

A Dependent Marking Approach to the Information Marking of Shilluk

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ABSTRACT

This paper aims to apply the dependent marking theory to shed light on the distribution of the information markers in Shilluk, which can be divided into two types: marked and unmarked. Focus belongs to the marked type, while Topic belongs to the unmarked type. This paper claims that information marking in Shilluk consists of two steps, with the marked type assigned in Step 1 and the unmarked type in Step 2. In Step 1, if an NP is c-commanded by another NP in a domain, it is assigned the feature [FOC]. In Step 2, if there is a remaining NP that has received no marking in Step 1, it is assigned [TOP]. Topic carries no marking, which gives rise to the pattern “no marking before the verb.”

Keywords: Shilluk, information marking, dependent case approach, Focus, Topic

1. Introduction

Shilluk, which is spoken by the Shilluk people of South Sudan and Sudan, displays peculiar sentence patterns.¹⁾ There are three types of Voice in Shilluk: Subject Voice (Active), Object Voice (Passive), and Applicative Voice (Remijsen & Ayoker, 2018). Subject Voice has no marking on V, but Object Voice and Applicative Voice have special markings on V. More specifically, Subject Voice maintains the tone of the root, whereas Object Voice and Applicative Voice carry different tones from the root. For instance, the verb *càm* ‘eat’ is realized as *càm* for the Subject Voice construction, as *ĉàm* for the Object Voice, and as *cāaam* for the Applicative Voice.

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1) The full lineage path of Shilluk is as follows: Northern Luo < Luo < Luo-Burun < Western Nilotic < Nilotic < Eastern Sudanic < Nilo-Saharan.



- (1) a. Root: cà̀m ‘eat’
- b. Subject Voice: cà̀m
- c. Object Voice: cá̀m
- d. Applicative Voice: cā̀am

It is also noteworthy that Shilluk is a V2 language in that the second position must be occupied by a verbal complex,²⁾ and the first position must be occupied by an NP with no marking.

- (2) [NP V ...]³⁾

There is a co-occurrence relation between the clause-initial constituent and the voice marking on V, although it is not tight for Subject Voice. The tone for Object Voice co-occurs with clause-initial O, and the tone for Applicative Voice co-occurs with a clause-initial applicative argument.

- (3) a. Object Voice
- [O V_(Object Voice) ...]⁴⁾

2) There are some exceptions. For instance, V occupies initial position in existential constructions.

- (i) dā̀a d́óor-í twóonj
 existential predicate.FOC axe-PRT Twong
 ‘There is Twong’s axe.’ (Remijsen & Ayoker, 2018: 12)

3) Since Koster (1975) and Den Besten (1977/1983), it has been assumed that V2 results from V-to-C movement and Raising into SPEC-C, as illustrated in (ia-c).

- (i) a. [C [T ... XP ... V ...]]: A Series of Head Movement
- b. [C [T V] [[F-Ŵ] ... XP ... Ŵ ...]]: Raising into SPEC-C
- c. [CP XP C [T V] [[F-Ŵ] ... XP ... Ŵ ...]]

I assume that Shilluk displays V2 for the same reason.

4) In Object Voice Constructions, O occupies a preverbal position, and the semantic subject or A co-occurs with either *li* or *li*, as shown in (i).

- (i) djèl á-cám ṽṽ mʌʌʌṽ (O V A)
 goat PST-eat:OBJ Voice(OV) II friend:[PL]
 ‘The friends ate the goat’ (Remijsen & Ayoker, 2018: 17)

There are two different views about the grammatical status of *li/li*: the view that it is an ergative case marker (Miller & Gilley, 2001; König, 2008, 2012), and the view that it is a preposition (Westermann, 1912; Tucker, 1955; Remijsen & Ayoker, 2018). This paper assumes that it is not an ergative case marker but a preposition.

b. Applicative Voice

[Applicative Argument V_(Applicative Voice) ...]

On the other hand, if V has an unmarked tone—the tone for Subject Voice, the initial position is usually occupied by S, but it can be occupied by O when S has a special marking.

(4) Subject Voice

a. [S V_(Subject Voice) ...] (Type 1)

b. [O V_(Subject Voice) S_{Special tone}] (Type 2)⁵⁾

This study is mainly concerned with Subject Voice. Sentences (5-6) are examples of Type 1 and Type 2, respectively.

