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INTERROGATIVE PRONOUNS IN DAGBANI AND LIKPAKPAANL

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Abstract:

The prime goal of this paper is to provide an analysis of the properties of interrogative pronouns in two Mabia languages drawing data from Dagbani and Likpakpaanl. We focus on the inventory, internal structure, and key grammatical characterizations of the interrogative pronouns. We show that interrogative pronouns are salient syntactic elements in the content question systems of these languages under study. In addition, we demonstrate that number marking, the distinction between human/ non-human and lexical ambiguity are key grammatical properties of these interrogative pronouns. We further show that the inflection for number employs both suppletive and non-suppletive patterns in Dagbani whereas Likpakpaanl uses only the non-suppletive pattern. We provide a formal syntactic account of the interrogative words claiming that they project an Interrogative Phrase headed by the wh-pronoun. In furtherance to this theoretical assumption, we further propose that Number Phrase (NumP) is a functional projection within the Interrogative Phrase layer that is headed by a number affix, drawing evidence of the existence of the Number Phrase from the fact that some of the pronouns are sensitive to number. The data are based on native introspection of the authors who are native speakers of these languages, supplemented with text-based data. This paper is important because of its empirical and theoretical contribution to the study of interrogative pronouns in the Mabia languages.

Keywords: interrogative pronouns, Mabia, inventory, grammatical properties, number marking

1. Introduction[1]

The availability of overtly expressed interrogative words in the derivation of content questions has been attested in many Mabia (Gur) languages: Dagaare (Bodomo 1997), Buli (Ferreira and Ko 2003, Sulemana 2019), Kusaal (Abubakari 2018, Musah 2018), Safaliba (Schaefer 2009), Gurenɛ (Dakubu, 2003, Atintono 2013) among others. The focus of this current paper is to provide a description of the key characteristics of these interrogative pronouns drawing data from two Mabia (Gur) languages, Dagbani and Likpakpaanl. Genetically, Dagbani belongs to the South-Western Oti-Volta subgroup of the Mabia (Gur) group of languages (Bendor-Samuel 1971 and Naden 1988, 1989). Dagbani has three major dialects, namely Tomosili (Western Dialect), Nanunli and Nayahali (Eastern dialect). Whereas the Tomosili is spoken in and around Tamale (the political capital of the Northern Region), Nanunli dialect is spoken in and around Bimbilla and Nayahali (Eastern dialect) is predominantly found in Yendi and its environs (Olawsky 1999, Hudu 2010 et seq.). Likpakpaanl is a Mabia (Gur) language belonging to the Gurma subgroup of the Oti-Volta branch of the North Central Mabia (Gur) languages (Manessy 1971; Naden 1989). Likpakpaanl has close linguistic affinity with Bimoba and Bassare and is spoken predominantly in the Eastern corridors of the Northern region of Ghana and parts of Northern Volta. Some speakers of the language are also found in the Republic of Togo (Schwarz, 2007:116). Both languages are tonal languages since the pitch with which vocalic segments are produced is phonemic in these two languages. Tone is an important feature of the grammar of both Dagbani and Likpakpaanl. However, the current orthographies of these two languages do not recommend the marking of tones (Dagbani Orthography, 1997; Likpakpaanl Orthography, 2019). Nevertheless, we have marked tones on all our Dagbani and Likpakpaanl data for the purpose of the paper. The decision to mark tone is motivated by the fact that tone constitutes a crucial aspect of the grammars of the

[1] List of Abbreviations used in this paper are: 1st, 2nd, 3rd for first, second, and third person respectively, ANT=Inanimate, D'=Determiner-bar, DEF=Definite Article, DP=Determiner Phrase, EMPH=emphatic pronoun, FOC=Focus Marker, iNUM=interpretable number feature, IPFV=Imperfective aspect, IW=interrogative Word, NEG=Negative marker, NP=Noun Phrase, NumP=Number Phrase, Num=Number, PFV=Perfective Aspect, PL=Plural, PST =Past Tense, SG =Singular, uNUM= uninterpretable number feature.

languages under investigation. This is irrespective of the fact that tone, as a suprasegmental feature, does not affect the grammar of the issues under investigation.[2]

According to Siemund (2001), the requirement for pronoun elements as indicators of the semantic notion of interrogativisation is established to be a key morphosyntactic characterization of content/wh-questions in natural languages. Siemund (2001) posits that all natural languages have a set of interrogative pronouns, which are salient in the morphosyntactic characterization of constituent questions. Siemund (2001:1023) further demonstrates that although languages differ regarding the inventory of interrogative words, there are mainly those that substitute for the core arguments of a predication (English *who*, *what*) and those interrogative pronouns that substitute for adjuncts. The semantic distinctions that languages typically draw in the domain of interrogative words are person, 'who', object 'what', location, 'where' time, 'where', manner 'how' and reason 'why'.

It is asserted in Ultan (1978: 228-229) that: "interrogative phrases are characteristic of all languages, that is, all languages have interrogative substitutes for nouns and a number of adverb-like words or phrases expressive of locative, temporal, enumerative, manner, purpose and other functions." These interrogative words typically substitute for both arguments and non-arguments within the clause structure of languages. According to Siemund (2001:1018), interrogative pronouns are "analyzed as placeholders or variables in a proposition to be filled or assigned a value by an answer." Some scholars also refer to interrogative pronouns as interrogative/wh-phrases (Dryer 2013). In this work, we use interrogative pronouns to refer to these items. Although these interrogative pronouns constitute a salient morphosyntactic property of the constituent interrogatives of the Mabia (Gur) languages, little attention has been paid to their grammatical characterization. It is worthy of mention that it is not only within the Mabia (Gur) languages that the linguistic characterization of interrogative words has not been a subject of systematic linguistic investigation, but the Ghanaian languages in general.

