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**THE INTERACTION OF METAPHOR AND METONYMY IN THE ENGLISH
NAMES OF MUSHROOMS**

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Affirmation

I hereby declare that I have worked on my bachelor's thesis independently and used only the sources listed in the bibliography.

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Abstract

The aim of this thesis is to analyse the occurrence of metaphor, metonymy and their interaction in the English names of mushrooms. The theoretical part focuses on both processes and it emphasises cognitive linguistics approach i.e. conceptual metaphor, conceptual metonymy and blending theory. The practical part aims to classify and quantify source domains and bases of semantic motivation i.e. the salient features that served as the inspiration for the name. The second section of the practical part examines the different patterns of metaphor and metonymy interaction. Each pattern is described in detail on various case studies.

Keywords: metaphor – metonymy – interaction –English names of mushrooms – cognitive linguistics

Abstrakt

Cílem této práce je analýza výskytu metafor, metonymie a jejich interakce v anglických jménech hub. Teoretická část se zaměřuje na oba dva procesy s důrazem na přístup kognitivní lingvistiky tj. konceptuální metaforu, konceptuální metonymii a teorii konceptuálního mísení. Cílem praktické části je klasifikace a kvantifikace zdrojových oblastí a bází sémantické motivace tj. charakteristických znaků, kterými se jména inspirovala. Druhá sekce praktické části zkoumá různé typy interakcí metafory a metonymie. Každý typ je následně detailně popsán na několika příkladových studiích.

Klíčová slova: metafora – metonymie – interakce – anglické názvy hub – kognitivní lingvistika

Tables and Figures

| | |
|---|----|
| Table 1: Source Domains of Metaphor | 15 |
| Figure 1: Source Domains of Metaphor | 15 |
| Table 2: Bases of Metaphor | 18 |
| Figure 2: Bases of Metaphor | 18 |
| Table 3: Source Domains of Metonymy | 21 |
| Figure 3: Source Domains of Metonymy | 22 |
| Table 4: Bases of Metonymy | 25 |
| Figure 4: Bases of Metonymy | 25 |
| Table 5: Metaphor and Metonymy Interaction | 32 |
| Figure 5: Metaphor and Metonymy Interaction | 32 |

Table of Contents

| | |
|--|----|
| 1. Introduction | 6 |
| 2. Theoretical Part..... | 7 |
| 2.1. Metaphor | 7 |
| 2.2. Metonymy | 9 |
| 2.3. Blending | 11 |
| 3. Corpus | 11 |
| 3.1. Dismissed Categories | 11 |
| 3.1.1. Calque | 12 |
| 3.1.2. Non-transparent Names | 12 |
| 4. Analytical Part | 13 |
| 4.1. Metaphor | 13 |
| 4.1.1. Source Domains | 13 |
| 4.1.1.1. Metaphorical Reference a Natural Objects or Artefacts | 13 |
| 4.1.1.2. Zoological Metaphor | 14 |
| 4.1.1.3. Anthropomorphic Metaphor | 14 |
| 4.1.1.4. Fungal Metaphor | 14 |
| 4.1.1.5. Botanical Metaphor | 15 |
| 4.1.1.6. Summary of Source Domains of Metaphor | 15 |
| 4.1.1.7. Comparison with Plant Names | 16 |
| 4.1.2. Bases of Metaphor | 17 |
| 4.1.2.1. Reference to Appearance | 17 |
| 4.1.2.2. Reference to Behaviour | 17 |
| 4.1.2.3. Reference to Size | 17 |
| 4.1.2.4. Reference to Scent | 18 |
| 4.1.2.5. Summary of Bases of Metaphor | 18 |
| 4.1.2.6. Comparison with Plant Names | 19 |
| 4.2. Metonymy | 19 |
| 4.2.1. Source Domains | 19 |
| 4.2.1.1. Pars Pro Toto | 19 |
| 4.2.1.2. Anthropomorphic Metonymy | 20 |
| 4.2.1.3. Metonymical Reference to Objects or Substances | 20 |
| 4.2.1.4. Miscellaneous | 20 |

| | |
|---|----|
| 4.2.1.5. Metonymical Reference to Time | 21 |
| 4.2.1.6. Metonymical Reference to Mushrooms | 21 |
| 4.2.1.7. Summary of Source Domains of Metonymy | 21 |
| 4.2.1.8. Comparison with Plant Names | 22 |
| 4.2.2. Bases of Metonymy | 23 |
| 4.2.2.1. Reference to Appearance | 23 |
| 4.2.2.2. Reference to Effect | 23 |
| 4.2.2.3. Reference to Habitat | 24 |
| 4.2.2.4. Reference to Time | 24 |
| 4.2.2.5. Reference to Usage | 24 |
| 4.2.2.6. Reference to Scent | 24 |
| 4.2.2.7. Summary of Bases of Metonymy | 25 |
| 4.2.2.8. Comparison with Plant Names | 25 |
| 4.3. Metaphor and Metonymy Interaction | 26 |
| 4.3.1.1. Metonymy-based Modifier and Metaphor-based Head | 26 |
| 4.3.1.2. Metaphor-based Modifier and Metonymy-based Head | 28 |
| 4.3.1.3. Metaphor-based Modifier and Metaphor-based Head | 29 |
| 4.3.1.4. Metonymy-based Modifier and Metonymy-based Head | 29 |
| 4.3.1.5. The Name as a Whole | 31 |
| 4.3.1.6. Metaphor - based Semantic Relation between the Constituents of the Compound | 31 |
| 4.3.2.7. The Summary of Metaphor and Metonymy Interaction | 32 |
| 5. Conclusion | 34 |
| Sources | 36 |
| References | 37 |

1. Introduction

The number of mushroom species is currently estimated at 1.5 to 5 million species, but only about 5% have been classified. Only a fraction of those belongs to higher fungi. These are the ones that are noticed and used by ordinary people. Mushrooms have been widely used in Chinese medicine, in Mayan and Aztec rites as hallucinogens, eaten as delicacies by ancient Greeks and Romans and dyes in Asia. Lately they have been widely used as antibiotics.

In Britain, however, most people do not care much for this kingdom. Quite the contrary, mushrooms are regarded as something worthless and abnormal. Their fungophobia has also spread to the USA and other English-speaking countries. Nevertheless, mushrooms do grow in the woods and fields of Britain and North America and despite the popular belief that they are all called “mushroom” they do indeed have varied and interesting names.

A linguistic analysis of the English names of has been carried out by professor Hladký. What he does not deal with in his work is the issue of metaphor and metonymy. In my work I will focus on the occurrence of metaphor and metonymy. I will classify the source domains of each process to see how people conceptualise mushrooms and which domains are the most frequent. I will also classify the features that served as the inspiration of the name. Then I will analyse the interaction of metaphor and metonymy. Thanks to cognitive, linguistics it is possible to analyse such interactions in compounds and explore if there is any systematicity in them. I will analyse the systematicity and patterns in mushroom names and each pattern will be discussed in detail on case studies.

