

# THE ORIGINS OF FUNCTIONAL AND LEXICAL CATEGORIES: TENSE-ASPECT AND ADJECTIVES IN DRAVIDIAN

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## 1. Functional Features and Functional Categories

Let us assume the lexical categories to be N, V, A and at least some occurrences of P, and the functional categories to be at least C(omplementiser), I(nflection) and D(eterminer). Cinque (1999) has argued for a much larger universal set of at least 32 functional heads in IP. The functional projections of these heads are argued to be present even in languages where there is no lexical material in the head – there may be empty heads for these projections. We shall return to this proposal a little later.

An earlier proposal of interest to us is Grimshaw (1991). Grimshaw noticed that certain functional categories typically pair up with certain lexical categories. They take only these lexical categories as complement. For example, D takes N complements and I takes V complements, and not vice-versa. Lexical categories are much freer in the choice of (lexical category) complements: e.g., V takes NP, PP, IP or CP. Grimshaw therefore seeks to express the intuition that “a functional category is a relational entity. It is a functional category by virtue of its relationship to a lexical category.” She tries to capture the intuition that DP is the functional category “for N,” and IP the functional category “for VP,” by allocating common categorial features to certain pairs of functional and lexical categories. Functional projections “extend” the projection whose category they share: they are Extended Projections. Lexical and functional categories within an extended projection differ only in functional level (which is zero for lexical categories, and one for functional ones.)

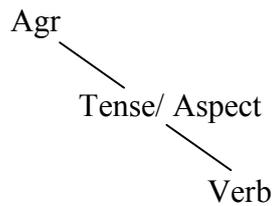
I have earlier (Amritavalli 2004) used data from the recent history of Kannada to argue that extended projections, i.e. functional projections, develop out of lexical features. Functional projections in fact start out as features at the lexical level of the lexical categories they extend. They start out at the functional level of zero, and that is why they inherit or retain the lexical categorial feature. On this analysis, the content of a functional category must in some way be semantically coherent with its lexical category (it must be capable of instantiation in it). This analysis adds content to Grimshaw’s original proposal, which does not address the logic of the initial assignment of common categorial features only to certain pairs of lexical and functional categories, and not to others.

Roberts and Roussou (2003:6) make the assumption that “functional categories are present as features in the lexicon.” The question I raise is whether such features inevitably

find expression only in functional projections, in particular as clausal projections, with each feature housed in its functional category in the clause. I suggest that functional features can be realized at least three levels: the lexical level, the morphologically identifiable but subclausal level, and the clausal level. At the subclausal levels, we see feature syncretism – i.e. more than one feature expressed at a single position or head – of the sort proposed by Giorgi and Pianesi (1997:13 ff.). To make this argument, I shall take you through some facts about the Kannada clause and its history.

In the first part of this paper, I shall be concerned with I and C, and in the second with the lexical categories of A and P, drawing on the work mentioned in the references.

What is the nature of I in Kannada? Let us first look at the current language. The affirmative verb is a stem followed by a tense/aspect marker followed by agreement:



(1) bar -utt -aane  
 come nonpst 3msg  
 ‘(he) comes’

(2) ba(r) -nd -anu  
 come past 3msg  
 ‘(he) came’

Now let us try to introduce negation into this structure. We find (3) and (4) as the negative counterparts of (1) and (2):

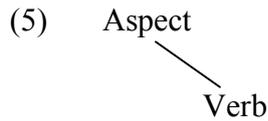
(3) bar -uva -du illa  
 come nonpst ger. neg  
 ‘does not come’ (lit. ‘coming not’)

(4) bar -Ø -al illa  
 come past inf. neg  
 ‘did not come’ (lit. ‘come not’)

Comparing (3) and (1), we find a shared specification in their verbal complexes for *non-past*. But what looked like non-past Tense in (1) cannot be Tense in (3). We may consider the Tense node to be a specification for two kinds of features: finiteness, and time or temporal features. Finiteness we take to be a feature that “anchors the sentence in time,” relating it to

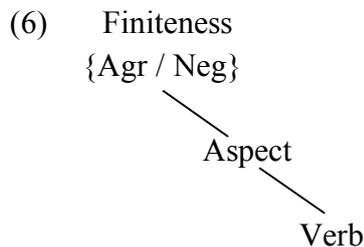
the moment of speech. But in (3) we have a form of the verb that is a gerund, and gerunds are not finite forms (the gerund *John's falling in love...* is not anchored in time, so it can have occurred *yesterday: ...surprised me*, or it can occur *tomorrow: ...will surprise me*, or *right now: ...surprises me*). So the node we labelled “Tense/Aspect” must really be an Aspect node, if (1) and (3) are not to be radically different in clause structure. Gerunds can have aspectual specification, as *John's having fallen in love* shows.

Similarly, in (4) we have a non-finite verb form, an infinitive, which we shall assume is specified for perfect aspect. (We can show that the case-marked infinitive is specified for future aspect; and infer that the non-case-marked infinitive, which occurs in contexts like the passive, is perfective.) We now have a fragment of a tree:



where the verbal complex is a gerund in (3), an infinitive in (4), and in (1-2), we shall say that it is a participial form – a present participle in (1), a past participle in (2), without going into the details of the motivation for this.

