Automated Use of Syntactic Structures to Access Semantic Relationships

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Abstract: Some linguistic structures occur frequently and regularly to express predetermined semantic relationships. By systematic manipulation of these structures, it is possible to make a connection between meaning and form in certain contexts using a finite and small number of structures. This project deals with syntactic structures that express the similarity relationships. A model to automatically identify and retrieve similarity relationships in textual documents has been developed and formalized. The model also discovers new syntactic structures through a learning process. The model can be expanded to include other semantic relationships. The two main motivations of the project are automating a language processing task which can be used for automated semantic annotation of documents, and formalizing a set of cognitive mechanisms in language representation.