

NUMERAL TO NUMERAL OF BALMIKI AND KUPIA: A MORPHOLOGICAL COMPARISON

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Abstract

Numeral systems are the major counting methods found across languages. They are characterised by unique morphosyntactic structures to show numericity. The efficiency of communicating numbers is related to the morphological construction of numerals. These are also valuable sources for genetic classification. Besides, they play a vital role in establishing the antiquity of a cognate language. Peculiarly, the numeral systems of languages are the most vulnerable to elimination due to major or dominant languages. The quest in this article is to analyse the numeral morphology of Balmiki, a lesser-known language spoken in Odisha, and compare it with that of Kupia, a language spoken in Andhra Pradesh by the B/Valmiki community, to determine if their numeral structures are concealed or influenced by their encroaching languages. This study further contests a louder outbreak created during 2016-18 to ‘*discover the Walmiki language*’ by analysing a few unreliable numeral examples. In a series, this is the second study that compares and propounds conclusively to the fact that how these duo languages shed light on shared characteristics of numerals inherited or descended in other Indo-Aryan traditions from an etymological ancestor.

Keywords: *Andhra Pradesh; balmiki; morphological structure; kupia; numbers; numerals; odisha*

1. Introduction

The danger of being known as someone fascinated by vague discovery is that you run the potential risk of respect from peers and academicians using it to humour you. It is essential to maintain a balance between fascination with a rigorous and discerning approach to avoid being perceived as gullible or naive. Moreover, Karl Popper (1995) offers a systematic frame of mind in which related disciplines cover the problem with greater tolerance to other counter-contentions. In his words:

“We must be clear in our own minds that we need other people to discover and correct our mistakes (as they need us), especially those people who have grown up with different ideas in a different environment. This too leads to tolerance” (Popper, 1995: 202-fn).

"Language is mankind's greatest invention — except, of course, that it was never invented" (Guy Deutscher, 2006: 1). It has long been believed that the most impressive recognition of a language is the one that does not have to be a Jawaharlal Nehru (1945) or a Christopher Columbus (1492), or a Vasco da Gama (1497) to discover its efforts but by linguists out of the linguistic analysis (for similar views, see, e.g., Ghazanfar, 2018: 23). Nevertheless, one thing to note with the word '*discovery*' is used in an obscure sense by academic or non-academic fields, where it can refer randomly to almost anything – not convincing to any language found later, and that is made so exciting as an object of study. The concern is about the common notion of discovery if taken for acceptance. In that case, the discoverer must remit substantial information for their discovery — some verifiable account accompanying its history. Language, together with our intelligence, is what makes us human! This is why human language is not to be discovered by someone. Because they already exist somewhere in some regions and are used by their speakers. Under the linguistic rules, the apparent contradiction underpins our fascination with language, as it holds many secrets, not just rumours, on its structural properties. If they are traced, it would not count as discoveries, instead considered an identification—only a few languages and the rest are derived from earlier ones and later improvised.

Indisputably, all linguistics practitioners think of describing languages more generally in some sense. However, they often presume that questions about what is achieved (or not) during linguistic exchanges are 'simply' affairs of language use and entirely different phenomena from questions about language itself. Dwight Bolinger addresses '*Truth is a Linguistic Question*' and clarifies that linguists can (indeed should) substantiate how people distort language to give an unpopular impression to others. The abstract of his article can be anchored here to justify:

“Truth is the most fundamental of all questions of appropriateness in language. Communication presupposes non-concealment among interlocutors, which logically excludes all forms of deception, not merely propositional lies. The lie, broadly conceived, is therefore, a proper object of study for linguists, and a necessary one at a time when lying is cultivated as an art. As members of society, we have an obligation to respond by investigating the lies implicit in propositions, deletions, indirections, and loaded and jargonesque elements in the lexicon” (Bolinger, 1973: 539).

This fact further reasons out by Peter Austin (2021: 41). To him:

“[I]n a globalising world, no country or location is isolated, and no country can escape linguistic and cultural issues/rights. Understanding language shift, loss, and maintenance fundamentally requires understanding beliefs and ideologies about language value, meaning, structure, and use.”

It is, therefore, important to understand that language is a powerful means of uniting people and identifying them within a speech community. Unless linguists do, it is difficult for the common masses to understand how languages differ from each other. Neighbouring languages are often mutually intelligible, and when one crosses their linguistic boundaries (for elaborated viewpoints by the present authors, see Pattanayak & Dash, 2020: 206-208). On such merit, Martin Haspelmath (2010) advocates:

“[O]ut of the countless possibilities, a comparative (or typological) study can ‘do justice’ to each linguistic aspect of their descriptions and make them comprehensible by linguists. At the same time, describers must ask a wide range of questions that would not have taken place in practice for language description” (cited in Haspelmath, 2020: 347-360).

Hence, we offer a clarification of the misunderstood numerals and their implications for linguistic analysis to reproach Mohanty’s (2016) reasonable language discovery stance.

The counting system and numeral categories have always been pervasive in all languages of the world (Hurford, 1987). Number words are expressed using different types of numeral systems. These expressions specify the names of numbers and their numerosity. The derivation of number words begins with the fingers of two hands, admitted universally true, whether it has written symbols or not. Many numeral systems can be typologized based on their common features, particularly morphological structures. In this study, we analyse the morpho(syntactic) structures of the cardinal numbers of Balmiki and Kupia from a typological perspective relating to the languages spoken in the same vicinity where numerous spoken vernaculars are largely undocumented, and its lexicon can be used to decipher the profile of the contact and a point investigator in the right direction.

An essential attempt in this direction, we begin the discussion with a brief overview of the languages under which Balmiki and Kupia are circumscribed with Odia and Telugu, the languages spoken in the area where the former two languages exist. In the main part, we analyse and compare the numeral systems of the languages. An additional goal of this paper is to interrogate the interconnected issues that the *discovery of ‘Walmiki’* in Odisha by Panchanan Mohanty (Mohanty, 2016: x-xiv [in Ostler & Mohanty, 2016]) gives a unique name to the language – whether pseudonyms or legitimate and has been subsequently received through media ammo in its kind that erupts from linguistic experience or universal sharing is another type of linguistic corruption of him.

Unlike Mohanty's (2016) study, the present attempt critically compares his cherry-picked numeral examples and illustrations to question whether a small or closed set of suspects needs verification. We aim to contest his defamatory *discovery* of the ‘*Walmiki*’ and his interpretation of numerals under contaminated crosslinguistic categories. We also examine his claims about the Balmiki numeral connecting to the Marathi and Dravidian languages. On the laws of thought, all knowledge communities must comply with the doctrines of identity, contradiction, excluded focus, and sufficient reason.

