Vidyodaya Journal of Humanities and Social Sciences

VJHSS (2023), Vol. 08 (01)

Differential Object Marking, Scrambling and Choice Functions: The Case of Sinhala

W. A. T. Weerasooriya

Department of English and Linguistics, University of Sri Jayewardenepura, Sri Lanka

Article Info

Article History:
Received 19 Sep 2022
Accepted 18 Dec 2022
Issue Published Online
01 January 2023

Key Words:
Indefinites
DOM
Specificity
Scrambling
Choice Functions

*Corresponding author
E-mail address:
tharanga@sjp.ac.lk

https://orcid.org/ 0000-0003-2495-6755

Journal homepage:
http://journals.sjp.ac.lk/index.php/vjhss

http://doi.org/10.31357/fhss/vjhss.v08i01.09

VJHSS (2023), Vol. 08 (01), pp. 127-137

ISSN 1391-1937/ISSN 2651-0367 (Online)

ABSTRACT

This paper investigates the role of choice functions on specificity realization of indefinite noun phrases mainly by way of differential object marking, scrambling and pragmatics in Sinhala. Languages use different strategies to mark what is called specificity of noun phrases. Differential object marking and scrambling are some such operations employed by languages such as Spanish, Turkish, Hindi, and Japanese. Sinhala employs at least three strategies to mark specificity: scrambling; differential object marking and pragmatics. In the literature attempts have been made to establish a relationship between morphology (differential object marking) and syntax (short scrambling) with respect to specificity marking in languages. This paper, based on the evidence that short scrambling in Sinhala does not influence specificity marking, argues that such a link between morphology and syntax of specificity marking cannot be established cross-linguistically. It claims that an account based on choice functions is able to account for specificity marking of indefinites in Sinhala. Relevant data retrieved from the existing literature and new data introduced by the author based on native speaker judgements were considered for testing the hypothesis. The data were analyzed in light of the existing theories, frameworks and methods, thus following the deductive approach to draw the conclusions. The paper concludes that a choice functions-based analysis enables us to account for the specificity marking of not only the deferentially marked objects but also scrambled and pragmatically marked object noun phrases in Sinhala. As evident, the conclusions were drawn based on testing analysis, and evaluation of data from Sinhala, which is a less studied language in linguistics. It is suggested that the findings in this study be taken up for further investigation with similar data from other less studied languages in the world in order to make finer cross-linguistic generalisations.

1. Introduction

At least since Bossong (1985), the phenomenon of differential object marking (DOM) has been treated from different perspectives in Generative Grammar. It has been analysed in terms of case marking, animacy/definiteness hierarchy, specificity marking, etc. paving avenues for further research in many directions.

Along the same lines, but attempting to synthesize three frameworks, Lopez (2012) in his monograph: *Indefinite Objects: Scrambling, Choice Functions, and Differential Marking*, compares DOM, scrambling, and choice functions, and argues for a connection between morphology and syntax to mark specificity of indefinites. He claims that marked direct objects undergo short scrambling out of VP internal position to a vP internal position in a sentence. These scrambled objects are shown to receive specific readings.

In this paper, based on empirical evidence from Sinhala that employs three strategies: scrambling; morphological marking and pragmatics to mark specificity associated with noun phrases (NPs), I argue that a connection between morphology, syntax and semantics cannot be established cross-linguistically.

I claim that Choice Functions (Reinhart, 1997) is the uniform way to derive the specific interpretations of indefinite direct objects marked by the three strategies. It is shown that this analysis enables us to capture even the specific, but non-scrambled and non-overtly marked direct objects in Sinhala.

The paper is organised as follows. Section 2 discusses the materials and methods used in the study. Section 3 is the results and discussion section. Section 4 draws the conclusions.

2. Materials and Methods

As is the standard in the discipline of linguistics, language samples in this paper consist of sentences/phrases that are generally and commonly used in the languages taken up for investigation in this paper. When certain sentences were interpreted, grammatical judgements by native speakers of the languages were used. As evident, some example sentences were adopted from secondary sources such as those in the existing literature. Respective references are provided in the relevant instances. The investigation in the current study is based on the deductive research approach where conclusions are drawn by analyzing and testing the hypothesis in light of the existing studies, theories and frameworks.