(5) mʌʌʌĩ á-càm djél⁶⁾ (S V O)

friend:[PL] PST-eat goat

‘The friends ate the goat’⁷⁾

(Remijsen & Ayoker, 2018: 17)

(6) djél á-càm gɛn (O V S)

goat PST-eat they:[-Topic] Marking

‘They ate the goat.’

Sentence (5) appears to be a typical transitive construction, but it is peculiar in that the postverbal constituent, O, must be focused (Miller & Gilley 2001:36): that is, the object *djél* ‘goat’ must be focused. Other than that, there is no marking to indicate which one is S and which one is O. Sentence (6) is also peculiar in that O occupies the clause-initial position although it is a Subject Voice Construction.

The major claim made in this paper is that Shilluk makes use of information markers to distinguish between arguments. There have been several attempts to describe the information structure of Shilluk, but to the best of my knowledge, there have been no attempts to explain the information structure of Shilluk from the perspective of minimalism or the GB theory. This study explores the possibility of extending the dependent approach to the information structure of Shilluk. More

5) Type 2 is classified as Subject Voice based on the unmarked tone of V, although the topic position is occupied by O.

6) This paper follows the Leipzig glossing rules for abbreviations.

7) Underline indicates focus.

precisely, this paper claims that just as there are two types of case—dependent and unmarked types, there are two types of information markers. In Shilluk, topic is unmarked, whereas focus is dependent.

(7) Two Types of Information Markers

- a. Unmarked: Topic
- b. Dependent (Marked): Focus

By extending the dependent case theory proposed by many linguists (Marantz, 1991; Bittner & Hale, 1996; Bobaljik, 2008; Baker & Vinokurova, 2010; Preminger, 2014; Levin & Preminger, 2015; Baker, 2015, among others), I propose that the dependent information markers are assigned in Step 1, and the unmarked information marker is assigned in Step 2. In Step 1, if an NP is c-commanded by another NP in a domain, it is assigned the feature [FOC].⁸⁾ For instance, O is assigned [FOC] in (8a).

- (8) a. [S V O]: Assignment of Focus to O (Step 1)
 b. [S V O_[FOC]]

In addition, if there is an NP that has received no information marking, it is assigned [TOP], which is not phonetically realized. S is assigned [TOP] in (8b), and it undergoes Topicalization, as shown in (9b-c).

- (9) a. [S V O_[FOC]]: Assignment of Topic to S
 b. [S_[TOP] V O_[FOC]]: Merger with C, Raising of V, and Topicalization of S
 c. [S_[TOP] [CV] [S_[TOP] V O_[FOC]]]

In short, this study claims that Shilluk makes use of information markers to distinguish between two arguments with no marking, and the dependent marking theory sheds light on the distribution of the information markers in Shilluk. More specifically, information marking in Shilluk is governed by the general principle in (10).

8) Bošković (2008, 2012, 2013) proposes that there are two types of languages: DP-languages and NP-languages. In the former type 'traditional' NPs are actually DPs, and in the latter they are NPs. One of the diagnostics for the NP languages is the absence of articles. I assume that Shilluk is an NP-language on the ground that it has no articles.

- (10) If there are two undistinguishable NPs in a domain, one of them is assigned a special marking.

It will be shown that this claim provides a principled account for the distribution of the information markers in Shilluk.

2. A Dependent Marking Approach to Shilluk

After introducing how nominative case and accusative case are assigned in the dependent case approach, this section claims that the dependent case approach can be extended to the distribution of the information markers in Shilluk.

2.1. Dependent case approach

There are two major approaches to case assignment in minimalism: the head-based approach (Chomsky, 2000, 2001) and the dependent case approach. According to the dependent case approach, if there are two NPs in a domain, one of them is assigned a dependent case, and the remaining NP is assigned an unmarked case (Marantz, 1991; Bittner & Hale, 1996; Bobaljik, 2008; Baker & Vinokurova, 2010; Preminger, 2014; Levin & Preminger, 2015; Baker, 2015, among others). In the nominative-accusative case system the dependent case is accusative, and the unmarked case is nominative. The dependent case and the unmarked case are assigned in two steps. In (11a) the dependent case is assigned to the lower NP in Step 1, and then the remaining NP is assigned the unmarked case in Step 2.

