

# Adverbs in the Sanskrit Wordnet

**Tanuja P. Ajotikar**

Dept. of South Asian Studies  
Harvard University, Cambridge, MA  
The Sanskrit Library  
tanuja@sanskritlibrary.org

**Malhar Kulkarni**

Indian Institute of Technology Mumbai  
Powai, Mumbai, India  
malharku@gmail.com

## Abstract

The wordnet contains part-of-speech categories such as noun, verb, adjective and adverb. In Sanskrit, there is no formal distinction among nouns, adjectives and adverbs. This poses the question, is an adverb a separate category in Sanskrit? If not, then how do we accommodate it in a lexical resource? To investigate the issue, we attempt to study the complex nature of adverbs in Sanskrit and the policies adopted by Sanskrit lexicographers that would guide us in storing them in the Sanskrit wordnet.

## 1 Introduction

An adverb is an open-class lexical category that modifies the meaning of verbs, adjectives (including numbers) and other adverbs, but not nouns.<sup>1</sup> It can also modify a phrase or a clause. The category of adverb indicates: (a) manner, (b) time, (c) place, (d) cause, and (e) answers to the questions how, where, when and how much.

Fellbaum (1998, p. 61) describes adverbs as a heterogeneous group in which not only adverbs derived from adjectives are included but also phrases used adverbially. Some of these phrases are included in WordNet. These phrases are mainly frozen phrases that are used widely.

In this paper we discuss those adverbs which modify verbs, and how modern Sanskrit lexicography deals with them. Kulkarni et al. (2011) briefly discussed the issues regarding adverbs in the Sanskrit wordnet. We focused primarily on how modern Sanskrit lexicographers have dealt with them. The study of their methodology can guide us in forming a policy for representing adverbs in the Sanskrit wordnet.

## 2 Adverbs in Sanskrit

The Sanskrit grammatical tradition does not divide words into many categories. It divides words into two divisions: words that take nominal affixes and words that take verbal affixes. The words in the second division are verbs. Those in the first division are nouns, adjectives, adverbs, particles, etc., i.e., non-verbs. This is because unlike languages like English, Sanskrit does not have distinct forms for each part of speech. One cannot categorize a word merely by looking at its form. This is why there is not a formal category for adjective or adverb in traditional Sanskrit grammar. There is no equivalent term in Sanskrit for adjective or adverb in the modern sense (See Joshi (1967), Gombrich (1979)). Sanskrit can be analyzed under word classes other than noun and verb. Bhat (1991) observes that adjectives in Sanskrit form a sub-group of nouns. Likewise, adverbs, except indicinables, form a subgroup of nouns. Attempts were first made in the 19th century to describe Sanskrit using various word classes. Monier-Williams (1846), Wilson (1841), Speijer (1886), Whitney (1879) and Macdonell (1927) discuss adverbs in Sanskrit.<sup>2</sup> A summary of the description of adverbs given by these scholars is as follows:

- The non-derived words listed by traditional grammar and termed ‘indeclinable’ are used as adverbs, e.g., *uccaiḥ* ‘high,’ *nīcaiḥ* ‘below,’ *ārāt* ‘distant,’ etc.
- Compounds, like *avyayībhāva*, are used as adverbs, e.g., *yathāśakti* ‘according to power or ability.’<sup>3</sup> Some of the *bahuvrīhi*

<sup>2</sup>We refer to these works because Macdonell, Wilson and Monier-Williams compiled bilingual dictionaries. We refer to their works to study how far they follow their description in their dictionaries.

<sup>3</sup>In the sentence *yathāśakti dātavyam* ‘you may give according to your ability,’ the compound *yathāśakti* modifies the action. Hence, it is an adverb.

<sup>1</sup><http://www.odlt.org>

compounds are also used as adverbs, e.g., *keśākeśi* ‘hair to hair’ (i.e., head to head).<sup>4</sup>

- Words formed by adding certain affixes, such as *śas*, *dhā*, etc., are used as adverbs. The affix *śas* is added after a nominal base or a number word in the sense of *vīpsā* ‘repetition.’ Words like *śataśaḥ* ‘hundred times’ are formed by adding this affix. The affix *dhā* is added after a number word in the sense of *vidhā* ‘division or part.’ Words like *dvidhā* ‘twofold’ or *tridhā* ‘threefold’ are formed by adding this affix. Words formed by adding certain affixes after a nominal base are considered indeclinable by the traditional grammarians.
- The accusative, instrumental, ablative and locative cases of a noun or an adjective are used as adverbs, e.g., *mandam* ‘slowly,’ *vegena* ‘hastily,’ *javāt* ‘speedily,’ *sannidhau* ‘near.’

