P. KOTHANDARAMAN

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P. Kothandaraman

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To My Parents

FOREWORD

The rich literary and grammatical tradition of Tamil can be traced back to many centuries before Christ and one can find hundreds of first rate scholars during the long period of its history who have produced a vast body of materials both on Tamil language and literature. It is a well known fact that for the development of any language constant and continuous growth in these fields is a must and fortunately Tamil is found to have been enjoying the rich contributions from a great many literary giants. This is also true in the case of grammatical study and the earliest extant book in Tamil itself is a grammatical treatise.

Tolkappiyam is the first available work in Tamil and it also presupposes a great amount of literature though they have not come down to us. It is a first rate work on Tamil grammar wherein the author has displayed his linguistic acumen which will never fail to impress upon even the 20th century linguists. It is really a wonder to know that the author of this great work was in a position to understand the complexities of the language and to come to certain conclusions some of which are really remarkable.

The mastery of this giant over the grammatical theories and the illuminating linguistic insight of his mastermind can be very well seen in his work and they can be documented well even from the point of view of modern linguistics. It is true that in Tolkappiyam many things are not made clear, several other things are not stated explicitly and many striking improvements can be made by modern linguists. Yet one cannot question his mastery in the subject and

his extraordinary insights and above all his linguistic consciousness.

This grammatical tradition has been continuing for long and we find good grammarians in people like Pavananti, the author of Nannul, Puttamittiranar, Kunavira Panditar and several others. These writers had shown marked eminence in the department of grammar and allied subjects such as poetics, and rhetoric.

In their works various grammatical problems are treated with elegance and one has to congratulate these authors on their wonderful way of treating several complicated problems though some of them demand further research.

This tradition continues in the 20th century and it is no wonder that we have several grammarians and linguists in our midst who have been contributing heavily towards the study of Tamil language. Many scholars like L. V. Ramaswamy Ayar, S. Vaiyapuri Pillai, M. Raghava Iyengar, V. Venkatarajulu Reddiar and several others have initiated the language study from the philological point of view and successfully attempted to lay the foundation of linguistic study rather in a traditional way. The writings of these savants have kindled a new interest and created more enthusiasm among the Tamil scholars. The importance of the contributions of Dr. T. P. Meenakshisundaran and Dr. M. Varadarajan cannot be exaggerated and they are considered to be the source of inspiration for young scholars.

P. Kothandaraman of the Centre of Advanced Study in Linguistics is one of the many scholars who work in the Centre on various linguistic problems and I must appreciate him for his interest in the subject and congratulate him on his good work.

In the present book the author has displayed his linguistic insights in many places and one will not fail to notice his scholarship both in traditional grammars and modern linguistics throughout the work.

It is very gratifying to note that the young scholar is able to place his research findings to Tamilologists in a more permanent way.

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Director,
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Annamalainagar
December 5, 1972.

ACKNOWLEDGEMENT

PREFACE

The seven essays that follow deal with seven problems in Tamil Linguistics. With the exception of the three papers, 'Copula Verb in Tamil Syntax', 'Verb Conjugation in Tamil and 'A Note on *ai* and *au* in Tamil', the others have been read in various seminars. In two papers, other Dravidian languages, namely Telugu and Malayalam have also been chosen for discussion. However, the main part of this book deals with Tamil Linguistics. This tiny volume is published with the hope that it might be useful for those who are interested in Tamil Linguistics.

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Foreword

Acknowledgement

Preface

I. SENTENCE ADVERBS IN TAMIL AND TELUGU

The main aim of this paper is to show how the so called
sentence adverbs in Tamil and Telugu are derived from
sentences. Also it aims to explain that the sentence adverbs
modify the whole sentence which they precede, not the verb
alone and that they are different from the other set of derived
adverbs which modify the verb alone.

It is a known fact that -a:ka in Tamil and -ga: in Telugu,
were treated as adverbial markers. According to this treatmen
the derived adverbs or adverbials are formed by adding these
markers to the nouns[1].

	Tamil	**Telugu**	
e.g.,	ko:pam-a:ka	ko:pam-ga:	'angrily.'
	aḷaku-a:ka	andam-ga:	'beautifully'
	u:kkam-a:ka	utsa:ham-ga:	'enthusiastically'
	tu:ymai-a:ka	subram-ga:	'cleanly'
	uṇmai-a:ka	nijam-ga:	'truly'
	culapam-a:ka	sulabham-ga:	'easily'

In these instances the adverbial markers are added to a kind
of abstract nouns[2]. Also there are instances like

> avaṇ nalla paḷama:ka va:ṅkiṇa:ṇ
> 'He selected good fruits and bought'

---

[1] G. U. Pope, A. H. Arden and others treat -a:ka as an adver-
bial marker. They are of the opinion that a noun might be
converted into an adverb by adding -a:ka to it.

[2] Though kaṭamai 'duty', viṭutalai 'freedom', a:ṟṟal 'skill', etc.
are abstract nouns, they cannot form adverbs like ko:pa-
ma:ka, etc. by taking -a:ka.

avaṉ viːṭu viːṭaːkap po ṉaːṉ
'He went door to door'

avaṉ pattup pattaːkak koṭuttaːṉ
'He gave in tens'

avaṉ nallataːkak koṭuttaːṉ
'He selected good ones and gave me'

avaṉ kaṇṇaṉ vantataːkac coṉṉa ṉ
'He told me that Kannan came'

etc. in Tamil where we find Noun + -*aːka* constructions. When we closely examine them it might be clear that *koːpamaːka*, *aḷakaːka*, etc. are syntactically different from *nalla paḷamaːka*, *viːṭu viːṭaːka*, etc. The problem of Noun + Ta. -*aːka*, Te. -*gaː* construction is very complicated and it is not our concern to study all kinds of Noun + -*aːka*, -*gaː* constructions[*]. Consider the following sentences. (Tamil sentences are prefixed with (a) and Telugu ones with (b) henceforth.)

1.1 a. *uṇmaiyaːka avar iṅku vantaːr*

  b. *nijaṅgaː vaːru ikkaḍaki occǣru*

    'Truly he came here'

1.2 a. *avar iṅku vantaːr eṉpatu uṇmai*

  b. *vaːru ikkaḍaki occǣru aneːdi nijam*

   'It is true that he came here'

1.3 a. *avar uṇmaiyaːka iṅku vantaːr*

  b. *vaːru nijaṅgaː ikkaḍaki occǣru*

    'Truly he came here'

---

[*] It must be mentioned here that E. Annamalai (1958) has dealt with many important problems regarding the N+*aːka* constructions in Tamil in his thesis, *The so-called adverbs in Tamil*. I am indebted to E Annamalai for he kindly allowed me to use the thesis.

1.4 a. *avar ko:pama:ka iṅku vanta:r*

   b. *va:ru ko:paṅga: ikkaḍaki occā̄ēru*

   'He came here angrily'

1.5 a. *ko:pama:ka avar iṅku vanta:r*

   b. *ko:paṅga: va:ru ikkaḍaki occā̄ēru*

   'He came here angrily'

1.6 a **avar iṅku vanta:r eṉpatu ko:pam*

   b. **va:ru ikkaḍaki occā̄ēru ane:di ko:pam*

A cursory look at the sentences (1.1 - 1.6) might give an idea that *uṇmaiya:ka* and *nijaṅga:* are syntactically different from *ko:pama:ka* and *ko:paṅga:* apart from *nalla paḷama:ka, vi:ṭu vi:ṭa:ka*, etc. In the sentences 1.1 (a) and (b), *uṇmaiya:ka* and *nijaṅga:* modify the whole sentence that occurs after them whereas *ko:pama:ka* and *ko:paṅga:*, in 1.5 modify the verb that follows them. To put it in other words, *ko:pama:ka* and *ko:paṅga:* or dominated by VP but *uṇmaiya:ka* and *nijaṅga:* are not. In fact they are dominated by an S which includes another S. This might be graphically summarized as follows:

Ta. *uṇmaiya:ka*   Ta. *ko:pama:ka*

Te. *nijaṅga:*   Te. *ko:paṅga:*
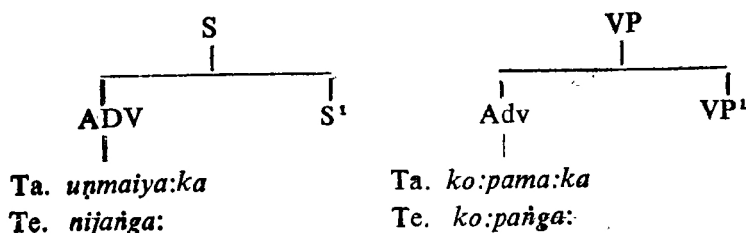
In this paper we are interested only in those adverbs which modify an S and which are dominated by an S. The term sentence adverb is employed to mean exclusively these items[4].

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[4] It would be more adequate to call them sentence modifiers. Since N + -a:ka constructions are more commonly known as adverbs, I preferred to call them sentence adverbs.

1.7 a. *uṇmaiya:kac colkire:ṇ, avar iṅku vanta:r*
   b. *nijam(-ga:) cepputunna:nu, va:ru ikkaḍaki occāēru*
      'Truly speaking, he came here'

1.8 a. *na:ṇ colkire:ṇ, itu uṇmai, avar iṅku vanta:r*
   b. *ne:nu cepputunna:nu, idi nijam, va:ru ikkaḍaki occāēru*
      'I say, this is true, he came here'

The sentences in 1.7 and 1.8 are closely related to those in 1.1, 1.2 and 1.3. After carefully examining the sentences in 1.1, 1.2, 1.3, 1.7 and 1.8, we arrive at the following deep structure. (Details which are not relevant for our discussion are omitted in tree diagrams in this paper.)

Ta. *na:ṇ   avàr   iṅku   vanta:r   uṇmai   a:- colkire:ṇ*
Te. *ne:nu   va:ru   ikkaḍaki   occāēru   nijam   avu- cepputunna:nu*
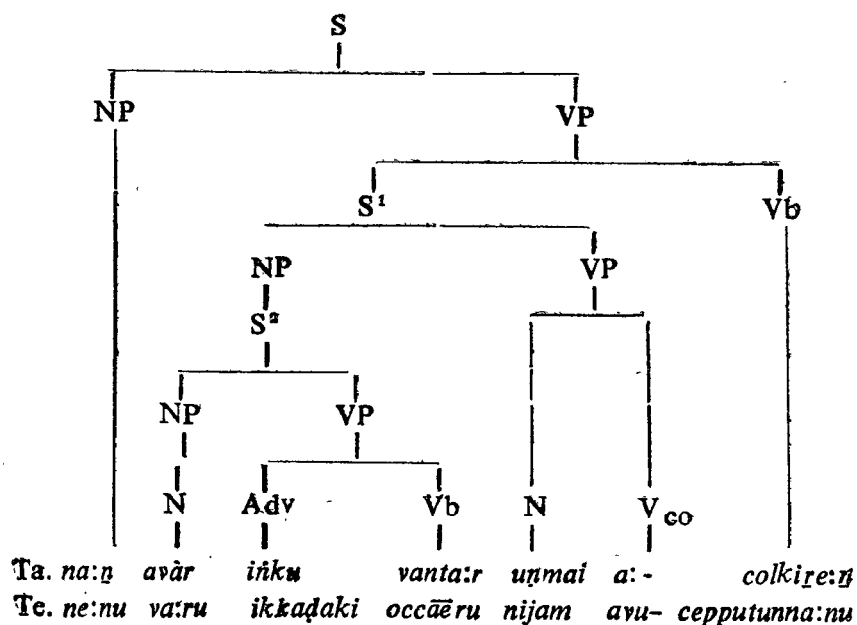
Fig.

From the deep structure shown in Fig. 1. the following senten-
ces might be obtained in Tamil and Telugu.

2.1 a.   *na:n avar inku vanta:r enpatu unmai enru colkire:n*

   b.   *ne:nu va:ru ikkadaki occāēru ane:di nijam ani*
                                             cepputunna:nu

   'I say that it is true that he came here'

2.2 a.   *na:n colkire:n, avar inku vanta:r enpatu unmai*

   b.   *ne:nu cepputunna:nu, va:ru ikkadaki occāēru*
                                             ane:di nijam

   'I say, it is true that he came here'

2.3 a.   *(na:n) unmaiya:kac colkire:n, avar inku vanta:r*

   b.   *(ne:nu) nijam(-ga:) cepputunna:nu, va:ru*
                                        ikkadaki occāēru

   'I tell you the truth, he came here'

2.4 a.   *unmaiya:ka avar inku vanta:r*

   b.   *nijanga: va:ru ikkadaki occāēru*
        'Truly he came here'

2.5 a.   *avar inku vanta:r enpatu unmai*

   b.   *va:ru ikkadaki occāēru ane:di nijam*
        'It is true that he came here'

Also we might obtain *avar unmaiya:ka inku vanta:r* in Tamil
and *va:ru nijanga: ikkadaki occāēru* in Telugu from the same
deep structure by applying an order change rule after applying
other relevant transformational rules. Anyway, they do not
pose any serious problem.

Any S when it is uniquely dominated by an NP is trans-
formed into a factive nominal. When an S undergoes such

transformational change *eṉpatu* is added to that S in Tamil and *ane:di* in Telugu. To make it clear some more illustrations are given below.

NP
|
S

NP   VP
|
N   N V_{co}

Ta, *avar*   *ra:maṉ*   *a:-*
Te. *va:ru*   *ra:mu*   *avu-*
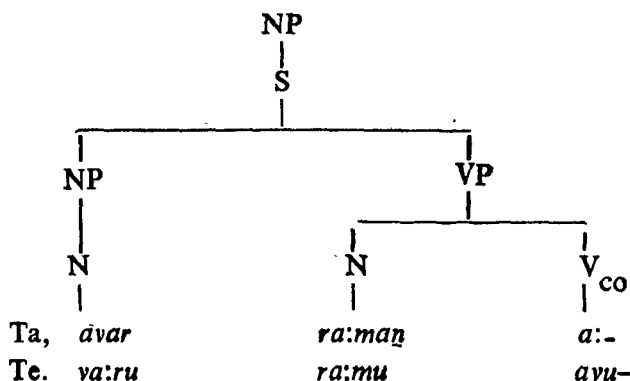
Fig. 2

The nominals obtained from the structure shown in Fig. 2 are the following.

Ta. *avar ra:maṉ eṉpatu*   'that he is Raman'
Te. *va:ru ra:mu ane:di*   'that he is Ramu'

NP
|
S

Intg. S^1

NP   VP

N   N V_{co}

Ta. *ya:-*   *ni:ṅkaḷ*   *oru-*   *a:-*
Te. *e-*   *mi:ru*   *oka-*   *avu-*
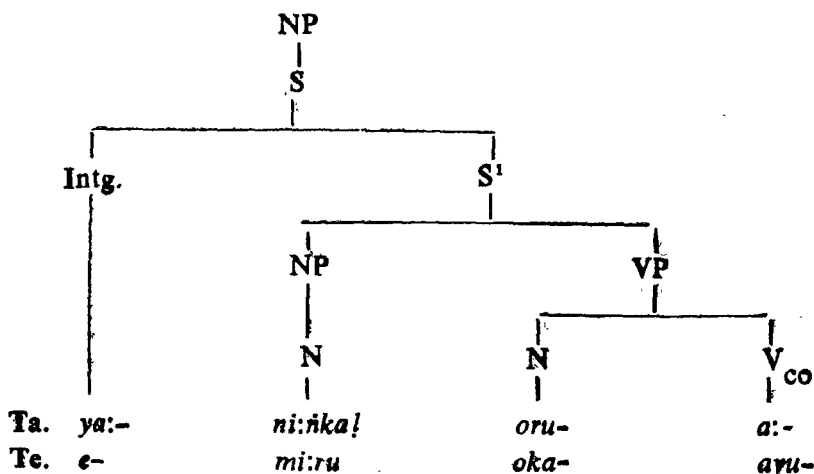
Fig. 3

From this deep structure we obtain the following nominals.

