A Multi-Sense Network Approach to English Prepositions
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Abstract
This paper discusses polysemic networks for English prepositions, taking “through” as an example. With the multi-sense network approach, proposed in Seto et al., eds. (2007), the network of different senses of “through”, originating in and extended from its central sense, is presented. Although there have been several previous proposals for describing the polysemy of English prepositions, this paper argues that, with its systematically organized framework, the multi-sense network approach is widely applicable to the polysemic words and more useful for the comprehensive explanation of polysemy.

Keyword: polysemy, preposition, metaphor, metonymy, synecdoche
1. Introduction

The study of prepositions has long been one of the most important issues in cognitive linguistics. Many analyses have been proposed to show how one usage can be construed as an extension of another. In this paper, I present a multi-sense network approach to English prepositions, taking *through* as an example. After reviewing the previous studies on *through*, I move on to show how the multi-network approach can describe the relationship of different senses of *through* more clearly and effectively than others.

2. Previous studies

Lee(2001) and Tyler and Evans(2003) give us the two different accounts of polysemic meanings of *through*, based on the cognitive linguistic framework. Figure 1 is the image-schema of *through* Lee(2001:39) proposes. Figure 2 is the proto-scene presented in Tyler and Evans(2003:219).

![Figure 1](image1.png)

Figure 1 shows the three-dimensional aspect of *through*, while Figure 2 does not. But since Tyler and Evans(2003) precludes three-dimensional aspects from their proto-scenes on purpose, both of them can be said to have more or less similar prototypical images for *through*.

The difference lies in how they relate their prototype image, representing the spatial sense of *through*, to its more abstract and figurative senses.

2.1 Lee(2001)

Lee’s analysis is mainly based on the differences in the landmarks in the image-schema. (1a-h) is a list of the landmarks or features Lee uses to classify various meanings of *through*. (2a-h), on the other hand, are the typical examples of them. In (2b), for instance, the trajector(TR), “his industrial minister”, will probably go through the landmark(LM), “the state bureaucracy”, which is construed as an obstacle.

(1) a. Impact on landmark
    b. Landmark as obstacle
    c. Achievement
    d. Landmark as instrument
    e. Causatives and resultatives
    f. Subjectification
    g. Basic temporal uses
    h. Landmark as ordeal

(2) a. Sue has gone *through* all the chocolate (eaten it all).
    b. The premier wants his industrial minister to hack his way *through* the state bureaucracy.
    c. Mary came *through* with flying colors.
    d. John sold the house to Mary *through* Smith’s.
    e. The Herald and Weekly Time’s strategy of increasing assets *through* major acquisitions will help future growth.
    f. It was *through* John knowing Sue that Harry met Alice.
    g. Wendy saw all of this getting worse *through* the 1990s.
    h. I went *through* a terrible week last week.

Lee(2001:40-47)

Lee(2001)’s extensive discussion ranges from the basic and concrete sense of *through* to its figurative senses with their contextual effects in consideration. However, his list above doesn’t differentiate the figurative senses from the concrete ones, and the connections between them are not explicitly laid out. The temporal sense, which Lee puts the seventh in his list, is quite important. Other senses such as (1e), (1c) and (1h) can be said to be based on and extended from it. In addition, it is not clear what motivates the segmentation of the *through* meaning. Some of the distinctions among (1a-h) are quite vague. For instance, “a terrible week” in
(2h) can also be construed as an obstacle as well as an ordeal. The distinction between (1d) and (1f) is not clear, either. For these reasons, it can be said that Lee(2001)’s list doesn’t provide the whole picture of through.

2.2 Tyler and Evans(2003)

Tyler and Evans(2003)’s analysis is based on the proto-scene, which is a prototypical image similar to the image-schema. Compared with Lee(2001), there can be found a more explicit directionality from concrete senses to figurative senses in their study. But still they don’t put much importance on the relation and interaction between the senses. One of the reasons may be that they regard the distinction between concrete and figurative senses as just a matter of degree.

(3) [W]e seek to make the point that the distinction between a more ‘concrete’ and presumably more literal sense associated with through, and a more ‘abstract’ and hence more figurative sense is a matter of degree rather than being critical in nature.