[2]Many thanks to the two anonymous reviewers of the GJoL for their comments and suggestions that have been instrumental in sharpening the arguments in this paper. We are also indebted to Mary Amaechi and Mursell Johannes for discussions on portions of this paper. Portions of the arguments are thoroughly revised versions of excerpts from the PhD dissertation of the first author sponsored by the Deutscher Akademischer Austauschdienst (DAAD) sponsorship (ID# 91565971).

In almost all studies available on interrogative words, researchers always provide a rather cursory examination of these items focusing on the fact that they are salient syntactic elements in the derivation of content/wh-questions but do not provide a detailed account of their linguistic properties. Therefore, this current paper intends to fill this research gap by providing a comparative study of these class of words drawing data from Dagbani and Likpakpaanl. Specifically, we seek to address the following questions regarding Dagbani and Likpakpaanl interrogative pronouns: (i) What meanings (semantic categories) are encoded in the Dagbani and Likpakpaanl interrogative pronouns? (ii) What is the internal structure of the interrogative pronouns of Dagbani and Likpakpaanl? (iii) What kind of inflectional categories are available for the Dagbani and Likpakpaanl interrogative pronouns? (iv) What are the distributional characteristics of the Dagbani and Likpakpaanl interrogative pronouns? We shall endeavour to offer proposals, which attempt to answer these questions raised above. However, we address the fourth research question only minimally.

The remainder of this paper is structured as follows. In section 2, we provide an account of the inventory of the interrogative pronoun system of Dagbani and Likpakpaanl. After establishing the inventory of the interrogative pronouns, section 3 discusses the internal structure of the interrogatives, demonstrating that there are both morphologically simple and complex interrogative pronouns. In section 4, we focus on a discussion on the grammatical characteristics of these interrogative pronouns. We discuss the distinction between human/non-human, lexical ambiguity and the marking for number in some of these interrogatives as characteristics of these interrogative words. Section 5 sums up the paper with a conclusion and areas for further investigation.

2. The inventory of Dagbani and Likpakpaanl interrogative pronouns

As mentioned in the preceding section, interrogative pronouns are instrumental in the derivation of constituent questions; see Aboh (2004) for Gungbe, Saah (1988), Boadi, (1990) for Akan, Muriungi et al. (2014) for Gichuka, among many others. This section focuses on outlining the inventory of the interrogative pronouns of the two languages under study. Despite the proposal of Siemund (2001) that interrogative pronouns constitute a key characteristic of every language, he notes that natural languages display variation in the inventory of these interrogatives. After a proposal on the inventory, we discuss the internal

structure of these interrogative pronouns based on the typological claims of Heine et al. (1991), who attempt to establish the possible correlations between the semantic domains of interrogatives and their phonological and morphological properties.

Research into the cross-linguistic diversity of interrogative pronouns has often focused on the semantic categories typically fulfilled by these items in natural languages. Mackenzie (2008:1132) sampled 50 languages for a typological study and observed six (6) different semantic categories expressed by interrogative words. These semantic categories are; reason, location, manner, individuals, quantity, and time. Cysouw (2004, 2005) also sampled 67 languages and provided results similar to the findings of Mackenzie (2008). However, unlike Mackenzie (2008), Cysouw (2004; 2005) does not only consider the semantic gaps filled by interrogative words but also the morphological characteristics of the elements. In his studies, Cysouw (2004; 2005) identifies three categories of interrogative words: major, minor, and incidental. This categorization is based on the forms of the interrogatives. Whereas the elements of the major semantic category are interrogative word forms that are not analyzable within the synchronic structure of the language, the minor category consists of synchronically analyzable compound lexemes, which are generally derived from the elements of the major group. He further opines that the elements of the incidental interrogative category "are only unanalysably lexicalized in incidental cases" (Cysouw 2004: 18). The inventory of interrogative words provided by Cysouw (2004; 2005) included (i) major interrogative categories (*person, thing, selection, place*), (ii) minor interrogative (*quantity, time, manner*) and (iii) incidentals (*reason* and *quality*). Tables 1 and 2 outline the list of interrogative pronouns in Dagbani and Likpakpaanl, respectively, based on the semantic categorization of these items proposed by Cysouw (2004).

Table 1: List of interrogative pronouns in Dagbani

Interrogative pronoun	**semantic category**	**Gloss**
ŋùní	person	who
bòzùɣù	reason	why
yà	place	where
díní	selection	which
álá	amount	how much
bòndàlì/sáhá díní	time	when
wùlà	manner	how

bò	thing	what

Table 2: List of interrogative pronouns in Likpakpaanl

Interrogative pronoun	Semantic category	Gloss
ŋmà	person	who
bàŋà	reason	why
lá	place	where
nìlàn	selection	which
ìŋà	amount	how much
bàdáál	time	when
kínyé	manner	how
bà	thing	what

Another distinctive parameter of interrogative words is their grammatical categories. The set of interrogative words in a particular language is usually perceived as consisting of items that belong to a closed word class. This assumption is based on the morphological, syntactic, and semantic characteristics of the items. Nevertheless, based on typological findings, it has been asserted that interrogative words do not mostly "exhibit a homogeneous lexical category, as they conventionally cut across other parts-of-speech classes" (Schachter & Shopen, 2007: 33). In English, for instance, in the set of interrogative words, there are those such as 'who', and 'what', which belong to the class of interrogative pronouns, there are also interrogative adverbs like 'where', 'when', and the final class known as interrogative determiners (*which* as in which book) (Schachter & Shopen, 2007:33). Thus, it is proposed that in most languages of the world, 'interrogative words may differ grammatically, and they may belong to varied word classes. Accordingly, the grammatical categories or word classes of interrogative expressions cannot be universally presupposed' (cf. Schachter & Shopen, 2007: 34).