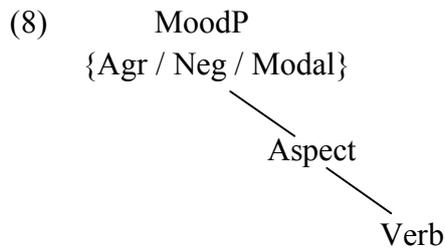
What about the node above Aspect? This is agreement in the affirmative forms; let us assume that agreement is a reflex of finiteness. But in the negative forms there is no agreement. There is only the negative word itself. Comparing the affirmative and negative sentences, the affirmative sentences each have a time-indicator and a finiteness indicator. In the negative sentences, we have an Aspect node, giving us the time-features. We need a finiteness indicator. Let us say then that here the negation itself, like agreement, serves to indicate finiteness:



We can add one more “value” to the finiteness head: the modal. Modal sentences in the current language consist of a (bare) infinitive verb complement to the modal:

- (7)
- |      |       |        |   |       |
|------|-------|--------|---|-------|
| bar  | -(al) | bahudu | / | beeku |
| come | inf.  | may    |   | must  |
- ‘may come / must come’

We may propose that the finiteness head is actually a “MoodP,” which can host negation, modality, and – as a reflex of indicative mood – agreement. Thus we revise (6) to (8):



## 2. Finite and Non Finite Neg in Kananda

To say that Neg *illa* is a possible value of the finiteness head is to say that it carries a finiteness feature. Then it should not occur in non-finite complement clauses. So it cannot occur to indicate negation in (9):

- (9) \*avanu<sub>i</sub> [Ø<sub>i</sub> bar -al illa ]prayatnisidanu  
 he come-inf.neg tried  
 ‘He tried not to come.’

Indeed, *illa* cannot occur within its own complement, which is a non-finite verb (cf. 3-4). Thus double negatives cannot be formed with two *illas* in Kannada, and contrast in this respect with English *not...not* constructions:

- (10) \*avanu bar -uva -du illa illa  
 he come nonpst ger. neg neg  
 ‘He doesn’t not come.’

- (11) \*avanu bar -Ø -al illa illa  
 he come past inf.neg neg  
 ‘He didn’t not come.’

The Neg licensed in non-finite contexts is an (infix) element *-a*, seen in the non-finite complement in (12), and the double negations in (13-14).

- (12) avanu<sub>i</sub> [Ø<sub>i</sub> bar- a -dee ira-lu ]prayatnisidanu  
 he come-neg part.be- inf.tried  
 ‘He tried not to come.’ (lit. ‘to be without coming’)

- (13) avanu bar- a -dee ir- uva -du illa  
 he come neg part.be- nonpst ger. neg  
 ‘He doesn’t / won’t not come’ (lit. he doesn’t be without coming)

- (14) *avanu bar a -dee ir- -Ø -al illa*  
 he come neg part. be- past inf. neg

‘He didn’t not come.’ (lit. he didn’t be without coming)

So Kannada has two negative forms, one in finite contexts, another in non-finite contexts, as some other languages also do.

The interesting point is that the finite Neg *illa* is a relatively recent innovation in the language. At an earlier stage, the Neg *-a* used to occur as main clause negation, and as the complement of agreement (cf. 15-16). (Recall that Neg is now in complementary distribution with agreement.). (In (15), the negative morpheme occurs inside the stem *bar-* ‘come’. But this might be a peculiarity of the verb *bar-* ‘come;’ the negative *-a* occurs outside of other verb stems, cf. (16).)

- (15) *ba- a- r- anu*  
 come neg 3msg

‘(he) not come’

- (16) *maaD-a- nu*  
 do neg 3msg

‘(he) not do’

We notice that there is no specification for time – tense or aspect – in these verb forms. Indeed, such negative forms were completely free with respect to tense interpretation. (They can be translated as a set ‘did not come, does not come, will not come ....’ A better way to understand them is to compare their freedom of time interpretation to participial negation: ‘unseen by anyone, John tries/ tried/ will try to ...’)

We can also see that the position of Neg in the verbal complex (16), taking the verb stem as its complement, is the position where Aspect occurs in the current language in (1-4). Indeed, at this earlier stage of the language, negation and aspect were competing for the same position in the verbal complex, as (17) shows:

- |      |                     |                      |                    |
|------|---------------------|----------------------|--------------------|
| (17) | <i>maaD-id- anu</i> | <i>maaD- uv- anu</i> | <i>maaD- a- nu</i> |
|      | do perf. 3msg.      | do imperf. 3msg.     | do neg3msg         |
|      | ‘(he) did’          | ‘(he) does’          | ‘(he) not do’      |

Since aspect provides the time specification features in the Kannada clause, negatives such as (16) were not marked for time; and negation cooccurred with agreement.

