SINHALA CASE MARKING, MODALITY, AND A-MOVEMENT

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1. Introduction

Indo-Aryan languages, spoken in the Indian subcontinent, are well-known for their quirky case marking on the subject (Verma & Mohanan 1990). Case marking in Sinhala, an Indo-Aryan isolate (Gair 1982) spoken by around 16 million people in Sri Lanka, is no exception: the subject of a finite clause in Sinhala can be morphologically marked by a variety of cases such as nominative (unmarked), accusative, dative or instrumental (Gair 1990). An assumption holds in some recent syntactic literature that different case marking on the subject NP in Sinhala is entirely determined by the semantics of the verb (Inman 1994; Henadeerage 2002; Jany 2005). This has commonly been explored with regard to the semantic notion of (in)volitivity of Sinhala verbs.[1] For instance, Henadeerage (2002), following Inman (1994), assumes that the volitive verb (denoting volitional intentional action) inherently assigns nominative case to the subject as in (1), while the involitive verb (denoting an involuntary action) inherently assigns dative case to the subject as in (2):

(1) lamaya   sellam-karanna   yanawa.
    child (**NOM**)   play-do (VOL-INF)   go (**VOL-PRES**)
    'The child is going to play.'

(2) lamayata   sellam-karanna   hituna.
    child (**DAT**)   play-do-(VOL-INF)   think-(**INVOL-PRES**)
    'The child thought of playing.' (It just came to his/her mind.)

(Henadeerage 2002: 79)

This semantic approach to Sinhala case marking receives further support in Jany (2005) who argues that in Sinhala, "argument marking is not assigned on the basis of grammatical relations, but is dependent on a series of semantic properties of the argument, such as animacy, semantic role, and definiteness, and on the semantic and lexical properties of the verb, in particular on volitivity" (p. 70).

However, contrary to the general assumption in existing literature (e.g., Henadeerage 2002; Inman 1994; Jany 2005), in this paper, we argue that case marking in Sinhala is not entirely determined by the semantics of the verb. Based on previously unnoticed data, we propose that only an involitive verb assigns inherent dative case to its subject, whereas nominative case is not lexically associated with volitive verbs; rather, it is a structural case valued by a finite T. Our argument is based on (i) the scope interpretation of subject quantifiers, (ii) the (in)compatibility between ECM contexts and (in)volitive predicates, and (iii) the interaction between case marking and the interpretation of modals. One important consequence of our proposal is that A-movement in Sinhala is triggered by case valuation,

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[1] Most Sinhala verbs can be semantically classified as *volitive* and *involitive* verbs. Volitive verbs denote volitional intentional action while involitive verbs denote non-volitional unintentional states of affairs (e.g., Beavers & Zubair, 2010; Henadeerage, 2002 and Inman, 1994).

rather than by a universal EPP requirement on T (contra Chomsky 2000, 2001: see Epstein and Seely 2006; Bošković 2002).

This paper is organized as follows. Section 2 presents empirical challenge to the hypothesis that nominative case and dative case in Sinhala are both inherent cases assigned based on the (in)volitivity of the predicates. Section 3 develops our novel analysis of case marking in Sinhala and discusses its implications. Section 4 summarizes this paper.

2.   New Data

2.1. Volitivity and the Interpretations of Quantifier NPs

We find that a subject universal quantifier has scopal interaction with negation only in sentences with volitive verbs, as in (3), which is ambiguous between partial negation and total negation. By contrast, when we replace the volitive verb in (3) with an involitive counterpart as in (4), only partial negation interpretation is available.

