

# On the Distinction between Metonymy and Vertical Polysemy in Encyclopaedic Semantics

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## Abstract

In cognitive linguistics, metonymy is seen as a fundamental cognitive process where one conceptual entity affords access to another closely associated one. Cases of **vertical polysemy** have also often been treated as instances of metonymy (see e.g. Radden and Kövecses, 1999). In vertical polysemy a lexical form designates two or more senses that are in a relationship of categorial inclusion – e.g. *dog* ‘canine’, ‘male canine’.

In this paper I present an account of cases of vertical polysemy from the point of view of domain-based encyclopaedic semantics as described in Langacker (1987). I claim that the domain configurations which underlie the broader and narrower meanings of vertical polysemes are very different from those involved in cases of metonymy. Croft (1993) argues that from a Langackerian viewpoint, metonymy involves a shift in the salience of two domains that form parts of a domain matrix against which a given concept is profiled. In cases of vertical polysemy, on the other hand, the relationship between the broader and narrower meanings may be effected in a number of different ways, none of which involve the kind of domain configurations found in metonymy. For example, the narrower ‘male canine’ sense of *dog* makes reference to an **additional** domain of SEX, a domain which is not an essential part of the domain structure of the broader ‘canine’ meaning.

## 1. Introduction

In cognitive linguistics, metonymy is seen as a fundamental cognitive process that has a key role in human conceptualisation, and thus the study of metonymy forms a key area of research. Frequently, the phenomenon of **vertical polysemy** is also treated as essentially metonymic – as arising through a metonymic process or involving a metonymic mapping. In vertical polysemy, a word form designates two (or more) distinct senses that are in a relationship of categorial inclusion or hyponymy.

This paper first overviews some of the issues concerning the relationship of vertical polysemy and metonymy. Concurring with Seto (1999, 2003), I maintain that treating vertical polysemy as metonymic relies on a metaphorical conception of categories and often effectively involves a confusion of taxonomic relations with meronomic part-whole relations.

I go on to show that there is a crucial difference between the conceptual configurations involved in vertical polysemy and metonymy by adopting an encyclopaedic, domain-based view of semantic structure as described by Langacker (1987). In Langacker’s model of encyclopaedic semantics, each linguistic form acts as a point of access to an open-ended network of knowledge, which is structured in terms of conceptual domains. Domains provide a background against which the concepts that lexical forms designate are understood. Thus a meaning symbolised by a linguistic form is **profiled** against a **base**, which includes specifications in one or more domains necessarily presupposed by the profile (Langacker, 1987; Taylor, 2002). Since in most cases the meaning of a lexical form does contain specifications from multiple domains, the domains presupposed by a concept collectively form a **domain matrix**.

Within a domain-based view of meaning, metonymy involves a highlighting of one domain that forms a part of the domain matrix of the concept profile in question, and the backgrounding of another (Croft, 1993). Vertical polysemy, on the

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other hand, does not involve a shift in the salience of domains. Instead, I argue that there are a number of ways in which the narrower meaning of a vertical polyseme may be related to the broader one in terms of its domain structure. For example, the narrower ‘male canine’ reading of *dog* makes reference to an additional domain of SEX, a domain that is not an essential part of the domain structure of the broader ‘canine’ meaning. In other cases the broader and narrower meanings of vertical polysemes are profiled against different domains one of which is an instance of the other, or the narrower meaning profiles more specific properties in the same domain(s) as those presupposed by the broader meaning.

Highlighting the fundamental difference between the domain structures involved in metonymy and vertical polysemy helps to delineate the phenomenon of metonymy and thus contribute to its study as a cognitive process.

## 2. Vertical polysemy and metonymy

As mentioned, the phenomenon I here refer to as vertical polysemy involves cases where a word form designates two (or sometimes more) categories that are in a relationship of categorial inclusion or hyponymy. Such a word is therefore polysemous with a broader and a narrower sense that occupy different levels in a taxonomic<sup>†</sup> hierarchy. In taxonomic diagrams, inclusion relationships are commonly depicted on the vertical axis, which is what motivates the term *vertical polysemy*. The same phenomenon is often referred to as *autohyponymy* (Horn, 1984), alluding to the fact that a vertically polysemous word is effectively its own hyponym.<sup>‡</sup> A well-known example of vertical polysemy is *dog* which, in addition to meaning ‘canine’, also has a more specific ‘male canine’ sense that contrasts with *bitch*. Other oft-mentioned cases are *drink* with its meanings ‘consume liquid’ and ‘consume alcohol’ and *finger*, whose meaning can either include or exclude thumbs. Yet further examples include *cup* (whose meaning can either include or contrast with that of *mug*); *love* (‘strong affection’, ‘strong romantic affection’) and *salad* (‘green salad’, ‘a us. chilled dish of vegetables or other ingredients, such as potato salad’). In all of these cases a single lexical form designates both a broader and a narrower category in a way that creates the potential for ambiguity, although in some cases the vertically related senses may be more distinct than in others (see e.g. Tuggy, 1993, Geeraerts, 1993 and Cruse, 2000a, 2002b and Croft and Cruse, 2004 for discussion of the idea of ambiguity-vagueness continuum).