Modality also co-occurs with agreement at this stage of the language. The modal construction (18) is now archaic, the preferred construction being (7) above, repeated here as (19):

(18) maaD-i- aa -nu  
do perf may 3msg  
‘(He) may do’

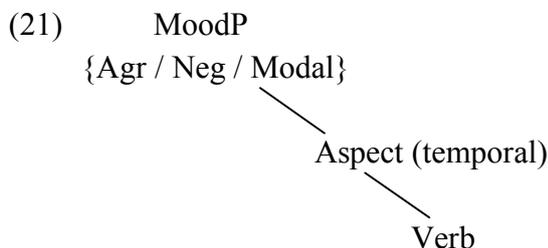
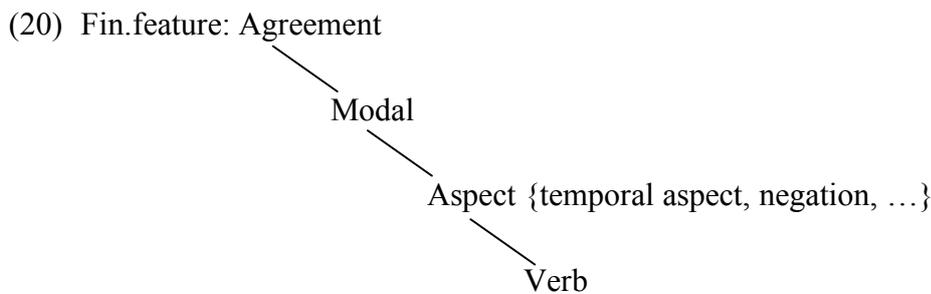
(19) bar- (al) bahudu / beeku  
come inf. may must  
‘may come / must come’

(In (18), the verb stem occurs in an invariant perfect form, which does not contribute to the interpretation.)

### 3. The Emergence of MoodP

How do we describe these historical changes, and what do they tell us about the nature of language change?

Consider first finiteness marking. Earlier, every finite clause had overt agreement morphology; currently, negative and modal clauses are not overtly marked for agreement. Suppose we represent the earlier structure as in (20), comparing it with the current (8), repeated here as (21).



Informally, the possibilities for finiteness marking have widened or expanded in some way. But this cannot be simply a result of a change in the Finiteness/Agreement projection in (20). For if the finiteness projection continues in the same position as in (20), and the only change is that it becomes “more expansive” such that it is satisfied by a modal or Neg element as well as by agr, we should expect the language to permit just the minimal change, and to let the Neg and modal elements “move over” and up into the position occupied by agr in (20). That is, agr would become “optional” in (16) to yield (22i), and instead of (18) we would

expect (22ii). But these forms are never attested.

- |  |  |
|--|--|
| (22) i. *maaD-a<br>make neg<br><br>*‘not make’ | ii. *maaD-i-aa<br>make ‘may’<br><br>* ‘may make’ |
|--|--|

A stronger inference is necessary: that the finiteness feature has relocated itself further “up” the clause. The migration of the finiteness feature out of AgrP into a new functional projection explains why finiteness is no longer identified exclusively with agr. Upward movement is in line with Roberts and Roussou’s (2003) observations (pp.36, 74) that the diachronic movement of a morpheme is always upward, and grammaticalization is always upward, “in such a way that certain features (e.g. mood features) formerly associated with a lower head become associated with a higher position.”<sup>1</sup>

Indeed, what we are witnessing is the creation of a MoodP. Simultaneous with the relocation of finiteness is an expansion in the range of elements that signal finiteness, and a reinvention of the lexical forms of modal and Neg, which now become free, lexical forms (in an instance of grammaticalization), different from the earlier bound forms. Why should these developments have followed the relocation of finiteness?

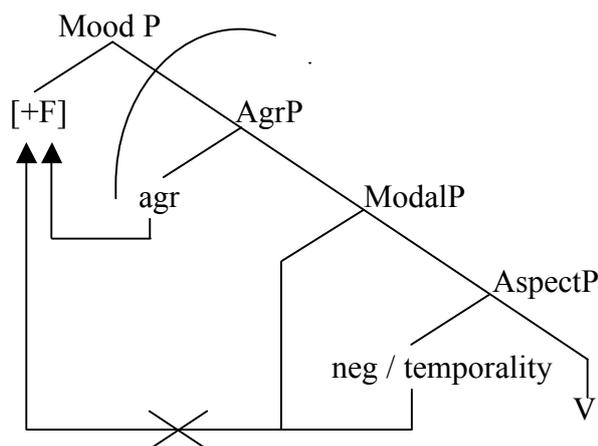
It seems that (with the moving up of finiteness) Neg and modal also need to relocate upward, perhaps because these elements are generally attracted to “Tense,” which for Kannada we shall interpret as “Finiteness.” Modals are merged directly into T in languages like English; and we recall that Laka (1990) codified the observation that Neg is generally in the c-command domain of Tense as the Tense C-command Condition.

Now in (23) below, which is the development that we propose from (20), we observe that the head agr of AgrP can straightforwardly move up into the head of MoodP, which is adjacent to it. It is possible that the relocated finiteness feature belongs to the CP domain while the AgrP and its complements are in the IP domain. This would explain a puzzle in the pattern of complement selection in the current language by the three elements in MoodP. While agr takes the regular perfect and imperfect participial verb forms as its complement, Neg and modal take infinitive complements (and Neg takes gerundive complements as well). This suggests that agr is still generated as the head of IP, as a reflex of Indicative Mood, and moves to MoodP in an I-to-C movement. Whereas Neg and modal, which pattern in their complement selection with higher predicates that subcategorize clausal complements, are now merged in the CP domain. These have to be new forms that are merged rather than the old forms that are moved, because the movement of the erstwhile Neg or modal into the MoodP is blocked by the presence of the intervening projection of AgrP.

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<sup>1</sup> However, Platzack (1995) explains the loss of verb second in English and French in terms of the lowering of an abstract finiteness operator from C to I.

