Numeral Classifier and Plurality: The Puzzle of Quantification in Magahi

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ABSTRACT
The complementarity between the numeral classifier and number morphology has been an important topic in research into classifier languages. Many studies delved into the basic structure of nouns, specifically working to account for the correspondence between their count/mass characteristics and their ontological and structural status (Greenberg 1977, Chierchia 1998, Borer 2005). This paper examines the structure of noun phrases (NP) in Magahi, a classifier language that demonstrates the co-occurrence of a numeral classifier and number morphology. Employing the theoretical framework of broader generative linguistics, it investigates the morpho-syntactic and semantic manifestation of numerals, nouns, numbers, and classifiers in Magahi. Unlike its neighboring languages like Bangla and Oriya, Magahi has distinct classifiers for individualization and referentialization. Thus, the numeral classifier in Magahi has a dedicated function. To explain the co-occurrence of plural morphology and the numeral classifier, the paper argues that plurality in Magahi has a distinct conceptual and structural configuration compared to the numeral classifier. Appealing to the notion of referentiality and definiteness, we claim that plurality and the numeral classifier seek different featural requirements from nouns and numerals and provide the semantic and syntactic rationale for the projections such as NumP, CardP and clP.

Keywords: Quantification, Plurality, Numeral classifier, Magahi, Morpho-syntax, Indo-Aryan

1 Introduction

Languages employing classifiers are frequently characterized as lacking a regular plural morphology (Greenberg 1977, Chierchia 1998a, Borer 2005). In such languages, count nouns exhibit structural behavior akin to mass nouns when it comes to the modification relationship between nouns and numerals. In other words, cardinal numerals fail to modify the nouns directly – [*Num – $N_{mass/count}$]. To address this structural gap, languages employ various strategies, one of them being the utilization of numeral classifiers to facilitate the modification relationship between nouns and numerals. In line with contemporary literature, the plural morphology functions like the numeral classifier. Thus, languages having plural morphology lack numeral classifiers and vice versa (Borer 2005). The examples below represent a class and a non-class language, respectively Magahi (1) and Hindi (2).

(1) hũa ʧar-go kiṯab rəkʰəl həi
there four-NCL book keep.PRF be.PRS
'Four books are kept there.'

(2) wəhɑ̃ ʧar kiṯabẽ rəkʰi hui hɛ̃
there four book.F.PL keep.F.PRF happen.F.PRF be.PRS.PL
'Four books are kept there.'

Slanches and Slobin (1973) first proposed the hypothesis that plural morphology and numeral classifiers do not co-occur. Greenberg observes that "Numeral classifier languages generally do not have a compulsory expression of nominal plurality, but at the most facultative expression" (Greenberg 1977: 25). The complementarity has to do with either the status of the noun or the functional characteristics of the classifier and the plurality on the ontological level. The necessity of the classifier in the syntax of numeral modification thus stems from either the

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inherent characteristics of nouns in the lexicon or the cardinal numerals (Wilhelm 2008, Gebhardt 2009). In a language, when bare nouns lack specific reference (transnumeral, as per Bisang 1999) and only convey the concept of an object, a linguistic particle is employed to anchor or ground the object (Taylor 2003). However, this doesn't say anything about the mass/count status of the noun.

In the common understanding of the quantity reference of the mass/count noun, the mass noun can be measured and the count can be counted using cardinal numerals. Languages with such a clear system are also known as non-classifier languages, such as Hindi (example (2)). On the contrary, in classifier languages, nouns are structurally incompatible with cardinals, highlighting a parallel syntactic structure between count and mass nouns (see 5 and 6).

(3) *t̪in pɑni (Hindi)
three water
(4) t̪in kiṭɑbẽ
three book.PL
(5) *t̪in ʤɔl (Bangla, a classifier language)
three water
(6) *t̪in boi
three book

The mass noun such as *pani* does not take either a cardinal numeral or plural morphology in its bare form, as in (3). On the other hand, count nouns are compatible with both cardinal numeral and plural morphology, as in (4). Additionally, the reference to more than one object in a discourse requires plural morphology. It appears there is correspondence between the ontological and syntactic manifestations of plural morphology. Chierchia (1998, 2010) argues that the idea of noun-numeral modification relies on the fact that nouns are atomic. Considering (5) and (6), then, it can be deduced that nouns in classifier languages are non-atomic, i.e., they fail to provide the desired atomic configuration for numerals. The ungrammaticality [* Num + N] reflects the ontological structural dissonance.

The role of the numeral classifier in classifier languages is therefore to interact with the structural dissonance and provide an acceptable numeral-noun configuration. In essence, it addresses the challenge related to the ontological status of nouns or numerals, thereby facilitating the syntactic structure as [Numeral-NCL + N]. The resultant structure is similar to the structure of mass nouns and measuring quantifiers in class languages.

(7) Three [glasses (CL)] of water.
(8) Three [units of (CL)] pen.

Bisang (1999) argues that the primary role of a classifier is to semantically enable count nouns to be enumerable. According to Bisang, classifiers, especially in Southeast Asian languages like Bangla /-tɑ/ (as in Biswas 2016), can possess the properties of individualization and referentialization. The classifier /-tɑ/ in Bangla can be used with both numerals and nouns for the respective semantics of individualization and referentialization. Additionally, many other classifiers in Bangla are used to refer to numbers. In contrast, what makes Magahi puzzling is that it features a distinct numeral classifier exclusively used with numerals, distinct from the dedicated noun classifier employed with nouns.

The system of classifiers in Magahi remains relatively unexplored, as no published work has delved into the formal and functional aspects of the numeral classifier and the noun classifier. In Kumar (2018, 2020), I attempt to study the semantics and morpho-syntactic complexity of NP in Magahi. However, the previous studies do not take the particular issue in detail. The data used in this paper are the product of my intuition (as a native speaker) and the observation of the community members.