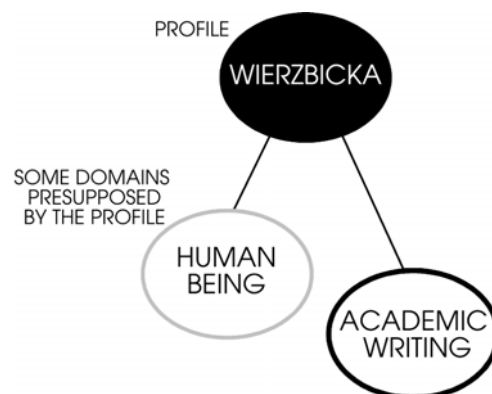
In many accounts vertical polysemy (or the categorial transfer to a broader or narrower category that results in vertical polysemy) is considered essentially as a type of metonymy. The study of metonymy has its roots in traditional studies of literary

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<sup>†</sup> Note that I use *taxonomic* throughout in a general sense to mean any kind of category inclusion relationship. In principle, however, taxonomic inclusion may be distinguished from *functional* inclusion, such as the relationship between *pet* and *dog*, which is not logically necessary (dogs may be used as pets, but not all dogs are necessarily pets) – see Wierzbicka (1984) and Murphy (2003) for further discussion of taxonomic and functional inclusion relations. Taxonomic relations should not be confused with **taxonomic** relations, which are a more specific subtype of inclusion relations, as discussed by Cruse (e.g. 2002a). I argue elsewhere (Koskela, in prep.) that vertical polysemes may involve either meanings related by taxonomy or simpler, non-taxonomic inclusion.

<sup>‡</sup> Cruse (2000b) distinguishes between *autohyponymy* and *autohyperonymy*, delimiting the former to cases where the vertical polysemy emerges through the narrowing of sense and the latter to instances where it results from broadening. As Horn’s (1984) use of *autohyponymy* covers both cases of broadening and narrowing, this means that the term *autohyponymy* is itself vertically polysemous! This is one of the reasons why the term *vertical polysemy* is preferred here instead of *autohyponymy*.

rhetoric, where it was treated as an important type of figure of speech. In contrast, cognitive linguistic treatments of metonymy stress the inherently conceptual nature of metonymy by viewing it as a cognitive process which has a role in structuring the human conceptualisation of experience. In both the traditional and cognitive views metonymy is generally seen as involving some kind of **stand-for** relationship between **contiguous** entities. Thus typical examples of metonymy include cases like *I drank the whole bottle*, where the container (BOTTLE) stands for its contents (the liquid in the bottle) – a container and its contents being contiguous or closely associated. In cognitive linguistic work, the contiguous entities in question are seen as conceptual elements that form parts of some coherent conceptual complex and are associated with each other within that complex. According to Lakoff and Turner (1989), metonymy involves a conceptual mapping that links two entities within a single idealised cognitive model in a stand-for relationship. Radden and Kövecses (1999: 21) likewise see metonymy as involving conceptual entities within a single idealised cognitive model, although they do not view it as involving a mapping as such (for further discussion of different views of the role of mappings in metonymy see, for example, Barcelona, 2000). A somewhat different characterisation of metonymy is provided by Croft (1993), who adopts Langacker’s (1987) encyclopaedic, domain-based view of semantic structures. While in Lakoff and Turner’s (and others’) view, metonymy crucially operates within a single conceptual model,<sup>§</sup> Croft argues that metonymy operates between **two** conceptual domains that are part of the same domain matrix against which a given concept is profiled. What metonymy typically involves is a shift in the salience of two domains within the domain matrix. For example, in *I got the students to read Wierzbicka for the next seminar*, the name of the author metonymically stands for her works. The domain structure for Wierzbicka the person includes a domain characterising her as a human being as well as a domain against which our knowledge that she is an academic linguist who writes articles and books is profiled, as Figure 1 shows. The metonymy operates by backgrounding the domain of HUMAN BEING and highlighting the domain of ACADEMIC WRITING.



**Figure 1:** A simplified domain structure of the concept WIERZBICKA, showing the metonymic highlighting of one domain (ACADEMIC WRITING) and the backgrounding of another (HUMAN BEING) within the domain matrix presupposed by the concept profile.

As Croft (1993) points out, the difference between the two views of metonymy, the “single cognitive model” and the “two domains within a domain matrix” views, is not as great as it may seem. The key point in both characterisations is that metonymy

<sup>§</sup> This is often viewed as the distinguishing factor between metonymy and metaphor, which in conceptual metaphor theory is seen as involving a mapping between two conceptual models.

involves a transfer of reference between elements within the same conceptual complex whose unity and coherence is motivated by human experience.

Given this characterisation of metonymy, we may now consider the relationship between vertical polysemy and metonymy – particularly the crucial differences between the two phenomena but also some of the reasons why vertical polysemy has nevertheless been often seen as a type of metonymy.

### 2.1. Vertical polysemy as metonymic

There are various reasons to believe that the view that vertical polysemy is a type of metonymy is misguided and that to do so obscures the complexity of the relationship between the broader and narrower senses in vertical polysemy. One of the problems with treating vertical polysemy as metonymic is that such a notion relies on a metaphorical conception of categories and contiguity relations, as Seto (1999; 2003) points out. Another, related problem, also noted by Seto, is that subsuming vertical polysemy under metonymy effectively confuses taxonomic relations with meronomic (or partonomic) part-whole relations.

Kövecses and Radden (1998), for example, assert that vertical polysemy is motivated by two general metonymies. They argue that narrowing of meaning is based on the metonymy A CATEGORY FOR A MEMBER OF THE CATEGORY and broadening on the metonymy A MEMBER OF A CATEGORY FOR THE CATEGORY.\*\* This view relies on seeing the relationship that holds between vertically related categories (or categories and their members) as a type of stand-for relationship between contiguous entities. Kövecses and Radden note that in folk understanding categories are either understood **metaphorically** in terms of containers (see Lakoff, 1987) or in terms of part-whole relations. In the former conception, the relationship between vertically related categories is seen metaphorically in terms of a CONTAINER-CONTENTS metonymy, similar to the use of *bottle* in *I drank the whole bottle*. The latter conception of categories means that a category is conceived metaphorically as a whole with its members constituting the parts that make up the category. Seto (2003), however, argues that although the metaphorical understanding of categories (and taxonomies) in terms of containers or part-whole relations is very appropriate and useful for a folk understanding of the nature of categories, it is harmful for a theoretical treatment of metonymy. In fact, he compares this confusion with the effect that the conduit metaphor (Reddy, 1993 [1979]) has had on our understanding of the nature of communication. As Seto (1999) notes, there is a crucial difference between metonymy and category extension in that metonymy operates between two real world entities (as conceived by us) while shift in denotation between more inclusive and more narrowly defined categories operates between conceptual **categories**. That is to say, metonymy relies on a “spatio-temporal contiguity as conceived by the speaker between an entity and another in the (real) world” (ibid.:91), while categorial transfer, which gives rise to vertical polysemy, relies on a relationship between conceptual

