Hierarchical Grammatical Tagging for Tinai (Landscape) of Cankam Tamil Literature

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Abstract
Tinai poetics from the ancient Tamil literature has significantly contributed to the environmental literary theory. The ancient Cankam poets belong to pre-Christian era, known as Cankam poets, because of their involvement with Tamil literary academies. They had remarkable success in cultivating their creative minds with the rudiments of landscape, which they belonged to. These enshrined landscapes are known as Tinai. The integration of Tinai into the poems requires the poetics to pull their creative energy from the space that nature had allocated for everyone. They believed that poetry is way of communication and the images and metaphors in their poems develop from the natural subjects that may be deliberated as artistic objects. These natural objects consist of Mutalporuḷ, Uripporuḷ, and Karupporuḷ which determine the type of the tinai. This paper deals and suggests how to tag the Tamil Kuriñci tinai system in Tag set structure.

Keywords: Cankam Age, Karupporuḷ and Uripporuḷ, Mutalporuḷ, Tamil, Tinai,

1. Introduction
The Cankam\tnai poetics of ancient Tamil literary tradition is structurally meaningful. The organic elements of the poems are comprehensible. The organic elements can be divided into Mutalporuḷ, Karupporuḷ and Uripporuḷ. The third verse of Akathinai Iyal in Tolkāppiyam, suggests, “Considering the literary usage of, Mutalporul, Karupporul and Uripporul are the three important constituents by which the thinai of a poem is determined”. Mutalporuḷ signifies the landscape, the time and seasons i.e., (poluthu) appropriate to the landscape. Karuporul refers to the deity, people, flora, fauna, topography, musical instruments, and occupation connected to a specific landscape. Uriporul concerned to the ‘oḻukkam’ i.e., (behaviour or emotions) attributed to a landscape.

There are five types of tinai namely Marutam, Kuriñci, Mullai, Neytal and Palaḷi. Kuriñci pertain the unification of lovers. The beloved unwearyingly waiting for her lover is visualized against the backdrop of mullai. The emotion related with neithal is sadness and misery caused by a brief separation of the lovers. Lovers’ quarrels are witnessed in marutham while pālai indicate the agony of long separation or the beloved anxiously waiting for her lover who has set out on a dangerous journey.

Sometimes the ‘Mutalporuḷ’, ‘Karupporuḷ’ and ‘Uripporuḷ’ pertaining to a specific landscape or ‘Tinai’ may occur in a verse belonging to another ‘Tinai’. This ambiguity or overlapping is called ‘Tinaimayakkam’. For eg., in verse 308, which belongs to pālai Tinai, there is a reference to Lord Muruga who is the deity of Kuriñci Tinai and hence the karuporuḷ of that Tinai. Content of the poem dealt with Uripporai, Karupporai, and Mutalporai. To avoid such confusions this research is ought to look for a solution. By this Tagging Application we can identify the Tinai precisely from the given poem.

2. Tag set structure
A tag set describes instructions for constructing a markup language from data set. The resulting output contains embedded instructions defining layout and some content. Flat tag sets note down the elements appropriate for a language regardless of any condition for modularity or feature reusability. Hierarchical tag sets are ordered connectively to one another. This arrangement offers a definite means for generating a common tag set outline.
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for many languages. Decomposability in a tag set allows distinct characteristics to be programmed according to the distinct sub-stings. A better corpus analysis is made possible by decomposable tags. The tags enables search to be made with an underspecified search string. In present framework, hierarchical layout and decomposable is adapted for designing the tag set.

2.1 What to Encode?
In Tinai tagging only the aspects of morph syntax for annotation will be considered. The article discusses only on the morph syntactic elements of Tamil language for encoding in the framework.

2.1.2 Morphology and Granularity
Morphological analysis is required for the Tinai tagging. It involves preliminary processing to get better results in automatic tagging. The morph syntactic elements in the framework are encoded. Leech (1997) noted that, computationally some of the distinct linguistic patterns are not practicable. Therefore, such features are ignored at Tinai tagging level.

2.1.3 Multi-words
Constituents of Multi-Word Expressions (MWEs) like Cankatamililakkiyam are denoted as individual words and tagged separately. Single tag is avoided as the earlier tag sets followed the standard practice. Besides that, assembling MWEs into a single unit should preferably be handled in chunking.

Tamil Classical Literature glossaries from the Tamil virtual university website were used as references for the tagging purpose.