2. Literature Review

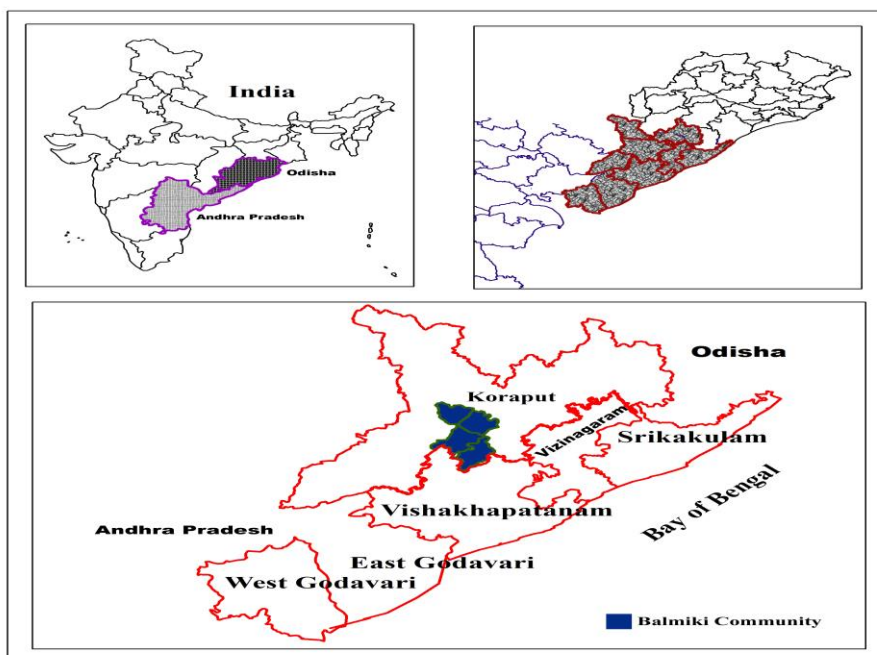
Over the centuries, the name Balmiki has occupied a special place in the history of world literature. One is prominent for a classical Epic, *Rāmāyaṇa*, authored by Maharshi Balmiki, who lived in the 1st century B.C. According to a general acceptance, it is the first lyrical epic that connects the Indian tradition with the rules of aesthetical conception. It has been known for the universally recognised concept of metrical form, as described by Narendra Nath Sarma (1994: 74). The other is known as an indigenous

community. Indigenous is a term neutrally adopted by the United Nations on 13 September 2007. It refers to aborigines, aboriginal people, tribal people, native people, first people, fourth world cultures, and autochthonous, considered by Independent Countries. However, in India, indigenous people are considered Scheduled Tribes or “tribals”, and thus, these terms are used interchangeably in different literature. Several laws and constitutional provisions exist for such people, with no satisfactory data on the number of Indigenous people available to the government.

The B/Valmiki community is a heterogeneous set of ethnic groups representing the canon in linguistic anthropology within the Indian sub-continent. Long ago, the gripping fact is that Balmikis have been settled in a contiguous topographical area of Southern Odisha and Eastern Andhra Pradesh (see Figure 1). Before this, the whole ecological area was a part of the Visakhapatnam district (now in Andhra Pradesh from 1956) under the Madras Presidency. During the British period, when Odisha province was formed on a linguistic basis on 1 April 1936, there were changes in the political maps, so the communes living in these areas were worst affected. This area falls under the Eastern Ghats – the discontinuous mountain ranges through the Odisha, Andhra Pradesh, Karnataka, and Tamil Nadu states of Peninsular India. Many different primitive communities are concentrated in the Eastern Ghats of the high-altitude zone. The traditional occupations of the tribes vary from area to area depending on topography, availability of forests, land, water, etc.

If we consider the modern linguistic states of India and the languages reconfigured there within — a language has never been bound or seldom due to political maps. Heritably, a language is known by the people it is used by. Balmiki language is also known as Valmiki, Valamiki, and Balmiki but not Walmiki (see in M. W. M. Yeatts, 1932; R. B. Christmas & J. E. Christmas, 1973a; T. Madhava Menon, 1997; Nilakantha Dolia, 2009; *Ethnologue* [in Simons & Fennig, 2018]). The community claims to be the descendants of Balmiki, the composer of the well-known epic *Rāmāyaṇa*.

Figure 1. A geolocation map using *Arc GIS* 10.4 software about the presence of Balmiki community in the contiguous area.



In Odisha, the Balmiki community is referred to as Domba or Sugri Kandha (Gopinath Mohanty, 1956: 2). The ethnographic evidence about the existence of this community and their domicile are found in several works (e.g., Indian Census of 1931 in Yeatts 1932; Mohanty, 1956; Kamalamanohararao, 1968: 84; Madhava Menon, 1997: 278-282; Rajpramukh & Palkumar, 2005; Dolia, 2009; Pattanayak & Dash, 2020, among others). It was mentioned in their works that Valmikis are Domba/Paidi/Kandha Mala, Hill Pariah, and Panchamas of Agency tribes in Andhra Pradesh and are referred to as the untouchable equivalents of the hills. Their works also quoted the Colonial Administrative Reports of 1915, under which the name of the community is found. They stated that 'Valmiki' was later placed officially in 1935 (see Rajpramukh & Palkumar, 2005: 155), and there have been amendments between 1956 and 2017 to read with the latest Constitution (Scheduled Castes) Orders (Amendment) Bill, 2017.

B/Valmikis have notified as Scheduled Castes (SC) and Scheduled Tribes (ST) category in their domicile states of India. Due to discriminatory categorisation, Balmikis have long demanded for 70 years to give the ST status before the Government of India. Many Parliamentarians have posed repeated questions before the Government of India to include the Balmiki community under ST status. Very recently, on 8 March 2021, a question in item no. 2185 is being asked in the Lok Sabha by the esteemed Member of Parliament, Shri Talari Rangaiah of YSR Congress Party, Andhra Pradesh. Responding to him, the then Union Minister for Tribal Affairs, Srimati Renuka Singh Saruta, has adumbrated the status of the Balmiki/Valmiki/Valamiki community irrespective of the States and Union Territories of India. The following answer shows the scheduling of the community across Indian states (see Table-1).

