

Nominal Reference and Discourse Blending

Kazuya Yasuhara (Kyoto University, Graduate School)

1. Introduction

In traditional linguistics, it has long been recognized that the interpretation process of nominal reference is fairly simple and static (i.e. mere mappings between counterparts). For example, Halliday & Hasan (1976) explain that, in the case of (1), “*them* in the second sentence refers back to the *six cooking apples* in the first sentence (*ibid.*: 2)”:

(1) Wash and core six cooking apples. Put them into a fireproof dish. (*ibid.*: 2)

Langacker (2001) also states that, with respect to the fourth sentence in (2), “The schematic semantic values of the pronouns *he* and *it* are compatible with the characterization of two such referents, the man and the dog, respectively (*ibid.*: 175-7)”:

(2) I was sitting in the park yesterday. A man walked by. The man saw a dog. He kicked it. It yelped. (*ibid.*: 174)

However, on more careful inspection, these observations turn out to be strictly misleading. As noted in Brown & Yule (1983), the example (1) leads to the following fact: “Whereas it is indeed those same ‘six cooking apples’ which are at issue in the second sentence, it is relevant to note, and for the reader to understand, that they have undergone a change of state. Whereas in the first sentence they were pristine apples, straight from the supermarket, in the second they were ‘washed and cored’. (*ibid.*: 201)”. In like manner, the example (2) faces the following fact: Rather than saying that the pronouns *he* and *it* simply refer to the semantic equivalents in the previous context (i.e. the man and the dog), it is strictly more reasonable to say that the pronoun *he* refers to ‘the man who walked by and saw a dog, when I was sitting in the park yesterday’, and the pronoun *it* refers to ‘the dog which was seen by the man, when I was sitting in the park yesterday’. Given these facts, the interpretation process of nominal reference seems to be viewed as more complex and dynamic than is generally assumed. As Brown & Yule (1983) point out, this therefore suggests that “we need some model of processing which allows entities to accumulate properties or to change states as the discourse progresses (*ibid.*: 202)”.

The purpose of this paper is to rethink the interpretation process of nominal reference in terms of Fauconnier & Turner’s (1994, 1998, 2002) framework of conceptual

blending, and to show that the cognitive principles of conceptual blending can provide useful insights into how nominal reference such as (1) and (2) is interpreted. In so doing, the paper suggests that the framework of conceptual blending can serve as a processing model “which allows entities to accumulate properties or to change states as the discourse progresses (Brown & Yule 1983: 202)”.

2. Conceptual Blending

In the research context of cognitive linguistics, the framework of conceptual blending has been proposed by Fauconnier & Turner (1994, 1998, 2002). Conceptual blending is a general cognitive operation for the online meaning construction, and it is routinely employed in a variety of cognitive fields as a foundation for the creativity of human thought. The constitutive principles of conceptual blending are in principle so simple, and they are summarized as follows [see Figure 1: The box in the Blend represents emergent structure]: (a) *Partial Cross-Space Mapping*: a partial mapping of counterparts between the Input Spaces I_1 and I_2 . (b) *Generic Space*: some common, usually more abstract, structure and organization shared by the Inputs I_1 and I_2 . (c) *Selective Projection to the Blend*: the partial projection of the Inputs I_1 and I_2 onto the Blended Space. (d) *Development of Emergent Structure*: the Blended Space has emergent structure not provided by the Inputs, via three interrelated ways: *Composition* of projections from the Inputs, *Completion* based on independently recruited frames and scenarios, and *Elaboration* through “running the blend” imaginatively according to its own emergent logic.

In the previous studies, as convergent evidence for the existence of conceptual blending, many researchers have revealed the working of this general cognitive process within a wide range of cognitive fields: [Language] Turner & Fauconnier (1995, 1998), Mandelblit (1997, 2000), Sweetster (1999), Grady, Oakley & Coulson (1999), [Literary Works] Turner (1996), Freeman (2003), Hiraga (1999, 2005), [Mathematics] Lakoff & Núñez (2000), [Humor] Coulson (2001), [Music] Zbikowski (2001), [Gesture and Signed Language] Liddell (2003), Dudis (2004), [Social Science] Turner (2001), [Game] Tea & Lee (2004), [Art] Oakley (2002), [Religion] Ramey (2002), [Psychiatry] Kiang (2005), etc. (Because of limited space,

the reference list of the literature above is omitted in the References below. For details, see the blending website <http://blending.stanford.edu/>.)

