

The Use of the Verb *to Show*: A Non-Linear Continuum of Meanings

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This paper provides an analysis of the use of the verb *to show*. It places the analysis in the framework of Vyvyan Evans's theory of Lexical Concepts and Cognitive Models (LCCM) – a protean approach to meaning composition and construction that deals with the way linguistic and conceptual structures interact, giving rise to meanings that can be placed on a continuum. The study adds to the elaboration of that theory, incorporating into the analysis John Barnden's (2010) notion of a meaning continuum as a non-linear, or multidimensional, space. The notion is based on deconstructing metaphor and metonymy into multiple underlying dimensions, getting away from the traditional assumption that properties such as *similarity* and *contiguity* allow us to neatly distinguish between metaphorical and metonymic associations. Bringing together Barnden's work and LCCM theory provides the framework for systematically approaching the possibility for metaphorical or metonymic processing to involve similarity as well as contiguity links between source and target in the process of constructing a situated meaning. The contribution that the study makes to cognitive semantics lies in its being the first attempt to examine complex figurative associations in the context of a meaning construction theory.

Key words: *LCCM theory, meaning continuum, metaphor, metonymy, conception, perception*

1. Introduction

This paper contributes to further development of a thesis propounded by some cognitive semanticists that the positioning of metaphor and

metonymy within a space created by such dimensions as similarity and contiguity may be very complex, and that analyses of language need to carefully examine the underlying dimensions of a figurative utterance. The specific dimension highlighted in the paper is that of the extent to which metaphor and metonymy can involve, in the message conveyed by an utterance, the preservation of the link between source and target. This is a matter raised by René Dirven, Beatrice Warren, John Barnden and others, and the paper makes particular reference to Barnden's (2010)¹ recent reanalysis of the issue. Barnden approaches source-target link survival from a perspective that represents an abandonment of the tradition of distinguishing between metonymy and metaphor on the basis of their interaction with conceptual domains.² Traditionally, metonymy is described as a cognitive process in which the source-target link survives as part of the message due to a source item standing for a *contiguous* target (another item within a single domain) (see, e.g., Dirven, 2002; Warren, 2002; Haser, 2005). However, when the source-target link is completely absent and the mapping involves two distinct domains by virtue of some *similarity*³ between the source and target (e.g. LIFE and JOURNEY or KNOWING and SEEING), the case is described as metaphorical (Dirven, 2002; Warren, 2002; Haser, 2005). Barnden (2010), however, challenged such treatments of the two phenomena by demonstrating that metaphorical links can always be used metonymically and regarded as contiguities, and conversely that metonymic contiguity can involve similarity – a point that can be the explanation for the existence of cases whereby the source-target link can be considered as

¹ A preprint version of this article is available online at: <http://www.cs.bham.ac.uk/~jab/ATT-Meta/Papers/cogling.slippery.jun09.pdf>. The author used this version in writing this paper.

² In Langacker's (1991: 547) definition, a *domain* (a *frame* in Fillmorean terminology) is "[a]ny coherent area of conceptualization relative to which semantic structures can be characterized (including any kind of experience, concept or knowledge system system)".

³ The question of whether experienced correlation between a metaphorical source and target (e.g. HEIGHT and QUANTITY or SEE and KNOW) is a kind of similarity is contentious (see Barnden 2010). Addressing this question is beyond the scope of this study. Therefore, 'correlation' will be referred to by its name.

simultaneously metonymic and metaphorical (see the example of “*high prices*” on page 6). Based on these grounds, Barnden suggests that efforts should be spent on examining the ways in which metonymy and metaphor operate within a conceptual domain or across conceptual domains, rather than on differentiating between them on the basis of their interaction with conceptual domains. The present paper is an attempt to do this. It pursues the issue through a study of one particular verb, *to show*, selected on the basis of multidimensionality observed in its use. The study integrates Barnden’s (2010) multitude of spectra view into a perspective that deals with cognitive representation and understanding issues; namely, Vyvyan Evans’s theory of Lexical Concepts and Cognitive Models⁴. The main objective is to provide a cognitively realistic account of how metaphorical or metonymic processing creates or traverses similarity and/or contiguity links between source and target.

Although LCCM theory does not concern itself with such complex processes, it has been chosen as a framework for the study because of the following:

1. LCCM theory is a protean approach to meaning construction; that is to say, an approach that treats the semantic values associated with words as extremely variable and highly dependent on the context in which they are embedded. This involves treating figurative instances of language (e.g. metaphors and metonymies) as continuous, deriving from processes of meaning construction rather than constituting fixed, language-independent conceptual structures which are assembled (see Lakoff & Johnson, 1980). This is compatible with Barnden’s (2010) multitude of spectra view, whereby different instances of language are seen as creating different arrangements of the conceptual link between source and target.
2. Central to LCCM theory is its modelling of linguistic and conceptual

⁴ The term *lexical concepts* is used in LCCM theory to refer to the concepts and other linguistic information encoded by a form and the term *cognitive models* is used to refer to the knowledge structures accessible via lexical concepts. These two kinds of structure form a word’s *lexical representation*.

knowledge structures as independent structures. This model can be utilised to explore in a systematic way how these different types of structure interact in the process of constructing situated meanings, giving rise to the establishment of different or multiple associations between source and target (or even to the elimination of the link between them). Barnden does not provide such a model as his work is not concerned with meaning construction. In fact, the two theories may be dealt with as complementary since Barnden's approach would add the concept of multidimensionality to the analyses of LCCM theory.

The study is organised as follows. Firstly, the theoretical backgrounds are introduced. Secondly, the knowledge structures accessible via *to show* are modelled using insights from LCCM theory, but adding to the elaboration of that theory by using Barnden's work as a route for going away from its clear-cut distinction between metaphor and metonymy. The resulting model consists in adding an image-schematic link between the literal and figurative knowledge structures accessible via *to show* – knowledge structures related to perception and cognition that LCCM theory would treat as residing in two different *cognitive model profiles* (explained below). The claim is that the showing event is conceptually structured in terms of an image schema that has the potential of linking perception and cognition as parts of one event and/or eliminating the link between them. The claim is supported in the last part of the study by an analysis of example sentences of *to show*. The examples demonstrate that the extended model adopted can provide a systematic account of how metaphorical or metonymic processing creates or traverses similarity and/or contiguity links between source and target in the process of constructing a situated meaning.

1.1 Data

The data in this study has been obtained from the *British National Corpus (BNC)* (available from www.natcorp.ox.ac.uk) using *simple search*, whereby no more than 50 hits are displayed, with a fixed amount of context. However, the hits are representative of the uses of the word because they are selected randomly from a corpus that is large enough to yield examples

of its various uses. In addition, the searches targeted all forms of the lemma (i.e. *show*, *showed*, and *shown*).

