University of South Bohemia

Faculty of Science

The bachelor thesis was written under the Institute of English Studies

of the Faculty of Philosophy

Semantic Shift in Plant Names

Bachelor thesis

Iveta Doskočilová

Supervisor: Mgr. Petr Kos, Ph.D.

České Budějovice 2014

Bachelor thesis

Doskočilová, I., 2014: Semantic Shift in Plant Names. BSc. Thesis, in English – 39 p., Faculty of Science, The University of South Bohemia, České Budějovice, Czech Republic.

Annotation

The aim of the present work is to identify and list English plant names coined by semantic shift, namely by metaphor, metonymy or synecdoche, and to carry out a detailed categorisation of individual semantic categories based on different tendencies within them and interpretation of the results. The theoretical part of my work focuses on different approaches to semantic shift and its categories. It is followed by the practical part which deals individually with metaphor, metonymy and synecdoche, their sub-categorisations and then with overlapping of the above-mentioned categories. The work is concluded with several case-studies of interesting instances of semantically shifted plant names and with the summary and conclusion of the results of my study.

Affirmation

České Budějovice, April 23, 2014   Iveta Doskočilová

Tables and Figures

Table of Contents

1. Introduction

Plants, flowers and trees have always been a significant part of our lives. In addition to providing food for people and animals, some plants are used in medicine and some are used in other ways. Trees can give us shelter, building materials and other resources. With their use came the need give them various names and to distinguish one from another.

Plant names originated in several different ways in the English language, but the one which I will be focusing on in my thesis is semantic shift, which incorporates all plants that are named after another thing. The three main categories I will be writing about are metaphor, metonymy and synecdoche. I will be trying to find how plants are named, following tendencies in each main category and attempting to create a classification within metaphor, metonymy and synecdoche.

Presumably the plant names that resulted from semantic shift are named after things close to human beings – their own body, animals and objects of daily use. It can also be anticipated that plant names will be based either on the plants appearance or on the use of the plant, if it has any. I will be uncovering and categorizing these trends and will also attempt an interpretation of the results.

2. Theoretical part

In the theoretical part of my work I will mention several classifications of linguistic disciplines and where the semantic shift is located within them and will describe each of the three main categories of semantic shift that I have dealt with. Metaphor and metonymy have, in the last year, been approached in a new way which will also be dealt with in this chapter.

2.1. Position of semantic shift

As Zdeňka Hladká observed in her book *Přenesená pojmenování rostlin v českých dialektech,* new words are in general created in several different ways:

1. "*Creating new words*
2. *Giving new meaning to already existing words*
3. *Creating idiomatic expressions*
4. *Borrowing words from other languages"*[1]

Semantic shift is dealt with in the second and third category.

Other authors have different approaches to classifying language categories; Tournier for example distinguishes using the following neologisms:

1. "*Morpho-Semantic Neology*
2. *Semantic Neology*
3. *Morphologic Neology*"[2]

In this case, the semantic shift is a part of the Semantic category which Tournier further divides into two subcategories – "*functional change"* and "*semantic change*"[3].

Metaphor and metonymy naturally belong to the semantic change.

The third classification which I will present is that of Stein who in lexicology recognises two main categories – "*Lexical Importation*" and "*Lexical Formation*".

In lexical formation Stein distinguishes four subcategories:

1. "*Neology in meaning*

---

[1] Hladká 2000, p. 17. Translated by I. Doskočilová
[2] Tournier 1985, p. 47-48. Translated by I. Doskočilová
[3] Ibid.

2. *Neology in form*
3. *Neology in grammar and meaning*
4. *Neology in form, grammar and meaning*"[4]

Metaphor and metonymy are in the third category in which there are two trends – "*shifting*" and "*constructing*". Stein, in shifting further, distinguishes two categories – "*semantic-grammatical shifting*" and "*grammatical-semantic shifting*". Semantic shift is in Stein's classification in the "*semantic-grammatical shifting*" category, in the other category – "*grammatical-semantic shifting*" – there are conversions in-between world classes.[5]

2.2.   Semantic shift

As is apparent from the examples of classifications above, the position of semantic shift can vary. Generally speaking, semantic change is a way of creating new words by shifting the meaning of already existing words.

One of the most used sub-categorizations of semantic shift is that of Bloomfield. He proposed this classification of semantic shift: narrowing, widening, metaphor, metonymy, synecdoche, hyperbole, litotes, degeneration and elevation.[6]

The relevant categories that I will be dealing with for the entire length of this work are: metaphor, metonymy and synecdoche. Metaphors are semantic changes based on similarity, metonymies are semantic changes based on association in meaning. Synecdoche or *pars pro toto* is a semantic shift where a part of an object represents the entire object or vice versa.

---

[4] Stein 2000, p. 91-101.
[5] Ibid.
[6] Bloomfield 1933, p. 426-427.

2.2.1. Metaphor

Metaphor is a semantic change based on similarity between two objects.
Lipka, in his book *An Outline of English Lexicology,* offers the following scheme for a
metaphorical relationship based on Leech's approach:[7]

$$\boxed{\text{X is like Y in respect of Z}}$$

According to this scheme, a metaphorically motivated name of a flower with star-
shaped white flowers, *starflower,* is *starflower* (X) is like *star* (Y) in respect of its star-
shaped flowers (Z).

The classical approach to metaphor has changed in the last few decades. Goddard
describes the "*poetic metaphor*" in his book *Semantic Analysis: A Practical
Introduction* as "*a way of escaping from the traditional (...) style of representation and
bringing some imagination into semantics.*"[8] However, recently it has not been looked
upon as a mere poetic device that serves as a way of beatifying the language of fine
literature,but in the last few decades metaphor has been seen as key element of our
language and as a large influence on the way we form our thoughts. This approach has
been broadly discussed and researched in the book by Lakoff and Johnson *Metaphor we
live by*. The authors claim that "*our ordinary conceptual system, in terms of which we
both think and act, is fundamentally metaphorical in nature*."[9] Our understanding of
various concepts is closely tied with other concepts – we think of one thing in terms of
another.

One of their examples of so called "*metaphorical concept*" is ARGUMENT IS A WAR.
This means that when we think about an argument we think about it in terms of war. To
support this claim they offer several expressions normally used in the English language:

"*Your claims are indefensible.*
He attacked every weak point in my argument.

---

[7] Lipka 1990, p. 121.
[8] Goddard 1998, p. 77.
[9] Lakoff, Johnson 1980, p. 3.

His criticisms were right on target.

I demolished his argument.

I've never won an argument with him."[10]

When trying to apply metaphorical concepts to plants it may seem irrelevant, but sometimes it is possible to look at plants from a different perspective and therefore change our approach to them. Consider for example the following utterances:

The sunflower is *turning its head* to the sun.

The leaves were *whispering* in the wind.

An old oak was *leaning over* the water surface.

The poplar is *reaching* to the sky.

Even the strong pine was *bending* in the strong wind.

It seems fairly possible that we can be thinking about plants in terms of a metaphorical concept PLANTS ARE PEOPLE. This concept seems to be especially connected with trees. Human characteristics have been attributed to trees for a very long time and trees and plants are often in some way associated with human beings themselves. Examples from literature vary through a wide range of genres, including dryads – female tree spirits – from Greek mythology, ents and elves from Tolkien's stories or *Vrba* and *Lilie* from the collection of short stories *Kytice* by Czech writer Karel Jaromír Erben.