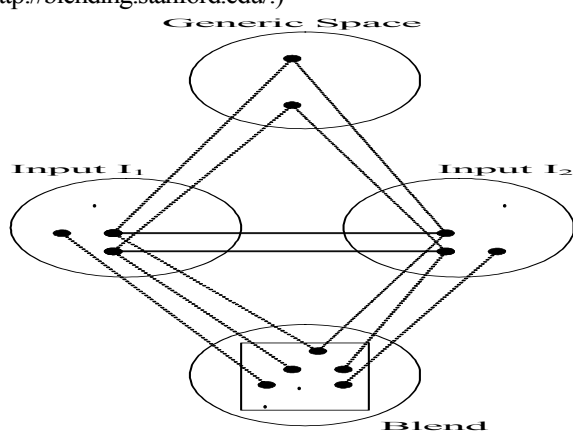


Figure 1: Basic Diagram (Fauconnier & Turner 2002 : 46)

3. Nominal Reference in Discourse Blending

In this section, I will reconsider the interpretation process (or meaning construction process) of nominal reference within the framework of conceptual blending, with its special focus on the examples (1) and (2). It should be noted that I will employ the theory of conceptual blending on the assumption that discourse can be thought of as the cumulative consequence of blending operations. In short, for purposes of capturing the successive on-line meaning construction of discourse more elaborately, I will propose the framework of *Discourse Blending* as a variant of conceptual blending theory.

Hence, before discussing the interpretation process of nominal reference, let us first summarize the central ideas of Discourse Blending (for more details, see Yasuhara 2005): (a) *Discourse* can be thought of as the cumulative consequence of blending operations, which makes possible discourse cohesion (or more generally, texture and coherence). This nicely echoes the general feature of *Recursion* immanent in blending operations, which implies that “A blended space from one network can often be used as an input to another blending network. (Fauconnier & Turner 2002: 334)”. (b) *Input 1* stores the preceding context, while *Input 2* has a new clause or sentence. With regard to the baseline for constructing new Inputs, it seems natural to assume that, as pointed out in Langacker (2001: 174), a new Input (i.e. Input 2) take place on a clause-by-clause basis, i.e. on an event-by-event basis. (c) On the basis of conceived similarity, *Cross-space mappings* and *generic spaces* satisfy identity conditions which are essential to anaphoric phenomena. (d) *Blended spaces* create a larger context,

where we can obtain structure and inference that are unavailable in the two Inputs. Within the confines of anaphoric phenomena, it is possible to say that the interpretation of the anaphoric relation in question is established in the Blend through *co-referential compression* (i.e. the process that discrete entities in the Inputs become a unitary entity in the Blend). (e) Input Spaces and Blended Spaces can be structuralized via the recruitment process from our long-term memory, which is termed *Completion* within the Conceptual Blending framework. Generally speaking, *Pattern Completion* is the most fundamental type of recruitment, which means the following process: When we see some portions of our long-term memory in the Inputs and Blends, we can recruit much more of it to them silently and effectively. (f) Input Spaces and Blended Spaces can be advanced through the *elaboration* process¹, i.e. running the spaces imaginatively according to the emergent principles that are ordinarily offered by the completion process. Otherwise phrased, this process corresponds to the *mental simulation* in the Inputs and Blends, which develops further prediction, imagination, and inference, and (in the case of Blended Spaces) provides the organic conceptual connection between the Inputs.