(23)



In short, with the relocation of the finiteness feature in a higher projection in the CP domain, it became necessary for Neg and modal also to relocate. But this could not be achieved through movement of the existing categories, across AgrP. Thus in the new clause structure, negation and modality had to be instantiated by the insertion of new lexical material into the MoodP by merge, rather than by move.

We propose that in the current language, AgrP is still the head of IP. We have reasons to believe that this head of IP in Kannada is categorially nominal. It is occupied by *agr* when the MoodP is specified as indicative; when the MoodP is occupied by Neg or Modal, the IP complement to these elements is a non-finite complement with a gerundive or infinitive head, both of which we surmise to be nominal functional categories.

#### 4. Sub-clausal Levels of Functional Features

With the relocation of finiteness in C, and with Neg moving up into C, a distinction developed in the language between finite and non-finite negation that had not existed earlier. Our account of this development has a bearing on the debate whether a full set of universal functional projections is always present in all languages, irrespective of whether these projections are lexicalized or not. Our evidence may favour a modification of the proposals of Cinque (1999). Strictly speaking, our data do not directly impact Cinque's proposals, which do not include any reference to the functional projection of Neg; but the absence of Neg from a putative set of universally ordered functional projections is in itself puzzling, given that negation is such a common and ubiquitous functional projection. We therefore shall take it that evidence from negation does bear on this debate. One issue (we have said) has been the occurrence of a set of projections with null functional heads in all languages, regardless of lexical evidence. Our concern however is slightly different. We question whether functional features must inevitably be realized as the heads of their projections, at a clausal level. Languages differ, it appears, in the levels at which functional features are realized in their clause structures. We propose (thus) that the existence of a full set of universal functional *features* in all languages does not entail the presence of a full set of functional *projections*

headed by these features.

It is uncontroversial that “functional categories are present as features in the lexicon” (Roberts and Roussou (2003:6). That the sets of features and projections may not be coextensive, because bundles of features may be realized “syncretically” in a more inclusive functional head, and because there may be hybrid heads, has also been proposed by Giorgio and Pianesi (1997:13 ff.). We now suggest that syncretism may be typical of sub-clausal functional projections. An extreme manifestation of syncretism in a projection might be a lexically-fused feature at a lexical node, such as a negative feature in the words *seldom* or *regret*, or a dubitative “modal” feature in *doubt*. It is in terms of such alternative levels of realization of functional features that we propose to explain the change from non-finite negation to a combination of finite and non-finite negation in Kannada.

We are looking at two differences in negation between earlier and current stages in Kannada: the differentiation of Neg into finite *illa* and non-finite *-a-*; and the co- occurrence of negation with temporal aspect. Both these are features of the current language. Looking at the earlier verb forms in (17), the simplest description is that negation and temporal aspect occur in a shared clausal projection, which is why they are complementary distribution – they are in competition for a single position. What is the category in which these elements are instantiated? We shall maintain that it is the category of Aspect. One current definition of Aspect is that it is the internal temporal contour of an event; but “internal contours of events” need not be restricted to the temporal. In present-day Kannada, the participial and gerundive forms are specified with internal contours not merely for temporality but also for negativity; suggesting that negation in these nonfinite verbs continues to retain a categorial specification comparable to temporality.

Let us list current forms of the verbal participle, the gerund, and the relative participle, to illustrate this claim about negation and temporality. The temporal feature or morpheme in (24) must be for aspect; and it is a reasonable conjecture that this is the categorial specification for the negative feature or morpheme as well.

(24)	verbal participle	gerund	relative participle
<i>imperfect</i>	maaD-utta 'doing'	maaD-uv-udu 'the doing'	maaD-u-va 'which (I/ ...) do'
<i>perfect</i>	maaD-i 'done'	maaD-id-du 'the done'	maaD-id-a 'which (I/ ...) did'
<i>negative</i>	maaD-a-dee 'not do(ing)'	maaD-ad-du 'the not do(ing)'	maaD-a-da 'which (I/ ...) not-do'

If negation is an aspect in (24), it is a reasonable conjecture again that this was also the category of the negative morpheme in the earlier language. The parallelism between temporal and negative elements now seen in the participles obtained earlier in finite clauses, where these participles occurred as complements to *agr*. Recall that the current language still has a temporal participial complement to *agr*; this has been a stable feature of the language.

To understand how participial negation could have had sentential scope, we may turn to English data such as the following:

(25) This feature is *un*marked.

(26) This feature is *not* marked.

Although (25) and (26) are “cognitively synonymous,” the functional positions of *un-* and *not* are clearly very different in the syntax. *Not* is an IP-level projection; *un-* must occur perhaps within the VP, with a participial verb as its complement, even if we assume all morphology to be syntactic.

English participial negation is of course specified for aspect, while the Kannada participle is not. Thus the flavour of the Kannada participial negation is better illustrated with English sentences with adjectival predicates.

(27) He felt / seems / appears / is *unwelcome*.  
(= he does / did *not* feel / seem / appear to be ...)