(3)   lamai   hæmomə   nætuwe   næhæ.
       children all (NOM)   danced (VOL)   not
       'All children did not (voluntarily) dance.'   [Total negation]
       'Not all children (voluntarily) danced.'   [Partial negation]

(4)   lamai   hæmotəmə   nætune   næhæ.
       children   all (DAT)   danced (INVOL)   not
       'Not all children (involuntarily) danced.   [Partial negation]

This effect on the scopal interpretation of the subject universal quantifier is previously unnoted to the best of our knowledge. The contrast between (3) and (4) is not easily explained by Henadeerage's (2002) and Jany's (2005) analyses of Sinhala case marking because they treat both volitive and involitive verbs as equivalent with respect to their ability to assign case to subject NP. Given their hypothesis that both nominative case and dative case are inherent cases assigned entirely based on the (in)volitivity of the predicates, (3) and (4) are expected to have the same range of scopal interpretation of the subject quantifier. However, the contrast between (3) and (4) suggests that the dative subject quantifier *lamai hæmotəmə* 'all children' stays below the negation *næhæ* 'not' so that only partial negation reading is available. By contrast, the nominative-marked counterpart can occupy a syntactic position c-commanding the negation to receive the total negation reading.

2.2. ECM and Volitivity

Another novel observation about the distinction between volitive predicates and involitive predicates in Sinhala is that only the subject of former can carry accusative case from ECM verbs like *dannəwa* "know", as shown by the contrast between (5) and (6):
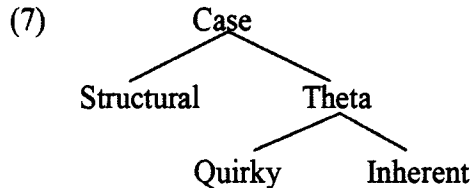
(5)   mamə   [eya/eyawə[2]   natənəwa[3]]   dannəwa.
       I   he (ACC)   dance (VOL-INF)   know
       'I know him to be voluntarily dancing.'

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[2] *-wa*, in addition to *–a*, marks the accusative case in at least in some dialects of Sinhala (Chandralal, 2010 and Kariyakarawana, 1998).

[3] Sinhala uses at least two different morphemes to mark the infinitive form of a verb: *-ə* and *–a*. Please see Chandralal (2010) and Kariyakarawana (1998) for a detailed discussion of the phenomenon.

(6) *mamə [eya nætenəwa] dannəwa.
    I   he (ACC) dance (INVOL-INF) know
    Intended: 'I know him to be involuntarily dancing.'

However, this contrast runs afoul of the prediction of the volitivity-based analysis of Sinhala case marking. Specifically, given that both nominative case and dative case are assigned by the predicates under theta marking, they should be either quirky case or inherent case in the rough classification of case in (7):

(7)   Case
            ╱   ╲
  Structural   Theta
              ╱   ╲
      Quirky   Inherent

If they are both quirky case that requires further structural case valuation (like dative and genitive cases in Icelandic), we predict that both (5) and (6) should be allowed because the structural accusative case from the ECM verb can license both subject NPs, regardless of the volitivity of the embedded predicate. On the other hand, if both nominative and dative are inherent cases (like dative case in Russian), none of the subjects in (5) and (6) should be acceptable under the ECM contexts. This is because the assignment of inherent case renders further structural case valuation unnecessary and hence inapplicable. The fact that neither of these two predictions holds casts further doubts on the uniform treatment of the assignment of nominative case and dative case under theta marking in Sinhala.[4]

2.3. Modality and Case Marking

Like modals in many other languages, Sinhala modals like *puluwan* 'can' require the selected verb be in its root form, and exhibit ambiguity between an epistemic (possibility) and a deontic (ability) reading. Note that when (in)volitive verbs are embedded under an epistemic modal as in (8) and (9), case marking on the subject is in compliance with the previous analyses based entirely on the (in)volitivity of the verb.

(8) lal   natannə   puluwan
     Lal (NOM) dance (VOL) be.likely.to
     'Lal is likely to (actively) dance.'

(9) laltə   nætenna   puluwan
     Lal (DAT) dance (INVOL) be.likely.to
     'Lal is likely to (involuntarily) dance.'

Curiously, we find that when volitive verbs are embedded under deontic modals as in (10), dative case is required despite the presence of the embedded volitive verb,[5] contradicting the hypothesis that case marking in Sinhala is entirely determined by the (in)volitivity of the verb.

