Proposal for a Master's thesis

Quantitative typology of valency classes

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Abstract

1 Introduction

Argument structure is widely studied and debated in linguistics. The nature of the relationship between verbs and their arguments as well as the syntatic expression of underlying lexical semantics.

2 Background and Motivation

2.1 Valency and valency phenomena

In chemistry, **valency**, or **valence**, refers to the combining power of an atom or radical. The valency of any atom can be measured by the number of hydrogen atoms that it can combine with or displace in a chemical compound (Law and Rennie, 2020). This same term has been used in linguistics to similar effect and refers to the combining power of a word, primarily a verb or other predicate, with other words or elements of the sentence.

Lucien Tesnière is generally credited with introducing the term valency to linguistics with his theory of valency and dependence as presented in his posthumuously published *Éléments de syntaxe structurale* (1959; English translation 2015).[1]

But the study of the phenomena we term valency undoubtedly predates that.

The issue of argument encoding lies at the center of studies into sentence meaning. Most linguistic theories, as well as psycholinguistic evidence, point to the centrality of the verb in determining both the structure and meaning of a sentence. Beyond that, however, approaches to the study of argument encoding differ.

In generative grammar, syntactic valency of a verb is studied in terms of "subcategorization frames" encoded in the lexicon.

describe Chomskyian approach re subcategorization

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[1]As Przepiórkowski (2018) notes, while Tesnière is rightly credited with the introduction of a theory of linguistic valency, the metaphor of valency itself has appeared as early as in Peirce (1897), among others.

Levin (1993)'s seminal work provides much more fine-grained categorization of verbs based on their syntactic behavior.

levin

(Fillmore, 1967, 1970)

CxG would consider valency frame as a level of construction. Whether or not this construction is autonomous will depend on whether the unpredictability condition is satified - in so far that the properties of valency frame cannot be predicted from other grammatical units.

Croft (2012) takes a CxG approach.

2.2 Cross-lingual and contrastive studies of valency

Typological interest in valency is primarily focused on cross-linguistic mismatches, termed *metataxis* by Tesnière (1959).

Levin and Rappaport Hovav (2005) identifies five major questions that are necessary for a compelte theory of argument realization.

copy from hand notes and add how a typological study can help answer some of these questions

One of the key question is also whether this valency frame are syntactically defined or semantically so. Since in the study of argument structure, we're dealing with the syntactic expression of lexical and non-lexical semantics, this question is particularly difficult to answer.

Tsunoda (1981, 1985) proposes an hierarchy of verbs

2.3 Dependency grammars

Universal Dependencies

3 Data and methodology

3.1 Data sources

UD Treebanks   Zeman et al., 2022

ValPaL   (Hartmann et al., 2013) is a database

3.2 Methodology

Clustering   non trivial problem to distinguish between complement vs adjuncts

Alignment

Information Theory

4 Work plan

5 Conclusion

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