



**Research article**

# Question-word movement in Tiv

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## Abstract

This paper investigates question formation in the Tiv language. It examines the possibility of Q-word extraction from the subject position affecting the agreement marker in the Tiv language. Do prepositions have inherent stranding features that seem to license or block complete Q-word extraction from the clausal adjunct position? The paper submits that the canonical agreement marker “a” is sensitive Q-word extraction, but more sensitive to the tense of the construction from which a Q-word is extracted. It shows that Chomsky’s multiple specifier hypothesis cannot serve as an escape hatch for all constructions. The paper submits that [+/- complement] feature is an inherent feature of prepositions that come to play from the numeration in the Tiv language: the [- complement] feature of a preposition licenses preposition stranding, while the [+ complement] feature of a preposition cannot license preposition stranding, and might at least require a resumptive pronoun in the extraction site.

## Keywords

Tiv; minimalist program; Q-word; extraction; resumption

## For citation

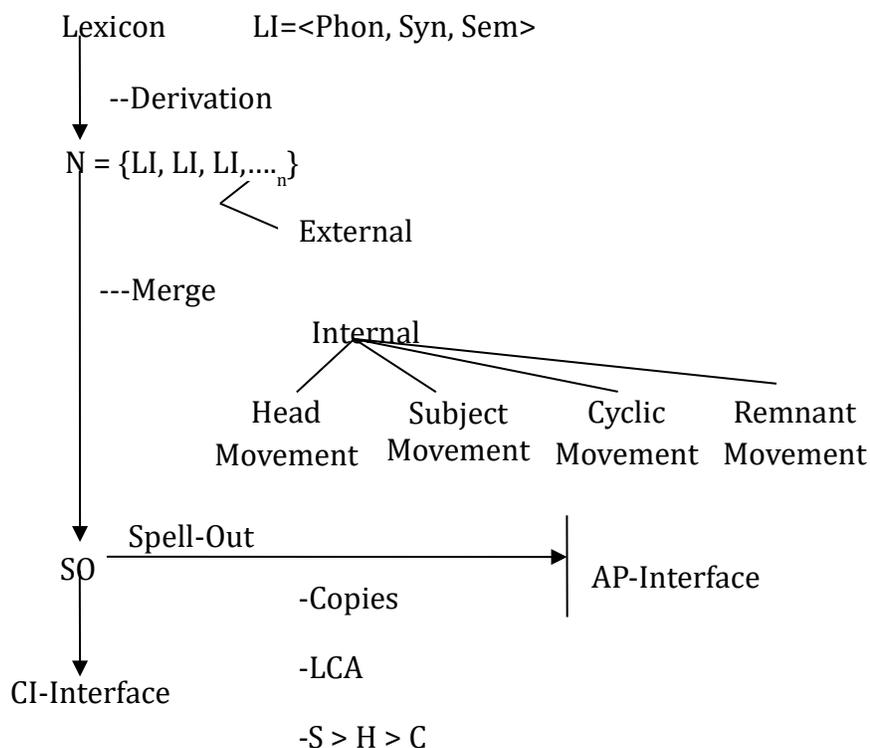
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## 1. INTRODUCTION

Question formation has been a subject of interest in the emerging theories of generative grammar *ab initio*. This paper uses the minimalist program – a more mechanical approach to grammatical computations – as a toolbox for explaining the computational nuances that exist in question formation in languages in the Tiv language.

The Minimalist Program is an economic and elegant approach to grammar that accounts for computations using natural approaches to constructions put forward by Chomsky (1993, 1995, 2000, 2001, 2004, 2006, 2008). Irrespective of its effectiveness, the minimalist program is not seen as a theory of grammar (Ouhala 1999). In fact, Sessarego (2012) views the minimalist program as a model of grammar that upholds the fact that the component of the human mind devoted to language, language faculty, is optimal; and is defined by a number of smallest syntactic operations, and it is common to all human beings. The Minimalist program is schematized thus:



From: Collins (2011)

The above schema illustrates the *modus operandi* of the minimalist program: For every language, there is a lexicon which is made up of lexical items. These lexical items are brought into the numeration where they are being selected and merged – externally when the merge is of items that are new in the derivation, while internal merge is of items that are already existent in the derivation, but scrambled in the forms of head movement, subject movement, cyclic

movement and/or remnant movement – to form a syntactic object (SO). The formed syntactic objects are then transferred to the conceptual intentional (CI) for semantic interpretation, and to the Articulatory-Perceptual (AP) for phonetic interpretation in the forms of overt copies, in accordance with the linearization requirement (LCA) of Kayne (1994). The question then is how can interrogative constructions in Tiv be derived using the apparatus presented above?

In answer to the above question, this paper is organized as follows: section one identifies question operators in Tiv and generally examines question formation operation in Tiv. The second section examines Q-word movement from the subject position. Section three considers the possible effect of Q-word extraction from the subject position in subject-verb agreement in the language. Section four takes a look at Q-word movement from the object position of a clause. Section five examines the movement of Q-words from adjunct positions in Tiv clauses, while section six concludes the paper.

## 2. Question operators and operation

The Tiv language has its own Q-operators/words. The term Q-operator is preferred in this analysis because the words in question do not begin with Wh- as those of English language. Q-words or operators in Tiv include: *Hàná* (where), *Nyí* (what), *Hànmà shiè* (when), *ínjá nèná/í èr nèná* (why), *áná* (who, whom, whose) *Nèná* (how), *Hànmà* (which). These Q-operators can be found in argument positions within a sentence as in (1b) below computed in the context of (1a) below, and they can be found at non-argument positions in the Tiv language as in (1c) below: a position that is structurally higher with discourse effects.