2.1 The indefinites system in Sinhala

Sinhala has different types of indefinites used in the nominal domain. Other than the plain indefinite (01), two other types of indefinites are formed by adding the particles *-hari* and *-də* to indeterminate phrases (IDPs: cf. Kuroda, 1965 and Kratzer and Shimoyama, 2002) in Sinhala as in (02)a and (02)b. These are referred to as *-hari* (02)a and *-də* (02)b indefinites.

(01) Siri poth-ak gattha.
Siri book-INDF bought
'Siri bought a book.'

(02) a. John mokak-hari gattha.
John what-hari bought
'John bought something.'

b. Siri mokak-də gattha.
Siri what-də bought
'Siri bought something.'

Indefinites formed in this way function in Sinhala the way indefinite pronouns such as *something, somebody* do in English. A complex indefinite can be formed by adding a plain

indefinite to an indefinite pronoun as in (03) (When the plain indefinite is added to an indefinite pronoun, the indefinite pronoun functions like a determiner for the interpretation of the plain indefinite).

(03) a. Siri mokak-hari poth-ak gattha.
Siri what-hari book-INDF bought
'Siri bought some book.'
b. Siri mokak-də poth-ak gattha.
Siri what-də book-INDF bought
'Siri bought some book.'

Thus, Sinhala realizes indefinites in different ways such as plain indefinites, indefinite pronouns, and complex indefinites.

2.2 Differential Object Marking

Differential object marking refers to the phenomenon of marking a direct object with a piece of morpheme/suffix to mark a difference in it with respect to its semantic and pragmatic properties. "It is common for languages with overt case-marking of direct objects to mark some objects, but not others, depending on semantic and pragmatic features of the object" (Aissen, 2003, p. 436). For example, as seen in (04), Sinhala marks specificity of direct objects with the piece of morpheme *-wə,* which, in the traditional grammar, is labelled as the Accusative (ACC) case marker (Gunasekara, 1891). Marking specificity with the morpheme *-wə,* the construction in (04) gives rise to an interpretation that John bathes some particular (specific) dog everyday. The dog in (04) cannot refer to any dog, but some dog. When (04) is compared with (05) where the object is not marked with the morpheme *-wə,* it does not necessarily give rise to the meaning that John bathes some particular (specific) dog everyday. It could refer to some particular (specific) dog or any (non-specific) dog, depending on the context.

(04) John hæmədamə ball-ek-wə naawənəwa.
John everyday dog-INDF-ACC wash
'John bathes (some particular) dog everyday.' (specific interpretation)

(05) John hæmədamə ball-ek naawənəwa.
John everyday dog-INDF wash
'John bathes a dog everyday.' (non-specific/specific interpretation)

According to Bossong (1985) and Aissen (2003), differential object marking is closely associated with overt case marking along with two scales: animacy and definiteness (cf. Bossong, 1985 and Aissen, 2003),

(06) Prominence scales:

a. Animacy: Human > Animate> Inanimate
b. Definiteness: Personal pronoun > Proper name > Definite NP > Indefinite specific NP > Non-specific NP (Aissen, 2003, p. 437)

The notion here is that higher the position in the hierarchy, the higher the chance for a DO to be case marked (Aissen 2003). Later, Enç (1991) discussed in detail the link between DOM and specific interpretations of NPs. He showed that in Turkish, DOM gives rise to differences in specific and non-specific interpretations of differentially marked objects. More recently,

Reinhart (1997), Kratzer (1998), Schwarzschild (2002) and Lopez (2012) have discussed the abilities of specific indefinites (that may or may not be differentially marked) to take wide-scope interpretations with respect to operators such as the conditional violating the so called island constraints. They have also proposed different mechanisms such as choice functions and singletons to handle such cases.

2.3 Scrambling

Scrambling is a phenomenon associated with languages such as Japanese, Korean, Hindi and Sinhala that exhibit free word order with respect to syntactic constituents. There are two varieties of scrambling as A-scrambling and A'-scrambling. The kind of scrambling that this paper is concerned with is A'-scrambling which is done for various discourse purposes such as topic, focus and specificity marking in languages.

