

Recenzió

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**Seana Coulson:
 Semantic leaps. Frame-Shifting and Conceptual
 Blending in Meaning Construction.**

CUP, 2001

As the title of the book *Semantic Leaps: frame-shifting and conceptual blending in meaning construction* suggests, the author uses the two concepts: frame-shifting and conceptual blending, to understand the process of how speakers (listeners) (re)construct meaning. As she admits in her acknowledgements, she, like many cognitive scientists, assumed „that meaning was something speakers *compile* from linguistic input” (xi). She soon realized, however, that meaning results not only from linguistic input, but in fact that meaning construction is an active process in which people also use many nonlinguistic cues beside the perceivable linguistic ones. To the nonlinguistic cues belong e.g., contextual and background knowledge. The traditional frame-based systems have a static nature and that is why they cannot account for the flexibility of on-line meaning constructions. She refers to two processes: frame-shifting and conceptual blending to solve the problem of natural meaning construction. According to the author’s definition „frame-shifting is semantic reorganization that occurs when incoming information is inconsistent with an initial interpretation” and „conceptual blending is a set of cognitive operations for combining frames from different domains” (xii). The term ‚frame-shifting’ is hers, although the phenomenon has already been noted before, e.g., by Arthur Koestler, Marvin Minsky and David Rummelhart.

The concept of semantic leaps is suggested for all sorts of nonstandard meanings which are not included in the dictionaries and that are not compositional.

The author mentions the following as examples: metaphoric and metonymic expressions, hyperbole, understatement, sarcastic quips, innuendo, subtle accusations and the privative meanings which can be constructed with shared background knowledge.

The topic of *Part I.* is frame-shifting which is introduced with the following example: *Everyone had so much fun diving from the tree into the swimming pool, we decided to put in a little water.* Before hearing the second part of the sentence we take it for granted that there is water in a swimming pool. Yet, after learning that there was no water in it, we have to return to the first part of the sentence and reanalyze it. This reanalysis process is called frame-shifting by the author. Although compositionality must always partly obtain, it has been overemphasized and the noncompositional mechanisms that also contribute to the meaning construction have been underemphasized for a long time.

Most semanticists today do not believe that language is fully compositional. Rather, as Part I. outlines the constructivist comprehension of meaning, contextual and background knowledge have a large part in determining meaning so that meaning emerges from the combination of linguistic and nonlinguistic knowledge. While both in compositional and constructivist accounts background knowledge and contextual information play an important role, in compositional accounts background knowledge and contextual information are crucial for resolving lexical and syntactic ambiguities. This information, then, is combined with literal meaning.

In constructivist accounts, background knowledge and contextual information are the raw material from which meaning is constructed.

Coulson suggests that with the introduction of the concept *nonce sense* (i.e. the existence of semantically indeterminate expressions), the compositional parser was violated.

According to Clarke, nonce senses cause two problems for compositional parsers: the nonparsing problem (when the lexicon does not include the contextually relevant meaning, and the compositional meaning is semantically anomalous) and the misparsing problem (when the compositional meaning is congruous but it is not what the speaker intended to express). Then she gives a detailed analysis of how a constructivist accounts for the correct interpretation of the following: *A thoughtful wife has pork chops ready when her husband comes home from fishing*. Upon hearing this sentence, the reader begins to activate the Good Wife frame. Then he shifts frame to the fishing event (among others catching fish, going home, cleaning fish, cooking fish). After integrating the two structures, the catching-fish slot has to be filled with „no fish” and the going-home slot with „empty handed”.

For the constructivist therefore, there is no need to evoke a context-invariant meaning at any stage of the meaning construction process. Semantic indeterminacy, then, does not pose a problem for a constructivist account because „words do not retrieve lexical entries but rather activate abstract structures and processes for integration with contextually available information” (46).

Coulson shows frame-shifting in on-line jokes, text processing and sentential integration. In all these examples she provides a detailed explanation of what triggers the frame-shifting process respectively.

At the end of the chapter she comes to the conclusion that „frame-shifting seems to be prompted by a violation of slot-filling constraints” (58) or „when incoming information deviates from that predicted by the contextually evoked frame” (75). She accounts for the constructivist approach of frame-shifting with the assumption that there cannot exist a fixed lexicon because of the existence of a potentially infinite number of nonce senses which she has analyzed in the chapter.

In her examples she emphasizes that the creative integration of context and background knowledge is the very essence of comprehension. In the chapter *Models of Sentential Integration* she proves the existence of frame-shifting with experiments. According to her results, people spent longer reading the last word of a joke or nonjoke that triggered frame-shifting.