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\*\* Note that Kövecses and Radden speak in terms of a relationship between a category and its member, rather than a broader and a narrower category. The two conceptions are equivalent to the extent that we view the “category member” in Kövecses and Radden’s description as a **category** of entities that constitutes a member class within some broader class. Consider, for example, the example Kövecses and Radden give of broadening: *aspirin* being used for any pain-relieving tablet. The broadening of reference isn’t from a single token aspirin tablet as a member of the category of painkillers. Instead, it is from the category of aspirin painkillers to the category of painkillers in general, of which the class of aspirin tablets is of course a member. Similarly, in cases of narrowing the restriction of reference is to a smaller class (not to a token member of that class).

categories – not between entities in the (real) world.<sup>††</sup> Although the contiguity between vertically related categories **can** be conceived metaphorically in terms of containers and their contents or wholes and their parts, the “contiguity” of vertically related conceptual **categories** is not the same as the contiguity of **entities** (relative to experiential domains in our conceptualisation).<sup>‡‡</sup>

Another important distinction between vertical polysemy and metonymy is that while the former involves a taxonomic relation between concepts, the latter instead involves a meronomic conceptual configuration. The idea that metonymy involves a part-whole relationship between conceptual elements forms part of various accounts of metonymy. Kövecses and Radden (1998) and Radden and Kövecses (1999), for example, argue that metonymies either involve two parts of the same cognitive model, or a whole cognitive model and its parts. Thus the metonymic relationship between a place and an institution, such as a factory and its workers (consider e.g. *The factory went out on strike*), involves two parts of the cognitive model characterising the concept FACTORY. On the other hand, the use of the name for the material of which something consists for that thing itself (e.g. *wood, glass*) involves a metonymic relationship between a part and the whole of the concept. Ruiz de Mendoza Ibáñez (2000), on the other hand, argues that metonymic mappings only occur between a whole domain and its part or vice versa, not between parts of a conceptual domain. Conversely, as discussed earlier, in the domain-based view metonymy operates typically between domains that form part of a domain matrix presupposed by a concept. In all accounts, however, the conceptual structures involved in metonymy are viewed as involving some kind of meronomic configuration.

In contrast, as I argue in the following, vertical polysemes involve two (or more) **taxonomically** related meanings, and consequently they do not involve the kinds of meronomic structures we find in metonymies. In the following I characterise the conceptual structures of vertical polysemes in the Langackerian domain-based view of semantic structures and I show that there are a number of different ways in which a taxonomic relation between word senses may be effected, but they do not involve the kinds of shifts in the salience of domains we find in metonymies. For example, the broader and narrower meanings of vertical polysemes may be profiled against different domains one of which is an instance of the other, or the narrower sense may make reference to an additional domain that is not an essential part of the domain structure of the broader meaning.

### 3. Encyclopaedic semantics and conceptual domains

As mentioned, Langackerian domain-based encyclopaedic semantics characterises the meanings of lexical forms in terms of profile-base organisation, where the base is the conceptual material presupposed by the concept in question. The base may invoke reference to a number of conceptual domains, which are coherent conceptual configurations grounded in human experience. For example, as Langacker (1987:185)

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<sup>††</sup> Compare Nerlich (in press, cited in Nerlich and Clarke, 1999), who also argues that metonymy relies on our knowledge of the world while categorial transfer is based on our knowledge of categories and the way they are ordered in the mind.

<sup>‡‡</sup> It is worth noting that in a later paper Radden and Kövecses (1999) do acknowledge that the confusion of taxonomy and meronymy that results from their analysis is not entirely desirable, but they nevertheless “feel justified” (ibid.:34) in analysing the relationships between broader and narrower categories as instances of metonymy.

discusses, the concept of UNCLE is profiled against a base of a kinship network given that to understand what (or who) an uncle is, we need to make reference to the idea of family relationships. The base invokes domains such as GENDER, MATING, BIRTH, PARENT/CHILD RELATIONSHIP and SIBLING RELATIONS. Certain domains may themselves presuppose other domains – e.g. the domain BIRTH presupposes the domain of REPRODUCTION. Some domains, such as SPACE or TOUCH however, are irreducible to any other domains, as they are grounded in our direct pre-conceptual experience and physiological and neurochemical properties as human beings.

In an encyclopaedic view of word meaning, any aspect of knowledge we associate with a particular word form may in principle form part of the meaning of that word. But not all knowledge is of equal importance, and the domains presupposed by a concept vary in how central or primary they are for the understanding of the concept. For example, the concept of CIRCLE is primarily profiled against the domain of TWO-DIMENSIONAL SPACE, but the full semantic structure of CIRCLE would also include **any** other aspects of encyclopaedic knowledge we may associate with the concept of CIRCLE even marginally and the domains presupposed by them. Thus we may associate with circles the fact that you can draw one using a pair of compasses, which would presuppose a domain such as GEOMETRIC DRAWING, but this domain would be a lot less central for the characterisation of CIRCLE than 2-D SPACE. But for reasons of space, the examples below do not include discussion of the non-central domains and specifications, something that would be required for a complete semantic analysis of any linguistic form.