In the literature, there are at least three types of scrambling discussed: short scrambling (vP internal), long scrambling (clause internal) and long distance scrambling (across clause boundaries). In languages such as Hindi (cf. Bhatt and Anagnostopoulou, 1996), and Persian (cf. Karimi, 2003), specific marked indefinites are argued to undergo short scrambling within the vP. For example, Bhatt and Anagnostopoulou (1996) show that in Hindi, an SOV language, the direct object that normally follows the indirect object (i.e., when the direct object is not specific), precedes the indirect object when it is specific as shown in (07) and (08).

(07) Ram-ne Anita-ko chitii bhej-ii.
Ram-ERG Anita-ko letter send-PERF.F
'Ram sent a letter to Anita'. (a non-specific letter)

(08) Ram-ne chitthii-ko$_i$ Anita-kot $_{ti}$ bhej-aa.
Ram-ERG letter Anita-ko send-PERF
Ram sent a letter to Anita'. (a specific letter)

Saito (1992) shows evidence for in-clausal (long) scrambling (09), and cross-clausal (long distance scrambling) (10) in Japanese.

(09) [IP Sono hon-o$_i$ [IP Taro-ga [VP$_{ti}$ katta]]]
that book-ACC Taro-NOM bought
'That book$_i$, Taro bought$_{ti}$.'

(10) [IP Sono hon-o$_i$ [IP Hanako-ga [IP Taro-ga [VP$_{ti}$ katta]] to] omotteiru]
that book-ACC Hanako-NOM Taro-NOM bought COMP think
'That book$_i$, Hanako thinks that Taro bought$_{ti}$.'

The kind of scrambling observed in Sinhala is in-clausal (long) scrambling which is discussed in Section (3.2.3).

2.4 Choice Functions (Reinhart 1997)

In order to handle the cases of indefinite NPs that can take readings even outside of syntactic islands such as conditionals and negation, Reinhart (1997) proposed 'Choice Functions' with the idea that indefinites introduce a variable over choice functions as explained in (11).

(11) A function is a choice function (CH(f)) if it applies to any non-empty set and yields a member of that set. (Reinhart, 1997, p.372)

This could be illustrated in the following manner, for example, when the choice function *f* is applied to the set {Mary, Paula, Jane, Sita}, it may return Mary as its value.

(12) f {Mary, Paula, Jane, Sita}=Mary

Reinhart also shows that the variable introduced by the indefinite may be bound by an existential quantifier at any level. Since the existential quantifier may appear at any level, her analysis predicts that an indefinite may trigger narrow, intermediate or wide scope reading of the indefinite.

(13) Every girl loved some boy.
a. ∃f [CH(f) & ∀z [girl (z)→ z loved f(boy)]]
b. ∀z [girl (z)→ ∃f [CH(f) & z loved f(boy)]]

In (13) a, the choice function variable introduced by the indefinite is closed at the highest level. This means that there is some choice function *f* such that every girl loved the

(one/same) boy which *f* picks out from the set of boys. In (13) b, the choice function variable is existentially closed at the lower level with narrow scope. This means that for every girl z, there is a (potentially different) choice function *f* such that z loved the boy that *f* picks out (each girl loved a different boy).

This choice function analysis allows an indefinite to take a wide scope interpretation even outside of an island. This enables an indefinite buried within a conditional as in (14) to be interpreted outside the island as illustrated in (14).

(14) If some girl comes to the party, John will leave.

a. ∃f [CH(f) & [come(f(girl))→ leave (John)]]
b. [∃f [CH(f) & come(f(girl))]]→ leave (John)

In the wide scope reading of the choice function in (14) a, the individual picked by the choice function is interpreted outside the conditional in the sense that there is a choice function *f*, such that if the individual girl picked out by *f* comes to the party, John will leave. In the narrow scope reading, the choice function is applied within the conditional. If it were to follow quantifier raising, it will have to obey usual constraints on movement which will cause problems for the indefinite buried within the island to take a wide scope related interpretation.

2.4 Synthesizing the Three Traditions; (Lopez, 2012)

Lopez (2012) takes the short scrambling of languages like Hindi and Persian into account and tries to apply it to Spanish to mark a link between a morpheme marking the object differentially, and scrambling, which will give rise to a structure like that in (15), i.e., Figuer1 (Lopez, 2012, p. 40).