This summary shows that we can classify adverbs in Sanskrit in three main groups: words that are unanalyzable in parts, such as a base and an affix; words that formed by secondary derivation, such as adding an affix or forming a compound; and words that have an adverbial sense but belong to a class of words which are not adverbs, for example, the accusative or instrumental case of any noun or adjective. A morphological analysis of these words would categorize them under nouns because they are formed by adding the same affixes that are added after a noun, even though their function differs. In other words, qualifying a verb or an adjective in Sanskrit does not require the use of a distinct morphological form. The difficulty in dealing with adverbs in Sanskrit arises only if we have a form-based idea of word classes. It becomes lexically opaque to judge a category simply by looking at the form. The adverb is a functional category in Sanskrit, not formal one. Hence, adverbs pose a problem in Sanskrit lexicography because they lack a distinguishing form and they are functional.

<sup>4</sup>In the sentence *te keśākeśi yuddhyante* ‘they battled hair to hair’, the compound *keśākeśi* also modifies the action so it is an adverb.

## 2.1 The importance of part-of-speech categories in lexical entries

The nature of adverbs in Sanskrit is complex, so it is a matter of discussion what the exact relationship is between a part-of-speech category and a dictionary. Lexemes do not occur in isolation. They form part of a phrase or sentence. In this way, the role of a lexicon is to structure sentences. Lexemes form an important part, as they determine the syntactic structure of sentences. Each and every lexeme plays a certain role in a sentence. The morphological and syntactic behavior of a lexeme determines its class. This class is designated as a part-of-speech category. It is also called a word class, lexical class or lexical category. Noun, verb, adjective and adverb are major word classes. Thus, a lexicon, which is an inventory of lexemes, contains these major word classes to denote the morphological and syntactic behavior of the lexemes listed in it. The morphological and syntactic behavior of a language decides what kind of information a lexicon should contain.

In Sanskrit, where there is no formal distinction between adverb and noun (with the exception of indeclinables), the following question arises: Should an adverb be a separate category in a Sanskrit lexicon? It would be interesting to study the policy adopted in the available lexical resources of Sanskrit, which range from 1819 C.E. to 1981 C.E, to answer this question. The examples below were given by Gombrich (1979):

- *atra* ‘here’
- *ciram* ‘for a long time’
- *javena* ‘speedily’
- *tūṣṇīm* ‘silently’
- *vividhaprakāram* ‘variedly’
- *śīghram* ‘quickly’

Gombrich observes that the first, second and fourth examples are found in the traditional grammar. However, the rest of the adverbs are not recognized as such. His article is important because he has thoroughly discussed the position of traditional Sanskrit grammarians on adverbs, and given an historical account of the concept of adverb. He points out that words that function as adverbs are not grammatically analyzed; instead, they are simply listed by traditional grammarians. There is

no process of deriving adverbs from adjectives. Hence, *ciram*, *cirāt*, *cirasya* ‘for a long time,’<sup>5</sup> which might be derived from the same word, are listed separately. Their status is independent. This forms a base for entering these words in a lexicon as separate lexemes.

## 2.2 Adverbs in the list above and the treatment they receive in dictionaries

We consulted eighteen dictionaries of Sanskrit to study the treatment given to the above-mentioned adverbs. Two of these eighteen dictionaries are monolingual and the rest are bilingual. Among those bilingual dictionaries, (Goldstücker (1856) and Ghatge (1981)) are not complete. These eighteen dictionaries are listed chronologically below:

- Radhakanatdeva, (Monolingual), 1819–1858.
- Wilson H. H., Sanskrit–English, 1832.
- Yates W., Sanskrit–English, 1846.
- Bopp F., Sanskrit–French, 1847.
- Böhlingk, O. and Roth R., Sanskrit–German, 1855–1875.
- Goldstücker T., Sanskrit–English, 1856.
- Benfey, T., Sanskrit–English, 1866.
- Burnouf É., Sanskrit–French, 1866.
- Böhlingk, O., Sanskrit–German, 1879–1889.
- Monier-Williams M., Sanskrit–English, 1872.
- Bhattacharya T., (Monolingual), 1873.
- Cappeller, C., Sanskrit–German, 1887.
- Apte V. S., Sanskrit–English, 1890.
- Cappeller, C., Sanskrit–English, 1891.
- Macdonell A. A. Sanskrit–English 1893
- Monier-Williams M., Leumann, and Cappeller, Sanskrit–English, 1899.
- Stchoupak, N., Nitti, L. and Renou L., Sanskrit–French, 1932.