Tyler and Evans(2003:224)

Their main point is to reveal how spatial experience, not spatial meaning of the word, gives rise to implicatures that can be reanalyzed as distinct meaning components. Once they have come to form part of conventional meanings associated with the word, they argue that it would be wrong to say these conventional meanings are somehow ‘metaphoric’.

For instance, they do not believe that out of in (4) is construed by native speakers somehow metaphoric. Rather, they claim that due to the process of pragmatic strengthening, a particular implicature has become associated with out of. This results in out of being associated with conventional meaning component, cause.

(4) The bad feelings came out of ideological conflicts.

Tyler and Evans(2003:216)

They present seven distinct senses associated with through as in (5a-g). Their typical usages are shown in (6a-g).

(5) a. The Extended Action Sense

b. The Temporal Sense
c. The On-the-other-side-of Sense
d. The Completion Sense
e. The Transmission Sense
f. The Means Sense
g. The Cause Sense

(6) a. Lance is halfway through the race.
b. The young man stood through the entire show.
c. My office is located just through the door.
d. Jane is through with the book.
e. He received a package through the mail.
f. I get my coffee through an on-line retailer.
g. The milk went sour through a lack of proper refrigeration.

Tyler and Evans(2003:221-227)

Although they note that spatial experience is foundational, that is not explicitly shown in the list above. For instance, (5a) and (5b) are connected much more tightly than others. There should also be a tenuous connection between (5c) and (5d), since the endpoint of the trajectory usually implicates a sense of completion. These connections and relations among the senses have been left out in their theory.

Having briefly reviewed the two previous studies, it is now clear that there are various characteristics of polysemy left out in those analyses, especially their figurative backgrounds and semantic motivations upon which each figurative sense is based. In the next section, I present the multi-sense network approach to through, which can incorporate what others left out in the picture.

3. A multi-sense network approach to polysemy

3.1 basic concepts

The multi-sense network model was first proposed in Seto(2007) and more systematically in Seto et al. eds.(2007) as a form of a dictionary. It is a new model especially for description of polysemy. In this model, there is always a central sense from which various figurative and complex senses extends.

(7) “The central sense is the one that is supposed to be at the center of a synchronic multi-sense lexical network. This sense is characterized,
prototypically, by a bunch of properties: (i) literal, (ii) presupposed for understanding the other senses, (iii) highly concrete (or physical), (iv) easily recognizable, (v) easy to remember, (vi) less restricted in usage, (vii) having a lot of nodes from which other senses branch off, (viii) acquired at an early stage of development, and (ix) highly frequent.”

Seto et al. eds. (2007: 4)

From the central sense other sense extend via the three figurative paths or devices: metaphor, metonymy and synecdoche².

(8) “If and only if two apparently different senses of a word are so related that one is derived from the other by way of metaphor, metonymy, or synecdoche, they are judged to be extensionally related, i.e., different, in sense; if, on the other hand, none of metaphor, metonymy, or synecdoche is involved between them, they are categorized into one and the same sense.”

(Seto 2007: 49)

The comprehensive pattern of meaning extension is listed in (9) below.

(9) The table of meaning extension patterns

<table>
<thead>
<tr>
<th>metaphor</th>
<th>similarity of form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>similarity of property</td>
</tr>
<tr>
<td></td>
<td>similarity of function</td>
</tr>
<tr>
<td>synecdoche</td>
<td>genus for species</td>
</tr>
<tr>
<td></td>
<td>species for genus</td>
</tr>
<tr>
<td>metonymy</td>
<td>space</td>
</tr>
<tr>
<td></td>
<td>whole for part</td>
</tr>
<tr>
<td></td>
<td>part for whole</td>
</tr>
<tr>
<td></td>
<td>container for content</td>
</tr>
<tr>
<td></td>
<td>content for container</td>
</tr>
<tr>
<td></td>
<td>figure-ground reversal</td>
</tr>
<tr>
<td></td>
<td>spatial contiguity</td>
</tr>
<tr>
<td></td>
<td>time</td>
</tr>
<tr>
<td></td>
<td>whole for part</td>
</tr>
<tr>
<td></td>
<td>part for whole</td>
</tr>
<tr>
<td></td>
<td>co-presence</td>
</tr>
<tr>
<td></td>
<td>cause3 for process</td>
</tr>
<tr>
<td></td>
<td>process for cause</td>
</tr>
</tbody>
</table>

(Seto 2007: 51)

3.2 Through in the multi-sense network model

We start from figures of meaning extension, which are similar to image-schemas.