2. Theoretical Backgrounds

2.1. Views on Meaning as a Continuum: Unidimensional vs. Multidimensional Space

Dirven (2002: 38) concluded the introductory chapter of *Metaphor and Metonymy in Comparison and Contrast*, a book he co-edited with Ralf Pörings, with the following words: “In the beginning was the word, and then came metonymy and metaphor”. These words sum up a conclusion arrived at by work that concerned itself with the study of meaning as a continuum on diachronic and conceptual levels, proceeding to relevant observations on a synchronic level. Radden (2000; 2002) investigates the role of metonymy in the gradual transition of words from literalness to metaphor, showing that this transition involves a continuum of meaning rather than a clear-cut shift from one conceptual domain to another. One of the examples he uses to support his point is the semantic development of the perception verb *see*. He argues that the verb has proceeded from literalness to metaphor via two metonymic stages that can be accounted for by causal implicature, which has its roots in the relationship of correlation and complementarity between SEE and KNOW (i.e. in the fact that seeing precedes knowing and may bring about it):

First, the idea of ‘I have seen’ ... probably gave rise to the implicature ‘I have seen and (therefore) I know’ and the metonymy SEE FOR SEE AND KNOW, and then the implicature became pragmatically strengthened to ‘I know,’ i.e. the metonymy SEE FOR KNOW. (Radden, 2002: 421)

This analysis involves treating SEE and KNOW as grounded in one conceptual domain, thus forming “a metonymy-producing relationship” (cf. Kövecses & Radden, 1998; Radden & Kövecses, 1999). This metonymic relationship between the two concepts then makes it possible for speakers to eliminate the link between perception and cognition, referencing just ‘awareness’ through the metaphorical understanding SEEING IS KNOWING.

Running in this same vein is Grady and Johnson's (2002) pre-domain approach in which they hypothesise that a primary metaphor like SEEING IS KNOWING (i.e. a structure in which the metaphorical view arises naturally, considering that the two domains correlate in experiential terms; see Grady, 1977) develops from a simple scenario (primary scene) involving two temporally linked subscenes: a physical act of perception and a change of awareness (i.e. the interpretation "*becoming aware by seeing*"). Evidence of this is brought from first language acquisition studies, where children associate *see* with a scenario that conflates its literal and metaphorical meanings before they are able to separate the SEEING and KNOWING domains from each other (the deconflation stage) (see Lakoff & Johnson, 1999: 86; Grady & Johnson, 2002: 540-542).

The development from literalness to metaphor that words undergo on diachronic and conceptual levels is shown to be replicated in their synchronic use. Scholars like Taylor (1995), Dirven (2002) and Radden (2002) depict metaphor and metonymy (together with literalness) as forming a continuum with prototypical cases of the phenomena and less-than prototypical cases that qualify as examples of more than one phenomenon or as intermediate between two. An expression that can be seen as both metonymic and metaphorical is "*high prices*". For Radden (2002: 409), the quality of that expression depends on whether one looks at 'height' (of a price) and 'quantity' (of money) as belonging to one domain of experience (UP FOR MORE) or two domains (UP IS MORE). As for intermediate phenomena, Radden (2000, 2002) introduced two types: *partial metonymy* and *metonymy-based metaphor*. An example of the former type is *high tide* as it may be seen as partially metonymic, referring to both vertical and horizontal extension (UP FOR UP AND MORE) (Radden, 2002: 411). However, instances of *metonymy-based metaphor* are cases in which the source and target blend into one simultaneous event. An example of this intermediate phenomenon that Radden gives is the expression "*I see the solution*".

in *I see the solution*, I may at the same time both mentally visualize the solution to a problem and know it. It is, therefore, no contradiction to speak of *seeing things in my mind's eye*. As a rule, however, we think

of “seeing” and “knowing” as occurring at successive stages. (Radden, 2000: 99)

In the light of the above, the traditional notion of a meaning continuum is based on the idea that linguistic phenomena “do not form clear-cut categories but, like natural categories, display degrees of membership and have fuzzy boundaries” (Radden, 2002: 431).

Barnden (2010) considers the notion of a meaning continuum to be on the right track. However, he throws doubts on the domain-based distinctions between metonymy and metaphor showing that they fail to account for the possibility that “metaphorical links can always be used metonymically and regarded as contiguities, and conversely that...central types of metonymic contiguity [as in representational and partitive metonymies] essentially involve similarity” (Barnden, 2010: 1). One of the examples that can make the point that metaphorical links can be used metonymically is the use of the word “*creampuff*” to refer to “a boxer” (e.g. *The creampuff didn't even show up*). Barnden (2010: 7) notes that assuming that underlying this metaphorical use “there is some postulated similarity link between the boxer in question and a hypothetical creampuff (in the literal sense), we can use this link to achieve indirect reference to the boxer (target item) via direct reference to the creampuff (source item), just as we can use an alleged contiguity link in a metonymy to achieve indirect reference to a target item via a direct reference to a source item”. For a case of representational metonymy involving similarity, consider the following sentence: *Sally's disappointment was at the back of John's mind all day long*. Clearly, the phrase *Sally's disappointment* metonymically refers to “some IDEA of Sally's disappointment (which is itself being metaphorically viewed as a physical object in John's mind, which is metaphorically viewed as a container)” (Barnden, 2010: 11). For a case of partitive metonymy involving similarity, consider Barnden's treatment of the use of the phrase *the roof* in the sentence “*Everyone who wants a roof should have one.*”:

Although the phrase *the roof* could be referring literally just to roofs, it is more likely to be metonymically referring to roofed dwellings [(an instance of part-for-whole metonymy)]. Part of the function of a

dwelling is to shelter the occupants, and an important aspect of that function is provided by the roof. Assuming the sheltering function is relevant to the understanding of the sentence in context, we see that roofs and dwellings are relevantly partitively similar. (Barnden, 2010: 16)

In short, Barnden's view on meaning as a continuum differs from the traditional one in that it goes beyond the one-dimensional space, showing how metaphoric or metonymic processing can create or traverse similarity/correlation and/or contiguity links between conceptual items (Barnden, 2010: 2, 4).

However, Barnden's observations regarding the complexity of figurative language are based on the analyses of individual cases, which can be described as discourse metonymies and metaphors (i.e. conceptual structures that emerge in language use and inhere in the linguistic system), and not on the systematic examination of the different uses of particular words in relation to their lexical representations. In addition, he does not complement his observations by providing an alternative model to the domain-based view of conceptual structure that can adequately account for the possibility of producing utterances in which the link between conventionally associated conceptual items is processed differently. The reason for this is that Barnden's approach to figurative meaning does not involve a theory of meaning construction. As explained above, a theory that can be used to complement Barnden's work is Evans's LCCM theory sketched below.