The paper primarily engages with the question of complementarity between the availability and occurrence of numeral classifiers and plural markings in the language. The co-existence of both raises some theoretical and conceptual questions such as (a) the syntactic status of the number (plural morphology) and numeral in the language, (b) morpho-syntactic and semantic relevance of the numeral classifier, and (c) the ontological status of nouns. It also raises questions on claims made by Chierchia (1998a, b) and Borer (2005) regarding the functional similarity between the numeral classifier and plural morphology. To comprehend the phenomenon, the study examines the differentiation between the reference sought by the

cardinal numeral and the plural morphology. It argues that plurality seeks more than a mere numerical/number reference. The paper elucidates the co-occurrence of plurality and numeral classifiers, asserting that plurality and cardinal numerals seek different kinds of references at the operational level. To elucidate and comprehend the referential aspect, the concept of intersubjectivity (as described by Traugott 2010) is incorporated. In essence, intersubjectivity highlights the significance of the hearer and speaker in understanding the syntax and semantics of speech. As far as the distribution of the numeral classifier is concerned, I follow the acceptability parameter (native speakers' intuition) and offer an explanatory account for the infelicitous/ungrammatical structure. Syntactically, following Tang (1990) and Pan (1990), I posit NCL that follows the CardP projection. I argue for a few merits in considering this projection.

The paper organizes the information in the following manner: Section 2 describes the form, distribution, and function of the classifier in Magahi. It explores the different forms of the classifier and explains its non-compliance with nouns. Section 3 explores various forms of nouns concerning their status in the lexicon, including their relationship to numerals and the numeral classifier. Section 4 outlines the referential semantics of the numeral classifier in comparison to the other quantificational determiners. A syntactic account of the classifier is offered in section 5, along with the research implications and future possibilities.

2 Numeral Classifier in Magahi: Form and Distribution

In classifier languages, one notable feature is the structural resemblance between numerically modified count and mass nouns.

(9) **sonia ke ʧar kit̪ab ʧahə həi*
soni PP four book need be.IMPF.3NH
'Soni wants four books.'

(10) **sonia ke ʧar-(go) pani ʧahə həi*
soni PP four water need be.IMPF.3NH
'Soni wants four glasses of water.'

(11) *lilia ke pãʧ-go kələm ʧahə həi*
lily PP five-NCL pen need be.IMPF.3NH
'Lily wants five pens.'

Following the classifier-based account, both the count and the mass nouns are incompatible with the cardinal numeral, as in (9) and (10). The use of the numeral classifier in (9) as (11) will make the construction felicitous, which is not the case with (10). Given the observation, assuming that all nouns are mass in classifier languages is not a simple matter. Hence, a thorough examination of the numeral classifier's role is essential for a comprehensive understanding of the semantic and syntactic implications of [Num-(NCL) + $N_{mass/count}$]. To grasp the semantic contribution of the numeral classifier *-go* as a functional element, it is crucial to outline the structure, distribution, and meaning associated with the numeral classifier within the language. Barz and Diller (1985) briefly mention that there are two numeral classifiers in Magahi: *-go* and *-tʰo* that are syntactically placed between the adjective/numeral and the noun. An etymological account of the particle does not offer much help for this analysis. Moreover, there is a lack of reliable sources addressing the evolution of the numeral classifier in Magahi.

As per the observation, there is no distributional and functional distinction between *-go* and *-tʰo*; they are used interchangeably. I cautiously assume that the frequency of the use of one over the other is subject to geography and idiolect. In the variety spoken in the Patna district, the variant *-go* is preferred. Barz and Diller (1985) describe the classifier as a definite particle. They argue that it emphasizes the numeral. They also observe that the classifier has a disparaging effect. Nowrangi (1956:32), in his work on Sadani grammar (a dialect of Bhojpuri), indicates that *-go* is used with nouns and has non-honorific or disparaging semantics, e.g., *jani-go* (the woman, non-honorific). No such cases are observed in Magahi. Following (11), it is used as an enclitic with numerals (mostly) that precede nouns [Num-NCL +Adj. + N].

Following the criteria used to identify a classifier language, such as the bare occurrence of nouns in argument positions, interpretational ambiguity of bare nouns, and the absence of plural markers with measure and group classifiers, as well as the absence of a distinct overt D projection, Magahi qualifies as a classifier language. However, it does not fully attest to all these structural and functional aspects in a strict sense. Distinguishing between noun classifiers and

numeral classifiers, I propose that *-go* is a dedicated numeral classifier. It only appears alongside numerals and lacks anaphoric reference.

The distribution of the numeral classifier is subject to a few constraints. Mohan (1978), in the case of Bhojpuri, provides an exhaustive account of distributional constraints, such as the restricted use of the classifier with bigger numbers, names of the days, hours, other measurements of time, reduplication of quantifiers, and fraction numbers. The explanation offered by Mohan (1978) is limited to the nature of the study. He observes that the classifier ceases its occurrence with the complex number forms (e.g., hundred, thousand, and so on). Aikhenvald (2000: 100) observes that large numbers and abstract nouns do not require the classifier. As far as Magahi is concerned, the classifier can be seen with large numbers (Kumar 2020).

(12) *sonu* *həmərа* *səu-go* *aḏəmi* *ʧahə* *həu*
Sonu i.1.DAT hundred-NCL man need.IMPF be.IMPF.2NH
'Sonu, I need a hundred people.'

(13) *huã* *sait* *pə* *həʤar-go* *aḏəmi* *ke* *ʤərurəṯ* *həi*
there site on.PP thousand.NCL man PP need be.IMPF
'One thousand people are needed on the site.'

However, when these numbers are used in complex forms such as *ek/ḏu-səu* (one/two hundred), *ek/ḏu həʤar* (one/two thousand), a numeral classifier is not required unless there is specific stress on numbers.

(14) *sir* *ke* *pãʧ səu- (?go)* *pəṯəl* *ḏe* *ḏe*
sir PP five hundred-(NCL) plate give be.2NH
'Give five hundred plates to sir!'

