure recorded in onomasiological types that were then used to measure the different degrees of semantic transparency and economy of expression in a similar way as conducted in experiment of Körtvélyessy et al. [Körtvélyessy et al. 2015].

The speech community consisted of native English speakers from Canada and of non-native English speakers from France (with French as their mother tongue), the comparison of these two groups aimed to point to a different use of semantically transparent and formally economic naming units because of the more confident mastery of the English language by native speakers compared to non-native speakers. Although the experiment seems to confirm the three hypotheses set out in the introduction, there are two other factors that might have contributed to the results. The native speech group consisted of high school age students, while the French speech group consisted mostly of people of university age and older. Comparison of the groups of native and non-native speakers of the same age would strengthen the results of this experiment. Another factor that may have contributed to the presented results is the mother tongue of the non-native English speakers, which was, in this experiment, the French language. The crucial role of semantic transparency within the studied approach is played by the determined constituent of the onomasiological mark, which is a verb. It is also important to mention that the French language, and therefore also French speakers, do prefer using verbs when possible [Owoeye 2013]. This preference in French could have been also translated into forming more semantically transparent units, even in English. Even if the previous studies showed no influence of one's mother tongue on word-forming in other languages, this feature of the French language could have influence on formation of more semantic, i.e. more verb-containing, new naming units, even when forming in other languages, in our case in English. This could be verified in further research.

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Appendix

Nickname: _____
Gender:
Age:
Mother tongue:
Second language:
Other languages: _____

For each description of a person please choose or create one name/title that you would give them.

1. How would you name a person who usually wears two different socks?
   a. Socksman
   b. Different-socks person
   c. Different socks wearer
   d. Different-socksman
   e. Different-sockswear
   f. Socksflegma
   g. Other: _____

2. Someone who makes friends only with foreigners.
   a. Foreignerist
   b. Foreigner-friender
   c. Foreignerman
   d. Foreigner-friendmaker
   e. Foreigners-preferer
   f. Foreignerer-liker
   g. Preferist
   h. Other:_____

3. Person who drinks nothing else but a decaffeined coffee/a decaf.
   a. Decafist
   b. Decafdrinker
   c. Decafman
   d. Decaf
   e. Decafdrink
   f. Other:_____

4. Person who always starts reading a book by reading the last page first.
   a. Lastpager
   b. Lastpagestarter
   c. Lastpageman
   d. Lastpagereader
   e. Lastpageread
   f. Other:_____

5. Person who is an expert in describing a heaven.
   a. Heavenist
   b. Heavendescriber
   c. Heaven-person
   d. Heavenexpert describer
   e. Describist

   f. Other: _____

6. Person who constantly talks about the importance of the peace in the world.
   a. Peace person
   b. Peaceman
   c. Peacetalker
   d. Peacepromoter
   e. Peacepromote
   f. Promotist
   g. Other: _____

7. Person who fights for preservation of a national culture.
   a. Cultureman
   b. Culturepreserve person
   c. Culturepreserver
   d. Preservist
   e. Culturepreservist
   f. Culturepreserve
   g. Other: _____

8. Person who eats too many cookies.
   a. Cookiesman
   b. Cookies-eater
   c. Cookie person
   d. Cookies
   e. Cookies-eat
   f. Other: _____

9. Person who is delegated by the government to welcome traveler birds (ex.storks) coming back in spring.
   a. Birdsgreetman
   b. Birdist
   c. Welcomist
   d. Birdswelcomer
   e. Travelbirdwelcome
   f. Travelbirdgreeter
   g. birdgreet
   h. Other: _____

10. Someone who supplies his friends with the newest information.
    a. Newser
    b. Infoman
    c. Infosupplier
    d. Info-supply
    e. Other: _____

11. Person who is in charge of changing the light-bulbs.
    a. Lightbulbist
    b. Lightbulbchanger
    c. Lightbulber
    d. Lightbulbman
    e. Change person

    f. Other: _____

12. Person who likes to sleep on a tree.
    a. Treesleeper
    b. Treeliker
    c. Treesleep
    d. Treeman
    e. Other: _____

13. Person who walks daily through corn maze.
    a. Cornmazelover
    b. Cornmazeman
    c. Cornmazewalk
    d. Corner
    e. Cornwalker
    f. Other: _____

14. Person whose job is to keep the fire in the fireplace burning
    a. Firekeeper
    b. Fireperson
    c. Fireplaceman
    d. Burningkeeper
    e. Firekeep
    f. Other: _____

15. Person whose job is to hang the paintings on the walls.
    a. Paintinghanger
    b. Pantinghang
    c. Hangist
    d. Paintinger
    e. Painting person
    f. Other: _____

16. Person who never walks on the grass.
    a. Grassavoid
    b. Avoidist
    c. Grasshater
    d. Antigrasser
    e. Antigrass
    f. Other: _____

17. Person who never crossed the borders of his city.
    a. Citycling
    b. Clinger
    c. Clingist
    d. Cityman
    e. Other: _____

That is about it. Thank you for your time ☺