- |     |                      |          |          |         |
|-----|----------------------|----------|----------|---------|
| 1a. | Térsòò               | á        | píne     | Myóm    |
|     | Térsòò               | AgrS.PST | ask.PST  | Myóm    |
|     | ‘Térsòò asked Myóm’  |          |          |         |
|     |                      |          |          |         |
| 1b. | Térsòò               | á        | píne     | áná     |
|     | Térsòò               | AgrS.PST | ask.PST  | who     |
|     | ‘Térsòò asked who?’  |          |          |         |
|     |                      |          |          |         |
| 1c. | Áná                  | Térsòò   | á        | píne?   |
|     | Who                  | Térsòò   | AgrS.PST | ask.PST |
|     | ‘Who did Térsòò ask’ |          |          |         |

(1a) above is a declarative sentence with “Térsòò” and “Myóm” as the subject and object respectively. In (1b) however, “áná” occupies the object position which is an argument position initially occupied by “myóm” in (1a). In this case, “áná” is an argument position in (1b) functioning as a Q-pronoun. In (1c) “áná” appears before “Térsòò”, thereby making it structurally higher than any other item in the construction, where it completely produces the interrogation effect, as opposed to (1b) where it produced an echo question effect. The alternation in the position of Q-words like “áná” in the data above implies that Q-formation in the Tiv language is

derived via Q-movement of a Q-word from an argument position to a non-argument position where it is not assigned a theta role.

The idea of moving Q words out of the minimal sentence is to give it matrix scope as in (1c) above; else, questions with Q words *in situ* are interpreted as echo questions in Tiv with embedded scope: restating what someone has already said in a discourse thus lacking the scope that will enable it to be interpreted and given the force of interrogation as in (1b) above. There are basically two forms of overt Q movement in Tiv:

- i. Complete overt movement and
- ii. Partial overt Q movement.

In the former, the Q-word is moved from an extraction site leaving a copy that will receive a null spellout as in:

2.      Áná    Térsòò      á                      píné              áná?  
           Who    Térsòò      AgrS.PST          ask.PST          who?  
           ‘Who did Térsòò ask’

In (2) above, “áná” moves to the matrix scope position only leaving behind a copy that would receive a null spellout, which would be used for reconstruction effects.

Partial Q movement is however an opposite of overt partial movement when judged from the extraction site because overt fragments of the moved constituents are left in the extraction site; usually, resumptive pronouns that could be semantically interpretable. The copies left control the A-chain in the minimal sentence as previously stated as in:

3.      Nyí    Sésùgh      á                      témá              shá    nyí    mín?  
           What    Sésùgh      AgrS.PST          sit.PST          on    what    it?  
           ‘what did Sésùgh sit on’

From (3) above, “mín” is left at the extraction site while “nyí” is moved to the sentence initial position for scope leaving behind a null “nyí” for reconstruction. “nyí” and “mín” enter the derivation as a big DP (Angitso 2012, Ademola 2010).

Q-words in Tiv bear valued interpretable [+Q] feature as goals and are attracted to move via agree to the edge of an abstract (interrogative) force head, which licenses the Q-feature of the Q-word, thereby deactivating its status as a pronoun. The abstract (interrogative) force head is proposed because a Q-word in Tiv is not base generated in a matrix scope position, but only moves to occupy such a position if its movement is requested by a corresponding head already existent higher in the clause structure – be it overt or covert. Since such a head or marker cannot be found in the Tiv language, it would be regarded as lexically non-resourceful language for question markers, compared to languages that have overt question markers as head that might trigger movement. The Forc head has unvalued interpretable Q features as a probe that agrees with the Q-word and causes it to move. In this agreement, the Q-feature are valued but not deleted as in the case of uninterpretable features as in:

4.      Áná   Térsòò      á              píné              áná?  
           Who   Térsòò      AgrS.PST      ask.PST          who?  
           ‘Who did Tersoo ask?’

In (4) above, there is no special morphology for question formation, but the interrogation force is derived from the fact that the feature is valued but not deleted.

Having established that there is no morphologically overt distinct question marker in the Tiv language, it is pertinent to state that even though the Tiv language is a language with rich inflection in terms of noun class, an extracted Q-item that has been moved to the force projection, generally does not occur with an overt Complementizer<sup>1</sup> which could have been drawn from the noun class system of the language to mark agreement. In other words, there is no overt Complementizer in question formation in the Tiv language as in:

- 5a.      Áná   **nàn**   vé              héén  
           Who   **pro**   come.PST      here  
           ‘Who came here’.
- 5b.      \*Áná   ér    **nàn**   vé              héén  
           Who   that   **pro**   come.PST      here  
           ‘who came here’
- 5c.      \*Áná   mbà   **nàn**   mbà   vé              héén  
           Who   COP   **pro**   COP   come.PST      here  
           ‘who came here’

From the constructions above, (5a) is grammatical because there is no overt head in the force projection in terms of an externally merged Complementizer as in (5b), or an internally merged noun class copular to the force head as in (5c). In synopsis, the Tiv language does not mark noun class agreement in the left periphery at least in question formation.

This trait of not allowing canonical complementizers such as “ér” in (5b) above or marking noun class agreement in the left periphery by allowing a corresponding noun class marker such as “mbà” in (5c) above as a complementizer to occur in the left periphery of the clause implies that Q-constructions in the Tiv language are not cleft constructions. Cleft constructions in the Tiv language require the presence of corresponding noun class complementizers such as “u”, “mba”, “ma”, etc to mark dependency. This leaves the relative construction as a typical example of a cleft construction in the Tiv language. For example:

- 6a.      [<sub>DP</sub> Iòr              mbà   vé      lú      lám-èn              mbà-lá]      vé      fá      kwàgh   gá  
           [<sub>DP</sub> People        RelM   they   Aux   talk-Impfv      NclM.Plu-that]   hey   know   thing   NegM  
           ‘[<sub>DP</sub> Those people who are talking] do not know’

1 The formation of questions in Tiv is significantly different from that of English. This is because the formation of simple questions in English involves basically two processes: head movement of T to Forc, because the two items have strong [Tns] features and [EPP] features that tend to attract and trigger movement.