Thus the syntactic position at which sentential negation is instantiated depends on the nature of the predicate. Kannada clause structure historically consists of a participial complement to *agr*, and this clause structure does not host a Neg projection in the I system. Rather, there is a Neg projection “within” the participle, which is shared by temporal aspect. Aspect is fundamentally a feature of lexical semantics; there are predicates that are inherently durative or completive, for example. Our suggestion is that lexical semantic features include functional features such as negative (and ‘modal’ features such as dubitative). Beginning with cases of fully lexicalized aspect, then, we may have at the other end of the spectrum a series of functional categories, specialized for and headed by negation, modality, or temporal aspect. At these functional positions in the clause, negation and modality are commonly considered to be realizations not of aspect, but of mood. What the traditional nomenclatures such as *mood* reflect (thus) may not be the substance of features, but the positions or domains of their realization. Mood appears to be a sentential, perhaps CP-level, category. Aspect is perhaps a VP category, an extended projection of V within the VP, when it is not just a lexical feature.

What we see is that between fully lexicalized functional features and individual functional projections for them is an intermediate level, illustrated in Kannada in (16-17), and in English in (25) and (27). At this level, features are located in their own particular, identifiable morpheme, but these morphemes are not located in functional projections in the IP.

## 5. A Relocation of the Temporal Aspect Feature

We can ask one additional question about the historical change by which an aspectual position shared by temporal aspect and negation “unravelling.” Negation and modal, we have

said, moved up into the CP. Was temporal aspect not affected in any way? We suggest that it indeed was.

Historically, the temporal aspect morpheme was inseparable from “its” stem. This is why it could not occur in conjunction with negation: both the negative and the temporal aspect morphemes needed to take the verb stem as their immediate complement. But currently, the morphemes for temporal aspect can occur separated from the verb. Consider again the double negative constructions (13-14), and the negated infinitival (12), repeated below as (28-30).

(28) *avanu<sub>i</sub> [Ø<sub>i</sub> bar- a -dee ira- lu ] prayatnisidanu*  
 he come-neg part. be- inf. tried

‘He tried not to come.’ (lit. ‘to be without coming’)

(29) *avanu bar- a -dee ir- uva- du illa*  
 he come neg part. be- nonpst ger. neg

‘He doesn’t / won’t not come.’ (lit. ‘he doesn’t be without coming’)

(30) *avanu bar a -dee ir- -Ø -al illa*  
 he come neg part. be- past inf. neg

‘He didn’t not come.’ (lit. ‘he didn’t be without coming’)

In (29-30), negation occurs on the verb stem, which is “closed off” by participial morphology. The temporal aspect morphemes *-uv-* (a complement of the gerund morpheme in (29)) and  $\emptyset$  (a complement of the infinitive morpheme in (30)) occur “supported” by a verb stem *ir-* ‘be.’ This very familiar phenomenon of a “stranded” affix requiring “support” is the expected and typical indication of an extended projection, and argues that the Aspect projection is now part of the I-system, a complement to Agr and “outside” the VP unlike earlier. This is how temporal aspect now co occurs not only with finite Neg *illa* but also with nonfinite Neg *aa*. In this re-articulation of aspect into the I system from the VP we are perhaps witnessing the first step towards the development of Tense in this language.

## 6. Roots, Functional Structures and Lexical Categories

In the second section of this paper, I turn to an old question in Dravidian linguistics – are there adjectives in Dravidian? This question is actually part of a larger current debate, cf. Baker (2003). Arguments in this debate often point to the existence of words that *function* as adjectives, in languages that putatively lack this category. They also sometimes reduce to a claim like: “(Chichewa) ... has approximately six words that behave like true adjectives...” (Baker 2003:247). But the attempt to “prove” that all languages have the lexical category “adjective” seems to us to be beside the point. The fact is that the existence of adjectives appears to be susceptible to debate in a way the existence of nouns and verbs is not. Thus Hale and Keyser note (2002:13-14) that the adjectival and prepositional functions may be

performed in some languages by V or N, citing the examples of Navajo and Warlpiri. Suppose, therefore, we begin our inventory of lexical categories with the features [+/-substantive], [+/-predicative] of Chomsky (1970). If we then take an approach in the spirit of Distributed Morphology, that lexical category is not anteriorly specified, but that a stem acquires a category by virtue of the functional category that it is a complement of, we can ask: What functional structures must occur to allow us to recognize the lexical category “adjective”? What nodes of lexico-functional structure are lexicalized to yield an “adjective,” and what observable consequences in sentence structure follow from such a lexicalization?

(The hypothesis of Distributed Morphology (Marantz 1997, and others) is that the traditional terms *noun*, *verb*, *adjective* have no universal significance, and are derivable from syntactic configurations. The different “parts of speech” can be defined as a single “R-morpheme” type, Root, in certain local relations with category-defining “f-morphemes.” Thus a noun or a nominalization is a Root whose nearest c-commanding f-morpheme or licenser is a Determiner; a verb is a Root whose nearest c-commanding f-morphemes are v, Aspect and Tense; without Tense, a Root is a ‘participle.’)

We shall argue that an adjective is a noun that incorporates a preposition; and that prepositions arise in the course of the destabilization of case systems. Thus we suggest an implicational relation between the lexical categories “adjective” and “preposition.” We shall also see that the notions “predicative noun” and “adjective” appear to be morphologically – or functional-categorially – signalled in a unified way in Kannada, and perhaps in English as well.