> Ta. *ni:ṅkaḷ ya:r eṉpatu*
>
> Te. *mi:ru evaru ane:di*
>
> 'who you are'

Coming to our main discussion, S^2 in Fig. 1 is immediately and uniquely dominated by NP and the resultant nominal is *avar iṅku vanta:r eṉpatu* in Tamil whereas it is *va:ru ikkaḍaki occāēru ane:di* in Telugu. One might be tempted to give the following treatment to these nominals.[5]
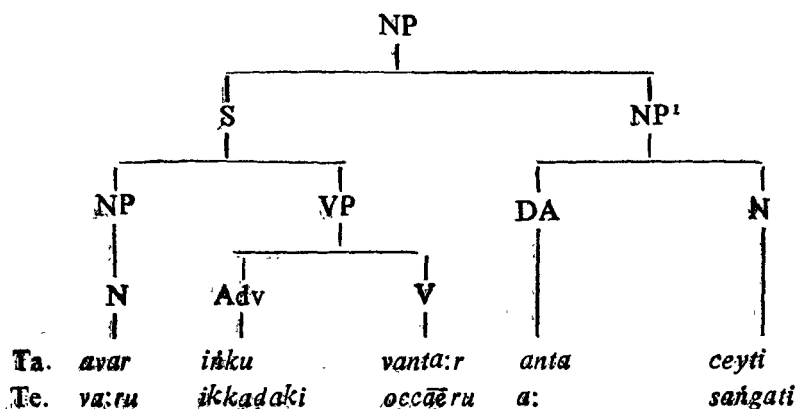
Fig. 4

It might be argued that the nominals *avar iṅku vanta:r eṉri ceyti* 'the fact that he came here' and *avar iṅku vanta:r eṉpatu* 'that he came here' in Tamil and *va:ru ikkaḍaki occāēru ane: saṅgati* 'the fact that he came here' and *va:ru ikkaḍaki occāēru ane:di* 'that he came here' in Telugu are obtainable

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[5] See P. Kothandaraman (1969), pp. 336-344.

from the structure shown in Fig. 4. This treatment does not hold good for the nominal *ni:ṅkaḷ ya:r eṇpatu* which is the NP of the Tamil sentence *ni:ṅkaḷ ya:r eṇpatu ke:ḷvi* 'Who are you is the question'. In fact any sentence in Tamil can be nominalised by adding *eṇpatu* to the sentence: So also any sentence in Telugu can be nominalised by adding *ane:di* to the sentence. It is illogical and unsatisfactory to derive the sentence *ni:ṅkaḷ ya:r eṇpatu ke:ḷvi* from

$$\left[\; \left[\; [ni:ṅkaḷ\ ya:r] \quad antac\ ceyti \; \right] ke:ḷvi \; \right]$$

A similar argument holds good for the Telugu sentence *mi:ru evaru ane:di praśna* 'Who are you is the question'. Therefore the treatment based on the structure shown in Fig. 4 is given up and the other one shown in Fig. 1 is preferred.

When S^2 is nominalised we get *avar iṅku vanta:r eṇpatu* in Tamil and *va:ru ikkaḍaki occāēru ane:di* in Telugu. These nominals function as subject in S^1. For many valid reasons, which I cannot discuss in this paper, the presence of the copula verb (V_{co}) in S^1 is very essential in the underlying structure and it might be deleted by a deletion rule under predictable conditions[6]. It may be noted here that the copula verb, in some respect, accounts for the *-a:ka* in Tamil and *-ga:* in Telugu.

A sentence when followed by the verbs like *col, ku:ṛu, ke:ḷ,* etc. in Tamil and by the verbs like *ceppu* 'say' *aḍugu* 'ask', etc. in Telugu, undergoes a quotation transformation

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[6] I have dealt with this problem in detail in 'Copula Verb in Tamil Syntax', see p. 15.

and thereby *enru* is attached to the sentence in Tamil while *ani* in Telugu. The quotation transformation might be applied after deleting the copula verb. At this stage we obtain the following sentences.

Ta. *na:n avar inku vanta:r enpatu unmai enru colkire:n*
Te. *ne:nu va:ru ikkadaki oscāēru ane:di nijam ani*
                                        cepputunna:nu

'I say that it is true that he came here'

For our convenience we can reduce the structure of these sentences as X - S - Y - Z - Q - Vb_x,

where X = Ta. *na:n*, Te. *ne:nu*

Y = Ta. *enpatu*, Te. *ane:di*

Z = Ta. *unmai*, ... Te. *nijam*, ...

Q = Ta. *enru*, Te. *ani*

Vb_x = Ta. col, ... Te. ceppu, ...

S is a sentence.

In sentences like *na:n varukire:n* 'I come', *na:n patikkire:n* 'I read', etc., it is quite common to drop the subject in Tamil. Similarly in sentences like *ne:nu osta:nu* 'I come' *ne:nu cu:sta:nu* 'I see', etc., the subject may be dropped in Telugu. Therefore, we can easily get the following sentences in Tamil and Telugu.

Ta. *avar inku vanta:r enpatu unmai enru colkire:n*
Te. *va:ru ikkadaki occāēru ane:di nijam ani cepputunna:nu*
'I say that it is true that he came here'

Now the sentence adverbialization rule is applied as a result of which we get

unmaiya:kac colkire:n, avar inku vanta:r in Tamil and
nijam(-ga:) cepputunna:nu, va:ru ikkadaki occāēru in Telugu.

An optional deletion rule deletes the verbs *colkire:ṇ* in Tamil and *cepputuṇṇa:nu* in Telugu. Finally we get

Ta.   *uṇmaiya:ka avar iṅku vanta:r* and
Te.   *nijaṅga: va:ru ikkaḍaki occāēru*

'Truly he came here'

To accommodate these facts we would have such rules as

1. SD: X - S - Y - Z - Q - Vb_X
          1   2   3   4   5   6

    SC: 1 ... 6 → 2 ... 6

2. SD: S - Y - Z - Q - Vb_X
          1   2   3   4   5

    SC: 1 ... 5 → 3 + A   51
           A = Ta. *a:ka*, Te. *ga*:

3. SD: Z - A - Vb_X - S
          1   2   3   4

    SC: 1 ... 4 → 124

A different transformational treatment has to be given for the sentences given in 2.5. i.e., Ta. *avar iṅku vanta:r eṇpatu uṇmai* and Te. *va:ru ikkaḍaki occāēru ane:di nijam*. The matrix sentences Ta. *na:ṇ colkire:ṇ* and Te. *ne:nu cepputuṇṇa:nu* are are deleted in order to get the sentences given in 2.5. In general, one might reasonably assume that all the affirmative and interrogative sentences are embedded ones whose matrix sentences are deleted under predictable conditions. A cursory look into the following sentences would make it clear.

3.1 a.   *avar ciritta:r*   'He laughed'
    b.   *va:ru navvāēru*   ,,

3.2 a. *avar ciritta:r eṉṟu colkiṟe:ṉ*   'I say, he laughed'

   b. *va:ru navvāēru ani cepputuṉṉa:nu*   ,,

3.3 a. *uṉmaiya:ka avar ciritta:r*   'Truly he laughed'

   b. *nijaṅga: va:ru navvāēru*   ,,

3.4 a. *uṉmaiya:knc colkire:ṉ, avar ciritta:r*

   b. *nijam(-ga:) cepputuṉṉa:nu, va:ru navvāēru*

   'Truly speaking, he laughed'

3.5 a. *avar uṅkaḷaip pa:rtta:ra: ?*   'Did he see you?'

   b. *va:ru mimmalni cūsāēra: ?*   ,,

3.6 a. *avar uṅkaḷaip pa:rtta:ra: eṉṟu ke:ṭkiṟe:ṉ*

   b. *va:ru mimmalni cūsāēra: ani aḍugutuṉṉa:nu*

   'I ask, whether he saw you'

When we delete the outer most matrix sentence in Fig. 1. (assuming the copula verb is already deleted) we get *avar iṅku vanta:r eṉpatu uṉmai* in Tamil and *va:ru ikkaḍaki occāēru ane:di nijam* in Telugu. It is also possible to apply the sentence adverbialization rule at this stage. Now again, we get *uṉmaiya:ka avar iṅku vanta:r* in Tamil and *nijaṅga: va:ru ikkaḍaki occāēru* in Telugu which are exactly similar to those derived otherwise in the previous pages.

The synonymity of the sentences *uṉmaiya:ka avar iṅku vanta:r* and *uṉmaiya:kac colkiṟe:ṉ avar iṅku vanta:r* makes us realize the fact that the outer-most matrix sentence is *na:ṉ colkiṟe:ṉ*[7]. The same is true for Telugu. The transformational changes discussed here might be summarized as follows :

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[7] E. Annamalai in his work 'The So-called Adverbs in Tamil' (p. 38), cites a sentence *pa:ṇḍiyē urudiya: vandāā* 'Certainly, Pandiyan came'. He observes, 'The sentential adverb can come under the attitudinal adverb. The sentential adverb is the attitude of the subject of the sentence higher than the one in which the adverb occurs. Regarding this

4. SD: $X - S - Y - Z - Q - Vb_x$
        1   2   3   4   5   6

   SC: $1 \dots 6 \rightarrow 234$

   (The symbols are the same used elsewhere previously.)

5. SD: $S - Y - Z$
        1   2   3

   SC: $123 \rightarrow 3 + A\ 1$

We are confronted with certain other problems in connection with the sentence adverbialization. Consider the following sentences.

4.1 a. *avaṉ kamala: iṅku vanta:ḷ eṉpatu uṉmai eṉru*
                                        colkira:ṉ

   b. *va:ḍu kamala ikkaḍaki occindi ane:di nijam ani*
                                    cepputuṉṉa:ḍu

      'He says that it is true that Kamala came here'

It is not possible to delete the outer-most matrix sentences in such cases as in 4.1. That is, the outer-most matrix sentence can be deleted if, and only if the subject in that sentence is the 1st person singular pronoun. The sentences given in 4.1., in no circumstances, can be reduced into (a) *uṉmaiya:kak kamala: iṅku vanta:ḷ* and (b) *nijaṅga: kamala: ikkaḍaki occindi*. That is to say, the sentence adverbialization rule does not operate in such cases.

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observation I agree with him. But the treatment he gives to the sentence seems to be inadequate. He cites another sentence i.e. *nāā oṅgaḷukku sandooṣamaa odavi seyrēē* 'I will help you happily' (p. 37). He seems to be of the view that *sandoonṣamaa* and *urudiyaa* can be given one and the same treatment. In fact, *paaṇḍiyē urudiyaa vandāā* is ambiguous with the meanings 1. Certainly, Pandiyan came and 2. Pandiyan came determined'. The sentences with *sandooṣamaa* and *urudiyaa* have to be treated in two different ways and I consider that it might be incorrect to group them together.

4.2 a. *avar iṅku vanta:r eṇpata: uṇmai?*

  b. *va:ru ikkaḍaki occā̄ru one:dā̄ nijam?*

   'Is it true to say that he came here?'

4.3 a. *avar iṅku vanta:r eṇpatu uṇmaiya:?*

  b. *va:ru ikkaḍaki occā̄ru ane:di nijama:?*

   'Is it true that he came here?'

4.4 a. *avar iṅku vanta:r eṇpatallava: uṇmai?*

  b. *va:ru ikkaḍaki occā̄ru ane:digada: nijam?*

   'It is true to say that he came here, isn't it?'

4.5 a. *avar iṅku vanta:r eṇpatu uṇmaiyallava:?*

  b. *va:ru ikkaḍaki occā̄ru ane:di nijaṅgada:?*

   'It is true that he came here, isn't it?'

When we closely examine the sentences (4.2 – 4.5), we understand that the sentence adverbialization rule does not operate after the interrogative and verificative rules are applied. It is too early to write much about the sentence adverbialization since it is one of the problems most complicated but least studied.

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2. COPULA VERB IN TAMIL SYNTAX

It is a known fact that copula verb is a verb that unites two noun phrases (NPs) and it thus makes a grammatical sentence. Generally it is believed that there is no copula verb in Tamil. Tamil sentences are therefore broadly classified into two major kinds, namely NP – NP type and NP – VP type[1]. But, this paper aims to prove that there is a copula verb in Tamil syntax.

Consider the following sentences.

1. *kaṇaṇṇ ma:ṇavaṇ* 'Kannan is a student'

2. *kaṇṇaṇ ma:ṇavaṇa:ka irukkala:m* 'Kannan may be a student'

3. *kaṇṇaṇ ma:ṇavaṇa:ka irunta:ṇ* 'Kannan was a student'

4. *kaṇṇaṇ ma:ṇavaṇalla* 'Kannan is not a student'

5. *kaṇṇaṇ ma:ṇavaṇta:ṇ* 'Kannan is a student'

These sentences are, no doubt, related to one another. Sentence (1) shows NP – NP structure. Sentence (5) also can be treated in the same way excepting the addition of *ta:ṇ*. But the other sentences (2), (3) and (4) pose a question, i.e., Is copula verb necessary or not in Tamil syntax?. The verb *iru* seems to be a copula verb in the sentences (2) and (3). If it is a copula, what happened to the copula verb in the sentence *kaṇṇaṇ ma:ṇavaṇ* ? Can all the NP – NP constructions be treated as copula constructions?

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[1] See Agesthialingom, S. 1967 A Generative Grammar of Tamil, p. 2.

The copula verb with other tenses and aspectuals The sentence *kaṉṉaṉ ma:ṉavaṉ* is closely related to the following sentences which show other tenses and aspectuals.

6. *kaṉṉaṉ uṅkaḷ ma:ṉavaṉa:ka irukkala:m*

   'Kannan may be your student'

7. *kaṉṉaṉ uṅkaḷ ma:ṉavaṉa:ka irunta:ṉ*

   'Kannan was your student'

8 *kaṉṉaṉ uṅkaḷ ma:ṉavaṉa:ka iruppa:ṉ*

   'Kannan will be your student'

In these instances we cannot dispense with copula verb. As far as the present tense is concerned, we do not find in actual language a sentence like *kaṉṉaṉ ma:ṉavaṉa:ka irukkira:ṉ* in the sense 'Kannan is a student'. Normally the copula verb seems to have been deleted in the surface structure when it signifies present tense. This amounts to say that *kaṉṉaṉ ma:ṉavaṉ* and *kaṉṉaṉ ma:ṉavaṉa:ka irukkira:ṉ* are synonymous which may not be convincing to many. It may be noted here that we are not able to show any meaning difference among them. Lack of familiarity and intonation difference also may be responsible for one's feeling that they are slightly different from each other. At present I am not able to go any further into the problem of meaning. This problem cannot weaken our argument for copula in Tamil. Let us examine the sentence (9).