- 6b. [DP Òr            ù        á        kéhé là]    ká    wán    nà.  
 [DP Man        RelM AgrS big    that] COP    child his  
 ‘[The man that is big] is his child’
- 6c.    Áná    nà    kéhé?  
 Who    pro    big  
 ‘Who is big’

From the data cited above, the subjects of (6a) and (6b) in the constructions above are relative constructions and they obligatorily possess complementizers that function as relative markers in the constructions so as to mark the dependency that exists there in. However, (6c) does not need a relative marker to function because it is not a cleft construction; as such there is no head-subordinate relationship to be marked in a Q-construction by the presence of a question marker.

### 3. Q-word movement from the subject position

The movement of Q-words in Tiv constructions is triggered by the strong [+Q] features possessed by the Q-words in agreement with the null Q-head in the left periphery of the clause. This can be done by copying Q-pronouns from argument positions into non-argument positions. When the Q-words are left *in situ*, such constructions are interpreted echo questions without matrix scope. For example:

- 7a. [TP Áná        yàm    ìkyóndú        ì        púpùú]?  
 [TP who        buy    cloth            of        white]]?  
 ‘Who bought a white cloth?’

In (7) above, the Q-word “áná” is in its original positions thereby making the question to be addressed as an echo question hence it tends to resound what has already been said in a declarative form.

“áná” must however be moved to the force projection for interrogative interpretation, and it obligatorily leaves a resumptive pronoun in the extraction site, as in:

8. [ForcP Áná        [TP ~~áná~~        nà    yam    ìkyóndu        I        púpúu]]?  
 [ForcP who        [TP ~~who~~        pro    buy    cloth            of        white]]?  
 ‘Who bought a whit cloth?’

In (8) the extraction of “áná” from the minimal clause leaves the generic pronoun “nà” at the extraction site as a resumptive pronoun.

The movement of a Q word from the subject position cannot be regarded as covert movement in the Tiv language since it is not ‘sneaky’ in nature even in the absence of a complementizer or a structurally higher question or noun class marker. For example:



- 9a. [<sub>ForcP</sub> nyí [<sub>TP</sub> nyí ì pìné Terna kwàgh]?  
 [<sub>ForcP</sub> what [<sub>TP</sub> what it ask Terna thing]?  
 ‘What questioned Terna?’
- 9b. [<sub>TP</sub> nyí pìné Terna kwàgh]?  
 [<sub>TP</sub> what ask Terna thing]?  
 ‘What questioned Terna?’

“nyí” occupies the edge of T and overtly moves to the edge of the force head in (9a) hence the presence of the resumptive pronoun “ì” in (9a) as opposed to (9b) from which (9a) is derived. This movement is not less expensive because “nyí” cannot still be interpreted as occupying the edge of T in (9a) because of the noticeable word-order variation of (9a) from (9b).

Moved Q-words can only hinder any other Q-word from moving because most phrasal movements in Tiv are into empty positions: a previous movement blocks subsequent movement in Tiv. It therefore means that the multiple specifier hypothesis (MSH) cannot be used for fronting a lower Q-word since the higher one has already being moved, therefore the blocked Q-word(s) which remains *in situ* to receive an embedded scope. For example:

- 10a. \*<sub>ForcP</sub> nyí áná [<sub>TP</sub> nà̀n yám nyí]]  
 [<sub>ForcP</sub> what who [<sub>TP</sub> pro buy what]]  
 ‘What did who buy?’
- 10b. \*<sub>ForcP</sub> ké nyí áná [<sub>TP</sub> nà̀n nyồr ke-nyí]]  
 [<sub>ForcP</sub> in what who [<sub>TP</sub> pro enter in what]]  
 ‘Into what did who enter?’
- 10c. \*<sub>ForcP</sub> hàná nyí [<sub>TP</sub> nyí ì nyíma ún hàná]]  
 [<sub>ForcP</sub> where what [<sub>TP</sub> what it bite him where]]  
 ‘Where did what bite him?’

In (10) above, the Q words have all been moved out of the minimal sentence into the edge of the force head thereby rendering the construction ungrammatical. The sentence would have been grammatical if the object Q words were allowed to stay in their original sites. In constructions such as (10a) – (10c) above, appeal cannot be made to the multiple specifier hypothesis as an “escape hatch” because of the overshadowing superiority effects exhibited by Q-words as in:

