A Note on the Exclusivity of Human Language

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Abstract: Human language is exclusive among all primary vocal communicating tools used in the kingdom animalia. However, there are debates on what makes human language exclusive. Among these debates, the most persuasive view is that human language is unique by the virtue of infinite syntactic recursion, which is universal to all human languages. The latest development of this view is backed by certain biological investigation and duly criticized by other scholars. In this paper, I argue that language is not a single product of a solitary process of evolution of the so-called linguistic species Homo sapiens. Thus, syntactic recursion may not be the universal aspect of all human languages. Syntactic recursion can be imagined only as an essential property of some developed languages that may not always be empirically observable. To consider human language as exclusive, I argue that human language in-itself is such a field where context-specific choice-based linguistic expressions are made up of certain syntagmatic relationships. These are substituted paradigmatically, instead of imagining language as a result of syntactic recursiveness, the fundamental function of universal grammar.

Keywords: Human language (HL), Primary verbal communication (PVC), Syntactic recursion, Writing, Semiotics, Paradigmatic axis, Significance.

1. Introduction

There are several modes of animal communication. Like other modes (e.g., visual, thermal, seismic, electric, chemical, etc.) many animal species have its own auditory or vocal communication system by which they communicate within their own species. Let us call this system primary vocal communication (PVC). This is considerably true for many animal species along with birds, for in-species communication. Human language (HL) is also a PVC. Researchers from many disciplines consider HL as special among all PVCs used in the animal kingdom. However, they often disagree with the explanation of how HL is functionally different from the other PVC systems. As a result, the question regarding the nature of HL is still open to debate.

One of the significant arguments with a rationalist conclusion about the nature of HL is that only HL exhibits infinite syntactic recursion which is absent in other PVC systems. This rationalist model was established by Noam Chomsky more than a half century ago. This model, however, also is not beyond controversies. There are many arguments from differing points-of-view (POVs) in the debate on whether infinite syntactic recursion is a universal feature of all HLs. Most noteworthy objection to the said model of recursion is raised by Dan Everett based on his forty-year experience of Pirahã language. Everett (2005) shows that Pirahã does not exhibit syntactic recursion. This experience implies that infinite recursion is thus not a universal feature of HL. Apart from these two parties of the debate on recursion there are many other sets of arguments asserted and defined by different POVs. All these existing arguments are presented in section 2 of this paper.

I also have a specific understanding on how HL is exclusive in-itself. My arguments regarding this view can be organized into two sets. The first set of arguments represents some evolution-centric points regarding HL and is distributed in section 3 of the paper. In section 4 of this paper, I elaborate the second set of my arguments regarding the alternative proposal on the exclusivity of HL, based on my own monolingual experience. The arguments combined in the second set alternatively propose to study a natural language (as far as the ordinary form of its speech is concerned) accentuating the experience of the native speaker. Section 5 concludes with remarks and discussions.

The primary goal of this article is to provide some useful links to the discourse of study where HL is explained as special among PVCs in terms of having capacity of producing infinite syntactic recursion. Certain features of the generative application on my own language Bangla (a.k.a. Bengali) makes me think about the alternative in terms of explaining a language more exhaustively. I focus on the alternative especially when I fail to fit the ordinary usage of Bangla into the generative framework. For example, in generative grammar the techniques used to capture discourse information

within a sentence activating the syntagmatic linkage between syntactic properties, are not at all enough to sketch a detailed picture of the language. However, I agree with the fundamental assumption of generative grammar working only on the possibilities of certain linguistic structures.

In this paper, I offer an alternative view of language that not only endorses the syntagmatic relationship between the syntactic objects but also provides explanation of how the utterances are compared by the context-specific choice-based orientation of speaker. Such ability of the speaker is universally true but constrained by cultural semiotics and results in non-universal (culture-specific) linguistic structures related to certain functionalities. This approach also addresses the question of how HL is exclusive in-itself in order to produce each utterance with specific or nonspecific significance.

My argumentation is based on phenomenological experience of real time language-usages where the possibilities of syntagmatic formation of a language are constrained. I also argue that the use of semiotic tools can bridge between the phenomena of languages and the possibilities of its structure framed by rationalist grammar. Before taking the foundational step towards my goal of presenting my arguments from the evolutionary perspective of HL in the following section I refer to some recent debates on syntactic recursion.

2. The Big Debate

A major section of linguists, especially the generativists believe that apart from human beings, no other member of the Kingdom Animalia can learn and use language. HL is biologically attributed to the species human, as believed to be the present form of Homo sapiens. This biological feature distinguishes humans from the other animals. Moreover, generative grammarians have been able to develop the finest descriptive as well as explanatory tools for linguistic analysis till date. Since last six decades, they have been working with the following rationalist principles:

a. Language is human's biological (innate and genetically endowed) ability which is universally true for basic formal functions of all HLs.
b. HL is creative so that any adult speaker can produce infinite sentences out of finite sets of words.
c. HL is functionally recursive so that it allows infinite syntactic recursion, which is unavailable in other PVC systems.

Especially, (a) and (c) are directly related to generative grammar and the concept of universal grammar (UG). It is less necessary to describe the facts and events in the development of generative grammar as it is well-demonstrated in many literatures. A number of debates regarding the theory and practice of generative grammar are found in the existing literatures. Apart from the debates and controversies, generative grammar, along with its fundamental pillar UG is the leading theory of formal linguistics for six successive decades.

Discussions on UG to describe the nature of language has been newly started with the phenomenal publication of Hauser Chomsky and Fitch (2002) [hence HCF (2002)]. In HCF (2002), authors claim HL as the only communication system that endorses recursion. HCF (2002) also provides evidential explanations of the biological basis of HL's recursive ability. In HCF (2002), as a tool of communication, language has been explained in terms of two biological levels: faculty of language in broader sense (FLB) and faculty of language in narrow sense (FLN). HCF (2002) has addressed FLN as a scope of operating recursive function of language, which is universal to all HLs. FLN along with sensory-motor and conceptual intentional system is attached with FLB, which is not so indispensable to HL whereas FLN is. According to the third hypothesis in HCF (2002), FLN is essentially at an abstract conceptual level where linguistic creativity and recursiveness as the unique HL features have been exhibited.