Table 1. Balmiki/Valmiki/Valamiki notified under Scheduled Castes or Scheduled Tribes in the following States and Union Territories — information as of 8 March 2021.

| A. As Scheduled Castes | | |
|-------------------------------|-------------------------------|---------------------------------------|
| Sl. | State/ Union Territory | Name of Community |
| 1 | Gujarat | Balmiki (Sl. No. 5) |
| 2 | Haryana | Balmiki (Sl. No. 2) |
| 3 | Himachal Pradesh | Balmiki (Sl. No. 3) |
| 4 | Karnataka | Balmiki (Sl. No. 21) |
| 5 | Madhya Pradesh | Balmiki (Sl. No. 11) |
| 6 | Maharashtra | Balmiki (Sl. No. 12) |
| 7 | Odisha | Valamiki, Valmiki (Sl. No. 93) |
| 8 | Punjab | Balmiki (Sl. No. 2) |
| 9 | Rajasthan | Balmiki, Valmiki (Sl. No. 14) |
| 10 | Uttar Pradesh | Balmiki (Sl. No. 11) |
| 11 | West Bengal | Balmiki (Sl. No. 22) |
| 12 | Uttarakhand | Balmiki (Sl. No. 11) |
| 13 | Chhattisgarh | Balmiki (Sl. No. 11) |
| 14 | Delhi | Chura (Balmiki) (Sl. No. 12) |
| 15 | Chandigarh | Balmiki (Sl. No. 7) |
| 16 | Jammu Kashmir | Balmiki (Sl. No. 5) |
| 17 | Ladakh | Balmiki (Sl. No. 5) |

| B. As Scheduled Tribes | | |
|--|-----------------------|---|
| 18 | Andhra Pradesh | Valmiki (Sl. No. 30) (Scheduled Areas of Vishakhapatnam, Srikakulam, Vijayanagram, East Godavari and West Godavari districts) |
| 19 | Karnataka | Valmiki (Sl. No. 38) |
| Source: [https://datais.info/loksabha/question/ae5f9d1776e319ba84cb7a320f575946/Inclusion-of-Valmiki-Boya-in-ST-List/] | | |

While the Census of 1931 (cited in Yeatts, 1932) enumerated Balmiki as a separate linguistic group, we find a few references at a later period, up until Dolia (2009). Gopinath Mohanty (1956) discusses this community under other tribal groups in the Ganjam, Phulbani, and Koraput districts of Odisha. Except for Panchanan Mohanty (2016), most scholars treated Kupia and Valmiki as the same language and have interchangeably used both terms (see, for detail justification, Christmas & Christmas, 1973a; Usha Devi & Chandrashekar Reddy (Usha Devi & Reddy, 2015, [see *trans.*, Vishvanatham & Nageswara Rao, 2019: 270-284]); Shahr Baruch Shirtz (Shirtz, 2017: 50-51); Pattanayak & Dash, 2020).

We shall discuss Kupia below and elaborate on the observations made by different scholars, whether it is a different language or not. The scholars who studied the Balmiki language showed its proximity to Odia (cf. Christmas & Christmas 1973a; Dolia, 2009; Madhava Menon, 1997; Pattanayak & Dash, 2020). To establish this position even more strongly, the work of Dolia (2009), a Balmiki himself, quite emphatically establishes the closeness of Balmiki to Sanskrit and Odia. Later, in 2018, a written memorandum by Balmikis of Odisha objecting to the Koraput district magistrate authority about the academic distortion by Mohanty during 2016-18 to justify their ethnic identity and linguistic antiquity rested all confusion.

Most scholars generally found Kupia, a language spoken in Andhra Pradesh, and Balmiki language in Odisha by the B/Valmiki community. *Ethnologue* denotes one code: “ISO 639-3 key” for both language forms (see Simons & Fennig, 2018). Yeatts (1932: 307) mentioned the language 'Kuppi' less than a century ago. At the same time, Usha Devi and Reddy (2015 [see *trans.*, Vishvanatham & Nageswara Rao, 2019: 270-284]) and Shirtz (2017) have used 'Kupiya' and 'Kupia' in their works. Christmas and Christmas (1973a & 1973b) mention 'Kupia' and 'Valmiki' in their work. The studies of Christmas and Christmas (1973) contain primary data on the language. Their observations and preferences to use Kupia and Valmiki as one language hold the most distinctive ground. The works of Usha Devi & Reddy (2015) and Shirtz (2017) bear the influence of the work of Christmas & Christmas (1973a & 1973b). The study by Shirtz (2017) should not go unheeded. Within a broader framework, her study constitutes some recognisable influences on Kupia from Telugu, from lexical borrowing (e.g., /*dabbu*/ 'money') to establish borrowing (viz., the plural suffix /-*lu*/). She remarked that several other clause patterns are either borrowed or induced by Telugu grammar. Her analysis also detailed over sixty distinct constructions relating to the use of verbs, complex predicate constructions, nominal predication constructions, serial verb constructions, and several distinct auxiliary constructions across the Indo-Iranian language family, including Sanskrit and Pali languages from the Hoary Indo-Aryan family; a few Modern Indo-Aryan branch languages (Hindi, Gujarati, Kotia Odia, Kupia, Nagamese, Palula,

and Darai) along with several Middle Indo-Iranian languages (Bactrian, Sogdian, and Middle Persian).

Subsequently, Madhava Menon (1997: 279) reports that Valmiki living in scheduled Agency areas of Andhra Pradesh: "[...] was reported to be Oriya [Odia], though they had 'modified the pronunciation of Oriya words and developed [...] a secret language' known as *Vālmīki Bhāṣā*" [and] use Telugu script." However, we do not find any plausible convention on how such transmutation of language names is in anyone's work. For this reason, we consider that Kuppi, Kupia, Kupiya, and Kichho are synonymous in terms of use, but the speaker of the Balmiki community in Odisha called it Balmiki (Dolia, 2009: preface; cf. Pattanayak & Dash, 2020: 219-220).

Relied upon the scholars mentioned above, we contend that Odia and Telugu are the two major languages of the contiguous topographical area where Balmiki and Kupia are spoken. Odia is a language that belongs to the Indo-Aryan family and is a co-official language of India with English, alongside 22 scheduled languages. It is the official language in Odisha and the second official language in the state of Jharkhand. The majority of people in Odisha speak Odia, where Balmiki is spoken. Telugu is a major language of the Dravidian family of languages. It is one of the official languages in Andhra Pradesh, where Kupia speakers live.

