Cognitive-Pragmatic Approach to the Meaning of New Compound Nouns in English

Yulia Vorobeva, PhD
Department of English and Literature
College of Arts
University of Bahrain
P/O/Box: 32038, Kingdom of Bahrain

Abstract

This article aims to investigate how the meaning of new compound words can be activated applying conceptual integration approach on the one hand and relevance principle on the other. The principles of compositionality theory proved to be inactive while analyzing the meaning of new compounds. It is stressed that meaning activation is a cognitive operation which takes place by means of inference strategies. It is underlined that during meaning activation certain mental space configurations are preferred over others due to a relevance principle that triggers this process.

Key Words: Cognitive Semantics, Conceptual Blending, Mental Space**,** Cross-space mapping.

Introduction

There has been noticed a huge problem with the vast amount of compounds related to their meaning which is not possible to understand just by deriving the meaning of their parts. G. Libben (Libben, 2006) analyzed an example with compounds having *berry* as their part. He considers that the meaning of the first element of the compound cannot help to understand the meaning of the second element in such compounds like *boysenberry, raspberry, strawberry* etc. It was observed by him that native speakers do not seem to take into account *semantic opacity* of these compounds. That seems to be in accordance with 'maximization of opportunity' framework (term offered by Libben, 2006) where the meaning is derived for each word taking into account that these are all berries. In his further experiments he claims that semantically opaque compounds are not likely to show regular cross-activation between their elements. Libben proposes three possible ways related to their meaning activation. The first way demonstrates that such compounds are not inclined to have morphological decomposition. The second way explains that opaque compounds are not organized in the same way as transparent ones. And the final way shows that connections between the elements of the compound in the mental spaces are weak or not present at all (Libben, 2006).

In this article we are going to shed light on how meaning of new compound words can be activated using conceptual integration approach on the one hand and relevance principle on the other. It is underlined in the article that during meaning activation certain mental space configurations are preferred over others due to a pragmatic function.

1. Cognitive Semantics

Cognitive semantics is concerned with explaining basic cognitive operations related to meaning. It reveals processes of conceptualization that take place during meaning activation, in particular it emphasizes that meaning is closely associated with mental space that is structured by concepts, frames, cognitive models. According to Peter Gärdenfors cognitive semantics is represented in six tenets. One of the tenets emphasizes that 'meaning is conceptualization in a cognitive model (not truth conditions in possible worlds)'. He connects cognitive models with image schemas which also might be transformed by metaphoric operations (Gärdenfors, 1999). It is reasonably noticed by R. Langacker that conceptualization has got its structure and organization and any semantic structure can have its specific constructs.

He claims that 'linguistic elements – both lexical and grammatical – impose particular **construals** on the conceptual 'content' they evoke' (Langacker, 2000). He differentiates between specifity, direction of mental scanning, viewing arrangements, metaphor and prominence. According to his approach construals are closely connected to our interpretation of the meaning which helps us to categorize the things and situations (Langacker, 2000).

A. Tyler and V. Evans (Tyler & Evans, 2003) relying on Johnson, Lakoff, Sweetser develop the idea that meaning is connected with the conceptual structure as well. To their opinion conceptual structure reflects how human beings are involved with the world they live in as this world creates necessary 'raw sense substrate for the conceptual system'. A. Tyler and V. Evans discuss further **pragmatic inferencing** which influences the development of lexical meaning. Moreover, they claim that 'meaning extension is usage based and pragmatic in nature'. The chapter about the role of **background knowledge** deserves much attention in their book where they describe psychological experiments conducted by Bransford, Johnson (1973), Rumelhart et al (1975) who proved that people could better understand a text if it had a title. If subjects received a text without a title, they found that it was much more difficult to make any inferences. One of the most important ideas in their research about lexical meaning is concerned with their postulate that '**linguistic utterances** act as minimal **prompts** for conceptual construction which is far richer than the combined information provided by the lexical items' (Tyler & Evans, 2003). That thesis strongly supports the ideas of Fauconnier, Langacker and Turner who are convinced that human beings use words which are referring to the knowledge which is stored in their conceptual system and meaning can be activated by means of **inference** strategies only.

