Metonymy in Czech Word Formation in Terms of Cognitive Linguistics

Substitutional metonymy is generally considered as one of the basic conceptual processes that have the power to indirectly name the reality. The principle of the metonymy is a shift of meaning based on certain internal connections (for metonymy Kövecsses – Radden 1998; Koch, 1999; Peirsman – Geeraerts, 2006; Langacker, 2009). According to the cognitively oriented linguist Laura A. Janda, similar metonymic relationships can be identified in Czech word-formational processes (see Janda, 2010). The base of the study is an idea that between the vehicle and the target, there is a relationship which is similar to the substitutional metonymy. The aim is to apply that perspective on the specific language material. The database of linguistic material was excerpted from two fairy-tales by Karel Čapek (Čapek, 1972). The research has focused on nouns. The analyzed material consists of 193 nouns formed by suffixation, desuffixation, conversion (for conversion in Czech see Bednaříková 2009), as well as the combined processes. The crucial points are the analysis of metonymic relationships and the number of their occurrences in the database of nouns. The most often metonymic patterns for vehicle and target are also presented, as well as the most frequent suffixes. The analysis clearly indicates that they are verbs that have the strongest position in the word formation of nouns. Regarding the metonymic pattern, the most frequent target within the database are the abstraction, entity and agent. In the end of the study there is a conclusion summarizing the main findings.

Introduction

The milk tipped over (Janda 2010, 2011, 2014) is a prototypical and often-cited example of metonymy. The majority of studies have focused on what is called lexical metonymy so far. The above cited example is a typical one. In lexical metonymy, the source (here, the term VEHICLE is used) is associated with the word and the TARGET is the meaning that is actually accessed. Thus, the shift consists of a CONTAINER which is accessed by reference to its CONTENTS. What is in fact shifted is the whole lexeme. That is the basis of the lexical, i.e. substitutional metonymy. Looking at another example, *květináč* (‘flower-pot’), one could argue that there is a relationship which is similar to the substitutional metonymy. The VEHICLE corresponds to the founding word (the source word) *květina* (‘flower’) and the TARGET to the word-formational affix *-áč*. The shift itself seems to be parallel to that of substitutional metonymy. A CONTAINER is again accessed by reference to its CONTENTS, but this time the shift is achieved by grammatical means, in this case by the morphological process of derivation using the formant *–áč-Ø,* where *-áč* is the derivational suffix, and *-Ø* is the inflectional suffix (desinence, ending).

The first part of the study explains the aim of the study and the type of the research. The next section briefly outlines the theoretical background and the up-to-date literature. What follows next is building up the database for the research. Then the analysis of the language material is presented and discussed. The final section communicates the conclusion.

The Purpose of the Research (a Case Study)

The main purpose of the study is to break new ground for the Czech word-formational theory, which would be based both on the concept of morphology as study of the inner structure of a word (Komárek 2006, Bednaříková 2009) and on cognitive linguistics. What is also intended here is to apply the classification system of word-formational metonymy, elaborated by Janda (2010, 2011), on a particular language material. Janda´s system is based on traditional word-formational theory as seen in Dokulil (1962) and in Dokulil – Horálek – Hůrková and Knappová (1986) and parallel to Peirsman and Geeraerts (2006). The aim of the case study is to construct and analyse the database of nouns which were formed by either suffixation or conversion, to explore the most frequent metonymical relations, to explore the metonymical patterns and to find the central word-formational formants.

Theoretical Background – A Brief Survey

What must be mentioned first is the Czech word-formational theory elaborated by Dokulil (1962) and by Dokulil – Horálek – Hůrková and Knappová (1986). Dokulil created the onomasiological model of word-formation, which consists of 4 abstract conceptual categories complying with the four basic parts of speech (word classes). The conceptual categories are:

substance, quality, action and circumstance. The meaning of the coined word is based on the interrelations between them. Thus, the onomasiological structure has the pattern: MARK (vehicle/source) + BASE. In the coined word *hlupák* (‘fool, blockhead’), the MARK (vehicle) is the adjective expressing the category of quality *hloupý* (´full´) and the BASE (target) is the formant *–ák-Ø* (derivational suffix-ending), representing the category of substance (someone who bears the quality of *hloupý*).