When large numbers like hundred and thousand are not modified by cardinal numbers, they take the classifier, as in (12) and (13). The numeral phrase [Numeral-NCL+N] indicates the disposition required in classifier languages between count nouns and numbers. However, when these number units (*səu* (hundred), *həʤar* (thousand)) are used with cardinal numbers, they function like units or classifiers interacting with the structure of the count noun, as in (14), deriving the possibility of the absence of the classifier. In (12) and (13), the use of hundred and thousand translates as one hundred and one thousand in the presence of the numeral classifier. It seems the specification is explicated from the use of the numeral classifier *-go*. It also indicates the semantics of the atomic specification required by the classifier.

(15) *ḏu həʤar ek səu pəccis-go* *əḏəmi* *ke* *ʤərurəṯ* *həi*
two thousand one hundred twenty five-NCL man PP need be.IMPF
'Two thousand one hundred twenty-five men are needed.'

Dropping the classifier from (12) and (13) is possible. However, the usual occurrence suggests that 'hundred' and 'thousand' work as units, a number which is a whole. It therefore requires no other linguistic assistance. Nevertheless, when speakers use the classifier with these big numbers, they make it specific. Additionally, if large numbers end with an integer (from numeral 1 to 9), a numeral classifier is required [$Num_{(1\text{-}9)}$-NCL + N_{count}].

Similarly, the incompatibility of the numeral classifier with days and times is the consequence of the ontological status of these nouns. If a noun is abstract, and if it behaves as a classifier, it usually resists the occurrence of the numeral classifier.

(16) *həm* **ḏəs-go* *ḏin* *kam* *kərli* *he*
I ten-NCL day work do.PRF.1 be.PRF.1
'I have worked for ten days.'

(17) *tora* **pãʧ-go* *bəʤe* *awela* *həu*
you.DAT five-NCL o'clock come be.IMPF.2
'You must arrive at five o'clock.'

The nouns in (16) and (17), i.e. *ḏin* (day) and *bəʤe* (o'clock), do not neatly fit into the well-defined categories of count and mass nouns in terms of atomicity. Instead, they function more like units of measurement.

The classifier also restricts its occurrence with partitives. Partitives look for a reference as a whole, implying that individualization might not be required for the number reference, e.g., *ʧaro kiʈəba* (all four books). In the aggregative number reference, where the reference is inclusive and exclusive of the objects, the classifier is required.

(18) *həməra ek-o-go a:m ʧahi*
I.DAT one-ECL-NCL mango want.IMPF
'I want at least one mango.'

(19) *həməra ek-e-go a:m ʧahi*
I.DAT one-INCL-NCL mango want.IMPF
'I want only one mango.'

The use of the numeral classifier can also be observed with question words that seek answers in numerals, such as (20).

(20) *kæ-go kələm ʧahə həu*[2]
how many-NCL pen need be.IMPF.2NH
'How many pens do you want?'

The numeral classifier also occurs with a few adjectives, especially the types that attribute size and shape to an object.

(21) *həməra ləmba-go bæt miləək he*
I.DAT long-NCL bat get.PRF.1 be.PRF.1
'I got a long bat.'

Some other adjectives with which it can co-occur are *bərəka-go* (big-NCL), *ʧotəka-go* (small-NCL), and *ʧərkʰut-go* (square-NCL). However, the notion that the numeral classifier functions as an operation to make the count mass-noun countable (Borer 2005) does not straightforwardly explain its occurrence with adjectives. However, the interpretational account suggests it focuses on the structural specification of the objects. The classifier on adjectives is not a homophonous element, as the language does not allow structure such as [Num-NCL + Adj-CL __]. Notwithstanding, the nominal properties of the classifier can also be mapped in (20) and (21). The nominalization characteristics arise from the fact that at the operational level, it interacts with the configuration of nouns to yield [Num-NCL + N] structure.

The restricted occurrence of the classifier with adjectives can also be understood from a diachronic perspective, as Nowrangi (1956) observes the distribution of the classifier with the noun in Bhojpuri. I propose that the classifier *-go* has been semantically bleached under the process of grammaticalization. In its current use, it has lost its semantics of specificity, definiteness, and disparagement.

3 Noun, Numeral and Number in Magahi

The incompatibility of the numeral with the noun suggests the status of the noun as mass. Bisang (1999) describes that nouns in such languages refer to the concept of the object, and therefore are transnumeral. The form and interpretation of the noun at the argument positions need to be investigated to understand the status of the noun both at the linguistic and extralinguistic levels. In Magahi, nouns appear in bare and marked forms.

(22) *ʧələbe bæt-wa labe*
come.2NH bat-DD bring.IMPF
'Would you accompany us to retrieve the bat?'

(23) *gaye sidʰa hovə həi*
cow gentle happen.IMPF be.IMPF
'A cow is a gentle animal.'

[2] Magahi is a pro-drop language. Person markings on other grammatical elements are indicative of this fact.

The marked form of the noun occurs with a suffixed particle *-wa*, which has been treated differently by different scholars. Grierson (1993a) observes that the marked form is a phonological variant of nouns in Magahi. Verma (2003) outlines the semantic function of the particle similar to the definite article 'the' in English; she also notes its connotation of disparagement. In example (22), the noun takes the marked form, which points to a specified object. The particle *-wa* has the property of identifiability and familiarity, thus carrying the referential aspect. Alok (2012) terms the particle as a 'presuppositional familiar marker'. Bare nouns in argument positions provide kind/generic and existential reading, as in (23). In subject positions, they offer a kind and general interpretation, while in object positions, they convey an existential reading. Moreover, it is noteworthy that the presence of *-wa* is frequently observed alongside the occurrence of nouns in the language[3].

A recent investigation into the form and function of the particle reveals that it behaves like a bare classifier in the spirit of Cheng & Sybesma (1999) (Kumar 2020). Moreover, it has the function of classification, categorization and referentialization. However, for the present purpose, since I am appealing to the semantics of the definiteness of the particle, I call it a definite determiner (DD).