<sup>5</sup>These forms resemble the accusative singular, ablative singular and genitive singular, respectively, of a nominal base which ends in short *a*.

- Ghatge, A. M., Sanskrit–English (Encyclopedic dictionary on historical principles), 1981.

Let us analyze how the above-listed adverbs are treated in these Sanskrit dictionaries.

### 2.2.1 *atra*

*Atra*, which means ‘here,’ is an indeclinable according to the traditional Sanskrit grammarians, whereas its treatment in dictionaries varies. It is derived from the pronoun *etad* ‘this’ by adding the affix *tral*. It is termed indeclinable by the rule *taddhitaścāsarvavibhaktiḥ* A.1.1.38.<sup>6</sup> There are more such words formed by adding the affix *tral*, such as, *tatra* ‘there,’ *kuṭra* ‘where,’ etc. We will discuss only *atra* in detail in this paper.

#### Derivation of *atra*

*etad tral*

*a tra* (*etad* is replaced by *a*)

*atra*

All the lexicographers treat it as an adverb except Monier-Williams (1872), Monier-Williams, Leumann, and Cappeller (1899), Apte (1890) and Goldstücker (1856). These lexicographers consider it indeclinable, as does Radhakanatdeva (1819–1858) and Bhattacharya (1873–1884). Cappeller (1887) does not assign any category to it, but describes it morphologically. We can observe that the lexicographers who use the term indeclinable as a part-of-speech category follow traditional grammar. Other lexicographers, though aware of this analysis do not follow the traditional grammar.

### 2.2.2 *tūṣṇīm*

The traditional Sanskrit grammarians list words which are non-derivable. That list gets the status of indeclinable. The word under discussion is a member of this list. *Tūṣṇīm*, which means ‘silently,’ is categorized as an indeclinable. Radhakantadeva (1819–1858), Wilson (1832), Monier-Williams (1872), Monier-Williams, Leumann, and Cappeller (1899), Bhattacharya (1873–1884) and Apte (1890) follow the tradition and indicate its category as indeclinable. The rest of the lexicographers assign it to the category of adverb. Here also we can observe that Radhakantadeva (1819–1858) and Bhattacharya (1873–1884) are consistent in following the traditional grammar. Those lexicographers who label it an adverb are

<sup>6</sup>This is a rule in Pāṇini’s *Aṣṭādhyāyī*. It assigns the term *avyaya* ‘indeclinable’ to those words which end in the affixes termed *taddhita*, and are not used in all cases.

also consistent in analyzing indeclinables listed by the traditional grammarians as adverbs.

### 2.2.3 *ciram*

*Ciram* means ‘for a long time.’ It can be analyzed as the accusative case of *cira*. The traditional grammarians of Sanskrit treat it as an indeclinable, as they include it in the list of non-derivable words. They do not analyze it as a nominal form, even though lexicographers vary in their analysis. Macdonell (1893), Yates (1846), Bopp (1847), Cappeller (1887), Cappeller (1891) assign an adverb category to it. Wilson (1832), Monier-Williams (1872) and Monier-Williams, Leumann, and Cappeller (1899) treat it as an indeclinable. Apte (1890), Böhtlingk and Roth (1855–1875), Benfey (1866) and Burnouf (1866) describe its adverbial role, but do not assign an adverb category to it.

Macdonell (1893), Böhtlingk (1879–1889), Monier-Williams (1872), Monier-Williams, Leumann, and Cappeller (1899), Benfey (1866) and Burnouf (1866) list it under *cira*. Thus, they assume that all forms of *cira* are derivable—forms such as *ciram* (formally identical to the accusative singular of a nominal base which ends in short *a*); *cireṇa* (formally identical to the instrumental singular of a nominal base which ends in short *a*); *cirāya* (formally identical to the dative singular of a nominal base which ends in short *a*); *cirāt* (formally identical to the ablative singular of a nominal base which ends in short *a*); and *cirasya* (formally identical to the genitive singular of a nominal base which ends in short *a*). These are given separately by Radhakantadeva (1819–1858) and Bhattacharya (1873–1884), who treat these forms as indeclinable. This evidence is sufficient to say that *ciram*, *cireṇa* and *cirāya*, *cirāt*, *cirasya* are different words according to them—not declensions of *cira*, which is contrary to the western lexicographers’ treatment. Thus, western lexicographers do not follow the traditional grammar in this case. Radhakantadeva (1819–1858) and Bhattacharya (1873–1884) follow the tradition and maintain their independent status.