(15)

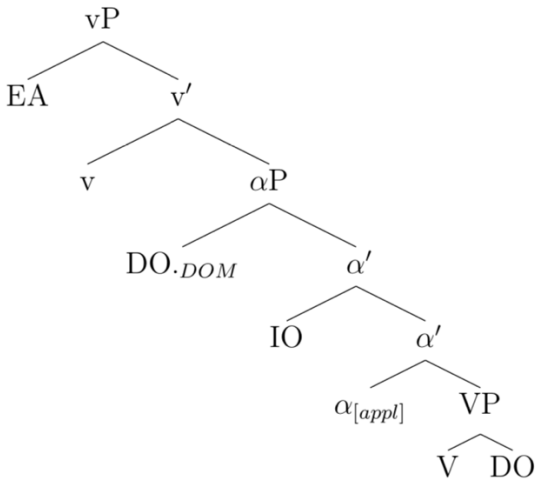

Figure 1.

The representation in (15) is that of a double object construction. Lopez shows that marked indefinites entail scrambling, where, as seen in (15), the indefinite NP moves to a spec-αP position (within vP), which is a functional phrase projection, and c commands the indirect object (within VP). Lopez notes that a non-marked indefinite will

stay in-situ (within VP) receiving a narrow scope/non-specific interpretation.

However, the evidence he has for scrambling is the reverse binding or reverse c-commanding of pronouns and reflexives, where, as seen in (16), Lopez shows the DO *any prisoner* 'leftward binds' the pronoun *his* when it is marked leading to a quantifier variable interpretation. He shows that this interpretation is not available without the A marking of the object; 'The unmarked object stays in-situ, so it cannot c-command the IO and therefore it cannot bind the variable. The marked object moves to Specα from which position it can c-command the IO' (Lopez, 2012, p.41).

(16) Los enemigos no entregaron a sui hijo a/∅ ningu´ni prisonero.
the enemies NEG delivered.PL DAT his son A/∅ no prisoner
'The enemies did not deliver any prisoner to his son.'

Following Chung and Ladusaw (2004), Lopez also argues that the scrambled objects in Spanish undergo the operation called Satisfy which involves choice function and functional application. The in-situ objects are handled by the operation called Restrict that prevents the saturation of the predicate argument, which leads to narrow scope. This is illustrated as follows (EA= external argument, DO= direct object).

(17) [vP EA v [αp DO.DOM α [VP V DO]]]
Satisfy Restrict

This way, for Lopez (2012), scrambling is a necessary condition for indefinite objects to be composed by choice functions.

3. Results and Discussion

3.1 DOM and Specificity in Sinhala

As it was presented in (04) and as seen in (18), Sinhala marks specificity of direct objects with the piece of morpheme *-wə*, which, in the traditional grammar, is labelled as the ACC case marker.

(18) John hæmədamə ball-ek-wə naawənəwa.
John everyday dog-INDF-ACC/DOM bathe
'John bathes (some particular) dog everyday.' (Specific interpretation)

However, whether it is a case marker or just a specificity marker is debatable, an issue which is beyond the purview of this paper.

This differential marking of the object is in line with the animacy and definiteness hierarchy discussed in Bossong (1985) and Aissen (2003). For example, inanimate NPs in Sinhala are not morphologically marked as shown in (19).

(19) John hæmədamə poth-ak*-wə kiyəwənəwa.
John everyday book-INDF reads
'John reads a book everyday.'

Animate non-referring object NPs are also not marked with the morpheme as illustrated in (20).

(20) John hæmədamə ball-ek naawənəwa.
John everyday dog-INDF bathe
'John bathes a dog everyday.' (non-specific/specific interpretation)

Referring animate (specific) object NPs as seen in (18) are marked, personal pronouns (21), proper names (22), definite NPs (23) are all marked.

(21) John hæmədamə eyaa-wə naawənəwa.
John everyday him/her /DOM bathe
'John bathes him/her everyday.'

(22) Mary hæmədamə John-wə naawənəwa.
Mary everyday John-/DOM bathe
'Mary bathes John everyday.'

(23) John hæmədamə ball-a-wə naawənəwa.
John everyday dog-DEF-DOM bathe
'John bathes the dog everyday.'