Similar ideas related to meaning belong to R. Jackendoff who associates meaning with the concepts (Jackendoff, 2004). He argues that 'a syntactic structure expresses a concept'. In his opinion there might be an infinite set of concepts which human beings use to produce and understand utterances. He claims that 'concepts cannot be listed but mentally generated on the basis of a finite set of primitives and principles of combination' (Jackendoff, 2004). Jackendoff clearly explains that conceptual semantics thus is connected with inner mental representations which in turn are related to conceptual structure. He introduces the organization of the mental information structure that is 'built' in a language and looks as follows (Figure 1):

It is interesting that R. Jackendoff does not include here the lexical level. He considers that lexicon can correspond to phonological, syntactic and conceptual structure due to so called correspondence rule. He claims that lexicon is 'a part of the correspondence rule component'. Thus, according to his view every component can be represented in two levels: lexical and supralexical. The first can act on the word level, the second can cover 'domains larger than the word level'. According to Jackendoff conceptual structure has three main subsystems: a) ontological categories and argument structure; b) semantic fields; c) conceptualization of 'boundedness' and generalization (Jackendoff, 2004).

There is one more point of view regarding meaning that needs to be reviewed. A. Wierzbicka (Wierzbicka, 1992) suggests that meaning can be tightly connected with human concepts which are supposed 'to be found in the inner world of human thought'. She proposed a list of human concepts called semantic primitives which, to her mind, can be found in all languages of the world. It is claimed by her that true universal human concepts do not exist in the outer world, but only in 'our own minds'. She proves this thesis by giving examples from different languages pointing that people live in the same environment but they think differently about the world. A. Wierzbicka describes various examples including the one with the Eastern Aztecs in Central America who do not have the exact word for the side of the body and are just able to differentiate between the thorax and the abdomen. This and other examples again testify that one and the same object of reality has many interpretations among people. Thus, human beings build their concepts *in* their minds which in turn reflect the objects of the surrounding reality (Wierzbicka, 1992).

One of the serious questions raised in her book is related to the fact if it is possible to know what human concepts really are and 'which list is like to be true' (Wierzbicka, 1992). Trying to give an answer to this question she refers to N. Chomsky who expressed the idea that we possess an 'innate stock of concepts and the child's task is to discover their labels' (Chomsky 1987). Wierzbicka develops this idea referring to the Rationalists (Leibniz, Descartes) who introduced two postulates related to concepts' recognition (see Wierzbicka, 1992: 11, 12). They are: 1) it must be easy to perceive and understand concepts; 2) it must be totally unreal to describe them.

Furthermore, Wierzbicka mentions that another principle was added by Leibniz that sounds as 3) concepts must also play the role of 'building blocks' in the process of forming other concepts besides another two mentioned above postulates. In her recently published books A. Wierzbicka presented another two criteria. They are: 4) universal human concepts should 'prove themselves' as being characteristic and vital for many languages of the world that in turn must not be similar to each other; 5) having 'proved themselves' as definitions universal human concepts should be verified as lexical universals that at the same time act as concepts having their individual 'names' in all existing languages.

There are some doubts about two criteria (first and second). How can we understand concepts if it is impossible to describe them? If there were no chance to verbalize concepts then we would never be able to use concepts as building blocks in our mind. Concepts are shaped and developed as human beings encounter sometimes/often/rarely new situations in their lives and human brains process new information which is further stored in these concepts. If the concept is not expanding it means that there are no more active processes involved in the building of a particular concept. One of the examples could be given as follows. Imagine you came to China. You do not speak Chinese and you want to go to the restaurant. The fact that you do not speak Chinese would not make you feel confused as using your background knowledge you might guess what to expect in the restaurants. You will understand clearly that any restaurant should have tables and menus, dishes and waiters. You have this knowledge in your mind as the concept labelled 'restaurant' has already been established in your mental space through experience that you have been acquiring during your life. If not, you would be perplexed as your 'restaurant' concept would be totally different from that restaurant in which you planned to go being in China. And you will have to start building another concept called 'restaurants in China' or which is more plausible you will expand your *already existing concept* 'restaurant'. The mechanism which helps us to define the concepts is closely connected with our memory.