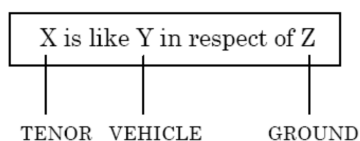
2. Theoretical Part

In the theoretical part of my work I aim to describe metaphor and metonymy from both the traditional and the new point of view of cognitive linguistics.

2.1. Metaphor

In a generally shared view a metaphor is a figure of speech that compares one thing to another by saying that one is the other. It is based on similarity between the two entities. We could for instance say “his temper was a volcano, ready to explode”. We thus compare the state of someone’s temper just as he is to become angry to a volcano before eruption. From this point of view metaphor is usually used by the speaker in order to achieve artistic or rhetorical effect. It is used when we want to make our speech to be aesthetically pleasing or to put a special emphasis on our words. In this view, a metaphor is a linguistic concept bound to words and their meanings. As such it was thought to have no practical application other than for aesthetics and we could very well do without it.

We can apply this approach of comparison to various objects in our surroundings including mushrooms. In this point of view the mushroom *Hare’s Ear* was named so because it bears a similarity to ears of hares due to its shape and color. This relationship was described by Lipka (138) in the following diagram based on Leech and I.A. Richards:



According to the diagram, the mushroom *Hare’s Ear* (X) is like a hare’s ear (Y) in respect of its appearance (Z).

Not so long ago a new view of metaphor appeared. This new notion was suggested and explained in detail by George Lakoff and Mark Johnson in their work *Metaphors we live by*. It challenges the original view of metaphor and claims that it is not a property of words but it is a property of concepts. As Lakoff and Johnson put it : “Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature.” (3) What it

means is that our thinking, how we perceive things and how we relate to the outside world is governed by metaphor. We use one concept, one area of human experience, to describe another. But it is not in any artistic and fanciful way. We talk and think in metaphors without realising it because we use it to express the most mundane things without any rhetorical embellishment. This new view is called conceptual metaphor.

In their work Lakoff and Johnson use the example ARGUMENT IS WAR where the concept of war is mapped onto how we perceive and talk about arguments. We think about arguments in terms of war and war as the source domain supplies the vocabulary for the concept of argument. Their study presents several expressions containing such metaphors that are used in everyday communication, namely:

Your claims are *undefensible*.

He *shot down* all of my arguments.

His criticisms were *right on target*.

We use such expressions because understanding the physical conflict of war is easier to understand than the abstract idea of argument and thus it helps us to classify and orientate ourselves in the world around us. Abstract concepts, such as emotions, desires, thoughts and relationships, are the most common target domains. But of course they are not the only ones. Metaphors are also used in naming entities like living organisms that people needed to classify. Plants and mushrooms were very important because they constituted a large portion of sustenance. Since many of them are poisonous people needed to create names that would help them identify the organism easily and therefore they were often named after some special characteristic. When we look at the source domains we can find that many of them are used to conceptualise more than one target domain. Among the most common source domains generally are human body parts, animals, plants, cooking and food, buildings and sports. This list shows that our metaphorical thinking is rooted in our basic experiences of the world. We will see if these are also common source domains in naming mushrooms.

Since we use metaphors to understand new or abstract concepts they need to be systematic. This means there is a correspondence between the target domain (the one that we are trying to understand) and the source domain (from which we draw the expressions). This correspondence between two domains assigns elements in the first a counterpart in the second. In cognitive linguistics it is called “mapping”. According to Gilles Fauconnier

these mappings between domains are at the heart of the unique human cognitive faculty of producing, transferring and processing meaning (1997).

2.2. Metonymy

Another type of semantic shift that governs our thinking is metonymy. It might seem similar to metaphor but it is quite different. In metonymy, one entity is being used to refer to another entity and it allows us to use one entity to stand for the other. Unlike metaphor, though, it focuses “on certain aspects of what is being referred to”. (Lakoff and Johnson 37) That is because the relationship of the two entities is not based on similarity but rather on contiguity in conceptual space. In cognitive linguistic view it means that one entity can refer to, or in Langacker words one conceived entity can be ”mentally accessed through another”, when both belong to the same domain. (52) Lakoff calls this domain an idealised cognitive model or ICM. It is a phenomenon in which knowledge is often a conceptualisation of experience that is not congruent with reality. Radden and Kövecses provide a good explanation of what an ICM is: “the ICM concept is meant to include not only people’s encyclopaedic knowledge of a particular domain but also the cultural models they are part of. The ICM notion is not restricted to either the world of reality, the world of conceptualisation or the world of language but... may cut across these ontological realms.” (1999) This approach also suggests that conceptual metonymy is not a random process but it is systematic within an ICM. The speaker chooses the reference point, that is the concept he transfers onto another, because it has a cognitive salience and people incline to think and talk about things that have the greatest salience for us:

Langacker explains that there are three principles that govern how we decide what is more salient: human experience (such as human over non-human, as in “I am reading Shakespeare”), perceptual (more over less, as in “How old are you?”) and cultural (typical over non-typical, as in “You’ve got a bad cough”) factors. According to Radden and Kövecses these take preference because of our anthropocentric view of the world and our interactions with it. (1999) It is only natural that humans take precedence over non-humans, concrete objects over abstract entities and things we interact with are chosen over things we do not.

The notion of ICM speaks about human experience that comes from the real world and operates on our conceptualisation of it through language. It thus cuts across all three domains. We use language to describe the real world. The signs of language stand for the concept in our mind that is based on the reality we perceive. “Since we have no other means of expressing and communicating our concepts than by using forms, language as well as other communication systems are of necessity metonymic. “ (Radden and Kövecses 24) This would mean that all the names are metonymic and that would not help us very much. Therefore I treat as metonymic only those names that could not be explained otherwise.

Lakoff lists several kinds of metonymical relationships between entities that we use in everyday speech to illustrate, that it indeed is a cognitive phenomenon and not just a figure of speech. Such relationships are for instance *producer for product*, *institution for people responsible*, *the place for the institution* and *the part for the whole*, which is a special case, because it is sometimes treated as a separate unit called synecdoche. The following are examples that Lakoff used to show more clearly how the metonymical relationships work.

PRODUCER FOR PRODUCT

He bought *a Ford*.

He got *a Picasso* in his den.

I hate to read Heidegger.

INSTITUTION FOR PEOPLE

The Senate thinks abortion is immoral.

The Army wants to reinstitute the draft.

You'll never get *the university* to agree to that.

THE PLACE FOR THE INSTITUTION

Hollywood isn't what it used to be.

Wall Street is in panic.

The White House isn't saying anything.

THE PART FOR THE WHOLE

We need some *new faces* around here.