At the same time, Sinhala makes use of two other strategies to mark specificity of an NP: scrambling and pragmatics. For example, (24) is an example of long scrambling/movement which involves syntax as a strategy to mark specificity.

(24) Hæmoomə $_{ti}$ naawənəwa ball-ek(-wə)$_{i}$.
Everybody bathed dog-INDF (DOM)
'Everybody bathes a dog.' (specific interpretation) a dog > ∀/ *∀ > a dog

In (25), there is an unmarked indefinite object. Depending on the pragmatic context, it can receive a specific or non-specific interpretation.

(25) Hæmoomə ball-ek naawənəwa.
Everybody dog-INDF bathe
'Everybody bathes a dog.' (specific/non-specific interpretation) a dog > ∀/ ∀ > a dog

Thus, specificity of indefinite NPs in Sinhala can be realized with DOM, long scrambling, and pragmatic marking.

3.2 Scope Configurations

3.2.1 Non-marked Indefinite Direct Objects

In Sinhala, a non-marked indefinite embedded with respect to negation (26), a conditional (27) and a complex NP (28) is ambiguous between a wide scope (specific) and narrow-scope (non- specific) reading.

A non-marked indefinite with respect to negation (26).

(26) John ball-ek nææww-e næ.
John dog-INDF bathe-E Neg
'John didn't bathe a dog.'specific/ non-specific interpretation) a dog > Neg/ Neg > a dog

A non-marked indefinite with respect to the conditional (27).

(27) John ball-ek heeduwo-th, eyaatə salli læbenəwa.
John ball-INDF wash-if he money gets
'If John washes a dog, he gets money.' (specific/non-specific interpretation) a dog > if/ if > a dog

A non-marked indefinite with respect to the relative operator (RO) in a complex NP (28).

(28) John Mary Sinhələ ugannəpu laməy-ek hoyənəwa.
John Mary Sinhala taught-RO child-INDF search for
'John is searching for a child whom Mary taught Sinhala.' a child> RO (relative operator)/RO>a child

It is important to note that in these cases, interpretations depend on pragmatic/contextual clues.

3.2.2 Marked Indefinite Direct Objects

Sinhala marked DO indefinites take obligatory wide scope (specific readings) with respect to negation (29), conditionals (30), and complex NPs (31).

A marked indefinite with respect to negation (29).

(29) John ball-ek-wə nææww-e næ.
John dog-INDF-ACC/DOM bathe-E Neg
'John didn't bathe a dog.' (specific interpretation) a dog > Neg/ *Neg > a dog

A marked indefinite with respect to the conditional (30).

(30) John ball-ek-wə heeduwo-th, eyaatə salli læbenəwa.
John dog-INDF- ACC/DOM wash-if he money gets
'If John washes a dog, he gets money.' (specific interpretation) a dog > if/ *if > a dog

A marked indefinite with respect to the relative operator (RO) in a complex NP (31).

(31) John Mary Sinhələ ugannəpu laməy-ek-wə hoyənəwa.
John Mary Sinhala taught-RO child-INDF-ACC/DOM search-for
'John is searching for a child whom Mary taught Sinhala.' a child> RO (relative operator)/*RO > a child

It is important to note that in these constructions, interpretations do not depend on pragmatic/contextual clues.

3.2.3 Scrambled Indefinite Direct Objects

Long scrambling of indefinite objects give rise to specific interpretations as seen in (32).

(32) John Mary-tə$_{ti}$ yæwwa ball-ek(-wə)$_{i}$.
John Mary-DAT sent dog-INDF
'John sent Mary a dog.' (specific dog)

However, short scrambling (within vP) in Sinhala does not make a difference in the interpretation of the indefinite noun phrase as illustrated in (33)a and (33) b.