However, there is a typological inclination regarding the typical parts-of-speech categories of interrogative words in natural languages (cf. Velupillai, 2010: 358). Although the presence or absence of a given grammatical category varies from language to language, the prototypical categories that interrogative substitutes are pronouns, determiners, adjectives, quantifiers, ordinal numbers, adverbs and verbs (cf. Idiatov & van der Auwera, 2004; König & Siemund, 2007: 302; Velupillai, 2012: 359). These categories perform typical

syntactic functions across languages. According to König & Siemund (2007: 302), usually, there are interrogative words, which "replace the core constituents or arguments of a sentence", and that they can classically function as the subject, object, adverbial, adjectival modifier and predicate, in the clause (cf. König & Siemund, 2007: 302).

In summary, this section has investigated the inventory of the interrogative pronoun system of the two Mabia languages in the light of typological claims. We have shown that there are eight distinct semantic classes of interrogative pronouns, which are essential in the characterization of content (wh-questions) in these languages under investigation. These words also represent various word classes. In the next section, we concentrate on the internal structure of these words showing that they consist of both complex and simplex words in Dagbani and Likpakpaanl.

3. The internal structure of Dagbani and Likpakpaanl interrogative pronouns

Typologically, the study of the internal structure of interrogative pronouns is of concern to linguists (Heine et al., 1991). Here, our attention is on the morphological characterization of these interrogatives identified in the two languages, whether they are internally complex or simplex. Their morphological characterization regarding affixation is discussed under number marking in section 4.3. We present data from Dagbani and Likpakpaanl to illustrate that some of the interrogatives exhibit a contrast between singular and plural forms and, for that matter, are argued to inflect for number via suffixation. Based on a cursory account provided in Issah (2020), we propose that the interrogative pronouns outlined in Tables 1 and 2 of the preceding section have different morphological compositions. It is worth noting that the interrogative words consist of both morphologically complex and simplex words in both languages. For instance, the interrogative words for 'who' **ŋùní** and **ŋmà** for Dagbani and Likpakpaanl respectively, are morphologically simplex in that they are monomorphemic. Similar morphological claims are made of the Dagbani interrogative word **bò** 'what' for as well as **nìlàn** and **díní** 'which' for Likpakpaanl and Dagbani, respectively. It is not only the above interrogative words but also, we make the same morphological assumptions for **wùlà** and **kínyé** 'how' respectively for Dagbani and Likpakpaanl. However, Likpakpaanl and Dagbani also have a set of interrogative words that are morphologically complex. For instance, in examples (1) and (2), the interrogative pronouns within the domains of time, temporal setting, **bòndàlì** 'what **day'** and **sáhá díní** 'which time' for Dagbani and **bàdáál** 'what day' for Likpakpaanl are compound expressions in both languages. The Likpakpaanl interrogative word is made up of **bà** 'what'

and **dáál** 'day' while the Dagbani **bòndàlì** is also made up of **bò** 'what' and **dali** 'day'. We notice an epenthetic nasal segment being /**n**/ inserted in Dagbani, which we see as a confirmation of the claim by Fabb (1998:66) that compounding might give rise to certain phonological and morphological processes.

(1) a. **Bòn-dàlì kà bɛ kú kpáŋ máá?**
What-day FOC 3PL kill.PFV guinea fowl DEF
'When did they kill the guinea fowl?'

b. **Sáhá díní kà bɛ kú kpáŋ máá?**
time when FOC 3PL kill.PFV guinea fowl DEF
'What time did they kill the guinea fowl?'

(2) **Bà-dáál lè bì kù ùkpààn gbààn?**
what-day FOC 3PL kill.PFV guinea fowl DEF
'When did they kill the guinea fowl?'

Interestingly, we observe that the interrogative pronoun for reason **bozùɣù** 'why' and **bàŋà** 'why' for Dagbani and Likpakpaanl, respectively, are both complex items. The interrogative pronoun for 'reason' **bozùɣù** 'why' is a complex item, made up of **bò** 'what' and **zùɣù** 'head', that of Likpakpaanl **bàŋà** is also morphologically complex comprising the free morphemes **bà** 'what' and **ŋà** 'do'. Thus, the meaning of the concept of *why* in Likpakpaanl is expressed as **bàŋà** which can be translated literarily as ,"what do?' or ,"what happened?" It can be seen that each of the components brings their individual meanings to bear in arriving at the interrogative word **bàŋà** 'reason' in the Likpakpaaanl. By compounding, we mean the formation of new words via joining two or more already existing bases. Christaller (1875:19) posits that "a compound word is formed by two or more words, each of which may be either primitive or derivative or even a compound" whereas Welmers (1946:48) is of the view that a compound is "a group of two or more stems [...] with a compound base." The characterization of the interrogative word of time as morphologically complex does not seem to be a peculiar property of the Mabia languages since similar conclusions have been established for two Kwa languages: Akan (Saah, 2000) and Ga (Kotey, 2002).

Now, we turn to the typological claims in the literature concerning the phono-morphological characterizations of interrogative words and their semantic domains. The aim is to establish a correlation between the findings on the morphological properties of

the interrogative pronouns of Dagbani and Likpakpaanl and the typological claims of Heine et al. (1991: 55-59). In their attempt to show correlations between the semantic domain expressed by interrogative pronouns and their phonological and morphological characteristics, Heine et al. (1991: 55-59) employ a 'small-scale' language sample. They concluded that the interrogative pronouns for person, object and location are the ones that exhibit the least phonological and morphological complexity in languages of the world. They, therefore, concluded that in the majority of the world's languages in their sampled data, these concepts are expressed using monomorphemic and monosyllabic interrogative pronoun forms.