### **3.1. Domain structures and vertical polysemy**

As discussed above, the relationship that holds between vertically related meanings of a lexical form is one of taxonomic inclusion. It is notable that, in the literature on encyclopaedic semantics, taxonomically related concepts have not been treated in depth, although general issues relating to their possible treatment have been brought up. Hierarchical inclusion relations between linguistic units do form a central notion in Langacker's Cognitive Grammar, where they are termed **schema-instance** relations. With respect to schema-instance relations between semantic units, Langacker (1987:378) notes that a semantic unit that is subordinate to another provides some additional information to the knowledge structure that it shares with its superordinate. For example, the concept PALM as a subordinate of TREE includes an additional specification of tropical settings. This encompasses the traditional idea that a hyponymous concept includes the semantic specifications of its superordinate plus some additional information. As for the domain structures of taxonomically related meanings, Croft (1993) remarks that the relationship between a profile and a base is not a taxonomic one; the concept CAT, for example, is not profiled against the domain of ANIMAL. Instead, Croft argues, a more general concept is itself profiled against the same domain as its hyponym. However, as discussed below, this is not always necessarily the case. Finally, Clausner and Croft (1999) point out that domains themselves can enter into taxonomic relations. Thus the domains EAT and DRINK are instances of a more general domain CONSUME.

Apart from these general points pertaining to taxonomically related concepts in domain-based encyclopaedic semantics, a detailed analysis of the domain structure of super- and subordinate semantic categories has not been provided. The nearest to this is Croft's (1993) discussion of the meaning of *fill up*. He notes that this phrasal verb can be used more generally to mean 'make something full' as well as in a more specific meaning 'make the fuel tank of a vehicle full of fuel' – thus the expression

has two taxonomically related meanings. Croft argues that the two meanings are profiled in different domains,<sup>§§</sup> but the narrower meaning is profiled against a domain that presupposes a domain against which the broader meaning is profiled. The details of this case are discussed further in the next section, in which I also examine other cases of vertical polysemy. I argue that taxonomically related meanings of a single lexical form may be related by various configurations of domains and profiling. At least four different configurations can be identified:<sup>\*\*\*</sup>

1. The broader and narrower meanings are profiled against different domains, but the domain of the narrower meaning presupposes the domain of the broader meaning. Croft's example *fill up* illustrates this type.
2. The broader and narrower meanings are profiled against different domains, but the domain of the narrower meaning is an instance of the domain of the broader meaning. *Love*, 'neutral', 'romantic' is such a case.
3. The broader and narrower meanings presuppose the same domains but the narrower meaning includes a core specification in an additional domain. An example of this type is *dog*, 'canine', 'male canine'.
4. The broader and narrower meanings presuppose the same domains, but profile different areas of the same domain(s), areas in a relationship of inclusion. Examples of this type include *finger* (including/excluding thumb) and *cup* (including/excluding mug).

In all of these cases, the narrower meaning has richer semantic specifications, either by including reference to an additional or richer domain or by profiling more specific properties. But none of them involve the kind of domain configuration we find in cases of metonymy proper, such as CONTAINER FOR CONTENTS or PRODUCER FOR PRODUCED. Metonymies, as discussed, involve a shift in prominence between domains that are part of the conceptual structure presupposed by the profile. In contrast, when vertical polysemy arises through narrowing, the hyponymous sense gains additional, richer specifications than the broader, hyperonymous meaning. Conversely, in cases of broadening, some specifications are lost from the conceptual profile. The following section I present examples of each of these four types of domain configurations in vertical polysemes.

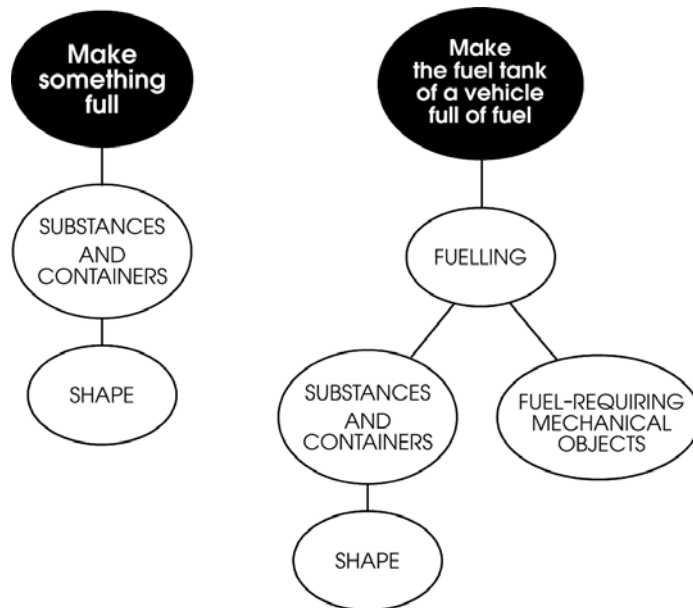
### 3.2. Profiling in different domains, one presupposing another

As mentioned, Croft (1993) discusses the vertically related meanings of *fill up*, 'make something full' and 'make the fuel tank of a vehicle full of fuel'. According to Croft, the two meanings are profiled in different domains: the more general meaning is profiled against the domain matrix of SUBSTANCES AND CONTAINERS, which itself presupposes the domain of SHAPE. The narrower meaning, on the other hand, is profiled against the domain of FUELLING, which presupposes the domain matrix of SUBSTANCES AND CONTAINERS, as well as the domain of FUEL-REQUIRING MECHANICAL OBJECTS – see Figure 2.

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<sup>§§</sup> Note that here Croft seems to be contradicting his earlier remark in the same paper that taxonomically related concepts are profiled in the same domain.

<sup>\*\*\*</sup> It is not claimed that this list is necessarily exhaustive (although it does appear to cover the logically possible ways).