As far as the notion of metonymy is concerned, it has various meanings according of various branches of scholarship. The Greek word metónymia means ‘renaming’ that is based on the transmission of meaning. Metonymy is mainly employed in literary theory as one of the tropes, i.e. indirect naming of reality. In lexicology, it is used in the sense of multiplication of meanings, as something causing the emergence of polysemy (Dokulil 1962, Hauser 1980, Filipec and Čermák 1985, and others). As far as cognitive linguistics is concerned, the term metonymy is used in two senses:

a) as a shift (mapping) within a single domain (Croft 1993, Langacker 1993, 2009, Kövecses and Radden 1998, Kövecses 2002),
b) as a contiguity relationship (Jakobson 1956, 1980, Peirsman and Geeraerts 2006).

Here, the research leans upon the way in which the metonymy is handled by Janda (2010, 2011, 2014), i.e. metonymy as a referential relational between two concepts: a source (VEHICLE) concept is overtly named and provides the mental access to a TARGET concept in a given context. Similarly, the notion

of metonymy is understood in Kövecses and Radden (1998) as a cognitive proces in which one conceptual entity (VEHICLE) provides mental access to another conceptual entity (TARGET). Thus, the cognitive strategy of metonymical association uses conceptual force to access the target.

Making the best use of Dokulil´s theory of onomasiological categories (Dokulil – Horálek – Hůrková and Knappová 1986) and the inventory of substitutional metonymy by Perisman and Geeraerts (2006), as well as the VEHICLE for TARGET model for classification of metonymy (Lakoff 1987), Janda designed a classification system which she used for exploring the Czech word-formational metonymy signaled by suffixation (see Dokulil´s part of Mluvnice češtiny, Dokulil – Horálek – Hůrková and Knappová 1986). Her activities aimed to demonstrate the parallels between substitutional and word-formational metonymy.

Database of Czech Word-Formational Metonymy

The language material that served for our research were two fairy tales from the book by Karel Čapek (1890−1938) *Devatero pohádek* (‘Nine fairy tales’), namely Pohádka pošťácká (‘Postman´s’ fairy tale’) and Pohádka tulácká (‘Drifter´s fairy tale’). The limitations for the excerption and analysis covered the necessity to excerpt only nouns. The morphological means on the stock were only derivation (suffixation) and conversion. What was excluded were modification category, i.e. deminutives as *hvězdička* (‘star’) or

augmentatives as *názvisko* (‘title’). Excluded were also the proper names, but only as target, not as vehicle/source: *Bugatti* → *bugatka*, and hypocoristics. But not excluded were deverbal nouns as *žebrat /žebrán/* → *žebrání* (‘beg /begged/ → begging’).

The size of our final corpus in the database was 193 nouns. The structure of the database consisted of the founding/source word as the VEHICLE/source, the founded/coined word as the TARGET, metonymical relation following the model: VEHICLE/SOURCE for TARGET), the morphological process of either of suffixation, or conversion, the central word-formational formant and the supporting formant as the phonological alternations, type of declension (type of the morphological “pattern” represented by the model /WORD/ generally used in Czech grammars). A short sample of the structure of the database is shown at the table 1.[1]

[1] ‘To quarrel → fairytale’, ‘to call (called) → profession’, ‘to pasture → shepherd’, ‘black wizard ADJ (or black book) → black wizard’, ‘water (or water ADJ) → water goblin’, ‘post office → postman’, ‘write down → writing’, ‘declare → public notice’