2.1 Nature of Numerals and Counting Systems in Indian Languages

A numeral is a word or phrase that refers to a numerical quantity and linguistic expressions. There are two types of numbers: cardinal and ordinal. However, cardinal numbers and quantifiers are reciprocally exclusive. In comparison, cardinal numbers specify the quantity of a noun, like *four* in *four sons*. Ordinal numbers refer to a position or sequence of a noun or in a set. For example, English "*fourth*" in "*fourth son*", "*once*" in "*once in a month*", and a part or a fraction, "*two*" in "*two-thirds*". Numerals can be grouped into two types based on their structure. Numerals that are non-derived are called simple numerals or called single morphological items, such as 'seven', and the numerals formed or derived from simple numerals are classified as compound or complex numerals with optional or obligatory intervening material, such as *fifty-seven*.

The numeral systems of most of the Indian languages are decimal, which is prevalent in all world languages. This notation was ruled out by the Indian astronomer Aryabhatta early in the fifth century. Words for numbers are a special lexical class, halfway between natural and mathematical language. One would expect them to have relatively straightforward semantics. The numerals of the first ten are mono-morphemic or simple words. The numbers above 'ten' are multi-morphemic and, usually, compounds formed using the arithmetic operation of addition and subtraction where the bases are augends and minuends. With oscillating tendencies, the order of addend or subtrahend in the number expression gives rise to the divergence between the numeral systems of languages belonging to the major language families of the Indian subcontinent (Kesava Panikkar, 1969: 212). In the languages belonging to the Dravidian family, augend precedes addend. For example, the Telugu cardinal number for seventeen is [*paḍi-e:ḍu*], which is formed by combining the addend [*e:ḍu*] 'seven' to the augend [*paḍi*] 'ten' in the form of ten (plus) seven.

On the other hand, in the Indo-Aryan languages, the addend precedes the augend in the form of seven (plus) ten. While the numeral systems of the Dravidian languages use addition to form higher numbers, the Indo-Aryan languages use both added to the base and subtraction to the base form. The phenomenon of subtraction from the base

form is noticed in the formation of number words with 'nine', such as nineteen, twenty-nine, etc., in English. These words express the lack of one number from the base as in /*unis*/, a number less than 'twenty,' i.e., where /*un*/ means lacking and /*is*/ is the allomorph of /*bis*/ 'twenty' in most of the Indo-Aryan Languages.

In times gone by, linguists like Zdeněk Salzman (1950: 78-80), Virginia Dosch Hymes (1955: 31), Murray B. Emeneau (1958), Joseph H. Greenberg (1978: 284), Bernard Comrie (1999: 87-88 [in Gvozdanović, 1999] & 2004: 138), Kesava Panikkar (1969: 212) and Ramakrishna Reddy (2016) have discussed the numerals and numerical systems of language universals and Indic languages which we do not need for our purpose to reproduce in full measure. Some also exemplified how single morphemes are attested for numbers from 'one' through 'ten' as a standard pattern across languages in India, contributing to the formation of multi-morphemic cardinal numbers from 'eleven' through 'ninety-nine' with the sporadic morphophonemic phenomenon. The following example drives home to the point how the allomorph of Sanskrit morph for "three" has developed several allomorphs in some languages of the Indo-European family: /*θɜr*/ 'thir'- < 'three' in the environment of > /*tin*/ -'teen' or > -'ty'. It is reasonably evident that if a numeral morphemically resembles another numeral in the same language, one can find at least one separate morpheme in its construction (for similar examples, see Comrie, 2004: 138; Greenberg, 1978: 284).

Emeneau (1956 & 1958) believes that Indian numerals can also be a rich source to substantiate the concept of India as a linguistic area. However, they have encountered some difficulties in stating some phonetic congruences using some of the morpheme's instances of the morphological process and inflected for case, "look like a western outlier of an area whose center is in East and Southeast Asia" (cf. Emeneau, 1958: 1-2). Regardless of how different numeral patterns are used in different contexts, a typical practice is enamoured in the Indo-Aryan languages and subsequently seen in other language families in India (see Ramakrishna Reddy, 2016: 198-201).

As evident from the discussion above, we can generalise that a numerical system is the product of two things. It is (1) a monomorphemic set of randomly shaped numeral forms (simple or base numerals) and (2) a set of syntactic (or morphosyntactic) procedures that combine these basic numerals into more complicated numerals using semantically underpinning arithmetic operations. The ordinal numbers do not represent quantity but indicate rank and position in an ordered list. Ordinal and cardinal numbers often appear together, even to quantify the same object. Likewise, cardinal numerals are separated into 'Basic' and 'Compound.' Among the basic numerals for the first four and six numbers are two forms (allomorphs): animate and inanimate nouns. They express absolute numbers without any implication of position.

The ethnography of counting, reckoning, and measuring are relevant to some degree, but in the present study, we discuss the cardinal numeral systems of Balmiki and Kupia to find out the morphological closeness between the two systems, if any. The idiosyncratic features of numeral systems are kept aside from the preview of the present study as they do not bear on the generalisation. This study has also not dealt with ordinal numerals, distributive numerals, and the adverbial use of numerals. The study covers the internal syntax of cardinal numbers of the languages under analysis only.

3. Research Method

Commensurably, the method adopted in our study is a railway model, which logically approaches one to another, such as (1) description, (2) structural analysis, and

(3) etymological analysis. It also concentrates on the ideas formulated in several comparative and historical studies on the numerals in the languages of India and their biosphere, such as Joseph H. Greenberg (1978); Murray B. Emeneau (1956 & 1958); G. Kesava Panikkar (1969); James R. Hurford (1987), and Bernard Comrie (1999 & 2004), among others. The study explores descriptive and historical aspects of numeral systems to see if the Kupia and Balmiki have any shared linguistic features and the possible reasons for similarities and differences.

3.1 The Data

Balmiki language data used in the study is primarily collected from the native speakers, Mr. Nilakantha Dolia, and a few of his village accesses. It is to be noted here that Mr. Dolia has a book entitled *Bālmiki Bhāsāre Sanskrutara Prabhāba* (Influence of Sanskrit on Balmiki) to his credit. His book was published in 2009, much before the language drew the attention of Mohanty (2016: x-xiv), who claimed to discover the language in question. Dolia's (2009) book presents a grammatical description of Balmiki compared with Sanskrit, a significant language of the Indo-Aryan family. Kupia data is directly drawn from the works of Christmas & Christmas (1973a & 1973b) and Usha Devi & Chandrashekhara Reddy (2015 [see *trans.* Vishvanatham & Nageswara Rao, 2019: 270-284]).