According to HCF (2002), humans not only produce or recognize the available pattern of language but are also able to acknowledge new patterns or structures. Two years later Fitch and Hauser (2004) empirically tried to establish that Tamarin monkeys were not able to acknowledge A_nB_n structure from a similar structure like $(AB)_n$. A_nB_n is usually a structure of a recursive language as this structure can produce new strings like AABB, AAABBB, etc. However, Gentner et al. (2006) argues that not only humans but also the European starlings (Sturnus vulgaris) are able to acknowledge 'acoustic patterns' of a recursive grammar. These birds also show their ability to handle a new pattern of the same grammar. Therefore, according to this study, the ability to understand the recursive grammar and to recognize new patterns of it 'is not uniquely human.' Moreover, Marcus (2006: 1117–1118) comments on the starling-case as follows:

> "Gentner and colleagues rewarded European starlings for pressing a bar in response to A_nB_n strings of starling-generated sounds, such as rattle rattle warble warble, and withheld the reward for responses to the $(AB)_n$ grammar (and vice versa for another group of starlings). Although learning was not instantaneous, nine of eleven birds eventually (after 10,000–50,000 trials) learned to discriminate reliably between the two grammars, succeeding where the monkeys had failed. An extensive series of control comparisons strongly suggests that the ultimately acquired grammar is robust. Notwithstanding some minor worries, this is strong evidence that humans are not alone in their capacity to recognize recursion."

Explanations, given in HCF (2002), have also been rigorously criticized in Pinker and Jackendoff (2005). Pinker and Jackendoff (2005) argued that HCF did not clearly specify or define the term 'recursion'. Nor did they mention how it relates to FLN. They argue that the syntactic domain of HL as distinguished in HCF (2002) is not the only place of recursion. Other levels of language also exhibit recursion. According to Pinker and Jackendoff (2005), HCF (2002) does not provide any explanation of why recursion is not any language-specific issue but is universal. What about other linguistic domains like, 'word' and 'concept'? Are these typically social aspects of language? Pinker and Jackendoff (2005) argues that there are many important grammatical components, which are recursive but not universal. Additionally, Pinker and Jackendoff (2005) criticizes HCF (2002)'s view where language is neither an issue of human adaptation nor is it evolved for the reason of communication.

The debate proceeds further with the arguments of Fitch et al. (2005). The empirical basis of recursion as a part of FLN presented in their argument can be summed up as:

i. Linguists admit that the recursion reflected in syntactic operation is an abstract mathematical function
ii. Scientists do not have any other clue for which they are able to claim that animals other than human also have this ability
iii. It has been observed in some case studies on chimpanzees that they have not even learnt the hierarchical phrasal system
iv. There is no clear evidence of recursion found in other cognitive domains (Pinker and Jackendoff, 2005).

Finally, Jackendoff and Pinker (2005) claimed that visual recursion is also a human ability. Jackendoff (2007) further referred to the specific structure of human thought process as it works in the activities like hand shaking, coffee making, etc.

Apart from this debate, a full-fledged volume of the Journal, Biolinguistics (Vol. 5 issue 1- 2) has also been dedicated to discussing the recursive function of human language centring the fundamental development of universal grammar. Another big source of discussion devoted to the question of Recursion and Human Language was published in 2010 edited by Harry Hulst.

Sauerland & Trotzke (2011: 1) referred to the ideas and words of the earlier philosophers like Descartes, Humboldt, etc. in the history of thoughts. They further mentioned that Chomsky was the first who specified a precise role of recursion in the formal theory of language in 1950s. Considering recursion as a crucial development of the background of phrase structure grammar, they state that the issue of recursion however was not majorly exercised until HCF (2002) as linguists started to deploy the grammatical rules for describing languages. In this volume, Sauerland & Trotzke (2011) have presented various approaches on recursion from different disciplines, like experimental psychology, cognitive neuroscience, genetics and linguistic theory. Trotzke et al. (2013) try to reschedule the programme of biolinguistics where linguistic performance has an important role related to design features of HL. According to them the relationship between linguistic performance and design features can be described in different ways, e.g., provision or revision of additional support to the conceptual framework of UG, re-examining the ungrammatical data with the support of contributory performance, etc. On the other hand, Frath (2014) argued that the concept of recursion used in Chomsky (1957 and so forth) is misleading. The mathematical notion of recursion means a self-calling function, which is absent in language. According to Frath (2014) what Chomsky meant by recursion is basically iteration. Therefore, there is no recursion in language.

Zwart (2011) argues that recursion can be understood in terms of derivational layering instead of the concept of embedding. This argument implies that a construction can be considered as recursive when a part of the input of the construction is the same with a part of the output of the construction. Zwart (2011) also observes that only an output of the construction does not suffice the judgement that the construction as recursive. His conclusion (2011: 55) about Pirahã is: “if recursion is identified in terms of derivational layering, as proposed here, then it seems clear that the grammar of Pirahã is recursive.”

Additionally, Chinque (2013) shows that a limited number of concepts is encoded in the language and all possible word order is the summation of the subset of the words and the actuals. A human child has abstract functional lexicon and the ability to operate “Merge”. The child makes specific use of lexical strings easier after operating on the basis of two principles, i.e., external merge and internal merge. For generating meanings, it applies the context-specific use of words after completing either one or both operations, external merge and internal merge. Juarros-Daussa (2010) examining the concept of infinite recursion shows that one subject can use maximum two predicates. He (2010: 252) argues, “there is a small group of verbs that cross linguistically appear to have a higher valence than the commoner ditransitive.” Karlsson (2010) explains that the right embedding although less constrained, is not free for many languages. European languages usually take embedding on the right side of the sentence up to three although the written version of the language observes up to five.

Everett (2005) shows from his experience that Pirahã does not fit to UG as this language lacks recursion at its syntactic level. This claim for the first time contradicts the theory of UG directly. Everett (2005) argues that Hockett's design features are more effective to address the uniqueness of HL than the theory of UG. He thoroughly reviews Pirahã language and finds certain gaps in its morphosyntax. For example, Pirahã language does not have any terms for quantification and colours. It also lacks recursion. Moreover, Pirahã speakers avail only their immediate experience, reflected in their use of non-abstract subject. According to Everett (2005), Pirahã culture constrains its language. About his own work, Everett (2005: 634) comments: "For advocates of universal grammar the arguments here present a challenge - defending an autonomous linguistic module that can be affected in many of its core components by the culture in which it grows." If the form or absence of things such as recursion, sound structure, quantification, numerals, numbers, and so on is tightly constrained by a specific culture, as have been argued earlier in this paper, then the case for an autonomous, biologically determined module of language is seriously weakened.