(33) a. John Mary-tə ball-ek yæwwa.
John Mary-DAT dog-INDF sent
'John sent Mary a dog.' (specific or non-specific dog)

b. John ball-ek$_{i}$ Mary-tə$_{ti}$ yæwwa.
John dog-INDF Mary-DAT sent
'John sent Mary a dog.' (specific or non-specific dog)

This provides evidence against an analysis of specific indefinites based on a relationship between morphology (DOM) and syntax (Short scrambling). Lopez mainly bases his account of the relationship between syntax and semantics on the evidence that short scrambling in Spanish and certain other languages such as Hindi and Japanese give rise to a specific interpretation of the indefinite. It was seen that short scrambling of indefinite noun phrases in Sinhala does not have an effect on the noun phrase for specificity (For instance, see (33)a and (33)b.). This provides evidence for lack of a connection between morphology (differential object marking) and syntax (short scrambling). This paper, based on this evidence, claims that the semantic properties of the specificity realized under all the three methods can be captured by way of a choice function-based analysis (cf. Reinhart, 1997). This way, for wide scope/specific indefinites, irrespective of the syntactic position the DO appears, the *f* bound by CF will apply wherever the specific indefinite surfaces and will pick the specific individual out of the set meant for the indefinite.

For scrambled direct objects, it will apply where the DO surfaces presumably at the CP level. The movement is considered an indication of the existence of a choice function as illustrated in (34).

Here, in (34), the NP *a dog* has scrambled out of its VP internal position to the Spec CP position involving the process of long scrambling. The choice function *f* applies at the level of the Spec-CP position. When the choice function *f* is applied to a set (for

instance, {Mary, Paula, Jane, Sita}), it may return a unique/specific individual (for instance, *Mary*) as its value. For morphologically marked DOs, when scrambling is not involved, the choice function will apply in its base generated position. The morpheme is considered an indication of the existence of a choice function as exemplified in (35).

(34)

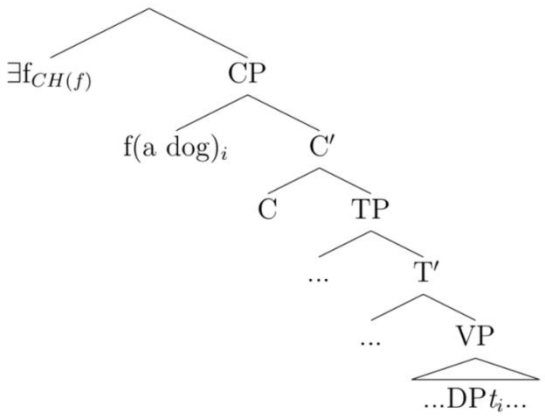

Figure 2.

(35)

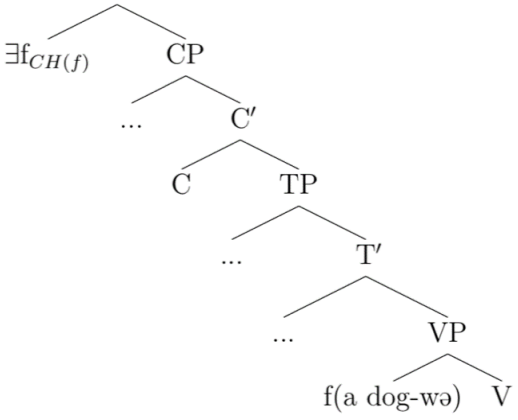

Figure 3.

Here, in (35), the NP *a dog* is differentially marked with the ACC marker/morpheme -*wə*. The choice function *f* applies at the level of the VP. When the choice function *f* operates on a set (for instance, {Mary, John, Jane, Geetha}), it may return a specific individual (for instance, Geetha) as its value.

For pragmatically marked DOs also, a choice function will apply where the DO surfaces as seen in (36).

Here, in (36), the NP *a dog* is neither differentially marked nor scrambled. The choice function *f* applies at the level where

the NP surfaces (i.e., at the level of VP). When the choice function f is applied (for instance, on a set {Mary, Paul, Jane, Saman}), it may return a unique individual (for instance, Paul) as its value.

As shown in (37), for all narrow scope indefinites, only the existential quantification (i.e., without the choice function) will apply at the level where the NP surfaces.

Thus, it is seen that a choice function-based analysis is able to uniformly account for the specificity of indefinite NPs marked by the three different strategies where short scrambling as discussed in Lopez (2012) is not involved in Sinhala.