9. *kaṉṉaṉ iṉru ma:ṉavaṉ ; na:ḷai a:ciriyar*

   'Today Kanran is a student and tomorrow he will be a teacher'

The underlying structure of this is

10. *kaṇṇaṉ iṉṟu ma:ṇavaṉa:ka irukkiṟa:ṉ ; na:ḷai*
a:ciriyara:ka iruppa:ṉ

'Today Kannan is a student and tomorrow he will be a teacher'

It must be noted here that the temporal adverbs *iṉṟu* and *na:ḷai* go with the verb *iru.* Here the place of the copula *iru* cannot be denied.
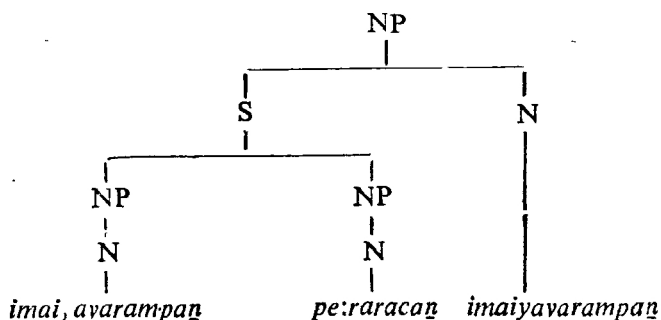
Copula verb in derived sentences The role of copula verb in derived sentences is more interesting. It is found to occur in derived nominals, in coordinate constructions and also in subordinate constructions.
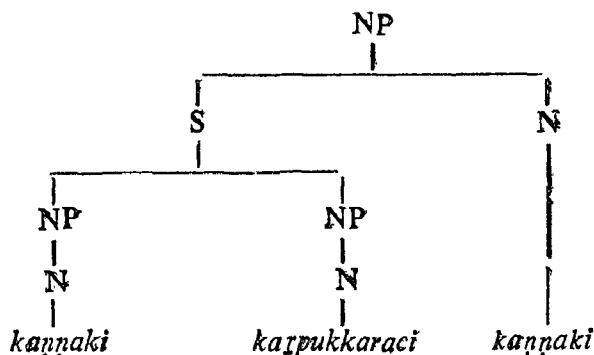
Nominals like *pe:raracaṉa:kiya imaiyavarampaṉ* 'the great king Imayavaramban' and *kaṟpukkaraciya:kiya kaṇṇaki* 'Kannaki the queen of chastity' are very common in Tamil. These nominals are derived from (11) and (12).

11. *imaiyavarampaṉ pe:raracaṉ - imaiyavarampaṉ*

12. *kaṇṇaki kaṟpukkaraci - kaṇṇaki*

The structure of these sentences might be roughly represented by the following tree diagrams.


```
                        NP
                         |
            ┌────────────┴──────────┐
            |                       |
            S                       N
            |                       |
      ┌─────┴───────┐               |
      |             |               |
      NP            NP              |
      |             |               |
      N             N               |
      |             |               |
imai, avarampaṉ  pe:raracaṉ   imaiyavarampaṉ
```

```
                          NP
                           |
          ┌────────────────┴──────────┐
          S                           N
          |                           |
    ┌─────┴─────────┐                 |
    NP              NP                |
    |               |                |
    N               N                |
    |               |                |
  kaṇṇaki        kaṟpukkaraci      kaṇṇaki
```
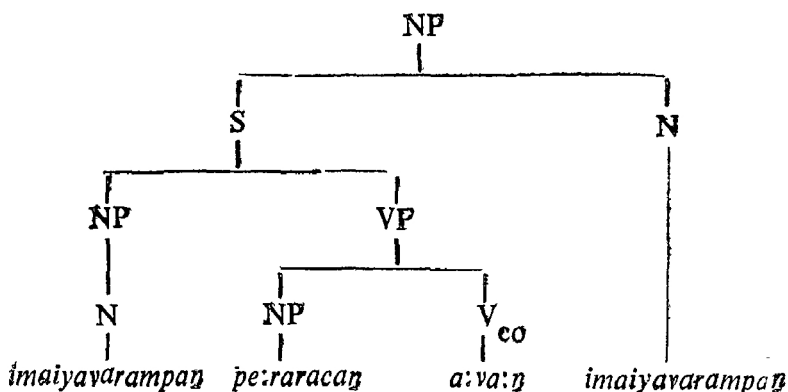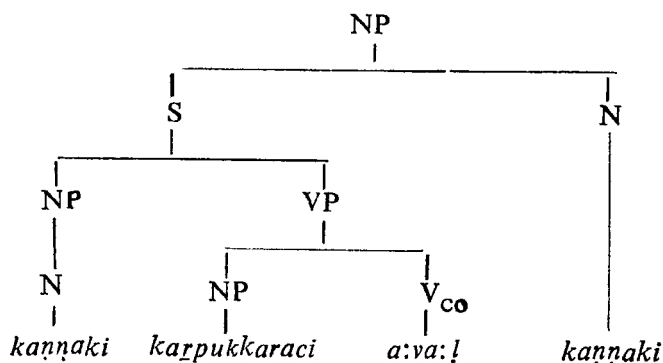
In the nominals *peːraracaṇaːkiya imaiyavarampaṇ* and *kaṟpukkaraciyaːkiya kaṇṇaki*, we find the form *aːkiya*. Where does it come from? The uncommon but accepted sentences

13. *imaiyavarampaṇ peːraracaṇawaːṇ - imaiyàvarampaṇ*

14. *kaṇṇaki kaṟpukkaraciyaːvaːḷ – kaṇṇaki*

answer this question. Roughly they give the following structure.

```
                          NP
                           |
          ┌────────────────┴──────────┐
          S                           N
          |                           |
    ┌─────┴─────────┐                 |
    NP              VP                |
    |               |                |
    N          ┌────┴────┐           |
    |          NP        V           |
    |          |          co         |
    |          |         |           |
imaiyavarampaṇ peːraracaṇ aːvaːṇ  imaiyavarampaṇ
```

NP

S   N

NP   VP

N   NP V_{co}

kaṇṇaki   kaṟpukkaraci   a:va:ḷ   kaṇṇaki

In such constructions, generally, the copula is deleted. The sentence which has copula as well as that which does not have copula can be nominalised. The nominal derived from the former shows the form *a:kiya* whereas the latter does not. To be clear, *kaṇṇaki kaṟpukkaraciya:va:ḷ* is nominalized as *kaṟpukkaraciya:kiya kaṇṇaki* whereas *kaṇṇaki kaṟpukkaraci* is nominalized as *kaṟpukkaraci kaṇṇaki*. Here *a:kiya* must be considered as past relative participle; but the copula verb stands with the future tense marker *v*, though it does not signify future tense at all. Since in the complete sentence the copula verb stands with the future tense marker, we expect future relative participle in the derived nominal and not the past relative participle. This problem has yet to be solved. The problem is confined to the tense alone and it cannot deny the place of copule verb.

The nominals with the form *a:kiya* emphasize the fact that there must be a copula verb in the source sentences.

Coordinations Not only the nominals, but the coordinated constructions also reveal the existence of copula verb in the Tamil syntax. Sentences like

15. *ce:raṇukkut tampiyum ca:ttaṇa:rkku naṇparum a:kiya iḷaṅko:vaṭikaḷ cilappatika:rattai eḷutiṇa:r*

'Ilankoovatikal the brother of Cheran and a friend òf
Sathanar wrote Silappatikaram'

16. *kaṇṇakiyai maṇantavaṇum pa:ṇtiyaṉa:l kollappattavaṇum
a:kiya-ko:valaṇta:ṉ maṇime:kalaiyiṉ tantai*

'Ko:valan who married Kannaki and who was killed
by Pandiya is the father of Manjmekalai'

are perfectly grammatical and acceptable in Tamil. In such
sentences we have the form *a:kiya*. This *a:kiya* might be
easily explained by tracing them to the following[2].

17. *iḷaṅko:vaṭikaḷ ce:raṇukkut tampiyum ca:ttaṉa:rkku
naṉparum a:va:r - iḷaṅko:vaṭikaḷ cilappatika:rattai
eḻutiṉa:r*

18. *ko:valaṉ kaṇṇakiyai maṇantavanum pa:ṇdiyaṉa:l kollap-
paṭṭavaṇum a:va:ṉ - ko:valaṇta:ṉ maṇime:kalaiyiṉ tantai*

The verbs *a:va:r* and *a:v:aṉ* found in 17 and 18 explain the
form *a:kiya*. Now it might be fairly clear that there is copula
verb in all the NP - NP constructions in Tamil.

Subordinations Sentences like 19 and 20 are very common
in Tamil.

19. *avar ya:ra:ka irunta:l eṉakkeṉṉa?*
'What do I care whoever he is ?'

20. *avar aracara:ka iruntum payaṇillai*
'It is of no use even though he is a king'

These sentences might be traced to the following.

21. *avar ya:r - V_{co} - Cond. M - enakkeṉṉa*
22. *avar aracar - V_{co} - Concess. M - payaṇillai*

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[2] (17) and (18) have to be further analysed. Only the
relevant portions are taken into account and the copula
verb *a:* and its participle *a:kiya* are discussed.

Note that the copula verb (V_{co}) is indispensable in both the sentences and that it is the V_{co} which accounts for *a:ka-iru* found in 19 and 20. Though the form *a:ka* is not explainable here the existence of copula verb might be easily understood[8]. The verb *iru* and Cond. M give *irunta:l* while the verb *iru* and Concess. M. give *iruntum.* The verb *iru* is deleted or understood in the sentences *avar ya:r* and *avar aracar.*

Copula verb in ellipses: Generally the copula verb is deleted when it stands in present tense. For instance *avar aracar* is the elliptical form of *avar aracara:ka irukkira:r* 'He is a king'[4] or *avar aracara:va:r* 'He is a king'[4]. As already stated the tense marker *v* in *a:va:r* poses a problem and it is to be solved in future. The sentence

23. *avar ne:rruvarai a:ciriyar, inru tunaive:ntar, na:lai amaiccar*

   'Until yesterday he was a teacher, today he is a vice-chancellor and tomorrow he will be a minister'

comes from

24. *avar ne:rruvarai a:ciriyara:ka irunta:r – avar inru tunaive:ntara:ka irukkira:r – avar na:lai amaiccara:ka iruppa:r.*

Note that there is copula verb (*a:ka iru*) in 24 and that it is deleted in 23.

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[8] This *a:ka* functions differently from the so-called adverbial marker -*a:ka.* See note (8) for some support for this assumption.

[4] There is also another form *a:var* varying with *a:va:r.* The form *a:va:r* with the suffix -*a:r* is preferred here since the suffix -*a:r* is more common than -*ar.* It might also be mentioned that in modern written Tamil -*ar* signifies plural whereas -*a:r* signifies honorific singular. It must be noticed here that the verb *a:* when functioning as a copula verb stands only with the future tense form and that the future tense marker *v* does not have any tense significance here at all.

If we accept the existence of copula verb in the NP - NP constructions, we may be able to solve certain other problems which are not satisfactorily solved so far.

The emphatic sentence

25. *avar aḷaittatu uṅkaḷaitta:ṉ* 'It is you whom he invited' poses a very serious problem when analyzing it in terms of subject, predicate, etc. A Tamil native speaker would take *avar aḷaittatu* for subject and *uṅkaḷaitta:ṉ* for predicate. Here we have noun plus case sign as a predicate which is very uncommon and curious to note. Usually a noun (or a NP) or a verb (or a VP) stands as a predicate; but here noun plus case sign stands as a predicate. To explain this, the copula verb is found more helpful[5]. The sentence

26. *avar aḷaittatu uṅkaḷaiya:katta:ṉ irukkum*
    'It might be you whom he invited'

is related to sentence 25. The copula verb here appears in the future or potential form ; but it is not seen in the present or or past[6]. Since it is seen in future tense and in potential aspect, we can set up the copula verb in the present and past as well and delete it in those cases[7]. Now the predicate of

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[5] *avar aḷaittatu uṅkaḷaitta:ṉ* is a kind of reduced form of the sentence *avar aḷaittatu uṅkaḷaitta:ṉ* - V_{co}. Since the copula verb is deleted in this kind of constructions in present and past, we get the sentences as shown above. In all such constructions the predicate must be analysed as VP and not as NP-Case Sign.

[6] It may be noticed here that the copula verb is deleted in NP - NP - Case Sign - V_{co} constructions when it stands in present as well as in past whereas it is deleted in the NP - NP - V_{co} constructions when it stands in present only.

[7] See sentences (28) and (29). V_{co} in 28 is deleted by a deletion transformation and the identical NP deletion rule is applied. Now we obtain the sentence

the sentence 25 would be *uṅkaḷaitta:ṉ* plus V_{CO} and not *uṅkaḷaitta:ṉ* alone[6].

Examine the following sentence and note that it is ambiguous.

27.   *avaṉ eṉ to:laṉ a:ṉa:l uṉṉo:ṭuta:ṉ varuva:ṉ*

a.   'He is my friend but he will come with you alone'

b.   'If he is my friend, he will come with you alone'

The following are the two different sources of sentence 27.

28.   *avaṉ eṉ to:laṉ* – V_{CO} *a:ṉa:l avaṉ uṉṉo:ṭuta:ṉ varuva:ṉ*

29.   *avaṉ eṉ to:laṉ* – V_{CO} – Cond. M – *avaṉ uṉṉo:ṭuta:ṉ*

                                     varuva:ṉ

---

avaṉ eṉ to:laṉ a:ṉa:l uṉṉo:ṭuta:ṉ varuva:ṉ
'He is my friend, but he will come with you'

In sentence (29) V_{CO} – Cond. M, i.e., *a:va;ṉ* – Cond.M gives *a:ṉa:l* and the identical NP is deleted. Now we obtain the sentence

avaṉ eṉ to:laṉa:ṉa:l uṉṉo:ṭuta:ṉ varuva:ṉ
'If he is my friend, he will come with you'

Notice that V_{CO} is deleted in the former whereas V_{CO} – Cond. M gives *a:ṉa:l* in the latter.

a:ka iru must be treated as a single unit. The so called adverbial marker *-a:ka* must not be confused with this *a:ka*. Consider the following sentences.

1.   *avar amaiccara:ka irunta:r* 'He was a minister'

2.   *avar ko:pama:ka irunta:r* 'He was angry'

They are understood in different ways. Though we find *a:ka iru* in both the sentenses, it is clear that they are not one and the some. In sentence (1) *a:ka iru* is a copula verb whereas in sentenee (2) *a:ka* is an adverbial marker and *iru* is a verb. In sentence (2) any other verb can substitute for *iru* whereas in sentence (1) it is not tiue and there *a:ka* and *iru* function as a single unit.

Note that *a:ṇa:l* is a kind of connector in 28 and that it is
the resultant form of V_{co} plus Cond. M in 29. The ambiguity
found in 27 can be easily explained with the help of the
copula verb[7].

We therefore emphasize the existence of copula verb in
Tamil syntax and hope that this paper might have shown the
importance of the same. The verb is in some cases *a:* and in
some other cases *a:ka iru*[8]. To explain this variation, an
historical study of NP - NP in Tamil is essential. Unless and
until such study appears, one cannot easily say anything more
regarding this problem. It might be mentioned here that the
so-called derived adjective marker *a:ṇa* and the so called
derived adverbial marker *a:ka* are not properly studied so far[9].
They all have a very close relation to the copula verb. The
study of *a:ṇa* and *a:ka* cannot be a complete one without a
study of the copula verb.

In addition to these, it might be well suggested that the
verbs *al, il, uḷ, uṭai,* etc. also have something to do with the
copula verb[10]. A careful study of these verbs may certainly
be helpful for our purpose.

The metaphor marker *a:kiya,* the conjunctions *a:ṇa:l a:yiṇ,*
etc., are historically connected with the copula verb[11]. It

[9] See Annamalai, E. (1968) The so called Adverbs in Tamil,
(Mimeo). It must be mentioned here that Annamalai
has made extensive research regarding *a:ka* and *a:ṇa.*
These pieces of his work are the most useful among those
available on *a:ka* and *a:ṇa.*

[10] Regarding the negative forms, the verb *al* corresponds to
the verb *a:* whereas the verb *il* corresponds to the verbs
iru, uḷ and *uṭai.* A complete study of the copula verb
must include all these verbs.

[11] Mention might be made in this connection that the

might be found true that the study of copula verb has a close connection with certain noun compounds[12].

It is worth mentioning here that the copula verb *a:* has a very significant role in Malayalam[13]. For many reasons the copula verb is indispensable in Tamil too. Consequently, all

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nominals

1. *cemmaiya:kiya ta:marai*

2. *pe:raracana:kiya karika:lan* and

3. *incolla:kiya amutu*

are not understood in one and the same way. In (1) *a:kiya* can be replaced by *a:na* but not in (2) and (3). In (3) *a:kiya* can be replaced by *ennum* but not in (1) and (2). Among the three the last one is a metaphorical phrase. In all these cases *a:kiya* must be carefully treated.