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[4] Another possibility is that volitive verbs assign quirky case, while involitive verbs assign inherent case, so that only the subject of the former can receive the accusative case from the ECM verb as in (6). We do not discuss this possibility in this paper and leave this line of analysis for our future research.

[5] The combination of the deontic/ability reading of the modal and the involitive interpretation of the predicate is ineffable because it is semantically/pragmatically odd for someone to be able to do something involuntarily.

(10) lalta   natanna   puluwan
      Lal (DAT) dance (VOL) be.able.to
      'Lal is able to (actively) dance.'   [Volitive verb but dative case (cf. (1))]

If both nominative case and dative case can each occur on the subject of a volitive predicate, as in (1)/(8) and (10), respectively, the hypothesis that volitivity always entails nominative is falsified.
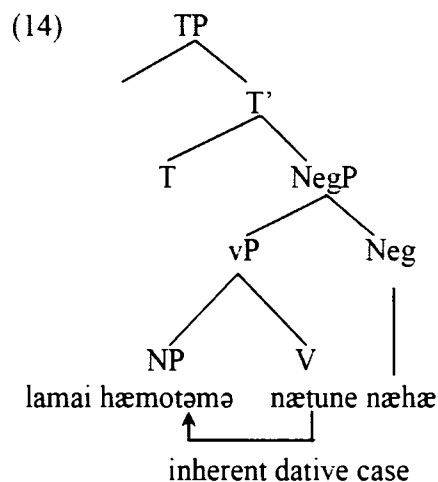
3.   Analysis

We propose that the empirical challenges noted above can be explained if we adopt the four assumptions in (11):

(11) a. Only involitive verbs assign an inherent dative case to their subject NP at spec-vP
        under theta marking in the sense of Chomsky (1986).
     b. Volitive verbs in Sinhala do not lexically determine case marking.
     c. Nominative case is a structural case assigned by the finite T.
     d. Deontic modals in Sinhala are control verbs and assign inherent dative case to its
        subject, whereas epistemic modals are raising verbs.

Let's examine how the assumptions in (11) account for the new data in the last section. First, our analysis predicts the lack of ambiguity in (4) under the (standard) assumption in (12). The relevant structure of (4) is shown in (13) and (14). We propose that only involitive verbs assign inherent case to their subject NP. Therefore, once the subject *lamai hæmotəmə* 'all children' is base-generated at spec-vP in (13)/(14), it receives inherent dative case from the involitive verb within the involitive vP and becomes inactive for further movement to spec-TP for case valuation, thereby yielding only the partial negation reading.

(12) For negation to take scope over α, negation c-commands α.   (Klima 1964)

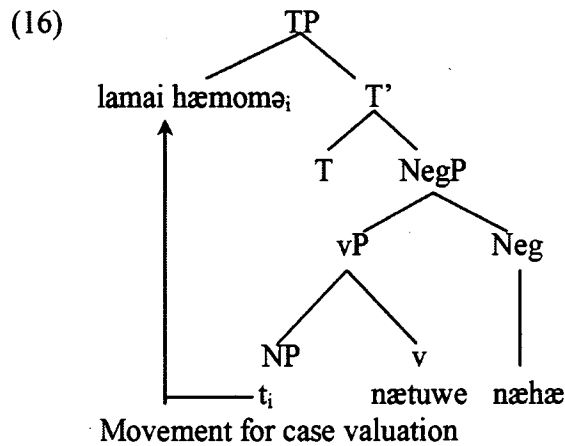(13) [$_{TP}$ T [$_{NegP}$ [$_{vP}$ lamai   hæmotəmə   nætune]   næhæ]]   (=(4))
                  children   all (DAT)   danced (INVOL)   not

(14)

inherent dative case

On the other hand, volitive verbs in Sinhala are not lexically related to case marking in any way. Therefore, in (3) whose relevant structure shown in (15) and (16), the subject NP needs to move to spec-TP to value its case feature as nominative. Consequently, the negation *næhæ*

c-commands the lower copy at spec-v*P and is also c-commanded by the copy at spec-TP, yielding the scopal ambiguity as observed in an English sentence like (17).