2.2 LCCM Theory

This is a theory of meaning composition and construction that models the lexical representations of words, pointing to the protean nature of meaning. It starts from the assumption that meaning is not a property of words, but of context-bound utterances. This involves distinguishing between conventional senses and interpretations produced on-line. LCCM theory shows that the meanings associated with a word are flexible and open-ended in the sense that they vary slightly every time the word is used. Take as an example a word like *fast*. On the basis of Pustejovsky's (1995) study of this word, Evans (2006) notes that *fast* is conventionally

associated with the following three meanings: “a fast car” [fast1: to move quickly], “a fast typist” [fast2: to perform some act quickly], and “a fast decision” [fast3: to require little time for completion]. However, none of these definitions fully captures the meaning of the word in the following sentence: “*We need a fast garage for our car, as we leave the day after tomorrow*”. The meaning here appears to be a blend of both fast2 and fast3 – a garage which carries out repairs quickly and takes little time to do so. LCCM theory accounts for such contextual variability of meaning in terms of a process that consists in the interaction between two independent systems: the linguistic system (*lexical concepts*) and the conceptual system (*cognitive models*). A word as such is a linguistic form encoding lexical concepts – representations which encode conceptual structure in a form specific to language. The components of lexical concepts are related to three facets: a word’s grammatical category, its typical syntactic environment, or selectional preferences such as its collocations and colligations (referred to as a *lexical profile*), and its discourse-specific value. The lexical concepts associated with a word provide access sites to the word’s *cognitive model profile*, which refers to a coherent body of experience-based knowledge of any kind (things, events, conceptual metaphors, etc.) and to the potential of simulations (semantic affordances or inferences) that may arise from specific cognitive models. The cognitive model profile is also divided into two Parts: *primary* and *secondary*. The cognitive models in the *primary cognitive model profile* are directly accessed via a lexical concept, whereas those in the *secondary cognitive model profile* are indirectly accessed via primary cognitive models. Take as an example the lexical concept [FRANCE]⁵. It provides access to a potentially large number of knowledge structures that individuals acquire through their interaction with the world around them. These structures are divided into primary and secondary cognitive models. The primary cognitive models may include among others: GEOGRAPHICAL LANDMASS, NATION STATE, and HOLIDAY DESTINATION. At the same time, these models provide access to a large number of secondary cognitive models. For example, the primary cognitive model NATION STATE

⁵ Note that, following LCCM conventions, lexical concepts are capitalized and placed in square brackets, whereas cognitive models are capitalized only.

provides access to the secondary models which include NATIONAL SPORTS, POLITICAL SYSTEM and CUISINE.

The understanding of a linguistic utterance involves the selective activation and fusion of part(s) of the cognitive models accessible via the words involved in the interpretation in accordance with the syntactic constituency of the utterance (Evans, 2006; 2009). A literal conception, on the one hand, is the result of establishing a match between one or more cognitive models in the primary cognitive model profiles accessible via the lexical concepts used in a construction (*Principle of Ordered Search*). A figurative conception (be it metaphorical or metonymic), on the other hand, arises as the result of a clash in the primary cognitive model profiles subject to matching that is resolved by achieving a match in the secondary cognitive model profiles by activating the relevant cognitive models (*Principle of Context-induced Clash Resolution*) (Evans, 2006; 2010; 2013). The examples of *to show* in section (4) are analysed in terms of these principles.

As far as figurative meaning is concerned, LCCM theory differs from Conceptual Metaphor theory with respect to the role it assigns to conceptual metaphors in figurative meaning composition and understanding, as follows:

1. LCCM theory views conceptual metaphor as playing a restricting rather than a motivating role in figurative language due to the following:

a conceptual metaphor provides a stable link that allows aspects of conceptual content encoded by one cognitive model to be imported so as to form part of the permanent knowledge representation encoded by another. (Evans 2013: 100).

For example, the lexical concept [CHRISTMAS] affords access to a number of primary cognitive models such as CULTURAL FESTIVAL, RELIGIOUS FESTIVAL and TEMPORAL EVENT. Evans showed that the third cognitive model “is structured via a conceptual metaphor in terms of a stable, long-term link holding between it and the cognitive model relating to an OBJECT IN MOTION ALONG A PATH” (Evans, 2013: 100). The conceptual metaphor “provides the TEMPORAL EVENT cognitive model with relational structure

concerning our knowledge of objects undergoing motion along a path” (Evans, 2013:100).

2. Conceptual metaphors work in conjunction with other knowledge structures in the process of constructing a figurative meaning. That is, the construction of a figurative conception involves more than structuring one experience in terms of another. Other knowledge structures accessible via the lexical concepts used in an utterance may also need to be activated for a full construction of the utterance. For example, understanding the meaning of a sentence like “*Christmas is approaching (us).*” does not simply involve understanding Christmas as a temporal event via the Moving Time metaphor. A full interpretation of the meaning of the sentence involves combining the Moving Time metaphor with the other knowledge structures related to the nature and status of Christmas as a religious event, and to the way in which this festival is enacted and celebrated (Evans, 2013: 102).

However, Evans’s view of metaphor and metonymy is deeply rooted in Conceptual Metaphor theory in that it rests on making a clear-cut distinction between the construction of metonymic and metaphorical conceptions, as Evans (2010: 641) put it:

Figurative conceptions which are labelled as ‘metonymic’ arise due to the figurative vehicle facilitating direct access to the figurative target due to alignment of the figurative vehicle and target in the same lexical concept and cognitive model profile. In contrast, ‘metaphoric’ conceptions arise due to a divergence between figurative vehicles and targets across two distinct lexical concepts.

This view also has its roots in the traditional notion of a meaning continuum since it involves an argument for pure metonymic and pure metaphorical uses of words (alongside literal ones). Such uses are referred to in the cognitive literature as prototypical. However, a study of the perception verb *to show*, demonstrates the point the overwhelming majority of the applications of a word, including typical ones, cannot be positioned within a linear space. Typical applications of *to show* are cases in which the link between perception and cognition survives in different ways and degrees due to metaphorical or metonymic processing creating or traversing

similarity/correlation and/or contiguity links between the two conceptual items (in Barnden's (2010) terminology). To account for this fact, the analysis of the examples of the verb is placed in an extended version of LCCM theory that uses Barnden's view about deconstructing metaphor and metonymy into multiple underlying dimensions as a route for going away from the theory's previous sharp division between the two phenomena.

3. The Lexical Representations of *To Show*

Based on the usage data examined, all conceptions of *to show* are related to two conventional senses: the literal sense of [MAKE SEEN] and the figurative sense of [MAKE KNOWN]. In line with LCCM theory, these senses are dealt with as lexical concepts that provide different sites of access into the cognitive model profile accessible via the verb, with [MAKE SEEN] providing direct access into the primary cognitive profile and [MAKE KNOWN] providing indirect access into the secondary. These lexical concepts are also blended, thus, providing simultaneous or successive access to the two parts of the cognitive model profile, or activating primary and secondary cognitive models as temporally linked elements of the lexical concept. A case in point is a lexical concept activating MAKE SEEN and MAKE KNOWN as parts of one event in which make seen leads to make known.