3.1 Example I: Six Cooking Apples

To clarify the interpretation process of nominal reference, let us then focus on the example (1). From the perspective of Discourse Blending, this example can be analyzed in the following manner, though the discussion below is highly abbreviatory in that my major focus here is on the interpretation process of nominal reference: (a) **Input 1:** Input 1 stores the phonological (or orthographic) representation of the first sentence in (1) “Wash and core six cooking apples.” On this basis, various kinds of knowledge are recruited by the completion process: i.e. the words within the sentence trigger the relevant conceptual knowledge (or conventional images) to understand the meaning of the sentence. Hence at this stage, the nominal *six cooking apples* makes it possible to evoke the conventional image ‘six cooking apples construed as instances of the type *cooking apple*’. Moreover, with the help of elaboration, the concept ‘six cooking apples’ can undergo a change of state, because the nominal co-occurs with the verbs implying the resulting state such as *wash* and *core*. As a consequence, the concept

¹ See Kahneman & Tversky (1982) and Kahneman (1995), for a more detailed discussion of the notion *elaboration*.

‘six cooking apples washed and cored’ can be established in the Input 1, and the concept ‘six cooking apples’ can be backgrounded. By and large, this space serves as the preceding context for the second sentence in (1). (b) **Input 2:** Input 2 contains the phonological (or orthographic) representation of the second sentence in (1) “Put them into a fireproof dish.” Based on this, the space can also obtain the relevant conceptual knowledge through the completion process. Hence at this stage, we can invoke the conventional schematic image of the pronoun *them*. (c) **Blend:** In comparison to the Input 1, the Input 2 turns out to be conceptually more schematic, especially in the use of the pronoun *them*. The conceptualizer therefore needs to specify what this pronoun mean. However, he or she cannot find the referent of the pronoun in the Input 2. Ordinarily, since it is reasonable to think that the second sentence (i.e. Input 2) can be understood in relation to the first sentence (i.e. Input 1), the conceptualizer needs to integrate these sentences into a larger context. What makes this possible is the very blending process, which proceeds as follows [see Figure 2: thick-line boxes = profiling]: (i) **Cross-Space Mappings:** Based on conceived similarity, counterparts are connected between the two Inputs: e.g. ‘six cooking apples washed and cored’---‘them’.² (ii) **Generic Space:** On the basis of the Cross-Space Mappings, the conceptual structure shared by the two Inputs is projected to Generic Space. (iii) **Blend:** The conceptual blending of the two Inputs produces a Blended Space, where the concepts ‘six cooking apples washed and cored’ and ‘them’ are co-referentially compressed to become a single entity (i.e. co-referential compression). As a result, this Blended Space provides a larger context that functions as the preceding context for the ensuing sentences, i.e. ‘After washing and coring six cooking apples, put into a fireproof dish the six cooking apples washed and cored’.

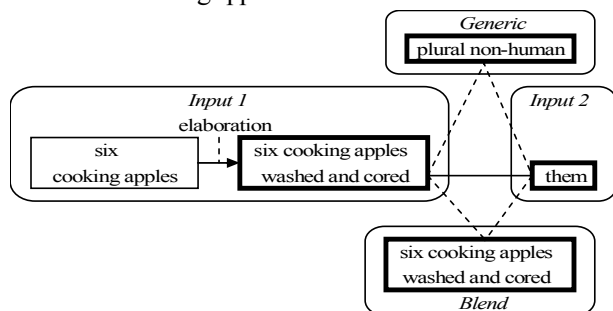


Figure 2: Six Cooking Apples

² Note that the entity ‘them’ in the Input 2 cannot be linked to the entity ‘six cooking apples’ in the Input 1, because of their difference in prominence.

In summary, the discussion above can lead to the following conclusions: (i) As in the Input 1, the elaboration process allows entities to change states. (ii) As in the Blend, the process of co-referential compression allows entities to accumulate properties for purposes of constructing the prior context for the following sentences.