It is also possible to change the concept to PEOPLE ARE PLANTS, which is discussed in the article *Man is a Tree* by Rabbi Shraga Simmons who uses several examples from the *Torah*:

"- A person is like the tree of a field... (Deut. 20:19)

- For as the days of a tree shall be the days of my people. (Isaiah 65:22)

- He will be like a tree planted near water... (Jeremiah 17:8)"[11]

Plants that would support this hypothesis are especially those created by the process of personification. Personification describes nonhuman objects and creatures in terms of

---

[10] Lakoff, Johnson 1980, p. 4.

[11] www.aish.com, [online]

characteristics or features typical of human beings. An example of a plant which could be considered a personification is a plant called *weeping-grass*.

As pointed out in *Metaphors We Live By,* we cannot let ourselves think that an object is defined just by one metaphorical concept. The authors warn us that "*[t]he very systematicity that allows us to comprehend one aspect of a concept in terms of another (…) will necessarily hide other aspects of the concept.*"[12] Therefore, focusing on the aspect PEOPLE are PLANTS will hide any other aspects and metaphorical concepts that could be hidden within PLANTS.

Consider for example the following sentences:

The tall trees formed *a roof* above our heads.
The meadow was surrounded by a *wall* of trees.
The leaves formed a small *window*, through which the sun was shining.
I was lying on the ground with *a pillow* of moss under my head.
The forest was covered by *a carpet* of moss.

These utterances propose a different metaphorical concept related to plants and not at all correlating with the metaphorical concept presented earlier of PLANTS ARE PEOPLE. This metaphorical concept outlined by the example sentences might be FOREST IS HOME and its origin might be connected with human ascendants.

Plants can be connected with many metaphorical concepts which highlight their various features and the way in which people perceive plants. Above, I presented two of the possible metaphorical concepts associated with plants but in the analytical part of my thesis I will be only focusing on the classical approach to metaphor.

2.2.2. Metonymy

Metonymy is a semantic change which describes one object by a single characteristic of another object. Unlike metaphor, it primarily has a referential function but also serves

---

[12] Lakoff, Johnson 1980, p. 10.

"*the function of providing understanding*"[13]. The characteristic by which we are describing a given object shows in which part of the described object we are focusing on.

A scheme for metonymical relationship similar to Lipka's scheme for metaphor (see above 2.1.1.) may look as follows:

X is named after Y because of X's characteristic Z

Therefore the plant *throatwort* (X) is named "*throat*" (Y) because of *throatwort's* characteristic of *curing sore throats* (Z).

Similar to metaphor, the classical approach to metonymy has shifted since the publishing of *Metaphors We Live By*. It is seen as a normal part of our thinking and language but, unlike metaphorical concepts, I was unable to come up with any examples from the plant kingdom of any metonymical concept, so from now on I will be talking about metonymy only in terms of the classical approach.

2.2.3. Synecdoche

Synecdoche is a figure of speech where we refer to the whole object by its part or vice versa. Synecdoche can be seen by some authors as a subcategory of metonymy. For example, in Lakoff and Johnson's book synecdoche is treated as a "*special case of metonymy*"[14]. I, however, treat it as a category on its own because in terms of semantic shift in plants it has different tendencies to metonymy, which I will be focusing on in the analytical part of my work.

---

[13] Lakoff, Johnson 1980, p. 36.
[14] Ibid.

3. Analytical part

In this part I will be working with my corpus of English plant names. I will describe the process behind creating my corpus, categories I have not included and reasons I had for this. I will then focus on metaphor, metonymy and synecdoche within plant names separately and will be creating a detailed classification based on individual trends in each category. I will analyse the results of my findings and interpret individual categories. In this part will be also covered instances of overlapping semantic categories within plant names. In the last sub-section, I list some interesting semantically-changed plant names that I considered worth including in my work.

3.1.   My corpus

The first step I took when creating my corpus was going through a List of all British Plants from 2010 from the website *www.thewildflowerociety.com* and searching for those plant names that appeared to be motivated by semantic shift. The result was a list of nearly 1000 plant names. My next step was to go through that list, consult an internet site *www.memidex.com*, which offers a wide range of online databases where I searched for origins of plant names dismissing all names of plants that were not relevant to my work, examples of which follow this chapter.

After sorting these categories, I was left with a corpus consisting of 448 plant names that were created by the process of semantic shift. Some of the names contain more than one semantic change – if the semantic changes are independent of each other and do not correlate in any way I decided to treat them separately and actually put them twice into my corpus. An example of this is a plant called *harebell*, which contains both metaphor (the bell-shaped flowers) and metonymy (the plant is named after hares because it is found in places frequented by these animals).

My next step was to attempt to create a rough classification of the corpus. In the rest of my work I will be dealing with these categories. I will be finding their unifying features, attempting to create a clearer diversification of them and drawing conclusions from the results I find.

3.1.1. Dismissed categories

The plant names I did not include in the final version of my corpus fell into at least one of the following categories.

3.1.1.1. Calque

Names that were not motivated by semantic shift, but were in English introduced by translation from another language – these names may have originated by semantic shift, but because they did not result from the English language I did not include them in my final list. In this category are also included names which come from a non-English metaphorical shift but can be considered transparent to an English speaker and plant names from Old English and Middle English, not transparent to the average English speaker.

Examples:
- **Colt's foot** – "*translating medieval Latin* pes pulli *'foal's foot', with reference to the shape of the leaves.*"[15]
- **Cowslip** – "*Middle English cowslyppe, from Old English cūslyppe ("cowslip"), from cū("cow") + slyppe ("paste, viscid substance"), related to Old English slūpan ("to slip, glide, move softly").* "[16]
- **Dog-rose** – "*translation of the Latin name, from Greek; from the belief that its root was effective against the bite of a mad dog.*"[17]
- **Tormentil** – "*from Old French tormentille, from Medieval Latin tormentilla, from Latin tormentum agony; referring to its use in relieving pain.*"[18]
- **Primrose** – "*late 14c., prymrose, from Old French primerose, primerole (12c.) and directly from Medieval Latin prima rosa, literally "first rose," so called because it blooms early in spring.*"[19]

[15] www.oxforddictionaries.com, [online]
[16] www.en.wiktionary.org, [online]
[17] www.collinsdictionary.com, [online]
[18] Ibid.
[19] www.etymonline.com, [online]

Origins of plant names are not easy to track and for that reason there might be some calques in my final list that I have missed. It is also possible that there are two similar names for one plant whose origin was not connected and was semantically motivated.

3.1.1.2.   Non-transparent

Another category I have not listed is of names that I did not consider to be transparent or of which I was not able to identify the origin.

Examples with possible explanations behind the origin of the plant name:
- **Abraham-Isaac-Jacob** – its name may come from the fact that this plant often changes its colour.
- **Asparagus-pea** – possibly named after a slightly asparagus-like taste, or because the "peas" of this plant are prepared like asparagus.
- **Broomrape** – may be named because it is dependent on other species of plant.
- **Bear's-breech** – I was not able to track down any interpretation of the origin of the name of this plant.
- **Bird's-nest-Orchid** – there are many possible explanations of the origin of this particular plant name, but it most probably originated from its scientific name – *Neottia nidus-avis*, therefore belonging to the "Calque" (see 3.1.1.1.) category. However, since I was not able to prove this, I dismissed similar names because of their non-transparency.

This sub-category is problematic in the sense that dismissing names for their transparency is a highly subjective matter and another author might have had a slightly different list. In the corpus, there are plant names whose semantically motivated name is perfectly clear and also those in which the semantic motivation is not clear anymore and cannot be searched easily. However, the names that are in between those two categories and may belong to either one of them are problematic.

3.1.1.3.   Synecdoches within crops

Another category I decided not to include in my final list was possible synecdoches within crops.