- (11) a. [NP1 ... NP2]: Assignment of the Dependent Case (Accusative Case) to NP2
(Step 1)
b. [NP1 ... NP2-Acc]: Assignment of the Unmarked Case (Nominative) to NP1
(Step 2)
c. [NP1-Nom ... NP2-Acc]

On the other hand, in the ergative-absolutive case system the dependent case is ergative, while the unmarked case is absolutive. In Step 1 the higher NP is assigned the dependent case—ergative case, and in Step 2 the lower NP is assigned the unmarked case—absolutive case.

- (12) a. [NP1 ... NP2]: Assignment of the Dependent Case (Ergative Case) to NP1
(Step 1)
- b. [NP1-Erg ... NP2]: Assignment of the Unmarked Case (Absolutive) to NP2
(Step 2)
- c. [NP1-Erg ... NP2-Abs]

The remainder of this section is devoted to showing that if we extend the system in (11) to the information marking pattern of Shilluk, we can explain the two different types of Subject Voice constructions.

2.2. Extension of the nominative-accusative case system to focus assignment

The nominative/accusative case assignment system can be formalized as follows:

(13) Nominative-Accusative Case Assignment Rule

a. Step 1

If an NP with no case is c-commanded by another NP with no case in a domain, assign accusative case to it.

b. Step 2

Assign the unmarked case (nominative case) to the remaining NP.

What is meant by ‘domain’ here is a phrase. It will be shown that if we simply replace accusative case and nominative case by focus and topic respectively, we can capture the information marking pattern of Shilluk.

Before getting started, it is worthwhile to note that the preverbal argument expresses shared information. Sentences (14b) and (15b) are answers to (14a) and (15a), respectively. In both sentences, the subject *gé* refers back to *lùm* ‘grass:P’, which appears in the previous question.

- (14) a. *lùm á-gwók k̄r d̄i*
grass:P PST-make:OV PRP how
‘What was done with the vegetables?’
- b. *gé á-càm*
they PST-eat:OV
‘They were eaten’

- (15) a. j̩ɪ á-càm ŋ̄
 people PST-eat what
 ‘What did the people eat?’
 b. g̩é á-càm l̩m
 they PST-eat grass:[PL]
 ‘They are vegetables’

Sentences (14b) and (15b) suggest that the preverbal subject provides shared information in unmarked constructions. On these grounds, Remijsen & Ayoker (2018) claim that the preverbal position is a topic position in Shilluk.

3.1. Type 1 subject voice construction (SVO)

Let us now extend the dependent case theory to focus assignment. Shilluk seems to exhibit the following pattern: focus is assigned to the second NP—O, and the remaining NP is assigned the unmarked information feature—[Topic].

- (16) a. [S V O]: Assignment of Focus to O
 b. [S V O_[FOC]]: Assignment of Topic to S
 c. [S_[TOP] V O_[FOC]]

This indicates that focus assignment patterns like accusative case assignment. Thus, we can formalize the focus assignment rule as in (17), while assuming that the local domain for dependent information marking is the phase headed by a voice head.

(17) Focus/Topic Assignment Rule

a. Step 1 (Dependent Information Feature Assignment)

If (i) an NP with no marking is c-commanded by another NP with no marking in the same phase headed by voice, assign the feature [FOC] to it.

b. Step 2 (Unmarked Information Feature Assignment)

Assign [TOP] to the remaining NP with no marking.⁹⁾

9) Kornfilt & Preminger (2015) propose that nominative Case is no Case: it is a marker for arguments with no Case. If we extend their approach to topic, the feature [TOP] is no information marker: it is a marker for arguments with no information feature. I leave this issue for further research.

This approach is supported by the phenomenon that focus is not given to O when S is assigned focus. Being an answer to the question in (20a), (20b) contains a focused phrase: that is, the subject *jɔ̀ɔ̀m-ɔ̀* is focused because it provides an answer to *mɛ́n* ‘who’.

- (20) a. áa mɛ́n à á-ǹ̀k p̣̀k
whQ who FOC PST-kill pot
‘Who broke the pot?’
b. jɔ̀ɔ̀m-ɔ̀ à á-ǹ̀k p̣̀k
wind-[-PL] FOC PST-kill pot
‘The wind broke the clay pot’ (Remijsen & Ayoker, 2018: 23)

In this case, the object is not focused. This makes sense if structural focus is assigned when there are two NPs with no marking. In (21a) S is focused, and so there is no need to assign [FOC] to make a distinction. O is therefore not focused. Sentence (20b) is a focus construction, in which C has the feature [uFOC] instead of [uTOP]. Being a focused phrase, S is attracted to SPEC-C, as in (21b).