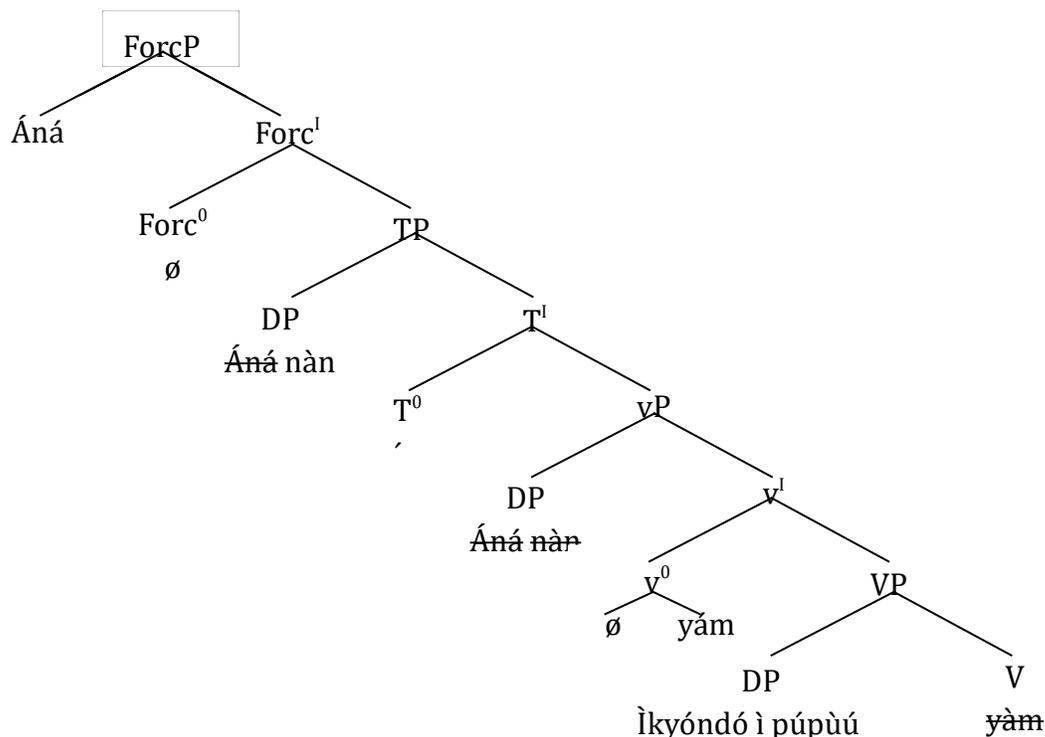
11. \*<sub>ForcP</sub> hàná [<sub>TP</sub> Tèrná á ôr [<sub>ForcP</sub> hàná [<sub>Forc<sup>II</sup></sub> nyí ér [<sub>nyí ì nyíma ún  
 hàná]]  
 [<sub>ForcP</sub> where [<sub>TP</sub> what AgrS say [<sub>ForcP</sub> where [<sub>Forc<sup>II</sup></sub> what that [what it bite him  
 where]]]]  
 ‘Where did Terna say it what bite him?’</sub>

The construction (11) above violates the Tiv question formation principle that does not permit a Q-word to occur with an overt Complementizer as in the embedded “ér” in the construction above. Secondly, even though “nyí” moved to the left periphery of the embedded construction, “hàná” ceased the tenet of the multiple specifier hypothesis as an escape hatch to move through to the matrix left periphery, hence the ungrammaticality of (11). This is an indication that Chomsky’s multiple specifier hypothesis cannot serve as an escape hatch for all constructions. The above data shows the potency of the Multiple specifier hypothesis is subject to the superiority condition of Chomsky (1973) at least in the Tiv language.

Q-words that require an overt pronominal copy in the extraction site come into the derivation with the pronominal materials merged together as a Big DP (Angitso 2012). The merge of the Q word and the resumptive pronoun is important so as not to violate by extension Chomsky’s (1995) Inclusiveness Condition (henceforth IC). For example:

12. [ForcP **Áná** [TP **áná** **nàn** yám ìkyóndú ì púpùú]]?  
 [ForcP who [TP **who** **pro** buy.PST cloth of white]]?  
 ‘Who bought a whit cloth?’

13.



Resumptive pronouns (such as “nàn” and “ì” from the data used in this paper) behave differently from canonical pronouns in terms of anaphoric reading. “nàn” as a resumptive pronoun can be locally A<sup>1</sup> bound in interrogative constructions. This implies that “nàn” is immune

to principle B of the binding theory which allows pronouns to be free within their governing category (GC). For example:

14a. *Áná nà̀n vé héén?*  
 Who **pro** come.PST here  
 ‘Who came here?’

14b. *Nyí ì yímá sé?*  
 What **it** bite us  
 ‘What bite us?’

From (14) above, “nà̀n” in (14a) and “ì” in (14b) can be interpreted as referring to the Q word “áná” and “nyí” respectively, therefore “áná” serves as the antecedent of “nà̀n” while “nyí” serves as the antecedent for “ì”. In (14b) “sé” as a pronoun does not refer to any item within the construction, hence it is free within the governing domain.

#### 4. Subject Q-word extraction and subject verb agreement in Tiv

The Tiv language makes use of a canonical agreement marker “á” to mark agreement between the subject and the verb within a clause. The agreement marker “á” also has pronominal properties. This agreement marker has an erratic behaviour in relation to Q-word extraction from the subject position: in context A it is phonetic and non-phonetic in context B.

The overtness of canonical subject-verb agreement marker in Tiv “á” is affected by the extraction of the Q item. As such, they do not make a phonetic appearance after the Q-word extraction has taken place, in one instance. For example:

15a. [<sub>TP</sub> Sésùgh á néngé bóò].  
 [<sub>TP</sub> Sésùgh AgrS.PST see.PST ball]  
 ‘Sésùgh watched (a) match’

15b. [<sub>ForcP</sub> áná [<sub>TP</sub> áná nà̀n néngé bóò]]?  
 [<sub>ForcP</sub> who [<sub>TP</sub> ~~who~~ **pro** see.PST ball]]  
 ‘Who watched (a) match?’

15c. \* [<sub>ForcP</sub> áná [<sub>TP</sub> áná nà̀n á néngé bóò]]?  
 [<sub>ForcP</sub> who [<sub>TP</sub> ~~who~~ **pro** AgrS see.PST ball]]  
 ‘Who watched (a) match?’

The above constructions (15a) – (15c) are past tense constructions. The marker “á” expresses agreement between the subject “Sésùgh” and the verb “néngé” in (15a). However, by questioning the subject in the declarative (15a) and the movement of the questioned subject to the force projection in the clausal left periphery in (15b), the agreement marker “á” does not surface; rather, a resumptive pronoun appears at the extraction site of the Q-word as in (15b).