Figure (1) below represents a basic cognitive model profile for *to show*. The figure shows that the basic knowledge structures accessible via the verb consist of two sets of cognitive models (in the boxes): TO PRESENT A PHYSICAL OBJECT in the primary cognitive model profile and TO PRESENT A PSYCHOLOGICAL OBJECT (KNOWLEDGE or INTERNAL QUALITY or EMOTION) in the secondary. The figure also shows that the primary and secondary cognitive models are regulated by different kinds of cognitive models: 1) the general conceptual metaphor MAKE SEEN IS MAKE KNOWN at the top of the figure, 2) the conceptual structures in the ovals (the arrows represent the regulating effect of these structures) and 3) the image schema SOURCE-(GOAL)-(GOAL) at the bottom. These structures are explained in detail below the figure.

The structure in the left oval, is a tautology. The arrow drawn from this oval represents the claim the claim that this tautology is the basis on which

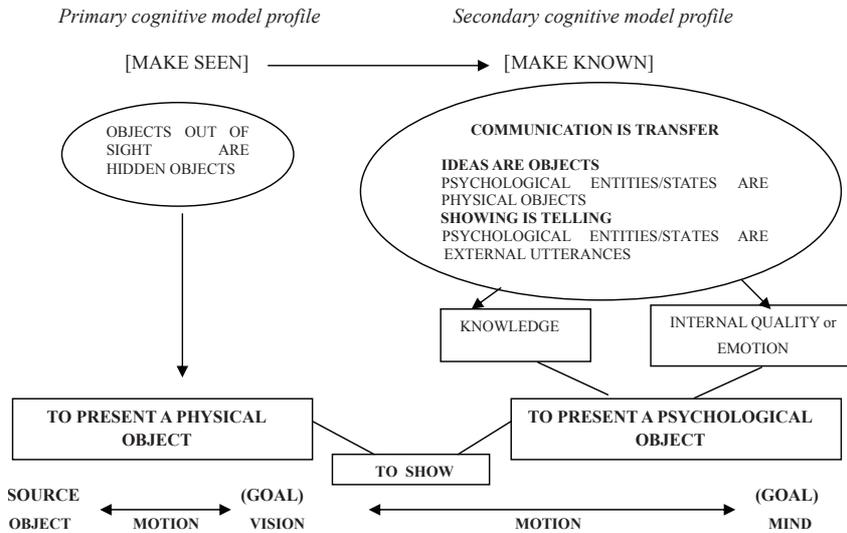


Figure 1. Basic cognitive model profile for *to show*

a physical showing event is built. The point here is that our experience with objects out of sight as hidden objects underlies the construction of physical showing as an event in which an object is brought/comes into an observer’s bounded region of vision,⁶ otherwise, the object is hidden or unseen, as is clear from the following example: GUD 2211 *I have that letter here. Before I show it to you, however, I want to know your reasons for wanting to see it.* Hence, conceptions activating the primary cognitive model PRESENTING A PHYSICAL OBJECT can be claimed to have the structure of the SOURCE-GOAL image schema that involves the concept of motion (along a path) from a source (the start point of the path) to a goal (the end point of the path). The goal of motion in a purely literal conception of *to show* is simply

⁶ Note that all possible conceptions of *to show* (literal or figurative) come in object/location pairs (in Lakovian terminology), whereby the view differs on whether it is the object that moves and operates on us (or comes into our view), or whether we, as agents, operate on it to bring it into an observer’s view. Such pairs are called ‘duals’, and the general phenomenon in which an image schema comes in location/object pairs is referred to as ‘duality’ (Lakoff, 1993: 218).

vision as the moving object is a physical entity.

The manipulation of the literal sense is claimed to be restricted by the conceptual metaphors in Figure (1). These include the general structure MAKE SEEN IS MAKE KNOWN on the basis of which showing as making known is viewed as an event of sending information to a receiver (COMMUNICATION IS TRANSFER). Such an event can certainly be claimed to have the structure of the SOURCE-GOAL image schema. The goal in this case, however, is the mind rather than vision as the shown object, or the object that moves from the source to the goal, is a non-physical entity (knowledge or an internal quality or emotion). The different channels through which information is sent to a receiver are indicated by the specific conceptual metaphors in the right oval in Figure (1). The metaphors reflect the point that psychological entities/states are shown/show (brought/come into the open) in two ways: 1) as concrete physical objects (e.g. FAT 1265 *I felt angry with Jean-Claude, but this was no time to show it*) and 2) as utterances, which involves the use of perception as a metaphorical source domain for talking about cognition (as suggested by the more general metaphor in Figure (1) SHOWING IS TELLING) (e.g. FSR 987 ... *Karnstein was using this by-the-book method of criticism to show displeasure at the nature of the business*).

Some conceptions of MAKE KNOWN encode complex showing events whereby transferring ideas (as concrete physical objects) to the mind takes place through more than one communication channel, involving verbalisation as well as real vision. The point can be demonstrated by the following sentence: CFE 263 *The roles of teacher and taught were clear, especially as he spoke gently to the boy showing him how to untangle a line-*. *To show* in this conception may be claimed to be viewed from two perspectives: IDEAS ARE OBJECTS and SHOWING IS TELLING, in the sense that showing here references the transfer of an idea (teaching someone how to do something) with the aid of verbalisation. The verbal element of meaning is triggered for by integrating *to show* with the following two expressions involved in the interpretation: *as he spoke gently to the boy* and *'if you're mad with it, it will get mad back'*. The second expression may further be claimed to be a verbal explanation supplementing a physical showing subevent (a visual demonstration of how a line can be untangled)



Figure 2. Communication channels in a showing event

thus suggesting the involvement of real vision in the mental showing event. The sentence in question is an example of other instances of *to show* analysed in this study. Such instances may be represented by Figure (2), whereby figurative showing is depicted as an event of transferring ideas to the mind, involving verbalisation as well as real vision.

Mental showing events that require the involvement of real vision are dealt with in this study as having a SOURCE-GOAL-GOAL structure, or as two-goal showing events (events of MAKE SEEN and MAKE KNOWN) in which addressing the mind (the end goal) involves addressing vision as an intermediate goal. The placement of GOAL in parentheses in Figure (1) is intended to account for all possible showing scenarios/lexical concepts; namely, making seen, making known and making seen and known. The parentheses indicate the possibility for any goal (vision or mind) to be present or absent in a conception.