Examples include: *cumin, bean, date, ground* and *mango*.

The reason I decided to dismiss this category is because it is unclear and non-traceable whether the plant was named first or whether the name is a synecdoche of the seeds or fruit of the plant. The name of the edible part of the plant may have originated first and the plant itself could have been named afterwards. The issue of "what came first" is especially connected with plants producing fruit considered exotic in the English environment and after which they are primary known.

3.1.1.4.   Botanical metaphor

This category consists of plants that are possibly named because they resemble another plant.

Examples include: *Alpen rose, holly-fern, grape-hyacinth, fern-grass, bean caper*.

I dismissed this category for the same reason as 3.1.1.3. - Synecdoches within crops – it is questionable whether these names are a result of a semantic shift or whether their names primarily exist to express the relationship between different taxons of the plant kingdom. This is a concern of folk etymology, which often does not reflect the scientific taxonomy. For example, Alpen rose may in folk etymology be seen as a plant related to the rose and its name is reflecting the relationship and is not metaphorical. In fact, Alpen rose is a rhododendron and therefore belongs to the *Ericaceae* family, whereas rose is a member of *Rosaceae*.

A category of botanical metaphor however partially remained in my corpus for reasons I will mention in subcategory 3.3.1.1.4. – Botanical metaphor.

3.1.2. Centre-periphery phenomena

Several times in my work I came across a problem where I had to decide to include or not include a certain category of plant names in my corpus. It is connected with the

centre – periphery phenomena as defined in the *Dictionary of Prague School of Linguistics*:

"*The **centre – periphery** distinction is now generally understood as a continuous and gradual, scalar relation or, rather, the opposition between what is, on the one hand, unmarked and regular, used rather often and primary or underived, and what is, on the other hand, marked and often irregular, of a lower frequency (in the system or in use) and secondary in its derivational nature.*"[20]

In terms of my work, this was relevant in many ways – for example while trying to determine whether a certain plant name is metaphorical or metonymical. There are perfectly clear metaphors "in the centre" such as *bluebell*, *angels-trumpets* and *parrot-leaf* and metonymies such as *fleabane*, *hogweed* and *butcher's-broom*. However, as suggested by the centre-periphery theory, "metaphor" and "metonymy" are not strictly defined categories with a given line between them. The "border" between them is much more blurred. Examples of "peripheral" plant name are *frogbit* and *eelgrass,* possibly named after the place where they occur, which they share with the animal they are named after. It is questionable whether these are instances of metaphor (according to Lipka's scheme *frogbit* (X) is like frog (Y) because of the place where it occurs (Z)) or whether it is a metonymy (*frogbit* (Y) is named after frogs (Y) because of *frogbit's* characteristic of inhabiting the same habitat (Z). I placed them under metonymy, but it is possible that in another work they could be found under metaphor.

3.2.   Morphological Structure of Semantically Shifted Plant Names

In this subsection of my work I will be dealing with the morphological structure of semantically shifted plant names. I will mention the most common pattern within them and describe other morphological patterns that I found.

Most plant names in my corpus were created by the process of compounding. They are mostly noun + noun compounds, with the modifier being the semantically shifted part of the name and the head being a more general plant name. Examples of such

---

[20] Vachek, Dubský, Dušková 2003, p. 4.

compounding patterns are metaphorical *owl-clover*, *spiderflower* and *awlwort* and metonymical *swamp-daisy*, *cowbane* and *kidney vetch*. From the whole corpus, almost 70% of plants were named after this pattern.

A rather common group of plant names are those in which the semantic shift does not occur in only one part of the name, but covers the whole name. They form 26% of the corpus and include *Chinese-houses*, *angels-tears* and *red-hot-poker*.

The last category is created by compounds with both parts semantically shifted. *Honeybells*, *Labrador-tea* and *buttercup* are examples of such plant names.

The following table and graph sum up my findings in this area:

Occurrence of Semantic Shift	
Modifier	310
Whole name	125
Both parts	13
Total	**448**

Table 1: Occurrence of Semantic Shift
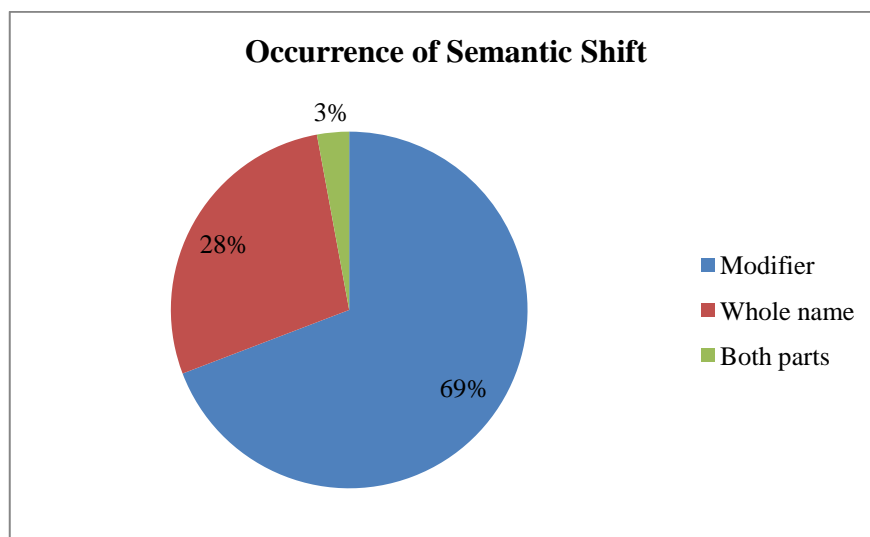
Figure 1: Occurrence of Semantic Shift

Réka Benczes noted in her work on noun-noun compounds that the "*most remarkable [thing] about these compounds is the diversity of semantic relationships that can exist between the two compounds on the one hand, and between the individual elements and the compound as a whole on the other.*"[21]

In my work, I focused on relationships within plant names and dealt with all types of morphological structures collectively, but I will mention different types of relationships that can exist between a modifier and a head of a compound plant name in case studies at the end of my work (see chapter 3.5.).

3.3. Semantic categories

I focused on each of the three main categories individually. I created more detailed classification in all of them, which I based on tendencies I observed within them. I described each category with its sub-categories and in the summary of each of them I offered an interpretation of the results I found.

Further on I discuss those plant names in which there is more than one semantic change. I will talk about plant names in which the changes correlate with each other and also those where there is no relationship between them.

3.3.1. Metaphor

Frequency: 236
Nearly half of the plant names in my corpus fall under the category of metaphor. I created two different subcategories of metaphor. The first one is based on Callebaut's categorization of metaphors. In his work he focused on the object that the plants and animals are named after, therefore on the "Y" in Lipka's scheme of metaphorical relationship. The second categorization is based on the relationship between "X" and "Y" – on "Z".

---

[21] Benczes 1984, p. 2.

3.3.1.1.   Source Domains of Metaphors

The categories I used in this sub-classification are adopted from the article *Transfer and Prototypicality in Animal and Plant Names* by Bruno Callebaut who deals with animal and plant metaphorical names in several languages[22] and who suggested the following subcategories for metaphorical names:

3.3.1.1.1.   Metaphorical reference to a natural object or an artefact

Frequency: 118
Plants in this category are named after either man-made objects or natural objects. This category is rather broad and also includes metaphorical references to clothes and buildings.

Examples of metaphors in this sub-category include: *bluebell, foamflower, windmill-grass, pillwort* and *monk's-hood*.

3.3.1.1.2.   Zoological metaphor

Frequency: 73
In this category are plants named after either an animal species or part of an animal.