[12] All the three nominals given in note 11 can give noun compounds and they are

1. *centa:marai* 'red lotus'

2. *pe:raracan karika:lan* 'the emperor Karikalan' and

3. *incollamutu* 'the nectar of sweet word'

Needless to say that these three compounds are of three different kinds. The first one might be called abstractional compound, the second one appositive compound and the third one metaphorical compound.

[13] All the sentences with nominal predicates have a copula verb in Malayalam. It is just impossible to have a sentence in standard Malayalam without a verb.

the NP – NP constructions will come under NP – VP type in
Tamil[14].

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[14] The sentences *avan ma:navan* and *avan ma:navana:ka
irunta:n* will be treated as having the same constituent
structure. The constituent structure would be something
like

$$S \rightarrow NP + VP$$
$$NP \rightarrow ADJ + N$$
$$VP \rightarrow NP + V_{co}$$

A deletion transformation rule deletes the V_{co} when it
stands in present tense and the resultant sentence is *avan
ma:navan*.

Similarly *atu unkalaitta:n* and *atu unkalaiya:katta:n
irukkum* will be treated as having the same constituent
structure. Roughly, the constituent structure of such
sentences would be something like

$$S \rightarrow NP + VP$$
$$NP \rightarrow ADJ + N$$
$$VP \rightarrow NP' + Casal.S + V_{co}$$

As already stated V_{co} is deleted by a deletion transfor-
mation rule and (after applying all the necessary rules)
we get the sentence *atu unkalaitta:n*. It might be easily
noticed here that what was already written as $S \rightarrow NP +$
NP – is now written as $S \rightarrow NP + VP$.

3. RELATIVE PARTICIPLE IN TAMIL

By relative participle we mean here the words belonging to the patterns *ceyyum, ceyta* and *ceyya:* (or *ceyya:ta*)[1]. Tolka:ppiyar employs the phrase *peyareñcu kiḷavi* to mean these items[2]. The purpose of this paper is to understand and interpret what Tolka:ppiyar says about relative participle or *peyareñcu kiḷavi.*

When studying the relevant *nu:ṛpa:s* 'prescriptions in verse' where mention is made of the relative participle, we observe the following facts :

1. The relative participles are of two types i.e., *ceyyum* type and *ceyta* type[3].

> e.g.,   *uṇarum kiḷavi*   (*Tol. Kiḷavi. 57:8*)
> 'the word that one understands'

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[1] Tolka:ppiyar classifies the non-finite forms of the verbs into two major heads i.e , *viṇai eñcu kiḷavi* (or verbal participle) and *peyareñcu kiḷavi* (or relative participle) *viṇai eñcu kiḷavi* is followed by a verb while *peyareñcu kiḷavi* is followed by a noun. For a detailed study of *viṇai eñcu kiḷavi* see Prof. S. Agesthialingom, "Verbal Participle", *Seminar on Tolka:ppiyam*, (mimeo.), Annamalainagar. Both *viṇai eñcu kiḷavi* and *peyareñcu kiḷavi* are further classified into several patterns in *Tolka:ppiyam* such as *ceyyum, ceyta*, etc. See *Tol. Viṇai*. 31, 32 and 37.

[2] The later grammarians such as *Pavaṇanti* and others have employed the compound *peyareccam* to mean what Tolka:ppiyar meant by *peyareñcu kiḷavi.* Similarly they used the compound *viṇaiyeccam* to mean what Tolka:ppiyar meant by *viṇai eñcu kiḷavi.*

[3] See *Tolka:ppiyam, Viṇai.* 37.

va:ṉuṟaiyum maṭi (*Puṟam.* 22:10)
'the moon that is seen in the sky'

kiḷaṉta kiḷavi (*Tol. Eccam.* 67:2)
'the word that we dealt with'

ka:talar aḷuta kaṇṇi:r (*Puṟam.* 356:5)
'the tears shed when the lovers wept'

2. The words belonging to *ceyyum* and *ceyta* patterns can occur with *uyartiṇai* 'high class nouns' and *akṟiṇai* 'no-class nouns'. Hence they are said to be common for *uyartiṇai* and *akṟiṇai*.[4]

e.g., *viravum poruḷ* (*Tol. Akat.* 48:1)
'the thing that mixes'

kaṭakkum kuṭṭuvaṉ (*Patiṟṟup.* 29:13)
'*kuṭṭuvaṉ* who conquers'

pu:tta neytal (*Patiṟṟup.* 13:3)
'the water-lily that blossomed'

i:ṉṟa ta:y (*Patiṟṟup.* 20:27)
the mother who gave birth'

3. The relative participles stand in immediate constituent relationship with the nouns that follow them and such relationship may be further classified in six ways[5].

a. Relative participle - Location
    e.g., *aṭṭa kuḷici* (*Puṟam.* 237:7)
        'the pot in which (someone) cooked'

b. Relative participle – Object
    e.g , *kiḷaṉta kiḷavi* (*Tol. Eccam.* 67:?)
        'the word that (we) dealt with'

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[4] See *Tolka:ppiyam Vinai* 25.

[5] *Ibid.* 37.

c. Relative participle – Time

   e.g , *piṟanta na:ḷ* (*Tol. Puṟat.* 30:8)
      'the day on which (someone) was born'

d. Relative participle – Instrument

   e.g., *ta:ṅkum ve:l* (*Tol. Puṟat.* 17:7)
      'the spear with which (someone) defends'

e. Relative participle – Subject

   e.g., *aṭṭa ve:ntaṉ* (*Tol. Puṟat.* 14:10)
      'the king who killed'

f. Relative participle - Action

   e.g., *po:yiṉa po:kku*
      'the departure that took place'

4. The word belonging to the *ceyyum* type while occurring as a finite verb, permits neither the third person high class plural noun, nor the second person noun, nor the first person noun as its subject; whereas while occurring as a non-finite verb it permits them[6].

   e.g., *pulavar pa:ṭum pukaḻ* (*Puṟam.* 27:7)
      'the fame that the poets sing about'

      ni: a:ḷum na:ṭu
      'the country which you rule'

      ya:ṉ va:ḻum u:r (*Puṟam.* 191:7)
      'the village where I live'

5. The negative relative participles do not differ from their corresponding affirmative forms in their syntactic behaviour. That is to say, they can take high class and no-class nouns and they have all the six kinds of relationships mentioned above[7].

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[6] See *Tolka:ppiyam Viṉai* 38.

[7] *Ibid.* 39.

e.g , *ka:tal koḷḷa: ... makiḷir (Puṟam.* 73:12-13)
'the ladies who do not love'

kuṉṟa:c ciṟappu (*Tol. Puṟat.* 7-11)
'excellence that does not diminish'

Examples for the negative relative participles with the six kinds of relationships can be cited simply by supplying the corresponding negative forms given in (3).

e.g., *aṭa:k kuḷici* 'the pot in which (someone) does/did not cook'

kiḷava:k kiḷavi 'the word that we do/did not deal with'

piṟava: na:ḷ 'the day on which (someone) is/was not born'

ta:ṅka: ve:l 'the spear with which (someone) does/did not defend'

aṭa: ve:ntaṉ 'the king who does/did not kill'

po:ka:p po:kku 'the departure that does/did not take place'

6. Words are not prevented from standing between a relative participle and a noun (qualified by the foimer), provided that the qualifier and the qualified are not confused[8].

e.g., *ka:tal koḷḷa:p palliruṅ ku:ntal makaḷir*
(*Puṟam.* 73:12-13)
'the ladies with luxuriant and black tresses who do not love'

The phrase *palliruṅ ku:ntal* stands between the relative participle and the noun without confusing the qualifier and the qualified.

We can see the qualifier and the qualified becoming confused in the oft-cited example *vallam eṟinta nalliḷaṅ ko:car tantai mallalya:ṉaip peruvaḷuti.* Here the relative participle

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[8] *Tolka:ppiyam Viṉai.* 40.

eṟinta can qualify not only *mallalya:ṉaip peruvaluti* but also *nallilaṅ ko:car*. When it qualifies *mallalya:ṉaip peruvaluti*, it means '*mallalya:ṉaip peruvaluti* who is the father of *nallilaṅ ko:car* and who conquered at *vallam*' and when it qualifies *nallilaṅ ko:car* it means '*mallalya:ṉaip peruvaluti*, the father of *nallilaṅ ko:car* who conquered at the battle of *vallam*'. Generally such insertions that cause ambiguity are avoided. Theoretically all the items that qualify the noun can occur between the relative participle and the noun.

7. In the relative participle of the *ceyyum* type, the penultimate -u- along with the preceding consonant may be dropped[9].

> e.g., *ulakava:m pe:raṟi va:ḷaṉ tiru* (*Kuṟaḷ.* 215)
> 'the greatness of the highly intelligent man whose intellect comprehends the whole world'

With this background we have to interpret the relative participle. Tolka:ppiyar says that the finite verb can be preceded by the eight constituents (*kiḷavi*), namely, - action, agent object, location, time, instrument, dative and result[10]. Also he says that certain verbs can take certain constituents which certain other verbs cannot take. That is to say, all the verbs cannot take all the constituents.[11] Among the eight constituents, only the first six can occur as the head of the relative participle. Even though there are some more constituents that can occur after the relative participle, he has mentioned only six of them since the rest are not perhaps predominant and clear-cut cases. Tolka:ppiyar himself uses the phrase *aintum kalanta mayakkam*[12] 'the compound made by mixing the five' where the head *mayakkam* is a resultive constituent. It has

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[9] *Tolka:ppiyam, Viṉ ii* 41

[10] See *Tolka:ppiyam, Ve:ṟṟumai maṟcaṉ* 29.

[11] *Ibid* 30.

[12] See *Tolka:ppiyam, Marapu.* 91.

to be noticed here that *mayakkam* in *kalanta mayakkam* does not come under the six kinds of heads mentioned by Tolka:ppiyar.

It is a known fact that the relative participle is followed by a noun. Both *pa:ṭiya kaṇṇaṇ* 'Kannan who sang' and *pa:ṭiya pa:ṭṭu* 'the song that (someone) sang' seem to have the same structure at the surface level; but they are understood in two different ways. The former is derived from the sentence *kaṇṇaṇ pa:ṭiṇa:ṇ* 'Kannan sang', whereas the latter from the sentence (*oruvar*) *pa:ṭṭu pa:ṭiṇa:r* '(someone) sang a song'. The noun in *pa:ṭiya kaṇṇaṇ* 'Kannan who sang' stands in agent or subject relation to the relative participle while the noun in *pa:ṭiya pa:ṭṭu* 'the song that (someone) sang' stands in object relation to the relative participle *pa:ṭiya*. A perfect grammar must explain such grammatical relations found between two items.

Being aware of such grammatical relations, Tolka:ppiyar treats the relative participles and points out the predominant relations borne by the noun to the preceding relative participle. In this respect the commentator Teyvaccilaiya:r seems to have a better understanding of Tolka:ppiyam.

Actually the constituents of location, object. time, instrument, agent (or subject) and action which precede a finite verb move to the head position when the finite verb is changed into a relative participle. It must be carefully noted that Tolka:ppiyar has listed eight constituents that precede a finite verb and he has purposely avoided two of them while mentioning the constituents that follow the relative participle. This implies that the dative and the resultive constituents (i e., *iṇṇataṟku* and *itu payaṇ*) cannot move to the head position or they are not clear-cut cases when compared to the other six. The following examples might make the situation clear.

1. *ca:ṭṭaṉ pa:ṭṭup pa:ṭiṉa:ṉ >*
   ca:ṭṭaṉ pa:ṭiṉa pa:ṭṭu
   'the song that Ca:ttan sang'

2. *ya:ṉai puliyaik koṉṟatu >*
   puliyaik koṉṟa ya:ṉai
   'the elephant that killed the tiger'

3. *puli ya:ṉaiyaik koṉṟatu >*
   puli koṉṟa ya:ṉai
   'the elephant that the tiger killed'

4 *ciṅkam kukaiyil iruntatu >*
   ciṅkam irunta kukai
      'the cave in which the lion lived'

5. *avaṉ (oru) na:ḷ vanta:ṉ >*
   avaṉ vanta na:ḷ
   'the day on which he came'

6. *avaṉ puliyai ve:la:l ta:kkiṉa:ṉ >*
   avaṉ puliyait ta:kkiṉa ve:l
      'the spear with which he attacked the tiger'

7. *aracar pulavarukkup paricu koṭutta:r > .*
   aracar paricu-koṭutta pulavar
      'the poet to whom the king gave present'

8. *avaṉ ku:likku ve:lai ceyta:ṉ >*
   avaṉ ve:lai ceyta ku:li
      'the wage for which he worked'

Tolka:ppiyar does not permit the noun phrases given in 7 and 8. The author might have considered them ungrammatical or such occurrence might have been extremely rare in his time. Even now they seem to be marginal cases. But Ce:ṉa:varaiyar and other commentators cite the examples *a: koṭutta pa:rppaːṉ*

'the Brahmin to whom (someone) gave the cow' and *a:ṭaiyolitta ku:li* 'the wage for having washed the clothes'. They are of the opinion that the dative and the resultive constituents also can move to the head position in a relative nominal.

Besides these we can have instances like, *ilai utirnta maram* 'the tree from which leaves dropped'. *ni:r vaḷiyum kaṇ* 'the eye from which tears shed' etc. Here the head nouns stand in ablative relation to the relative participle. The author might have included this in location. Ce:ṇa:varaiyar and other commentators are quite aware of this and they have cited the examples *paḷam utirnta ko:ṭu* 'the branch from which fruits dropped' and *paḷam utiruṅ ko:ṭu* 'the branch from which fruits drop'. Another commentator, Kalla:ṭaṇa:r cites the instance *maṟṟinno:y ti:rum maruntaruḷa:y* 'give me a medicine to cure this disease'. Here the noun *maruntu* 'medicine' stands in casual relation to *ti:rum* '—will get cured'. This casual relation might be included in the instrumental mentioned in *Tolka:ppiyam*. Ce:ṇa:varaiyar and other commentators give the instance *niṉ mukam ka:ṇum maruntu* 'the tonic of seeing your face'. Here *niṉ mukam ka:ṇum -maruntu* signifies that the very act of seeing her face itself is the remedy for his illness. Though Ce:ṇa:varaiyar tries to bring this under the action constituent, it does not seem to be justifiable. It must be noted here that *ka:ṇum maruntu* and *ka:ṇpaṭa:kiya maruntu* seem to be paraphrases, but *kaṇṭa maruntu* and *kaṇṭaṭa:kiya maruntu* are not. At present we are not able to decide the relation in *ka:ṇum maruntu*.

Teyvaccilaiya:r who has a deeper insight and better understanding of *Tolka:ppiyam* rightly expounds the *nu:ṟpa:, viṇaiye: ceyvatu* ... and therein he equates *mutaṉilai* with *ka:rakam*[18]. Thereby he enables us to understand that *toḷil-*

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[18] *ka:rakam* : "The relation subsisting between a noun and a verb". See Dr. P. S. Subrahmanya Sastri, 1945. 126 fn. 3.

mutanilai denotes the noun constituents that precede a verb. Without a correct understanding of the *nu:rpa:, vinaiye: ceyvatu* ..., it is impossible to explicate the *nur:pa: , nilanum porulum* ... .