In *Part II.* the author turns her attention to conceptual blending. After the definition of the concept by Fauconnier and Turner (1998) („Conceptual blending is a set of noncompositional processes in which the imaginative capacities of meaning construction are invoked to produce emergent structure”) she demonstrates its application with her self-coined examples. Her first example is *trashcan basketball*. In conceptual blending the inputs are combined to build a

blended frame which is comprised of the structure of each input and also of a structure of its own. In the example of *trashcan basketball* the inputs are trashcan and basketball and the resultant blend owes its structure partly to both inputs and besides it has properties of its own.

According to Fauconnier and Turner, conceptual combination occurs in conceptual integration networks (a network of mental spaces made up of frames which are constructed by the speaker from contextual information and background knowledge).

In chapter 5 of Part II. she turns to conceptual blending in modified noun phrases. She mentions the problem that the simple structure of noun phrases can hide a very complex meaning construction.

According to the author, conceptual blending theory can provide a better solution to this problem than some previous attempts which took compositionality as a given and tried to integrate noncompositional phenomena as well by formulating mechanisms.

She determines the goal of conceptual blending theory as the formulation of an account of conceptual combination „that is general enough to encompass both compositional and noncompositional phenomena” (125).

Nominal compounds have always represented an unruly set of phenomena for linguists to explain. It has always been difficult to capture the abstract characterisation of the conceptual relationships between nouns in a noun-noun compound.

She starts out with Levi’s suggestion for nominal compounds. According to Levi, nominal compounds are the comprised forms of relative clauses. E.g., a wound caused by a gun = a gun wound. She points out nine recoverably deletable predicates (have, cause, make, use, be, in, for, from, about) in connection with this approach.

The problem with Levi’s taxonomy is that not all nominal compounds can be classified with its help, either because they can belong to more than one category or because they fit into none of them. E.g., a *dog collar* can be paraphrased either as a „collar used by a dog” or as a „collar that a dog has”.

Moreover, the predicates she stated are so general that they cannot be explanatory enough for unitary concepts. Coulson provides the examples of *dog collar* and *college student* for it. While they both involve the predicate „in”, they do not belong to the same kind of containment.

In contrast, Downing suggests that „the interpretation of nominal compounds depends on the retrieval of substantive information about component nouns”. She carried out an experiment (she gave subjects novel noun-noun compounds without any context) in which she found out that people often used domain-specific causal and relational information, and features of related knowledge., e.g., for *Pea Princess* seven out of ten people referred to the tale „The Princess and the Pea”.

She and other cognitivists found that compound interpretation depends on the context and further on pragmatic and discourse factors.

She proposes the application of Fauconnier and Turner’s blending theory onto nominal compounds. She gives a table with cross-space mappings for the *gun wound* blend. She provides it with the following explanation: „From the „gun” frame, the blend inherits information about the cause. From the „wound” frame, the blend inherits information about the result” (131). It could also fit into Levi’s taxonomy of recoverably deletable predicates as a „cause” relationship but this does not tell anything about the cause itself. In the cognitive account one appeals to an idealized model of the event sequence of getting shot.

For contrast, she proposes the example „caffeine headache” where a headache is caused not by caffeine but by its absence. To interpret this compound one needs knowledge of caffeine as an addictive substance, thus world knowledge.

In the case of predicating and nonpredicating adjectives, one might expect that a compositional approach could account for their meaning since they involve a predicate and an argument. But Coulson provides many counterexamples such as *hot lid*, *electrical engineer* and *topless bar*. For example in *hot lid*, *hot* does not predicate *lid*, the meaning of the phrase is a „lid for a cup that contains a hot drink”.

She admits that blending theory does not provide a detailed account of how information represented in the inputs becomes represented in the blend but does describe how speakers create and listeners interpret them.

She introduces the notion of privative adjectives later on with Kamp’s definition: „Kamp (1975) defines a privative adjective as one for which, given privative adjective A and any noun N, the claim, „No AN is an N”, is necessarily true. For example, „fake” is privative because the statement, „No fake gun is a real gun”, is true by definition” (144).

Frank demonstrates his sense generation model with this example. Since *fake* is a negative privative, it is handled by metonymic type coercion with rebuttal. So the central attributes of *gun* are negated, while its diagnostic features are maintained.

Coulson points out the weaknesses of Frank’s sense generation model, e.g., with Frank’s model the example „land yacht” would be classified as a functional negative privative because the central features of the concepts „land” and „yacht” conflict.

The author contrasts the sense generation model of „land yacht” with the account of conceptual integration offered by Fauconnier and Turner.

Contextual information and background knowledge play an important role in the interpretation, since minimal linguistic cues are provided in a compound such as „land yacht” for its interpretation.