In the spirit of Chierchia (1998), Magahi belongs to the languages where the bare nouns at the argument positions provide either kind or generic reading (depending upon the nature of the predicate). In Chierchia's proposal (1998 a, b), bare nouns are not countable or individuated like (23) in Magahi. Interlocutors manage the specific interpretation of bare nouns in argument positions, especially the subject, by employing minimal modifiers (determiners) that narrow down the potential reference of the noun. One possibility in the present case is the use of the particle *-wa*. In the spirit of Bisang (1999), referentialization and individualization are achieved through the single classifier *-ta* in Bangla. In the absence of numerals in NP, *-ta* attaches to the bare nouns and gives the semantics of discourse anaphora. In the case of a typical [Num + N] construction, *-ta* follows the numeral as a bound morpheme, e.g., *ţin-te boi* (three-CL book). In Magahi, however, if we take the definiteness function of *-wa* exclusively, its incompatibility with numeral can be explained (see 24a).

(24) Magahi

a. **pãʧ əm-wa*
five mango-DD
'The five mangoes'

b. **pãʧ-wa am]*
five -DD mango

In classifier languages, a classifier is needed to dissect the configuration of nouns, enabling their subsequent processing in syntactic operations related to argumentation and enumeration. The occurrence of *-wa* with the noun initiates a similar kind of operation. However, as it is evident from (24a), it doesn't provide any conceptual operation that would individuate the noun to participate in the enumeration. Numerals are not compatible with the particle, as illustrated in the case of (24b).

(25) *?pãʧ-go əm-wa*
five-NCL mango-DD
'Five mangoes'

The (un)acceptability of (25) needs further explanation. Unlike Bangla, Magahi has distinct classifiers, namely *-wa* and *-go,* designated for each function—referentiality and individualization, respectively. Since these two functions are distinct, the unacceptability of (25) cannot be attributed to the complementary nature of the two classifiers. If we appeal to the

[3] In Kumar (2020), while describing the complex semantics of the particle *-wa*, I suggested that the particle should be treated as a noun classifier. Following literature like Aikhenvald (2000), Denny (1986), and Bisang (1999) among others, I provided a few functional implications of the particle in the language. It categorizes objects based on shape, gender, and physical attributes, and functions as a nativizing particle. I claim that *-wa* comes to be associated with the noun in the initial derivation of the noun itself. It has a referential property as in (22). It also has a disparaging effect, e.g., its use with honorific titles are infelicitous in normal circumstances, for example, *?məlik-wa* (owner-CL), *?məstər-wa* (master-CL).

notion of the uniqueness theory of definiteness (as proposed by Russel 1905, Hawkins 1991, Horn & Abbott 2012 among others), the co-occurrence of the definite particle with numerals appears to be deemed unacceptable. In the general understanding, when an NP is definite, the participants in the conversation possess knowledge about the specifics of the object. Consequently, there is no necessity for specifying the number. Borer (2005:161), building on the work of Heim (1982) and Kamp (1981), states that the definite article, functioning as a discourse anaphora, retrieves its referent from previously established discourse. The preceding context (pertaining to the object) not only serves as a point of reference but also imparts information about the object's mass-count properties and quantity. As definiteness inherently includes quantity specification as an attribute of the antecedent, a sentence like (25) becomes unacceptable. Nevertheless, following the familiarity theory of definiteness (Hiem 1983), the definite description pertains to an object which is introduced in the ongoing discourse, often termed discourse-old (Prince 1992). The familiarity feature, however, does not interact with the number specification. In certain instances, definiteness is employed to denote a particular type of object (such as a variety of mangoes). Consequently, the acceptability and unacceptability hinge on the intended role of the definite particle. If its primary semantic function is to convey familiarity, then (25) is acceptable.

4 Definiteness and Numerals

The semantics of the particle *-wa*, however, do not suggest that a number cannot be compatible with the definite noun. There is a complementarity between the bare cardinal numeral and the marked noun, as observed in the case of (24a). Yadav (1996), in the case of Maithili, claims that an NP modified by the numeral provides an indefinite specific reading of the object. Functionally, the characteristics of definiteness and indefiniteness are incompatible within a single structure, as the same object cannot be definite and indefinite within the same discourse. Also, as noticed by Cheng & Sybesma (1999) and Li (2013), cardinal numerals also provide referentiality like a definite determiner. Therefore, referentiality can also be thought of as a possible reason for the complementarity in (24a), as two categories might not be required in a single construction for a similar function.

Definiteness and/or referentiality are important in understanding the structural plausibility in the equation of the noun, numeral and classifier. Numerals can undo the abstractness of nouns; it has referential characteristics and can provide grounding (Taylor 2003) to nouns. This premise, at least, can provide different dynamics to the non-occurrence of the classifier *-wa* in the presence of the numeral. This also implies that numerals can undo the abstractness of the noun as a kind term in the classifier languages. Since the noun is already referentialized using numerals, no classifier is further needed to realize the noun, linguistically. Thus, *pãʧ-go am* (five-NCL mango) is a possible structure.

Fodor and Sag (1982) list linguistic categories that can have inherent referentiality. According to the list, the indefinite particle 'a', cardinal number, some, several, etc., can both be referential and non-referential. Partitive quantifiers such as *each, both, no*, etc., are semantically non-referential. Thus, the occurrence of *-wa* with partitives is an acceptable construction, due to its referential characteristic.

(26) *ʧar-o* *kələm-wa* *leɻe* *əihe*
all four pen-DD bring.IMPF come.IMPF.2NH
'Bring all the four pens when you come.'

Numerals can introduce the noun to the discourse, but they fail to interact with the noun for quantification purposes. This suggests that referentiality does not interact with the ontology of mass-count denotation. I posit the existence of two distinct systems within the language, each serving a different purpose: enumeration and referentialization. While numerals possess referential attributes, their failure to interact with the atomic configuration of the noun necessitates the use of a numeral classifier.