Figures (3) below represents in more detail the hypothesised different image-schematic structuring of possible showing scenarios. The figure takes into account the different types of objects that are likely to be shown/show in a scenario. The objects are either physical or metaphorical (related to the use of perception as a metaphorical source domain for revealing/talking about cognition, as reflected by the metaphors in Figure (1)). Note that Scenarios (1) and (2) in Figure (3) represent showing events in which the goal of the motion (the presentation) is either making something seen (addressing vision) or making something known (addressing the mind). As for Scenario (3), it is the outcome of blending [MAKE SEEN] and [MAKE KNOWN], giving rise to a two-goal showing event in which the intermediate goal is addressing the physical eye and the end goal is addressing the mental eye. This scenario is similar to Grady & Johnson's (2002) hypothesised primary scene in that it has a metonymic structure in which the two metaphorically related experiences of perception and cognition form

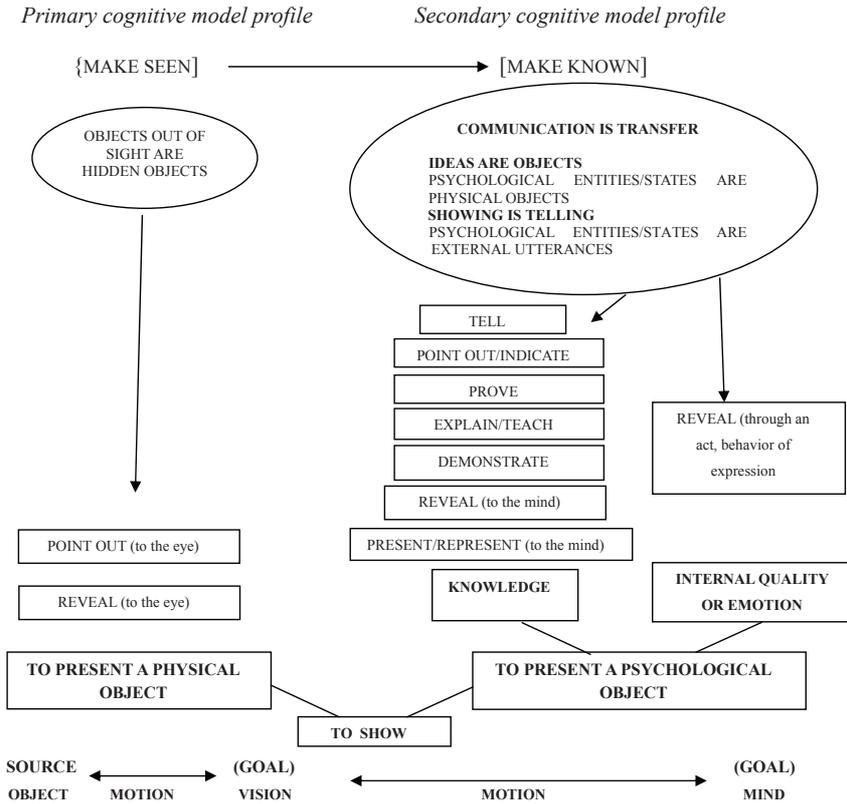


Figure 4. A sketch of the cognitive model profile of *to show*

affordances) should also be consistent with the general one. The metaphor is based on the experienced correlation between perception and cognition which is explained within Conceptual Metaphor theory in terms of the structure SEEING IS KNOWING. Figure (4) extends Figure (1) by adding the less basic cognitive models observed in the usage-data used for writing this paper. Note that they are consistent with the conceptual metaphors organising the link between the primary and secondary cognitive model profile. Note also that the primary cognitive models are consistent with the tautology on the basis of which the showing experience is claimed to be built.

4. The Use of *To Show*

This section demonstrates that possible conceptions of *to show* are instances of the three identified lexical concepts/showing scenarios; namely, [MAKE SEEN], [MAKE KNOWN] and the blend [MAKE SEEN and MAKE KNOWN]. Most importantly, the section demonstrates that the construction of any showing scenario can involve establishing multiple associations between perception and cognition – a point in support of Barnden’s (2010) multitude of spectra view. The point may be explained in terms of the image-schematic structuring of the showing scenarios on the ground that the SOURCE-(GOAL)-(GOAL) image schema encodes the experienced spatio-temporal link between perception and cognition and its absence in the use of the verb as follows. The link is absent when the motion of an object is understood to terminate at an observer’s physical eye or at their mental eye, skipping the physical eye, or achieving an endpoint focus (in Lakoff’s (1987) terms). However considering the difficulty of separating the two experiences (perception and cognition) that correlate in experiential terms, in the majority of conceptions the source-target link survives in different ways, as facilitated by the image-schematic structuring of showing events. The source-target link survival reaches its highest degree in cases where the motion of an object is perceived to proceed through vision and terminate in the mind (i.e. when addressing the mind involves addressing vision). Such an image schematic structuring of an event, which has the potential of linking different (but related) experiences can provide a systematic explanation for continuity and multidimensionality in meaning, or for the possibility for items residing in primary and secondary cognitive model profiles accessible via a lexical concept to exhibit alignment in the same lexical concept and/or divergence across two distinct lexical concepts. The examples of *to show* examined below are presented according to whether they encode one-goal or two-goal showing events.

4.1 Conceptions Encoding One-Goal Showing Events

The examination of the use of *to show* in *BNC* revealed that one-goal showing events are overwhelmingly multidimensional, involving multiple

arrangements of the link between perception and cognition. Only in a small number of conceptions, which are similar to the ones in (1) and (2) below, the source-target link is eliminated. To begin with the conceptions in (1), note that all of them are instances of [MAKE SEEN], or Scenario (1), which is described as having the structure of a one-goal showing event in which an object comes (as/by an agent) into the bounded region of an observer's vision (otherwise it would be hidden).

- (1) (a) C8X 305 *He showed us a toy.*
 (b) CCN 940 *In this strongly Islamic culture, women may only appear in public draped from head to toe in heavy black robes, with no part of their face showing, except their eyes.*
 (c) JYB 1713 *Amy helped him up and showed him to the door*

Although all the conceptions in (1) are instances of [MAKE SEEN], they are context-bound conceptions that require establishing different matches in the primary cognitive model profile accessible via [SHOW] in order to be constructed. The conception in (1.a) can simply be constructed by matching the primary cognitive model PRESENTING A PHYSICAL OBJECT as the verb occurs with a lexical concept, [TOY], encoding a physical object. The construction in (1.b), however, is a little bit more complex as the use of the verb in a negative construction (*with no part of their face showing, except their eyes*) gives it the meaning of 'hiding' (not showing or coming to physical view). This is an inference that arises from the conceptual structure OBJECTS OUT OF SIGHT ARE HIDDEN OBJECTS which is claimed to underlie the understanding of physical showing events. As for the conception in (1.c), its construction involves matching this conceptual structure as well as the inference LEAD (to a physical object) triggered for by the prepositional phrase (*to the door*) involved in the interpretation. Clearly, the conception in question references an event of leading an observer towards a physical object with the goal of having it enter into their bounded region of vision. Otherwise, it is hidden.

To move to the conception in (2), it is an instance of [MAKE KNOWN], or Scenario (2). It encodes a one-goal event whereby the goal of showing is addressing an observer's mind (rather than vision).