- (21) a. [S_{FOC} V O]: No Dependent Information Marker (Focus) Assignment,
Merger with C_[uFOC] and Focus Movement
b. [S_{FOC} C_[uFOC] [S_{F0E} V O]]

It is also noteworthy that focus is not assigned to O in the Applicative Voice. In (22) the object *kó̄ūɪ̄-ɔ̀* ‘thorn’ is not focused.

- (22) ɲó̄om á-ká̄-1 kó̄ūɪ̄-ɔ̀
awl PST-take.out:AppV thorn-[-PL]
‘Smb. took out the thorn with an awl.’ (Remijsen & Ayoker, 2018: 14)

Sentence (22) can be represented as (23a), where the Applicative Voice head has a special tone. The dependent information marker—focus—is utilized for making a distinction, and it is not required when the applicative head and the feature on the applicative argument distinguishes between Instr and O. Therefore, O is not focused.

- (23) a. [_{VP} V_[AppV] [_{VP} V O Instr_[AppV]]]: Raising of Instr_[AppV] to SPEC-v
 b. [_{VP} Instr_[AppV] V_[AppV] [_{VP} V O]]: Spell-Out of VP
 c. [_{VP} Instr_[AppV] V_[AppV] [_{VP} ~~V~~ Θ]]: Assignment of [TOP] to Instr
 d. [_{VP} Instr_{[AppV][TOP]} V_[AppV] [_{VP} V O]]

I assume that the voice head is a phase head and so VP is spelled-out after voiceP is completed, as shown in (23a-b). After spell-out, Instr is assigned the feature [TOP] in (23d) in accordance with (17b).

Thus far, we have seen that focus is a dependent information marker. Shilluk is not alone in that respect. Luwo and Pāri, which also belong to West Nilotic, pattern like Shilluk. According to Storch (2014), the SVO construction in Luwo is used when O is either highlighted or focused. In (24a), for instance, neither A nor O carry any marking, and O must be focused. Andersen (1988, 1990) points out that Pāri displays the same pattern, as shown by (24b), where the object *pònd'-ò* 'boy' is focused.

- (24) a. Luwo
 Uthónh à rék gwóy áríòw.
 Hyena tries to catch dog:[PL] two
 'Hyena tries to catch two dogs' (Storch, 2014: 198)
- b. Pāri
 dáag-ò á-nèen-a pònd'-ò
 woman AGR-see-FOC boy
 'The woman saw the boy.' (Remijsen, Miller-Naudé & Gilley, 2016: 33)

This follows if focus is a dependent information marker in these languages. In (25a), for instance, O is focused because it is c-commanded by another NP in the same phase.

- (25) a. [Uthónh à rék gwóy áríòw]: Assignment of Focus to *gwóy áríòw*
 Hyena tries to catch dog-PL two 'two dogs'
- b. [Uthónh à rék gwóy áríòw_[FOC]]
 Hyena tries to catch dog-PL two

To summarize, in Shilluk, Luwo, and Pāri, focus is utilized for a distinction when there are two NPs with no marking in the same phase.

3.2. Type 2 subject voice construction (OVS)

Let us recall that there is another type of Subject Voice Construction: the O V _{Spronoun} construction. This construction is subject to the following two conditions: (i) S must be a pronoun, and (ii) the pronoun must have a special tone. In (26a), which is an example of Type 2, the subject is *gên* ‘they’, which has a special tone—Low Fall. The unmarked pro-form for third person plural is *g’é*, which has High tone, as illustrated in (26b).

- (26) a. *djél á-càm gên* (O V S)
 goat PST-eat they:SBJ Marking
 ‘They ate the goat.’
 b. *g’é á-càm djèl*
 they PST-eat goat
 ‘They ate the goat.’ (Remijsen & Ayoker, 2018: 33)

The contrast between (26a) and (26b) indicates that S cannot occur in initial position if it has a special tone: Low Fall.¹¹⁾ This is supported by the intransitive construction (27), which shows that if S has the special tone, it cannot undergo Topicalization.