4.1 Numeral Classifier and Number

One of the prominent aspects of the classifier languages is the optionality of the plural system (Sanches and Slobin 1973, Greenberg 1977). The empirical research in the domain has challenged the idea of rigid conceptual complementarity. Borer (2005) opines that both can co-

exist in a language. However, only one is possible at the sentential level. Languages can have different linguistic strategies for a single function.

Magahi allows the presence of the plural marker when the reference is for more than one object. To obtain the additive plural in Magahi, a bound morpheme *-ən* is used with the bare noun.

(27) *sonu gəi-ən ke leṯe əihə*
sonu cow-DD.PL PP bring.IMPF come.IMPF.3H
'Sonu, bring the cows when you come.'

According to Haspelmath (2013), plurality varies on two dimensions: animacy and obligatoriness. Following Haspelmath's categorization, in Kumar (2018), I observe that Magahi belongs to the 'plural in all nouns, optional in inanimate'[4]. Also, as Corbet (2000) observes, plurality is more visible when the reference is to humans compared to other categories.

(28) *kursi-(ən) idʰər rəkʰə ḏe na*[5]
chair-(PL) this side keep give QN.TAG.H
'Keep the chairs on this side.'

In Kumar (2018), I observe that plural morphology is available for a wide range of nouns except abstract, mass, uncountable, and some inanimate nouns. The plural morphology is not very regular in the cases of inanimate nouns. It seems Magahi has not only a genuine number morphology but also a very different mechanism of number marking compared to languages such as Hindi and Bangla, a non-class and class language, respectively. As far as the complementarity between the classifier and plurality is concerned, the widely held assumption that nouns in classifier languages are conceptually unindividuated and mass-like (atomic noun) needs to be revisited.

The literature assumes that a numeral classifier enables counting by individuating the unindividuated mass noun (Krifka 1995; Chierchia 1998, 2010; Borer 2005, among others). According to Borer (2005), there is an assumption that despite their functional similarities, plurality and classifiers can coexist in a language. However, they cannot co-occur in a single construction. Following Borer (2005), the ontological distinction between the count and the mass noun is clear. A mass noun has the configuration of stuff. It is homogeneous in terms of its ill-defined boundaries and unstable spatial configuration (in Chierchia's (1998) words – unatomic denot). On the contrary, the count noun has a well-defined boundary, is spatially bound and can easily be defined as one. Borer, based on the grammatical difference, categorized nouns into count mass nouns (ontologically count) and mass mass nouns (ontologically mass). I subscribe to Borer's grammatical categorization, in that more than one operation can be available in languages to perform a similar function. However, Magahi provides a counterexample to Borer's claim by allowing the plurality and classifier to co-occur in a single construction.

(29) *ʧar-go ləik-(ən) ailə hələu*
four-NCL boy-PL come.2NH be.PRF.2NH
'There were four children present.'

(30) *pɔ̃ʧ-go kisaːn-(ən) ke iskim ḏeli he*
five-NCL farmer-PL PP scheme give.PRF.1 be.PRS.1
'I have given this scheme to five farmers.'

In (29) and (30), notice the presence of both a classifier and a plural morphology. Given the literature on the topic, the above examples present challenges. Variations in the language (lack of written literature and standardization) make the presence of the plurality in (29) and

[4] "In the obligatoriness dimension, I distinguish between non-occurrence, optional occurrence and obligatory occurrence. When these two dimensions are combined, we get the six values: no nominal plural; plural only in human nouns, optional; plural only in human nouns, obligatory; plural in all nouns, always optional; plural in all nouns, optional in inanimates, plurals in all nouns, always obligatory". (Haspelmath 2013:1).

[5] Haspelmath's (2013) categorization cannot apply to the language in any direct or rigid sense. Magahi allows flexibility in the occurrence of the plural compared to standard languages like Hindi. Even in cases of human reference, I have observed the case of optionality in the use of plural.

(30) optional. It is also subject to geographical variation. Nevertheless, the key aspect is its occurrence with the numeral classifier in a single structure[6].

4.2 Plurality in Magahi

Two forms of the plural are observed in Magahi. In Kumar (2018, 2020), I observe it as the marked and bare plural, pertaining to the morphological forms of the noun.

[N + PL] – Unmarked/bare form

[N-/wa/ +PL] - Marked form

In (27), (28) and (29), the bare nouns are marked with morpheme *-ən;* a plural marker. The marked plural is the addition of the plural marker on the definite-marked noun, i.e. the structural configuration is [N - /-wa/ + pl]. As far as the semantics of the two forms are concerned, the marked form receives the definite reading, similar to that of Persian (Gebhardt 2009). The bare form receives an indefinite reading in (29) and (30).

(31) *ləik-w-ən* *kʰeliʈ* *həvə* *mæɖan* *mẽ*
boy-DD-PL play.IMPF be.2H field in.LOC
'The boys are playing on the field.'

The boys in (23) are identifiable and familiar to the hearer. In the marked plural, the noun first merges with the definiteness marker, and the plural morpheme gets linearly affixed to the marked form. The underlying structure of the marked noun, I argue, is the same as that of the surface form. The definiteness (chiefly, the familiarity aspect of it) aspect precedes the enumeration in the nominal projection. The example demonstrates that plurality (number) and definiteness can co-exist in the language. The nominal expression in (31) also manifests the quantity in terms of the possibility of countability.

The examples from Magahi, such as (29) and (30), present challenges both at the structural and conceptual levels. To deal with this question, a further description of the syntax and semantics of the numeral, quantifier, and noun is needed.

5 Numeral, Quantifier and Noun

The distinction argued and established between count and mass nouns is based on their concurrence with numerals (Chierchia 1998). The structural and semantic interaction between nouns and quantifiers yields insightful implications. Within the realm of quantifiers, two distinct categories emerge: count and mass quantifiers. Count quantifiers can combine with plurals, while mass quantifiers exhibit different patterns.