**Figure 2:** The domain configurations of the taxonomically related meanings of *fill up*

This means that the domain against which the narrower, ‘make the fuel tank of a vehicle full of fuel’ meaning is profiled presupposes the domain against which the broader meaning is primarily profiled. The vertically related meanings of *fill up* do not, therefore, involve the kind of domain highlighting process we find in metonymies, where both the literal and the metonymically extended meanings are profiled against the same domain matrix, but the salience of particular domains is different in each case.

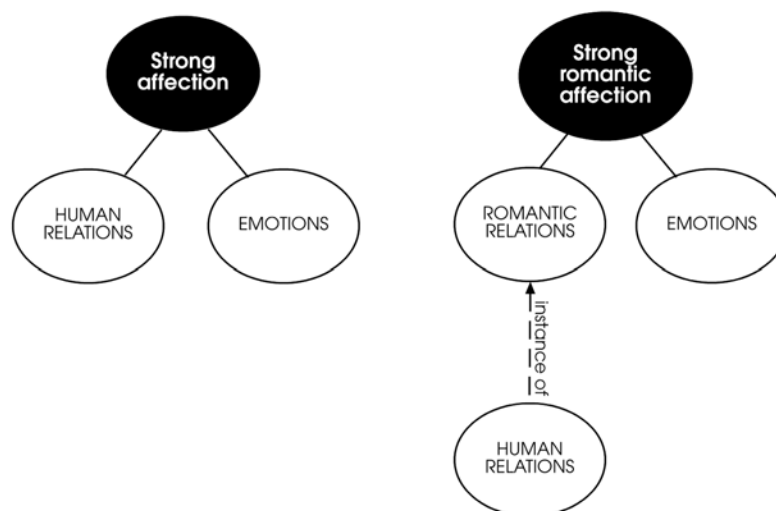
### 3.3. Profiling in different domains, one an instance of another

One case where the vertically related meanings of a lexical form are profiled against different taxonomically related domains is *love*. This lexical form has both a verbal and a nominal use, both of which are vertically polysemous in that they can either refer to strong affection or strong **romantic** affection.<sup>†††</sup> The broader meaning is profiled at least against the domain of HUMAN RELATIONS and also contains specifications in the domain of EMOTION. The narrower meaning, on the other hand, is profiled against a more specific instance of the HUMAN RELATIONS domain, ROMANTIC RELATIONS. This domain presupposes various domains, including SEXUALITY. We may assume that ROMANTIC RELATIONS constitutes a distinct domain from its superordinate domain HUMAN RELATIONS to the extent that the notion of romantic and sexual interpersonal relationships is humanly very significant. Also, such a domain would act as the base e.g. for the concepts of MARRIAGE, GIRLFRIEND/BOYFRIEND, DATING – cf. Croft (1993), who argues that a conceptual structure may be characterised as a domain to the extent that it acts as the base for at least one, but typically many concepts.

<sup>†††</sup> *Love* can have the vertically related meanings ‘strong affection’ and ‘strong romantic affection’ discussed here, but it is also possible to construe the meaning of *love* as two contrasting senses (or microsenses – see e.g. Cruse, 2002b) which are not vertically related: ‘romantic love’ and ‘non-romantic love’. (The latter encompasses love between friends, siblings, parent and child – cf. the classical Greek notions *philia* and *storge*). These different meanings occur in different contexts – e.g. the broadest, hyperonymous meaning occurs in *There are many people who love you – your boyfriend, your best friend, your parents and brothers.*



The domain configuration of the two vertically related meanings of *love* is therefore one where the broader ‘strong affection’ meaning is profiled against one domain, and the narrower ‘strong romantic affection’ meaning is profiled against a domain which is an instance of the domain that the broader meaning is profiled against. This is shown in Figure 3.



**Figure 3:** Simplified domain structures of the vertically related meanings of *love*.

The verb *drink* is another case where vertically related meanings can be seen as being profiled against different domains that are themselves taxonomically related. *Drink* is vertically polysemous in that it can refer either to the consumption of liquid in general (1) or more specifically to the consumption of alcohol (2):<sup>\*\*\*</sup>

- (1) I drink a glass of orange juice every morning.
- (2) Sheila can't drink – she's allergic to alcohol.

In Cognitive Grammar, verbs are inherently seen as profiling **a relation**, unlike nominal concepts that profile **a thing** (used in a technical sense of ‘a region in some domain’ [Langacker, 1987:189]). Furthermore, the relation profiled by a verbal concept is temporal in that the concept designates a process that inherently involves the notion of evolution through time. The profile of the verb *drink* includes the notion of the relation (i.e. the process or drinking) as well as schematic representations of the entities linked by the relation (i.e. the drinker and the drink), which, in Langacker’s terms are called *trajector* and *landmark*. The trajector is the more prominent one of the two profiled entities, and corresponds to the subject. The profile also includes references to other, more peripheral entities involved in the relation, such as the instrument, manner, purpose (etc.) of the drinking activity.

In the case of the broader meaning, the schematic trajector and landmark contain specifications of the kinds of entities that can occur as the drinker and the thing being drunk. The drinker has to be an animate being while the thing being drunk is specified as a liquid. In contrast, in the narrower meaning of *drink* the landmark role is filled by a richer specification of the liquid – as an alcoholic one. In addition,

<sup>\*\*\*</sup> *Drink* also has a nominal use which is vertically polysemous in the same way, with the meanings ‘a beverage’ and ‘an alcoholic beverage’, but I will here focus on the verbal meaning.

the trajector role is specified as a human being in as much that the ‘consume alcohol’ meaning is generally thought of as a human activity. The broader and narrower meanings therefore differ in that the narrower meaning is specified more richly with respect to the profiled trajector and landmark roles.