An important feature of conceptual blending theory is the use of cross-domain mapping. Fauconnier and Turner point to salient differences between the features in the blend and the input domains. E.g., while a luxury car is driven by a single person, a yacht is driven by a multimember crew. „Land yacht” has also many features that cannot be associated with the generic car frame. The elements of the two inputs and that of the blend are demonstrated in a table.

In the summary of the chapter she points to the main shortcomings of Frank’s sense generation model and she proposes conceptual blending instead, which appeals to causal and relational information represented in cognitive models, in that it uses context for interpretation rather than representations that are divided into central and diagnostic features.

In the chapter of „Conceptual blending in metaphor and analogy” she demonstrates how important metaphor is in everyday language (on the basis of Lakoff and Johnson, Sweetser and Turner), although historically it has been characterised as colourful language with an aesthetical role but without cognitive importance. On the view of conceptual blending „metaphoric language is the manifestation of conceptual structure organized by a *cross domain mapping*: a systematic set of correspondences between the source and the target that result from mapping frames or cognitive models across domains” (162).

She provides examples for cross-domain mapping in one-sided and two-sided networks. In her example for two-sided networks „He is digging his own grave”, she points out the discrepancies between source and target domain., e.g., in the source domain digging is the consequence of death, while in the target domain digging is the cause of it.

This mismatch cannot be solved by conventional mappings but by positing a blended space. With the example „born on third base” she also show how source domain models can be transformed by blending to evoke cultural models of the target domain.

She demonstrates a similarly detailed and well-explained example of the Menendez Brothers Virus and the Right to Life Virus. As a conclusion she suggests that metaphoric language is much more than an ornament of language, it „reflects the operation of mapping mechanisms rooted in the underlying conceptual system” (198).

In the chapter of Counterfactual Conditionals, she demonstrates the use of frame-shifting on examples such as the situation „In my prime, I could have pinned Hulk Hogan in seconds” (as part of a comic strip *Drabble* where middle-aged couch potato Drabble brags to his son about his wrestling ability). When the son asks his mother for affirmation, his mother tells him: „Of course, dear. But when your father was in his prime, Hulk Hogan was in kindergarten.”

In *Part III*. „Applications: blending, framing and blaming’ she starts out with the introduction of Shank and Abelson’s scripts, which represented a major advance in cognitive science.

Scripts provide descriptions of actions in typical events, and they can be used to structure plans, expectations and actions.

Another term for these culturally shared frames is a ‚cultural model’.

In the chapter which is mainly about framing and the morality of abortion, many perspectives are handled. Opinions for and against abortion are shown and also their arguments are provided.

Also the opinion of the adult daughter of a rape victim is provided in the „Why punish me?” section. Here, the rape victim’s abortion is framed as an unjust punishment of the fetus.

The fact that there can be so many and the most contrasting opinions about a single case is due to the applicability of various cultural models.

Coulson compares it to the meaning of *bachelor* which also depends on the applicability of stereotypical assumptions. She concludes that the way we interpret and experience events depends on framing to a great extent.

In connection with this, she comes to the conclusion that differences in framing can have real consequences, as was shown in the section about the question of abortion.

The reason people argue about framing is that framing is arguable. Our models are partial and idealized and the mappings from models to real situations are underdetermined.

Later on she returns to the problem of abortion and highlights it with a talk show where the interviewer’s strategy is personalizing the scenario of the rape victim.

The examples in this chapter show how the subject can be changed and this fact can also trigger frame-shifting.

In the last chapter, ‚My dinner with Rodney’, she turns to her own experience and demonstrates the space structuring model where „meaning construction involves the integration of linguistic, contextual and background knowledge to create the cognitive models speakers use to participate in the ongoing activity” (270).

Leaps are demonstrated in the excerpts of the conversation and the interpretation of a compound noun Shogun TNT roll (a kind of a Japanese food) is explained via her model. Since it is noncompositional, its meaning cannot be deduced from the meaning of the parts and the way they are combined syntactically.

Her conclusion at the end is that although the models used in meaning construction are schematic and they may be even implausible, we are able to interpret meaning by using our

ability to integrate models with contextual information, to exploit cultural scales, to shift frames and to blend different models together. Knowledge representation, then, is more dynamic than it was originally suggested.

The book will be useful for linguists as well as nonlinguists interested in cognitive science.

The theory of frame-shifting and blending is contrasted with earlier attempts trying to solve the problem of understanding interpretation. The author shows why this theory may be better at achieving its goal but she does not forget about its weaknesses either.

She demonstrates frame-shifting and blending partly with self-coined situations, providing numerous and well-explained examples for each phenomenon. These examples always make her expositions clear and understandable.

Explanations are also provided where knowledge about American culture (e.g., in the case of the metaphor ‚born on third base’) is required.