These are some examples of plant names which originated as zoological metaphors: *cat's-ear, fly orchid, parrot's-feather, musk-mallow* and *fish-guts*.

3.3.1.1.3.   Anthropomorphic metaphor

Frequency: 34
Names in this category refer to the human body, its parts, inner organs and body fluids.

Examples of plant names in this category are: *blue-eyed-grass, birthwort, man orchid, bladder-senna* and *kidneyweed*.

---

[22] Callebaut 1990, p. 78-80.

Some of the names, particularly those which refer to inner organs and body fluids, can be also put into the sub-category of animal metaphors.

3.3.1.1.4. Botanical metaphor

Frequency: 15

Metaphors referring to other plants are in this category. I discussed the problems related to this category earlier in the section on dismissed categories. However, I was able to identify some plant names that evidently have a metaphorical origin. For the most part they are plants where the metaphorical relationship is based on the scent or taste of the plant.

Examples:
- **Roseroot** – the root of this plant smells of roses when dried or crushed.
- **Pepperwort** – the name is a result of the peppery taste of this plant.
- **Oxlip** – the reason behind this plant's name is not its resemblance to oxen lips, but rather to a plant called cowslip, with it being named oxlip to address its larger size.
- **Spanish-dagger** – this plant has the same relationship as oxlip to cowslip with a plant called Spanish bayonets "*but [it has a] shorter trunk and smoother leaves.*"[23]
- **Coneflower** – the centre of the flower resembles a cone.

It should be noted that Callebaut had not discovered any plants that would fall into this category. He concludes that "*the absence of internal botanical metaphor for plant-names seems to result from the great "experiential" homogeneity in the group of flowering plants treated [in his work], and the consequent lack of a differentiation in "saliency".*"[24]It is possible that Callebaut in his study focused mainly on the "Y" part of metaphor and had not considered the relationship within metaphorical plant names as I did in the second sub-category. It is the relationship that highlights the origin of the plant and which clearly places some plant names in this category.

---

[23] dictionary.reference.com, [online]
[24] Callebaut 1990, p. 82.

- **Summary of Metaphor**

The following table shows from which source the metaphors drawn:

Source Domains of Metaphors	
References to objects	118
Zoological	73
Anthropomorphic	34
Botanical	15
Total	**240**

Table 2: Source Domains of Metaphors
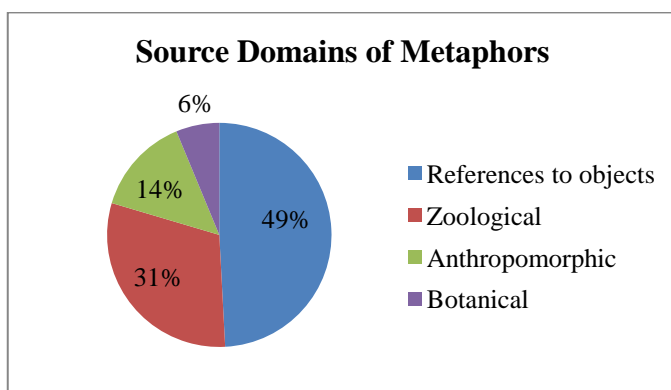
Figure 2: Source Domains of Metaphors

As presented, metaphorically motivated names among plants are plentiful. The motivations behind their origin vary, but can be divided into several categories. As shown in the categories, plants are named after things closest to people – their own body, domestic and wild animals and objects of daily use. The largest category, with almost half of all metaphorical plant names, are metaphorical references to objects – the objects they are named after vary and include weapons (*arrowhead*, *sword-fern* and *shield-fern*), clothes (*monk's-hood*, *slipperwort* and *foxglove*), objects of daily use (*soapwort*, *cup-plant* and *broomweed*), food (*cherry-pie*, *honeywort* and *butter-and-eggs*) and buildings (*windmill-grass*, *Chinese-houses* and *steeple-bush*).

The next category is zoological metaphor, with 31% metaphors in it. It is discussed more in the summary of metonymy, where I compare it with zoological metonymy.

Anthropomorphic metaphor represents only a 16% portion, which may be considered surprising since one would expect plants to be named after human body parts more often due to the metaphorical concept PLANTS ARE PEOPLE that I suggested above.

The smallest metaphorical category is botanical metaphor, for reasons mentioned above.

3.3.1.2.   Relationships within Metaphors

This category is based on the "Z" part of Lipka's scheme shown above. It deals with the relationship between "X" and "Y" part of metaphor – which characteristic of the plant it is based on. I observed several tendencies in metaphorical plant names and based the following categories on them:

3.3.1.2.1.   Appearance

Frequency: 198
The relationship between the plant and the thing it is named after is based on the visual aspect.

Examples include: *painted-tongue, baby's-blue-eyes, lady's-mantle, meadow-foam and rustyback.*

3.3.1.2.2.   Scent

Frequency: 17
The plants in this category are named from their scent or taste.

The plants in this category are, for example: *honeybells, skunkweed, apple-mint, cherry-pie* (said to smell like a freshly baked cherry-pie) and *oyster plant* (the root of this plant tastes of oysters).

3.3.1.2.3.   Behaviour

Frequency: 10

Plant names in this category are based on a specific behaviour of the plant.

Examples:

- **Tick-trefoil** – the name is based on the fact that the seeds of this plant adhere to animals and people passing by.
- **Ghost orchid** – this white orchid is very rare and hard to find, especially because it does not occur twice in the same place.
- **Devil's-claw** – hooks of the pods of this plant resemble claws and can hurt animals.
- **Soapwort** – the name is derived "*from the soapy matter formed when the leaves are agitated in water.*"[25]
- **Artillery-plant** – the plant expels its pollen with great force.

3.3.1.2.4.   Size

Frequency: 4

Names in this category highlight the size of the plant.

Metaphorical plant names in this category are: *oxlip* and *Spanish dagger*, which resemble other plants but with the name highlighting their larger or smaller size, *tree-mallow* (bigger than normal mallow) and *fairy's-thimble* (plant with small, thimble-like flowers).

3.3.1.2.5.   Colour

Frequency: 4

Another category with minor representation is that of metaphorical plant names based on the similarity of colour of "X" and "Y".

---

[25] en.wiktionary.org, [online]

Plants I sorted into this category are: *pearlwort*, *pearl-fruit*, *checkerberry* and *salmonberry*.

- **Summary of Relationships within Metaphors**

The following table shows the subjects metaphorical plants names are based on:

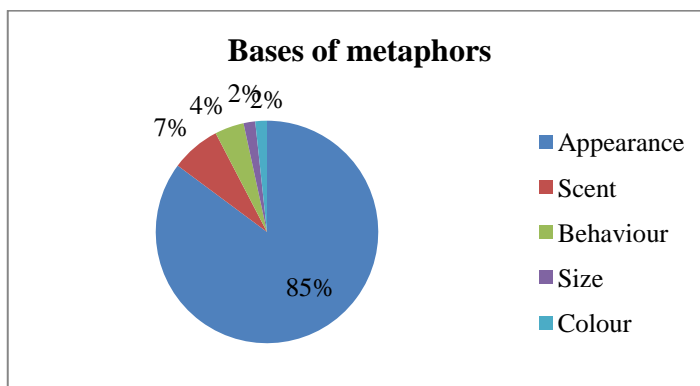| Bases of Metaphors	
Appearance	201
Scent	17
Behaviour	10
Size	4
Colour	4
Total	**236**

Table 3: Bases of Metaphors

Figure 3: Bases of Metaphors

As expected, metaphorical plant names are for the most part based on the visual aspect – 85% of metaphorical plant names are named for their appearance. The other categories have a much smaller representation – they are plants metaphorically named for their scent (7%), behaviour (4%), size (2%) and colour (2%).