I've got a *new set of wheels*.

We need some *new blood* in the organisations

2.3. Blending

In 1984 Gilles Fauconnier devised a mental space theory. Mental spaces consist of representations of entities and relationships of any scenario as understood by the speaker. Because elements in one mental space can be similar to elements in other mental spaces, “an important component of mental space theory involves establishing mappings between elements and relations in different spaces “ (Coulson and Oakley 2000). Mappings help with orientation in different mental spaces as they keep track of similar elements.

An extension of mental space theory is blending theory. It describes cases in which two mental spaces create a new blended space that contains elements from each input space. This theory operates on the basis of the conceptual integration network devised by Gilles Fauconnier and Mark Turner (1998). These networks consist of two or more input spaces structured by information from different cognitive domains, a generic space that contains structure common to all spaces in the network, and a blended space that contains selected aspects of structure from each input space but also its own structure. Disparate properties can be brought together in a new mental space that has new properties that were not in either of the original mental spaces.

3. Corpus

As a source for this work I used Josef Hladký’s monograph *The Czech and the English names of mushrooms*. The study comprises the most current names and with a few exceptions does not include microscopic fungi such as smuts or moulds. The complete list includes over 1500 names. After dismissing the names that were not relevant to my work I was left with a list of 213 names that were created by semantic shift.

3.1. Dismissed Categories

The names that were not included in my corpus belong to one of the following categories:

3.1.1. Calque

This work deals with compound names and head elements. A large number of names in Hladký's corpus include heads that were borrowed from other languages. Most of these come from the Latin "scientific" names. Some of them have the original Latin form while some of them have been anglicized, e.g. *agaric* vs *agaricus*, *bolete* vs *boletus* or *polypore* vs *polyporus*. A small number of names are of German or French origin, e.g. *Ergot* and *Lorchel*. However, several names in my corpus include such heads because the name originated through semantic shift as the name was transferred to another species. An interesting name that I also dismissed as calque is Toadstool. It is used very frequently and not always for poisonous mushrooms. The word gave rise to a belief that toads sit on toadstools as it is frequently pictured in illustrations and even photos. However, the reference to toads probably comes from the Latin word *toxicum* meaning poison (in Breton, which is related to Anglo-Saxon, the word for toad is *tusec* derived from *toxicum*). The ultimate meaning would then be "a 'poison stool', and the idea of poison, rather than the toad, may have been dominant in the minds of those who first applied this term to the wild fungi in the Anglo-Saxon world" (Wasson and Wasson 1957).

3.1.2. Non-transparent Names

Another category that I dismissed comprised names that were probably created by semantic shift but their origin was not transparent or I was not able to identify it.

Examples of these names are:

- *Hen of the Woods* - possibly named so because the overlapping caps of the fruiting body resemble feathers of a hen.
- *Yellow Rider* – it could have been named because of a slightly saddle-shaped depressed cap when mature
- *Shaggy Bear* – young specimens of this brownish mushroom have conspicuously hairy margins that may resemble bear's fur
- *The Gypsy* – I was not able to find any information about the origin, according to several sources it is unknown
- *Wood Witch* – it may have been named for its dark cap resembling a witch's hat or because of its not so appealing appearance as the cap is covered in dark green foul-smelling slime

4. Analytical Part

In this part I will classify the trends in metaphorical and metonymical names. I will classify both the source domains of metaphors and metonymies and also categories on which these processes were based. I also include a comparison with these trends in plant names.

Mushrooms were long considered to be plants and this will provide an insight into metaphors and metonymies in both realms and we shall see if there is any connection. In the second part I will deal with names in which metaphor and metonymy interact and describe such instances in detail.

4.1. Metaphor

Metaphor is present around 68% of the names of mushrooms. Firstly I will classify the different source domains and then the bases of metaphors.

4.1.1. Source Domains

The classification of source domains is based on the work of Callebaut (1990). He dealt with metaphorical references in plant and animal names. I added references to mushrooms because that was not investigated in his work.

4.1.1.1. Metaphorical Reference a Natural Objects or Artefacts

Frequency: 83

This category comprises names that refer to either natural objects or man-made objects. Names in this category were usually based on appearance. There are several categories. We can find items of clothing such as *Scotch Bonnet*, *Bootlaces* or *Bachelor's Buttons*, food like *Plums and Custard*, *Jelly Drops* and *Jelly Babies* and musical instruments or related items like *Trumpet* and *Tuning Fork*. Other examples are daily use items such as *Spindles*, *Jap Umbrella*, *Fairy Tub* or *Elfin Saddle*.

4.1.1.2. Zoological Metaphor

Frequency: 36

In this category there are names referring to animals or their parts. They are usually based on appearance.

- **Body parts**

The body parts referred to are usually those of larger mammals such as *Stag's Horn*, *Pig's Trotter* or *Goat's Lip*.

- **Whole animal**

Most of these names refer to invertebrates such as *Coral*, *Oyster* or *Caterpillar*. But there are some that also refer to mammals such as *Hedgehog* or *Chicken of the Woods*.

4.1.1.3. Anthropomorphic Metaphor

Frequency: 15

In this category there are names that refer to humans, human body or body parts. Examples of this category are *Old Man's Beard*. It could be considered a double metaphor. Firstly it was the shape of a beard that was mapped onto the mushroom and then it was the white colour of a beard of an old man. *Dead Man's Fingers* were named similarly. It was the shape of human fingers and the grey colour of a dead person that was mapped onto the shape of the mushroom. Furthermore, as it comes out of the ground it resembles fingers of a body buried underground.

4.1.1.4. Fungal Metaphor

Frequency: 5

In this category are fungi that were named after another species because of their resemblance. That was the reason why people frequently confuse them. These mushrooms are *False Truffle*, *False Chanterelle*, *False Morel*, *False Russula* and *False Champignon*.

4.1.1.5. Botanical Metaphor

Frequency: 2

There are only two names in this category. One of them is *Flowers of Tan*. It is technically not a fungus but a slime mold that belongs to the class of Myxogastria. It was included here because in some older publications it was considered to be a fungus. The second one is *Beech Rooter*. A large part of its stem is hidden underground which resembles plant roots.