(15c) is ungrammatical for a past tense interpretation. This in no way indicates that there is no concord in constructions such as (15b) when the marker is not present.

In future perfect tense constructions, the agreement marker makes an overt appearance. When the agreement marker is dropped as in the past tense constructions above, the construction would be ungrammatical for the intended temporal interpretation of future perfect tense. For example:

- 16a. [TP Sésùgh      à                    néngé            bòò].  
       [TP Sésùgh   AgrS.FUT   see.FUT        ball]  
       ‘Sésùgh should watch ball’
- 16b. [ForcP áná       [TP ~~áná~~        **nán**   à            néngé        bòò]]?  
       [ForcP who     [TP who        **pro**   AgrS.FUT   see.FUT       ball]]  
       ‘Who should watch ball?’
- 16c. \*[ForcP áná     [TP ~~áná~~        **nán**   néngé        bòò]]?  
       [ForcP who     [TP ~~who~~        **pro**   see.FUT       ball]]  
       ‘who should watch ball?’
- 16d. [TP Mátù       à                    néngè            bòò]  
       [TP Car       AgrS.FUT   see.FUT        ball]  
       ‘(A)car should watch ball’
- 16e. [ForcP Nyí       [TP ~~nyí~~        **ì**     á<sup>2</sup>        néngé        bòò]]  
       [ForcP what   [TP ~~what~~       **it**   AgrS.FUT   see.FUT       ball]]  
       ‘What will watch ball?’
- 16f. [ForcP Nyí       [TP ~~nyí~~        **ì**     néngé        bòò]]  
       [ForcP what   [TP ~~what~~       **it**   see            ball]]  
       ‘What watched ball?’

In the construction above, the agreement marker “a” is phonologically represented in (16a). In (16b), the agreement marker still makes a phonetic representation after the extraction of the subject Q-word “áná” to the left periphery of the clause. In (16c), the agreement marker is dropped to test the effect of its absence on the intended interpretation, which results to ungrammaticality. In (16d) also, “á” occurs as an agreement marker. In (16e) it co-occurs with a “big DP” composed of the Q-word “nyí” and the pronoun “ì”, from which “nyí” is extracted to the force projection for interrogative force. The absence of the agreement marker in (16f) gives the construction a different temporal interpretation, hence the strong dependency of future temporal interpretation on the presence of an agreement marker even during Q-word extraction from the subject position.

2 The agreement marker “a” is supposed to carry a low tone, but having occurred before a high tone on the verb’s first tone bearing unit, the tone raises.



In synopsis, the agreement marker in Tiv can only phonetically withstand an extraction of a Q-word from the subject position when the temporal location of the event is in the future. However, the agreement marker cannot phonetically withstand an extraction from the subject position in non future (especially past) tense contexts, and therefore, it is not made overt. This behavior is not that the agreement marker is sensitive to the locality of the subject Q-word in relation to the verb; therefore locality cannot explain this asymmetry in the Tiv language, but the strength of the temporal location of an event to protect the phonetic representation of the agreement marker during extraction.

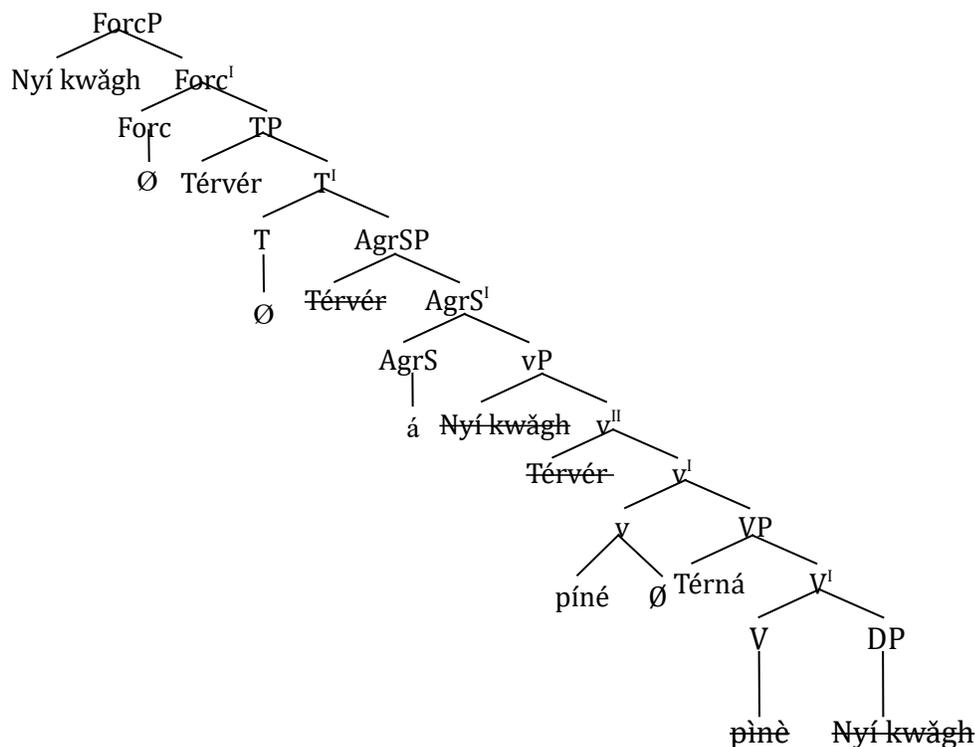
## 5. Q-word Movement from the Object position

The movement of Q word from the object position is not a strange operation. It illustrates how Q-movement is cyclic in accordance with the stipulation of phases so as to escape of the wrath of early transfer: Phase Impenetrability Condition (PIC). (17) below shows how an item is moved from the object position to the matrix scope position in Tiv while adhering to the shortest move principle of Minimalism:

17.      [<sub>ForCP</sub> Nyí            kwàgh    [<sub>TP</sub> Tèrvér      á                    píné            Tèrná    nyí-kwàgh]]?  
           [<sub>ForCP</sub> what        thing    [<sub>TP</sub> Terver      AgrS.PST      ask.PST        Tèrná    ~~what thing~~]]?  
           What did Tèrvér ask Tèrná?