The following instances might be examined for a better understanding of those *nu:rpa:s.*

9. *pa:ntiyan ko:valanai maturaiyil konrā:n >*

    ko:valanai maturaiyil konra pa:ntiyan

    'the Pa:ntiya king who killed Ko:valan at Maturai'

    pa:ntiyan maturaiyil konra ko: valan

    'Ko:valan whom the Pa:ntiya king killed at Maturai'

    pa:ntiyan ko:valanaik konra maturai

    'Maturai where the Pa:ntiya king killed Ko:valan'

In sentence (9) there are three nouns and all the three bear some kind of relation to the verb *kol* 'kill'. All the three nouns can move to the head position when the verb is changed into a relative participle. Note that the noun which stands as the head of the relative nominal is not seen where it stood originally in the source sentence. This proves the fact that the head noun qualified by the relative participle is one of the noun constituents that preceded the finite verb in the source sentence. Besides this, it has to be understood here that the relationship in the source sentence, between the verb and the preceding noun is retained in the derived relative nominal where the noun is shifted to the head position. To illustrate this, in *paiyan vanta:n* 'The boy came' and *vanta paiyan* 'the boy who came', the noun *paiyan* 'boy' stands in subject or agent relation to the finite verb *vanta:n* and also to the relative participle *vanta.*

In short, the following should be stressed. In the *nu:rpa:,*

    vinaiye: ceyvatu ceyappatu porule:

    nilane: ka:lam karuvi enra:

iṇṇataṟ kitupayaṉ a:ka eṉṉum

aṉṉa marapiṉ iraṇṭoṭum tŏkai:

a:yeṭ ṭeṉpa toḷḷmuta ṉilaiye:

Tolka:ppiyar speaks about the relations of the noun constituents that precede a finite verb and not about the causes of action. A grammarian's main concern is not the causes of the actions that take place in the world. Furthermore action (*viṉai*) itself cannot be the cause of the same action. On the other hand a grammarian must describe the syntactic relations between the nouns and the verbs that occur in the sentence. This is what Tolka:ppiyar does in the above *nu:ṟpa:*. Among the eight items mentioned there, the first six alone can move to the head position with the same syntactic relation when the finite verb gets changed into relative participle. This is what he means to say in the *nu:ṟpa:*,

'*nilaṉum poruḷum ka:lamum karuviyum*

viṉaimutaṟ kiḷavlyum viṉaiyum uḷappaṭa

avvaṟu poruṭkum o:raṉṉa urimaiya

ceyyum ceyta eṉṉum colle:'.

Both the *nu:ṟpa:s* given above are closely related to each other and both of them deal with the syntactic relation borne by the nouns to the finite verb and the relative participle derived from the same verb. In this connection we have to mention that the commentator Teyvaccilaiya:r gives the right interpretation to these *nu:ṟpa:s* and Ce:ṉa:varaiyar and an anonymous commentator seem to hold a similar view.

Even though the syntactic relations between the relative participles and the nouns are not exhaustively given by Tolka:ppiyar, what he · said many centuries back about the relative participle is perfectly all right even now according to the modern linguistics.

In conclusion, I would like to quote this :– "It is true that these are all not stated in an explicit and orderly way in *Tolka:ppiyam* which has left us in darkness in finding out the hidden treasure in it. It is now really a pleasure to read the old grammar with the background of modern transformational theory which helps us a great deal to understand the master mind of the great grammarian."[14]

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4. A NOTE ON SUBJECT

Generally it is believed that a grammatical sentence must have a subject and predicate. This paper critically examines how far that belief is real. As far as the predicate is concerned there is no point of disagreement. The subject is our main concern in this paper. The problem of subject is there in many Indian languages. The present discussion is confined to Tamil (Ta), Malayalam (Ma) and Telugu (Te).

Consider the following sentences.

1. (Ta)   *kaṇṇaṉ vanta:ṉ*
          'Kannan' 'came-he'
          'Kannan came'

2. (Ta)   *va:ruṅkaḷ*
          'Come-you (hon.)'
          'Come'

3. (Tə)   *avaraik ka:ṇo:m*
          'him' 'not seen'
          'He is not seen'

Kaṇṇaṉ is the subject in sentence (1). *ni:ṅkaḷ* which is hidden or understood is the subject in sentence (2). What is the subject in sentence (3)? *avaraik ka:ṇo:m* is a complete sentence where *avarai* is an objective or accusative construction and *ka:ṇo:m* is a verb. If the belief that a grammatical sentence must have a subject is real, then what is the subject in the sentence? The following sentences also might be considered in this connection.

4   (Ta)   *enna:l natakka mutiya:tu*
            'by me' 'to walk' 'cannot-it'
            'I cannot walk'

5. (Ta)   *enakkut teriyum*
            'to me' 'is known'
            'I know'

6. (Ta)   *avar varuva:rpo:l irukkiratu*
            'he' 'will come–he like' 'is-it'
            'It seems he will come'

Of them, *enna:l* is an agentive construction in sentence (4), *enakku* is a dative construction in sentence (5) and *avar* is the subject of the verb *varuva:r* in sentence (6). What are the subjects of the sentences (4) and (5) and what is the subject of the verb *irukkiratu* in sentence (6)? Some scholars are of the opinion that *enna:l* (sentence 4) and *enakku* (sentence 5) can be taken for subjects and they call them logical subjects.

Let us examine the logical subject. For our present purpose the following sentences might be considered.

a. John ran away.

b. What John did was run away.

c. It was John who ran away.

d. The one who ran away was John.

In all these four sentences, the actor is John. John is known as true subject or logical subject in all the four sentences. But there are four different grammatical subjects in those instances. In the first sentence, the grammatical subject and the logical subject are one and the same, whereas in the other cases they are different. It has to be emphasized that the grammatical subject is different from logical subject.

A grammarian's main concern is only the grammatical subject and not the logical subject. There is no grammatical basis for treating *enakku* and *enna:l* as subjects. Grammatically *enakku* is dative and *enna:l* is agentive and they must not be mistaken for subjects. Coming to the sentence (6), *avar* is the subject of the verb *varuva:r* and what is the subject of the verb *irukkiṟatu*? So far the problem of subject in such sentences is not convincingly solved. Although a similar problem exists in many of the Indian languages, I have taken only Tamil, Malayalam and Telugu for our discussion. Let us see the situation in Malayalam.

7. (Ma)   *eṇikkə avaṇe ve:ṇam*
            'to me' 'him' 'is needed'
            'I want him'

8. (Ma)   *eṇikkə naṭakka:ṇ kaḷiyilla*
            'to me' 'to walk' 'cannot-it,
            'I cannot walk'

9. (Ma)   *eṇikkə avare ka:ṇaṇam eṇṇu to:nnunnu*
            'to me' 'them' 'should see' 'that' appears'
            'I feel that I should see him'

In sentence (7) *eṇikkə* is dative, *avaṇe* is accusative and *ve:ṇam* is a verb. In the next sentence again *eṇikkə* is dative, *naṭakka:ṇ* is infinitive and *kaḷiyilla* is a verb. In sentence (9) again *eṇikkə* is dative, *avare* is accusative, *ka:ṇaṇam* is a verb, *eṇṇu* is a connector and *to:nnunnu* is a verb. What are the subjects of the sentences 7, 8 and 9?

Let us see the problem in Telugu. Consider the following sentences.

10. (Te)   *na:ku a:kaliga: undi*
            'to me' 'hungry' 'is-it'
            'I am hungry'

11. (Te) *va:ḍu osta:ḍula: undi*
'he' 'will come-like' 'is-it'
'It seems he will come'

12. (Te) *na:ku a:yanani cu:ḍa:lani undi*
'to me' 'him' 'should see that' 'is-it'
'I feel that I should see him'

In sentence (10) *na:ku* is dative *a:kaliga:* is an adverbial and *undi* is a verb. In sentence (11) *va:ḍu* is the subject of the verb *osta:ḍu, -la:* is an adverbial marker and *undi* is a verb. In sentence (12) *na:ku* is dative, *a:yanani* is accusative, *cu:ḍa:li* is a verb, *ani* is a connector and *undi* is a verb. What are the subjects of these sentences? How to account for all these sentences?

There are three possibilities to account for the sentences given above. Let us examine them.

(a) Accusative (3), agentive (4), dative (5, 7, 8) and certain adverbials (6, 9, 10, 11, 12) function as subject in the surface structure.   —

This treatment is a misleading one and it makes the problem worse. If *enakku* be a subject in *enakku avarait teriyum*, this sentence must be able to undergo passivization. But it is impossible to passivize the sentence *enakku avarait teriyum*. Then why should it be called a subject? When we look into the syntactic behaviour of those items we understand that they are not subjects. This treatment is very unsatisfactory. We therefore give up this treatment and look for a better one.

(b) We can set up a dummy or zero element in the subject slot. This treatment is somewhat ingenious, but still the problem is not satisfactorily solved. In Tamil and Telugu the concord element is found in the predicate. The dummy or zero subject can account for the concord element. So this

treatment seems to be more suitable for Tamil and Telugu than for Malayalam. This treatment cannot be ruled out.

(c) The third treatment makes a drastic departure from the usual way of analysis, but seems to be more valuable and much nearer to reality. In fact, the problematic sentences cited above are subjectless sentences. The verbs that occur in the predicate slot determine the items that can occur before or after them. There are verbs which do not take object; there are verbs which do not take ablative. So also there are verbs which do not take subject. They can be grouped into a class and a statement can be made that these verbs do not take subject. This treatment implies that the nuclear part of a sentence is verb. Consequently, the paramount importance given to the binary cut is reduced. A careful and exhaustive study of the entire nature of all the verbs in a language is the real grammatical study of that language.

Once scholars were interested in trinary cut of sentences and they talked about subject, object and predicate. Later on, the binary cut was preferred and now it is well established and widely accepted. It is true that most of the sentences yield binary cut and they can be analysed in terms of subject, predicate or topic, comment, or, NP, VP. But the binary cut need not and cannot be imposed everywhere.

There are sentences where subjects and predicates are present, also there are sentences where subjects are hidden or understood and there are certain sentences having no subject at all. The last type of sentences can be called subjectless sentences. The binary cut cannot be imposed on subjectless sentences.

If there is enough reason to set up a dummy subject, we can do so and thus maintain the binary division in a sentence. If there is no reason to set up a dummy subject, we need not give

too much importance to the notion of subject. In order to account for the concord items, it is preferable to set up dummy subjects in Tamil as well as in Telugu sentences. But, it is necessary for Malayalam since there is no subject-predicate concord in Malayalam.

As observed already, the problem of subject exists in many Indian languages. Many scholars are aware of the problem we discussed above. They are also aware of the fact that the problem is not satisfactorily solved. Some scholars tried to solve the problem with the belief that every grammatical sentence must have a subject and a predicate. and that belief has kept the problem obscure to us. In conclusion, all I would like to say is this:- The problem is presented and the possible solution is given. I will be happier in receiving better solution as any enthusiastic linguistic student does.

5. VERB CONJUGATION IN TAMIL

In Tamil the conjugated verbs have the structure, Verb stem-tense-gender person marker. There are three tenses in Tamil namely; Past, Present and Future. The verbs can be classified into two major classes on the basis of present and future tense markers. When the classification is made on the basis of past tense markers the number of classes increases. The classification on the basis of past tense automatically includes the other classifications that can be made on the basis of future and present tenses. Therefore Tamil verb classification is usually made on the basis of past tense markers. According to the Tamil Lexicon there are twelve classes of verbs in Tamil.

No.	Citation	Past	Present	Future
1	cey	t	kiṟ	v
2	a:ḷ	ṇṭ	,,	,,
3	koḷ	ṉ ṟ	,.	,,
4	aṟi	nt	,,	,,
5	añcu	iṉ	,,	,,
6	viṭu	–PP–	kiṟ	v
7	uṇ	ṭ	,,	p
8	tiṉ	ṟ	,,	,,
9	ke:ḷ	ṭṭ	kkiṟ	pp
10	kal	ṟṟ	,,	,,
11	pa:r	tt	,,	,,
12	naṭa	nt	,,	,,

Past tense morpheme has eleven allomorphs. The list of allomorphs includes phonologically and morphologically conditioned items. Each allomorph forms the basis for a verb class. The verb class formed by *nt* is further divided into two on the basis of future as well as present tense markers.

aṟi	*nt*	*kiṟ*	· *v*
naṭa	*nt*	*kkiṟ*	*pp*

Thus the eleven classes come to twelve. This classification does not include the irregular verbs like *a:*, *po:*, etc.

A. H. Arden classifies them into seven classes with some sub-classes in the first and fifth conjugations.

I	[a]	*cey*	*t*	*kiṟ*	*v*
	[b]	*a:ḷ*	*ṇt*	,,	,,
	[c]	*kol*	*ṉṟ*	,,	·,
II		*aṟi*	*nt*	,,	,,
III		*va:ṅku*	*in*	,,	,,
IV		*viṭu*	*PP*	,,	,,
V	[a]	*uṇ*	*ṭ*	,,	*p*
	[b]	*eṉ*	*ṟ*	,,	,,
	[c]	*ke:ḷ*	*ṭ*	,,	,·
	[d]	*kal*	*ṟ*	,,	,,
VI		*paṭi*	*tt*	*kkiṟ*	*pp*
VII		*naṭa*	*nt*	,,	,,

If we include the sub-classes again we have only twelve classes. Practically nothing is gained by this subclassification.

Some scholars have classified the verbs into seven classes, but this classification is different from that of Arden. This is

done by clubbing I b, I c and II together, V a and V b
together and by clubbing V c, V d and VI together.

No.	Citation	Past 1	Past 2	Present	Future
1	*cey*	*t*	*t*	*kiṟ*	*v*
2	*a:ḷ*	*ṇṭ* ⎫			
3	*kol*	*ṉṟ* ⎬	*nt*	,,	*v*
4	*aṟi*	*nt* ⎭			
5	*añcu*	*iṉ*	*iṉ*	,,	*v*
6	*naṭu*	*PP*	*PP*	,,	*v*
7	*uṇ*	*ṭ* ⎫	*t*	*kiṟ*	*p*
8	*tiṉ*	*ṟ* ⎭			
9	*ke:ḷ*	*ṭṭ* ⎫			
10	*kal*	*ṟṟ* ⎬	*tt*	*kkiṟ*	*pp*
11	*pa:r*	*tt* ⎭			
12	*naṭa*	*nt*	*nt*	,,	*pp*

The past tense allomorphs are eleven in number according
to the Tamil Lexicon and they are given in the table in the
column Past 1. The allomorphs are reduced to five by making
use of some morphophonemic rules and they are given in the
coloumn, Past 2. Note that the verb classes taking *t* and
nt [past 2 coloumn] are further divided on the basis of
present and future tense markers. Now we have got seven
classes as shown below.

No.	Citation	Past	Present	Future
1	*cey*	*t*	*kiṟ*	*v*
2	*a:ḷ* ⎫			
	kol ⎬	*nt*	,,	,.
	aṟi ⎭			

No.	Citation	Past	Present	Future
3	*añcu*	*in̠*	*kir̠*	*v*
4	*na̤ṭu*	*PP*	,,	,,
5	*un̤* *tin̠*	*t*	,,	*p*
6	*ke:l̤* *kal* *pa:r*	*tt*	*kkir̠*	*pp*
7	*na̤ṭa*	*nt*	,,	,,

Note that verb classes one and five are alike in taking the past tense allomorph [*t*] but they differ in the case of future tense. Also note that two and seven are alike in taking *nt* but they differ both in the present and future tenses. On the basis of past tense allomorphs we have only five classes; when future and present are taken into consideration the verb classes increase from five to seven.

No.		Citation	Past	Present	Future
1	[a]	*cey*	*t*	*kir̠*	*v*
	[b]	*un̤* *tin̠*	,,	,,	*p*
2	[a]	*a:l̤* *kol* *ar̠i*	*nt*	,,	*v*
	[b]	*na̤ṭa*	,,	*kkir̠*	*pp*
3		*añcu*	*in̠*	*kir̠*	*v*
4		*na̤ṭu*	*PP*	,,	,,
5		*ke:l̤* *kal* *pa:r*	*tt*	*kkir̠*	*pp*

		Past	Present	Future
1	[a]	*t*	*kir*	*v*
	[b]	*t*	*kir*	*p*
2	[a]	*nt*	*kir*	*v*
	[b]	*nt*	*kkir*	*pp*
3		*in*	*kir*	*v*
4		*PP*	,,	,,
5		*tt*	*kkir*	*pp*

Making five classes with some sub-classes in 1 and 2 is not at all different from making seven classes without any sub-class.