Here, the most important and arguable point is that the Pirahã language does not exhibit any recursion at its syntactic level. So, the theory of UG, believed to be true for all HLs, is refuted. Everett’s (2005) claim has been brutally criticized by many scholars. For example, Bambini, Gentili, and Pietrini (2006) criticizes Everett’s (2005) argument. They have alleged that Everett’s data are limited and

asked about the other universal features of Pirahã language as this is ultimately an HL. They propose an alternative that would correlate the processes of culture, brain and cognition to investigate functional linguistic processes. Everett's (2006) response to this criticism includes following assertions again for Pirahã language: lack of embedding, absence of number and numerals, absence of relative tenses, simplicity of kinship terms, absence of colour terms and quantifiers and absence of myths and fiction.

Even later, Everett (2007) does not shift his focus. Rather he argues that the method used in the generative grammar does not meet the scientific standards. Everett (2007) reclaims that Pirahã does not exhibit recursion specifically when it is to remember that embedded sentences are not assertions. He further argues that Pirahã people indeed follow Immediacy of Experience Principle. Both these claims were first made in 2005. Sometime before Everett, Halle (1975) worked on a tribal group of Australia called Warlpiri. He experienced that the Warlpiri language does not have any terms for numbers or colours and does not exhibit relative clause at its syntactic level. Everett (2007) reaffirms that the Pirahã speakers do not have myths or stories due to their restricted long-term memory. Later Everett (2016) further argues that phonology is not innate. According to him, there is no evidence on behalf of such claims.

On the other hand, Nevin, Pesetsky and Rodrigues (2009) also disagree with Everett for his claim about the immediacy of experience in Pirahã people, arguing that Everett's data is insufficient and wrongly elaborated. Moreover, they also disagree with Everett's most important claim that Pirahã does not display syntactic recursion. They highlight the example 32 from Everett (2005: 630) to prove Everett wrong with the reference of a nominalized clause, where a morpheme /-sai/ is described as a nominalizer. Nevin, Pesetsky and Rodrigues (2009) have alleged that Everett has misinterpreted the data. They further argue (2009: 678): "...we are reluctant to accept the claim that -sai clauses are not nominalized, for lack of appropriate evidence. Nonetheless, there is no incompatibility between Nevin et al.'s view of embedding in Pirahã and the possibility that /-sai/ is something other than a nominalizer." However, Futrell et al (2016) in an extensive empirical study on Pirahã for the first-time support Everett's claim that Pirahã does not exhibit any syntactic embedding.

3. Evolution-centric perspectives of HL

In this section, I present my evolution-centric arguments on why syntactic recursion cannot be considered as the universal feature of all HLs. My argument is based on the assumption that there may be several languages like Pirahã that lack syntactic recursion. In section 3.1, I argue that human beings today are forcefully generalized by the scientists as one species called Homo sapiens. My arguments however indicate that humans today may be assumed to be more than one species, origins of which are spatio-temporally different. Even these groups of humans (I am motivated to call this instead of species) have different evolutionary line ups. In subsection 3.2, I further argue that the languages that have writing system are culturally affluent to produce embedded sentences first in writing as writing requires stronger memory than speaking. Besides, writing is the best possibility of hosting declarative sentences because declarative sentences have suitable environment for recursion. Later, influenced by writing, speakers of these standard languages, use recursion also in speaking. In subsection 3.3, I elaborate the issue of different word orders of world languages. This is based on the assumption that world languages with different word orders, might have originated from different proto-languages, which may be assumed as the languages of different human groups evolved through different bio-cultural processes.

3.1 Human Beings - A Single Species?

All humans are considered as a single species called Homo sapiens by the paleoanthropologists and others. And all living groups of Homo sapiens use languages, which accordingly to UG theory, are originated from a single fundamental feature, i.e., syntactic recursion. In this subsection, I argue that both these conjectures are the mere result of scientism. Alternatively, I argue on the basis of the

assumption of humans as more than one species, such that, there are more than one routes of language evolution, which result spatio-temporally different proto-languages. Linguistic diversity of the world today consists of bio-culturally different languages, difficult to explain universally. Therefore, all HLs cannot be explained as special among all PVCs by a single mechanism called recursion under one conceptual umbrella of UG. Languages of certain human groups might exhibit recursion while other groups do not.

Online Encyclopaedia Britannica[1] notes that Homo sapiens are considered as a species that include all modern humans. Homo sapiens are the only living species among many species categorized under the genus Homo. Encyclopaedia Britannica also elaborates on the different models of human evolution like single-species and out-of-Africa hypothesis, and even about Out of Africa 1 and Out of Africa 2. Each of these hypotheses synchronize to flag that today's humans belong to a single species called Homo sapiens. These hypotheses noted in Encyclopaedia Britannica however create a puzzle about human evolution. The puzzle stands thus. On one hand, there are many species described under the genus Homo, namely, Homo sapiens, Homo erectus, Homo neanderthalensis or Neanderthals, Homo naledi, Homo heidelbergensis, Homo habilis and Homo floresiensis. On the other hand, Homo sapiens is also classified into some subspecies like homo sapiens sapiens, Homo sapiens neanderthalensis or Neanderthals, Homo sapiens idaltu and Homo sapiens rhodesiensis or Homo heidelbergensis. Homo sapiens sapiens is considered as a more specific term for today's human. But how do Neanderthals and Homo heidelbergensis belong at the same time to genus HOMO as species and to the species Homo sapiens as subspecies where Homo sapiens sapiens is also a subspecies?

My first argument is that the notion of species as it is used in the Palaeoanthropology and biology is problematic. It is confusing whether all human beings belong to a single species.

However, human beings are the reproductively isolated group of population. Nevertheless, we have seen that for the sake of hunting, Homo erectus (whose brain-size is about 1000 cm^3) left Africa and entered Asia 1.8 to 1.5 million years ago (MYA). Homo erectus were able to use fire and stone. Simultaneously, evidence shows that Homo Neanderthals existed on earth 2.3 MYA. It has been estimated that Neanderthals were killed by Homo sapiens 28000 years ago. Further evidence shows that Homo sapiens existed 1.95 MYA. These facts imply that nearly 2 million years ago Homo Neanderthals and Homo sapiens coexisted. And we have evidence of interbreeding between the members of these two species. Different studies show that 1.5% to 2.1% of humans (non-African) still carry DNA of Neanderthals and 35% - 70% of Neanderthal N-genome (Wong 2015, 2016).