## 7. The Kannada ‘Adjective’

Adjectives in Kannada are syntactically and morphologically difficult to distinguish from nouns. They take the same range of specifiers *yeSHTu/iSHTu/aSHTu* ‘how much/ this much/ that much’ and intensifiers (*bahaLa* ‘very much,’ *svalpa* ‘a little,’ *tumba* ‘a lot,’ *saakaSHTu* ‘enough, quite a few’).

(31) *yeSHTu / iSHTu / aSHTu mane -(gaLu)*  
 how many / these many / those many house (pl.)  
 ‘how many / these many / those many houses’

(32) *yeSHTu / iSHTu / aSHTu doDDa / oLLeya*  
 how much / this much / that much big good  
 ‘how / this / that big’

In the comparative construction, there is no inflection on the adjective. The adjective (moreover) can only occur within a noun phrase, or with a nominal inflection (that must appear also on predicative adjectives).

- (33) idu ad -akke inta doDDa mane / doDDa -du  
this that dat. Compar. big house big 3n.sg.

‘This is a bigger house than that / (a) bigger (thing) than that.’

Indeed, Bhat (1994: 26) notes an interesting dialectal fact. In (34) below, there is no adjective at all in the comparative construction:

- (34) avanu nana -g -inta tamma  
he I dat. Compar.younger brother

‘He is younger than me.’ (lit. ‘he is a younger brother than to me’)

We may contrast (34) with (35), where the noun has its usual nominal interpretation in the same dialect.

- (35) avanu nana -ge tamma  
he I dat.younger brother

‘He is my younger brother.’ (lit. ‘he is a younger brother to me’)

(Bhat’s data here argue against his own claim that the comparative construction is possible only if *an adjective occurs within* the noun phrase: i.e. that the construction somehow makes reference to the category “adjective,” even though its structural expression is purely through morphological marking of the noun.)

## 8. Deriving the Category ‘Adjective’

Suppose (thus) we entertain the idea that Kannada has no adjectives, but only nouns. What consequences would this have for the grammar? Our claim (Amritavalli and Jayaseelan 2003) is that it leads to the occurrence of dative case-marked experiencers. Consider the sentences (36-37).

- (36) nana -ge koopa ide  
I dat. anger be 3n.

‘I have anger.’ (lit. ‘to me anger is’)

- (37) ida -kke ondu muccaLa ira-beeku  
this dat. one lid be-must

(i) ‘This must have a lid.’ (lit. ‘to this a lid must be’)

(ii) ‘There must be a lid to this.’

The dative case on the experiencer in (36) or possessor in (37) has received much attention in the literature. But note that there is another interesting property of this construction: the experience in (36) is a noun and not an adjective. The Kannada example (36) thus contrasts

with the English (38), where the predicate is an adjective.

(38) I am angry.

Considering now (37), a second point to notice is that the English possessive construction, as translated in (37i), has a verb *have* where Kannada has the verb *be*. There is no verb *have* in Kannada. Interestingly, there is a vestigial possessive construction in English with the verb *be*, which mimics the dative possessor construction: cf. (37ii).

We thus see that languages have three ways of expressing the experiencer/possessor – experience/possession relation:

(39) Dative noun phrase – BE – experience noun : ‘...is a pleasure to me ...’

(40) Nominative noun phrase – BE – adjective : ‘I am happy ...’

(41) Nominative noun phrase – HAVE – noun : ‘I have pleasure in ...’

Noticing both that English has a vestigial dative of possession, and that Kannada lacks the verb *have*, we drew on an analysis of Kayne (1993) that the verb *have* is a *be* that incorporates a preposition. (Kayne’s proposal was itself grounded in work by Freeze (1992) and Szabolcsi (1983).) The Hungarian possessive construction has a verb that can be translated as *be*. It takes a single DP complement, which contains the possessive DP. The possessive DP occurs lower than the D-zero head of the complement of *be*. The full structure is (42):

(42) ... *van* [<sub>DP</sub> Spec D<sup>0</sup> [<sub>DP<sub>poss</sub></sub> [AGR<sup>0</sup> QP/NP]]]

If DP<sub>poss</sub> stays *in situ*, it has nominative case, licensed by AGR<sup>0</sup>. But it can move to Spec D<sup>0</sup>. The moved DP<sub>poss</sub> gets dative case. When D<sup>0</sup> is indefinite, DP<sub>poss</sub> must obligatorily move (if D<sup>0</sup> is definite, DP<sub>poss</sub> may or may not move). The dative-marked possessive DP can also move entirely out of the larger DP.

Kayne proposes that the English possessive construction has a similar structure. There is an abstract copula BE that takes a DP complement. He assumes the head of this DP to be a non-overt “prepositional” D, represented as D/P<sub>e</sub><sup>0</sup>. The structure is:

(43) ... BE [<sub>DP</sub> Spec D / P<sub>e</sub><sup>0</sup> [<sub>DP<sub>poss</sub></sub> [AGR<sup>0</sup> QP/NP]]]

In English, AGR<sup>0</sup> cannot license nominative case on the possessive DP, which moves to Spec of D / P<sub>e</sub><sup>0</sup>. But English having lost dative case, the latter cannot license case, so the possessive DP moves further up to get nominative case in Spec, IP. The “prepositional” D/P<sub>e</sub><sup>0</sup> adjoins to BE, and is spelt out as *have*.