4.1.1.6. Summary of Source Domains of Metaphor

The distribution of different types of source domains is shown in table 1 below:

| Source Domains of Metaphor | |
|------------------------------|-----|
| Natural objects or artefacts | 83 |
| Zoological | 36 |
| Anthropomorphic | 15 |
| Fungal | 5 |
| Botanical | 2 |
| Total | 141 |

Table 1: Source Domains of Metaphor

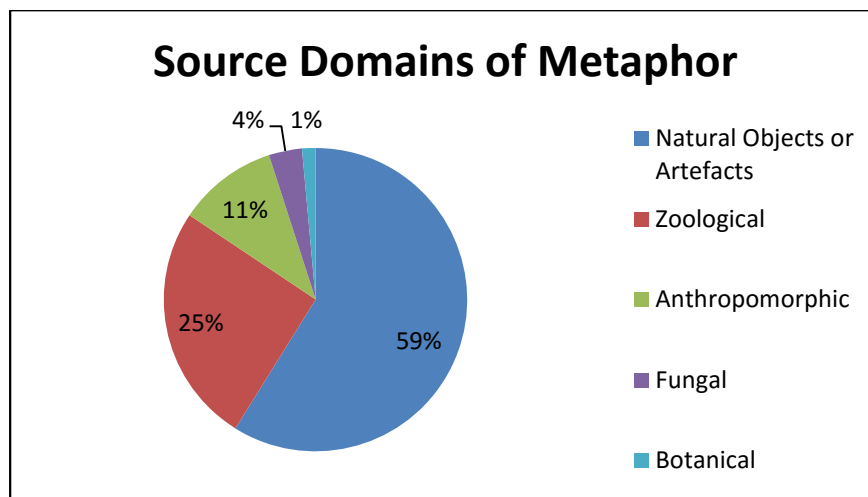


Figure 1: Source Domains of Metaphor

The most frequent are references to natural objects and artefacts (59%). These include man-made objects like clothing but also food. The second most frequent are zoological references (25%). They include references to domestic animals like donkeys, sheep, goats and poultry and wild animals like deer or hedgehogs. But there are also references to exotic animals like

elephants and invertebrates like coral and oyster although they are less common. The next category is anthropomorphic references. 73% of those are references to human body parts. References to mushrooms make up only 4% and botanical reference only 1%. This confirms that source domains of metaphorical mushroom names are similar to other domains of human experience. And it confirms that people use terms that come from their immediate experience of the world.

4.1.1.7. Comparison with Plant Names

Mushrooms were long considered to be a part of the plant kingdom. Partly for this reason I will examine if metaphorical plant names bare any similarity to mushroom names. I draw the data about plant names from the work of Iveta Doskočilová *Semantic Shift in Plant Names* (2014).

There are only 4 categories in her work, references to objects, zoological references, anthropomorphic and botanical. All these belong to the most common source domains in general. She lists several different categories of objects that appear in plant names – weapons, clothes, objects of daily use, food and buildings. Objects of daily use such as cups are also common among mushrooms and so is food (*Plums and Custard*) and clothing (*Bonnets, Buttons*). However, I have not found any references to weapons or buildings. References to objects in mushroom names comprise 10% more than in plant names. There are 31% of zoological references among plant names and 25% among mushroom names. Both domains include mammals, birds, invertebrates and reptiles. There are also fish and amphibians among plant names. Birds that appear in mushroom names are all domestic animals. Then there are 14% of anthropomorphic references among plant names and 11% among mushroom names, 6% of botanical references among plant names but only 1% among mushroom names. There are also references to mushrooms among mushroom names that are not present among plant names. However, the difference between inner plant metaphors and inner mushroom metaphors is only 2%.

The ratio of different source domains is very similar among plant and mushroom names although Plant names seem to have more categories within the source domains. Moreover, mushroom names include both botanical references and references to mushrooms while plants only have botanical references.

4.1.2. Bases of Metaphor

This part deals with the characteristics of mushrooms that the mapping is based on. There are four categories - appearance, size, scent and behaviour.

4.1.2.1. Reference to Appearance

Frequency: 135

This is the most numerous category. The relationship in it is based on how the mushroom looks, its colour and shape. Shapes of mushrooms can be very varied and are sometimes very peculiar. Names based on appearance are for example *Angel Wings*, *Tuning Fork* and *Pig's Ears*.

4.1.2.2. Reference to Behaviour

Frequency: 7

Names in this category were named after a specific behaviour of the mushroom. *The Deceiver* is highly variable and it also changes its colour during its life. *The Blusher* turns pink when cut.

4.1.2.3. Reference to Size

Frequency: 2

The two mushrooms in this category were named after their large size. They are *The Commander* and *The Prince*.

4.1.2.4. Reference to Scent

Frequency: 1

Unlike plants, mushrooms are not known for its scent and therefore there are not many references to it. There is only one mushroom that was metaphorically named after its scent and that is *Cucumber Slice* that is said to smell of freshly cut cucumbers.

4.1.2.5. Summary of Bases of Metaphor

Table 2 below shows the distribution of bases of metaphors.

| Bases of Metaphor | |
|-------------------|-----|
| Appearance | 136 |
| Behaviour | 7 |
| Size | 2 |
| Scent | 1 |
| Total | 146 |

Table 2: Bases of Metaphor

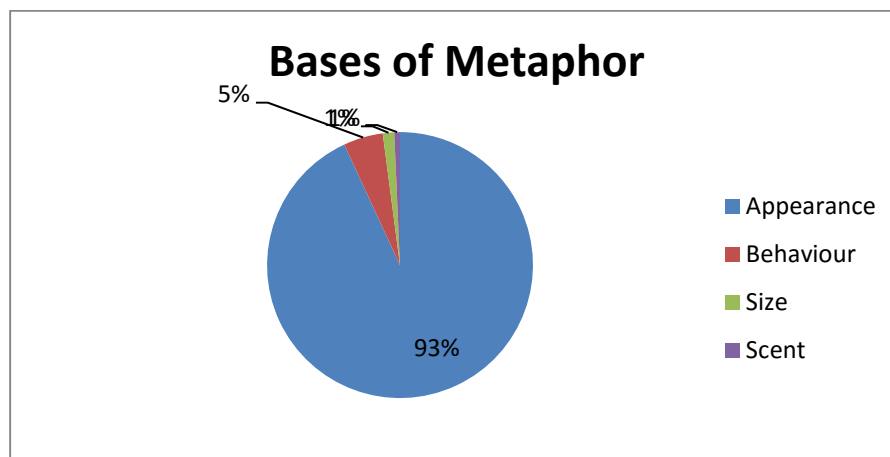


Figure 2: Bases of Metaphor

93% of the names were named on the basis of appearance. It is not very surprising since it is the most salient feature. And it is the first thing people notice. 5% of the mushrooms were named after their behaviour. Two names were named for their large size and only one was named for its scent resembling cucumbers.

4.1.2.6. Comparison with Plant Names

Unlike Iveta Doskočilová I have included the category of colour in the category of appearance. In both the plant names and the mushroom names their appearance is the most feature for creating the name. 87% of plant names and 93% of mushroom names were created on the basis of their appearance. Among plant names the second largest category is scent. For plants scent is very important as it is a means to attract pollinators. It is quite natural that the different smells of flowers would yield new names. Mushrooms have no such need and therefore there is only one name based on scent. In both cases only a handful of species were named for their behaviour and size. There are different motivations for the latter category. While mushrooms (*The Prince* and *The Commander*) were named so because they are usually larger than other species in general, the plant names in this category usually denote a larger size than a similar species like *Oxlip* and *Cowslip*.