3.3.2. Metonymy

Frequency: 186

As I did with metaphor, I created two big sub-categories in metonymy. They are also based on the different parts that create the actual metonymy – the first one is based on the "Y" part of the metonymical scheme I suggested above and the second is based on the characteristic the plant shares with the concept it is named after.

3.3.2.1. Source Domains of Metonymies

The first sub-category focuses on the source that the metonymy is named after – it focuses on the actual name of the plant itself.

3.3.2.1.1. Metonymical references to places

Frequency: 74

Plant names in this category refer to a geographical place or type of environment. The plants from this category mostly belong to the same category in the second type of classification. That means that the plants are named after a certain place because they occur in it.

Examples of plants in this category include: *water-lily*, *Canary-grass*, *meadow-foam*, *sea-fig* and *Mount Etna Br*oom.

3.3.2.1.2. Metonymical references to objects

Frequency: 34

Plants in this category are named after various objects.

It includes, for example, these plants*: buttercup*, *houseleek*, *wineberry*, *fireweed* and *bedstraw*.

3.3.2.1.3. Zoological metonymy

Frequency: 33

In this category are focused all plant names that are in some way referring to animals, birds, reptiles, fish or insects.

Examples of zoological metonymies are: *cowbane*, *fleawort*, *cat-mint*, *pickerelweed* and *viper's-grass*.

Unlike zoological metaphors, zoological metonymies always refer to the whole animal, never to its body part. The only exception, located 'on the periphery' of this category is *milk-vetch*, a plant named because it supposedly increases lactation in goats.

3.3.2.1.4. Anthropomorphic metonymy

Frequency: 16

This category refers to people. It includes references to human body parts and also to occupations.

In this category are, for example, these plants: *butcher's-broom* (used by butchers to clean their boards), *motherwor*t (said to cure diseases of the womb), *devil's-fig* (covered in prickles), *traveller's-joy* (it has numerous medical uses for travellers) and *eyebright* (curing eye infections).

3.3.2.1.5. Metonymical references to illnesses

Frequency: 14

Plant names in this category are connected with various types of illness, disease and conditions. They are named after them either because they are seen as causing them or healing them.

Examples of plants in this category are: *asthma-plant*, *sneezewort*, *restharrow*, *tear-thumb* and *scurvygrass*.

3.3.2.1.6. Metonymical references to time

Frequency: 9

This category is similar to the category of metaphorical references to place. The plant names refer to various periods of time and are usually named so because they occur or flower during that period of time.

Examples of metonymical plant names in this category are: *springbeauty*, *Juneberry*, *evening-primrose*, *day-lily* and *century plant*.

3.3.2.1.7. Botanical metonymy

Frequency: 3

The only three plant names all refer to corn because all of them are found in cornfields.

They are: *cornflower*, *corncockle* and *cornsalad*.

3.3.2.1.8. Miscellaneous metonymical references

Frequency: 3

In this category are plants named after unclassifiable matters.

Plants in this category are: *touch-me-not*, *wayfaring-tree* and *selfheal*.

Summary of Source Domains of Metonymies

The table shows all categories of sources of metonymical plant names:

Source Domains of Metonymies	
References to places	74
References to objects	34
Zoological	33
Anthropomorphic	17
References to illness	13
References to time	9
Botanical	3
Miscellaneous	3
Total	**186**

Table 4: Source Domains of Metonymies
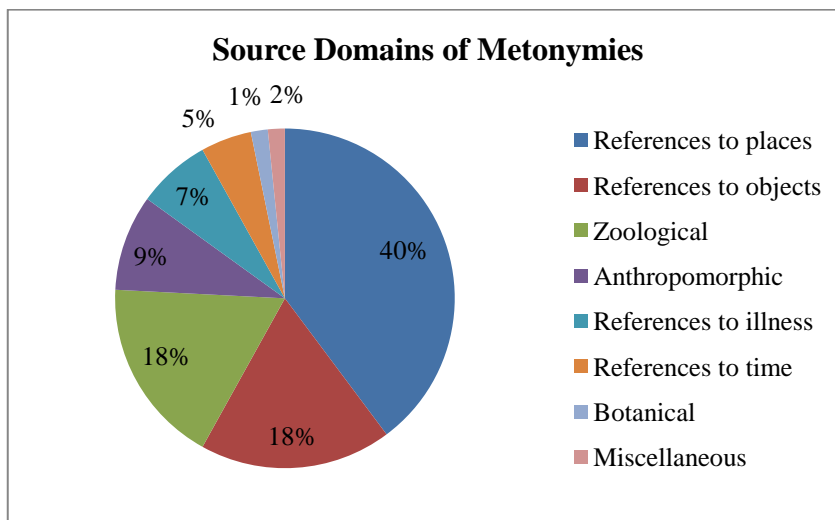
Figure 4: Source Domains of Metonymies

I made a comparison between zoological metaphor and zoological metonymy with regard to how many – and which – species of animals were included in each of them. The following tables summarise my findings:

Species - Zoological Metaphor	
Mammals	15
Birds	13
Reptiles	4
Amphibians	2
Fish	2
Invertebrates	9
Other	3
Total	**48**

Table 5: Species – Zoological Metaphor

Species - Zoological Metonymy	
Mammals	11
Birds	5
Reptiles	1
Amphibians	1
Fish	2
Invertebrates	5
Other	1
Total	**26**

Table 6: Species – Zoological Metonymy
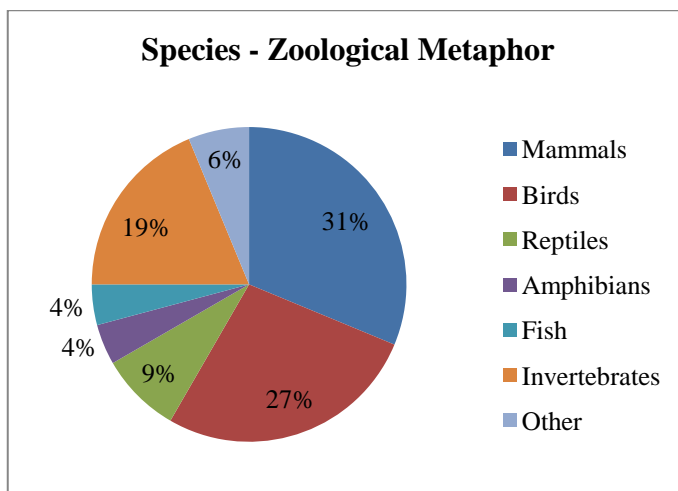
Figure 5: Species – Zoological Metaphor
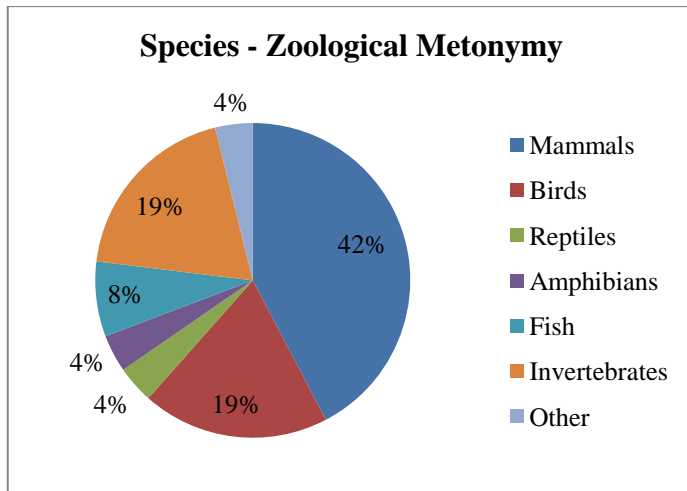
Figure 6: Species – Zoological Metonymy

The proportion represented is seemingly very similar for both sub-categories but the metaphorical category covers more species and more "exotic" species of animals (elephant, parrot, canary, rattlesnake, oyster), while in zoological metonymy are mainly represented domestic animals – named for their usefulness to people (sheep, cow, pig), common insects – part of daily life (fly, bee, butterfly) and animals dangerous for people (viper, flea, louse).