In (17) above, “nyí-kwágh” has a copy at the edge of the interrogative force head, at the edge of the light verb projection and at the edge position of the lexical verb projection. This can be illustrated thus:

18.



In (18) above, movement “nyí kwàgh” had to move through the edge of the light verb before it finally got to the edge of the force head. Any movement outside this route will be ungrammatical. The movement of “nyí kwàgh” to the edge of the light verb before further movement is to avoid the wrath of phase impenetrability condition (PIC) that freezes the c-commanding domain of the light verb, when the light verb saturates by projecting maximally.

From the above discussion, Q movement of complements is not done in a haphazard way, but logically, following the principles of grammar and the propositional levels of movement – in terms of Short movement. From the object position as schematized above, the movement must pass through the phase head(s). The movement further buttresses the attract-and-move principle as well as the probe-goal relationship in grammar.

## 6. Movement of Q words from Adjunct position(s)

This is a form of movement that involves the movement of Q words that are optional or secondary in a construction: an adjunct may be removed without the identity (structural and semantic) of the construction being affected. There are however Q-words that tend to have this property, especially those words that serve as complements of preposition heads. Some prepositions in Tiv include: “shín”/in, from; “shá”/on; “u”/of, to, which; “ké”/inside; “vér”/with. Q-preposition Phrases in Tiv include; sha nyi (for what), ke nyi (in what), hana (where), vér Térésóò (with Térésóò), sha achi u nyi (why), etc as in:

- 19a. [<sub>ForcP</sub> Shín nyí [<sub>TP</sub> á wá íyòúgh Shín nyí]]?  
 [<sub>ForcP</sub> in what [<sub>TP</sub> AgrS put yam in what]]?  
 ‘In what did (s)he put the yam?’
- 19b. [<sub>ForcP</sub> Shá nyí [<sub>TP</sub> Sésùgh á úndé kón Sha nyí]]?  
 [<sub>ForcP</sub> on what [<sub>TP</sub> Sésùgh AgrS climb tree on what]]  
 ‘With what did Sesugh climb the tree?’
- 19c. [<sub>ForcP</sub> Shá ítyóúgh kí áná [<sub>TP</sub> Sùswám á Tílé Shá ítyóúgh kí áná]]?  
 [<sub>ForcP</sub> on head of who [<sub>TP</sub> Suswam AgrS stand on head of who]]?  
 ‘Who is Suswam representing?’

From (19a-c), prepositions are seen to occupy the edge position of the force head which is not their original position as evident by the null copies there in the data. Despite this change in position, the constructions are grammatical indicating that they are there under the umbrella of a Q-word “nyí” in (19a) and (19b) above and “áná” in (19c) with overshadowing Q-features.

In the movement of adjunct Q-words in the Tiv language, two operations could be involved: either Pied Piping or Preposition Stranding. Pied piping is the process of moving the preposition with the Q-word to the edge of the force head, while ‘preposition stranding/orphaning’ is a process whereby the Q-word is moved out of the PP to the edge of the force head leaving the P behind.

In Tiv the optionality of pied-piping and preposition stranding is not a result of formal versus informal context of use claimed for English (Radford 2009), but a result of different merge-sites and the type of preposition in Question. Boeckx (2008) and Cable (2007) also opine that pied-piping is because the Q-word could not move alone out of the merged domain, which is why it has to be moved alongside the Preposition. In the Tiv language, this is because some prepositions require obligatory complements, without which the ‘sense’ would not be complete, culminating into ungrammaticality as it would be deduced below.

Preposition stranding requires a preposition to remain in its merge site, allowing only the Q-word to be extracted into the force projection. This is not an easy operation in Tiv reading from the ungrammaticality of (20a) and (20b) below, while there are contexts where preposition stranding is an easy possibility as in (20c) below:

- 20a. \* [<sub>ForcP</sub> Nyí [<sub>TP</sub> Sésùgh á úndé shá nyí]]?  
 [<sub>ForcP</sub> what [<sub>TP</sub> Sésùgh AgrS.PST climb.PST on what]]?  
 ‘What did Sésùgh climb on?’
- 20b. \* [<sub>ForcP</sub> Nyí [<sub>TP</sub> Sésùgh á sén shín nyí]]?  
 [<sub>ForcP</sub> what [<sub>TP</sub> Sésùgh AgrS.PST descend.PST in what]]?  
 ‘What did Sésùgh descend into?’
- 20c. [<sub>ForcP</sub> Nyí [<sub>TP</sub> Sésùgh á nyôr ké nyí (mín)]]?  
 [<sub>ForcP</sub> What [<sub>TP</sub> Sésùgh AgrS.PST enter.PST in what (it)]]?  
 ‘What did Sésùgh entered into?’

From (20) above, prepositions such as “shá” in (20a) and “shín” in (20b) require obligatory complements, which is why their complements cannot be extracted, hence their ungrammaticality. Prepositions such as “ké” do not obligatorily require a complement hence the grammaticality of (20c) even if the preposition is stranded.