One can eliminate the sub-classes [1 b] and [2 b] by introducing such morphophonemic rules as

[1] $N + v \longrightarrow N + p$

where N stands for a nasal consonant.

and [2] $\begin{bmatrix} a \\ a\text{:} \end{bmatrix} + \begin{bmatrix} kir \\ p \end{bmatrix} \longrightarrow \begin{bmatrix} a \\ a\text{:} \end{bmatrix} + \begin{bmatrix} kkir \\ pp \end{bmatrix}$

Now we have five classes. They are as follows:

1	$\left. \begin{array}{l} cey \\ un \\ tin \end{array} \right\}$	*t*	*kir*	*v*
2	$\left. \begin{array}{l} a\text{:}l \\ kol \\ ari \\ naṭa \end{array} \right\}$	*nt*	*kir*	*p*
3	*añcu*	*in*	*kir*	*v*

4	*naṭu*	PP	,,	,,
5	*ke:l̮* *kal* *pa:r*	*ṭṭ*	*kkir̮*	*pp*

The Tamil verbs can be conveniently classified into five classes as shown above without any hocuspocus.

Leigh Lisker, after discussing various possibilities, has classified the Tamil verbs into three classes. In order to reduce the number of classes into three he introduces some artiffcial morphophonemic symbol like X. He recognises the following classes.

1	*t*	*kir̮*	*v*
2	*nṭ*	,,	,,
3	*in̮*	,,	,,

After considering all these classifications an attempt is made here to group all the verbs into a single class, by making use of some phonological [including syllabie] conditionings. According to this new treatment the tense allomorphs are as follows :

Past	Present	Future
t	*kiṭ*	*v*
nt	*ukir̮*	*v*
in̮	,,	*p*

The tense allomorphs are selected according to the ending of the verb stems. In other words, all the tense allomorphs can be predicted on the basis of the ending of the verb stems. The ending phonemes of the stems are reinterpreted in such a way that the tense allomorphs can be perfectly predicted.

Examine the following table. The ending phonemes [ending 1] according to Tamil Lexicon are given in the third coloumn. The ending phonemes according to the present treatment are given in the fourth column.

No.	Citation	Ending 1	Ending 2	Past	Present	Future
1	*cey* *vai*	-y -ai	-y	t	*kir*	v
2	*a:ḷ*	-ḷ	-ḷ	nt	,,	,,
3	*koḷ*	-l	-l	,,	,,	,,
4	*ari*	-i	-i			
	ii	-ii	-ii			
	eḻu	-u	-u			
	aḻai *te:y*	-ai -y	-y	,,	,,	,,
	ce:r	-r	-r			
	va:ḻ	-ḻ	-ḻ			
5	*añcu*	-u	-u	iṉ	*kir*	v
6	*naku*	-ku	-k			
	naṭu	-ṭu	-ṭ	t	*ukir*	
	peṟu	-ṟu	-ṟ			
7	*uṇ*	-ṇ	-ṇ	-t	*kir*	p
8	*tiṉ*	-ṉ	-ṉ	,,	,,	,,

No.	Citation	Ending 1	Ending 2	Past	Preeent	Future
9	*ke:ḷ*	-ḷ ⎫				
10	*kal*	-l ⎪				
11	*kana*	-a ⎪				
	ka:	-u: ⎪				
	kuṟi	-i ⎪				
	ci:	-i: ⎬	+ -K	*t*	*kiṟ*	*p*
	koṭu	-u ⎪				
	pu:	-u: ⎪				
	aḷai	-ai ⎪				
	ko:	-o; ⎪				
	moy	-y ⎪				
	pa:r	-r ⎪				
	aviḷ	-ḷ ⎭				
12	*naṭa*	-a	-a	*nt*	*kiṟ*	*p*

There are only three verbs in modern Tamil [*aḷu, uḷu, toḷu*] ending with -*u* in the first conjugation and there is only one verb [*iru*] ending with -*u* in the twelfth conjugation. These verbs are treated as irregular verbs.

The verbs belonging to 9th, 10th and 11th conjugations are treated as K ending verbs. K is an artificial morphophonemic symbol. The -*ku*, -*ṭu*, -*ṟu* endings are treated as *k*, *ṭ*, *ṟ* endings. Y ending verbs seem to take *t* as well as *nt*. This contrast is nullified by giving syllabic conditioning, viz., the verbs belonging to [C]$\breve{V}y$ pattern take *t* and the other -*y* ending verbs take *nt*. Besides *y*, *u* ending stems also seem to take *nt* as well as *in̠*. This contrast also is nullified by giving syllabic conditioning, viz., the verbs belonging to [C] $\breve{V}Cu$ pattern will take *nt* and the other -*u* ending verbs will take

iṉ. Now, we see all the tense markers being in perfect complementation.

$$
\text{Past} \longrightarrow \left\{ \begin{array}{c} t \\ \\ i\underline{n} \\ \\ nt \end{array} \right\}
\begin{array}{l}
// \quad - X,\ k,\ \underline{t},\ \underline{r},\ \underline{n},\ \underline{n},\ K \\
\qquad X = [\text{C}]\breve{V}y\text{-} \\[1em]
// \quad - Xu \\
\qquad X = \text{other than } [\text{C}]\breve{V}C \\
\qquad \text{elsewhere}
\end{array}
$$

$$
\text{Present} \longrightarrow \left\{ \begin{array}{c} uki\underline{r} \\ \\ ki\underline{r} \end{array} \right\}
\begin{array}{l}
// \quad - k,\ \underline{t},\ \underline{r} \\[0.5em]
\qquad \text{elsewhere}
\end{array}
$$

$$
\text{Future} \longrightarrow \left\{ \begin{array}{c} uv \\ \\ p \\ \\ v \end{array} \right\}
\begin{array}{l}
// \quad - k,\ \underline{t},\ \underline{r} \\[0.5em]
// \quad - \underline{n},\ \underline{n},\ k,\ a \\[0.5em]
\qquad \text{elsewhere}
\end{array}
$$

The following are the irregular verbs which do not come under the major class.

1	*a:*	*ṉ'iṉ*	*ki<u>r</u>*	*v*
2	*ca:*	*t*	,,	,,
3	*ta:*	*nt*	,,	,,
4	*va:*	,,	,,	,,
5	*aḷu*	*t*	,,	,,
6	*iru*	*nt*	*ki<u>r</u>*	*p*
7	*uḷu*	*t*	*kī<u>r</u>*	*v*

8	*to*ḻu	t	kiṟ	v
9	ve:	nt	kiṟ	,,
10	nai	,,	,,	,,
11	no:	,,	,,	,,
12	po:	ṉ/iṉ	,,	,,
13	col	ṉ	,,	,,
14	nil	nt	kiṟ	p

In the present analysis all the Tamil verbs [except the fourteen irregular verbs] are grouped into one single class. The verbs belonging to 9th, 10th and 11th conjugations take an extra *k* in the present, infinitive, neuter future, optative and potential formations. So it is quite reasonable and logical to set up an artificial morphophoneme namely K [or the regular phoneme *k*] at the end of those stems. Note the following:

ke:ḷk	·*ke:ḷkiṟa:ṉ*	'hears-he'
	ke:ḷka	'to hear'
	ke:ḷkum	'will hear-it'
	ke:ḷka	'let — hear'
	ke:ḷkala:m	'may hear'
kaḷk	*kaṟkiṟa:ṉ*	'learns-he'
	kaṟka	'to learn'
	kaṟkum	'will learn-it'
	kaṟka	'let — learn'
	kaṟkala:m	'may learn'
pa:rk	*pa:rkkiṟa:ṉ*	'sees-he'
	pa:rkka	'to see'
	pa:rkkum	'will see-it'

pa:rk	*pa:rkka*	'let — see'
	pa:rkkala:m	'may see'

In order to nullify the contrast with *nak*-[*naku*] a capital K is set up as a morphophoneme in the case of *ke:ḷ*, *kal* and *pa:r* [9. 10, 11] conjugations. If we make use of the regular phoneme *k* instead of the capital *K* the verb *naku* should be treated as an irregular verb.

This treatment considerably simplifies the conjugation system and it also reduces the number of tense allomorphs and the number of verb classes.

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6. ON SANDHI

At the outset it would be much more helpful to clarify what we mean by morphophonemics and sandhi. The study which deals with the phonemic variants of a single morpheme in the given environments is called morphophonemics. The study which deals with all kinds of changes like addition, etc. when two or more morphemes occur together i.e., when they stand in sandhi, is called sandhi. Even though sandhi and morphophonemics are considered, in some sense, to mean the same thing, it must be noted that sandhi includes something more than morphophonemics.

A perfect grammar must enable a student to predict the resultant form of a sequence of morphemes sensibly arranged. In order to meet this requirement the grammar deals with allomorphs or morphemic alternants. The grammar can also take them into account by making apt morphophonemic rules. Otherwise the grammar can make use of both these techniques in accordance with economy and convenience. If the grammar gives morphophonemic rules by means of which it accounts for all morphemic alternants, then this method is called dynamic method. If the grammar gives morphemic alternants by means of which it avoids morphophonemic rules, then this method is called static method. Which of them is preferable? To answer this question we have to understand the nature of morpheme alternants. Phonological environments are responsible for the difference in phonemic shapes of certain morphemes and such morphemic alternants are known as phonologically defined alternants. Morphological environments are responsible for the differences in phonemic shapes of certain other morphemes in

some other cases and such alternants are known as morpho-
logically defined alternants. In addition to these two kinds of
alternants there are some other alternants which cannot be
defined by phonological environments nor by morphological
environments. In these cases grammatical structures are respon-
sible for the difference in phonemic shapes of the morphemes
concerned. These alternants are known as grammatically
defined alternants. A clear understanding of these alternant
classes is necessary to consider the question raised above; i.e.,
which of them is preferable? — static method or dynamic
method?

Morphemic alternants are usually treated in the section
morphology whereas morphophonemic rules are given in the
section morphophonemics. The morphemic alternants M_1, M_2,
M_3 and M_4 of the morpheme M are given in the morphologi-
cal section of the grammar G. These alternants can also be
derived from a basic form M_b by making use of some special
morphophonemic rules. If it be the case, does the grammar
include these morphophonemic rules? If the answer is 'yes' the
grammar G is redundant. If the answer is 'no' the grammar
G is not powerful since it fails to make a generalization even
when it is found possible. How to make the grammar G free
from these defects? We must clearly know what are the things
we have to treat in morphophonemics and what type of alter-
nants we have to treat in morphology.

Let us consider the following instances in Tamil.

  maram + kal > marankal 'trees'

  maram + po:l > marmpo:l 'like a tree'

  maram + ta:n > maranta:n 'tree' (emphatic)

  maram + ca:yntatu > marañca:yntatu 'tree fell'

The final *m* has the phonemic variants *ṅ, n, ñ* and also *m* in the morpheme *maram.* It is quite reasonable to present the fact as follows :

$$m \longrightarrow \begin{Bmatrix} \dot{n} \\ \tilde{n} \\ n \\ m \end{Bmatrix} \begin{matrix} -k \\ -c \\ -t \\ - \ \cdot \end{matrix}$$

which reads as the morphophoneme *m* becomes the velar *ṅ* before velar *k*, the palatal *ñ* before palatal *c*, the dental *n* before dental *t* and elsewhere it remains as it is. The alternants which are given in the data can be taken into account by this rule. The change *m > ṅ, ñ* and *n* is phonologically explainable. Here the form *maram* has four alternants purely due to phonological reasons It is quite reasonable, understandable and simple to treat them under morphophonemics and the so called phonologically defined alternants need not be treated in morphology.

Let us consider a different case.

> *eḷu + nt + atu > eḷuntatu* 'it rose'
>
> *paḻu + tt + atu > paḻuttatu* 'it got ripened'
>
> *aḻu + t + atu > aḻutatu* ·'it wept'

Here *nt, tt,* and *t* signify past tense. These are the alternants of the past tense morpheme. As they are given here they are by no means phonologically explainable. Yet a perfect grammar must enable a student to produce the past form of the verbs *eḷu, paḻu,* and *aḻu.* In such cases the verbs are classified on the basis of the tense markers they take and the tense markers given here are called morphologically definable alternants. In this case we can choose none of them as a basic form so as to give the other phonemic shapes of the past tense markers. These alternants are not phonologically

explainable since they occur in the same phonological environment. One may argue here that a rule like

$$
nt \longrightarrow \left\{ \begin{array}{c} tt \\ t \\ nt \end{array} \right\}
\begin{array}{l}
\text{after the verb stems of class 1} \\
\qquad\qquad\qquad\qquad \text{,,} \qquad\qquad \text{class 2} \\
\qquad\qquad\qquad\qquad\qquad\qquad \text{---}
\end{array}
$$

can be given to take care of these alternants. But such a rule does not show the real status of affairs found in the language and it is quite evident that this presentation is not nearer to reality. Therefore, such alternants are to be treated only in morphology and not in the morphophonemics Again it is emphasized that the phonologically explainable alternants alone must be treated under morphophonemics.

The question raised already can be easily answered now. If the alternants m_1, m_2, m_3 and m_4 are phonologically explainable, then they are treated under morphophonemics and not in morphology. If the case is different from this, they are treated elsewhere in the grammar but not under morphophonemics. Thus the grammar G can be made free from those defects we mentioned already.

In morphophonemics we deal with the phonemic variants of a morpheme and the variants appear as a result of some processes like assimilation, dissimilation, etc. All that we have to deal with in a sequence of morphemes do not end with this alone. In other words, the treatment of morphophonemics and morphemic alternants, so far we discussed is not at all sufficient to enable a student to predict the resultant form of two or more morphemes sensibly arranged. What do we need more? Inevitably other problems also are found involved here.

a. When two morphemes come together, in some cases, certain phonemic sequence comes in between them. Some scholars consider this as segmentation problem. Some other scholars consider this as morphophonemic problem. How can this problem be better solved?

b. In order to predict the resultant form of a morpheme sequence we have to know the morphological status of the morphemes of that sequence. Unless we know this, we cannot predict the resultant form of a given morphemic sequence. In other words, the predictability of the resultant form of a morphemic sequence involves morphological notion.

c. Moreover the relationship between the morphemes plays an important role in predicting the resultant forms of the given morphemic sequence.

Sandhi makes use of all necessary notions whether morphological or phonological or even syntactical as the case may be. But it ultimately aims to enable a student to predict the resultant form of two or more morphemes arranged sensibly and reasonably.

A perfect study of sandhi must give a set of rules with all the relevant facts so as to predict the ultimate form of a morphemic sequence and thus the predictability of the resultant form of a chain of morphemes must be made possible. The area of sandhi is surrounded and covered by the parts of the aspects of phonology, morphology and syntax. It is in sandhi where the other aspects come together and meet. Let us see how the phonetic, syllabic, morphological and syntactic aspects are involved in sandhi.

In general the end of the first morpheme and the beginning of the next one are our main concern in sandhi. The end and the beginning of a morpheme can be either a vowel or a consonant. We therefore get the following combinations.

1 $V + V$ 3 $C + C$

2 $V + C$ 4 $C + V$

(V is a vowel and C is a consonant)

Syllabicity must also be considered in the study of sandhi. On the basis of syllabicity we may get combinations like the following.

1 $(C)\ \breve{V} + C$ 5 $(C)\ \breve{V} + V$

2 $(C)\ \overline{V} + C$ 6 $(C)\ \overline{V} + V$

3 $(C)\ \breve{V}C + C$ 7 $(C)\ \breve{V}C + V$

4 $(C)\ VCV + C$ 8 $(C)\ VCV + V$

For instance in Tamil *kaḷ + ai > kaḷḷai* 'toddy' (acc. case) but *makaḷ + ai > makaḷai* 'daughter' and *kal + il > kallil* 'in a stone' but *pakal + il > pukalil* 'in day'. Here the syllabic structure is responsible for the difference in sandhi process. According to the nature of the language chosen for study the combinations may be more, or less in number.

