Interpretation of a Noun Phrase "A no B" based on the Generative Lexicon

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A noun phrase in the form of "A no B" is often used in Japanese. The meaning of "A no B" is generally ambiguous depending context. A "A no B" is represented by two nouns, A and B, and a particle "no." Since there is no explicit expressions for representing a semantic relation between A and B, "A no B" often has ambiguity. There are several researches for analyzing "A no B" such as analysis based on lexicon and analysis using examples or meaning explanations in a dictionary.

This thesis shows a new method for interpreting "A no B" based on the generative lexicon, which does not give an entry for each sense of a word and describes possible semantic types of a word in an lexical entry. The method composes an interpretation using two lexical entries of two noun, A and B.

There are studies on analyzing "A no B" [1],[2],[5]. The study [1] does meaning analysis of "A no B" based on the generative lexicon. It gives a lexical item to a noun, classifies nouns into entity, event, relation nouns, and analyzes meaning of "A no B" by combining lexical items of A and B together according to cases that B is entity noun, event noun, or relation noun. The study [2] analyzes "A no B" using definition sentences of word senses described in a Japanese dictionary. For example, the analysis replaces with A the similar word in the definition sentence of B and obtains the meaning of "A no B." In the analysis, it does case analysis and gets a

reliable analysis. The study [5] classifies "A no B" into five in general and defines about 80 semantic relations between A and B. It analyzes semantic reactions between A and B using semantic features of A and B.

Though [1] divides B into three types such as entity, event and relation nouns, and analyzes "A no B" according to the types, we do not divide nouns and analyze "A no B" by composing two lexical entries. In addition to this, we use inheritance of lexical entries using the thesaurus IPAL [3] in order to represent lexical information effectively.

The method composes two lexical items of A and B by matching a semantic type of A with a semantic type expected as a predicate argument described in the lexical item of B. For "watashi no jyuutan" (carpet possessed by me, carpet bought by me, carpet seen by me and so on), the method tries to match a semantic type of "watashi" (I) with a semantic type expected as a predicate argument described in the lexical item of "jyuutan" (carpet). In this case, because the semantic type of "watashi" is *human* and there are no appropriate semantic types expected as predicate arguments described in the lexical item of "jyuutan," the composition fails. Next, it inherits an upper lexical item. In this case, "jyuutan" has as an upper type *con_product*, which is a compound of *concrete* and *product*, and its lexical item is inherited. This time, the type match succeeds because the *con_product* has a predicate *make* in its lexical item, an argument of the predicate expects a semantic type *human* and the type matches with the semantic type *human* of "watashi." Then, it puts "watashi" in the place of the semantic type *human* in the inherited lexical item for "jyuutan" and produces the composed item as a result. The item is added in a result list. The analysis process using inheritance is proceeded if possible, and is continued until an upper lexical item is *top*. When a noun A has plural semantic types, the composition with a noun B is tried with each type of A.

The above method is tested for basic nouns in the thesaurus and works well for basic cases.

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