(15) [$_{TP}$ Lamai hæmoma$_i$ T   [$_{NegP}$ [$_{vP}$ t$_i$ nætuwe]]   næhæ]]   (=(3))
children all (NOM)   danced (VOL) not
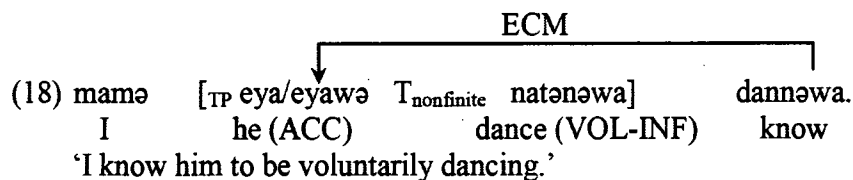
(16)

Movement for case valuation

(à la Bošković 2002)

(17)   Every student did not take the exam.

Also, note that the contrast between (3) and (4) shows that there is no universal EPP requirement on T in Sinhala (contra Chomsky 2000, 2001). The EPP-based approach to A-movement would force the subject NP in (4) to move to spec-TP despite receiving inherent case from the involitive verb, thereby incorrectly predicting scopal ambiguity in all such cases. By contrast, the case-valuation-driven approach to A-movement by Epstein and Seely (2006) and Bošković (2002) provides a straightforward account for the contrast between volitive predicates and involitive predicates with respect to the scopal interpretation of the subject quantifier.

Next, the contrast between volitive predicates and involitive predicates with respect to their occurrence under ECM verbs follows from our assumption that volitive predicates do not assign inherent case to its subject, and nominative case is a structural case assigned by a finite T. Therefore, the subject NP of a volitive predicate cannot be assigned the nominative case in the non-finite TP complement of the ECM verb (either as an inherent case or a structural case), and its case feature must be valued as accusative by the ECM verb, as in (18)[6]:

ECM

(18) mama   [$_{TP}$ eya/eyawa   T$_{nonfinite}$ natanawa]   dannawa.
       I   he (ACC)   dance (VOL-INF)   know
'I know him to be voluntarily dancing.'

On the other hand, the involitive verb always assigns inherent dative case to its subject NP, regardless of the finiteness of T, as in (19). Therefore, the accusative case from the ECM verb cannot override the inherent dative case on the embedded subject of the involitive predicate, as in (6).

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[6] We omit the movement of the subject NP to the matrix v*P domain for accusative case valuation because it is not relevant to our current purposes.

Inherent case

(19) mamə [TP T$_{nonfinite}$ [vP eyátə   nætenəwa]   dannəwa.
  I   he (DAT)   dance (INVOL-INF)   know
  'I know him to be involuntarily dancing.'

Finally, we turn to the unexpected dative case in (10) where dative case is required despite the presence of the volitive verb, posing a challenge to the hypothesis that a volitive verb assigns inherent nominative case to its subject NP. We argue that the contrast between the epistemic reading and the deontic reading of the modal *puluwan* shown in (8)-(10) can be explained if we assume that the epistemic modals in Sinhala are raising verbs, while deontic modals in Sinhala are control verbs, as schematically shown in (20) and (21), respectively. Therefore, the surface subject in sentences with epistemic modals semantically and structurally originates from the embedded clause, while the surface subject of sentences with deontic modals is the subject of the deontic modal, a two-place predicate.