- (2) FU8 889 *Since you're obviously a young man of ardent passions, perhaps I'll have a chance to show you personally what I mean....*

Note that in this conception, the expression *to show you personally what I mean* has the same linguistic property as the expressions of the form *see + wh- complement* studied in Grady & Johnson (2002) (e.g. *Oh, I see what you wanted*). Grady & Johnson treat such expressions as amenable to “interpretational overlap”, considering that they contain a polysemous verb as well as a complement which can be analysed as either a free relative clause denoting an object, or as an embedded interrogative clause denoting a proposition or a piece of knowledge. However, as far as the conception in (2) is concerned, the fact that the lexical concept [MEAN] is involved in the interpretation, the *show + wh- complement* construction would be understood as referencing the communication of a piece of knowledge. Put differently, the integration of the components in question gives rise to a clash between [SHOW] and the cognitive models in the primary cognitive model profile. The clash is resolved by establishing a wider search domain that ends with matching the relevant cognitive model EXPLAIN in the secondary cognitive model profile. This cognitive model may be said to be recruited from the SPEECH domain via the conceptual metaphor PSYCHOLOGICAL ENTITIES/STATES ARE EXTERNAL UTTERANCES (deriving from the more general structure SHOWING IS TELLING) as the matched cognitive model is consistent with the understanding reflected by this metaphor.

The remaining discussion in this section concerns itself with multidimensional one-goal showing events. Consider the example in (3).

- (3) HWW 397 *Light microscopy of adherent cells showed a homogeneous subpopulation of relatively large cells with foamy cytoplasm.*

In this example, the verb may be considered as an instance of [MAKE SEEN] because it affords direct access to its primary cognitive model profile where a match can be established. The matched item may be said to be the cognitive model REVEAL (to the eye) as the conception encodes an event in which an instrument used for seeing microscopic entities is the agent

presenting such entities. This is consistent with the conceptual structure OBJECTS OUT OF SIGHT ARE HIDDEN OBJECTS. Although this structure underlies the construction of physical showing events, it is likely that the event in (3) involves a cognitive part, as follows. Considering that the revealed microscopic entities carry previously unknown information, their physical presentation involves perceiving them as new pieces of knowledge. This means that constructing this seemingly literal conception involves a metonymic mapping that goes from perception of physical entities to cognitive apprehension of them, and the metonymy MAKE SEEN FOR MAKE KNOWN. At the same time, placing MAKE SEEN and MAKE KNOWN in correlation and contrast is at the heart of understanding this metonymic scenario. Without it, the MAKE SEEN as MAKE KNOWN part of the event cannot be constructed. The complex processing of this showing event would seem simple if viewed as structured in terms of the SOURCE-(GOAL)-(GOAL) image schema, whereby there is always a possibility for activating the experienced spatio-temporal (or contiguity) link between perception and cognition and/or achieving an endpoint focus (where the mental eye resides), skipping the physical eye (the intermediate goal). The processing of the conceptions below needs to be viewed from the same perspective.

The examples in (4) differ from the one in (3) above in that they are figurative conceptions (instances of [MAKE KNOWN]) that have a literal side of meaning, or a involve source-target link survival deriving from the involvement of real vision in the referenced cognitive event, as explained below.

- (4) (a) FPG 399 *The curves show divergence from the relationship.*
 (b) BIG 1289 *Their maps show clearly an increased propensity for landsliding in the north and west of the UK.*

Both conceptions trigger for a scenario in which a point is made known in terms of a physical presentation. In (4.a) divergence from a relationship is made known by means of perceptual representations (the curves) and in (4.b) an increased propensity for landsliding is made known by means of map representations. Understanding such conceptions involves a clash in the primary cognitive model profile that is resolved by matching REPRESENT

(to the mind) in the secondary cognitive model profile. The activation of this cognitive model is the result of performing a metaphorical mapping that goes from graphical representations to what they represent (based on the similarity between the representations and the representatees). A metonymic mapping may also be involved here. It goes from perception of the representatees to cognitive apprehension of them. Consider also the conception in (5).

- (5) A7D 703 *Small took out a knife and skinned the lambs: bone and sinew were mingled behind their necks, and there was much blood, showing that the lambs had been killed by foxes, rather than taken as carrion by crows.*

Clearly, *to show* in this conception is an instance of [MAKE KNOWN]. However, it differs from the ones in (4) in that it references a showing event in which a physical scene (*the mingling of bone and sinew and the much blood*) allows inference that something is the case (*that the lambs had been killed by foxes, rather than taken as carrion by crows*). The construction of this conception involves a metaphorical mapping that goes from perception of a physical scene to what it indicates to the mental eye, activating the secondary cognitive model INDICATE (as a clash resolution). This is a showing event in which a physical object is perceived as a piece of information. The construction of such an event may also be said to involve a metonymy that goes from perception of a physical scene to cognitive apprehension of it, considering that the conclusion is based on a physical scene. This conception, like the ones in (4), is a metaphorical instance involving a source-target link survival, or establishing a contiguity relation between metaphorically related conceptual items; that is to say, PRESENT (to physical view) and INDICATE (to mental view). This mapping between MAKE SEEN and MAKE KNOWN is specifically related to viewing SHOWING as TELLING. For the converse of the example in question (i.e. a case of metonymic mapping involving metaphorical processing), consider the example sentence in (6).

- (6) H9C 1156 *'Yes,' the prince replied, for the first time, showing compassion.*

The expression *showing compassion* in (6) is an instance of [MAKE KNOWN] that is understood by resolving a clash in the primary cognitive model profile and matching a secondary cognitive model related to PRESENTING A PSYCHOLOGICAL ENTITY; namely, SHOWING AN INWARD CONDITION/EMOTION. In addition, there is an inference of verbalisation that arises from integrating the expression “*showing compassion*” with the preceding one “*the prince replied*”. This creates a metonymic situation in which [SHOW] stands for the verbal behaviour by means of which the prince exhibited compassion. At the same time, constructing such a metonymic scenario requires putting SHOWING AN INWARD CONDITION/EMOTION in correspondence with VERBALISING, a mapping that is specifically consistent with the conceptual metaphor PSYCHOLOGICAL ENTITIES/STATES ARE EXTERNAL UTTERANCES in the secondary cognitive model profile.

The examples in (3-6) well support Barnden’s observation underlying his view on meaning as a multidimensional space; namely, his point related to the possibility for metaphoric or metonymic processing to create and/or traverse similarity and contiguity links between conceptual items. The analysis of the examples attempted to account for all possible processes involved in the construction of the conceptions of *to show* in a systematic way in terms of the SOURCE-(GOAL)-(GOAL) image schema, arguing that it regulates the establishment of different or multiple associations between perception and cognition. Clearly, the conceptions analysed indicate that the goal of simple showing events (scenarios (1) and (2) in Figure (3)) can be addressing either the physical or the mental eye (achieving an endpoint focus), and that addressing either eye can potentially involve preserving the link between perception and cognition due to the constant possibility of activating the experienced contiguity link between the two domains if the interpretation of a conception requires so. This is a systematic explanation of any processing that can be involved in constructing a context-bound meaning of *to show*. It is also applicable to the construction of the more complex two-goal showing events, but with a slight difference related to the extent to which the source-target link survives as part of the message in conceptions encoding such events, as shown below.