2. Problems with the meaning. Compositionality Theory

The Principle of Semantic Compositionality has been viewed by many linguists nowadays as irrelevant and not functioning properly. The main idea of which is that meaning of a sentence/phrase/expression can be understood by means of the function of the meaning of its parts. F. Pelletier (Pelletier, 2004) supports this point of view stating that 'compositionality is false'. Nevertheless, his arguments regarding the Principle have two sides. The first one is concerned with the opinion of psychologists who 'confirm that the meaning associated with the parts of linguistic expressions might not be present in these parts and so compositionality is false' (Pelletier, 2004). F. Pelletier argues against this postulate explaining that 'when the mind infers …things that 'aren't there in the input', then in fact it is the act of 'putting together' of these smaller parts which introduce 'the things that the mind brings to bear' (Pelletier, 2004). The other argument, which Pelletier approves, is that 'the whole argument structure is pointless' if the meanings of the parts 'are not really in the meanings of the composed whole' (Pelletier, 2004). In particular, he analyzes some superlative constructions, where to his mind; the principle does not prove its reliability. Let us consider some examples given by him.

1. The first person landed on the moon in 1969.
2. The tallest person usually plays center for the team (Pelletier 2004).

He argues that when analyzing the first sentence the main accent is made on the predicate which gives an 'idiosyncratic understanding as to how the subject should be understood'. The message of sentence (1) is *not* that the first person, whoever it might be, landed on the moon but rather that the first person who managed to do this in 1969. The superlative construction does make the reader confused and proves the fact the principle is broken here. In the second sentence the message falls also under the predicate and the reader understands that usually the tallest person can play the center of the team but *not* that the tallest person [Mary, Peter etc.]. is entitled to play center for the team (Pelletier, 2004).

3. Brief overview of Fauconnier's conceptual integration network model

The reason to talk about conceptual integration is related with the fact that while analyzing new N+N compounds one cannot rely on the compositionality principle as it does not seem to explain in a clear way how meaning is activated and processed during speech production. Therefore, it makes sense to refer to the principles of conceptual integration. Conceptual integration network model stresses conceptual blending as its central process. It uses a network model for constructing a meaning. Fauconnier proposes a set of elements characteristic for the process of conceptual blending. These are: **input structures**, **generic structures** and **blend structures**.

All of them are supposed to be mental spaces which Fauconnier defines as "small conceptual packets constructed as we think and talk, for purposes of local understanding and action. … and are structured by frames and cognitive models" (Fauconnier & Turner, 2001). Input structures are supposed to be partial structures and contain one of the analyzed elements. Generic space includes elements that the input structures have in common. Generic space allows performing **cross-space mapping** between inputs. Blend structure is a project of two input mental spaces. Fauconnier considers that generic spaces and blended spaces are related. Moreover, blends "contain generic structure captured in the generic space" (Fauconnier & Turner, 2001). It is important to notice that projection from the inputs to blends is partial; therefore Fauconnier and Turner talk about **selective projection**. While constructing the blend three main operations take place. These are: **composition, completion** and **elaboration**. One of the key elements of composition is **fusion** as this operation allows composing elements from input spaces making available connections that were absent in the original units. Counterparts of the blend may act as independent or fused units. Completion follows composition and it implies the idea that blends might have some background conceptual structure and knowledge "without recognizing it consciously" (Fauconnier & Turner, 2001). Eleboration is a final operation that is associated with human's ability to perform any mental simulations of an imaginative character and correlate them with logical principles in the blend. One must underline that completion can involve new logical relations and ideas during the process of elaboration. There is a need to mention **emergent structure** in the blend as well. All three operations lead to emergent structure that is not present in the inputs.

So far, there has been no discussion about **optimality principles** related to the theory of conceptual integration. Fauconnier and Turner claim that these principles "compete" and that there are a lot of various "more specific blend structures that are motivated by these principles" (Fauconnier & Turner, 2001). Optimality principles can be represented as follows: **integration, topology, web, unpacking** and **good reason**. Integration must overlap with every space in the blend. If it does not happen then the blend might lose its unity. Topology takes place when optimal relations between elements in the blend correspond to those of their counterparts. Web underlines the idea of proper connections to the input spaces avoiding extra analysis. And finally, due to unpacking there is chance to "unpack" the blend in order to infer the meaning of the inputs (Fauconnier & Turner, 2001).

4. The Importance of the Relevance Principle for analyzing new N+N compounds

Fauconnier and Turner (2002) underline the importance of the relevance principle while analyzing compound blends which they define as '…an element in the blend that should have relevance, including relevance for establishing links to other spaces and for running the blend'. Schmid (2011) maintains that this principle underlines a pure **pragmatic** function of the compound which means that communicators have to make their speech relevant to a particular context as well as the elements of the blend must have connection to the blend itself and the network of spaces. He is convinced that relevance does play a significant role for the blending process, in particular it **triggers** it. He considers that 'in the case of new compounds, hearers and test informants feel forced to blend the two input spaces because they inadvertently assume that the two constituents of one single lexeme must be related in some way' (Schmid, 2011: 229).