2.2 The Relationship between Tinai and Landscape
The following table shows the characteristics of each Tinai.

<table>
<thead>
<tr>
<th>Landscape</th>
<th>[kurjści]</th>
<th>Mullai</th>
<th>Marutam</th>
<th>Neytal</th>
<th>Pālai</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood</td>
<td>Lovers uniting</td>
<td>Heroine patiently waiting over separation</td>
<td>Lovers quarreling / wife’s petulance (husband accused of visiting a prostitute)</td>
<td>Heroine expressing grief over separation</td>
<td>Run away secretly, Longest separation, treacherous journey by the hero</td>
</tr>
<tr>
<td>Flower</td>
<td>[kurjści]</td>
<td>Mullai</td>
<td>Marutam</td>
<td>Water lily</td>
<td>Pālai</td>
</tr>
<tr>
<td>Landscape</td>
<td>Mountains</td>
<td>Forest, pasture</td>
<td>Agricultural areas, plain or valley</td>
<td>Seashore</td>
<td>Parched wasteland, Desert</td>
</tr>
<tr>
<td>Time</td>
<td>Midnight</td>
<td>Evening</td>
<td>Shortly before sunrise</td>
<td>Sunset</td>
<td>Noon</td>
</tr>
<tr>
<td>Season/Climate</td>
<td>Winter/cool and moist</td>
<td>Late Summer/Cloudy</td>
<td>No Specific Season</td>
<td>No Specific Season</td>
<td>Summer</td>
</tr>
<tr>
<td>Animal</td>
<td>Peacock, Monkey, Elephant, horse, bull</td>
<td>Deer</td>
<td>Water Buffalo, Freshwater fish</td>
<td>Crocodile, Shark</td>
<td>Fatigued elephant, tiger, or wolf</td>
</tr>
<tr>
<td>Crop/Plant</td>
<td>Jackfruit bamboo, venkai</td>
<td>Konŗai</td>
<td>Mango</td>
<td>Punnai</td>
<td>Cactus</td>
</tr>
<tr>
<td>Water</td>
<td>Waterfall</td>
<td>Rivers</td>
<td>Pond</td>
<td>Well, sea</td>
<td>Dry wells, stagnant water</td>
</tr>
<tr>
<td>Soil</td>
<td>Red and black soils with stones and pebbles</td>
<td>Red soil</td>
<td>Alluvial</td>
<td>Sandy, saline soil</td>
<td>Salt affected soil</td>
</tr>
<tr>
<td>Occupation</td>
<td>Hill tribes, collecting honey</td>
<td>cultivator</td>
<td>Pastoral and farming occupations</td>
<td>Selling fish, salt, fisher folk</td>
<td>Travelers, bandits</td>
</tr>
<tr>
<td>God</td>
<td>cēyōn or Murugan</td>
<td>māyōn or māl</td>
<td>vēntan</td>
<td>kaṭalōn</td>
<td>Koŗṟavai</td>
</tr>
</tbody>
</table>
being set to fire by the flame. However, the analogue does not alter the fact of the light being the flame, and not the object that produces it. Correspondingly, although the Tiṇai associated with the lovers union is named the kuṟiṅći “mountain country, the Tiṇai is like the object that is emitting light. The Tiṇai itself is the subject of the poem, namely, the amalgamation of the lovers.

2.3.1 The Geographical Tiṇai: Frame Work

The five geographical Tiṇais have flowers as their name. Each of these flowers attributes to the feature of the particular landscape accordingly. However, when translated in English it is necessary to utilize the name of the landscape rather than that of the flower. It is because, English language exhibits less cultural relationship with flowers compared to Tamil language. Tamil language interconnected more with the cultural quality of the flower. For the purpose of this article only Kuṟiṅći tiṇai will be discussed.

• Kuṟiṅći– Mountainous Region

The mountain becomes the backdrop for the lover’s union at midnight. The mountainous region is prosperous with lakes, waterfalls, teak, bamboo and sandalwood. Kulendran 2012 describes the setting as, “love in this setting is shown by Murugan, and one of his wives, Valli, the daughter of a mountain dweller. He puts in the radiant red kantal flower and rides a peacock, the bird of the mountains.” The name of the region, Kuṟiṅći, is also the name of the famous Kuṟiṅći flower (Strobilantheskunthiana). This flower grows in the hills. It blossom for only a few days once every twelve years. Beneath the sun, the flower covers the slopes in radiant whiteness. Such scenery celebrates the passion of a love uniting with nature. It is displayed when the lovers passionately hold each other tightly amidst the menace of the mountain trail.

The following passage shows the example of tagging for Kuṟiṅći Tiṇai.
3. Conclusion

This paper serves as an ideological framework. It can be used in the computer world to set up a database and facilitate the process of identifying the tiṇai concepts in a literature work.

4. References

7. nikanṭukal, Tamil Virtual Academy, Available from: http://www.tamilvu.org