It is already mentioned that morphological notion cannot be ignored in making sandhi rules. The combinations of morphemes may differ according to the morphological nature of the language chosen for study. For instance in Tamil we have combinations like;

Noun + Noun	Noun + Particle
Noun + Verb	Verb + Tense
Verb + Noun	Verb + Affix
Verb + Verb	Verb + Particle
Adjectlve + Noun	Adverb + Affix
Adverb + Verb	Adverb + Particle

Noun + Case   Case + Noun, Verb, etc.

Noun + Affix   Affix + Noun, Verb, etc.

Particle + Noun, Verb, etc., etc.

The relationship of the adjacent morphemes is significant in the study of sandhi. The relationship can be broadly classified as casal and non-casal which include all the relations such as appositive, attributive, coordinative, etc. These relationships too play an important role in the study of sandhi.

In addition to these the following processes are involved in sandhi :

> (a) Addition
> (b) Deletion
> (c) Change
> (d) No-change or *iyalpu.*

All the sandhi processes can be treated under these four major kinds. Each item can be divided into subclasses. The last one i.e. no-change is known as *iyalpu* in Tamil grammar. The significance of *iyalpu* or no-change will be made clear in the following sections.

The study of sandhi can be made perfect only when we make use of these phonological, syllabic, morphological, and syntactic aspects and also the processes like addition, deletion, etc. Let us consider these in detail.

Phonological aspect and sandhi : In this head our main concern is the phonemes. Generally the final phoneme of the first morpheme and the initial one of the next morpheme are the main concern in this head. In some cases the non-final and the non-initial phonemes also have to be considered.

Each language has a phonological structure of its own kind. All sandhi rules conform to the phonological structure of the language and this is how we give phonological explanation in many cases. For instance gemination of nasal consonants, *l, l* and *v* is impossible in Tamil after a long vowel or after two syllables. In other words those consonants can occur in gemination only after a short vowel which is not preceded by another syllable. In a combination of two morphemes, suppose an occasion comes to show two nasals. What will happen?

(1)   *va:n̠ + nilai >*
(2)   *va:n̠ + n̠ilai >*
(3)   *va:n̠ilai* 'sky-atmosphere'

In the stage (2) we find the assimilation of *n* to *n̠* and in the third stage one of the nasals is dropped. The alveolarity of *n̠* in *va:n̠* and the nasality of *n* in *nilai* are found to have merged and the result is *va:n̠ilai.* This can be proved in the following:

na:l + nu:ṟu > na:n̠u:ṟu   '400'
me:l + nilai > me:n̠ilai   'high position'

Here it can be easily seen that the alveolar quality of *l* and the nasal quality of *n* come together and the rasult is the alveolar nasal *n̠.*

Vowel cluster is impossible in Tamil and the glide *y* or *v* is introduced to avoid vowel clusters.

e.g.,   *nila: + ai > nila:vai*   'moon' (acc.)
      kilai + ai > kilaiyai   'branch'   ,,
      kili + ai > kiliyai   'parrot'   ,,
      pulu + ai > puluvai   'worm'.

The clusters *mk*, *mc* and *mt* are foreign to Tamil and such combinations in sandhi get changed into *ṅk*, *ñc* and *nt* respectively.

> e.g., *maram + kaḷ > maraṅkaḷ* 'trees'
>
> *kaṭum + col > kaṭuñcol* 'harsh word'
>
> *paḷam + tamiḷ > palantamiḷ* 'old Tamil'

All such facts of the phonological structure of the language chosen for study must be carefully considered when giving sandhi rules. If these are ignored, sandhi cannot be made perfect.

Syllabic aspect and sandhi : There are situations where the selection of allomorphs can be made only on the basis of the syllabic structure of the first member of the combination. For instance, the Tamil verbs *a:ṭu*, *pa:ṭu*, etc. take the tense marker *iṉ* but the verbs *paṭu*, *koṭu*, etc. do not take *iṉ*. Here the selection of *iṉ* has nothing to do with the phonemes of the morphemes concerned. When the syllabic structure of the verb stems is *XPu* (where *X* is any phonemic sequence other than *(C) V̆* and *P* is a plosive) the tense marker *iṉ* is selected.

> e.g., *o:ṭu + iṉ + a:ṉ > o:ṭiṉa:ṉ* 'ran-he'
>
> *pa:ṭu + iṉ + a:ḷ > pa:ṭiṉa:ḷ* 'sang-she'
>
> *virumpu + iṉ + a:ṉ > virumpiṉa:ṉ* 'liked-he'

All the Tamil forms of *(C)V̆C* type get changed into *(C)V̆CC* when they are followed by a vowel; otherwise the final consonant remains as it is

> e.g., *kaṇ + ai > kaṇṇai* 'eye' (acc.)
>
> *pal + ai > pallai* 'tooth' ,,
>
> *uṇ + a > uṇṇa* 'to eat'

e.g., $tin + a > tinna$ 'to eat'

$col + a > colla$ 'to say'

It may be clear now that the syllabic aspect also forms part of sandhi.

Morphological aspect and sandhi Unless we know whether the first member of the given combination is a noun or a verb or an X, we cannot predict the resultant form. Consider the following.

1 a. $natu + il > natuvil$ 'in the centre'

   b. $natu + a > nata$ 'to plant'

2 a. $ketu + ai > ketuvai$ 'instalment' (acc.)

   b. $ketu + a > keta$ 'to spoil'

3 a. $a:tu + ai > a:ttai$ 'goat' (acc.)

   b. $a:tu + a > a:ta$ 'to dance'

4 a. $ku:tu + ai > ku:ttai$ 'nest' (acc.)

   b. $ku:tu + a > ku:ta$ 'to join'

In the above cases neither the phoneme nor the syllabic structure is responsible for the difference found in their sandhi behaviour. The only factor which is responsible for the difference is the morphological aspect, i.e. in all the four sets the first one is of noun-plus-case type and the next one is of verb-plus-suffix type. Here it is undeniable that the morphological aspect is indispensable for making sandhi rules.

Syntactic aspect and sandhi Syntactic relations can be broadly classified into casal and non-casal. As already stated they include all the relations such as appositive, attributive, etc. The study of sandhi needs a clear understanding of syntax and the relation of the members in the given combination.

1 *ka:y + kaṇi > ka:ykaṇ'* 'fruits'

2 *na:y + kuṭṭi > na:ykkuṭṭi* 'puppy'

3 *ma:ṭu + kaṇru > ma:ṭukaṇru* 'cattle'

4 *ma:ṭu + kaṇru > ma:ṭṭukkaṇru* 'calf of a cow or a buffalo'

5 *vi:ṭu + va:cal > vi:ṭuva:cal* 'home, land, etc.'

6 *vi:ṭu + va:cal > vi:ṭṭuva:cal* 'courtyard'

Here 1, 3 and 5 show non-casal relation and the other three instances show casal relation. It might be noticed that all the six items are of noun–plus–noun type. In these cases it is evident that the syntactic relationship cannot be ignored in sandhi. In the instances given above, one can predict the resultant forms neither on the morphological ground nor on the phonoiogical ground. The resultant forms can be given only on the basis of syntactic relationships like casal, non-casal, etc.

In this section we face another problem. When we combine *maram* 'tree' and *ai* (accusative case marker) we get *marattai*. How to account for the loss of *m* and the addition of *tt*? If this is the only case where we have such problem, we can get rid of the problem by some means. The following items show the depth of this problem.

pu: + ai > pu:vai/pu:viṇai 'flower' (acc.)

nam + ai > nammai 'us'

maram + ai > marattai 'tree' (acc.)

pa:ṭṭu + ai > pa:ṭṭiṇai 'song' (acc.)

atu + ai > ataṇai 'that' (acc.)

atu + ku > ataṛku 'to that'

atu + a:l > ataṇa:l 'by that'

How to treat the items *in*, *an*, etc.? Do they go with the stem or with the suffix? Or, are they different from both? If so, what is the place of those items in the language?

First of all let us see the change in *maram + ai*. Here we get the form *marattai* or *marattinai*. In the resultant forms *m* is dropped, *tt* is added and *in* is optionally introduced. Here there is no reason to analyse *marattai* as *maram+attu+ai*. In old Tamil *veyil*, *veyilattu*; *malai*, *malaiyattu*; etc. are found and in that case it is reasonable to recognize *attu*. Now in modern Tamil there is no place for *attu*. The morphemic sequence *maram + tt + ai* changes into *marattai* The phonemic sequence *mtt* is impossible in Tamil and so we get *marattai*. Here *tt* can be taken as an oblique marker. There are two forms ending in *am* which do not take *tt*. They are *nam* and *tam*. The reason for the absence of *tt* in the case of *nam* and *tam* is this:- The function of *tt* is to change the form into an oblique one. *nam* and *tam* themselves are oblique forms of *na:m* and *ta:m* respectively. Because of this fact, the oblique marker *tt* does not occur with them.

How about *in* and *an*? We have both the forms *ma:ttai* and *ma:ttinai*. Examine the following items.

> *ma:tu + ai > ma:ttai* or *ma:ttinai* 'a bull' (acc.)
>
> *ma:tu + a:l > ma:tta:l* or *ma:ttina:l* 'by a bull'
>
> *ma:tu + ku > ma:ttukku* or *ma:ttirku* 'to a bull'

It is quite reasonable and acceptable to segment *in* as a separate unit. There is no reason to include this with the stem or with the suffix. This *in* cannot be interpreted as oblique marker for *ma:ttu* itself is oblique; nor can it be interpreted as a case marker for there are case markers after *in*. What is it then?

The segment *iṉ* is not a case maker and it is not an oblique marker either. It is an optional item whose place of occurrence is predictable. It needs some label. What label can it be given? Hockett suggests a name for such items, i.e. empty morph. R. Radhakrishnan says that it can be called empty morpheme because it has a place of occurrence which can be considered as its function. The traditional grammarians call them *'ca:riyai'* which means dependent unit. As this name is suggestive, distinct, and simple we prefer the term *ca:riyai* (pronounced as sariya).

In some cases the *ca:riyai* is optional and in some other cases it is obligatory. In the following instances the *ca:riyais* are found to be obligatory.

> *atu + ku > atarku* 'to that'
> *pa:ṭṭu + uṭaiya > pa:ṭṭiṉuṭaiya* 'of the song'
> *atu + kaṇ > ataṉkaṇ* 'in that'
> *pattu + aintu > patiṉaintu* '15'

In all cases, whether the *ca:riyais* are optional or obligatory, they have their own places of occurrence. In the study of sandhi *ca:riyai* plays an important role. Ignorance of *ca:riyai* will make the grammar defective and incomplete.

Processes in sandhi When two or more morphemes are brought together a phoneme or a sequence of phonemes may be added there and this is called addition; a phoneme or a sequence of phonemes may be deleted there and this is called deletion. Or, in some cases, the final phoneme X and the initial phoneme Y may be changed into Z which has some phonetic feature of X and some phonetic feature of Y and this is called CHANGE in a special sense. In addition to these processes, no-change or *iyalpu* must also be taken into account since it stands in contrast with others. These are the major

processes involved in sandhi. All other changes can be brought under these four processes. This can be easily done when the actual situation is well understood.

Addition includes gemination, reduplication, introduction of glide and *cu:riyai*, etc. Deletion includes loss of a phoneme, loss of a phonemic sequence, etc. One may think that CHANGE is a process which involves both deletion and addition. But it is difficult to take it that way. Consider the following instances.

$$na:l + nu:ru > na:ṇu:ru \quad ·'400'$$
$$na:l + to:ṛum > naṭo:ṛum \text{ 'daily'}$$

Note that *l + n* gets changed into *ṇ* and *l + t* gets changed into *ṭ* We can also say that *l + n* is deleted and *ṇ* is added and *l + t* is deleted and *ṭ* is added. But this statement does not show the real status of affairs. Really what happens here is this; - the alveolar feature of *l* and the nasal feature of *n* come together and become *ṇ*. So also the retroflexion of *l* and the plosivity of *t* come together and become *ṭ*. The special term change includes assimilation, dissimilation, metathesis, etc. As already stated no-change or *iyalpu* is considered significant because it contrasts with the other processes. For the sake of clarity it is better to state the places of *iyalpu* or no-change in sandhi, Consider the following pairs.

maṛaiporuḷ 'secret' (< *maṛai + poruḷ*)

maṛaipporuḷ 'teachings of Vedas' (< *maṛai + poruḷ*)

kaṭaipaṭu 'to be powdered' (< *kaṭai + paṭu*)

kaṭaippaṭu 'to be left behind' (< *kaṭai + paṭu*)

The significance of *iyalpu* or no-change in sandhi might be seen in these pairs.

Complexity of sandhi A combination of morphemes becomes a word, compound, phrase, or a sentence only after suffering some or all of the sandhi processes mentioned above. The system of sandhi is very complex in any real language. In the Tamil sequence *marattaippa:r* (*maram + ai + pa:r*) 'see the tree', the occurrence of *tt* is predicted. In predicting *tt*, morphological notion has come in. The cluster *mtt* is impossible in Tamil and so *m* is dropped. Here the phonological notion has come in. The second case marker *ai* plus a plosive becomes *aiPP*. The resultant form is *marattaip pa:r*. Let us take another example in Tamil. The phrase *palaṅka:lat tamilakkattiṉ paṇpu* consists of the items *palam-ka:lam-tamil-akam-tt-iṉ-paṇpu*. In this sequence, excepting the *ca:riyais tt* and *iṉ*, all the other items are morphemes. The morpheme sequence *palam-ka:lam-tamil-akam-paṇpu* gives the form *palaṅka:lat tamilakattiṉ paṇpu* 'the nature of ancient Tamil Nadu'. Let us see the complexity of sandhi in this case. The change of *m* to *ṅ* is a kind of assimilation. This change is due to phonological aspect.

Rule 1 . $m_{[adj]} \rightarrow \dot{n} \ / -k$

There is no problem in getting *tamilakam* from *tamil + akam*. The loss of *m* and the gemination of *t* in *palaṅka:lat tamilakam* can be taken care of by the following rule.

Rule 2 $am_{[N]} < \text{casal} > t_{[N]} \rightarrow att$

which reads as 'the final *am* of a noun and the initial *t* of another noun when they stand in the casal relation, give *att*'. Actually two processes are involved here, i. e. loss of *m* and the gemination of *t*. We have given here only one rule since it can take care of these two processes. It might be noticed here that we have made use of the syntactic relational aspect in this case. Next to this, *tamilakam* plus *paṇpu* gives

tamila:kkattin panpu. Here the selection of *tt* and *in* is made on the basis of morphological aspect.

Rule 3　　$am_{[N]} <$ casal $> P_{[N]} \longrightarrow am\text{-}tt\text{-}in\text{-}P$

Rule 3 reads as 'the final *am* of a noun and the initial phoneme of the following noun when the nouns stand in casal relation. give the form of '*am-tt-in-P*'. Morphological and syntactic aspects are involved here.

Rule 4　　$m + tt \longrightarrow tt$

Rule 4 reads as '*m-tt* becomes *tt*'. Now we get the form *palaṅka:lat-tamilakattin-panpu.* The *ca:riyai in* does not change before *p*. This can be presented as follows :

Rule 5　　$in_{[Ca:]} + P_{[N]} \longrightarrow inP$

This rule reads as 'the *ca:riyai in* plus a plosive of the following noun undergoes no change'. From this instance one can easily understand that the sandhi is really very complex and that it involves many aspects of higher and lower levels.

A convenient method of treatment is suggested below for the study of sandhi.

In the first section of sandhi all the *ca:riyais* and the places of occurrence might be treated. The initial and the final phonemes of the *ca:riyais* are also suffering the sandhi processes. Due to this reason all the *ca:riyais* have to be dealt with in the first section.