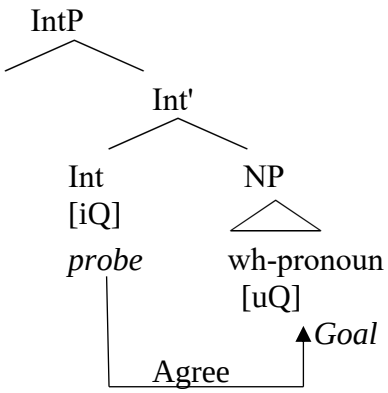
From the interrogative pronouns presented in Tables 1 and 2, it is observable that this typological claim of Heine et al. (1991) concerning the monomorphemic characterization of the interrogative pronouns for person, object and location are valid in both languages since they are simplex interrogative items.[3] They further note that the interrogative words for time and manner are generally more complex in natural languages and that the most complex pronouns in terms of morphological composition are interrogative words coding reason or cause (and purpose). Heine et al. (1991) propose that these interrogative words usually consist of more than a single morpheme. They further conclude that in the light of this typological claim, the English *why* is an exception. Thus, a similar conclusion is drawn that the interrogative words **bozùɣù** and **bàŋà** for the expression of reason in both Dagbani and Likpakpaanl are morphologically complex.

Regarding the syntactic structure of these interrogative pronouns that have been discussed so far, we propose that they are question operators in both languages. Following the syntactic accounts in earlier works such as Rizzi (2001) and Aboh (2004), we propose that the interrogative pronouns project an Interrogative Phrase (IntP), which is headed by Int as schematized in (3). With this structure, the assumption is that the head of the phrase, Int hosts the "question operator". We further assume that the head of the phrase, Int has the interpretable question feature [iQ], which enables it to project an Interrogative Phrase. Therefore, Feature checking (or valuation), which is achieved via the operation Agree,

[3] We admit that the interrogatives for place **yà** could also be realised as **yà pòló '**where place' and **lá ché** 'where place' for Dagbani and Likpakpaanl respectively.

operates between Int, the probe, and the wh-pronoun, goal, the commanding item, and the c-commanded items, respectively.

(3)



From the structural account in (3), we contend that the head of the IntP is Int, which bears a strong interpretable feature [+question operator] that undergoes feature checking operation with an uninterpretable NP (a pronominal element that is a question word for that matter). Thus, per our syntactic account, the Interrogative Projection, IntP, has its head as Int, which hosts the question feature (Q). In summary, we have so far provided an overview of the inventory of the interrogative pronouns in Dagbani and Likpakpaanl. In addition, we have discussed their morphological composition and concluded, based on the empirical data available, that interrogative pronouns comprise both simplex and complex items in both languages. Finally, we proposed a syntactic structure for the Interrogative Phrase in the languages under study. In the section that follows, we provide a systematic study of the key characteristics of the interrogative pronouns.

4. The characteristics of Dagbani and Likpakpaanl interrogative pronouns

In the preceding section, we discussed the inventory and internal structure of Dagbani and Likpakpaanl interrogatives. This discussion was in the light of the typological claims that have been made in the literature regarding these words. In this section, we examine the key characteristics of the interrogative pronouns. We show that in Dagbani and Likpakpaanl, the properties of the interrogative words include the distinction between human/non-human as discussed in section 4.1, lexical ambiguity is discussed in section 4.2 and finally on marking for number in section 4.3.

4.1 Distinction between human and non-human interrogative pronouns

This section examines the distinction between human and non-human referents as a grammatical property of Dagbani and Likpakpaanl interrogative pronouns /*wh*-phrases and briefly comments on the distribution of the interrogatives. In the typological study of interrogative pronouns, as in the works of Lindström (1995), Ultan (1978), among others, it is generally attested that most languages make this human/non-human distinction in the characterization of their interrogative pronouns. Siemund (2001:1023) claims that 'one of the distinctions that virtually all languages make, and seems almost universal, is the one between interrogative words used to inquire about human referents and those used for non-human referents, i.e., between *who* and *what'.* This distinction is evident in the distinction between 'what/who' in English. Siemund (2001:1021) also points out that the human/non-human distinction is predominant in many languages such as in the Russian **kto** and **ʲto**, **shéi** and **shénme**, in Mandarin, and in Georgian **vin** vs. **ra**, **kuka** and **mikä** in Finnish and **kina** vs. **suna** in West Greenlandic. In his typological studies, Ultan (1978: 229) also proposes that "the number and kind of distinctions, which Question Words [QWs] may or may not reflect in terms of those existing elsewhere in a given language vary considerably from language to language, but at least one contrast appears to be nearly universal: Q-pronouns show a human/non-human or, in a few cases, an animate/inanimate dichotomy". For instance, Givón (1984) demonstrates that a language like Ute distinguishes between animate/inanimate semantic domains. Ute is an endangered Uto-Aztecan language of the northernmost (Numic) branch of the Uto-Aztecan language family spoken by the Ute people (Givón, 2011). The claim on the animate/inanimate distinction in Ute is illustrated in (4).

(4) a. **Áa** **wúuka-xa?**
IW.SG.ANIMATE work. INANT
'Who worked?' / 'Which one worked?'

b. **'Agá-ru** **qorúc'ay-kya?**
IW.INANT break.INANT
'Which thing broke? (Givón 1984: 226)

Based on empirical data available, we propose that there is evidence in Likpakpaanl and Dagbani to indicate that the distinction operational in these languages is based on [+/-human]. Thus, the *wh*-words are sensitive in their selection depending on whether the DPs they substitute for are human or non-human referents. This is illustrated in (5) for Dagbani and (6) for Likpakpaanl.

(5) a. **ŋ̀ùní n sà kú bùa máá sòhàlà?**
who FOC PST kill goat DEF yesterday
'Who killed the goat yesterday?'
b. **Bò n sà kú bùa máá sòhàlà?**
what FOC PST kill goat DEF yesterday
'What killed the goat yesterday?'