### 2.2.4 *javena*

This is the instrumental singular of *java* ‘speed.’ None of the lexica records this form as an adverb, but its ablative form is assigned an adverb category by Cappeller (1887). Böhtlingk (1879–1889) notes its ablative form, and gives its mean-

ing as *eiligst* (haste), *alsbald* (soon). Stchoupak, Nitti, and Renou (1932) note its accusative and ablative forms and give its meaning as *rapidement*, *vivement* (quickly, sharply). They do not assign any category to it. But the meanings given certainly reflect its adverbial use. The instrumental case of *java* ‘speed’ does not occur in dictionaries and hence is not recognized as an adverb. Accordingly, words like *raṁhasā*, *vegena*, *vegāt* ‘speedily’ should be recognized as adverbs since they are instrumental and ablative singular forms of *raṁhas* and *vega* ‘speed’ respectively. However, these also do not occur in dictionaries.

### 2.2.5 *vividhprakāram*

The word *vividhprakāram* ‘variedly’ is not found in any of the dictionaries. It is the accusative singular form of *vividhprakāra* which is a *kar-madhāraya* (endocentric) compound.

### 2.2.6 *śīghram*

The word *śīghram* ‘quickly’ is the nominative and accusative singular form of *śīghra* ‘quick.’ In the present context it is the accusative singular form. All the lexicographers consider it an adverb, except for Monier-Williams (1872), Monier-Williams, Leumann, and Cappeller (1899) and Apte (1890) who consider it an indeclinable. Stchoupak, Nitti, and Renou (1932) do not consider *śīghra* an indeclinable or an adverb but rather an adjective. Burnouf (1866) mentions its gender and accusative form, but does not assign any category. Yates (1846) mentions its neuter gender by giving the nominative form, as well as assigns an adverb category to it. All of these lexicographers have analyzed it as derived from *śīghra* which is an adjective. Monier-Williams (1872) and Monier-Williams, Leumann, and Cappeller (1899) do not use the adjective category. Instead, they use the abbreviation *mfn* (masculine, feminine and neuter) to show that the word is used in all genders. Wilson (1832) and Cappeller (1887) record *śīghra* as a neuter word; thus, they consider it a noun. Radhakantadeva (1819–1858) and Bhattacharya (1873–1884) list *śīghra* and indicate its gender as neuter. Then they mention its adjectival use through the term *tadvati tri* (i.e., having that (speed)). It can be inferred that they consider *śīghra* a noun since they note its gender, but do not mention its adverbial use. All of the lexicographers, except for Radhakantadeva (1819–1858) and Bhattacharya (1873–1884), take into consid-

eration the adverbial *śīghram*, but do not consider it an independent lexeme.

### 2.2.7 *yathāśakti*

The word *yathāśakti* ‘according to one’s power or ability’ is an *avyayībhāva* compound. Radhakantadeva (1819–1858), Bhattacharya (1873–1884), Monier-Williams (1872), Monier-Williams, Leumann, and Cappeller (1899) and Apte (1890) give its category as indeclinable following the traditional analysis. Benfey (1866), Bopp (1847), Macdonell (1893) do not list this word, even though other *avyayībhāva* compounds are assigned to the adverb category.

## 3 Observations on the basis of the previous section

This investigation gives rise to certain observations. We may say that *tūṣṇīm*, *atra* and *yathāśakti* are formal adverbs.

*Ciram* can be derived from *cira*, but its other forms like *cireṇa*, *cirāya*, *cirāt*, *cirasya* are also used as adverbs. So whether to analyze it formally or functionally is a matter of debate. Radhakantadeva (1819–1858) and Bhattacharya (1873–1884) treat all these forms as synonyms on the basis of the *Amarakośa* (a 6th century A.D. Sanskrit thesaurus), and do not mention them under one lexeme, i.e., *cira*. Hence, we may say that it is also a formal adverb on the basis of the monolingual dictionaries.