Besides Neanderthals, we now know about Homo sapiens' interbreeding with two more different species. For example, evidence of interbreeding between Homo sapiens and another species called Denisovan has been revealed in the studies (cf. Ackermann et al. 2016). Additionally, the evidence has also been revealed that at least two genetically different sub-species of Denisovan interbred with Homo sapiens. "The Scientist"[2] quotes David Reich, "It's a definite third interbreeding event." As Reich (2018) considers, first two interbreeding of Homo sapiens were with subspecies of Denisovan and Neanderthal mixtures (cf. Posth et al. 2018; Sankararaman et al. 2012). According to Shawna Williams' report[3] published on Mar 16, 2018 "Homo Sapiens interbred with Denisovans from two

[1] https://www.britannica.com/topic/Homo-sapiens

[2] Grant, B., 2015. Denisovan DNA Reveals Human Roots. The Scientist, 19 November 2015 [https://www.the-scientist.com/the-nutshell/denisovan-dna-reveals-human-roots-34477 as seen on 15.03.2019]

[3] Williams, S. 2018. Homo Sapiens Interbred With Denisovans From Two Different Populations. The Scientist, 16 March 2018. [https://www.the-scientist.com/the-nutshell/homo-sapiens-interbred-with-denisovans-from-two-different-populations-29948.as seen on 15.03.2019]

different populations." Moreover, Reich was hopeful about future findings of the evidences of more cases of interbreeding.

Ackermann et al. (2016) emphasizes on the process of hybridization in the evolutionary history of Homo sapiens. They confess that they don't have any record of fossil which can show the thorough proofs of gene exchange or other factors that influence today's human variation. Besides, the understanding on phenotypic variation is limited. Apart from questioning the relationship between hybridization, contact, phenotypic and cultural exchanges, they argue that hybridization is such a process that interplays in the evolution of human variation and complexity. Besides, hybridization also helps to increase the adaptability of Homo sapiens to cope up with the new contexts.

Ko (2016), moreover, advocates that Homo sapiens interbred with Neanderthals, Denisovan and Homo heidelbergensis. According to Ko (2016) the human variation in today's world is the direct result of Hominin admixing. Hints of such admixing have been traced in regional population. Human communities were mixed up with different races. Homo sapiens were less stable than other Hominin groups like Denisovan. Studies show that present geo-regional human groups not only have different brain sizes but also have different parameters of brain. For example, the perceptual brain regions are larger in East-Asians, whereas the regions related to language are larger in Europeans (Rushton 2003; Ko 2016; Pearce et al. 2013; Park and Huang 2010; Ambady and Bharucha 2009). Ko (2016) addresses that as countless historical migration of early Hominin took place, Homo sapiens evolved in different places. He further stresses that they are not the same humans that lived 10,000 years ago.

The definition of the term 'species by which all human beings are grouped under an overgeneralized category of Homo sapiens, also seems questionable. The species is the lowest node in a taxonomic tree. However, several questions arise when a set of arguments are considered as definitions of species. On one hand, all these names like Homo sapiens are considered as species by the biologists, anthropologists and other researchers. On the other hand, by definition, species is reproductively isolated group of natural populations. But we are now well informed as discussed above that Homo sapiens interbred with Neanderthals and at least two groups of Denisovan. Then how are today's human populations considered as single species? Tattersall (1991) argues that 'the theory' regarding species does not help researchers in the real practice to recognize a species from the data of fossil record. He also points out 'theoretical and practical problems' of the paleontological concept in the research of hominid evolution from such records.

Review of the literature of evidences on human and archaic human interbreeding convinces me that today's human is not a single monolithic species, for example Indian Robin (species name: C. fulicatus). When science deals with humans it faces several controversies. Humans are always considered as a single outcome of evolution whatever the type of phylogenetic evolution considered to show human evolution is (mostly cladogram and phylogram are being modelled). I thus argue on the basis of adequate evidences, that humans may be considered as a combined group consisting different cognate subspecies or specie. Therefore, HL is also a combination of different linguistic groups evolved from different cognate species of human. As a result, a universal idea of syntactic recursion, can only be considered as an essentialist projection, which may not always be observable empirically (cf. Calvin 1994; Wolf and Akey 2018).

So, first, there may be many languages which do not exhibit recursion at the sentence level. Linguists are not able to scrutinize each of around 7000 languages of the world. Secondly, influenced by its writing, the languages developed and followed by a writing system might allow recursion in ordinary form of speech. Standard colloquial Bangla (SCB), a common Indo-Aryan linguistic form, do not show frequent recursion in the sentence level in its ordinary spoken form. Recursion in the spoken form of SCB occurs in a restricted fashion. This paper argues that only the culturally developed sign system results in HL's exclusivity among all PVCs because human culture has been manifested upon the necessity. The development of complex culturally manifested sign system is the only feature that separates Homo sapiens from other animals, though Everett (2016) has argued that long before the emergence of Homo sapiens, Homo erectus were the first who were able to use signs. According to

the present POV, Homo erectus of course were able to use signs as at present many animals can use. Now, many animals can use each kind of sign as the term sign has been defined and categorized by C S Peirce. Vertebrates especially can use Icon, Index and Symbols. But the use of signs by animals is limited or constrained by necessity. Human's social need is much more complex than animals, forcing humans to adapt the most complex sign systems.

Castro et al. (2004) argues that linguistic ability of humans evolved by natural selection and such ability was developed with increasing efficiency of cultural transmission in early Hominin. This study emphasizes on the evolution of adaptive social learning in the development of linguistic ability and suggests that this special kind of social learning provide adaptive advantage that generate a selection pressure for linguistic development. Therefore, a human child understands such evaluative information which he/she did not receive earlier. Particularly, such ability is structured by the sign system endorsed by the specific culture. This adaptive ability that propagates culture-specific choice-based sign-system is universal to all human groups. Later in this paper, I highlight the concept of significance in HL, which is also the result of adaptive social learning evolved through natural selection.