(6) a. **ŋ̀mà fù kù ùŋùò gbáán fénnà?**
who PST kill goat DEF yesterday
'Who killed the goat yesterday?'
b. **Bà fù kù ùŋùò gbáán fénnà?**
who PST kill goat DEF yesterday
'What killed the goat yesterday?'

From the data presented in (5) and (6), it is evident that in Likpakpaanl **ŋmà** is specified for [+human], **bà** is specified for [-human], whereas in the case of Dagbani, we have **ŋùní** 'who' and **bò** 'what' for [+human] [-human] referents. The selection of these pronominal referents is conditioned by the [+/-human] features of the referent in question. This means that Dagbani and Likpakpaanl are not different from what pertains in English, where the interrogative pronouns are specified for [+/-human] by employing the interrogative pronouns '*who'* and '*what*.'

The next question that arises from the above discussion is the availability of any language-internal evidence to motivate the claim of [+/-human] distinction in these interrogative words rather than [+/-animate] characterization. One piece of evidence that supports the [+/-human] distinction is the fact that neither **ŋmà** nor **ŋùní**, for Likpakpaanl and Dagbani respectively occurs in contexts where referents are expected to be animate. If it were the case that the distinction was based on [+/-animate] dichotomy, one would have expected these interrogatives to occur with animal referents, since they are animate. This is, however,

contrary to the empirical facts on the language showing why the sentences in (7) and (8) are ungrammatical depending on the semantic features of the selected interrogative pronouns for Dagbani and Likpakpaanl respectively.

(7) a. **Ŋùní/ *bò n kpé-rí dùú máá nì?**
Who/what FOC enter.IPFV room DEF inside
'Who is entering (inside) the room?'
b. **Bò /*ŋùní kà pàgà máá sà dá-rá?**
What/who FOC woman DEF PST buy-IPFV
'What was the woman buying yesterday?'

(8) a. **Ŋmà/*bà bì kóó kìdíík gbáán nì?**
Who/what IPFV enter room DEF inside
'Who is entering (inside) the room?'
b. **Bà /*ŋmà lè ùpìì gbáán fù bì dà?**
who/ what FOC woman DEF PST IPFV buy
'What was the woman buying yesterday?'

Given the evidence in (7) and (8) regarding the distributional restriction of these interrogative pronouns for *who* and *what,* we conclude that selecting these interrogative pronouns instead of another is regulated by the semantic features of the referents in a particular context. Bodomo (1997: 72) also makes this semantic distinction between human and non-human interrogative pronouns in Dagaare, an areal language. It is worthy of mention that despite the [+/-human] distinction in Dagbani and Likpakpaanl interrogatives, there is a particular context in which **ŋùní** 'who' and **ŋmà** 'who' for Dagbani and Likpakpaanl respectively, can occur with non-human referents. This is for a context where a non-human referent has so much identified with a people to the extent that it is no longer treated as non-human but human. For example, there is a goat at home, which everyone adores and treats with admiration. When such an animal is referred to, it can be personified and result in sentences like (9).

(9) a. **Ŋùní n ŋmá-ri ŋmánà dùú máá nì?**
who FOC break.IPFV calabashes room DEF inside
'Who is breaking bowls (inside) the room?'
b. **Ŋmà bì wíír tìyír kìdíík gbáán nì?**

who IPFV break calabashes room DEF inside
'Who is breaking bowls (inside) the room?'

In the context of (9), the animal, which is not human, has been personified and treated as human, so the interrogative pronoun for person has been used and accepted as appropriate in both languages. Siemund (2001: 1021) suggests that despite the prevalence of the [+/-human] and [+/-animate] dichotomy in interrogative pronouns, there are some languages in which this distinction does not hold. A language proposed not to make this distinction is Latvian, which makes no distinction between who and what (10).

(10) **Kas tas ir?**
'Who/what is that?' (Siemund, 2001: 1021)

Another typical property that is usually discussed in the literature concerning content questions is the distributional characteristics of the interrogative words (see, e.g., Greenberg, 1966; Siemund, 2001; König & Siemund, 2007; Dryer, 2013a; Dryer, 2013b). Although the impetus of this current work is not to offer a systematic account of the distributional properties of the interrogative words in Dagbani and Likpakpaanl, we would briefly comment on this syntactic property. The grammaticality of sentences (11) and (12) indicates that the interrogative words can occur in both the in-situ positions in addition to the ex-situ position[4]. This suggests that these languages can be categorized among the languages described as optional fronting languages; thus, languages that allow their wh-elements to be either hosted in the base position or left peripheral position (cf: Cheng, 1997; Potsdam, 2006), among others. The claim on the compatibility of the interrogative words with the in-situ and ex-situ positions is exemplified (11) for Dagbani and (12) for Likpakpaanl.

(11) a. **Ká bòzúɣù kà bán tì fábìndí làlá**? (Abdulai, 2007:26)
And why FOC 3PL.EMPH PRT complain like that
'And why are they complain like that?'

b. **Bí-hí máá cháŋ yà?** **(**Yakubu 2012: 19)
child DEF go.PFV where

[4] For details on the distribution of Dagbani interrogative words, readers may consult Issah (2020, 2012) and Hudu (2012) and references cited therein for further details.

'Where have the children gone?'

(12) a. **Kínyè lè ùkpán gbáán kù kóln gbáán?** (M & T 2000: 27).
how FOC hunter DEF kill. PFV elephant DEF
'How did the hunter kill the elephant?'

b. **Nááchínn kù sándéé lá?** (Kunji, 1983: 1).
hyena kill.PFV rabbit where?
'Where did the hyena kill the rabbit?'