3.3.2.2.   Relationship within Metonymies

As with metaphor, the second subcategory focuses on the relationship between the plant and the subject it refers to.

3.3.2.2.1.   Place of occurrence

Frequency: 93
The plants in this category are named for their place of occurrence.

Examples of plant names in this category: *fireweed* (grows in burned-over places), *queen-of-the-prairie*, saltbush (it tolerates salt and therefore grows in areas of salty soil), *Bermuda-grass* and *wayfaring-tree* (this tree grows along waysides).

3.3.2.2.2. Usage or produce

Frequency: 66

Placed in this category are all plants whose names come from the fact that they are in some way used by people or animals. This includes plants used as medicine and cures and also plants used for food and forage.

Examples:

- **Spleenwort** – the plant was used to cure spleen disorders.
- **Wineberry** – berries of the plant are used for making wine.
- **Bedstraw** – the plant was used for stuffing mattresses.
- **Glasswort** – this plant's ashes were used in glass manufacture.
- **Buffalo-grass** – buffaloes eat this plant.

3.3.2.2.3. Behaviour

Frequency: 16

Plants in this category are named for their behaviour or characteristic.

Examples:

- **Sneezewort** – the plant causes sneezing.
- **Sheep's-bur** – seeds of this plant can get tangled in sheep's wool.
- **Butterfly-bush** – flowers of this bush attract butterflies.
- **Apple of Sodom** – the fruits of this plant are ill-looking and poisonous.
- **Monkey-puzzle** – it is said that attempting to climb this tree would puzzle a monkey.

3.3.2.2.4. Time of occurrence

Frequency: 11

In the last category are placed all plants named because of the time of their occurrence.

Examples of plants in this category include: *winter-cherries*, *May-apple*, *day-lily*, *glory-of-the-snow* (it is one of the earliest plants flowering in spring) and *cuckooflower* (the plant flowers at the time when cuckoos are first heard to sing).

- **Summary of Relationship within Metonymy**

The following table and chart show the categories and distribution of relationships within metonymies.

Bases of Metonymies	
Place	93
Usage	66
Behaviour	16
Time	11
Total	**186**

Table 7: Bases of Metonymies
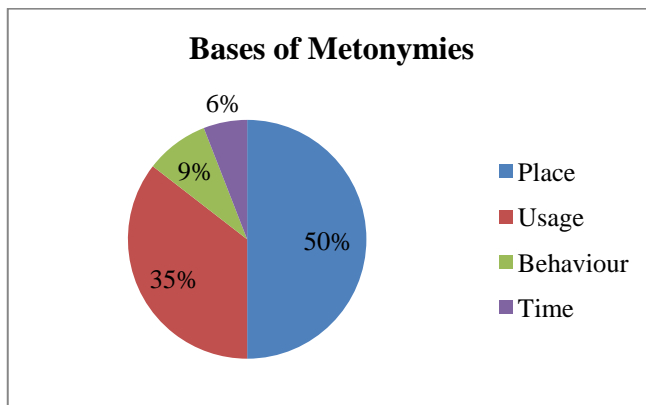
Figure 7: Bases of Metonymies

As seen from the table and chart, the most frequent category is that of place of occurrence. Where the plant grows is definitely an important characteristic with half of the names falling in this category. 35% of the metonymical plant names are placed in the category of "usage" – the produce or usage of the plant is an important naming mechanism. The last two categories have minor representation. Behaviour (9%) has minor representation because of the seeming inactivity of plants, while time, 6% of the occurrence of plants, is possibly harder to observe and remember than, for example, the place where the plant grows.

3.3.3. Synecdoche

Frequency: 234

Synecdoche is a figure of speech where one part of an object is used to refer to the whole, or vice versa. It is often connected with metaphorical plant names so the synecdoche can be less obvious. I will discuss overlapping of metaphor and synecdoche in chapter 3.4.2..

3.3.3.1.   *Pars pro toto*

Frequency: 229

Pars pro toto is the prevailing sub-category. It contains all the plant names that describe a part of the plant, but refer to the whole plant. I further divided this category according to parts of plants in order to see which plant organs name them the most.

3.3.3.1.1.   Flower

Frequency: 100

In this category are all plants named because their most prominent plant organ is their flower, blossom, bloom or any parts of it – petals, sepals and all reproductive organs.

Examples of plants sorted into this category include: *buttercup*, *man orchid* (with petals shaped like a human figure), *purple-heart*, *trumpet-creeper* and *butter-and-eggs* (plants named for the colour of their flowers).

3.3.3.1.2.   Fruit

Frequency: 69

Plants named because their most prominent organ is their fruit, pod, seed or sorus (with ferns) are in this category. It is important to mention that many of the plants that would be placed in this category have not been included in the corpus because we cannot be sure if the plant was named after their fruit or if the fruit was named after the plant (see 3.1.1.3). Exceptions to this are various plants with "berry" in their name.

Plants in this category are, for example: *bearberry*, *shield-fern* (the sori of the fern are rounded and gave rise to the common name), *pearl-fruit*, *Chinese-lantern* and *allseed*.

3.3.3.1.3. Leaf

Frequency: 41

Any plants whose name refers to its leaves and foliage are placed here. I also include carnivorous plants that are named after their leaf traps in this category.

Examples of plants synecdochically named after their leaves: *awlwort*, *sword-fern*, *parrot's-feather*, *lady's-mantle* and *elephant-ears*.

3.3.3.1.4. Root

 Frequency: 6

First of the categories with minor representation are plants that were given their name because of their roots.

Examples of such plants are: *coralroot*, *devil's-bit*, *roseroot*, *hare's-foot-fern* and *dropwort* (plants named after drop-like structures on the roots).

3.3.3.1.5. Wood

Frequency: 6

In this category are plants and trees named after either their prominent wood or bark.

Plants in this category include: *kindling bark*, *ninebark*, *blackwood*, *hornbeam* (trees named because of the hard wood) and *toothwort* (named after tooth-like scales on its roots).

3.3.3.1.6. Stem

Frequency: 3

In some rare cases the plants are named after their stem or stalk.

The names concerned are: *devil's-backbone* (the step of this plant forms "a zigzag pattern" which gave rise to its common name), *copper-wire-daisy* and *fiddleneck* (the stem of this plant curls in a fashion similar to the neck of fiddles).

3.3.3.1.7. Liquid

Frequency: 3

There are a few cases of synecdochal plant names in which the synecdoche refers to the liquid or juice of the plant and is used for the whole plant.

Plants places in this category are: *inkweed* (named after the inky juice of the berries of the plant), *milk-parsley* and *soapwort* (named after soap-like matter that forms when the leaves of the plant are tossed in water).

3.3.3.1.8. Thorn

Frequency: 1

The only plant in this category is named after its prominent thorns.

The plant is called *blackthorn*.

3.3.3.2. *Toto pro pars*

Frequency: 5

In this category are mainly grasses in which is sometimes named the whole mass of it – the field or meadow, etc. and the name then refers to individual plants too.