- (27) *kàa a-l’áááǎ gên*
 when PST-disappear they:SBJ Marking
 ‘When they disappeared, [...]’ (Remijsen & Ayoker, 2018: 34)

According to Remijsen, Miller-Naudé & Gilley (2016) and Remijsen & Ayoker (2018), the special tone indicates that its bearer is a subject. Precisely speaking, the function of the marker is to prevent the subject—the structurally highest argument—from undergoing Topicalization. If an argument carries no marking and occupies the structurally highest position, it is realized as a structural topic—the topic that occurs in SPEC-Topic. The special marking blocks the highest argument from being a structural topic. This being so, we are led to conclude that it is simply a marker

11) It is noteworthy that the special tone can be assigned to a non-Agentive postverbal subject, as shown in (27). This suggests that it is not an ergative case marker. This study claims that it is an anti-topic marker. See Remijsen, Miller-Naudé & Gilley (2016) and Remijsen & Ayoker (2018) for the view that it is a subject marker.

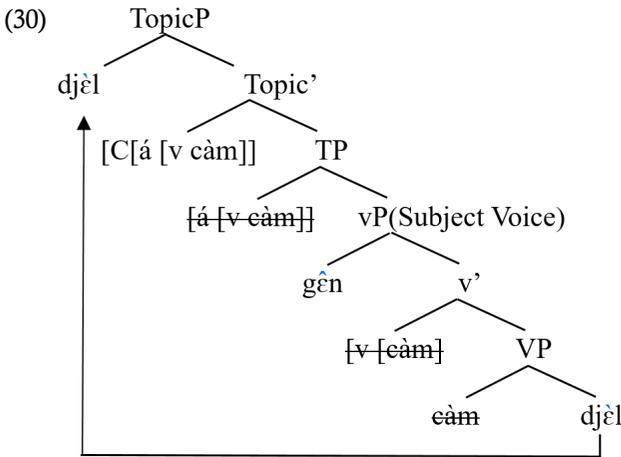
indicating that its bearer is not a structural topic.¹²⁾ Furthermore, I argue that it is not assigned structurally, but it is an inherent marker.¹³⁾ In (28a) the subject has a special marking, so that it cannot be assigned the feature [Topic].

- (28) a. V S_{Special tone}: No Topic-Feature Assignment to S. Hence no Topicalization
 b. * S_{Special tone} V

On the other hand, in (29a) the topic feature can be assigned to O. Therefore, O can undergo Topicalization.

- (29) a. S_{Special tone} V O: Assignment of [TOP] to O
 b. S_{Special tone} V O_[TOP]: Head Movement and Topicalization
 c. O_[TOP] V S_{Special tone}

For instance, (26a) is represented as (30), in which *djɛ̀l* ‘goal’ undergoes Topicalization and the order OVS is generated after a series of head movement.



12) If it is simply a marker for [-Topic], we can conclude that there is no Case marker at all in Shilluk.

13) The anti-topic marker appears even in the Applicative Voice construction. This suggests that it is not assigned structurally.

- (i) pāal á-cām (a) gɛ̀n kwān
 spoon PST-eat:AppV (FOC) they:SBJ Marking porridge
 ‘They used the spoon to eat porridge.’ (Remijsen & Ayoker, 2018: 41)

Let us now summarize what has been claimed so far. According to (17a-b), the feature [FOC] is a dependent feature, whereas [TOP] is an unmarked feature. In Step 1, [FOC] is assigned, and in Step 2 [TOP] is assigned to the remaining NP with no marking. Either Type 1 or Type 2 is generated, depending on whether S has an inherent anti-topic marker. If S has no marking and so O is focused in Step 1, S is assigned [TOP] in Step 2.

(31) Type 1

- a. [S v [V O]]: Assignment of [FOC] to O (Step 1)
- b. [S v [V O_{[FOC]]]]: Assignment of [TOP] to S (Step 2)}
- c. [S_[TOP] v [V O_{[FOC]]]]: Merger with T and C, and Topicalization}
- d. [_{TopicP} S_[TOP] C [_{TP} T [S_[FOCP] v [V O_[FOC]]]]]]

On the other hand, O can occupy the clause-initial position if S is marked by an inherent anti-topic marker, so that O is assigned [Topic] in Step 2.