The morphosyntactic characterization of the two types of wh-questions differs in both languages. For instance, in the ex-situ strategy, as shown in (11a) and (12a), the focus markers *ka* for Dagbani and *lè* for Likpakpaanl are required.[5] As shown in earlier works, the requirement for these overt focus markers in ex-situ wh-questions is characteristic of the focus system of (West) African languages. For instance, researchers have made similar observations in several other Mabia (Gur) languages: Dagaare (Bodomo, 1997; Hiraiwa & Bodomo, 2008), Kusaal (Abubakari, 2018; Musah, 2018) and Gurenɛ (Atintono, 2013; Dakubu, 2003). The same appears to be applicable in the literature of Kwa language as in Gungbe (Aboh. 1998, 2004, 2007), Akan (Boadi, 1990; Marfo, 2005; Marfo & Bodomo 2005; Saah, 1988, 2000), and Ewe (Ameka, 1992, 2010 *inter alia*).

In summary, we have demonstrated that Dagbani and Likpakpaanl interrogative pronouns exhibit a [+/-human] distinction. We have also commented on the distribution of the interrogative words showing that they occur in both the base positions and the clausal left periphery. In the next section, we discuss lexical ambiguity, another property of Dagbani and Likpakpaanl interrogative pronouns.

4.2 Ambiguities in Dagbani and Likpakpaanl interrogative pronouns

Another key characterization of the interrogative pronouns in Dagbani and Likpakpaanl is that they exhibit lexical ambiguity. We understand ambiguity here, as in the proposal of

[5] As shown earlier in example (9b), the Likpakpaanl focus marker *lè* is not required in the focusing of interrogative pronouns that substitute for subject arguments.

Crystal (1991:17), who defines it as a phenomenon whereby a word or sentence expresses more than one meaning. Since we are dealing with lexical items; our concentration shall be on lexical ambiguity triggered by the alternative/multiple meanings of an individual lexical item. Although the typological study of Cysouw (2005) notes that ambiguity in interrogative pronouns is uncommon in languages of the world, we show that the interrogative words for the expression of manner: **wùlà** for Dagbani and **kínyé** for Likpakpaanl exhibit ambiguity. Because these interrogatives have this semantic property, they can be interpreted with either a manner, reason or an instrumental reading. Consider the ambiguous interpretation of these lexical items, which we exemplify in (13) for Dagbani and (14) for Likpakpaanl.

(13) Q: **Wúlà$_i$ kà á dí bíndírígú máá t$_i$?**
how FOC 2SG eat.PFV food DEF
'How did you eat the food?'
A1. **Dírígù kà ń záŋ dí bíndírígú máá**. instrument
spoon FOC 1SG use eat.PFV food DEF
'I used a spoon to eat the food.'
A2: **Bíɛlábíɛlá kà ń dí bíndírígú máá** manner
slowly FOC 1SGF eat.PFV food DEF
'I ate the food slowly.' (Issah 2020: 72)
A3: **Kum m mali ma** reason
Hunger FOC has 1SG.OBJ
'I was hungry.' Lit: 'because I was hungry.'

(14) Q: **Kínyé$_i$ lè nì kù ùkpáán gbáán t$_i$?**
how FOC 2PL kill guinea fowl DEF
'How did you kill the guinea fowl?
A1. **Kíjùùk lè tì dì kɔr ùkpáán gbáán.** instrument
knife FOC 3PL take slaughter.PFV guinea fowl DEF
'We used a knife to slaughter the guinea fowl.'

A2: **Málámálá lè tì kɔr ùkpáán gbáán.** manner
quickly FOC 3PL slaughter.PFV guinea fowl DEF
'We slaughtered the guinea fowl quickly.'
A3: **Ùkpáán gbáán áá kpá lááféé.** reason

guinea fowl DEF NEG have health
'The guinea fowl is not healthy.'

From the answers provided in the data in (13) and (14), we observe that (13Q) and (14Q) have several answers. We interpret the availability of the varied, yet correct answers as in (13A1, 13A2, 13A3) and (14A1, 14A2, 14A3) to be attributable to the multiple/ambiguous interpretation of **wùlà** and **kínyé** as either substituting for syntactic elements, which are within the semantic domains of [+manner], [+reason], and [+instrument]. This explains why in (13A1) and (14A1), **wùlà** and **kínyé** provide answers with focus on the instrument of the action 'knife', which is the instrument of the action 'slaughter', whereas, in (13A2, 13A3) and (14A2, 14A3), they substitute for manner and reason respectively.

In summary, this subsection has been devoted to examining ambiguity as a property of interrogative pronouns in Dagbani and Likpakpaanl. We established that notwithstanding the typological rarity of lexical ambiguity in interrogative pronouns, there is language-internal evidence to propose that **wùlà** and **kínyé** exhibit ambiguity. In the next subsection, we pay attention to number marking, another salient property of these interrogative pronouns.

4.3 Number marking in interrogative pronouns

Another characteristic of interrogatives in Dagbani and Likpakpaanl is the fact that they inflect for number, thus distinguishing between interrogative words in the singular and plural. It is worthy to mention that not all interrogative pronouns inflect for number in these languages. According to Dalrymple (2012: 2), 'number marking can appear on pronouns or nouns, indicating the number of members in the group referred to, or as agreement marking on determiners, adjectives, verbs, prepositions, and other categories." The interrogative words that inflect for number are those within the semantic domains of [+THING], [+SELECTION] and [+PERSON]. This explains why they distinguish between plural and singular referents within the grammar of these languages. The observation that the interrogative pronouns for [+THING], [+SELECTION] and [+PERSON] inflect for number tallies with the conclusion of Cysouw (2004:7), who posits that languages mostly inflect their interrogative pronouns specified for person, thing and such grammatical properties as

number, case, and gender. The number-marking paradigm is shown in Tables 3 and 4 for Dagbani and Likpakpaanl, respectively.