For example, a new compound *gold card*, due to the relevance principle, makes a communicator relate the meaning of it to an appropriate situation where he can apply it. In particular, if a communicator discusses benefits of a *gold card* he possesses, it will be one scenario. Another possible implication can be connected to *gold cards* that a communicator bought for using them in a card game. Schmid considers that relevance theory assists the communicators to look for possible contextual implications to understand the compound. Moreover, they start making possible conceptual propositions allowing them to find a proper contextual implication. At this stage emergent structures start to appear. To be more precise, optimal relevance sets 'the patterns of emergent structures' (Schmid, 2011). Schmid (2011) further continues that relevant connections between counterparts of the blend are set by principles of gestalt perception which are **adjacency**, **proximity**, **continuation** and **closure.** Regarding adjacency principle the counterparts of the blend are located next to each other. Due to the proximity principle they are close to each other. Continuation principle means that counterparts build one phonological unit and a closure principle stresses the idea that 'the compound has spaces on either side in writing' Schmid (2011).

5. Conceptual integration analysis of new N+N compound

Fauconnier and Turner (2001) believe that 'conceptual integration consists in setting up networks of mental spaces that map onto each other and blend into new spaces in various ways'.

Let us examine an example with *gold card* that clearly illustrates this postulate. This conceptual integration consists of four spaces, including two input spaces, a generic space and a blend itself. Cross-space mapping is present between input counterparts. The blend structure contains an emergent structure that does not exist in the input spaces and is introduced as a rectangular in figure 2. Figure 2 presents a conceptual integration network model for a new compound *gold card*.

The example with a *gold card* is metaphorical by nature. Metaphor is supposed to be an area where integration networks constantly happen. *Gold card* is a preferential charge card which is issued only to people with a high credit rating and entitles them to a range of benefits that are not offered to holders of the standard card (ODNW). In this particular example gold stands for *unique, rare status* derived from exclusive value of the precious metal. Special preference qualities are mapped onto the paper card that provides certain benefits to a selected group of clients. **Access principle** mentioned by Fauconnier and Turner (2001) is active here as the word gold is used to access its counterparts in other spaces. Emergent structure contains the idea that this is a card that is not made of gold but a card that entitles some preferences which testifies to **non compositional conceptual integration**. It is worth mentioning here that there is a continuum containing all sorts of networks which are prototypical by nature. Those prototypes are associated with the notions, metaphors, analogy, etc. while interpreting those (Fauconnier & Turner, 2001). In this example the meaning of the first element of the compound *gold* is prototypical as it is associated here with exclusive status or benefits.

One more example demonstrating how conceptual integration principle works can be related to a new metaphorical compound *couch potato* (Figure 3) which means a person who spends leisure time passively (for example, by sitting watching television or videos), eats junk food, and takes little or no physical exercise (ODNW). In the emergent structure specific properties are chosen like *slouching on the couch* and therefore acquiring a body that has a shape similar to a potato. There is one more quality that is present in the emergent structure which is *passivity*. Couch potatoes are lazy and passive because of their inert lifestyle. It is important to notice here that due to a relevance principle mentioned above some qualities are preferred over others in the meaning activation of this compound (see Figure 3).

The last example can be related to *enterprise zone* - a new compound - that is related to a business world. It literally means an area in which a government seeks to stimulate new enterprise by creating financial incentives (such as tax concessions) for businesses (ODNW). Interestingly, the compound does not have any hint related to the creation of financial incentives for development of new enterprises. These properties are cross mapped on the emergent structure of the blend. Both input structures demonstrate the relation of CATEGORY. It is worth mentioning that relevance principle predicts contextual effects and intended contextual implications that are related to *financial incentives aiming at developing new enterprises* (Figure 4).