*Śīghram* is also treated as a form of *śīghra*, which is an adjective according to western lexicographers. Hence, we may say that it is an adverbial not an adverb, whereas Radhakantadeva (1819–1858) and Bhattacharya (1873–1884) treat it as a noun. They also take into consideration its use as an adjective. If we follow modern western lexicographers, then *śīghram* is an adverbial. If we follow monolingual dictionaries, then it is neither an adverb nor an adverbial. In this way, it is difficult to decide the exact criterion by which to label its category.

*Javena* is an adverbial. None of the lexica assign it to the category of adverb. Cappeller (1887), it should be noted, cites its adverbial use in the ablative case. Interestingly, Bhattacharya (1873–1884) cites an example under *java* where it occurs in the instrumental case, but he is silent about its part-of-speech category. The one example given by Gombrich that is not found in any of these dictionaries is *vividhaprakāram*.

Table 1: The number of completed synsets for each part-of-speech category in Sanskrit wordnet

Nouns	27563
Verbs	1247
Adjectives	4031
Adverbs	264
Total	33117

On the basis of this investigation, we may say that there is no single policy adopted by modern Sanskrit lexicographers to record adverbs. Even after this investigation, doubts regarding the category of certain forms remain.

## 4 Adverbs in Sanskrit wordnet

These lexica are in print form and written purely from the point of view of human use. Hence, a single entry contains a lot of information. Multiple functions of a word can be listed under one entry. But when a lexical resource is built for machines, then this strategy cannot be adopted. Multiple functions of a word are stored separately. In other words, there is more than one entry for the same word based on its meanings and functions, whatever information is necessary to make it explicit for a machine.

The Sanskrit wordnet is being developed by following the expansion approach, and its source is the Hindi wordnet. It is a well known fact that Sanskrit is a morphologically rich language. So a proper policy should be adopted for part-of-speech categories that take into account their nature. A long and rich tradition of Sanskrit grammar guides us in this regard. Following the tradition, we accept the verbal roots given in the list of verbal roots known as the *dhātupāṭha* after removing their metalinguistic features. For nouns, we enter the nominative singular form, and we enter the base forms of adjectives.

Given the discussion above, should the Sanskrit wordnet have a separate category called ‘indeclinable’ which links to the relevant synsets in the Hindi wordnet, or should it just retain the category of adverb? A wordnet recognizes a separate category for function words even though none are actually included in it. Indeclinables in Sanskrit consist of function words as well as content words. Hence it is difficult to adopt the category ‘indeclin-

able’ in the Sanskrit wordnet, which may harm the basic principle of a wordnet. To avoid this, we retain the adverb category. Thus, we follow western lexicographers who assign the adverb category to those words which are indeclinables and which can be termed *formal* adverbs. These words appear without any change in the Sanskrit wordnet, e.g., *atra* ‘here,’ *iha* ‘here,’ etc. They appear in the same synset (id 2647).<sup>7</sup> The compound *yathāśakti* is also entered without any change.<sup>8</sup>

The issue of adverbials remains to be solved. How do we store the oblique cases of nouns or adjectives that are used as adverbs? If they are stored in their base forms, their role as an adverb is restricted. Not all of the forms are used as adverbs. The Sanskrit wordnet resolves this issue by storing the declined forms. For example, *śīghram*, *śīghreṇa*, *javena*, *javāt* appear in one synset (id 1922).<sup>9</sup> At the same time, there is a separate entry (id 5118) for *śīghra*.<sup>10</sup> In this way, we may say that the Sanskrit wordnet stores adverbials. We do not claim that this phenomenon is recognized for the first time in the history of Sanskrit lexicography. It is implicit by its representation in the dictionaries. We make it explicit for computational processing so that it will be helpful for an automatic parser of Sanskrit. Such a parser would benefit from a lexical resource that contains both adverbs and adverbials.

## 5 Adverbs in the Hindi and Sanskrit wordnets

The discussion in the previous sections focuses on adverbs as a part-of-speech category. In this section, we address two issues regarding the linking of synsets of adverbs.

1. It is difficult to link a synset in the source language if it uses an adverb to express what the target language conveys by using pre-verbs that are bound morphemes.

2. According to the policy of the expansion approach, we cannot link a synset whose part-of-speech category in the source language differs from that in the target language. For example, if

<sup>7</sup>The source synset in Hindi is *yahāṃ isa jagaha itaḥ ita iha ihāṃ ihavāṃ ūṅghe ihāṃ yahāṃ*

<sup>8</sup>The source synset in Hindi is id 9882 *yathāśakti*, *yathāśambhava*, *bhaarasaka*, *yathāśādhyā*, *śamātānusāra*, *yathāśama* ‘according to one’s power or ability.’