Table 3: Number marking in Dagbani interrogative pronouns (Issah 2020: 66)

semantic category	**singular**	**plural**	**Gloss**
[+PERSON]	**ŋùní**	**bànímà**	who/whom
[+SELECTION]	**dìní**	**dìnnímà**	which
[+THING]	**bò**	**bònímà**	what

Table 4: Number marking in Likpakpaanl interrogative pronouns

semantic category	**singular**	**plural**	**Gloss**
[+PERSON]	**ŋmà**	**ŋmàmàm**	who
[+SELECTION]	**nìlánì**	**tìlánì**	which
[+THING]	**bà**	**bàmàm**	what

Based on the data presented for Dagbani in **Error! Reference source not found.** and **Error! Reference source not found.** for Likpakpaanl, we propose that not all the interrogative words in the languages under investigation that inflect for number. The interrogative pronouns that are specified for [+HUMAN], [+THING] and [-HUMAN] are sensitive to number marking in Dagbani and Likpakpaanl.

Having shown that some of the interrogative words are sensitive to number, we now examine the patterns of number marking available in the two languages under investigation. From the empirical material presented in **Error! Reference source not found.** and **Error! Reference source not found.**, one observation is that in the marking of number in these interrogative pronouns, the roots of interrogative pronouns in the singular and plural forms either differ phonologically or are the same. This empirical material on the characterization of the number markings leads to the conclusion that inflecting for number in the interrogative pronouns exhibits both non-suppletive and suppletive patterns, at least for Dagbani. Whereas in the latter, there is morphological sameness in the root of the singular and plural as in **dìní** [singular], **dìn-nímà** [plural], and **bò** [singular], **bò-nímà**[plural], for Dagbani and **ní-lán** [singular], **ti-lán** [plural], and **bà** [singular], **bà-màm** [plural], **ŋmà** [singular], **ŋmàmàm** [plural], for Likpakpaanl, in the latter, the root of the singular is different from that of the plural as evident in **ŋùní** [singular] and **bà-nímà** [plural] not ***ŋùníníímà** [plural] Dagbani.

There is generally a phonological disparity in stems in suppletion, resulting in different roots for different contexts. This suppletive pattern in the pronouns is not surprising since, in the study of suppletion, pronouns are established to exhibit suppletion regularly in the marking of number compared to their lexical noun counterparts (Corbett, 2005, 2007, 2009). The phenomenon is widely studied, especially in lexical nouns and pronouns (Corbett, 2005, 2007, 2009, Moskal, 2013, 2015). According to Moskal (2015: 363), "suppletion refers to the situation where a single lexical item is associated with two phonologically unrelated forms, and the choice of form depends on the morphosyntactic context."

A classic illustration of suppletion is the English example *good, better, best*, for positive, comparative and superlative, respectively, where the roots differ based on context. Research into this phenomenon has gained quite appreciable attention in linguistics and within the domain of morphology and allomorphy. Based on allomorphy, the interrogative word 'who' has a context-free exponent, which is **ŋùní,** whereas, within the context of plural, it has a corresponding variant, which is **bànímà** as a context-free exponent with a corresponding plural variant, which is **bànímà** for Dagbani. We show the contrast in number marking using the data in (15) through (18) using the contrast in **ŋùní/bànímà** (15) and **bò/bònímà** (17) for Dagbani and **ŋmà/ ŋmàmàm** (16) and **nílán/tílán** (18) for Likpakpaanl.

(15) a. **Ɲùní m bò-ri bùkù màà?**
who.SG FOC want-IPFV book DEF
'Who wants the book?'

b. **Bà-nímà n bò-ri bùkù màà?**
who-PL FOC want-IPFV book DEF
'Which people want the book?'

(16) a. **Ɲmà bàn kìgbáŋ gbáán?**
who.SG want-PFV book DEF
'Who wants the book?'

b. **Ɲmà-màm bàn kìgbáŋ gbáán?**
who-PL want-PFV book DEF
'Who wants the book?'

(17) a. **Bò kà Adam dà dáá màà ní?**

what FOC Adam buy.PFV market DEF inside
'What has Adam bought in the market?'

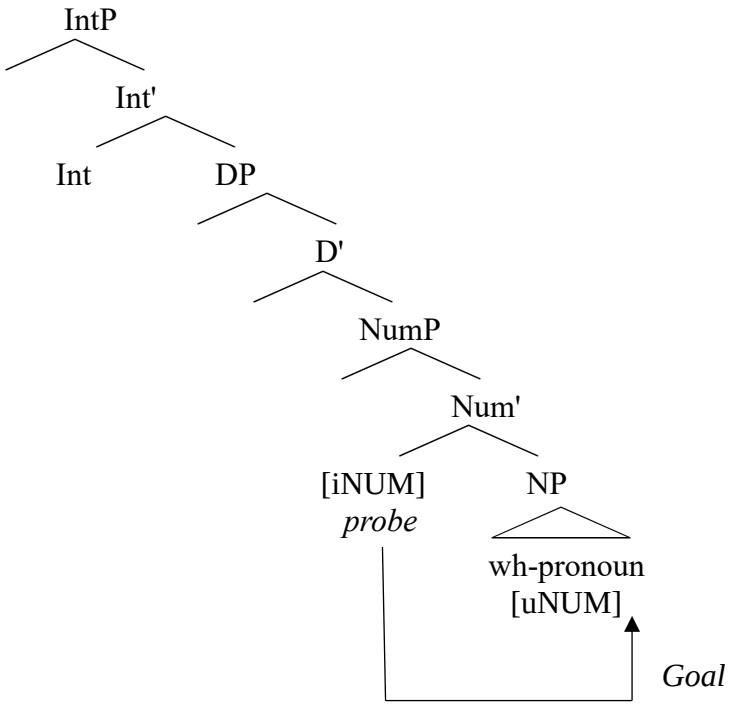
b. **Bò-nímà kà Adam dà dáá màà ní?**
what-PL FOC Adam buy.PFV market DEF inside
'What (things) has Adam bought in the market?'