4.2 Conceptions Encoding Two-Goal Showing Events

The conceptions examined below demonstrate the third hypothesised showing scenario/lexical concepts. It is shown that the link between perception and cognition in this scenario amounts to a metonymic arrangement whereby the two metaphorically related conceptual items form complementary parts of one conception, or a conception in which [MAKE SEEN] and [MAKE KNOWN] blend, giving rise to a mapping in which [SHOW] stands for MAKE SEEN and MAKE KNOWN. Cognition in such conceptions is dependent on or caused by a perceptual subevent. Accordingly, the construction of conceptions encoding two-goal showing events may be said to require matching items residing in two different cognitive model profiles (primary and secondary) as contiguous parts of one conception (be this in a simultaneous or successive manner). Failure to establish a match in both cognitive model profiles would result in an incomplete understanding of the referenced showing event, or would result in seeing just one goal of a two-goal event. The example given in (7) below makes the point.

- (7) AC5 2316 *With two needles and a ball of wool, she showed how to knit.*

Constructing the meaning of *to show* in this sentence involves a metaphorical mapping that goes from addressing the physical eye to addressing the mental eye on the basis of the conceptual metaphor IDEAS ARE OBJECTS. The metaphorical element is triggered for by matching the verb with the relative clause involved in the interpretation, which activates the cognitive model DEMONSTRATE in the secondary cognitive model profile. This, however, is not the result of a clash resolution. DEMONSTRATE in this instance is used as a blend of PRESENT (to the physical eye) and DEMONSTRATE (to the mental eye). The literal inference arises from the involvement of a visual subevent in the cognitive event, as implied by the expression “*with two needles and a ball of wool*” involved in the interpretation. This expression plays the role of the instrument in relation to the verb. Therefore, the perceptual subevent is an intermediate goal to cognition. A third element of meaning can also be read in this conception; namely, an inference of verbalisation that may be

said to emerge from matching the conceptual metaphor PSYCHOLOGICAL ENTITIES/STATES ARE EXTERNAL UTTERANCES. That is, the cognitive part of the event is likely to be constructed as involving a verbal showing of knowledge (i.e. a verbal explanation). All this involves placing [SHOW] as PRESENT (to the physical eye) in correlation and contrast with the secondary cognitive models DEMONSTRATE (to the mental eye) and VERBALISE. In this way, a full interpretation of the meaning of *to show* in this example sentence may be said to involve seeing it as an event in which addressing the mental eye took place through physical and verbal subevents, a case that involves establishing a contiguity link between the above-mentioned metaphorically related cognitive models (i.e. the primary PRESENT A PHYSICAL OBJECT and the secondary DEMONSTRATE and VERBALISE). The different mappings involved in constructing the above conception may well be said to be structured in terms of the SOURCE-GOAL-GOAL image schema, considering that perception (source) and cognition (target) are linked as parts on one event in which perception is an intermediate goal to cognition.

It should be pointed out that the possibility of seeing different dimensions in the above example of *to show* is motivated by the use of the verb in the *show + how complement* construction, which Grady & Johnson (2002) described as amenable to “interpretational overlap”. However, the root of this matter may be explained in terms of a view referred to in Goodman & Stuhlmüller (2013) as the *rational speech-act* theory of language understanding. According to this view, the interpretation of utterances is dependent on the listeners’ belief that speakers choose their utterances approximately optimally when conveying information. This belief may be said to underlie the selection of the verb itself and the structures in which it is used in different contexts. This point is elaborated on by the analysis of the conception in (8), which also encodes a two-goal showing event.

- (8) HTX 1561 *Mahmoud found some more men and Georgiades showed him where to station them.*

The interpretation of the conception in (8) arises from integrating *to show* with the expression “*where to station them*” – a relative clause in which *where* is an adverb of place. The integration triggers for a scenario

of making a place known, or a scenario of showing as communicating information related to a pointed out place. That is, the cognitive event is constructed as involving a perceptual subevent. The construction of the whole event may be said to involve activating two cognitive models residing in two cognitive model profiles as contiguous parts of one simultaneous event; namely, TELL and POINT OUT (a case of telling aided by showing – an intermediate goal). TELL is a figurative inference that arises from matching the conceptual metaphor PSYCHOLOGICAL ENTITIES/STATES ARE EXTERNAL UTTERANCES. As for the literal inference POINT OUT, it is triggered for by the use of *to show* rather than *to tell* in this context, based on the listener's belief that speakers are likely to use the latter verb to refer to a similar telling event that lacks a perceptual dimension. The example sentence in (9) makes the point.

- (9) JNE 281 ... *then P C requested the persons in the bed to tell him where the light switch was, which a male voice told him the approximate area where the light switch was.*

The use of *to tell* rather than *to show* in this instance is determined by the impossibility of involving the addressee's vision in the communication of the message. The addressee is in a dark room looking for the light switch. Therefore, he can only be told where the switch is; his vision cannot be involved. This explains the reason why the verb *to show* has not been used. The pair of sentences in (10 below) further demonstrate how, in a similar context, the verbs *to tell* and *to show* are not interchangeable without a semantic consequence. The verb *to tell* in (10.a) is replaced by *to show* in (10.b). The consequence of this is that a perceptual subevent is added to the telling event in (10.b).

- (10) (a) HTH 1050 *He didn't seem to want to tell them where he found it.*
 (b) *He didn't seem to want to show them where he found it.*

Clearly, there is a perceptual subevent in (10.b) that is absent (or at least unnoticeable) in (10.a). The possibility of using *to show* to cover the literal and metaphorical elements of meaning in question is due to the fact that

they are both parts of its semantic potential. *To tell*, however, does not afford access to cognitive models related to perception. This determines speakers' choice between the two verbs in utterances encoding showing/telling events and listeners interpret such utterances "by using Bayesian inference to "invert" this model of the speaker" (Goodman & Stuhlmüller, 2013: 173). A perfect example of this is the conception in (11) below. The use of *to show* rather than *to tell*, which collocates better with the word *story* in this context, is a matter of reflecting the understanding that physical showing and telling form integral parts of the referenced showing event.

(11) CBE 976 *TV rival CBS will show the Buttasuoco side of the story...*

Consider also the two-goal showing event in (12), whereby multidimensionality is reflected by the choice of the grammatical structure within which *to show* is used.

(12) H90 2916 *Now let us go to the church, and I shall show you how Damien died.*

The construction of this conception is the result of integrating the two independent thoughts expressed by the coordinated clauses; namely, going to the church and showing the addressee how Damien died. Although the integration of the verb with the relative clause "*how he died*" activates the secondary cognitive model TELL, yet, the preceding request for going to the church where Damien died for showing how he died, by implicature, adds a physical showing element to the metaphorical scenario of showing as telling, resulting in a simultaneous activation of the primary cognitive model PRESENT A PHYSICAL OBJECT as a subevent of the showing as telling event. The activation is possible as the verb is understood as having the potential to encode both elements of meaning. This gives rise to a metonymic mapping in which the two metaphorically related cognitive models POINT OUT and TELL form contiguous parts of one showing event. That is, the construction of this conception involves preserving the link between items placed in comparison and contrast, or by seeing [SHOW]

as standing for the complementary perceptual and cognitive parts of the showing event that will happen in the church. The need to go to the church to show how Damien died indicates that making seen is an intermediate goal to making known.