6. Factors Determining Activation of Meaning

This short discussion was influenced by the cognitive analysis of adjective-noun conceptual integration networks conducted by E. Tribushinina (Tribushinina, 2011). While performing research of perceptual meanings in adjective-noun compounds she suggested a range of factors determining the active zone of SPACE entity. She differentiated between **perceptual salience, contrasting function, functional value** and **discourse constraints**. Some of these factors are true for interpreting the meaning of new N+N compounds as well and can be activated while analyzing other zones besides SPACE zone. Analyzing discourse constraints she claims that a word that is used in different contexts can refer to different mental spaces which underlines the fact that it cannot have the same semantic 'contribution to every combination in which it occurs, which is against the principle of compositionality' (Tribushinina, 2011). Coming back to the analysis of a *gold card* **discourse constraints** are obviously present here as this compound used in the banking sector would suggest one meaning and *gold cards* in card games would imply the other. Another factor that can activate different meaning structures in the compound is associated with its **functional value** depending on the referent function. In (1) a gold card expresses *preferences* that many people possess if they own it. In (2) *the financial status* of an employee is underlined.

(1) *Many people believe that if they own a credit card, especially a gold card, and use it to book their holiday, they have automatic travel insurance.* (Oxford Online Dictionary)
(2*) If you have an annual income of just £20,000, a basic gold card can be had from Bank of Ireland and AIB.* (Oxford Online Dictionary)

Perceptual salience factor can be applicable in the interpretation of N+N compounds. For example, the way most gold cards look alludes us to the golden ingot thus making us conjure up in our imagination a card that is covered with a gold color.

Conclusion

As one could notice it is not easy to interpret the meaning of new compounds relying on compositionality principle. Moreover, it proved to be inactive while analyzing compound blends. Existing theories and approaches in cognitive semantics make us believe that lexical meaning is attached to concepts or mental spaces which are 'far richer than the information contained in lexical units' (Tyler, Evans 2003). Most of these concepts are prototypical and metaphorical by nature as well. Conceptual integration network principles must be taken into account as compound meaning is closely related to mental structures that are extracted and interpreted by a speaker and a listener due to a relevance principle that triggers that process mostly. From this perspectives, as it was fairly stated by Schmid (2011) 'conceptual blending [theory] would transform from being an appendix of word-formation theory ….to constituting a viable model for the emergence of word-formation rules'.

It would deserve to mention that there has been conducted highly invaluable number of research related to compound processing - in particular how compound constituents are activated for semantically opaque and transparent compounds (Libben 1998), how concepts are integrated inside compound nouns (Gagné & Spalding 2006), effects of schema modification theory on conceptual combination processes taking place inside of compounds (Gagné & Spalding 2006, Murphy 1990). All of them demonstrate that meaning activation in compounds is cognitive by nature.

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In-text figures:

Figure 1: Organization of the mental information structure (adopted from Jackendoff 2004). See page 4.