3.2 Does Writing Influence Speaking?

My answer to the question whether writing influences speaking is in the affirmative. In this subsection, I argue that humans adapted the ability to write through a rigorous cultural process associated with certain cognitive developments. For example, certain human groups have developed the ability of memorizing. As a result, these human groups have stronger memory than the others. The human groups which adapted comparatively stronger memory and developed a culture of memory have achieved the ability of writing and those who do not belong to the culture of memorizing have not achieved such ability. The reason being that writing as a description of fact depends on the memory strength. Accordingly, complex sentence producing ability has also been achieved by some human groups who are able to write. The main argument of this subsection is that writing influences speaking. Consequently, if a language has its own writing system, ordinary spoken form of that language may also exhibit complex syntactic structures influenced by its writing.

Writing system is one of the most complex cognitive activities to be learnt. Such activity indeed involves many cognitive components operated at different levels of linguistic representation. For instance, at semantic level, planning processes construct a pre-verbal message that corresponds to the ideas a writer wants to communicate. At this level, ideas are retrieved from long-term memory and reorganized if necessary. Planning processes also allow scheduling the unfolding of writing by preparing action plans for composing (Hayes and Grawdol-Nash 1996).

From the beginning of the history of writing humans started scripting, typically for the purpose of demonstration. As far as the working memory is concerned, writing needs to be well memorized. Hence, all prehistoric human groups were not able to script or draw their experiences on the cave walls. Cultural evolution has made today's world where the major populations of the so-called civil societies are able to write. Roman Jakobson's (1972: 80) argument on verbal communication is significant here,

> "...those properties that depend on the spatiality of written text separate them from the purely temporal structure of oral utterances. The comparative study both of verbal patterns and of their roles in social communication is an urgent task that can no longer be neglected. **Many hasty generalizations will be dismissed**. Thus, for instance, the role of schooling and continual transmission, far from being confined to the world of letters, **is attested as well in oral tradition** and rhetorical art." **(Emphasis added)**

Here, two points which I have marked in the above quotation need emphasis. One is: writing and speaking as designated as oral utterance in Jakobson (1972) must be studied intensely and comparatively. Otherwise there are possibilities of hasty generalizations. Second is: the role learning

is attested in oral tradition. Therefore, my assumption that writing influences speaking is partially supported. However, according to Jakobson (1972), humans are not only able to produce infinite number of messages but are also able to create new concepts and to accept all possible linguistic contexts depending on the universal properties of the verbal code.

A study has revealed that there is a strong relationship between the skill of language use and memory in terms of both specificities of domain and strategy selection. More specifically language skills are directly linked to the capacity of shared working memory. However, there are primacies by which language skills differ from remembering, reading and writing. According to this study, organization of sentences, paragraphs or entire piece of prose require higher level resource flexibility than spelling, grammar, etc. This study also suggests that a skilled language user can remember more words when he/she focuses on storage and can write longer sentences when he/she focuses on processing (Ransdell and Levy 1999; cf. Bourdin, B. and Fayol, M. 1994, 2004; Grabowski 2005). The study clearly shows that writing and speaking are subject to respectively stronger and less-stronger memory. Another study also shows that there is a clear trace of the interaction between thinking and text production (Galbraith 2015; cf. Galbraith 2009).

Now, if writing has something to do with stronger memory than speech, then it negates the 'immediacy of experience' principle introduced by Everett (2005). According to this principle, Pirahã language speakers are said to be living in the present. They don't have any prior memory. Therefore, the ethnic groups like Pirahã which do not have a writing system are assumed to be characterised by a weaker memory. As a result, these groups are unable to produce lengthy and complex syntactic structures in the oral version of their language. Thus, the languages with writing system differ from the languages without it. Therefore, apart from the species related argument on HL as presented in subsection 3.1, I propose to divide all HLs into two major cultural groups: one consisting of those languages which have writing systems, i.e., well-planned languages (WLP) and the others which do not have writing systems. These languages of the second type are less planned languages (LPL).

Since LPLs are assumed not to have writing system, an LPL cannot provide a good environment for syntactic recursion. In WPLs, when speakers demonstrate something, they must remember the entire fact or event they experience. Such demonstrations have enormous scope of syntactic embedding. Even demonstrations used in ordinary conversation have strikingly lower frequency of use of embedded sentence whereas in the supervised or predetermined sets of speeches like news readings, delivering lectures, dialogues, used in films or theatres, business demonstrations and so on, there is a higher frequency of the occurrence of syntactic recursion.

HLs are neither universally oriented to a single grammar nor evolved uniquely. Rather, I find ordinary form of speech containing syntactic recursion is the result of the influence of writing. Speakers, mainly in time demonstration, influenced by writing and being adapted with stronger memory structure sometimes maintain certain syntactic structures that allow to juxtapose another clause to the main clause. I thus argue that, only a WPL influenced by its writing system exhibits syntactic recursion in the restricted domains of the language like declarations. There are a huge number of LPLs, which unlike WPL do not have any writing system or other socio-cultural practices like counting or broadcasting.

The exact number of unwritten languages is hard to count. Ethnologue (21st Edition)[4] shows that amongst the currently listed 7,097 living languages, 3,909 have developed writing systems. We do not know whether all these writing systems are widely used or not. The remaining 3,188 languages are still unwritten. Therefore, it is easy to believe that all HLs do not have complex syntactic structure, best known for syntactic recursion.

I am a native speaker of Bangla, which has a writing system. I have done fieldwork on some languages also other than Bangla and from different language families (Austro-Asiatic, Sino-Tibetan,

[4] https://www.ethnologue.com/ethnoblog/gary-simons/welcome-21st-edition

etc.). I have observed that in the several regional variations of Bangla ordinary speech, there are mainly simple sentences with several non-syntactic elements like different forms of implicature, etc. In order to comprehend other languages, I take help from the judgements of the informants. I find them subscribing to what I have already experienced in my own language. I have also found that embedding occurs in the certain domains of speech even in the standard colloquial Bangla (SCB). It is well known that imperative sentences are typically the root sentences. Polar interrogative sentences are mostly like that. If there are examples exhibiting embedded questions the expressions are no more interrogative. Moreover, mainly declarative sentences create apt environments for embedding even more than one clause. These constructions are highly motivated by written sentences.

In empirical sciences, there are plenty of scope to examine the definition of sentences. Every language speaker must experience how subject, object and verb along with several functional comments have been grammatically arranged within two spaces. In the system of writing such silences are well designed by white spaces and punctuations, mainly full stops. So that writing is one scope of sentence to be designated and through cultural practices and processes of verbal communication, the concept of sentence becomes popular in those languages which have strong writing backgrounds.