Considering the domain structure presupposed by the senses of *drink*, the ‘consume liquid’ sense makes reference at least to the domain of DRINKING, which is an instance of the CONSUMING domain, itself an instance of the ACTIVITY domain. The DRINKING domain also involves reference to LIQUIDS and ANIMATE BEINGS. The semantic structure of *drink* ‘consume alcohol’, on the other hand, is profiled against a different domain, that of ALCOHOL CONSUMPTION, which is an instance of the DRINKING domain. This domain is a culturally significant one, and it is presupposed by concepts such as PUB, BEER, WINE, DRUNK etc. As mentioned, alcohol consumption is something we usually think of as a human activity, and this is defined as part of the ALCOHOL CONSUMPTION domain. This motivates the specification of the trajector of *drink* ‘consume alcohol’ as a human being. The narrower meaning of *drink*, of course, also makes reference to other cultural factors that we may associate with drinking alcohol (such as the knowledge of the effects on health of alcohol), and a more complete analysis of the semantic structure of the linguistic unit would also include the domains that such knowledge is characterised against.

In both the case of *love* and *drink*, the vertically related meanings are therefore profiled against domains which are themselves taxonomically related. This is clearly different from instances of metonymy which, as discussed, essentially involve meronomic domain configurations – shifts in the salience of two parts of the same domain matrix.

### 3.4. Narrower meaning profiled against an additional domain

One of the most frequently discussed examples of vertical polysemy is *dog*, which can either refer to ‘canine’ or, more specifically to ‘male canine’ in contrast with *bitch*. The meaning of *dog* is profiled in at least the domain LIVING THINGS<sup>§§§</sup> According to Croft (1993), this domain for its part presupposes the domains LIFE and PHYSICAL OBJECTS. PHYSICAL OBJECTS is a domain matrix composed out of (at least) MATTER, LOCATION, SHAPE and SIZE. The last three are profiled against the basic domain of SPACE. There are, of course, a number of other domains involved in the characterisation of the meaning of *dog*, e.g. those that have to do with the role of canines in human society as pets or working dogs, domains relating to stereotypical characteristics of dogs (such as loyalty) and so on.

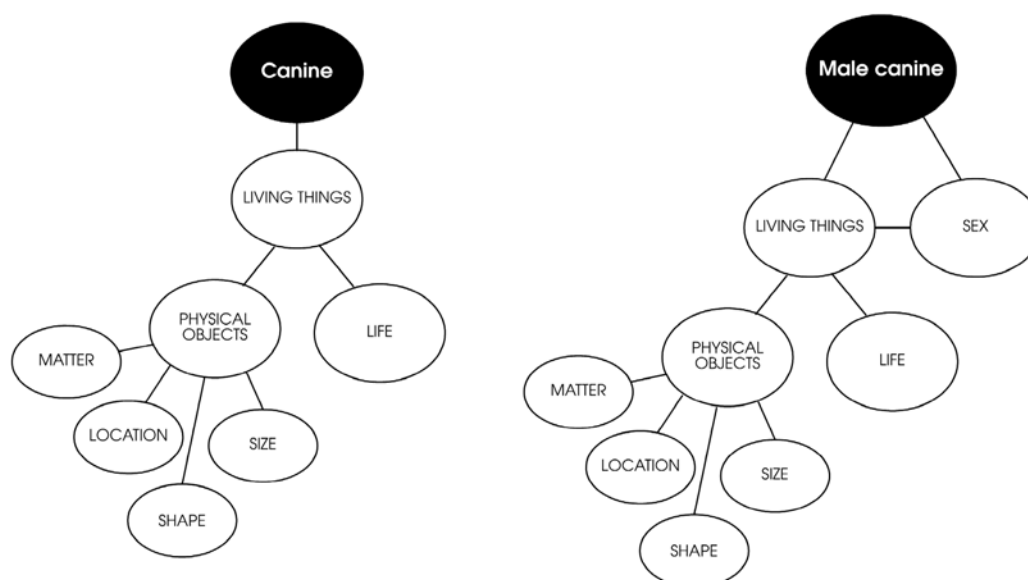
The more specific meaning of *dog*, ‘male canine’, profiles an additional property in the SEX domain. Sex constitutes a significant property of animals and to

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<sup>§§§</sup> Admittedly, this is a case where it is not clear whether the relationship between two concepts is taxonomic or presuppositional. Clearly, dogs are **kinds of** living things, but it also seems plausible that the concept of DOG **presupposes** the notion of living things. One reason in favour analysing DOG as being profiled against LIVING THINGS is that this account is consistent with the proposals in some psychological theories of concepts. For example, Murphy and Medin (1985) and Medin and Ortony (1989) have proposed that natural kind concepts are understood against folk models of what it means for a thing to be a living thing, including folk theories of life and genetics.

Note that Croft (1993) similarly points out the difficulties of determining whether one concept presupposes another or whether the two are taxonomically related. In his analysis of the domain structure for LETTER T, he argues that this concept indirectly presupposes the domain of WRITING which itself presupposes HUMAN COMMUNICATION. However, he notes that while writing could be seen as an activity that can only be understood relative to the domain of human communication, it could alternatively be seen as an instance of human communication.

the extent that to understand the notion of sex one needs to make reference to living organisms and their reproductive methods, we may say that this domain itself presupposes the domain of LIVING THINGS. There is therefore a similarity between the case of *dog* and that of *fill up* where there is also a presuppositional relationship between domains against which the broader and narrower meanings are profiled. However, there is a difference between the two cases. In the case of *fill up*, where the ‘make the fuel tank of a vehicle full of fuel’ meaning is primarily profiled against a different domain from that of the broader, ‘make something full’ meaning. In contrast, the narrower meaning of *dog* is still primarily profiled against the domain of LIVING THINGS, but because the narrower meaning specifies the sex of the animal in question, this information is profiled against an additional domain, a domain which also presupposes the primary domain of the broader meaning. The domain structures involved in the vertically related meanings of *dog* are shown in Figure 4.