Figure 3

Figure 4

Figure 5
Each figure represents the senses below: Figure 3 for the core sense 0. Figure 4 for sense 1 and Figure 5 for 2. These three senses are the primary meanings of through. After having established these basic and primary meanings, we move on to the extensions of each.

(10)

0 (moving) in one side and out of the other side of a physical space
1 (located) at the far end of a physical space
2 (moving) all across an area

(11)

0 His dog ran through the room.
1 The kitchen is through the door.
2 Dust swirled through the air.

Seto et al. ed. (2007: 978)

The central sense 0 is ‘(moving) in one side and out of the other side of a physical space’ (Fig. 3) whereby a thing goes into one end and out of the other end of an opening, channel, or location. When the location at the other end or side of a passage is focused on, the central sense is extended to the end-focus sense of ‘(located) at the far end of a physical space’ (Fig. 4). Another sense of ‘(moving) all across an area’ (Fig. 5) arises when the central sense is repeated all over a given space. Each of the three figures brings about its own figurative senses in non-physical domains: Fig. 3 extends to time, events, and means, Fig. 4 to time and events, and Fig. 5 to mind. (12) shows how figurative and abstract senses originate from the three basic senses. The examples are listed in (13).

(12)

0-a (moving) in one side and out of the other side of a period of time
0-b (moving) in one side and out of the other side of an event
0-c (moving) in one side and out of the other side of an instrument
1-a (located) at the far end of a period of time
1-b (located) at the far end of an event
2-a (moving) all across one’s mind or brain

Seto et al. ed. (2007: 979)

The sense extensions from 0 to 0-a, 1-b, and 0-c are based on metaphor, “similarity of property”. Those from 1 to 1-a and 1-b, and that from 2 to 2-a are also based on “similarity of property”. From 0 to 1 and 2 are metonymic extensions. 1 is extended via “whole for part”, while 2 is via “part for whole”. This whole picture of meaning of through can be laid out as in (14) below.

It is clearly shown in (14) that the connection between 0-a and 0 is much tighter and profounder than that of 0-a and 1 or 2. In this way, this model can be said to be superior to other approaches in presenting the whole picture of a polysemic word.

(13)

0-a They danced through the night.
0-b I went through various tests and interviews.
0-c They met through the Internet.
1-a Only halfway through the afternoon and it’s like night.
1-b Eventually I got through high school.
2-a The words echoed through his mind over and over again.

Seto et al. eds. (2007: 979)

In the multi-sense network model, the segmentation of meaning of a word is always motivated by the meaning extension patterns. This is another strong point of this model. A sense is separated from another when there is a figurative extension via any of the patterns listed...
in the table in (9). Since we have the comprehensive list of patterns at hand, this method can be applied to any polysemic words and give a clear and persuasive explanation of their sense networks.

**Concluding remarks**

In this paper, I have argued that the multi-sense network approach can be one of the most reliable methods for the study of polysemy. It can provide quite persuasive explanations founded upon the results of longtime research in the field of metaphorical extensions of meaning. In the case study of *through*, the proximity and remoteness between the different senses of the word have been explicitly and persuasively presented. Although the senses of *through* I have discussed here are all conventional, but it doesn’t mean the metaphorical motivations of them can be ignored in understanding of its polysemic nature.

**Notes**

1) Among spatial prepositions, *through* and *across* are often compared to each other. For instance, (1a) and (1b) can be used to describe the same scene. But the use of *through* in (1a) directs the hearer’s attention to the three-dimensional volume of ‘the field’, while ‘the field’ in (1b) is construed as a two-dimensional surface.

(1a) She ran *through* the field.

(1b) She ran *across* the field.

Croft and Cruse (2004:52)


3) ‘Cause’ in the description of the multi-sense network is defined as ‘any one of the conditions which bring about the subsequent process and/or result’.

Seto(2007:52)

**References**