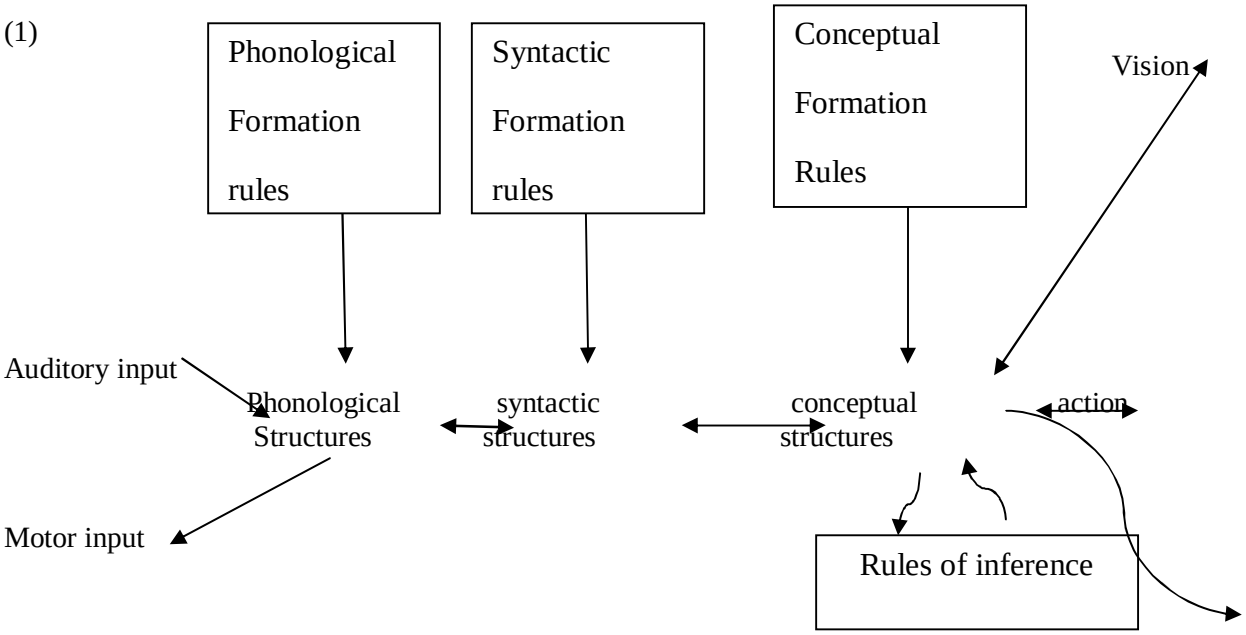

Figure 2: Network model for a compound *gold card*. See page 11.

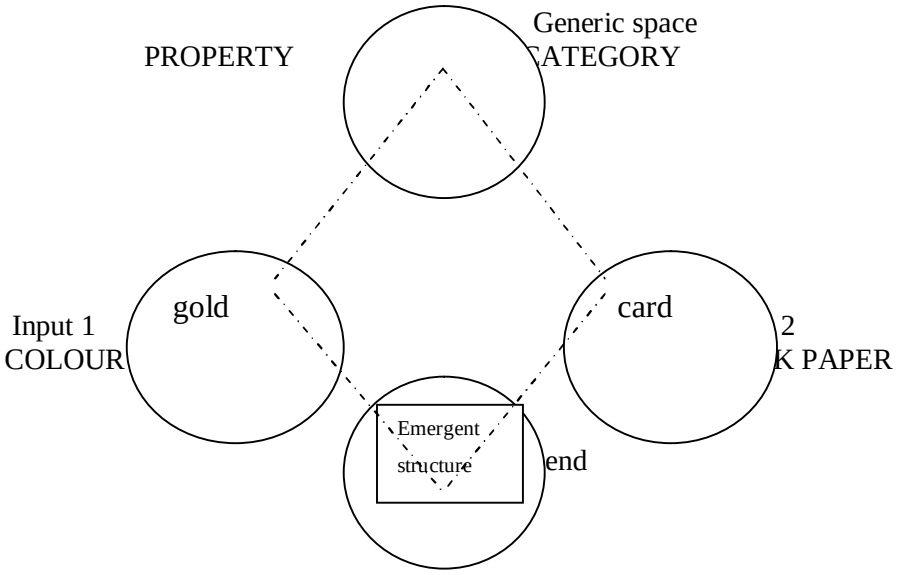

Figure 3: Network model for a compound *couch potato*. See page 12.

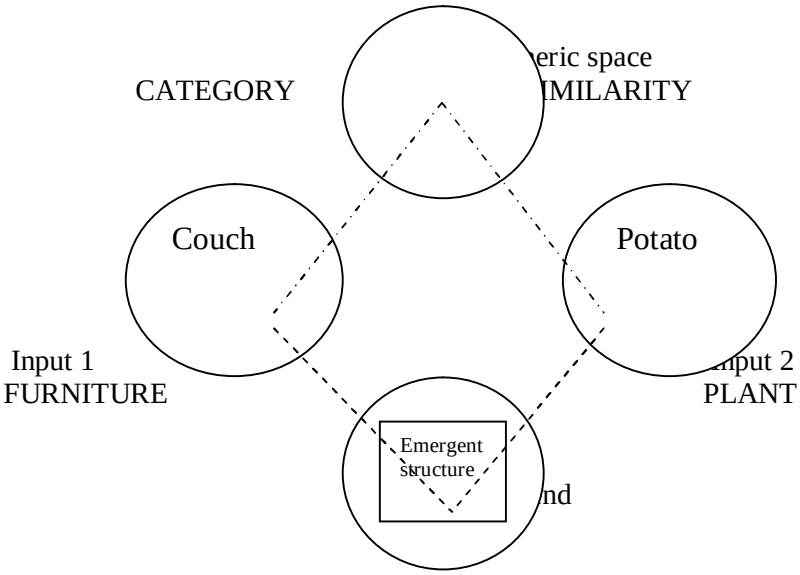

Figure 4. Network model for a compound *enterprise zone.* See page 13.