(20) Epstemic modals as raising verbs
  [TP subject verb object] modal$_{epistemic}$

(21) Deontic modals as control verbs
  Subject [TP PRO verb object] modal$_{deontic}$

We further assume that a deontic modal which functions as control verb in Sinhala assigns inherent dative case to its subject NP. Admittedly, this is a stipulation pending further empirical verification, but this stipulation, together with the control and raising structures in (20) and (21) provides a straightforward account of the dative case in (10). Empirical support for the raising-control distinction in (20) and (21) comes from the specificity ambiguity of indefinite NPs in Sinhala. First, consider the English sentences in (22) and (23). The indefinite NP *someone from Sri Lanka* can be either specific or not in the raising structure (22) because there exist two sites for its interpretation, in relation to the raising verb *seems*. By contrast, only specific reading is available in the control structure (23) because the indefinite NP can be interpreted only at the matrix spec-TP.

(22) Someone from Sri Lanka seems [TP <Someone from Sri Lanka> to win the lottery].

(23) Someone from Sri Lanka tried [TP PRO to win the lottery].

The prediction of (11d) is that the contrast between (22) and (23) can also be detected between epistemic modals and deontic modals in Sinhala. Before we examine the relevant empirical data in Sinhala, we need to discuss the form of indefinite NPs in the language. Sinhala has two different forms for an indefinite NP like *someone* in English. They are both formed by adding a particle -*də* or –*hari* to a *wh*-word: *kau* + *də* (*who* + *də* = someone) or *kau* +*ni*[7] + *hari* (*who* + *hari* = someone). What is interesting about these two forms in Sinhala is that *kaudə* is used only when we refer to someone specific as in (24), while *kauruhari* is generally used for either non-specific or specific reference as in (25).

(24) kaudə   dorə   æriya.
    someone (NOM)   door (ACC)   open-PAST-A
    'Someone (specific) opened the door.'

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[7] Here –*ni* is inserted for phonological reasons.

(25) kauruhari   dorə   æriya.
      someone (NOM) door (ACC) open-PAST-A
      'Someone (specific or not) opened the door.'

In addition, either form can combine with a noun like *laməyek* 'child' to form an indefinite NP like *kauruhari laməyek* or *kaudə laməyek* 'some child'. They are both compatible with volitive or involitive predicates, as illustrated in (26) and (27), respectively:

(26) a. kauruhari laməyek   basha   tunak katakərənəwa.
        some   child (NOM) languages three   speak (VOL)
        'Some (specific or not) child (actively/voluntarily) speaks three languages.'
    b. kauruhari laməyekutə basha   tunak katakerenəwa.
        some   child (DAT) languages three   speak (INVOL)
        'Some (specific or not) child (involuntarily) speaks three languages.'

(27) a. kaudə laməyek   basha   tunak katakərənəwa.
        some child (NOM) languages three speak (VOL)
        'Some specific child (actively/voluntarily) speaks three languages.'
    b. kaudə laməyekutə   basha   tunak katakerenəwa.
        some   child (DAT) languages three speak (INVOL)
        'Some specific child (involuntarily) speaks three languages.'

Now, if we embed (26) under an epistemic modal as in (28), only (28a) with a volitive verb maintains the specificity ambiguity, whereas only nonspecific reading is available in (28b) with an involitive verb. Therefore, even though the exclusively specific form *kaudə laməyekutə* is compatibile with an involitive verb as in (27b), it cannot be used in this context, as in (29).

(28) a. kauruhari laməyek   basha   tunak katakərannə   puluwan.
        some   child (NOM) languages three speak (VOL) be.likely.to
        'Some child (specific or not) is likely to (actively/voluntarily) speak three languages.'
    b. kauruhari laməyekutə   basha   tunak katakerennə   puluwan.   [cf. (26b)]
        some   child (DAT) languages three speak (INVOL) be.likely.to
        'Some child (nonspecific) is likely to (involuntarily) speak three languages.'

(29) *kaudə laməyekutə   basha   tunak katakerennə   puluwan.
      some child (DAT) languages three speak (INVOL) be.likely.to
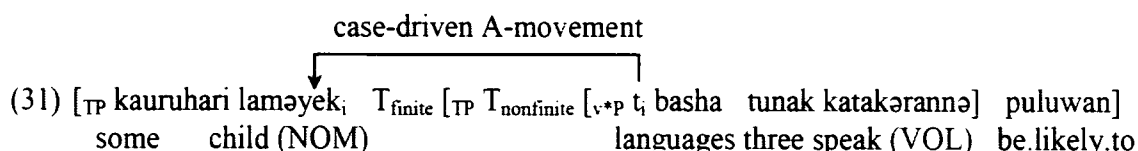   Intended: 'Some specific child is likely to (involuntarily) speak three languages.'