4.2. Metonymy

Metonymy appears in 32% of names. I use the same two types of classification. Firstly I classify the source domains and in the second part the bases of the mapping.

4.2.1. Source Domains

There are 5 categories of source domains. There are references to objects or substances and anthropomorphic references as in the source domains of metaphors. What is different is the category of pars pro toto and reference to time. I also included a category of miscellaneous for names that could not be placed in any other category.

4.2.1.1. Pars Pro Toto

Frequency: 31

The mushrooms in this group were named by the means of PARS PRO TOTO metonymy. That is they are named after a certain part of the fruiting body. It is usually the most prominent or easily recognisable part such as the cap or the gills. Gills are a type of hymenophore. But it can also take form of tubes or spines also called teeth. These names are

for example *Oak Mazegill* or *Blue Spines*. It can also be named after a feature that can help to identify the fungus. Since the cap is the most prominent it is also the most frequent. Most of these names refer to some characteristics of the actual cap of the mushroom such as *Wax Cap* or *Inkcap*. There are, however, several names that refer to man-made caps. Those are *Dunce Cap* and *Liberty Cap*. But since it does refer only to that particular part of the mushroom and not the whole fruiting body they are included in this category.

4.2.1.2. Anthropomorphic Metonymy

Frequency: 14

This is a category which comprises names relate to humans. There are names related to illnesses like *The Sickener* or *Tippler's Bane* that are named after the effect they have on the consumer. Other names include *The Miller*, sad sounding name *Weeping Widow* named for the “tears” it produces and *Man on horseback* discussed in detail below.

4.2.1.3. Metonymical Reference to Objects or Substances

Frequency: 13

In this category there are metonymical names that refer to natural objects or artefacts. Most of these names refer to the habitats of the mushrooms. Those we can find for instance in *Brook Beacon* and *Bog Beacon*, *The Sandy* and *Woodlover*. There are two references to poison – *Poisoner* and *Poison Pie*. It also includes *Dry Rot* named after the wood decay it causes.

4.2.1.4. Miscellaneous

Frequency: 5

There were several names that did not fit into any other category such as *Silver Streaks* or *Flat Top*.

4.2.1.5. Metonymical Reference to Time

Frequency: 2

This is basically the same category as in the second type of classification. The fungi were named after a time in which they occur. The mushroom is *Herald of the Winter*, also called *Winter Herald*.

4.2.1.6. Metonymical Reference to Mushrooms

Frequency: 2

There are two names that include metonymical references to other mushrooms. The mushrooms are parasitical and grow on others and therefore it is a reference to their habitat. They are *Bolete Eater* and *Truffle Eater*. The relationship with the metaphorical heads is further discussed below.

4.2.1.7. Summary of Source Domains of Metonymy

The table below shows all the source domains of metonymical names.

| Source Domains of Metonymy | |
|----------------------------|-----------|
| Pars Pro Toto | 31 |
| Anthropomorphic | 14 |
| Objects or Substances | 13 |
| Miscellaneous | 5 |
| Time | 2 |
| Mushrooms | 2 |
| Total | 67 |

Table 3: Source Domains of Metonymy

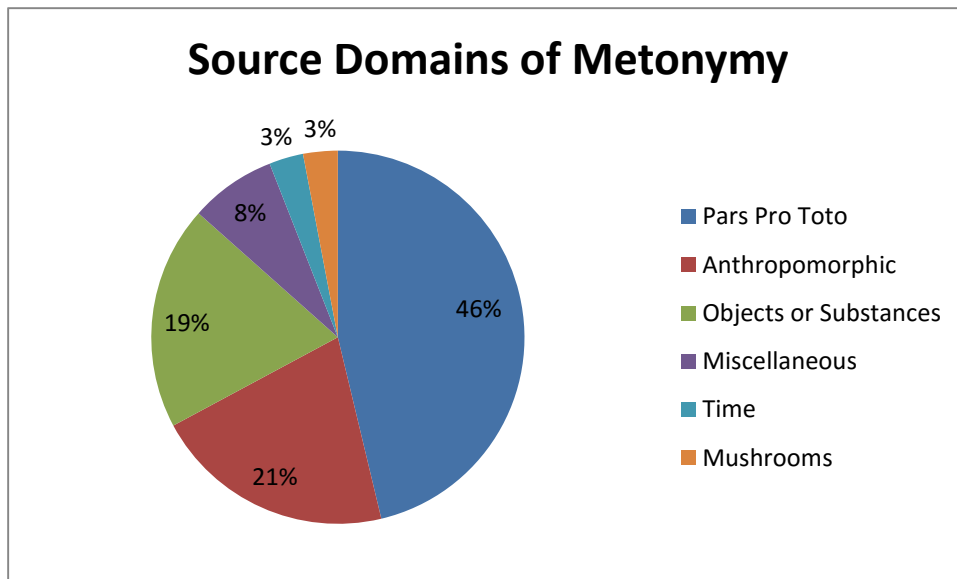


Figure 3: Source Domains of Metonymy

The most prominent among metonymical names is PARS PRO TOTO metonymy that can be found in almost half of the names. Body part and its appearance is a very salient feature. Most of the other half is divided into two categories with 21% and 19%. The second source domain is the anthropomorphic domain. Since mushrooms are eaten the names reflect their usually negative effect they have on the consumer if they are poisonous. But there are of course other relationships with humans. The third category contains references to objects or substances. The three remaining categories comprise only a fraction of the names which shows that they are not very salient.

4.2.1.8. Comparison with Plant Names

In both plant and mushroom names the most frequent source domain is pars pro toto with 51% and 46% respectively confirming that it indeed is the most salient feature.

If I remove this category the remaining categories are quite different. The most frequent category among mushroom names is anthropomorphic with 39% while among plant names it is only 16% including references to illnesses. There are 13 references to illnesses that the particular plant cures or causes. Unlike in Chinese medicine in western thought mushrooms were not used and therefore there are no references to particular illnesses. There are only names that refer to the fact that they will make the person sick. The most frequent source domain of plant names is habitat with 40% which makes it an important feature. There is only a handful of names that refer to places and those were included in the category of objects and

substances. Such names are for instance Bog Beacon and Woodlover. There are also two names that refer to other mushrooms as their habitat. Place is therefore a lot less important in mushroom names. Time of growth is as important for plant names for mushrooms statistically although there are 9 time references among plants and only 2 among mushrooms. The second largest category in both cases is objects. However, the percentage of objects in mushroom names is with 36% significantly larger than in plant names with only 18%.

4.2.2. Bases of Metonymy

There are 6 categories of the characteristics of the mushrooms that metonymies are based on – appearance that includes PARS PRO TOTO metonymy, effect, habitat, time, usage and scent.