Sequel to the above discussion, this paper submits that [+/- complement] feature is therefore an inherent feature of prepositions in the Tiv language which propositions in Tiv possess right from the numeration. This feature defines the merge that exists between the preposition and its complement as in some of the examples above repeated below for convenience:

- 21a. [<sub>ForcP</sub> Nyí [<sub>TP</sub> Sésùgh á nyôr ké nyí (mín)]]?  
 [<sub>ForcP</sub> What [<sub>TP</sub> Sésùgh AgrS.PST enter.PST in what it]]?  
 ‘What did Sésùgh entered into?’
- 21b. \* [<sub>ForcP</sub> Nyí [<sub>TP</sub> Sésùgh á húngwá shín nyí]]?  
 [<sub>ForcP</sub> What [<sub>TP</sub> Sésùgh AgrS.PST descend.PST in what]]?  
 ‘What did Sésùgh descend into?’

From (21a) above, a preposition such “ké” has [ $\alpha$  complement] feature merged to it in the numeration which makes it possible for it to survive stranding with or without a resumptive pronoun, as well as pied-piping, while “shá” in (21b) has [- complement] feature merged to it in the numeration such that it cannot survive stranding without an escape phenomenon of DP resumption. This implies that a distinction has to be drawn about prepositions that require obligatory complements and those that do not require obligatory complements – prepositions that do not permit stranding and those that permit stranding. This is pertinent because prepositions in Tiv such as “Shín/in” and “shá/on,” require a resumptive pronoun at least to remain *in situ*, but to the preposition “ké/inside”, a resumptive pronoun is optional for it to remain *in situ*.

Therefore, to salvage ungrammaticality resulting from the extraction of the complements of prepositions merged in a complement site, the strategy of DP resumption is employed, where the resuming DP stands instead of the fronted Q word. This strategy is pertinent because scope is imperative in interrogative constructions and cannot be sacrificed. For example:

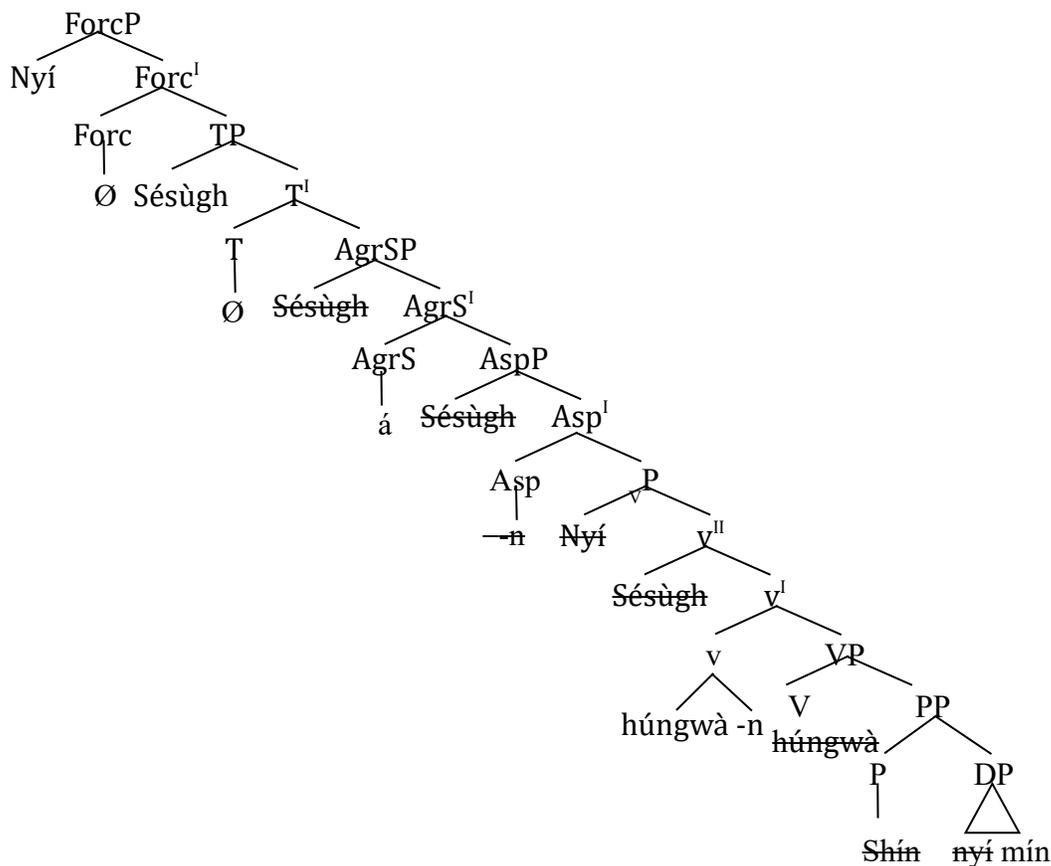
- 22a. \* [<sub>ForcP</sub> Nyí [<sub>TP</sub> Sésùgh á húngwá shín nyí]]?  
 [<sub>ForcP</sub> what [<sub>TP</sub> Sésùgh AgrS.PST descend.PST in what]]?  
 ‘What did Sésùgh descend into?’
- 22b. [<sub>ForcP</sub> Nyí [<sub>TP</sub> Sésùgh á húngwá shín nyí mín]]?  
 [<sub>ForcP</sub> what [<sub>TP</sub> Sésùgh AgrS.PST descend.PST in what it]]?  
 ‘What did Sésùgh descend into it?’

From (22) above, the prepositions cannot be orphaned. In (22a) “nyí” has moved leaving “shín” which requires a resumptive DP, whose absence renders the construction ungrammatical.

In (22b), “mín” resumes the at the extraction site of “nyí” taking care of the lower chain of the Q-word movement.

As a form of illustration, (22b) above can be represented thus:

23.



An alternative to moving Q-words from clausal adjunct position to a position of matrix scope in the Tiv language is pied piping. In pied piping, the entire preposition phrase is extracted to the force projection as in:

24a. [<sub>ForcP</sub> Shín nyí [<sub>TP</sub> Térná á húngwá shín nyí]]  
 [<sub>ForcP</sub> in what [<sub>TP</sub> Térná AgrS.PST descend.PST in what]]  
 ‘Into what did Térná descend?’