Nevertheless, if cave painting is to be considered as the example of first writing practice among the related human groups, then writing may be categorized into different types, subject to how human groups are oriented to it. For example, purpose of cave painting is not the same as the purpose of the emergence of Brahmi inscription. Neither of these are similar to the case where people of endangered languages try to develop alphabets to save their languages even today. Therefore, as writing is associated with comparatively stronger memory than of speaking, I argue that writing is the proper place of recursion, whereas speaking majorly allows simple sentences. But when speaking demonstrates or describes, then it is influenced by the writing techniques and produces prose-type texts which exhibit syntactic recursion.

Another reason behind my argument stating the contrast between WPL and LPL is the assumption that recursion which is mostly realizable in the declarative clause is the only effect of writing practice. Writing also helps the growth of declarative memory in human beings. I use the term ‘declarative memory’ as is used by Squire (2009). Writing is necessary for declarative use of language as it is fundamentally used for description and secondarily for imperative as in instruction. It implies that so-called standard languages like English, German, Spanish, Portuguese, Bangla, Hindi, and so on are WPL. These have well-established historical backgrounds of cultural practices such as writing, whereas, the languages like Pirahã have no writing and have minimum culture-bound planning, since their languages belong to LPL.

4. A Monolingual Experience

Here I elaborate my parent language, Bangla. Bangla has SOV pattern and is believed to be recursive at its syntactic level. As a native speaker of Bangla, what I observe in real time conversation, constitutes this section. In the first subsection, I refer to my POV towards phenomenological review of language. I propose to consider the paradigmatic relationships between the utterances with cultural reality to point out exclusivity of HL in-itself following Dasgupta, et al (2000), Dasgupta (2004, 2011, 2012, 2015) and Ruwet (1987a, 1987b, 1991). First I shall discuss the issue of universality of language in subsection 4.2. What do we mean by universal feature of language? Both, this question and my experience, are related to the proposal I want to place in this section.

4.1 Syntax and Human Experience

A crucial question on how HL is exclusive in-itself has been highlighted in Dasgupta, Ford and Singh (2000) and reframed in Dasgupta (2015). To place the question, Dasgupta, Ford and Singh (2000) tries to imagine a language that consists only of compound word box within word box infinitely. This imagined language allows its speaker to choose words freely, exactly like real language. Now the question they posited is how one can separate the ‘what-if’ image of imagined language which is

essentially generative from the phrasal reality observable in a real language. Dasgupta, Ford and Singh (2000) answers this question thus. The most important contrast between the language they imagined, and a real language is that one consists of bound expressions whereas a real language has free expressions, assembled by words through the mechanism of inflection. In Dasgupta (2015), two types of clauses are focused. The first is such a clause that relates to a root clause depending upon certain grammatical relations. The other type is not related to a root clause. Dasgupta (2015) tries to find out the distinction between these two types of clause. According to Dasgupta (2015) the embedded clause reduces certain grammatical options of the root clause. He proposes that these empirical facts are to be viewed in comparison with the other facts occurring in the paradigmatic axis.

Dasgupta (2011) further emphasizes the concept of 'significance' to describe contrast between irregular and anti-irregular utterances. Significance generating application can bridge between syntagmatic and paradigmatic relationships. According to Dasgupta (2011) a conversation is comprised of a series of cognate episodes, which are assembled by syntagmatic relations. Paradigmatic relation on the other hand allows these parallel optional cognate episodes to be juxtaposed at the macro level. For instance, in the metropolitan cultural habits, different types of food items move around in the paradigmatic axis. People select such items on their plates according to their own choice. The serving of food items on the plates are made according to syntagmatic relations. That is, if someone opts for /biriYani/ 'Biriyani' the same person would obviously not have the choice of /CheNcki/ 'mixed vegetables' in his course. However, there is no such compulsion on the choice. But syntagmatically /biriYani/ 'Biriyani' and /CheMcki/ 'mixed vegetables' are not conventionally related. The macro level of episodes that build conversations consist of the facts related in terms of paradigmatic relationships. Speaker chooses the elements from this macro field of paradigm to display the syntagmatically organized utterances. The elements are the associates of each other.

Talking about the convention of diglossia, Dasgupta (2011) shows the instance of choice where speakers use formal or non-formal speech according to the situation and circumstances and are thus at the liberty either to say /pichu dhaWa korlo/ (informal) 'chasing behind' or /pOScaddhabon korilo/ (formal) 'chasing behind.' A Bengali native speaker can make this choice based on paradigmatic relationship only. In a similar fashion, by the impression of choice in everyday conversation a whole clause may be substituted by a nominalized or an adjectivized structure. This alternative arrangement of language use can be observed clearly if one investigates the paradigmatic relations. The choice of alternative thus is related to the significance, which would confine the episodes of identical strings simultaneously on the syntagmatic axis and on the paradigmatic neighbourhood. Barthes (1972), in his seminal work on Mythologies observes that it is necessarily important that the language of a writer 'should signify reality' rather than 'represent the reality'. Dasgupta (2011) advocates the idea of significance particularly when an episode of language has no alternant or neighbour in its paradigmatic field. These non-isomorphic episodes seem to be considered as the signs within the parameters of significance.

Dasgupta (2011) selects a term 'Mightiness', for example from the phrase 'Your Mightiness', which may be used by a speaker instead of pragmatically expected 'your might'. He advocates that a speaker may use such a term in the conversation by choosing a parallel phrase like 'Your Highness'. He further argues that semantic analysis may take 'Mightiness' as it is derived from 'might'. However, 'mightiness' and 'might' are different. Semiotics takes over from here and allows such utterances as significant in terms of context. The hearer of 'your mightiness' draws the significance as this is necessary for the contexts.

It has been now studied that hearer also requires to adapt prediction on speaker's use of language. During conversation, hearer's adaptation is highly flexible in order to make over itself to the particular use of individual linguistic style (Kroczek & Gunter, 2017). This research implies that the particular use of a linguistic context works as a single unit to generate the significance of an entire situation.

On the other hand, one's worldview depends on his will to see the reality. Speaker is only responsible for what the hearer assumes. Speaker offers the hearer a linguistic context where his intention is communicated to the hearer by cooperation and implicature simultaneously. Intention is reflected on the illocutionary acts embedded in the utterances.