4.2.2.1. Reference to Appearance

Frequency: 42

Included in this category are mostly fungi named by PARS PRO TOTO since it is a visual aspect, a part of the mushroom that gave them the name. Among these names are mushrooms like *Gray Scale* or *Showy Flamecap*.

4.2.2.2. Reference to Effect

Frequency: 15

Names in this category were named after specific behaviour of the mushroom. The behaviour is usually something the mushroom causes when eaten and that is it usually makes the person sick or it kills him outright. Such names are *Sickener*, *Death Cap* or *Tippler's Bane*. The latter is quite an interesting mushroom because it is toxic only when consumed with alcohol. Another example is for instance *Train Wrecker*. It grows on dead wood and it has a high tolerance for treated wood such as railroad ties. It has actually caused train derailments before as it decomposed the ties.

4.2.2.3. Reference to Habitat

Frequency: 6

In this category there are names that refer to the place where the mushroom grows such as *The Sandy* or *Bog Beacon*. It includes substances like wood or sand but also other mushrooms in names of parasitical ones and other environments.

4.2.2.4. Reference to Time

Frequency: 2

There is only one fungus named after a time in which it appears. The name has two versions, Winter Herald or Herald of Winter. As the name suggests it appears in late October or December, often with the first frosts.

4.2.2.5. Reference to Usage

Frequency: 1

British people do not find mushrooms very useful nor are mushrooms popular as food. There are of course exceptions and one such exception is *Artist's Conk*. It is a bracket fungus that is sometimes used by artists as a drawing medium. When the white surface on the bottom is scratched it reveals the brown tissue underneath. When dried, the scratched lines become permanent.

4.2.2.6. Reference to Scent

Frequency: 1

As with metaphor there is only one metonymical reference to scent in this category and that is *The Miller*. The mushroom is said to have a mealy smell and therefore the name was metonymically to the person associated with mills.

4.2.2.7. Summary of Bases of Metonymy

The distribution of various bases of metonymy is as follows:

| Bases of Metonymy | |
|-------------------|----|
| Appearance | 42 |
| Effect | 15 |
| Habitat | 6 |
| Time | 2 |
| Usage | 1 |
| Scent | 1 |
| Total | 67 |

Table 4: Bases of Metonymy

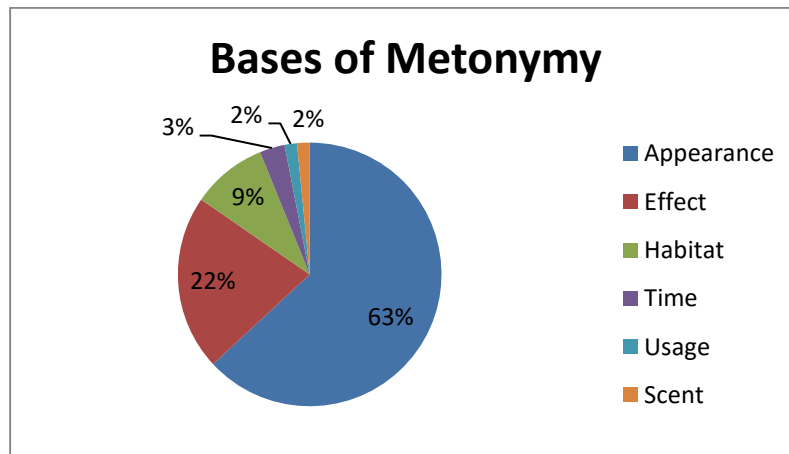


Figure 4: Bases of Metonymy

Most metonymies in mushroom names were based on appearance. They account for 63% of all the metonymical names. That is not very surprising since it includes PARS PO TOTO metonymy which is the largest group of source domains. The second most frequent category is the one that includes effect the mushroom has on the consumer (22%). 9% of the names refer to habitat. The least numerous categories are time, usage and scent.

4.2.2.8. Comparison with Plant Names

The most important characteristic in plant names is habitat (50%). It is much less frequent in mushroom names with only 25%. The most important characteristic in mushroom names (apart from appearance that was taken out for purposes stated above) is the effect they have

on the consumer. There are 59% of such names but only 9% of names among plant names. The fact that plants are frequently used for medicinal other purposes makes it also an important factor in naming. Mushrooms on the other hand are used less and therefore it appears in only 4% of names. Reference to time is similar with 6% in plant names and 8% in mushroom names.

4.3. Metaphor and Metonymy Interaction

This section deals with names in which both metaphor and metonymy are present. There are several varieties of such interaction. I used the classification of Réka Benczes (2006) and adapted it to the purposes of this paper. Each type of interaction is presented in one or more case studies which illustrate the relationship of both processes.

4.3.1.1. Metonymy- based Modifier and Metaphor -based Head

Frequency: 23

This type of interaction includes compounds where the head is metaphorical and the modifying constituent is metonymical. It is the most frequent type of interaction. Such interaction can be found in names like *Bolete Eater*, *Trumpet of Death*, *Earth Fan* and others.

- **Bolete Eater**

The head constituent was named through anthropomorphic metaphor. The process of eating is mapped onto the process of decomposition of a boletus. It may seem strange but the idea is not so far-fetched. *Bolete Eater* grows on another mushroom, in this case a boletus, decomposes it (that is breaks it into simpler organic forms) and feeds on the waste products produced by it. It is a parasitic organism that gets its nutrients from its “food”. Eating in animals and people also means getting nutrients from food while the food gets broken into simpler forms. The modifier denotes what is being decomposed (or “eaten”). Therefore the relationship between the two constituents of the compound could be described as ORGANISM-FOOD where the modifying element specifies what is being “eaten”. But because we are talking about mushrooms it could be argued that the modifier also denotes a place where it lives. Meaning it is a metonymical reference to place in a HABITAT FOR

ORGANISM relationship. Another fungi named through similar process are *Truffle Eater* or *Scum Lover*.

- **Earth fan**

The head was named through image metaphor as the shape of a fan was mapped onto the shape of the fruiting body. The modifier is a case of HABITAT FOR ORGANISM metonymy.

- **Trumpet of Death**

The origin of the head in this name is quite clear. The fruiting body of the mushroom indeed has a trumpet like appearance. Thus, the shape of a trumpet was mapped onto the shape of the mushroom by means of an image metaphor. The modifier is more interesting. The “death” in the name does not in this case mean that the mushroom is poisonous and causes death after consumption. Because it resembles a black trumpet that grows out of the ground it was thought to be a musical instrument played by buried dead people. It is therefore a STATE FOR PERSON metonymy. Since there is no explicit mention of a mushroom the name is derived from more input spaces. One contains the mushroom, the second one contains the trumpet that corresponds to the shape and the third one contains a buried body that plays the trumpet. The yielded space contains elements from all of the above.