(32) Type 2

- a. [S_[Anti-Topic Marking] v [V O]]: Assignment of [TOP] to O (Step 2)
- b. [S_[Anti-Topic Marking] v [V O_{[TOP]]]]: Merger with T and C, a Series of Head Movement, and Topicalization}
- c. [_{TopicP} O_[TOP] CTvV [_{TP} TvV [S_[SBJ Marking] vV [V O_[FOCP]]]]]]

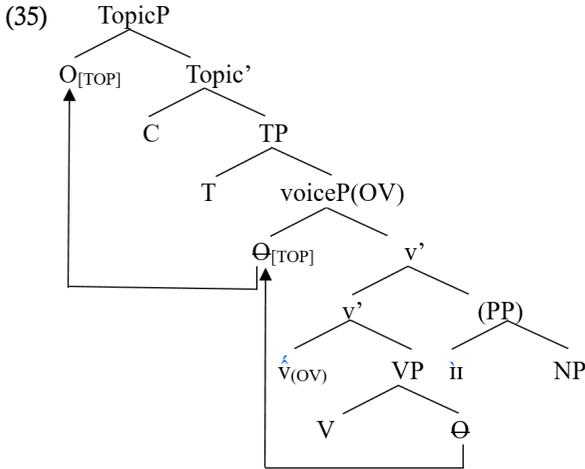
3.3. Object voice and applicative voice

The main concern of this study is Subject Voice. The remainder of this section briefly shows that Object Voice and Applicative Voice constructions can be handled under the dependent marking approach. Let us first consider Object Voice. The Object Voice light verb $\hat{v}_{[OV]}$ optionally licenses an Agentive Phrase in the form of PP. Hence, O is the only unmarked NP inside vP, and hence it is assigned the feature [TOP].

- (33) a. [$\hat{v}_{[OV]}$ [_{VP} O V ([_{PP} A])]]: Raising of O to SPEC-v
- b. [O $\hat{v}_{[OV]}$ [_{VP} Θ V ([_{PP} A])]]: Assignment of [TOP] to O in accordance with (15b)
- c. [O_[TOP] $\hat{v}_{[OV]}$ [_{VP} Θ V ([_{PP} A])]]

For instance, (34) is schematically represented as (35).

(34) τῷ ἀ-ἔειπ (ἱι τῶσσι)
 spear PST-throw:OV (by Twong)
 'the spear was thrown by Twong' (Remijsen & Ayoker, 2018: 26)



In (35), the OV head /^h/ licenses the PP ἱι τῶσσι, so O is attracted to SPEC-voice and then to SPEC-C. It is also noteworthy that when the voice head for OV /^h/ is combined with the verb ἔειπ 'throw', the verbal complex is pronounced as ἔειπ. the tone for OV overrides the tone for the verb ἔειπ.

(36) ^h + ἔειπ = ἔειπ

Finally, let us consider Applicative Voice, which promotes an oblique argument to an external argument of the verb. The Instrument, which is realized as a PP, can be realized as an NP in the Applicative Voice Construction (Remijsen, Miller-Naudé & Gilley, 2016; Remijsen & Ayoker, 2018). The Applicative Voice is realized as either Mid /-/ or High Fall to Mid /^h-. Just like the object voice head, the applicative voice head optionally licenses A in the form of a PP.¹⁴

(37) a. [_{voiceP} NP_[AppV] \bar{v}/\hat{v}^- [_{AppV}] [V O ([_{PP} A])]]: Assignment of [TOP] to NP_[AppV].
 b. [_{voiceP} NP_{[AppV][Topic]} \bar{v}/\hat{v}^- [_{AppV}] [V O ([_{PP} A])]]

14) In fact, it can carry an inherent anti-topic marker, as mentioned in footnote 11.

In Shilluk, information markers can be divided into two types: unmarked and dependent types. As stated in (17a-b), repeated here as (40a-b), the dependent marker is assigned in Step 1, while the unmarked marker is assigned in Step 2.

(40) a. Step 1

If (i) an NP with no marking is c-commanded by another NP with no marking in the same phase headed by an unmarked *v*, assign the feature [FOC] to it.

b. Step 2

Assign [TOP] to the remaining NP(s) with no marking.

To conclude, the distribution of Information Markers follows from the Dependent Marking Principle in (10), which is repeated as (41).

(41) Dependent Marking Principle

If there are two undistinguishable NPs in a domain, one of them is assigned a special marking.

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