Thus, Dasgupta (2011) advocates pragmatics instead of formal semantics. According to him, "when we converse, pragmatics is activated, making sense of the interplay between what you say and what you invite me to infer" (Dasgupta 2011, Ch. 5). Grice (1975) also focuses on such communicative rigour. Speaker does not always use words accordingly, for what he intends to. In such cases the speaker offers the hearer to infer his intention that is not directly reflected on the utterance. For example, a speaker can wish to exclaim /OSadharon/ 'excellent' to the hearer who has dropped a glass on the floor and broke it. The hearer would obviously realize that the word used by the speaker has not been one of applause. The dictionary meaning of /OSadharon/ and the meaning generated by this context-specific use are not the same. Therefore, it would be apt to put it in the realm of 'significance'.

Social science, cooperative of all empirical sciences, are associated with the issues that concern all other interacting branches of knowledge. In contrast, mathematical sciences as the prior advocators of formalism, use empirical data for the justification of their formal templates only. Thus, other natural sciences using mathematical templates to propose hypotheses also apply the process of formalization of empirical data. But it is to be established that the natural sciences too were not dissociated from the socio-cultural implications. If we consider knowledge to be a paradigmatic field and believe that language is intricately linked with human culture, then the various aspects of language study are generated afresh in our minds by culture itself. In other words, whichever is the method adopted for the study of language is never going to be dissociated from culture, courtesy, the intimate relationship between language and culture. Let us consider a human child with innate capacity of learning language is born in a specific cultural set up. Gradually, the child inhabits the norms of the co-specified linguistic and social order. This co-specification implies there must be some socially acceptable contents that are explicit in that language instead of abstract universal grammar. Universal grammar sets the formal linguistic pattern, which consider the regular forms of a language mainly and takes irregularities as exception. As extension of the formal inquiry, Ruwet (1991) calls for interdisciplinary actions to account for irregularities among the language used in real world. Substantivism in this thesis adapts Ruwet's paradigmatic technique of using data and accounts for the irregular as well as anti-irregular instances of language associated with the culture showing a topographic view of the language.

The use of language is mostly spontaneous and thus unauthorized. Since we advocate the topographic view of language, we must admit the relationship between the speaker's intention and its experience of the use of language. Ruwet (1991), indebted to the generative grammar, realizes that one of the crucial standpoints of generative grammar is using the intention of the speaker for syntactic formalization and presenting data in a formal frame. He is dissatisfied with the generative technique of presenting the instances as these are presented with the competence view, to establish contrasts between correct and incorrect sentences in the language but not represented as the utterances from the spontaneous speech directly. I have discussed in chapter 2 that the competence view of language depends on the judgement of native speakers. Such view may overlook the fact that the judgements can vary in terms of individual experience and subjectivity. It is not known so far whether any work has been done on the 'possibilities' of research based on the judgements of the speaker in generative discourse.

Ruwet (1991) interrogates the generative practice of using data by which the generative grammarians are bent upon relying completely on their own apprehensions; while brushing aside the conspicuous social and extra-linguistic factors. For instance, Ruwet (1991) mentions a very familiar error of generative implication on data usage which he calls the 'swallow fallacy'. Swallow fallacy can be interpreted as follows: in the generative syntax we examine correctness, goodness and badness of the sentences based on one or two sentences called allosentences by the syntactic generalization

bypassing irregular or language specific expressions. It was realized in the early phase of generative revolution that taxonomy, which is associated with the process of discovery, no longer remains usable in this advance stage of science. According to Ruwet (1991) the exclusion of taxonomy from the advance sciences is a result of 'oversimplification' and thus must be rehabilitated into the new analytic account as the undiscovered facts of language can be discovered by a considerably broader intervention.

Ruwet (1991, 8) theorizes:

> "...there exists an iconic link between the (superficial) form of sentence – simple or complex, compact or articulated – and the content, experienced as relatively simple or relatively complex, perceived as unitary process or else as being decomposable into separate moments. More precisely, the differences between the surface forms available a priori tend to be used iconically to suggest certain aspects of the relative complexity, or the internal articulation, of the content."

As Goldsmith recognizes in the foreword of Ruwet's book (1991: vii), 'nongenerative' but not 'antigenerative' Ruwet (1991) advocates hermeneutic orientation of analysis, where the irregular cases are also to be considered with linguistic specification along with the regular generative formalizations. Ruwet (1991) also suggests using tools from different associated schools of linguistic studies which enable us to interpret non-isomorphic contents in the core area of language and the budding possibilities in them, since the explanatory projects of generative grammar, work only for the competence view of language.

Ruwet (1991) compares data from different languages. For example, for the case of Equi-NP deletion, Ruwet (1991) instantiates some French and English data. Contrast between the data shows that the French modal sentences have the overt NPs present but overt NPs are absent in the English sentences. Criticizing the generative perspective of acceptance, he had shown that three of the sample sentences were not grammatical, in which Equi NP deletion is not put into function by transformation. In Bengali for instance sentences like /ami cay tumi kheYe nao/ 'I would like you to finish eating' or /ami cay Se kheYe nik/ 'I would like him to finish eating' are acceptable while /?ami cay ami kheYe ni/ 'I would like me to finish eating' is under question. According to the rules of Bengali language, the last utterance is not completely ungrammatical or even unacceptable, although a native speaker generally feels comfortable in saying /ami kheYe nite cay/ 'I would like to finish eating.' In this case the rule becomes easier: [ami$_i$ [t$_i$ kheYe nite] cay]. But the examples point out that it is difficult to use correctness scale to analyse a real utterance under a context-specific conversation. Anyhow a native speaker of Bengali cannot be dissatisfied with utterances like /ami cay ami kheYe ni/.

Ruwet (1991) thus emphasizes on those grammatically unacceptable sentences which he terms as paradigmatic Equi-sentences. He argues that an overgeneralization on the surface form of the sentences is responsible for the grammatical unacceptability. By the term 'surface' Ruwet (1991) means two things. Firstly, the term surface implies a string of external form of different words, i.e. the form that we observe in our ordinary conversation, is closely connected with human intention. Secondly, by 'surface', Ruwet means our representations, based on our experiences, which are created by ourselves as the content of our speech. He advocates the idea of 'iconic link' between the Equi-sentences to observe language or context-specific utterances as real as possible. He (1991: 23) notices that an utterance arranged by poetic or very context-specific use may be considered as ordinarily ungrammatical. The concern, poetic function of language, does not imply that poetry is written or created by the language, but it implies the language itself can produce poetic arrangement, often even in ordinary speech.