(32) Magahi

a. *kuʧʰ* *kiʈab* *kʰəreɖela* *hələk*
some book.S buy.PRF be.PRF.1
'I had to buy some books.'

b. *kuʧʰ* *əɖmi-ən* *iɖʰər* *se* *ələi* *həl*
some man-PL this side PP come.PRF be.PRF.3NH
'Some men have passed from this path.'

c. **kuʧʰ-go* *əɖmi-(ən)*
some-NCL man-(PL)
'Some people'

[6] The reviewer has suggested that [Num - CL + N - DD] is possible. In example (25), we discussed the condition for the acceptability of it. I thank the reviewer for his/her suggestion for considering the plurality as an optional in the language. I have, in fact, stated that plurality is not a regular phenomenon in Magahi. Its occurrence is also subject to the animacy hierarchy. It has been observed that the definite plural sounds good with partitives and not with the numerals (bare or marked, as per native speakers' intuition). The simple translation of 'five mangoes' in Magahi is '*pɑʧ- (go) a:m*' (five-(NCL) mango). The issue that the paper deals with, however, is how we explain the structures like (29) and (30).

(33) **kucʰ ɖuɖʰ/ʧai kʰəriɖela həlәi*
some milk/tea buy.PRF be.PRF
'I had to buy some milk/tea.'

Count quantifiers do not occur with the numeral classifier (32c). The non-occurrence of quantifiers with mass nouns (unatomic entity (33)) indicates their status as count quantifiers. However, its non-occurrence with the numeral and numeral classifier suggests that quantificational determiners do not seek exact atoms in the process of enumeration as numerals do. They refer to a set whose number (specific) is not known. It also subtly pushes a proposal which is not in accordance with Chierchia's, i.e. nouns in their orientation are mass in classifier languages. Following Wilhelm (2008), nouns can be mapped in terms of atomicity. Quantifiers provide two kinds of reading: one that indicates the wholeness, e.g., *eke-ek* (each/every), and another that provides the semantics of *some* or *a few* which have limited contextual reference. Considering the nature of the reference produced by non-numeral quantifiers, they do not interact with the structure of nouns in a manner that numerals do. Quantifiers interact with the ontological status of nouns as count or mass (see 32 (a and b) and 33).

Cardinal numbers in comparison to other quantificational determiners require or provide a precise or absolute quantification. Following the structural configuration, such as in examples (32) and (33), we observe that the focus should be on numerals to understand the equation of [Numeral/quantifier + N]. If a noun is ontologically a count or mass as it is structurally suggested, the question should shift to investigate the status and function of numerals (cardinals), as other count quantifiers do not require a classifier. Wilhelm (2008:54-55) argues that numerals lack the semantics of 'unit' in their lexical meaning, thus, an additional linguistic function is required. If we take this proposal forward, it might explain the infelicitous structures, such as [*Numeral + N_{mass}], and the feasibility of the co-occurrence of quantificational determiners and count nouns, i.e. [$Quantifiers_{some}$ + N_{count}].

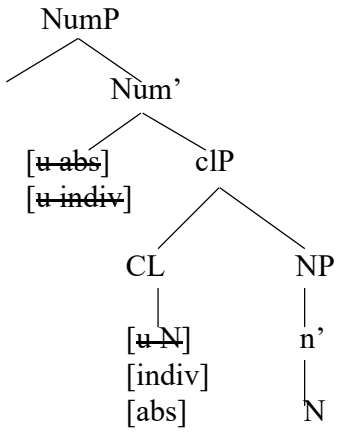
However, Wilhelm's proposal cannot explain the structure such as *one cup of tea*, where *one*, as a numeral, modifies the cup as a countable noun without being aided by the numeral classifier. Additionally, in the cases where speakers use constructions like numeral-noun (*səu ɖin* (hundred days), the proposal falls short.
Gebhardt (2009), to explain the co-occurrence of NCL and PL, argues that numerals require absolute quantification.

(34) *ʧʰəo-go ləika kʰəra həi*
six-NCL boy stand be.PRS.3NH
'Six boys are standing.'

The reference in (34) provides absolute quantification for each set of generalized quantifiers. In the spirit of Gebhardt (2009), the cardinal numeral has an uninterpretable 'absolute' feature [u-abs], and quantificational determiners have an uninterpretable 'relative' feature [u-rel]. In this proposal, a cardinal numeral requires a noun that can provide an absolute quantification. On the other hand, quantificational determiners having the uninterpretable 'relative' feature look for relative quantification features.

Since nouns in classifier languages are in the form of mass, the cardinal numeral fails to check the uninterpretable 'absolute' feature due to the lack of a specific interpretable goal. In such a case, the system crashes, and we get *[Num + N]. As I have argued above, the semantics of the numeral classifier is to individuate or atomize the noun or to provide a system where numerals and nouns interact for specific features. Following this, the numeral classifier in the language has an interpretable 'absolute' feature. In the precise architecture of this understanding, the uninterpretable feature of the cardinal numeral working as a probe will check off the feature on the numeral classifier, i.e. the goal (following Gebhardt 2009).

(i)



The system makes the presence of the numeral classifier mandatory for the occurrence of the [Cardinal Numeral + N] sequence. The proposal gives some desired structural and functional outcomes. For example, a quantificational determiner that has the relative feature [u-rel] will not be interpreted in the presence of the numeral classifier for the reason that it cannot satisfy the featural requirement. Consequently, we have an ungrammatical structure such as (32b). The proposal functionally entails the difference between the cardinal and non-cardinal quantificational determiners. Following these implications, Wilhelm's (2008) and Gebhardt's (2009) proposals must not be seen in contrast. Both take cardinal numerals to be the subject of inquiry. Cardinal numerals have an uninterpretable absolute feature that can only be interpreted in the presence of an active goal, i.e. the numeral classifier. It is similar to Wilhelm's (2008) proposal which suggests that the numeral classifier has the semantics of 'object unit'. Wilhelm argues that cardinal numerals lack 'unit' to interact with count nouns. Nevertheless, Gebhardt's approach suggests that numeral classifiers engage with both nouns and numerals, syntactically and semantically. It is in conscience with the idea the paper assumes.