<sup>9</sup>The linked Hindi synset contains more than 30 words such as *jhatpat*, *catpat*, etc.

<sup>10</sup>The linked Hindi synset is *tīvra*, *druta*, *teja*, etc.

the source language uses a noun or an adjective, and the target language uses an adverb to convey the same lexical concept, then we cannot link these synsets.

These are cases of language divergence that become apparent when Sanskrit is analyzed in comparison to other languages. Let us take an example for each of the two above-mentioned issues.

### 5.1 Adverbs in Hindi and preverbs in Sanskrit

#### Hindi Synset id 10819

**Gloss:** *lauṭakara phira apane sthāna para* ‘Returning to his own place again.’

**Example:** *Mohana kala hi videśa se vāpasa āyā* ‘Mohana came back yesterday from abroad.’

**Synset:** *vāpasa vāpisa* ‘back’

Sanskrit uses the preverb and verb combination to convey the meaning ‘back.’ It does not use an independent word. The preverb *prati* is used with verbs of motion. We cannot store preverbs separately in synsets because they are bound morphemes. So the synset in the Hindi wordnet is not linkable to the Sanskrit wordnet. This aspect of preverbs that conveys adverbial sense becomes apparent when Sanskrit is analyzed in the context of another language, i.e., Hindi.

### 5.2 Cross part-of-speech category

#### Hindi Synset id 11374

**Gloss:** *āṃkhoṃ ke sāmanevālā* ‘the one who is in front of eyes.’

**Example:** *śikṣaka ne chātrom ko pratyakṣa ghaṭanā para ādhārīta nibaṃdha likhane ko kahā.* ‘The teacher asked students to write an essay based on an actual incident.’

**Synset:** *pratyakṣa sāksāt anvakṣa aparokṣa samakṣa nayanagochara* ‘evident.’

The Sanskrit word *pratyakṣa*, which is an *avyayībhāva* compound, is not an adjective in the sense of ‘evident’ but an adverb. When this word was borrowed in Hindi, its category changed. So the synset in Hindi is not linkable to the Sanskrit wordnet under the adjective category. Cross part-of-speech category linkage would be a solution for this problem.

## 6 Adverbs and their relations

There are two kinds of relations, ‘derived from’ and ‘modifies verb,’ for adverbs in the Hindi wordnet, and so also in the Sanskrit wordnet. Both of

these relations cross the part-of-speech category. The first relation is between a noun and an adverb or between an adjective and an adverb, and the second relation is between a verb and an adverb. The adverbials, such as *vegana*, are easy to link by this relation. In this case, *vega* ‘speed’ is a noun which is linkable to *vegana* with the relation ‘derived from.’ The non-derived adverbs such as *uccaiḥ* ‘high,’ *nīcaiḥ* ‘below,’ and *śanaiḥ* ‘slowly’ cannot be linked with any other noun or adjective because they are frozen forms. These non-derived adverbs may not present a complex situation, as there is only one form. The complexities arise with words like *cira* ‘for a long time.’ If adverbs such as *ciram*, *cirasya*, etc. are considered as derived from *cira*, then there should be a separate synset in the adjective category. It is hard to form such a separate synset because it is not used as an adjective. If these adverbs are considered non-derived, then they cannot be linked to any other synset with the relation ‘derived from.’

The compound *yathāśakti*, for example, is derived from *yathā* and *śakti*. Should it be linked to both of these words? Currently, it is linked only to *śakti*. Thus, it is a matter of concern whether compounds should be linked to one or more of their components. In this way, there is a need for more analysis regarding the relations of adverbs in Sanskrit.

## 7 Conclusion

From the above discussion, it is clear that adverbs in Sanskrit are formal as well as functional, and that they have not received any uniform treatment in the hands of lexicographers. Formal adverbs are easy to store under the adverb category in the Sanskrit wordnet. The real challenge is with the nominal forms, adverbially used. It is the Sanskrit wordnet’s contribution to lexicalize the adverbials, especially the declined forms of nouns and adjectives. The real challenge is to collect all of the possible cases. Currently, the Sanskrit wordnet stores those cases that are available in the lexical sources it uses.

The case of adverbs in Sanskrit reveals the complexity of their nature. Clearly, a lexicon developed for a machine use will need to adopt strategies suitable for its system.

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