- **Witch’s Butter**

The British have been known for their “Fungophobia” and the belief that “fungi spring up from the ruin of all that is fair and beautiful.” (Rolfe 2) Thanks to this negative attitude towards fungi some of them were associated with mythical beings such as fairies, witches, the devil and so forth. The gelatinous texture and appearance of this particular fungus was conceptualised as butter given rise to the head part of the name. The modifier comes from its “unaccountably rapid growth in the night, which has given rise to a superstitious belief, that witches milk the cows and scatter the milk on the ground.” (Prior 252) Witches here are the producers of the black and unappetizing “butter” and therefore it is a metonymical reference.

4.3.1.2. Metaphor-based Modifier and Metonymy-based Head

Frequency: 13

This is the second most frequent category. The head is metonymical and it usually refers to parts of mushrooms. The modifier is metaphorical. Examples of these compounds are *Flamecap*, *Tallowgills* or *Mazegill*.

- **Flamecap**

This species was named after the yellow or orange colour of its cap. It is an example of an interaction between a metaphor based on appearance and PARS PRO TOTO metonymy. There is a close association of a part and the whole mushroom and so the former can easily stand for the latter. This is especially the case with the cap as it is often the most prominent feature of the fruiting body. The overall metonymy is CHARACTERISTIC PROPERTY FOR CATEGORY because it denotes a species of mushrooms with that characteristic. The modifier *flame* is based on image metaphor as the colour of flames is mapped onto the colour of the cap. The cap stands for the whole mushroom. The characteristic property in this case is the flame - coloured cap.

- **Tallowgills**

Tallowgills is similar to *Flamecap*. It is also a bahuvrihi compound with the overall metonymy CHARACTERISTIC PROPERTY FOR CATEGORY. But the metaphor in the modifier is of a different nature. In *Flamecap* it was based on a visual aspect. Rather than that it was the tactile quality or texture of tallow that was mapped onto the gills of the mushroom. The head comes from its characteristic feature, which in this case are the gills. According to the blending theory the name consists of two input spaces. The first input space contains *tallow* and the other input space contains the concept of *mushroom*. A part of the second input space is the fact that some mushrooms have gills. In this case it is the most salient feature that sets it apart from other mushrooms. What the name gets from the first input space is the texture of tallow. No other aspect such as colour or use is relevant in this case. These two input spaces yielded a space that contains a mushroom having gills with tallow-like texture.

4.3.1.3. Metaphor-based Modifier and Metaphor-based Head

Frequency: 8

Both the profile determinant and the modifier are based on metaphor in these names. Both constituents serve as a source domain. Therefore there are two metaphors acting upon the meaning of the compound.

- **Rubber Buttons**

This name is a compound where both the modifier and the profile determinant are metaphorical. The mushroom grows in clusters on old or felled trees. Its fruiting body is only 1- 4 cm across and 1 cm tall and circular and flat- topped becoming slightly cup - shaped later in life. Thanks to its shape and size of an individual fruiting body the appearance of a button was mapped onto the mushroom. There are actually two more names of this fungus that include buttons. The others are Bachelor's Buttons and Pope's Buttons. Although it is not a jelly fungus it does have a soft gelatinous texture in wet weather. The texture gave rise to MUSHROOM IS RUBBER metaphor.

- **Dead Man's Fingers**

This mushroom changes its appearance during its life cycle. Somewhere in the middle of this cycle it indeed takes on an appearance of dead human fingers sticking out from the ground. The head element, "fingers", draws from the MUSHROOM IS A HUMAN BODY metaphor and it is based on its appearance. Its fruiting body has characteristic elongated club shape resembling human fingers. The modifier metonymically specifies that the fingers are that of a dead body. This could be based on appearance since the fruiting body changes its colour from pale grey or bluish to black creating the association. What also contributes to this association is the fact that they are growing from the ground like fingers of a buried corpse.

4.3.1.4. Metonymy- based Modifier and Metonymy-based Head

Frequency: 4

Both the head and the modifier were named by means of a metonymy. The most interesting name is *Man on horseback* discussed below.

- **Man on Horseback**

The interaction of metaphors and metonymies in this case is a complex one. The connection with horse riding probably comes from its saddle shape form. The initial metaphor then was based on appearance of the mushroom and it was therefore a case of what Lakoff calls an image metaphor. The brown cap of older specimens usually opens up and parts of the edges turn upwards resembling a saddle. The image of a saddle is then mapped onto the image of the mushroom cap. Because it is only the cap that is saddle-shaped and not the whole fungus, it is a case of PARS PRO TOTO metonymy. That is, the cap stands for the whole mushroom. None of this is explicitly stated in the name. Instead we have two elements that are associated with the concept of riding a horse. Firstly we have the relationship between a saddle and an animal part on which it is situated. This also a metonymy since horseback stands for a saddle forming a relationship that could be described as PLACE FOR OBJECT. The head of the compound is also in a metonymical relationship with the notion of a saddle. A saddle is a man-made object used for riding and therefore the image of a saddle is associated with a rider in an INSTRUMENT FOR AGENT relationship.

In blending theory the name is a case of a multiple-scope network. There are three input spaces: the mushroom domain, the saddle domain, the horse domain and the rider domain. The first two are connected via the shape of the cap that corresponds to the saddle. The horse domain yields the notion of horseback on which the saddle is situated and the rider domains provides the notion of a man sitting on horseback. There is also an alternative theory put forward by Nicholas Money that says that the mushroom was too good for peasants and it was suitable only for the nobility (2011). It would then be a simple case of CONSUMER FOR FOOD CONSUMED.

- **Deathcap**

This is a case of interaction of two metonymies. The cap was named by means of a PARS PRO TOTO metonymy. The reference to death in the modifier is also a metonymy. The relationship could be described as EFFECT FOR MUSHROOM because it describes what effect the mushroom has when eaten.

4.3.1.5. The Name as a Whole

Frequency: 2

In this category there are names that were named by metaphor and metonymy simultaneously. They are *The Miller* and *False Chanterelle*.

- **False Chanterelle**

Metaphor and metonymy are not separated in this name like they are in the other cases. Rather there are two different, albeit connected, processes. The mushroom looks like a chanterelle and therefore it is conceptualised as one on the bases of metaphor. Because of this similarity, however, people would often confuse them and pick the wrong one. This association also gave rise to its name.

Compounds like this one are usually used as an argument against the compositionality of language. How can it simultaneously be false and a chanterelle. Thanks to the theory of blending it actually makes sense. It is false chanterelle in the new mental space that the two original spaces have yielded. In one mental space it is a fake and in the other it is a chanterelle because it looks like it. Eve Sweester (1999) illustrates this relationship between the two mental spaces on the case of a fake gun. There is the mental space of a dupe who sees the object as gun and the mental space of a more knowledgeable person who knows it is not a gun but is passing it of as one.