The Amritavalli and Jayaseelan (2003) analysis was the following. Suppose we recast Kayne’s analysis in terms of the proposals of Hale and Keyser (1993) regarding lexical relational structures (LRSs), wherein thematic functions are defined by configurational

positions in the LRS. Let us assume that functional projections are not part of the LRS. Then we omit the projections  $AGR^0$  and  $D/P_e^0$ , and represent the possession or experience relation as holding between two entities that occur as the Spec and complement of a ‘relational’ head, notated here as  $P_{rel}$ :

(44) ... BE ... [ $_{RelP}$   $DP_{poss/exp}$  [ $P_{rel}$  QP/NP]]

This structure must occur in the context of functional categories  $AGR^0$  and  $D/P_e^0$ . Suppose we separate the D and P heads, with D standing for definiteness and P assigning dative case. (Recall that dative case *must* occur even when D may not even be projected, i.e. when the DP is indefinite.) We may then linearize these heads above the LRS in the following way. From the Hungarian word order, we know that the possessive DP gets nominative case *in situ*. When the DP is indefinite, it *must* move, and must receive dative case when it moves. We can thus order the functional projections in the order  $AGR^0$ ,  $D^0$  and  $P^0$  from right to left (we rename  $P^0$ , for clarity,  $P_{dat}^0$ ):

(45) BE [ $_{PP}$  Spec  $P_{dat}^0$  [ $_{DP}$  Spec  $D^0$  [ $_{AGRP}$  Spec  $AGR^0$  [ $_{RelP}$   $DP_{poss/exp}$  [ $P_{rel}$  QP/NP]]]]]]

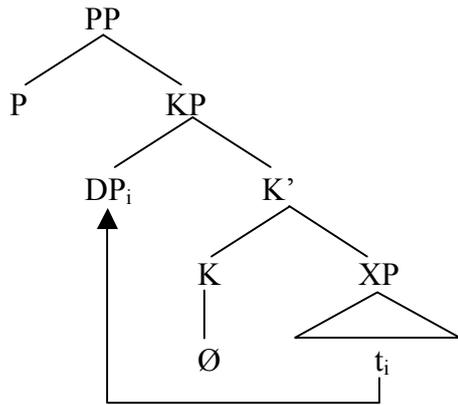
We have suggested above that the  $D^0$  need not be generated if the possessed entity is indefinite (as it is in the Experiencer Dative construction). The  $AGR^0$  might also be optional (in the absence of nominative possessors). Thus we obtain the structure (46):

(46) BE [ $_{PP}$  Spec  $P_{dat}^0$  [ $_{RelP}$   $DP_{poss/exp}$  [ $P_{rel}$  QP/NP]]]]

In languages where Case is active,  $P_{dat}^0$ , which “licenses” a dative Case in its Spec position in Kayne’s analysis, is probably a Case element (K); it is the head of a Case Phrase  $KP_{dat}^0$ . Regarding Kayne’s proposal that this element adjoins to BE to yield *have*, we suggested that this kind of “absorption” takes place only when Case is destabilized in the course of syntactic change (op. cit.: 66ff):

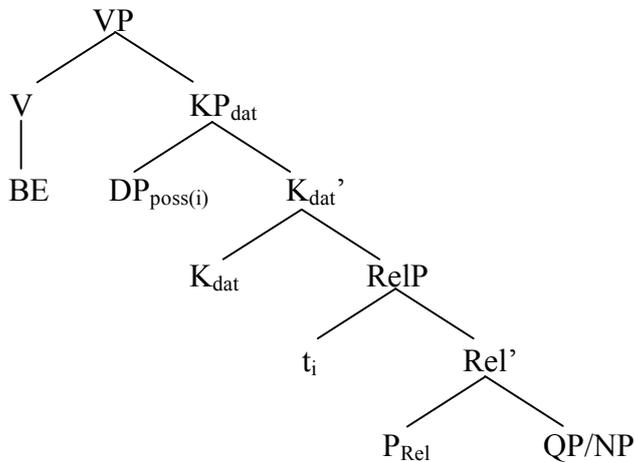
“...when Case is destabilized, two things tend to happen. One is the creation of a new syntactic category P(reposition). We can conceive of this development as follows: when the head of the Case Phrase (KP) becomes null ( $\emptyset$ ), the language develops a higher projection headed by P, which is “paired with” the KP (see Kayne 2003: ex. (57)). (footnote omitted)”

(47) (= A&J 2003, example 14)



A second thing that can happen when Case is destabilized (we said) is the “absorption” of Case into existing lexical categories. Consider (48), which is a diagrammatic representation of (46), but with the change that  $P_{\text{dat}}$  has been replaced by  $K_{\text{dat}}$ :