Table 1. *The Structure of the Database*

VEHICLE → TARGET	VEHICLE → TARGET	Process	Central + Supporting Formant
pohádat → pohádka	ACTION → PRODUCT	suffixation	-k-a + /ŽENA/
povolat (povolán) → povolání	ACTION → ABSTRACTION	conversion	-í /STAVENÍ/ + n ~ ň
pást → pastýř	ACTION → AGENT	suffixation	-(t)ýř-Ø + á ~ a /MUŽ/
černokněžný (or černá kniha) → černokněžník	CHARACTERISTIC → ENTITY	(composition +) suffixation	-(n)ík-Ø + i ~ ě /PÁN/
voda (or vodní) → vodník	LOCATION → LOCATED CHARACTERISTIC → ENTITY	suffixation	-ník-Ø + /PÁN/
pošta → pošťák	LOCATION → LOCATED	suffixation	-ák-Ø + t ~ ť + /PÁN/
napsat → nápis	ACTION → PRODUCT	conversion	-Ø /HRAD/ + a~ á
vyhlásit → vyhláška	ACTION → PRODUCT	suffixation	-k-a + s~ š /ŽENA/

As far as classification of the language material, i.e. the metonymical excerpts, is concerned, one has to face a couple of limitations which often appear to interesting challenges.

a) The first one concerns identification of the VEHICLE/source: As seen in table 1, the word *vodník* (‘water goblin’) may have two interpretations concerning its VEHICLE. It can be either the noun *voda* (‘water’), or the adjective *vodní* (‘water, of water, aquatic’). This may

result in different metonymical relations. If the founding word interpretation leads to the noun *voda*, then the slot for VEHICLE in the general metonymical relation VEHICLE → TARGET is occupied by LOCATION and the TARGET by LOCATED. In the latter case, that is with the adjective *vodní* as the founding word, the VEHICLE is occupied by CHARACTERISTIC and the TARGET by ENTITY. The decision (here, both solutions) leans upon Dokulil´s word-formational theory, as described above in section 3 (Theoretical background – a brief survey).

b) Another limitation to deal with is the fact that a VEHICLE may serve for two TARGETS, formally quite homomorphous. A good example may be the verb *psát* (‘write’). By applying the word-formational process of conversion namely using the past participle *psán* (‘written’) for substantivization we may have two different words *psaní*, and with that, of course, two different metonymical relations: either ACTION for ABSTRACTION (‘the process of writing’), or ACTION for PRODUCT (‘a letter as a result of writing, as something what has been written’). Understanding the respective meaning is obviously context bounded. At the same time one can thing of the process of concretization of the abstracts (here the result of the action is a respective noun).

c) What should not be omitted is the context boundedness: as partly seen in the previous paragraph the context boundedness may play a crucial role in interpreting the metonymical relation. The noun *vrták* (‘drill’) as

a coined word with the word-formational pattern *vrtat* → *vrták* (´to drill → the drill´) can be seen as a TOOL, though in the case of the analyzed text (a fairy tale) it bears a metonymic meaning of ENTITY, since it is expressively used in relation to a person, i.e. 'one who screwed up something, clumsy, lubber'. In these cases it is the context and the updated meaning of the word in the text that decide.

d) What also should be handled is the question of interpretation of the word-formational formant: A good Example may be nouns as *nádiva*, *nezdoba* (´stuffed, not ornamented´). Even if there is a detachable segment in the end of the words, i.e. *-a*, it is not a word-formational suffix, but a grammatical suffix of nominative singular. Both words are word-formationally the result of conversion *nadívat se* → *nádiva*, *nezdobit* → *nezdoba* (´to stuff → the stuffed, not to ornament → the not ornamented´), both following the metonymical relation ACTION → AGENT. The central word-formational formant is the change of inflection, that means that here the conjugation of the original verb was replaced by declension of the newly formed noun. Thus the segment *-a* in the end of the noun is not a word-formational suffix, but the representative of the whole inflectional paradigm, usually represented by the inflectional pattern PŘEDSEDA.

Analysis of Metonymical Relations

The database of excerpted language material in this research contains 193 nouns, which were subsequently subdivided according to individual metonymical relations, suffixes, and conversion types. Further research focuses primarily on the number of words (occurrences) in each category of metonymic relationships, the number of words within individual suffixes or types of conversions, as well as on what metonymical pattern and part of speech prevails in the VEHICLE/source and the TARGET. Altogether 33 kinds of metonymical relationships were identified in the language material database. The "top ten" metonymical relations according to the number of items are shown in the following table (see table 2)[2].