**Figure 4:** Simplified domain structures of the vertically related meanings of *dog*.

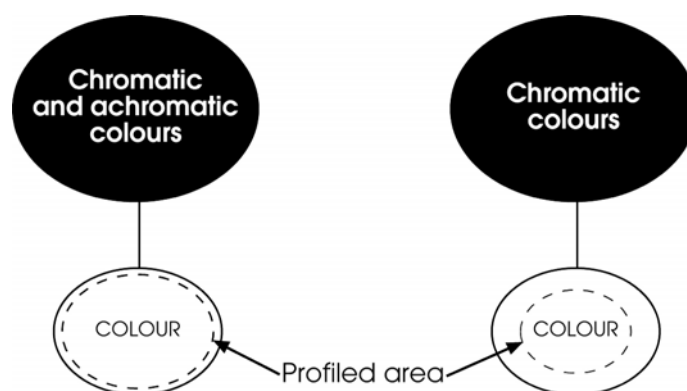
It is also plausible that the ‘male canine’ meaning, which tends to be restricted to contexts such as dog breeding or dog shows would also make reference to domains that have to do with such specialised knowledge.

Another similar example is Finnish *mies*, which can either designate ‘man’ or more specifically ‘husband’. While the broader meaning is profiled against HUMAN BEING and SEX (among many other domains characterising the encyclopaedic knowledge we associate with men), the narrower ‘husband’ meaning makes reference to an additional domain, that of MARRIAGE. These cases where the narrower meaning of a vertical polyseme profiles properties in an additional domain again demonstrate the distinction between the domain structures involved in vertical polysemy and those involved in metonymy.

### 3.5. Profiling different areas of the same domain(s)

A large class of vertical polysemes appear to belong to the class where the vertically related meanings are distinguished from each other by the narrower meaning profiling

more richly defined specifications in a domain or domains that are also presupposed by the broader meaning. What this means is that the broader and narrower meanings profile more loosely or strictly defined areas of the same domain. The vertical polysemy of *colour* illustrates this. *Colour* can refer either only to chromatic colours excluding black and white (and the shades of grey in between) or it can include the achromatic colours as well. The meaning of *colour* is profiled against the domain COLOUR, which, according to Langacker (1987), is a basic domain. The broader meaning profiles the whole of the colour space, while the narrower meaning only profiles the region of the chromatic colour space, excluding black and white – see Figure 5. The region profiled by the narrower meaning is a salient sub-area of the COLOUR domain. The broader and narrower meanings therefore profile different areas of the same domain, areas that are in a relationship of inclusion.



**Figure 5:** The domain structures of the broader and narrower senses of *colour*, showing the different areas of the COLOUR domain profiled by each of the senses.

Another example of the profiling of different regions by vertical polysemes is *finger* with its meanings ‘one of the hand digits’ and ‘one of the four hand digits exclusive of the thumb’. The meaning of *finger* is profiled against the domain HAND. The broader meaning profiles a more inclusive region of the domain than the narrower meaning, which excludes the thumb. We can see the motivation of the two vertically related meanings in the fact that within the HAND domain, there is a prominent, structural difference between the thumb and the other four hand digits.

A similar example to *finger* is *cat*, which in addition to its narrower meaning ‘domestic cat’ has a more inclusive sense which covers all mammals of the genus *Felis*. Both of these meanings are profiled against the domain of LIVING THINGS, but the ‘*Felis*’ sense profiles less specific properties within the domain than the ‘domestic cat’ sense, which specifies e.g. the typical size and colourings of domestic cats.

In some cases where the broader and narrower meanings profile different areas of the same domains, the profiling distinctions can be rather complex and occur across multiple domains. Consider, for example, *cup*, which can be used as a general term for drinking vessels for hot liquids (as in [3]) or more specifically in contrast with *mug* (see [4]).

- (3) Mugs are kinds of cups.
- (4) To serve: Place 1 heaped tablespoon in a cup or mug.  
[from instructions for making hot chocolate]

*Cup* designates an artefact concept, and we can assume that its meaning presupposes a domain which characterises the physical properties of the artefact and a domain characterising its function. We may also assume that the domains relating to the form and the function of artefacts interact with each other, to the extent that the intended function of an artefact can be seen as causally determining the physical appearance of the artefact in question (cf. e.g. Rips, 1989; Ahn, 1998). Thus the concept of CUP is profiled at least against the domain of PHYSICAL OBJECTS and a domain relating to the function of the entity in question, DRINKING HOT LIQUIDS. The DRINKING HOT LIQUIDS domain is a complex one and includes reference to the concepts CUP, SAUCER, MUG, POT, TEA, COFFEE etc. It also presupposes domains such as HEAT, WATER etc.

The broader and narrower meanings of *cup* profile different regions of both the PHYSICAL OBJECTS and DRINKING HOT LIQUIDS domains. The physical properties specified as part of the broader meaning are more schematic than those for the narrower meaning, and thus the broader meaning profiles a more inclusive area of the PHYSICAL OBJECTS domain than the narrower one. As for the domain of DRINKING HOT LIQUIDS, the narrower meaning profiles a less inclusive region of this domain, one which specifies the situation where the cup is used as a more formal or idealised one, where you would usually be sitting down and using saucers with the cups etc. (see Wierzbicka, 1985). The broader meaning, on the other hand, includes mugs as vessels for drinking hot liquids, and focuses less on the particular characteristics of the situation and therefore profiles a more schematic area of the DRINKING HOT LIQUIDS domain.