The morphophonemes whose behaviour is conditioned by the grammatical relationship of the morphemes concerned are to be treated in the second section of sandhi. These morphophonemes undergo the four major processes discussed already.

In the third section all the alternants which are phonologically explainable have to be treated. Neither morphological nor syntactic notion can enter here. The phonemic sequences which violate the phonological structure of the language are also to be treated in this section.

This approach is capable of giving the resultant form of any morphemic sequence. It might be mentioned here that this approach can dispense with the usual classification of sandhi like internal, external, automatic, non-automatic, regular, irregular, etc.

It might be fairly clear now that the role of sandhi can not be ignored in a grammar, that sandhi is really more complex than it was supposed to be and that sandhi is a place where phonological, morphological and syntactic aspects come in and meet in a language.

In this connection it is worth mentioning that Tolka:ppiyar, the ancient Tamil grammarian is quite aware of the fact that sandhi involves phonological, morphological and syntactic aspects. It gives us great pleasure to note that the treatment of sandhi in *Tolka:ppiyam* is very near to what we have discussed here. A careful study of sandhi in various languages of different language families, we hope, will confirm and enrich the approach we presented here.

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7. A NOTE ON A̲I̲ AND A̲U̲ IN TAMIL

It is a strong tradition in Tamil that *ai* and *au* are long Vowels[1]. They are therefore grouped with the other vowels and the vowels according to the tradition are twelve in number including *ai* and *au*[2]. The purpose of this paper is to examine whether they are really long vowels or combinations of a short vowel plus *y* or *v*[3]. It might be mentioned here that all that we say about *ai* and *au* are applicable whether they occur initially, medially or finally.

In Tamil, *ai* stands initially, medially and also finally whereas *au* stands initially and elsewhere in borrowed words. Therefore *ai* draws our attention more than *au*.

Initial *ai*

There is no difficulty in analyzing the initial *ai* into *a* and *y*. The words *aiyam* 'doubt', *ayir* and *ayirppu* are etymologically related to one another. The root is undoubtedly *ay*. In one instance it is represented by *ai* and in another instance by *ay*. The words *aiyo:* 'alas' with the variant *acco:* and *aiyaṇ* 'father' with the variant *accaṇ* strongly support the view tha *ai* can be considered as *ay*. It is a known fact that *y* has a

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[1] Traditional Tamil grammarians consider *ai* and *au* as long vowels along with *a:*, *i:*, *e:*, and *o:*. These *ai* and *au* must not be confused with the vrddhi-vowels in Sanskrit and diphthongs in English. (For details see Monier Williams, *Sanskrit Grammar*, pp. 24 - 25 and Otto Jespersen, *Essentials of English Grammar*, pp, 26 - 27)

[2] See *Tolka:ppiyam, Nu:ṇmarapu* (4 & 8) and *Naṇṇu:l* (65 & 68)

[3] By long vowel we mean just a single long vowel — neither a diphthong, nor a vowel cluster,

tendency to become *c*. If *ai* is treated as *ay*, *accaṇ* and *acco:* can be easily explained.

Medial *ai*

Whɜn we deal with medial *ai* we must be aware of the fact that the *ai* in the initial syllable and the *ai* in the non-initial one have two different patterns of behaviour in morphophonemics. They might be therefore treated under two heads namely: *ai* in initial syllable and *ai* in non-initial syllable.

ai in initial syllable (CV-)

The Tamil words *kaippu* 'sour taste', *kayappu*, *kacappu* and *kaccal* are etymologically related. They come from the root *kay* which can be fairly connected with *ka:y* 'unripe fruit'. All these items prove that *kaippu* can be replaced by *kayppu*. That is to say, *ai* in *kaippu* can be treated as *ay*. The items *kay* and *ka:y* are comparable with *uṇ* 'to eat' and *u:ṇ* 'food, what is eatable'. Note that *kay* and *uṇ* become nouns when their vowels are lengthened[4].

When we examine the items *paccai* 'green', *pacumai*, *paccu:ṉ*, *paintamiḷ*, *pa:caṭai*, *pa:ci*, etc., we understand that the first morpheme in these words is *pay-* or *pac-*. It might be restated here that phonetically *y* and *c* are closely connected. The same situation might be found in the items *maiyal* 'infatuation', *mayal*, *mayaṅku*, *mayakku*, etc. In addition to these we have *mai* 'black', *ma:*, *mañcu*, *maccam*, etc., where the root is *may* or *ma:y*. Also the following items might be considered for our purpose.

> *vai* 'sharp', *va:y*, *vaci*. etc.
> *vai* 'to abuse, to scold', *vacai*, *vacavu*, etc.
> *vai* 'place', *vaiyam*, *va:y*, *va:yppu*, *vacati*, *vacam*, etc.

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[4] But *kaṇ* 'eye' and *ka:ṇ* 'to see' contrast with *uṇ* 'to eat' and *u:ṇ* 'food, what is eatable'.

One might be compelled to take the roots as *vay* rather than *vai*
when considering the instances given above. Now it might be
clear that *ai* in initial syllable may be treated as *ay*. It might
also be suggested that *ay* is preferable to *ai*.

ai in non-initial syllable

When we compare the forms *iḷaiñar* 'youths', *iḷam* 'young'
and *iḷamai* 'youth', it is fairly clear that *iḷay* is the root and not
iḷai. That is to say, *ai* in *iḷai* may be better treated as *ay*.
This is the case with *paḷamai* 'oldness', *paḷaimai* 'oldness',
paḷam 'old', etc. A number of instances of this kind are
found in Tamil and they might all be treated as having *ay*
rather than *ai*.

Final *ai* (-CV)

Nouns ending in *ai* get their ending changed into *a:y*
when they take the vocative case. To illustrate this, *tantai*
'father' becomes *tanta:y* when it takes the vocative case[5].
Analogous are the vocative forms of *vaḷḷal* 'liberal patron' and
aṇṇal 'great person', namely - *vaḷḷa:l* and *aṇṇa:l* respectively.
It might be noticed here that *-al* has changed into *-a:l* in a
similar way to the change from *-ai* to *-a:y* in *tantai*. If *ai* is
treated as *ay* the change *-ay* to *a:y* can be conveniently explain-
ed. This is supported by the following instances.

Nominative		Vocative
tankai	'sister, (younger)	*tanka:y*
nankai	'lady'	*nanka:y*
ko:tai	'Kotai	*ko:ta:y*
pa:vai	'Pavai'	*pa:va:y*
aṇṇai	'mother'	*aṇṇa:y*

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[5] Also there are alternants with the suffix *-e:*. e.g., *tantaije:*
'O father', *tankaiye:* 'O younger sister'.

In all the instances given under nominative, the final *ai* can be reasonably treated as *ay*.

In Tamil monosyllabic words, the consonants *y*, *r*, *l*, *ḷ* and *ḻ* can occur after a long vowel. For instance, we have *a:y*, *a:r*, *a:l*, *a:ḷ*, *a:ḻ*, *va:y*, *va:r*, *va:l*, *va:ḷ*, *va:ḻ*, etc. But not a single instance can we find in Tamil showing *y*, *r*, *l*, *ḷ* or *ḻ* after *ai*. To be clear, we cannot have words like **ail* and **aiḷ* in Tamii⁶. This feature reveals the fact that *ai* is not a long vowel but a sequence of a short vowel and a consonant.

When an utterance is written in Tamil, phonemically it has only one reading; but the traditional treatment of *ai* causes an inherent ambiguity in the utterance where *ai* is involved. To illustrate this, let us take an utterance say, *avaṉ eṉṉaiya: coṉṉa:ṉ*. This sentence can be read in two different ways and the way of reading affects the meaning.

1. *avaṉ eṉṉayya: coṉṉa:ṉ*
   'he' 'what Sir' 'told-he'   'Sir, what did he tell?"

2. *avaṉ eṉṉaya: coṉṉa:ṉ*
   'he' 'is it me' 'told-he'   'Is it me, whom he
                                        mentioned?'

These two readings are possible in *avaṉ eṉṉaiya: coṉṉa:ṉ*. It is unpredictable where the sequence *aiy* has to be read as *ayy* and where it has to be read as *ay*. Technically speaking, the phonetic value of *ai* is unpredictable. If we give up *ai* and write *ay* instead, these difficulties will not arise it all⁷.

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⁶ The loan word *mail* 'mile' is an exception to this.

⁷ Seemingly it may be confusing to write *ay* for *ai*, but really there is no confusion at all. According to the new treatment *kai* 'hand' and *pakai* 'enmity' are written as *kay* and *pakay* whereas *kaiyai* and *pakaiyai* (*kai + ai* and *pakai + ai*) are written as *kayyay* and *pakayay*. Note the gemination of *y* in *kayyay* and the absence of the same in *pakayay*. In these instances the traditional grammarians interpret *y* as a gllde. According to the new treatment there is no question of glide at all. In the instance *kayyay* the

The durution of long vowels and *ai*

All the long vowels are said to have two *ma:tra:s*, but *ai* in all positions is said to have just one and half a *ma:tra:s*[8]. If it is not found to have two *ma:tra:s* anywhere in the actual language, why is it called a long vowel? Since it is found to have a duration of one and half a *ma:tra:s* in theory and practice, this would go some way to prove our hypothesis that *ai* indeed is a sequence of *a* plus *y*[9].

In Tamil prosodic analysis, *ai* behaves just like a sequence of short vowel plus a consonant and never behaves like the other long vowels. To illustrate this, let us examine the last line of a *veṇpa:, illaiyeṇa ma:ṭṭa:r icaintu*[10]. Here *ai* in *illaiyeṇa* is just *a* plus *y* and not a long vowel. If it were a long vowel

first *y* forms part of the word *kay* and the next *y* is a result of sandhi and in the other instance *pakayay*, *ʌ* forms part of the word *pakay*,

When *ai* in the traditional writing is found to be followed by *y* in the initial syllable, that *y* is found in the new treatment too as a geminated *y*, not as a glide. To illustrate this, the traditional *kaiyai* has to be rewritten as *kayyay*. Notice that *y* follows *ai* as a glide in *kaiyai* and it follows *ay* as a geminated y in *kayyay*. When *ai* in the traditional writing is found to be followed by *y* in the non-initial syllables, that *y* is not found in the new treatment, since there is no need for a gllde when *ai* is treated as *ay*. To illustrate this. the traditional *pakaiyai* has to be rewritten as *pakayay*, not **pakayaay*. Notice that *y* follows *ai* in *pakaiyai* and it does not follow *ay* in *pakayay*. Wehn *ai* is considered as a single vowɘl, the sequence *ai +* vowel needs a glide in order to avoid hiatus. But there is no need for a glide when *ai* is treated as *a* plus y Now it must be clear that really there is no confusion in treating *ai* as *ay*.   *ai* = ஐ, *ay* = அய், *au* = ஔ, *av* = அவ்.

[8] See *Naṇṇu:l*, 95.

[9] Tolka:ppiyar seems to be quite aware of the fact that *ai* can be treated as *ay* and he has explicitly mentioned this. See *Tolka:ppiyam, Eḻuttu, Moḻimɑrapu* 23.

[10] Quotation from Auvaiya:r : *Nalvaḻi*, 9.

the *veṇpa:* would be considered prosodically wrong. The *veṇpa:* is perfectly all right and the last line must be written as *illayeṇa mɑ:ṭṭɑ:r icayntu.*

The sequence *ay, ey, oy,* etc. are analogous and they form *etukai,* a kind of rhyme, in prosody. Why should *ay* alone be treated as a long vowel when the others are not? But it is so treated in all the traditional grammars for some unknown reason. Consider the following verses.

> *aiyuṇar veytiyak kaṇṇum payamiṇṟe:*
> *meyyuṇar villa: tavarkku*[11]
>
> *kaive:l kaḷiṟṟoṭu po:kki varupavaṇ*
> *meyve:l paṟiɟa: nakum*[12]

Here *meyyuṇarvu* forms *etukai* with *aiyuṇarvu* (which is really *ayyuṇarvu*) and *meyve:l* forms *etukai* with *kaive:l* (which is really *kayve:l*). If the initial vowels in *aiyuṇarvu* and *kaive:l* are long, they cannot form *etukai* with *mey* whose vowel is short[13]. Since *ai* is not a long vowel and is in fact *a* plus *y,* it forms *etukai* with *mey.* From the point of view of Tamil prosody also, it is preferable to treat the so called long vowel *ai* as *a* plus *y.*

As for as *au* is concerned, the problem is not so serious. All the traditional grammars have treated *au* too as a long vowel and the reason is not known. In actual language *au* occurs only in the initial syllable. It must be mentioned here that *au* has one and half a *maṭṭra:s*[14]. For initial *au,* the oft-cited word is *auvai* and this is etymologically connectable with *ammai.* In the case of *au,* the tradition permits us to

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[11] Quotation from Tiruvaḷḷuvar : *Tirukkuṟaḷ,* 354.

[12] Quotation feom Tiruvaḷḷuvar : *Tirukkuṟaḷ,* 774.

[13] For some dissussion regarding *etukai,* see Amitaca:karaṇa:r : *Ya:pparuṅkalam,* p. 112 and *Ya:pparuṅkalakka:rikai,* p. 45.

[14] See *Naṇṇu:l,* 95.

write *av* instead of *au*, but not vice-versa, That is, *auvai* can be written as *avvai*; but *tavvai* 'elder sister', *avviyam* 'jealousy', *navvi* 'deer', etc. cannot be written as *tauvai, auviyam, nauvi* and so on. It has to be noticed that *tavvai* which is etymologically related to *auvai / avvai* is always written as *tavvai*[15]. From the point of view of prosody, all that was said in relation to *ai* might be applicable for *au* too. We can reasonably treat *au* as *av*. That is, instead of treating it as a long vowel, we can treat it as a short vowel plus a consonant.

In conclusion we might state that *ai* and *au*, phonologically, etymologically and also prosodically, are not long vowels at all and that they are just a phonemic sequence of a short vowel plus a consonant i.e., *ay* and *av*[16]. It is rather surprising that all the traditional grammarians have treated them as long vowels[17]. Why they did so is unknown at present. Perhaps it might be explained in future if a detailed historical study of *ai* and *au* appears[18].

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[15] Reference to Tiruvaḷḷuvar : *Tirukkuṛaḷ*, 167.

[16] Dr. Mu. Varatara:caṇa:r is aware of this fact and in his *Moḷinu:l* he has stated that *ai* can be treated as *ay* (see pp. 26—27) and *au* can be treated as *av* (see pp. 28—29). As far as modern Tamil is concerned, it is fully convincing and I agree with him.

[17] It is worth mentioning here that Tolka:ppiyar has observed that *ai* varies with *a* plus *y* (i.e., *ay*) and *a* plus *i* (i.e., the vowel cluster *ai*) and *au* varies with *a* plus *u* (i. e., the vowel cluster *au*). Notice that there is no mention about *au* varying with *av* in *Tolka:ppiya·n*. See *Tolka:ppiyam, Eḷuttu, Moḷimarapu*, 21—25.

[18] In connection with the historical study of *ai* and *au* it must be noted here that Prof. T. P. Meenakshisundaranar holds the view that *ai* and *au* were originally vowel-clusters. One may not readily accept that there were vowel-clusters in Tamil; but his arguments for them are valid and strongly supported by historical facts. For details see T. P. Meenakshisundaranar, *A History of Tamil Language*, pp. 63—67.

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Dr. J R. Marr is of the opinion that some kind of confusion took place regarding *ai* and *au*, when the same graphemes originating in Brāhmī which represented Indo-Aryan diphthongal *ai* and *au* were used to represent Tamil *ai* and *au*. He recognizes three levels i.e., graphemic level, phonemic level and realization level. According to Marr, Tamil *ai* and *au* are but two in a number of diphthongs, all of which (save *au*) have palatal -*y* as second part. Among them the Tamil grammarians have treated only two at the graphemic level. At the phonemic level it is possible to dispense with *ai* and *au*.