The present authors are native speakers of Odia and have provided Odia data. The same has been matched with the numeral systems discussed in Debi Prasanna Pattanayak & Gaganendra Nath Dash (1972/2017: 57 & 98-99). Similarly, Telugu data is taken from Bh. Krishnamurti (1998: 211). All numeral data under analysis, including Odia and Telugu, were validated with the *Numeralbank* public database facilitated by *Glottobank* (Max Planck Institute for Evolutionary Anthropology, Leipzig) and available on [<https://lingweb.eva.mpg.de/channumerals/Kupia.htm>].

4. Discussion

The notation from the Vedic Numeration System applies to all the languages under discussion. We analyse the cardinal numeral systems of Balmiki and Kupia, along with Odia and Telugu, to see if there are any typologically significant features. It is to be noted here that the study's primary objective is to investigate morphological similarities between Balmiki and Kupia only about their lexical cognates. Once our argument progresses, the limitations of this view become apparent.

Analysis 1:

Basic Cardinals: This may be subdivided into the following categories:

Cardinal numbers are part of basic vocabulary or core structure, which helps to establish the closeness between cognate languages. We list and present the cardinal numbers from 1 through 10 of Balmiki, Kupia, Odia, and Telugu as simple and unanalysable stems in Table 2, to see their morphological closeness.

Table 2. Basic cardinal numerals of Balmiki, Kupia, Odia, and Telugu.

| Balmiki | Kupia | Odia | Telugu | NUM |
|---------|--------|-------|--------------|-----|
| ek | ek | ekə | okaṭi | 1 |
| ḍḍni | ḍḍni | ḍḍi | reṇḍu/ roṇḍu | 2 |
| ṭṭni | ṭṭni | ṭṭi | mu:ḍu | 3 |
| čētari | čētari | ča:ri | na:lugu | 4 |

| | | | | |
|------------------------|--------------|-------------------------|------------|----|
| paɲču | paanč | pa:ɲčɔ | aiɖu/ ayɖu | 5 |
| sɔu | sowwu | č ^h ɔ | a:ru | 6 |
| saɬu | saɬtu | sa:tɔ | e:ɖu | 7 |
| aɬ^hu | aɬtu | a:t^hɔ | enimiɖi | 8 |
| nɔu | nowwu | nɔ | ɬommiɖi | 9 |
| ɖesu | ɖeɬu | ɖɔɬɔ | paɖi | 10 |

At first glance at the above Table, one can notice that morphologically Balmiki and Kupia are closer to Odia than Telugu, although they follow a decimal numeral system. However, close observation shows that the cardinal numbers from six through ten in both languages end with /u/ and in Telugu from 2 to 7, where the basic cardinal numbers except 1, 8, 9, and 10 are ended with /i/. Surprisingly, in Balmiki, even the number 5 ends with /u/. We can conclude that /u/ ending numbers in Balmiki and Kupia are the overgeneralisation that usually happens in borrowing. This is also in the case of /w/ in Kupia, where Balmiki uses /u/. The use of /w/ is sporadic and not governed by any rule. These two phenomena confirm the areal influence on Balmiki and Kupia, where Telugu has slightly influenced the cardinal numbers of these languages. It is also substantiated by a specific linguistic property not found with Odia numbers under consideration here. Telugu numerals maintain vowel harmony in their multi-morphemic basic cardinal numbers except 1 and 10.

Table 3. Compounded numerals of Balmiki, Kupia, Odia, and Telugu.

| Balmiki | Kupia | Odia | Telugu | NUM |
|----------------------|----------------------|-------------------------|----------------------------|------------|
| ɖesu | ɖeɬu | ɖɔɬɔ | paɖi | 10 |
| biɬ / bisek | sɔɔɔɔ / wisek | koɾie / biɱɬɔ | iravai/ iraway | 20 |
| ɬiniɬa | mup'pɔyi | ɬiriɬ | mup'pai | 30 |
| ceɬaɬa | nalapay | caɬiɬi | nalab^hai | 40 |
| paɲcuɬa | yabay | pɔcaɬɔ | yab ^h ai | 50 |
| ɬɔuɬ ^h a | araway | ɬaɬ ^h ie | aravai/ araway | 60 |
| ɬaɬuɬ ^h a | ɖabbay | sɔɬuri | ɖeb^hai | 70 |
| aɬ ^h uɬa | enabay | ɔɬi | enab^hai | 80 |
| nɔube | ɬomboy | nɔbe | tomb^hai | 90 |
| puɲɔ | puɲnek/ɔɱɖɔlu | ekɔ sɔ/ ekɔ sɔhɔ / sɔhe | nu.ru / vanda | 100 |

It can be evidenced from Table 3 that Balmiki and Odia's ten numbers, such as 10, 20, 30, etc., show much closeness except in the case of 20 and 100. On the other hand, Kupia has some similarities with Telugu. While the numbers 10, 20, and 100 of Balmiki and Kupia are identical, Kupia uses Telugu number words for 30 through 90. It reconfirms our observation above that Kupia shows more similarities to Telugu numeral systems due to areal influence.

Analysis 2:

Compound Cardinals:

The influence of Telugu on Balmiki and Kupia is also evident in words for thousand and two thousand onwards. Both languages use some Telugu words directly or nativising them through the phonemic system. While Kupia has retained the Telugu word /weyi/, in Balmiki, it is changed to /beyi/. The Kupia and Telugu have /w/ {half V} + {half C} i.e., [weyi] is bilabial continuants: /v/ and /w/. The phonetic consequences of /v/ are [v] and [w], which can freely vary in many contexts, according to Peri Bhaskararao & Arpita Ray's observation. However, [w] is the most widely recognised realisation in Telugu when it is adjacent to a rounded vowel and produced as a voiced bilabial approximant (see Bhaskararao & Ray, 2016: 235). In contrast to Kupia and Telugu, Odia does not use the /w/ or /v/ "labiodental approximant" at the initial sound of a word in general conversation. It has the sound /b/, typically voiced in Odia and more fully voiced than of English voiced sounds. It is analogous to the English /b/ in the word 'book.' For this reason, the Odia speakers do not find any distinction between /b/, /v/, and /w/, although having /w/ a voiced semivowel due to the influence of Perso-Arabic or English loan words. The Odia written scripts were standardised in the 1940s, and after that, /w/ began utilising in creative literary texts.

Incidentally, however, the word for two thousand in Balmiki and Kupia is formed in the hybridisation of words belonging to different vocabulary stocks, such as Balmiki or Kupia and Telugu, instead of borrowing the word directly from Telugu.