Another example somewhat similar to *cup* is *rain*, which generally designates condensed water vapour in the atmosphere that falls down in drops, but in some contexts can be used in contrast with *drizzle*, 'fine rain', to mean a more intense kind of rain. The specification of the nature of rain occurs across many domains: the meaning of *rain* is profiled against the domain of WEATHER, which presupposes domains such as OUTDOORS, SUN, WATER, TEMPERATURE etc. The narrower meaning profiles a less inclusive area of the domain of WEATHER, which characterises the downpour as more intense in its quality in contrast with DRIZZLE (which is also profiled against the domain of WEATHER). The motivation for the narrower sense which excludes drizzle lies in the fact that from a human perspective, drizzle feels very different from more intense rain and has less severe consequences for the kinds of activities one may do outdoors.

Cases where the broader and narrower meanings profile different areas of the same domain(s) resemble in some ways those cases where the vertically related meanings are profiled against domains that are themselves in a taxonomic relationship (such as *love* and *drink* discussed in 3.3 above). In the case of *cup*, for instance, the narrower meaning presupposes a more specific stereotypical tea/coffee-drinking scenario. Such a scenario essentially constitutes an instance of the general situations of drinking hot liquids. However, I argue that the more specific scenario does not constitute a separate, more specific domain in the same way as ROMANTIC RELATIONS is a separate domain from (and a more specific instance of) HUMAN RELATIONS. As discussed, the notion of romantic and sexual relationships is one that is culturally and humanly very significant, and one that is also presupposed by a number of other concepts apart from LOVE. In contrast, the idea of stereotypical tea/coffee drinking situations has far less cultural importance, and for this reason, I do not view it as a separate domain but rather as a **salient sub-area** of the domain of DRINKING HOT LIQUIDS. We may, however, assume that the distinctness of particular conceptual domains is not absolute, but rather a matter of degree. Particular sub-areas of domains

may thus vary in their salience and distinctness. This view is consistent with a remark made by Langacker (1987:152), who views the distinction between domains and semantic dimensions within domains as something that is in many cases made on an arbitrary basis.

In summary, then, I have shown above that there are different ways in which the taxonomic relationship between the senses in vertical polysemy may be effected. In all cases the narrower meaning in some way profiles more richly defined properties. In some cases the narrower meaning presupposes a more richly defined domain than the broader meaning (one which is either presuppositionally or taxonomically related to a domain presupposed by the broader meaning.) In other cases the narrower meaning presupposes an additional domain, and in yet others it profiles more specific properties within the domain(s) presupposed by the broader meaning. This means that vertical polysemes do not involve the kind of domain structures as we find in metonymies.

#### 4. Discussion and conclusion

In the above I have discussed examples of vertical polysemy from the perspective of Langackerian domain-based encyclopaedic semantics in order to compare the domain structures involved in vertical polysemy and metonymy. I concluded that while metonymy involves an essentially meronomic domain configuration (a shift within the parts of the domain matrix), the domain structures involved in vertical polysemy essentially encapsulate a taxonomic relationship where the narrower meaning is more richly defined than the broader one. Thus I have argued that vertical polysemy should not be treated simply as a type of metonymic relation. However, one of the questions we may ask is whether there are **any** metonymic-type processes involved in vertical polysemy. As mentioned, Croft (1993) argues that metonymy always involves a process of domain highlighting. But he also argues that domain highlighting also operates in other semantic processes that, he maintains, are not instances of metonymy proper. Croft proposes that while in many cases of meaning shifts some specific aspect of a given semantic structure is highlighted, such cases only amount to metonymy if this conceptual highlighting is accompanied by a shift of reference to a different entity. Thus the fact that *book* can either refer to a physical tome or the textual contents does not constitute a metonymy, although it does involve a metonymic-type conceptual highlighting process.<sup>\*\*\*\*</sup> A very similar idea is put forward by Paradis (2004) who also argues that there is a gradation of metonymic-type processes, ranging from fully-fledged metonymies which involve a relationship between two different concepts to active zone phenomena, which just involve the highlighting of a part of a concept, as in, e.g. *I need to sharpen my pencil*, where the entity that needs to be sharpened is in fact only the tip of the pencil.

Cases like the facet-alternation of *book* and the active zone highlighting of *pencil* thus involve the highlighting and backgrounding of certain conceptual parts, and the consequent shifting of reference to a part of the concept in question. In contrast, the development of vertical polysemy involves the shifting of reference to a different (broader or narrower) category. But it is conceivable that the processes of highlighting particular properties and backgrounding others are also involved in the vertical polysemy. Broadening of sense draws attention to some characteristics of the

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<sup>\*\*\*\*</sup> This is consistent with a proposal by Cruse (e.g. 2000a, 2002b), who argues that meaning of *book* has two **facets**, TEXT and TOME, which constitute less than fully distinct sense units.

category while ignoring others (see Barcelona, 2004). Similarly, we can find highlighting of characteristics in cases where vertical polysemy emerges through narrowing to contrast with another lexical item, as in the case of *cup*, where the narrower sense of *cup* contrasts with *mug*. In such cases the narrowed sense is defined by highlighting the properties that effect the contrast with the other lexical item. Therefore conceptual highlighting and backgrounding processes which are similar to those involved in metonymy, but do not amount to metonymy proper, are of vital importance in the flexibility of meaning in general, including the development of vertical polysemy. But the subtlety of such processes may be lost if vertical polysemy is simply considered a subtype of metonymy.

In conclusion, the examination presented in this paper makes two kinds of contributions to the study of meaning from a cognitive viewpoint: firstly, examining the domain structures involved in vertical polysemy provides an account of taxonomically related concepts within encyclopaedic semantics. Such an account has not previously been presented, to my knowledge, although the analysis of the vertical polysemes here combines some of the insights of previous work on semantic structures in encyclopaedic, domain-based semantics. But in addition to this, this examination also contributes to the study of metonymy. By recognising that vertical polysemy is not straightforwardly a type of metonymy, we can provide more sophisticated analyses of the nature of metonymy as well as of the cognitive processes and conceptual structures involved in categorial shift, sense broadening and narrowing and vertical polysemy.

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