

obtained 382 Japanese words, 155 of which were not in the topic map, and 42 of which had no corresponding English words. We obtained 10 pairs of translated nouns and verbs. The results also showed that some Japanese verbs that have similar meanings are translated into different English verbs depending on their corresponding nouns.

In the future, we plan to improve the coverage of words in the translation process by adding English and Japanese words to the topic map and adding action associations. To improve the accuracy of translation search, we will improve the searching method to consider idioms.

Though we used sentences in Wikipedia to find action associations, it is desirable to use sentences from documents that cover the words as those related to the input sentences. In our future study, we will combine Wikipedia data with data from other resources to increase the number of action associations in our topic map.

To suppress unwanted translation outputs, we need to increase the number of association types to make topic selection more precise.

Our method outputs only translated words. To make an effective automated translation system, we will apply our ontology-based method to an existing automated translation system based on grammatical techniques. We will also extend it to a system that can identify implied meaning.

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