Table 4. Combing system of numbers in Balmiki, Kupia, Odia, and Telugu.

| Balmiki | Kupia | Odia | Telugu | NUM |
|-------------|-------------------|----------------------|---------------|------|
| ḍḍoni pujṅo | ḍḍoni pujṅo | ḍḍi sōho / ḍḍui sōho | reṅḍu vandalu | 200 |
| beyi | weyi / deṣuoṅḍḍlu | hōjarō | weyi | 1000 |
| ḍḍoni byili | ḍḍonni weyi | ḍḍi / ḍḍui hōjarō | reṅḍu ve:lu | 2000 |

The number twenty is expressed autonomously in Balmiki, Kupia, and Odia. In Balmiki it is /biʃ/ ≈ /bisek/; in Kupia it is /sɔʎɔgɔ/ ≈ /wisek/ and in Odia it is /koɽie/ ≈ /biñʃɔ/ (see Table 3). In Odia, /biñʃɔ/ is used as a cardinal number. Etymologically, /biñʃɔ/, /biʃ/ ≈ /bisek/ and /wisek/ are related to Sanskrit /biñʃɔ/. It indicates Balmiki /biʃ/ ≈ /bisek/ and /wisek/ has retained their closeness to Sanskrit, whereas Odia has lost this form. The change of /biʃ/ ≈ /bisek/ to /wisek/ does not reflect Telugu influence.

Additionally, the cardinal numbers in the above tables for 50, 100, and 200 are formed synthetically and shown in Table 5, for instance:

Table 5. Synthetic forms of numbers in Balmiki and Odia.

| Balmiki | Odia | NUM |
|--------------------------|--------------------------|-----|
| paṅcuʃa | paṅcaʃɔ | 50 |
| pujṅo | eko-sō ~ eko-sōho ~ sōhe | 100 |
| ḍḍoni pujṅo | ḍḍi-sōho ~ ḍḍui-sōho | 200 |
| ḍḍ ^h ei-pujṅo | ḍḍ ^h ei-sōho | 250 |

The above instances for Balmiki /deḍ^hɔ-pujṅo/ or /pujṅo-paṅcuʃa/ similar formation as in Odia /deḍ^hɔ-sōho/ or /eko-sōho-paṅcaʃɔ/ for one hundred and fifty. These

two have more than one form, so they are in free variation. Here, /*deq^hɔ*/ and /*ɔq^hei*/ are used in both languages as prefixes to 100, 200, 1000, and 2000, mean one and a half and two and a half, respectively. Kupia does not have this formation since it mostly adhered to the Telugu system.

Analysis 3:

A combination of additive features derives the higher numbers: the base number morphemes, in most cases as in Balmiki, Kupia, and Telugu, postposed the morpheme meaning to different numbers while constituting the higher numbers. James R. Hurford's (1987: 8-9) and Kesava Panikkar's (1969: 214) answer is that higher numbers use 'linguistic devices.' Hence, we find that there are similarities in regular utterances of numerals among Balmiki and Kupia; the only reconstruction that replaced with some sounds in the word phrase. This dissimilarity can be seen from 21 to 29 with few exceptions composite. For example, the initial sound changes in Balmiki [*b-*] /*bifek*/ (like voiced unaspirated bilabial stop in Odia) and Kupia [*w-*] /*wise:k*/ (bilabial approximant in Odia but not used an initial sound in Odia) for 20 and other higher numbers. Orthographic <ᱠ> and <ᱡ> correspond to IPA /*b*/ and /*w*/, respectively. These pronunciation interchanges are not reflected in the orthographical rendering in Balmiki and Odia as a lack of significant phonological information.

Hence, as a whole, we hesitate to agree with Mohanty's (2016: xii, emphasis added) anomalous argument, stating that "[...] **the combining pattern after 'twenty' is clearly Dravidian wherein first the big number is used and the small one follows**" with an incorrect example, "/*bisek doni*/ 'twenty-two' (literally 20 +2)" is not from Balmiki. As Balmiki uses /*bifek ᱠᱤᱨᱢᱟ*/ and Kupia uses /*wise:k ᱠᱤᱨᱢᱟ*/ and to say that these changes in Balmiki and Kupia have any striking Dravidian influence — is not true. It is because, and usually, this case manifests like many other languages of the Indo-European family, as in English, Latin, French, and Russian: '21' (20+1), except for Odia. In Balmiki and Kupia, compound numbers above twenty-one are quite regular, starting with twenty, then the unit, and ending with the unit root, with a little sound change. As such, this affects due to continuous interaction among other language families persisting within the contiguous area, which is very stimulating but not surprising, as in the examples (see Table 6):

Table 6: Combining peculiarities of numbers in Balmiki, Kupia, Odia, and Telugu.

| Balmiki | Kupia | Odia | Telugu | NUM |
|----------------------------|-----------------------------|-----------------------------|-----------------------|-----|
| egara (1-12) | egarᱠ (1-12) | egarᱠ (1-12) | paᱎa koᱎᱠu (10+1) | 11 |
| bifek ek (20+1) | wise:k ek (20+1) | ekoᱢᱦ (1+20) | iravai'okaᱦi (20+1) | 21 |
| bifek ᱠᱤᱨᱢᱟ (20+2) | wise:k ᱠᱤᱨᱢᱟ (20+2) | baiᱦ (2+20) | iravai reᱎᱠu (20+2) | 22 |
| bifek ᱦᱢᱟ (20+3) | wise:k ᱦᱢᱟ (20+3) | teᱢᱦ (3+20) | iravai mu:ᱠu (20+3) | 23 |
| bifek četari (20+4) | wise:k čettar (20+4) | čᱚbiᱦi (4+20) | iravaj na:lugu (20+4) | 24 |
| bifek paᱎču (20+5) | wise:k paᱎč (20+5) | počᱢiᱦi (5+20) | iravai'aiᱠu (20+5) | 25 |
| bifek sᱚu (20+6) | wise:k sow'wu (20+6) | č ^h ᱚbiᱦi (6+20) | iravai'a:ru (20+6) | 26 |
| bifek saᱦu (20+7) | wise:k satttu (20+7) | soᱦᱢᱟiᱦi (7+20) | iravai'e:ᱠu (20+7) | 27 |

| | | | | |
|--------------------------|--------------------------------|---------------|--------------------------|----|
| bifek aṭṭu (20+8) | wise:k aṭṭu (20+8) | ጋቴገገገ (8+20) | iravai'enimiḍi (20+8) | 28 |
| bifek nጋu (20+9) | wise:k now'wu (20+9) | ጋገገገገገ (1-30) | iravaitom'miḍi (20+9) | 29 |

Some non-literate Odia people also use idiosyncrasy expressions like [*koḍi*] 'twenty' as one unit for counting things (etymologically, at least). These Odia instances, /*koḍi-ḥa:ri*/ 'twenty-four'; [*koḍi-paṇḥጋ*] 'twenty-five', etc. are very typical in the sense of structure in Balmiki and Kupia from 21 to 29 numbers.