Interestingly, if *puluwan* is interpreted as a deontic modal, the indefinite subject NP receives only specific reading, as in (30a).[8] Thus, the exclusively specific form *kaudə laməyekutə* is allowed in this context, as in (30b).

(30) a. kauruhari laməyekutə   basha tunak katakərannə   puluwan.
        some   child (DAT) languages three speak (VOL) be.able.to
        'Some specific child is able to (actively/voluntarily) speak three languages.'
    b. kaudə laməyekutə   basha tunak · katakərannə puluwan.
        some child (NOM) languages three speak (VOL) be.able.to

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[8] *Puluwan* cannot be interpreted as a deontic modal with an involitive verb due to the incompatibility between deontic/ability modals and involitive verbs as noted in footnote 2.
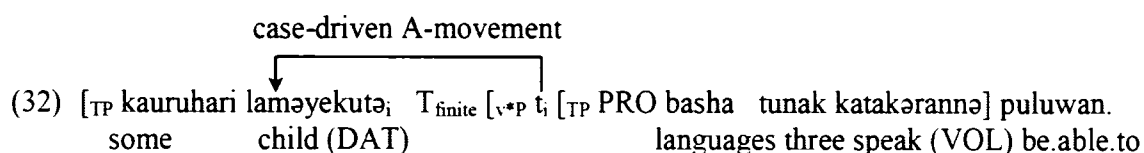
Some specific child is able to (actively/voluntarily) speak three languages.'

The range of interpretations of the indefinite subject NP in (28)-(30) receives a straightforward explanation if we adopt the hypothesis that epistemic modals are raising verbs in Sinhala, while deontic modals are control verbs. In (28a), the indefinite NP is ambiguous because it must raise to the matrix spec-TP (based on the same motivation seen in (15)/(16)) as in (31):

case-driven A-movement

(31) [$_{TP}$ kauruhari laməyek$_i$ T$_{finite}$ [$_{TP}$ T$_{nonfinite}$ [$_{v*P}$ t$_i$ basha tunak katakərannə] puluwan]
     some child (NOM)   languages three speak (VOL) be.likely.to

On the other hand, only nonspecific reading is available in (28b) because the indefinite subject NP already receives inherent dative case from the embedded involitive verb and is not active for further NP movement out of the embedded TP, following the analysis in (13)/(14). As a result, the indefinite NP can only be interpreted below the scope of the epistemic raising modal *puluwan* 'be.likely.to'.

Last, only specific reading is available in (30a) with the deontic modal because deontic modals are control verbs and the indefinite subject NP is base-generated as the subject of the deontic modal as in (32). As a result, matrix spec-TP is the only position where the indefinite NP can be interpreted (after the case-driven A-movement applies).

case-driven A-movement

(32) [$_{TP}$ kauruhari laməyekutə$_i$ T$_{finite}$ [$_{v*P}$ t$_i$ [$_{TP}$ PRO basha tunak katakərannə] puluwan.
     some child (DAT)   languages three speak (VOL) be.able.to

4. Summary

In this paper, we have marshalled evidence against the widely held assumption in the generative literature on Sinhala syntax that both nominative case and dative case are inherent cases assigned by volitive predicates and involitive predicates, respectively (Henadeerage, 2002 and Jany, 2005). We show that all the counterexamples follow from the assumptions that (i) only involitive predicates assign inherent dative case to its subject, (ii) nominative case is a structural case assigned by a finite T, (iii) A-movement in Sinhala is triggered by case valuation, rather than by a universal EPP structural requirement, and (iv) epistemic modals in Sinhala are raising verbs, while deontic modals are control verbs.

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