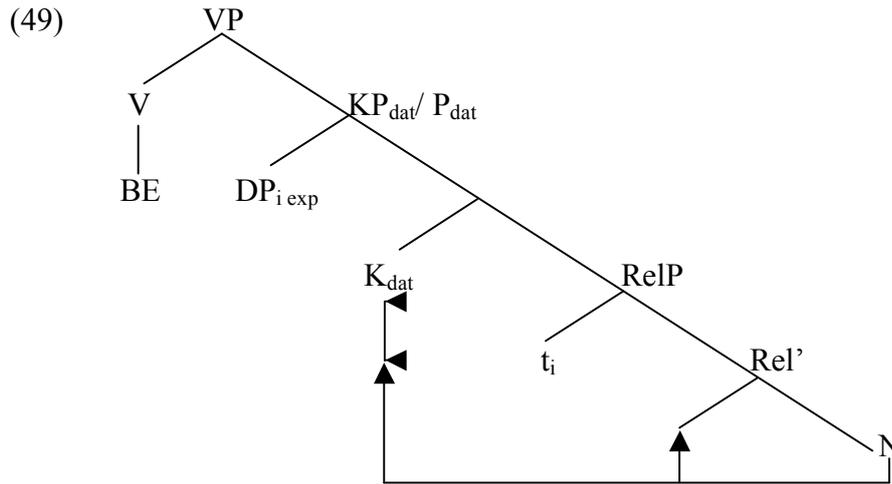
(48)



The Kayne claim is that in English, the dative Case assigning element – his  $D/P^0$ , which for us is  $K_{\text{dat}}^0$  – adjoins to BE and we get *have*. We suggested that something else can happen in (48): when NP consists of only an N, it may adjoin to  $K_{\text{dat}}$  (“picking up” the intervening head P on the way) and be realized as an adjective. (Thus what we call Adjective is Noun incorporated into Case.)

Recent work suggests that whether dative case is absorbed into BE to yield *have* – the possessive construction; or N absorbs into dative case – the adjective formation, depends on whether or not we generate the D-head and its “pair,” a NumP. Evidence from languages with dative Experiencers but genitive Possessors, such as Hindi, suggests that these thematic functions should be differentiated; and that Possessors differ from Experiencers in requiring a Number projection. If so, the Kaynean structure (43) is essentially correct for Possessor NPs: with the modification that the generation of a  $D/P^0$  as a complement to BE would also generate a NumP complement. This structure would incorporate the dative into BE to yield *have*.

But the structure for Experiencer datives would be (48), as suggested in our earlier work. It would not project  $D^0$ , and the indefinite noun would incorporate into the prepositional case.



The hypothesis that the incorporation of a noun into a prepositional dative case yields an adjective explains a fact noted in Kayne (1993:112), namely that *have* cannot take an adjectival complement:

(50) John was / \*had unhappy.

If *have* is derived from *be*, it is prima facie surprising that it cannot take an adjective as its complement. But now we see that it is the same case feature that incorporates into BE to yield *have*, or into a noun to yield an adjective.

We can shore up this account with facts such as the following. There are in Kannada a few adjectives where the dative morphology on a nominal base is transparent. (Kannada appears to have vestigial adjectives, just as English has a vestigial experiencer dative construction.) These adjectives occur (as predicted) with nominatives, whereas the corresponding nominals occur with datives.

(51) idu            udda-kke / yetra -kke id-e  
 this-nom. long -dat. height-dat be-3nsg

‘This is long / high.’ (lit. to a height; cf. English ‘at a height’)

(52) ida -kke udda / yetra saaladu  
 this -dat. length height not enough

‘This lacks length / height.’

We can also point to predicative adjectives in English like *asleep* deriving from the P-NP “at sleep,” a relation still manifest in doublets such as *grow high/ grow to a (great) height* or *be high/ be at a height*.

But an interesting way to view this claim (that an adjective is a noun that incorporates a case or preposition) is to consider the converse proposition: that an “oblique” noun is in some way an adjective.<sup>2</sup> Consider now the following “predicate nominals” in English:

- (53) We elected John president.  
(54) We consider John a genius.  
(55) John acts as / is a villain in this movie.

It is often possible to optionally mark these predicate nominals in English with *as*. In Kannada, such nouns are obligatorily marked with *-aagi*, historically the perfect participle of the verb *aagu* ‘happen, become.’

- (56) naavu John-anna president-aagi kuurisodevu.  
we John-acc. president-*aagi* made-sit  
‘We elected John (as) president.’  
(57) naavu John-anna genius-aagi tiLididdiivi.  
we John-acc. genius-*aagi* have thought  
‘We consider John a genius.’  
(58) John ii sinima -dalli villan -aagi akT maaDiddaane  
John this cinema-loc. villain-*aagi* act has done  
‘John has acted as a villain in this movie.’

The interesting fact is that *-aagi* is a productive derivational suffix in Kannada that derives adjectives or adverbs from nouns. Thus consider the following data:

- (59) avaru sukha -vaagi iddaru.  
they happiness-*aagi* be 3m/fpl  
‘They were happy.’ (lit. they were happiness having-happened)  
(60) id- anna bhadra-vaagi iDu. bhadra-vaagi hoogu.  
this acc. safety -*aagi* keep imp. safety -*aagi* go imp.  
‘Keep this safe. Go safely.’

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<sup>2</sup> The observation that the Amritavalli and Jayaseelan (2003) claim amounts to saying that an adjective is an oblique noun is due to Vineet Chaturvedi (p.c.).

(61) idu nija. idu nija -vaagi chenn -aagi ide. heNN -aagi huTTi ...  
this truth this truth-aagi goodness-aagi be 3nsg female-aagi born

‘This (is the) truth. This is truly good. Born a woman, ...’

In the light of these data, it is interesting that the English preposition *as*, which optionally appears with predicate nouns, appears also in the English comparative construction (*as*) *Adj as Noun*. I.e. the same P takes as its complement A and N, highlighting the predicative status of the N.

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