Plants in this category are: *carpet-grass*, *carpet box*, *foamflower*, *goldfields* and *mat-grass*.

- **Summary of Synecdoche**

Following table and chart show the distribution of synecdoche within plant names:

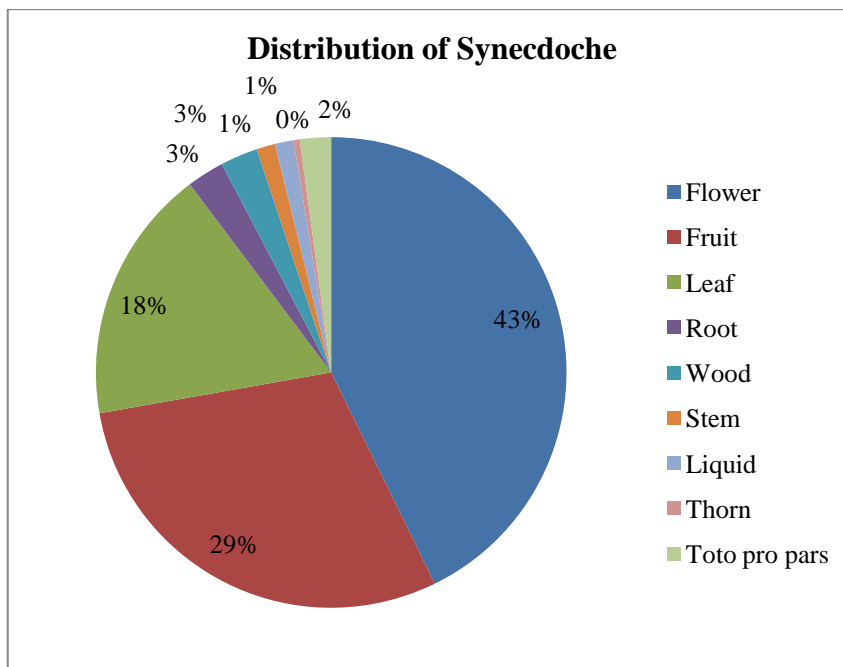| Distribution of Synecdoche	
Flower	100
Fruit	69
Leaf	41
Root	6
Wood	6
Stem	3
Liquid	3
Thorn	1
Toto pro pars	5
Total	**234**

Table 8: Distribution of Synecdoche

Figure 8: Distribution of Synecdoche

The most prolific category is that of "flower", with 43% representation, which is understandable since the flower is often the most visually obvious plant organ. It is

followed by the category of "fruit" with 29% of synecdoches. 18% of synecdochal plant names are named after their leaves. Plants named after their root, wood, stem, liquid they contain or after their thorns have only minor representation.

Synecdoche is often connected with either metaphor or metonymy. In fact there were only 30 purely synecdochal plant names in my corpus – for example *broadleaf*, *redwood* and *blackthorn*. Plant names which are placed in multiple categories are discussed in the following chapter.

3.4. Overlapping

In this section I will be dealing with plant names where more semantic shifts are present. In some cases the semantic shifts are correlating, in some they are independent of each other.

3.4.1. Metaphor-metonymy

Cases in which metaphor is overlapped by metonymy are not that common and can be seen as questionable. One example of such a case is a plant called a *lungwort*, which is named both because of its remarkable resemblance to lung tissue and because it was believed that the plant can help with lung disease = it is very probable that this belief came from the appearance of the plant. Lungwort is an example of correlation between metaphor and metonymy. After consideration, I put such cases into both categories.

Problematic are also plant names that can be seen as either metaphor or metonymy, but are closer to one or the other. Examples of such cases are the common names *devil's-claw* which is based on its claw-like appearance as well as its ability to harm animals and *snapdragon*, named because of its resemblance to a dragon's head and the fact, that it can snap open in order to catch its pray and also *oxlip* – a plant similar to *cowslip*, but larger. Plant names such as these were placed in either metaphor or metonymy.

There are also some plant names that consist of both metaphor and metonymy, but the parts are not interacting with each other. An example is a plant called *buttercup*, which

has cup-shaped flowers and the false belief that these flowers give butter its characteristic yellow colour. Similar cases are put into both categories.

3.4.2. Metaphor-synecdoche

Metaphor and synecdoche are the most numerous of all overlapping categories – about 83% of synecdoches are connected with metaphor. The most common is visual metaphor connected with synecdoche to flower – an example is a plant called *angel's-trumpets*, which has flowers shaped like trumpets.

3.4.3. Metonymy-synecdoche

Metonymy and synecdoche coexisting within one plant are not a very common occurrence – only 3% of synecdoches are connected with metonymy. Examples of metonymical plant names in some way correlating with synecdoche include names like *wineberry* named after its berries which are used for making wine, *pignut* a plant named after its nuts which pigs like to eat and *bearberry*, named after berries eaten by bears.

3.5. Case studies

Some plant names are difficult to categorise, some are so interesting that I felt the need to mention them in my work. This chapter deals with such instances

- Harebell

A plant called *harebell* is special because it is in each of the three main categories. It is a metaphor because it is named after its bell-like flowers, which synecdochically refer to the whole plant and it is also a metonymy, because "hare" points to the fact that the plant is found at places where hares live.

- Trumpet pincher

This plant is absolutely unique in the sense that its name contains two very similar metaphors, which both refer to the carnivorous plant's tubular trap. It is an example of

the fact that plants are named by people and therefore there can be some imperfections in them. It is not perfect and flawless as in this case it creates an abundance of metaphorical references to objects.

▪ Plant names connected with legends

People sometimes interpret the appearance in a very detailed way that is so unique that I felt the need to mention it in my work. Following are three examples of plants that are connected with a legend.

- **Devil's-bit Scabious** – plants "*with a very short rootstock, said in folklore to have been bitten by the devil.*"[26]
- **Bleeding-heart** – this plant is very unusual in that there is a Japanese legend closely linked to the appearance of the flower. Individual parts of the flower resemble different objects a young man gave to a lady whom he was in love with, but who ended up rejecting him. He pierced his heart and died.[27]
- **Passion flower** – similarly to bleeding-heart, various parts of the blossom of the passion flower have been interpreted as looking like various objects, in this case related mainly to the crucifixion of Jesus.

▪ Plant names with "*wort*"

Most plant names are noun-noun compounds, which can be problematic because the metaphorical or metonymical relationship between the modifier and the head is more hidden than in other types of compounds. In this case study I choose to focus on compound semantically shifted plant names with the word "wort" in their name.

The word "*wort*" comes from an Old English word for "root, herb", "*wyrt*" and means "a plant."[28] Plants so named can have different reasons behind their name and the reason is not apparent just from their name. It is the relationship expressed by

---

[26] www.oxforddictionaries.com, [online]
[27] hollowtreetales.wordpress.com, [online]
[28] www.etymonline.com, [online]

underlying sentences which connects both parts of the plant name, modifier and head, and expresses the metaphor or metonymy.