Analysis 4:

Continuing the discussion above in Table 6, allomorphs of the basic numerals in Balmiki, Kupia, and Telugu occur before the morpheme meaning while constituting higher numbers but standing opposite in Odia. However, slight exceptions are observed in morphophonological changes between Balmiki and Kupia with some sounds. This difference is affected in distribution due to intermixing among other languages, as can be seen in Table 7:

Table 7: Morphophonological changing pattern in Balmiki, Kupia, and Odia.

| Balmiki | Kupia | Odia | NUM |
|------------------------|--------------------------|------------------------------|-----|
| /ega-/ + /ra/ | /ega-/ + /rጋ/ | /ega-/ + /rጋ/ | 11 |
| /-ek/ after /bifek/ | /-ek/ after /wise:k/ | /eko-/ + /iḥ/ | 21 |
| /-ḍጋni/ after /bifek/ | /-ḍጋni/ after /wise:k/ | /ba-/ + /iḥ/ | 22 |
| /-ṭገni/ after /bifek/ | /-ṭገni/ after /wise:k/ | /te-/ + /iḥ/ | 23 |
| /-ḥገari/ after /bifek/ | /-ḥገari/ after /wise:k/ | /ḥጋ-/ + /biḥi/ | 24 |
| /-paṇḥጋ/ after /bifek/ | /-paṇḥጋ/ after /wise:k/ | /pጋḥ-/ + /iḥi/ | 25 |
| /-sጋu/ after /bifek/ | /-sጋu'wu/ after /wise:k/ | /ḥጋ-/ + /biḥi/ | 26 |
| /-saṭṭu/ after /bifek/ | /-saṭṭu/ after /wise:k/ | /sጋṭ-/ + /eiḥi/ | 27 |
| /-aṭṭu/ after /bifek/ | /-aṭṭu/ after /wise:k/ | /ጋṭḥ-/ + /eiḥi/ | 28 |
| /-nጋu/ after /bifek/ | /-now'wu/ after /wise:k/ | /ጋ-/ + /ገጋ-/ + /ገገገገ/ (1-30) | 29 |

Analysis 5:

Some of the peculiar allomorphic construction between Balmiki, Kupia, and Odia can be observed with the complimentary variation in Table 8.

Table 8: Allomorphic structural pattern in Balmiki, Kupia, Odia, and Telugu.

| | Balmiki | Kupia | Odia | NUM |
|-------------------------------------|----------|-----------|----------|-----|
| /ek/ ~ /ega/ (1) | ega-ra | ega-rጋ | ega-rጋ | 11 |
| /ek/ ~ /o/ (20-1) | ek-nis | o-nis | uḥe-iḥi | 19 |
| /ek/ ~ /uḥe/ in Odia (1) | bifek-ek | wise:k-ek | eko-iḥi | 21 |
| /ḍጋni/ ~ /ba/ (2) | ba-ra | ba-rጋ | ba-rጋ | 12 |
| /ṭገni/ ~ /te/ ~ /te:/ (3) | te-ra | te:-ra | te-rጋ | 13 |
| /ḥገari/ ~ /ḥጋu/ ~ /ḥጋu/ | ḥጋu-ḍጋ | ḥጋu-ḍጋ | ḥጋu-ḍጋ | 14 |
| /paṇḥጋ/ ~ /pana/ (5) | pana-ra | pana-ra | pጋn-ḍጋrጋ | 15 |
| /saṭṭu/ ~ /sat/ ~ /sot/ ~ /sጋṭ/ (7) | saṭṭ-ra | sot-ra | sጋṭጋ-rጋ | 17 |
| /aṭṭu/ ~ /aṭḥ/ ~ /oṭ/ (8) | aṭḥa-ra | oṭ-ra | ጋṭḥጋ-rጋ | 18 |

The credible facts mentioned in the preceding paragraph point to dispersion being more complicated when Mohanty further confuses with a few examples citing from W/Balmiki that stresses:

“It can be noticed here that Walmiki uses /doni/ for 'two' which is similar to Marathi /don/ 'two'. Again, Walmiki uses /ekonis/ for 'nineteen' which is again like Marathi /ekonis/ in connected speech and /ekonwis/ in careful speech” (Mohanty, 2016: xii, emphasis added),

He then goes on to claim that:

“[B/Walmiki] speakers were probably speaking a Dravidian language when they were in Maharashtra where Marathi is the dominant language” (Mohanty, 2016: x, emphasis added).

A casual read of his lines; one finds Mohanty's flippant argument on ‘connected speech’ a bit baffling without any attempt to integrate some more examples within the ambit of general linguistic theory as the way this paper is trying to justify. There is every reason to believe that every language has a clue to a previous stage in that language's history. To agree with this is to agree that language has a history of borrowing and convergence (for the theoretical approach, see William Labov, 1994; Kesava Panikkar, 1969: 215-217; Franklin Southworth, 1979: 194-195).

According to Mohanty (2016: xii), Marathi /don/ '2' and [ekonis] or [ekonwis] '19' have identical utterances to Balmiki, [doni] '2' and [ekonis] '19' in connected speech. His metaphor puts it a rootless link and does not cognate Balmiki [dɔni] '2' and [eknis] '19' in any sense to catch up with Marathi. It is worth quoting the French linguist, Jules Bloch's book (1920 [see *trans.*, Dev Raj Chanana, 1970: 223-228]), *The Formation of the Marathi Language*. His work admirably places in linguistics, and the constructions made on the Marathi grammar are taken to be a self-evident fact that required no little comment. He had already recognised the true condition of affairs, saying that the Marathi [ekunɪs] ≈ [ekoɪs] ‘nineteen’ was reconstituted on a later date because of Sinhalese [ekolasa, ekunvisi] and Kashmiri (/kah/, /kunanwah/; the forms of other Himalayan varieties), the old /k/ has everywhere evolved to /g/, the stage where it has been fixed, e.g., [iga:rah], [agunɪs] retrospectively (cf. Bloch, 1920 [see *trans.* Chanana, 1970: 223-224]). There is no doubt that these differences are neither the same in Balmiki [dɔni] nor in Kupia [dɔɳi] for '2', such as the initial /d-/ sound in both cases – is a voiced unaspirated dental stop as against Mohanty's argumentative testimony, [doni] is a voiced unaspirated retroflex stop. Balmiki [eknis] and Kupia [onɪs] contradict his connection to Marathi upon Balmiki [ekonɪs] or [ekonwis]; hence the correct use in Marathi is [ekoɪs] or [ekoɳɪs] for '19' and can be verified with Jules Bloch (1920: [see *trans.*, Chanana, 1970: 223-228]).