As far as the syntactic representation (D-structure) of the NP is concerned, the hierarchical positions of the noun and numeral have been the subject of the next section. It also seeks to engage with the question of the complementarity between the classifier and plurality, considering the existence of constructions such as (29) and (30) in Magahi.

6 Plurality and Quantification

Plurals behave as non-cardinal quantificational determiners such as *some*. They do not require exact/absolute quantification like cardinal numerals. Plurality and quantificational determiners hint towards the syntactic availability of count nouns in the language, as they can directly modify the noun. The plural (non-definite) expects the count noun as a counting atom, and thus, an operation of addition is possible.

Following the structural behavior of the plural, it appears nouns do not offer the configuration of absoluteness which is required by the cardinal numeral in the language. Since number marking is possible with count nouns, the understanding of syntactic mass nouns must be revisited. Wilhelm (2008) argues that bare nouns in argument positions can be categorized as the third type of number, as it provides the atomic configuration at the ontological level. This is in opposition to Chierchia's approach where count and mass levels are subject to the number criterion. In the case of Magahi, the availability of plurality and number quantifiers provides further insights into the status of count nouns.

The idea can be substantiated by the structural requirement of an equation, where both number (plurality) and numerals are present [Num-CL + N-PL], as in (29). We propose that number morphology and the classifier require different kinds of semantic and syntactic configurations with count nouns. The plural marker indicates a non-definite, unspecified reference, for example, *ləik-ən* (boys). As argued in the literature, the bare plural usually has a generic reference. The [N+PL] structure entails the semantic availability of count and mass nouns in the lexicon. Furthermore, as can be seen in (27), cardinal numerals cannot directly modify the plural noun.

(35) **ʧaɾ ləik-ən*

four boy-PL
'Four boys'

Following (32), we conclude that non-cardinal quantificational determiners require different configurations from nouns compared to cardinal numerals. Also, considering (32a) as a grammatical sentence (the co-occurrence of the plural and the quantifier *kuʧʰ* (some)) and (35) (the non-concurrence of numerals and the plural) as an ungrammatical, we can conclude that the plural morphology in Magahi does not require an absolute feature.
This understanding or proposal explains the structures like (29) and (30), i.e. the co-occurrence of the numeral classifier, cardinal numerals, and plurality. The numeral classifier justifies the occurrence of the numeral. The plural interacts with the noun for a relative feature in terms of a non-cardinal quantificational determiner.

Another observation that is relevant to the description of the phenomenon at hand is the structural behavior of the definite-marked plural with nouns and numerals. Like universal quantificational determiners, the marked plural provides the semantics of the whole (presuppositional identity), thus, avoiding the structural necessity of the numeral classifier in the equation of number markings, nouns, and numerals.

(36) *ʧaro* *ləikəwən* *kʰele* *geləi* *he*
four.PART children.DD.PL play.IMPF go.PRF be.PRS.3NH
'All the four children have gone to play.'

6.1 Classifier, Plurality and Countability

In the previous section, I proposed the idea that plurality and the numeral classifier look for different configurations. In section 3.2, I presented an example where the numeral classifier and the plurality were seen in a single structure, as in (29). Even though I have argued that plurality does not offer the same configuration as the numeral classifier in Magahi, their complementarity in non-class languages needs explanation. Non-class languages allow the co-occurrence of cardinal numerals and plural morphology in a single construction like *ʧaɾ kiʈabẽ* (four books). A general account of the noun and the countability must see some functional similarities between the numeral classifier and the plurality. Approaching the issue from the featural requirement, the plural morphology has both absolutive and relative features. The additive plural refers to a collection of individuals—a set of referentially homogeneous entities. Every referent of the plural noun is a referent of the stem as well (Daniel and Moravcsik 2013). In this way, the difference between the numeral classifier and the plural is that the latter offers individuation, relative and absolute features, whereas the numeral classifier offers individuation and absolutive features.

The regular plural marker is similar to non-cardinal quantificational determiners in offering relative features. Moreover, they are close to the idea of number-indeterminateness, similar to the bare occurrence of the noun at the argument positions (subject). The semantic features such as +absolutive, +relative, and +individuate associated with the numeral classifier and plurality, can be regarded as universal characteristics. However, in the syntactic manifestation, it is possible that certain nodes/categories only show a few features, in the similar line of Agree (Chomsky 2001). In Agree, it is proposed that a node can only show a few features among the bundle of features (Julien 2005) in a particular kind of interpretation. The presence of all these features can be understood in terms of principles. Moreover, languages can vary in terms of showing the number of features. Considering this proposal, I argue for a language-specific consideration whereas the plural marker in Magahi lacks the absolutive feature. The observation comes from the structural fact that a cardinal numeral hardly occurs with the plural noun (see example (35))[7]. In some languages, the features are strong in the plural as well as in the numeral classifier; in such languages, they are in complementary distribution. However, in languages where these features are not that strong in either of the two, i.e. plurality or classifier, they co-occur. One of the ways to know that a language does not offer strong semantic features in plurality is to see the occurrence of plurality in a range of nouns. The plural morphology in such languages is not obligatory across the types of nouns (see Kumar 2018).

[7] The motivation for the lack of features can be attributed to the structural restriction along with the lack of a completely developed system of plurality in the language.

I argue that in Magahi, the plural morphology consists of individuation and relative features; however, it lacks the absolutive feature. Similarly, the numeral classifier offers individuation and absolutive features. The cardinal numeral seeks + absolutive feature from the noun. In case nouns fail to respond to the absolutive featural requirement of the cardinal numeral, the classifier satisfies the structural requirement. Moreover, in the case of partitives and non-cardinal quantificational determiners where the quantification is not in the absolutive features, a modified numeral-noun equation is possible. This particular account will explain how sentences like (29) and (30) are possible. A cardinal numeral requires individuation and absolutive features, which are satisfied by the presence of the numeral classifier.