Table 2. *The "Top Ten" Metonymical Relations*

1	**ACTION → ABSTRACTION**	**42**	sloužit → služba překvapit (překvapen) → překvapení
2	CHARACTERISTIC → ENTITY	24	dobrý → dobrák
3	ACTION → AGENT	23	strážit → strážník
4	ACTION → PRODUCT	14	vyrobit → výrobek
5	CHARACTERISTIC → ABSTRACTION	11	rychlý → rychlost
6		8	capat → cápek

[2] 'to serve → service', 'to surprise (surprised) → surprise', 'good → good guy, 'to guard → constable', 'produce → product', 'quick → quickness', 'to toddle → novice', 'to connect → connector', 'mill → miller', 'king → kingdom', 'to consume → foodstuff'.

	ACTION → ENTITY		
7	ACTION → INSTRUMENT	8	spojit → spojka
8	LOCATION → LOCATED	7	mlýn → mlynář
9	LOCATED → LOCATION	6	král → království
10	ACTION → PATIENT	6	požívat → poživatina

As can be seen from table 2, the most commonly identified metonymical relationship is the ACTION for ABSTRACTION. In the context of analyzed nouns, the ACTION was most often used to point to a specific ABSTRACTION. There are 43 nouns in this category, but only eight of them are derivatives. Although it is the strongest model, it is associated only with three derivational suffixes. Thus, within this category three suffixes have been identified, namely *-b(a)*, *-ost-Ø* and *-e-Ø* (*sloužit → služba, litovat → lítost, loupit → loupež, ´*to serve → service, to regret → regret, to rob → robbery´). Even if the number of words in this metonymical category is the highest, the number of suffixes is comparatively small compared to other categories. All other words within this metonymical relationship have been created by word-formational process of conversion (type verb → noun); for example *překvapit /překvapen/ → překvapení*, *šramotit → šramot, ´to* surprise (surprised) → surprise, to rustle → rustling´). Such a large number of words resulting from conversion can be attributed to the fact that our analysis also includes verbal

nouns. Indeed, all these nouns belong to that particular metonymical relationship.

The second most common metonymical relationship is the CHARACTERISTIC for THE ENTITY, in which a total of 24 nouns were identified. Within this category, 19 nouns were created by the word-formational process of derivation (15 nouns were created by suffixing − *dobrý → dobrák* (´good → good man´), four nouns by desuffixation − *darebný → dareba,* ´roguish → rogue´). The model is associated with eight derivational suffixes: *-ic-e, -ák-Ø, -ník-Ø, -ek-Ø, -ec-Ø, -enec-Ø, -ík-Ø, -och-Ø.* The remaining five words were created by conversion, namely the adjective → noun type: *mužský* /adj./ → *mužský* /noun/ (´male → man´).

The third most frequent metonymical model is the ACTION for AGENT (*strážit → strážník, stvořit → stvořitel,* ´to guard → constable, to create → creator´). In this category, 23 nouns were identified, 14 of which were formed by suffixing and nine by conversion (type verbum → noun, *nadívat se → nádiva*. In this category, a total of ten suffixes have been found, namely *–ník-Ø, -tel-Ø, -ák-Ø, -č-Ø, -č-í, -ek-Ø, -ík-Ø, -/t/ýř-Ø, -c-e, -ouch-Ø.*

Analysis of VEHICLE / SOURCE

The analysis shows that the most common type of VEHICLE is ACTION: *stvořit → stvořitel, vyhlásit → vyhláška* (´to create → creator, to declare → decree´). ACTION as a VEHICLE has been found in eight categories of metonymical relationship, and generally appears in 106 words. The most

frequent part of speech for ACTION is, as can be expected, the verb. Nevertheless, verbs may also correspond to the metonymical model of STATE if it is a verb expressing state (ex. *stát* → *stanice*, *čekat* → *čekání,* ´to stand → station, to wait → waiting´). Consequently, the verb appeared as VEHICLE (and the founding word) in 110 words from the database, and is thus the most common part of speech expressing the VEHICLE.