3.2 Example II: The Man and The Dog

Let us next analyze the example (2) from the viewpoint of Discourse Blending. Note that, due to space limitations, my primary focus here is on the interpretation process of the fourth sentence in (2). The process goes as follows: (a) **Input1:** Input 1 includes the cumulative conceptual representation that can be achieved as a result of the repetitive blending operations of the previous sentences (i.e. the first, second, third sentences in (2)). More specifically, the representation would stand for the event as a whole ‘a man walked by and saw a dog, when I was sitting in the park yesterday.’ (b) **Input 2:** Input 2 has the phonological (or orthographic) representation of the fourth sentence in (2) “He kicked it.” Depending on this, the space can store the relevant conceptual knowledge via the completion process. Hence at this stage, the conventional images of the pronouns *he* and *it* can be incorporated into the Input 2. (c) **Blend:** To get the interpretation of the pronouns *he* and *it*, the blending process runs as follows [see Figure 3]: (i) **Cross-Space Mappings:** Based on conceived similarity, counterparts are connected between the two Inputs: e.g. ‘man’---‘he’ and ‘dog’---‘it’. (ii) **Generic Space:** Generic Space stores the conceptual structure the two Inputs have in common. (iii) **Blend:** The conceptual blending of the two Inputs creates a Blended Space, in which the concepts ‘he’ and ‘it’ in the Input 2, and ‘the man’ and ‘the dog’ in the context of Input 1, are co-referentially compressed to become a unitary entity, respectively (i.e. co-referential compression). As a result, the Blend offers a larger context, i.e. ‘a man walked by, saw a dog, and kicked the dog, when I was sitting in the park yesterday.’ Generally speaking, this context corresponds to the prior context for the following sentences.

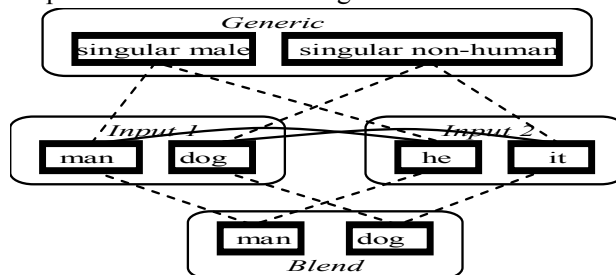


Figure 3: The Man and The Dog

In the discussion above, what is of particular importance is that the pronouns *he* and *it* in the fourth sentence of (2) refer not simply to ‘the man’ and ‘the dog’, but to ‘the man’ and ‘the dog’ in the context of Input 1: i.e. the pronoun *he* refers to ‘the man who walked by and saw a dog, when I was sitting in the park yesterday’, and the pronoun *it* refers to ‘the dog which was seen by the man, when I was sitting in the park yesterday’. Hence, it is possible to say that the pronoun *it* in the fifth sentence refers to ‘the dog’ in the context of Blend, not to ‘the dog’ in the context of Input 1: i.e. the pronoun refers to ‘the dog which was seen and kicked by the man, when I was sitting in the park yesterday’. Given this line of reasoning, it can be concluded that the interpretation of nominal reference is highly context-dependent and cannot be achieved without contexts.³

Incidentally, what if the sentence “The yelping sound traveled around the park.” occurs as the fifth sentence of (2)? In this case, it can be said that the nominal *the yelping sound* is correspondent to the dog’s yelping sound in the Blend, which can be predicted as a result of elaboration when the man kicked the dog. It would therefore be reasonable to think that the interpretation of indirect anaphora relies more crucially on the elaboration process than direct anaphora.

4. Conclusion

In this paper, I have reconsidered the interpretation process of nominal reference from the perspective of Fauconnier & Turner’s (1994, 1998, 2002) conceptual blending. In so doing, I have shown that the interpretation process should be recognized as essentially complex and dynamic, not as simple and static. That is, it should be viewed as a highly complex and dynamic operation that requires the support of the cognitive processes of conceptual blending (e.g. elaboration, co-referential compression, etc.)⁴, not as a simplistic operation such as mere mappings between counterparts. In this sense, the interpretation of nominal reference can be said to be “constantly mobile—never resting for long in a single space” (Burke 2003: 126). This is the very essential import of Discourse Blending I have discussed in this paper. Hence it would be suggested that the framework of conceptual blending is suitable as a model of

processing “which allows entities to accumulate properties or to change states as the discourse progresses (Brown & Yule 1983: 202)”. In future research, it will be expected to explore more strictly further advantages this line of research has.

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Contact: 安原 和也 (京都大学大学院)
yasuhara@t02.mbox.media.kyoto-u.ac.jp

³ This view might be regarded as a maximally extended version of “a localist theory of the definite article” (Thorne 1972, 1974). For example, the localist theory argues that the nominal *the woman* designates not merely a particular woman, but a particular woman in a particular place.

⁴ Borrowing the term from Tao (2001), this kind of reference may be called *emergent reference*.