However, we do not equate the phonemic length of a vowel comparison, as these are positionally determined in the literature of Balmiki, Kupia, and Odia. A close examination of the vowel correspondences for Balmiki and Kupia must be undertaken at another time. Whatever someone tries to connect for a true association that Emeneau (1958: 10) and Kesava Panikkar (1969: 215) hold forth, “‘one’ and ‘two’ as relatively culture-free and stable vocabulary items are unjustified.” A detailed non-linguistic imagination and invidious perception of Mohanty (2016: x, xii-xiii) can be further cleared in Table 7.

Table 9: Comparison of Numeral infringement in Mohanty (2016: xii) in W/Balmiki.

| Balmiki | Kupia | Marathi (Mohanty, 2016) | Marathi (Bloch, 1920) | Anomalies in IPA used in Marathi | NUM. |
|---------|-------|-------------------------|--|--|------|
| द-०ni | द-०ni | don | द-०n [दोन] | Initial use is a dental, not a retroflex voiceless unaspirated sound. | 2 |
| ek-nis | o-nis | ekonis | ek-uŋ-i-vis/ ek-०ŋ-is [एकोणवीस /एकोणीस] | Medial use is a retroflex nasal flap, not a dental alveolar nasal sound. | 19 |

Based on the preceding analysis, a summary of observations can defensibly be stated that the correspondence between the languages is thus as follows (for detailed theorisation factors, see, e.g., Labov, 1994:542):

- Balmiki, Kupia, and Odia seem to have more similarities.
- Kupia has more similarities with Balmiki and Odia than Telugu (barring 30-90).
- /ɔ/ in Odia becomes /u/ in Balmiki and Kupia (/ɔ/ → /u/) (6-10)
- /ɔ/ in Odia becomes /a / in Balmiki and Kupia (/ɔ/ → /a/) (13-19)
- /bi/ in Balmiki becomes /wi/ in Kupia (/bi/ → /wi/) (21-29), and Telugu is not related to Kupia and Balmiki, although the pattern is 20+1.
- Comparison of Coda consonants (Con. in short) in Balmiki are getting consonant repetition clusters in Kupia and thus present the relation in Table 10, observation (30-200 of data).

Table 10. Comparison of Coda consonants and vowels of Balmiki and Kupia

| Balmiki | | | | | Kupia | | | | |
|---------|---------|----------------|-------|---------|-------|---------|------|-------|---------|
| Onset | Nucleus | Coda | Onset | Nucleus | Onset | Nucleus | Coda | Onset | Nucleus |
| Con. | Vowel | Con. | Vowel | Con. | Con. | Vowel | Con. | Vowel | Con. |
| द | ० | n | ɪ | | द | ० | nn | ɪ | |
| त | ɪ | N | ɪ | | त | ɪ | nn | ɪ | |
| s | ०u | | | | s | ० | ww | ० | |
| s | a | त | ० | | s | a | tt | ० | |
| | a | t ^h | ० | | | a | tt | ० | |
| n | ०० | | | | n | ० | ww | ० | |

- Word endings in Kupia such as /-pay/, /-bay/, /-way/, and /-boy/ are either /-b^hai/ or /-vai/, and the corresponding bases have been retained in Telugu.

| Kupia | Telugu |
|-------|----------------------|
| -pay | /-b ^h ai/ |
| -bay | Or |
| -way | /-vai/ |
| -boy | |

- [pujɲɔ] in Valmiki becomes [pujɲek] in Kupia and [ɟɔni puɲɲɔ] becomes [ɟɔnni puɲɲɔ]

The above critical comparison showed that the cherry-picked numerals used by Mohanty (2016: x, xii-xiii) are unethically detestable and empirically implausible, either because they were transcribed incorrectly or cross-checked with a similar study that had already been done. By arguing with an overruling and imaginary attempt, the embedding problem is that he tacitly demeaned the language of the Balmiki community of Odisha. Unfortunately, this is about his foibles and peccadilloes, but they peep out in that pre-eminently incorrect analysis of the portrait itself, an epistemological concern within linguistic documentation on how the linguistic change occurs. Expectantly, these corrections are due to Panchanan Mohanty as to where his patentability of the *Walmiki discovery* would stand. The article will be updated upon receiving his counter-justifications.

5. Conclusion

In this study, we have opened a somewhat wider door after a comparative analysis of the numerals that exhibit a test case akin more to the Indo-Aryan roots rather than the Dravidian or Austro-Asiatic language family. However, much remains to be explored on other aspects of linguistic features of the Balmiki/Kupia language. Our analytical approach also shows considerable affinities of numerals varied upon the spoken styles in Odisha and Andhra Pradesh by the settled Balmiki community. It has developed its peculiarities concerning specific image components over the centuries, but it is their unique trait. There is no wonder that language is a complex adaptive system, which means that sometimes language changes as a result of random drift rather than any specific influences.

So far, although short, we have attempted to correctly place its historical documentation empirically to establish that *Balmiki and Kupia numeral structures are more logically aligned to Sanskrit and Odia than Telugu* (a Dravidian language). Their names of numerals commonly carry proof of their great antiquity. It is a series or progression that persists with the phonetic or phonological properties of the words (because these are cross-linguistically inapplicable), but nothing does with etymologically. Due to exclusive contacts or borrowability in language contact, one cannot snuff out B/Valmiki to say that it is a different (new) language to Kupia. We believe our justification would benefit from a broader spectrum of value-free linguistic analysis by anyone whose study was in linguistic literature connected with the *discovery of languages* that could resolve the potential ambiguity. However, the contact phenomenon has reshaped their community language within the boundary between Odia and Telugu. Their lexical and structural features do not determine people's belongingness but how they take a stance away and practice as speakers. This expectation, however, is called into question because all languages are social constructs, as people in diversified India still have difficulties identifying themselves in one language. India has no restricted language boundaries, and they all appear sponging. Sharing is one of the most inherent aspects of language.

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