24b. [<sub>ForcP</sub> nyí [<sub>TP</sub> Térná á húngwá shín nyí mín]]  
 [<sub>ForcP</sub> what [<sub>TP</sub> Térná AgrS.PST descend.PST in what it]]  
 ‘what did Térná descend Into it?’

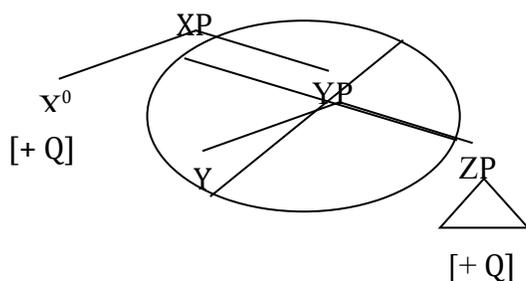
24c. \* [<sub>ForcP</sub> nyí [<sub>TP</sub> Térná á húngwá shín nyí]]  
 [<sub>ForcP</sub> what [<sub>TP</sub> Térná AgrS.PST descend.PST in what]]  
 ‘what did Térná descend Into it?’

Resumptive pronoun is used to license the extraction of the “nyí” without “shín” which could have resulted to the ungrammatical (24c) where a resumptive pronoun is not used to stand in place of the extracted “nyí”. This analysis implies that there are also preposition that do not have strong stranding feature: such prepositions treat DP resumption as an alternative. Therefore, pied-piping is an operational alternative to preposition stranding in computation syntax in Tiv if and only if DP resumption is not employed.

In as much as a preposition is not a Q-word without [+Q] feature, it possess element of the Q-feature via feature percolation (Ross 1967) – a feature inheritance mechanism Sag (1997) from the Q-word: its complement. It is a basic activity for movement of the entire PP (pied-piping) to the edge of the force head.

Feature percolation as a syntactic process has a great affinity with adjacency in Tiv in the sense that a feature cannot be percolated if there is no symmetric c-command relationship between the percolated and the percolating constituents. This can be formally stated thus: X cannot be percolated by ZP if ZP is not symmetrically c-commanded by X and there is an intervening projection Y(P) projection; where F= feature, as in:

25.



For instance:

26a. [PP shín [DP nyí]]  
 [PP in [DP what]]  
 ‘In what?’

26b. \*[PP shín [VP gbídyè [DP nyí]]]  
 [PP in [VP beat [DP what]]]  
 ‘In beat what?’

26c. [PP shín [DP mákérántá ú nyí]]  
 [PP in [DP school GenM what]]  
 In what school?

26d. [PP shín [DP yá ù áná]]  
 [PP in [DP house GenM who]]  
 In whose house?

From (26) above, (26b) is ungrammatical because there is an intervening projection between the Q phrase and the preposition which happens to be a verb. With this operation, the maximal projection of the preposition is interpreted as possessing Q feature even though the projection is not headed by a Q word. This therefore qualifies it to move to the edge of a force head.

From (26) above, (26b) is ungrammatical because there is an intervening verb phrase projection. With this operation, the maximal projection of the preposition cannot be interpreted as possessing Q feature because of the intervening verb phrase; otherwise, (26a, c and d) can be interpreted as possessing even though the projection is not headed by a Q word. This therefore qualifies it to move to the edge of a force head, hence feature percolation is a prerequisite for the movement of a preposition into the force projection.

It should also be noted that the resumptive pronouns behave differently from canonical pronouns in terms of anaphoric reading even when they occur as complements of prepositions. “mín” in (27a) and “nàn” in (27c) below as resumptive pronouns can be locally A<sup>1</sup> bound in interrogative constructions. This implies that resumptive pronouns at least in Q-constructions are immune to principle B of the binding theory which allows pronouns to be free within their governing category (GC). For example:

- 27a. [<sub>ForcP</sub> Nyí [<sub>TP</sub> mátù á gbé shín **mín**]]?  
 [<sub>ForcP</sub> What [<sub>TP</sub> car Agrs.PST fall.PST in **it**]]?  
 ‘What did it fall into’
- 27b. [<sub>ForcP</sub> Nyí [<sub>TP</sub> ì gbé shá ì]]?  
 [<sub>ForcP</sub> What [<sub>TP</sub> it fall.PST on **it**]]?  
 ‘Why is it needed’
- 27c. [<sub>ForcP</sub> Áná [<sub>TP</sub> matu á té shá **nàn**]]?  
 [<sub>ForcP</sub> Who [<sub>TP</sub> car AgrS.PST hit.PST on **pro**]]?  
 ‘Who did the car hit?’

From (27) above, “mín” can be interpreted as referring to the Q word “nyí” in (27a), therefore “nyí” serves as the antecedent of “mín”. In (27b) “ì” is not a resumptive pronoun as such, it does not refer to any item within the construction, and hence it is free within the governing domain. The above points made about resumptive pronouns in the subject position and in preposition complement position lead to a generalization covering the object position of the verb that the anaphoric construal of resumptive pronouns is not sensitive to syntactic positions.



## 7. CONCLUSION

In synopsis, the Tiv language has potent Q-word movement that is defined by properties such as DP resumption when the extraction of the Q-word takes place at the subject position, and within the clausal adjunct position. Regarding movement of the Q word from the clausal adjunct position, it was observed here in that there are prepositions without complement feature and therefore, it is either the entire PP is pied-piped to the force projection or a resumptive pronoun is left at the extraction site to stand instead of the extraction of the complement of the preposition, otherwise the construction would be ungrammatical. However, there are also prepositions that do not have strong complement feature: such prepositions treat DP resumption as an alternative; otherwise they can be stranded and pied-piped.

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