The remaining conceptions examined in this section are two-goal showing events in which perception causes or entails cognition, which means that items residing in the primary and secondary cognitive model profiles are matched in a successive manner in which perception is an intermediate goal to cognition, as encoded by grammatical structure. Consider the one in (13).

(13) KBW 15861 *Can you show me what else floats?*

This is a speech act in which a speaker is literally asking a child to show their ability to present some floating objects to their physical view. Conceptions similar to this have been analysed in the literature in terms of Panther and Thornburg's (1999: 341) POTENTIALITY FOR ACTUALITY metonymy, which is based on the conceptual contiguity of the modality of ability and its actualisation and their application to the conceptual domain of mental processes and states. The analysis involves viewing a speech act as consisting of parts which can bear a metonymic relationship to each other and to the whole of the scenario: the BEFORE (X can do Y, H wants X to do Y), the CORE (X is requested to do Y), the RESULT (X processes the request), and the AFTER (X will do Y). The focus in the POTENTIALITY FOR ACTUALITY metonymy is on the first part of the scenario (the referenced ability). It is treated as a preparatory condition of the request (in Searle's (1975) terms), or as an attribute of the request scenario that metonymically stands for the scenario as a whole.

To the above analysis, it can be added that the construction of the AFTER part of a speech act scenario can involve the understanding that actualisation has a consequence. This is applicable to two-goal showing events. For the scenario in (13), for instance, the physical presentation is likely to be constructed as having a cognitive consequence due to the presence of the *wh-* complement which adds a request for information reading to the scenario, and the implicature that when the physical presentation takes place, it will cause the speaker to know whether or not the addressee has

the ability to distinguish between floating and non-floating objects. Hence, the construction of the AFTER part of the speech act scenario in question involves viewing perception as an intermediate goal to cognition, allowing for the activation and matching of cognitive models residing in different cognitive model profiles (i.e. PRESENT (to the physical eye) and PRESENT (to the mental eye)) as contiguous parts of one causal event. An essential processing involved in the construction of this metonymic scenario is activating the correlation link between MAKE SEEN and MAKE KNOWN. Without using this source-target association in the metonymic mapping, the understanding of the conception will be incomplete as the implicated cognitive consequence of the physical presentation (i.e. the causal inference) will be lacking. The metonymic mapping in this conception is best explained in terms of the metonymy PRECEDENCE FOR PRECEDENCE AND CAUSE AND CONSEQUENCE (c.f. Radden, 2002: 421), considering that it consists of parts that can cover the cognitive consequence implied in the actualised potential (i.e. the cause and the precedence). In other words, the structure can cover the two parts of the showing event in which perception causes cognition (or in which perception is an intermediate goal to cognition. Consider also the conception in (14).

(14) CHG 482 *In the meantime, while I check the bridge, read this, I brought it down from my cabin to show you.*

The verb *to show* in this sentence appears in the final purpose clause *to show you*. Thompson (1985: 55) pointed out that “the final purpose clause plays ... the role of stating the purpose for which the action named in the immediately preceding clause is performed”. A scenario in which an agent brings a written material (a physical object) to show to an observer would be understood as involving a literal dimension. Put differently, the verb here affords direct access to its primary cognitive model and, thus, a direct activation of the cognitive model PRESENTING A PHYSICAL OBJECT. However, this literal dimension is part of a metonymic one in which perception and cognition form complementary parts of a two-goal causal event, or an event in which perception entails cognition. The metonymy derives from the fact that the request “*read this*” is also involved in

the interpretation of the preceding action (the bringing of the written material) and its purpose (to show to someone). Considering that reading is understood as a matter of mentally processing physically perceived signs, the latter part of the event (or the purpose) would be constructed as a preparatory condition that stands for the condition itself and two implicated subevents entailed by it: causing the written material to come to the attention of the observer and, as a consequence, making the observer aware of its content. In this scenario, which may be considered as an instance of the above-mentioned metonymy PRECEDENCE FOR PRECEDENCE AND CAUSE AND CONSEQUENCE, perception is clearly an intermediate goal to cognition. Constructing such a scenario involves the activation and matching of the primary cognitive model PRESENTING A PHYSICAL OBJECT and the secondary PRESENTING A PSYCHOLOGICAL OBJECT as contiguous parts of the conception. However, as with the conceptions examined above, the metonymic association established involves using the metaphorical link between MAKE SEEN and MAKE KNOWN. It is only by putting the two items in correlation and contrast that the causal inference can be generated, giving rise to an event of making seen for making seen and making known.

The examples of *to show* encoding two-goal showing events provide evidence in support of the observation that one of the lexical concepts of [SHOW] is a blend of [MAKE SEEN] and [MAKE KNOWN]. Clearly, in such conceptions, the link between perception and cognition survives to an extent where the two metaphorically related conceptual items exhibit alignment as complementary parts of one lexical concept. The conceptions also have the structure of the SOURCE-GOAL-GOAL image schema claimed to encode the spatio-temporal relation between perception and cognition and organise the expression and mappings of the experiences. This is further evidence in support of the main argument of the study that all possible mappings involved in the construction of the conceptions of the verb (be they unidimensional or multidimensional) can be accounted for systematically in terms of this image-schematic structure. Hence, expanding the analyses of LCCM theory to accommodate Barnden's view on meaning, which draws attention to the need to examine the different ways (including the different degrees) in which instances of language arrange the link between conceptual items, helped provide an example of how any arrangement

of the conceptual link between source and target can be analysed systematically in relation to the linguistic representations associated with words.

Conclusions

This paper provided an analysis of the verb *to show* using the framework of Barnden's view of a meaning continuum as a multidimensional space and Evans's LCCM theory. Bringing the two works together allowed for exploring the usage-data in relation to the lexical concepts associated with the word as well as the cognitive models accessible via these lexical concepts. The major contribution of this study relates to adding an image schematic link between the primary and secondary cognitive model profiles accessible via *to show* in order to account for the possible associations that can be established between perception and cognition. This provided a systematic account of the way conceptual items can stay within or cross between domains, a point that has not been adequately accounted for in the literature. The study also led to the finding that multidimensional uses of a perception word outnumber its unidimensional ones. At least, the finding applies in the case of [SHOW] by virtue of the fact that perception and cognition are so linked in our experience the link between them is hard to eliminate. It is shown that linguistic structure contributes to encoding this fact. Further research is needed to investigate the adequacy of the framework used in this study for examining the applications and lexical representations of other words. Some suggestions are the verbs *to demonstrate* and *to prove*.

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