- **The Miller**

The Miller is similar to Man on horseback though not as complex. It is said to have a mealy odour or rather that it smells like an old grain mill. That means that the smell of the mill was metaphorically mapped onto the smell of the mushroom. But it is only the smell and not any other aspect of a mill that is mapped on the mushroom. Since there are usually millers working in mills the concept of a miller was mapped onto the concept of a mill in a WORKER FOR A WORKPLACE metonymy.

4.3.1.6. Metaphor - based Semantic Relation between the Constituents of the Compound

In her work Benczes also deals with a metaphor based relation between the constituents of compounds. She draws from the works of Pamela Downing and Beatrice Warren. They say that there are a number of noun – noun compounds where the relation between the two nouns

is that of comparison or resemblance. This relationship is metaphorical because the entity denoted by the profile determinant is understood through the entity of the modifier. There are numerous instances of this among mushroom names such as *Bird's Nest Fungus* or *Yellow Knight Fungus*. In these cases both the target domains and the source domains are present. Through frequent use, however, the profile determinant was often left out due to lexicalisation. Yet both forms *Bird's Nest Fungus* and *Bird's Nest* survive to this day.

4.3.2.7. The Summary of Metaphor and Metonymy Interaction

Table 5 below shows the distribution of types of interaction of metaphor and metonymy in mushroom names.

| Metaphor and Metonymy Interaction. | |
|---|-----------|
| Metonymical Modifier and Metaphorical Head | 23 |
| Metaphorical Modifier and Metonymical Head | 13 |
| Metaphorical Modifier and Metaphorical Head | 8 |
| Metonymical Modifier and Metonymical Head | 4 |
| The Name as a Whole | 2 |
| Total | 44 |

Table 5: Metaphor and Metonymy Interaction

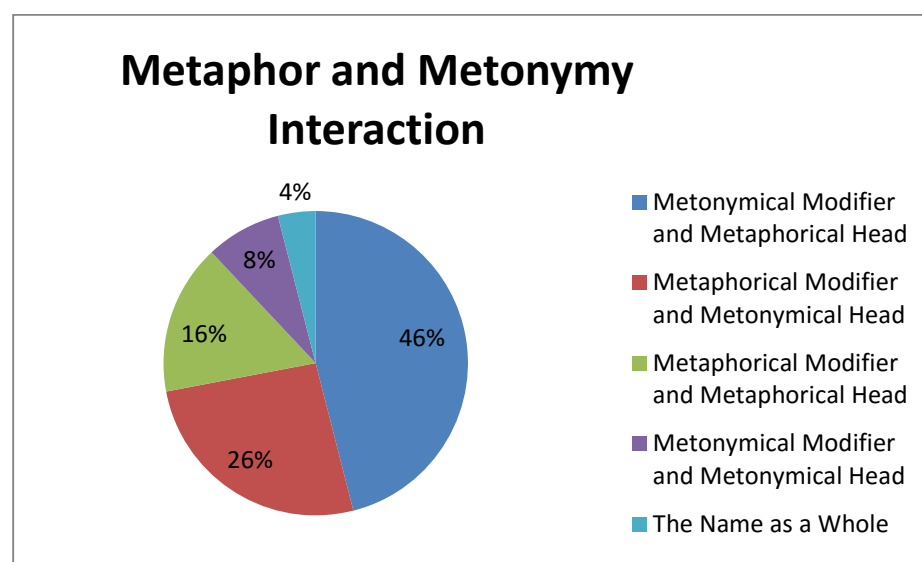


Figure 5: Metaphor and Metonymy Interaction

In the most numerous category with 52% are names that have metonymical modifier and metaphorical head such as *Trumpet of Death* or *Bolete Eater*. The second most frequent

category is that where the names have metaphorical modifier and metonymical head. The metonymy is usually PARS PRO TOTO. Names where both head and modifier are metaphorical make up 16% of all the types. Names with both metonymical parts are less frequent and in the least frequent category are names where both metaphor and metonymy operate on the name as a whole.

5. Conclusion

Semantic shift is not an uncommon way of naming organisms around us. Among mushroom names there are 213 names that contain metaphor, metonymy or both. Metaphor is by far the most common and it appears in 146 names. Metonymy is less common and appears in only 67 names. The interaction appears in 44 names.

There are 5 source domains of metaphor in mushroom names. Objects and artefacts are the most numerous with 59% followed by zoological references with 36% and anthropomorphic references with 11%. The numbers show that mushroom names are no different from other domains of metaphorical names as human body, animals and cooking are among the most frequent source domains in general.

93% of the metaphorical names are based on appearance. When talking about mushrooms most people imagine the ones that have a stem and a cap. But the fungus world is much more diverse ranging from little *Stag's Horns* to a large white tuft that is *Bearded Hedgehog*. The names reflect this diversity. Only a small number of names were named differently. 5% were named because of their behaviour, 1% because of their size and another 1% because of their scent.

Metonymical names are less common as there are only 67% names. Almost a half of the names were named by PARS PRO TOTO metonymy. Cap is the most frequent part to occur as it is usually the most noticeable and distinct. The second most frequent source domain is anthropomorphic. The names frequently refer to the effect mushrooms have on the consumer. The third category with references to objects or substances makes up 19%. References to habitat are quite frequent among them as it can be an important feature for distinguishing mushrooms. There are 5 names that could not be placed in any other category. Two names refer to the time they occur making it one of the least salient features and two names refer to other mushrooms. These two last mushrooms are parasitical and they refer to their habitat.

The most important feature on which metonymy is based is appearance (63%). Most of these names include PARS PRO TOTO metonymy making it the most salient feature in naming mushrooms. The second category is effect which again reflects the source domains as the second most frequent category was anthropomorphic. Only 9% refer to habitat. It seems that it is not a very important feature. At least it doesn't frequently appear in compounds or heads.

Two names are based on time of occurrence. 1 name refers to usage and one name refers to scent.

In the last part of my work I wished to map the various ways and patterns of metaphor and metonymy interaction. These patterns are based upon which part of the compound is activated by conceptual metaphor or metonymy. There are four types of which the most frequent are names with metaphorical heads and metonymical modifiers. Such interaction appears in 46% of the names. The second type of interaction is between metonymical heads and metonymical modifiers. The heads are usually named by PARS PRO TOTO metonymy and the metaphorical modifiers specify some characteristics of said part. The next two categories include names where metaphor or metonymy acts upon both parts of the name. Metaphor is more frequent (8%). In the last type both processes act upon the name simultaneously.

I have thus concluded that mushroom names have most frequently been inspired by their appearance and that the names come from objects and animals mostly plus mushroom parts in metonymical names. In 44 cases metaphor and metonymy interact and the most frequent type is metaphorical head and metonymical modifier.

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