(18) a. **Bà lè Koonja dàà kìnyáŋ gbáán nì?**
what FOC Koonja buy.PFV market DEF inside
'What has Koonja bought in the market?'

b. **Bà-màm lè Koonja dàà kìnyáŋ gbáán nì?**
what-PL FOC Koonja buy.PFV market DEF inside
'What (things) has Adam bought in the market?'

Based on the empirical material presented on the marking of number in Dagbani and Likpakpaanl, we contend that the interrogatives that are specified for [+thing], [+selection] and [+person] are sensitive to number because they alternate for plurality. Since we have demonstrated that some of these interrogative pronouns contrast between singular and plural (inflect for number), we attempt to provide a formal account of the syntax of number. We do this by adopting the theoretical tenets of Minimalism (Chomsky, 2000, 2001). We propose that the interrogative pronouns, which inflect for number, have strong uninterpretable number feature [uNum]. The head of the number NumP, which are affixes (suffixes), then carry interpretable [iNum] number feature, which leads to them projecting a phrase. A Feature checking (or valuation) mechanism is obtained via the operation Agree, which operates between the commanding item, the probe, and the c-commanded item, the goal. The proposed structural characterization of the syntax of number within the IntP layer is shown in (19).

(19)



There are three related questions that arise from the proposal of the number phrase within the interrogative phrase in (19), which include (i) is there a number phrase only when the wh-element is sensitive to number? (ii) How does the number-phrase know that the wh-element is specified for number, and (iii) what happens within the structural layer when the wh-element does not show a number distinction? We assume that once the number phrase is a functional projection, it is only required in the syntax when the feature that projects it is present. Consequently, when a wh-element does not have a NUM feature, the number phrase is not projected.

Following Ritter (1991), we assume that NumP, as a functional layer, is below the DP and above NP as in the structural representation in (19). Then, we have the DP below it to license the number feature. Having demonstrated that number marking is a characteristic feature of some of these interrogative pronouns in the languages under investigation, it is

worthy of mention that similar findings have been made in other languages of the word where pronouns within the same semantic domains as those for Dagbani and Likpakpaanl inflect for number. In Kusaal, another Mabia language of Ghana, we have **anɔ'ɔn** (SG) and **anɔ'ɔn-nama** (PL) for 'who', **bɔ** (SG) and **bɔnama** (PL), **dinɛ** (SG), **dina** (PL) for 'which' (see Abubakari, 2018). A similar pattern exists in the Paasali dialect of Sisaali as argued by (Dumah, 2017), where the interrogative pronouns within the same semantic domain as observed of Dagbani and Kusaal, also inflect for number as in **annɛ** (SG) and **tabeele** (PL) for 'who', **bekɪŋ** (SG) and **bekina** (PL) for 'what' and **kɪbee** (SG)/ **kɪbeema** (PL).

It is not only in these Mabia languages that there is evidence for the number contrast in these interrogative pronouns, but the same pattern is discovered in other languages of the world. For instance, according to Sadock (1984:200ff), in West Greenlandic, the interrogative word for questioning non-human referents 'what' also distinguishes between singular and plural as in *kina* (SG) and *ki-kkut* (PL). He, therefore, argues that an English content question like '*who is here?'* corresponds to two different interrogative pronouns in West Greenlandic as exemplified in (20).

(20) a. **Kina maaniit-pa-Ø?**
IW.SG be.here-INT-3SG
'What single person is here?'
b. **Ki-kkut maaniit-pa-t?**
IW-PL be.here-INT-3PL
'Which people are here?' (Sadock 1984:200)

A very similar distribution is found in Swedish, which differentiates between singular (*vem*) and plural (*vilka*) in the case of human nouns (21).

(21) a. **Vem öppnade dörren?**
'Who opened the door?'
b. **Vilka öppnade fabriksportarna?**
'Who (PL) opened the factory gates?' (Siemund 2001:1022).

To conclude, this subsection has provided an empirical and theoretical analysis of number marking as a key characteristic of some of the interrogative pronouns in Dagbani and Likpakpaanl. We have demonstrated that number marking is indeed a grammatical

property for some of the interrogative pronouns, justifying the proposal for a functional NumP within the internal structure of the interrogative DP.

5. Conclusion

This article has investigated the key characteristics of interrogative pronouns of two Mabia (Gur) languages of Ghana. The work focused on the lexico-semantic and morphological properties and the distributional characteristics of interrogative pro-forms in Dagbani and Likpakpaanl. We first outlined an inventory for the interrogative pronouns and examined their internal structure. It was demonstrated that internally, the interrogative pronouns include both morphologically simplex and complex items. We established that the properties of the interrogative words in these languages include the distinction between human/non-human referents. Both languages distinguish between the interrogative pronouns based on whether they inquire about human/non-human referents. Other characteristics established included the marking of number and lexical ambiguity. On the inflection for number in the interrogatives, we further showed that the number marking exhibited both suppletive and non-suppletive patterns in Dagbani, but only the non-suppletive pattern in Likpakpaanl. Both languages, however, do not seem to be showing any parameter of variation in gender and case. The contribution of this paper is both empirical and theoretical. Empirically, we have offered a comparative study of an aspect of the Mabia languages that has been largely ignored in the Mabia literature.

In the theoretical landscape, we provided a formal syntactic account of the interrogative words. We claimed that they project an Interrogative Phrase headed by the wh-pronoun. Based on the empirical evidence of the sensitivity of some of these interrogative words to number marking, we further proposed that Number Phrase (NumP) is a functional projection within the Interrogative Phrase layer that is headed by a number affix. Suppletion did not receive a detailed examination in this paper. This is because suppletion in pronominals is currently an interesting domain of study that has attracted the attention of linguists. This area is, therefore, a potential topic for further investigation in the interrogative pronouns of Mabia (Gur) languages. The paper is essential because it contributes to the ongoing debate on the study of interrogatives in natural language, mainly by bringing data from lesser-known languages.

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