There are other languages like Magahi which allow the co-occurrence of the numeral classifier and the plural in the single construction, e.g., Paiwan, a Formosan language (Tang 2004), and Itzaj Maya, a Mayan language (Hofling (2000) referred by Gebhardt (2009)). Sanches and Slobin (1973) argue that the presence of both in a language might be because either of the systems is 'weakly developed'.

6.2 Structural Position of the Numeral and the Classifier

Syntactically, the numeral classifier in Magahi is positioned following the cardinal numeral. To justify the syntactic position of the numeral classifier as a functional projection, it is important to see the distributional constraints of the classifier. It doesn't appear with some nouns, for example, the function of nouns as classifiers or some measurement units, such as *ɖin* (day) and *bəje* in *ʈar ɖin* (four days) and *pãʈ bəje* (five o'clock). Also, in the case of mass nouns, e.g., *ek-kilo ʈawəl* (one kg rice) and *ek-həzər/səu aɖəmi* (one thousand/hundred people). We observed that some nouns behave as classifiers or units. Thus, they are in complementary distribution with the numeral classifier. To account for this pattern, we assume that for the above-mentioned nouns, the syntactic position of the classifier is initially empty. Subsequently, these nouns move to the CL position to occupy that projection, thereby satisfying their functions as both nouns and classifiers. It is argued that when N moves to CL, the copy of N remains, and is phonetically spelled-out (similar to the Simpson & Biswas (2016) analysis in the case of Bangla). This analysis can account for the absence of the classifier with nouns such as *ɖin* (day), bəje (o'clock), and so on. It is not debatable that certain nouns inherently function as classifiers and, as a result, do not necessitate an overt classifier.

(ii) $[_{\text{CardP}}$ Card' $[_{\text{CLP}}$ CL $[_{\text{NP}} \ldots]]]$

The motivation for this movement in our account is the requirement of the +absolutive feature of cardinal numerals to occur in the syntactic construct of the numeral-noun modification. Thus, if a linguistic particle provides an +absolutive feature to the cardinal numeral, the numeral classifier is not required.

The syntactic projection of a numeral classifier as a complex/merged head is argued by Kawashima (1993), Muromatsu (1998), and Bhattacharya (1999). In the case of the merged head (Num-CL), the classifier heads the projection, primarily because of its suffixed nature and its inability to stand alone. Another approach, followed by Tang (1990) and Pan (1990), argues in favor of separate projections for the numeral and the classifier. The two different proposals are subject to the structural behavior of the noun, number, and classifier, and are further based on the 'look ahead' proposal of syntax.[8] As far as the structural closeness is concerned, when the numeral and the classifier occur as a single uninterruptible sequence, i.e. phonologically as a single unit, and a sequence that can float together—it can be projected as a single merged node.

In Magahi, though the numeral and the classifier appear together as a single unit in most of the cases, there are instances like (18) and (19) where linguistic entities intervene. When separate nodes for the two categories are projected, it is put in a manner where Num^0 selects clP. It can account for the phonological dependency of the classifier (because of the enclitic nature of the classifier). For the separate projection, apart from the structural motivation, there is a semantic/functional motivation as well. It is argued that a numeral and the numeral classifier host different semantic features.

[8] The decision of the one proposal over the other based on the configuration of other elements in the syntax of nominal in the language, and the advantage of preferring one over the other.

7 Closing Remarks

In terms of structure, while it is evident that the numeral classifier relies more on numerals than nouns, it functions as an operation applied to the noun. In classifier languages, two primary behaviors of the classifier emerge: firstly, the lexicalization of the classifier is topological, and secondly, its occurrence with nouns as a definite bare classifier. In the second case, the noun moves to the clP, as in the case of Bangla. Notwithstanding, neither of the two behaviors is observed in Magahi. In the paper, it is argued that the numeral classifier has to do with both the noun and the numeral.

In the spirit of Gebhardt (2009), we argue that the numeral has an uninterpretable 'absolute' feature that looks for the goal. The presence of the numeral classifier as an intermediate projection satisfies the requirement. The proposal seems promising; however, it is not tenable for the data where the absolute feature of the numeral is unchecked, for example, when it is followed by nouns functioning as units like glass in (37).

(37)	*ek*	*gilas*	*pani*	*ləihe*	*ho*
	one	glass	water	bring.2NH	be.IMPF.2NH
	'Bring me a glass of water!'				

If this approach is to work, the numeral classifier has to interact with both nouns and numerals. In the case of nouns that take numerals but not the numeral classifier, numerals fail to get the +absolute feature. To account for the structure like (37), we proposed that these nouns can move to the classifier position (CL^0) to interact with numerals. With this proposal, it is implied that these nouns have [+absolutive] interpretable features. This is not in compliance with the proposal we have developed so far. Moreover, in no way, we can advance a theory that can justify that these nouns have [+absolutive] features and others such as ontologically more concrete and countable nouns like pen, chair, etc. do not.

Therefore, we must advance an understanding that the syntactic position CL^0 itself hosts the feature, and when overtly realized, it becomes interpretable. It is similar to the cases of DP where D as a syntactic node hosts the features and when morphologically realized it gets activated, as in the case of proper nouns (Longobardi 1994). Following this understanding, when nouns like *gilas* (glass) land in the CL^0 position, they get an interpretable absolutive feature. Thus, nouns compatible with cardinal numerals in such cases land at the CL position and are interpreted as number-noun phrases without the classifier. In the cases where the classifier is overtly realized, numerals check off the feature with the classifier. The possible motivation for the movement of these nouns to the classifier position is the contestation between the numeral classifier and noun-turned-classifier for a similar functional role. Depending upon the nature of nouns, classifiers are required.

Abbreviation

1 – First person
2 – Second person
3 – Third person
IA – Indo-Aryan
CL – Classifier
DAT – Dative case
DD – Definite determiner
ECL – Exclusive
GEN – Genitive
INCL – Inclusive
IMPF – Imperfective
LOC – Locative
NCL – Numeral classifier
NH – Non-honorific
PART – Partitive
PRF – Perfective
PL – Plural
PP – Post position
PRS – Present

QN TAG – Question Tag

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