Mapping the Genitive Case:
Unveiling 100+ Semantic Relations in Sanskrit Syntax

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Abstract

In the domain of Natural Language Processing (NLP), one case, namely the genitive, marks more relations than others in terms of sentence parsing. The recently available parsers for Sanskrit show this genitive as the relation of the genitive case only in a general sense, which causes ambiguity in grasping the sentence's meaning in a particular sense. As far as the Sanskrit syntax is concerned, when one encounters two or three nouns in the same case, one understands the relation of predicate and subject (*viśeṣya-viśeṣaṇa sambandha*). However, two nouns in the same genitive case can be of both types, viz., the relationship of subject-predicate and relations denoted by the genitive case, namely possessor-possessed, etc. The latter one has more than one hundred senses[1], including the Karaka and non-karana relations. For examples:

(1) Sentence: Lubdhasya janasya kathā.
    Gloss: greedy-GEN person-GEN story-NOM.SG.

    Translation: The story of the greedy person.

(2) Sentence: Vṛkṣasya śākhāyāḥ chāyā.
    Gloss: tree-GEN branch-GEN.F shade-NOM.SG.

    Translation: The shade of the branch of the tree.

In the example 1, the nouns in the same genitive case, show the relationship of subject-predicate, whereas in example 2, the nouns show the relations of possessor-possessed. This work demonstrates the 100 + relations that can take place as lexico-semantic relations for the Genitive case with reference to Sanskrit. To specify these relations marked by the genitive case, we use synsets from the IndoWordNet[2] to provide a better sense of the particular genitive case. Sanskrit sentence parsing will be more precise once the genitive case relations are identified. Also, the nuance of *Ṣaṣṭhīsamāsa* (the combination of a noun with another noun in the genitive case) will also be more clearer.

Keywords:

Syntax, Genitive case, *Kāraka*, Sanskrit, Lexical and Semantic Relations, Semantics, Verbal Cognition.

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[1]Ekaśataṃ ṣaṣṭhyarthāḥ... (Mahābhāṣyam on P. 1.1.49)
[2]https://www.cfilt.iitb.ac.in/indowordnet/home