- Underlying sentence: "Wort" that heals ....
Plant names: *lungwort, motherwort, masterwort, throatwort, squinancywort, rupturewort, stitchwort, madwort, spleenwort, nipplewo*rt.
- Underlying sentence: Wort that looks like ....
Plant names: *navelwort, pennywort, spearwort, saw-wort, awlwort, quillwort, toothwort, bladderwort, soapwort, pillwort, soapwort, hornwort, dropwort, nailwort*.
- Underlying sentence: Wort that looks like ....
Plant names: *navelwort, pennywort, spearwort, saw-wort, awlwort, quillwort, toothwort, bladderwort, soapwort, pillwort, soapwort, hornwort, dropwort, nailwort*.
- Underlying sentence: "Wort" that help with producing ....
Plant names: *milkwort, butterwort*.
- Underlying sentence: Wort that is used by ....
Plant name: *gypsywort*.
- Underlying sentence: Wort that causes ....
Plant names: *sneezewort, lousewort*.
- Underlying sentence: Wort that wards off ....
Plant name: *fleawort*.
- Underlying sentence: Wort that is growing in/on ....
Plant names: *marshwort, sandwort, waterwort*.
- Underlying sentence: Wort that tastes/smells like ....
Plant names: *pepperwort, honeywort*.

▪ Plant names with "milk"

The head of a compound plant name is not the only part of the name which can have different connotations. I chose to show this phenomenon using plants with "milk" in their name.
- **Milkwort** – this plant name is metonymical, so named because it was believed that this plant "*increases milk secretion in nursing women.*"[29]

---

[29] www.yourdictionary.com, [online]

- **Milk-vetch** – this plant name is also metonymical, because it helped with milk production in goats.

- **Milk-parsley** – this plant belongs to the category of metaphorical plant names because its latex resembles milk. It is also a synecdoche because the whole plant is named after the liquid it contains.

4. Conclusion

Semantic shift is a rather common way of naming plants. The total number of semantically shifted plant names is 448. It is a way to help to identify them, tell them apart and highlight their properties. Of the three main semantic categories I dealt with in my work, metaphor is the most numerous with 240 plants. A metaphor often occurs together with a synecdoche, which is the second most common semantic shift in plant names with 234 names. Metonymy is the least prominent of all semantically shifted categories, occurring in 186 plant names.

Metaphorical plant names form the greater part based on their appearance in total of 85%. Other then visual, metaphorical plant names are less numerous and are based on their scent (7%), their behaviour (4%), their size (2%) and colour (2%). From this we can conclude that the appearance is one of the most important parts of plants in common people understanding of plants with 201 plants in total being named in this fashion.

The most common source domain of metaphorical plant names is that of objects as this is the case for 49% of metaphorical plant names. Zoological metaphor is also a rather prominent category with 31% of metaphors. Sources of zoological metaphor are a wide range of animal species covering domestic, wild and exotic. As for the *taxons* of the animal kingdom, metaphor covers species of mammals, birds, reptiles, amphibians, fish and invertebrates. It is more common for metaphorical plants to be named after a part of an animal rather than after the whole creature. Anthropomorphic metaphor is less common (14%) and also refers more to human body parts or organs. The least numerous source of metaphorical plant names is botanical metaphor with 6% of plant names. In general, we can say that plants are named after common objects that surround people, animals that live with people, near to people or are known to people. Metaphors sourced from humans often refer to various body parts or human organs rather than to the whole human body. Metaphorical plant names that would have originated from plants themselves are rare and can be considered exceptions.

Source domains of metonymies are much more diverse than those of metaphors, including references to places (40%), objects (18%), illness (7%) and time (5%) and to zoological (18%), anthropomorphic (9%) and botanical (1%) metonymies. It should be

pointed out that metonymies tend to have much more general and common source domains than metaphors, which can be seen for example in the comparison of zoological metaphor and zoological metonymy (see Summary of Source Domains of Metonymies).

In metonymies the relationship between the source and the plant is arguably more interesting than it is within metaphorical plant names. One of the most important naming characteristics of plants is the place of occurrence, with 93 plants being named after a place where they can be found. On the other hand the time of occurrence is not as common – only 6% of metonymical plant names are in this category. It is understandable that it is easier to notice the location where the plant grows than the time when it grows and the numbers support this statement. Plants named after the way they are used or after things they produce are represented by 66 plants and 35% of metonymical plant names. I expected this category to be the most numerous of all metonymical categories, since the usage of plants seems to be a rather important characteristic of plants for people. Few plants are named after the way they behave – this category has minor representation, possibly because of plants superficially non-active nature.

Results of synecdoche show that the most prominent and noticeable plant organs are flowers, as might have been expected. 100 plants are synecdochaly named after their flower. Fruit and pods of plants are also an important characteristic of plants, since 29% of all synecdoches are in that category. It is understandable that people would refer to a plant only by its fruit since it is often edible and therefore useful for people. Leaf synecdoche is the last prominent category of synecdoches with 18% of synecdoches. This category can, however, be considered not as important because it is mainly concerned with grasses, non-flowering plants and plants with small, unnoticeable flowers. Plants named after other plant organs than flower, fruit or leaf, are represented only by small fractions of synecdoches.

Acknowledgment

I would like to thank to my supervisor Mgr. Petr Kos, Ph.D. for his encouragement, patience and continuous support which motivated and helped me in the understanding and writing of my thesis.

Sources

Plant names were listed from The Wild Flower Society's List of all British Plants.

The data is from 2010.

http://www.thewildflowersociety.com/wfs_list_of_all_plants/main_menu_2010.htm

The following online databases were used for identifying origins of plant names:

- Memidex: http://www.memidex.com

- Online Etymology Dictionary: http://www.etymonline.com

- Oxford Dictionaries: http://www.oxforddictionaries.com

- Wiktionary: http://en.wiktionary.org

- Collins Dictionary: http://collinsdctionary.com

- Wikipedia: http://en.wikipedia.org

References

ASANUMA, Lisa. *Thursday Myths & Legends 101: Bleeding Heart Flower*. [online]. 2009 [cit. 2014-04-10].
Available from:http://hollowtreetales.wordpress.com/2009/08/27/thursday-myths-legends-101-bleeding-heart-flower/

BENCZES, Réka. *Creative Compounding in English: The Semantics of Metaphorical and Metonymical Noun-noun Combinations*. Philadelphia: John Benjamins Pub. Co., 2006.

BLOOMFIELD, Leonard. *Language*. n.e. Delhi: Motilal Banarsidass, 2005.

CALLEBAUT, Bruno. *Transfer and Prototypicality in Animal and Plant Names*. Belgium: Belgian Journal of Linguistics 5, 1990.

GODDARD, Cliff. *Semantic Analysis: A Practical Introduction*. New York: Oxford University Press, 1998.

HLADKÁ, Zdeňka. *Přenesená pojmenování rostlin v českých dialektech: k sémantickému tvoření lexikálních jednotek v nářečích*. Vyd. 1. Brno: Masarykova univerzita v Brně, 2000.

KOS, Petr. *Bird Names in English: A Linguistic Analysis*. Praha, 2011. Disertační práce. Univerzita Karlova v Praze. Vedoucí práce Doc. PhDr. Jan Čermák, CSc.

LAKOFF, George a Mark JOHNSON. *Metaphors We Live By*. Chicago: University of Chicago Press, 2003.

LIPKA, Leonhard. *An Outline of English Lexicology: Lexical Structure, Word Semantics, and Word-formation*. Tübingen: Niemeyer, 1990.

SHRAGA SIMMONS, Rabbi. *Man Is a Tree*. [online]. 2003 [cit. 2014-04-10].
Available from: http://www.aish.com/h/15sh/i/48960526.html

STEIN, Gabriele. *Word-Formation Typology: Lexical Units, Processes and Models*.
Trier: Wissenschaftlicher Verlag, 2000.

TOURNIER, Jean. *Introduction descriptive à la lexicogénétique de l'anglais
contemporain*. Genève: Slatkine, 1985.

VACHEK, Josef, Josef DUBSKÝ a Libuše DUŠKOVÁ. *Dictionary of
the Prague School of Linguistics*. Philadelphia: J. Benjamins, 2003.