The second most common type of VEHICLE is CHARACTERISTIC (*mrňavý* → *mrňavec, rychlý* → *rychlost*, ´tiny → tot, quick → quickness´). It was identified in five categories of metonymical relationships. CHARACTERISTIC appears as VEHICLE in 39 words, so the number of words exactly matches the number of adjectives. Nevertheless, the adjectives do not correspond to the second most common part of speech for the VEHICLE, because all other metonymical patterns (LOCATION, ABSTRACTION, LOCATION, etc.) correspond to nouns. The total sum of nouns was 40, i.e. one more than the adjectives. The following table shows all the metonymical patterns for VEHICLE/SOURCE (see table 3).

Table 3. *Analysis of VEHICLE / Source*

VEHICLE / SOURCE (Metonymical Patterns)	Number of Words
ACTION	106
CHARACTERISTIC	39
LOCATION	8
ABSTRACTION	7
LOCATED	6
PATIENT	4
QUANTITY	4
ENTITY	3
STATE	3
PRODUCT	3
GROUP	3
AGENT	2
MATERIAL	2
CONTENT	1
WHOLE	1
PART	1

Analysis of TARGET

The table below (see table 4) shows how many TARGETS (in founded words) were identified within the metonymical patterns. The three most common TARGETS are then commented in more detail.

Table 4. *Analysis of TARGET*

TARGET (Metonymical Patterns)	Number of Words
ABSTRACTION	58
ENTITY	43
AGENT	34
PRODUCT	14
LOCATION	13
INSTRUMENT	9
LOCATED	7

PATIENT	7
EVENT	4
GROUP	1
CONTAINER	1
WHOLE	1
PART	1

It is clear from the table that the most common TARGET is ABSTRACTION, followed by ENTITY and AGENT. If we compare the results with the previous analysis of the VEHICLE, it is clear that the difference between the first and the second position in TARGET is not as evident as the difference between the first and the second position as was the case with the VEHICLE.

Again, it is necessary to mention that the higher number of TARGETS included in the ABSTRACTION is likely to be the result of the inclusion of deverbal nouns (created by conversion). Of the suffixes, then the suffix *–ost-Ø* (nine occurrences) is most involved in the formation of the ABSTRACTION, then *–b-a* (four occurrences), *-ež-Ø* (two occurrences) and *–ek-Ø* (two occurrences). Of the total number of ABSTRACTIONS, there are 20 words derived (suffixed or formed by the combination or prefixation and suffixation), the remaining 38 words being created by conversion. For converted words, the most common type of conversion is verb → noun (36 words).

The second most common TARGET is ENTITY, the creation of which consists of 11 suffixes. The most ENTITIES were formed by the suffix *–k-a* (seven), then *–ák-Ø* (six), *-ic-e* (four), *-ek-Ø* (three), *-ec-Ø* (2), *-k-Ø* (two). Altogether, 34 nouns were created by derivation, the remaining nine were

formed by conversion (five by the type adjective → noun, four by the type verb type → noun).

The AGENT was the third most common goal, with a high number of suffixes (a total of 15) and one type of conversion. For the AGENT the following suffixes have been identified: *-ník-Ø* (five), *-ák-Ø* (three), *-ář-Ø* (3), *-tel-Ø* (two), *-č-Ø* (two). Only one occurrence appears within the following suffixes: *-č-í, -ek-Ø, -ík-Ø, -ýř-Ø, -c-e, -ec-Ø, -ouch-Ø, -ent-Ø, -ist-a* and *–at-Ø*. Thus, 25 nouns were created by suffixing, with the remaining nine created by conversion of the type verb → noun.

Analysis of the Central Word-Formational Formant

A total of 126 nouns formed by the word-formational process of derivation were found in the database of language material. A total amount of 36 suffixes have been identified of which the most productive appeared *–k-a* (17), cf. *spojka, vyhláška* (´connector, decree´), employed in eight metonymical relations. The second most productive suffix, found in 13 nouns, is sufix *–ák-Ø* 13), cf. *tulák, chudák* (´drifter, poor man´). In total, nine metonymical relationships have been identified with this suffix. Even though this suffix was identified with fewer words than the suffix *-k(a)*, the diversity of its metonymical relationships is slightly higher. The suffix *–ník-Ø* has been found in 11 nouns, serving primarily for the expression of LOCATED (eg. vodník, ´water goblin´), AGENT (loupežník, ´robber´) and ENTITY (četník, ´policeman´). In this suffix, six metonymical relationships were distinguished.