(36)

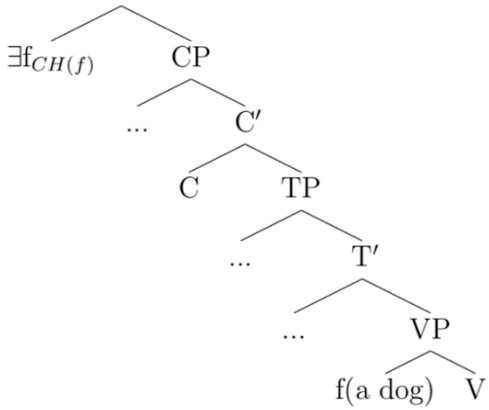

Figure 4.

(37)

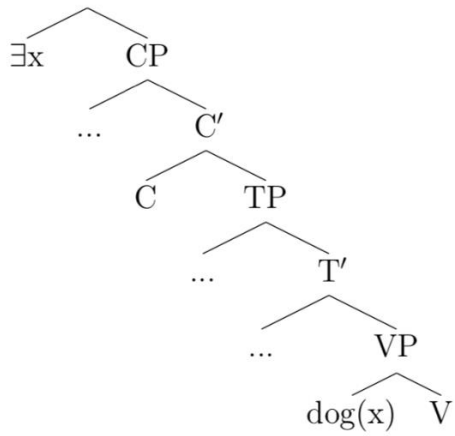

Figure 5.

4. Conclusion and Recommendation

This paper proposed a semantic analysis of specificity marked indefinite noun phrases in Sinhala. It showed that a choice function-based analysis is able to uniformly account for the specificity marked by three strategies: morphological marking, scrambling and pragmatics. It claimed that a choice function-based analysis can be applied to interpret an indefinite regardless of its position in a syntactic structure in Sinhala. The claims in this paper with respect to application of choice functions were based on the evidence from Sinhala. It is proposed that the hypothesis taken up in this study be tested with data associated with indefinite noun phrases in other less studied languages in the world in order to reach cross-linguistic generalisations.

5. References

Aissen, J. (2003). Differential object marking: Iconicity vs. economy. *Natural Language and Linguistic Theory*, 21(3), 435–483.

Bhatt, R. and Anagnostopoulou, E. (1996). Object shift and specificity: Evidence from ko- phrases in Hindi. In *Papers from the 32nd Regional Meeting of the Chicago Linguistics Society*, Linguistics Society, Chicago, 11–22.

Bossong, G. (1985). Markierung von aktantenfunktionen im guaranı: Zur frage der differentiellen jektmarkierung in nicht-akkusativischen sprachen. *Relational Typology, Berlin et al*: Mouton, 1–29.

Chung, S. and Ladusaw, W. A. (2004). *Restriction and saturation*, volume 42. MIT press.

Enç, M. (1991). The semantics of specificity. *Linguistic inquiry*, 1–25.

Gair, J. W. (1998). *Studies in South Asian Linguistics: Sinhala and Other South Asian Languages*. Oxford University Press.

Gunasekara, A. M. 1891. *A comprehensive Grammar of the Sinhalese Language*. G. J. A. Skeen Government Printer, Colombo, Ceylon.

Karimi, S. (2003). On object positions, specificity and scrambling in Persian. *Word order and scrambling*, 91–124.

Kratzer, A. (1998). Scope or pseudoscope? are there wide-scope indefinites? *Events and grammar*, Springer, 163–196.

Kratzer, A. and Shimoyama, J. (2002). Indeterminate pronouns: The view from Japanese, in Yukio Otsu (eds), Proceedings *of 3rd Tokyo conference on psycholinguistics*, pp. 1-12.

Kuroda, S. Y. (1965). *Generative grammatical studies in the Japanese language,* PhD thesis, Massachusetts Institute of Technology.

Lopez, L. (2012). *Indefinite Objects: Scrambling, Choice Functions, and Differential Marking*. MIT Press, Cambridge.

Reinhart, T. (1997). Quantifier scope: How labor is divided between QR and Choice Functions. *Linguistics and philosophy*, 20(4), 335–397.

Saito, M. (1992). Long distance scrambling in japanese. *Journal of East Asian Linguistics*, 1(1), 69–118.

Schwarzschild, R. (2002). Singleton indefinites. *Journal of Semantics*, 19(3), 289–314.