In this research, we worked with live texts, so necessarily all suffixes for creating nouns are unlikely to appear[3]. In addition, we differentiate between suffixation and conversion as different word-forming methods, and we comment on them separately.

In the language material database, a total of 67 words created by conversion were identified. To be more specific, here is a table that lists the identified conversion types (see table 5).

Table 5. *Types of Conversion*

Type of Conversion	Number of Words
verb → noun	58
adjective → noun	6
noun → noun	3

For verb → noun conversion, there was a total of six categories of metonymic relationships, most often ACTON for ABSTRACTION (35 nouns; *porušit (porušen)* → *porušení,* ´break (broken) → breach´*)*. The most productive central word-formational formant in the metonymical relationship ACTION for ABSTRACTION is the declension type represented by the pattern -í (STAVENÍ). Significantly less productive is the adjective → noun type of conversion where only two categories of metonymical relationship have

[3] Janda identified 207 suffixes in her study (see Janda 2010). She worked with artificially created linguistic material to try to capture all words resulting from suffixing (including conversion, as Janda considers it a kind of suffixation).

been identified, namely CHARACTERISTIC for ENTITY (*cestující ADJ* → *cestující NOUN/*, ´travelling → traveller´) and CHARACTERISTIC for ABSTRACTION (*horký ADJ* → *horko NOUN*, ´hot → heat´). In these cases, the adjectives were substantivized and there were the following central word-formational formants represented by the declension types of *-í* (PRŮVODČÍ). *-ý* (HAJNÝ) and *-o* (MĚSTO). The noun → noun type of conversion was always combined with prefixation, i.e. with prefixes *pří-* or *ná-*. The conversion occupied the declension type *-í* (STAVENÍ), see *střecha* → *přístřeší, město* → *náměstí* (´roof → shelter, town → square´).

Conclusions of the Case Study

The purpose of the case study was to support the debate on relationship between metonymy and word-formation by application of Janda classification system (2010, 2011, 2014) on a particular language material. The theoretical background leaned upon the theory of metonymy as cognitive strategy using a conceptual VEHICLE/source to access a TARGET **through word-formation.** The database of Czech word-formational metonymy supplied a vivid, realistic language material through which the metonymical relations were identified, namely via suffixation and conversion.

The strongest metonymical relations appeared to be:

- **ACTION for ABSTRACTION,**
- **CHARACTERISTIC for ENTITY,**
- **ACTION for AGENT.**

The strongest metonymical patterns for VEHICLE/source were:

ACTION, ABSTRACTION.

The strongest metonymical pattern for TARGET were:

ABSTRACTION, ENTITY, AGENT.

As far as the central word-formational formant is concerned, the strongest appeared to be suffixation (126 nouns, the most productive being the suffixes *–k-a, -ák-Ø, -ník-Ø, -ost-Ø, -ek-Ø*. Conversion was applied with 67 words of which 58 words were formed by verb → noun type of conversion.

Interpretation of the results shows that the strongest metonymical relations are:

ACTION for ABSTRACTION,

ACTION for AGENT.

The above mentioned respective finding supports the metonymical classification elaborated by Janda (2010). What appears to be the most interesting result is the frequency of the verbal actions. ACTION is the most widespread VEHICLE/source: it appears in eight metonymical relations and 107 nouns, while verbs are the most frequent part of speech (word class) for VEHICLE/source. Thus, the **verbal ACTIONS** are the most salient in Czech word-formation. There may be two sources for explanation: a) employing of conversion as an important word-formational process, b) the type of narrative as the source of language material, i.e. the fairy tales.

What the results of the analysis also bring is that they seem to point to trends in mental concepts of human beings, namely to ACTION: it plays a leading role in facilitating access to many other concepts (PARTICIPANT, ABSTRACTION, INSTRUMENT, and EVENT).

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