This subsection undertakes to apply semiotics to what those are paradigmatically associated to. Ruwet's concern inclines to include more variants of utterances to notice hermeneutics of the data. This concern considers a linguistic representation like a discourse as a whole text but not as the composition of sentences. Likewise, it considers sentence as a complete utterance rather than the

composition of words. In the hermeneutic view, each word is nothing but a part of the whole utterance and similarly a sentence is nothing but a part of whole conversation. Semantic value of the constituents is not equal to the function of the whole utterance. As far as hermeneutics is concerned, a text is associated with every possibility of social reality. An utterance can be considered as the speaker's cognitive correlate. Therefore, a text implies a complex cognitive process that expresses interrelated and sequential thoughts. Let us consider more data on some regular and irregular forms of Bangla compound verb to avoid the problem of swallow fallacy in the orientation of realizing data.

4.2 Issue of Universality

In this subsection, I develop an alternative argument on how human languages are universally oriented to each other instead of the claim of essential orientation of infinite syntactic recursion. I further argue that other animals may lack this kind of orientation. However, I do not technically compare HLs with other PVC systems and thus other PVC systems may have such orientations as well. The only difference I find existing between HLs and other PVC systems is: if 'human being' is believed to be a cover term for many forms of Homo sapiens (or as different species) evolved with different biological as well as spatio-temporal parameters and resulted in different cultural systems, then despite the bio-cultural differences all humans should be able to communicate with the members of the other groups. An instance of this ability is bilingualism. Animals cannot establish interspecies communication although we know about the signalling of the barking deer (Indian muntjac or Muntiacus muntjak) alerting the presence of tigers to both in-group and intragroup members. Many vertebrates and other creatures like honeybee and even many plants release pheromone for both in-species and inter-species communications. However, animals cannot be bi-communicational in the sense of bilingualism.

Humans can be bilingual for those languages that live close together and are not distant. Therefore, at the same time, a human cannot exhaustively understand one's language if she lives far from human beings. Translation can only take a reader closer to a language. That is why Everett (2005, foot note no. 4 on the page 623) mentions "The 'translation fallacy' is well-known, but field linguists must be ever-vigilant not to be confused by it." However, translation is possible if some cultural objects in terms of its interpretants have certain properties sharable to other cultures. But each culture has its own formula of making speakers who, by inhabitation acquainted with pragmatics can make an utterance significance. In subsection 4.2 I will instantiate how signification is added to an utterance.

Particularly on the question of how HLs are unique among the other PVC systems, I present my proposal where HL is not unique among the other PVCs but is special in-itself by its capacity of developing exhaustive sign-system that links more than one linguistic groups. All human groups despite their evolutionary statuses, can make utterances (as the minimum unit of conversation) significant related to certain contexts of conversation. I argue that only the process of signification is universal although the process completely depends on the cultural specification of the local human groups.

Animals also use signs as defined by Pierce. They can use icon, index and even symbols. In literature, Everett (2016) shows that humans are defined as symbolic species whereas animals can produce only index. But I argue that animals are also able to use all three kinds of signs although in a limited way. Animals' use of symbols (barking deer's signal and pheromone) is elaborated above. Humans use words as symbols. I have argued that only the process of signification is universal. Now to establish human at the top of the animal-human hierarchy I can only assume that humans take part of infinite semiosis as in Pierce's sense, whereas animals' use of signs is limited and constrained by necessity. Another practice is unique to humans. Humans can use metalanguage. This point is interesting because, prose is majorly developed in the use of metalanguage (Dasgupta 2014) and prose is also a place to view a language at the syntagmatic axis. However, the use of metalanguage is matter of culture.

Generative grammar is an algebraic enterprise which considers language as sentences structured with string of words at the syntagmatic axis. I agree with the generativists for their rationalist explanation of sentences. But the real picture of HL does not always match with the notions used in the generative grammar. Therefore, it is a problem if one tries to match a recursive pattern with a string collected from natural language (HL = natural language). FLN is explained as an abstract device in HCF (2002). Infinite syntactic recursion is only an abstract idea, so that there may be instances in a real language that do not match with the abstractions drawn by the generativists.

The only problem is that the generative grammarians usually produce examples to pursue the generative grammatical format instead of collecting specimens from natural language although they must theoretically depend on the native speaker's judgement on grammaticality. But the concepts associated with the concept of grammaticality judgement are also problematic. For example, the concept of native speakers can be varied. Therefore, native speaker's judgement cannot be same irrespective of time and space. Secondly, different pragmatic contexts can render a string of words acceptable whereas the same string looks like ungrammatical in a different context. Such may be the case that one native speaker has no experience of the first context. So, the most significant argument against generative grammar is how generative grammarians explain a sentence as a piece of natural language when native speaker's experience of ordinary language can be varied.

Another vital problematic is that scientists compare intelligence of animals with humans. In such comparisons, 'human' remains the standard. I believe that the ability of simple language learning or tool using skill developing of chimpanzees is remarkable although in comparison with humans these are 'fairly rudimentary' abilities (Calvin 1994). However, we never ask ourselves that whether humans can perform such abilities that animals naturally do, for example, area marking using Pheromone. Have we ever enquired whether humans have the ability to climb trees like chimpanzees? Scientists have taken it for granted that humans' problem-solving ability is more complex than animals. But they never try to experiment with humans to be examined with reference to animals' ability standards. For example, researchers have also taken HL for granted that it differs from other PVC systems in terms of syntax. They presupposed that PVC systems other than HL are typically non-syntactic. They consider lowest PVC unit as signal, which according to them is only to refer to an entire situation whereas HL is universally syntactic, which is made with combinatorics. Researchers also provide mathematical models in support of why only Homo sapiens evolved with complex syntactic communication systems, i.e., language (Nowak et al. 2000).

However, Nowak et al. (2000) concludes that syntactic communication is not always restricted to humans. Various animals may comprehend syntactic structures but may not be endowed with such communicative ability because of natural selection. Sole (2005) also advocates that HL is primarily based on syntactic combinatorics although syntax is not such complex process as is defined by the generative grammarians. Using Zipf's law Sole (2005) shows that in a string of words, certain common words are mostly used but they are few. In fact, rare words are more frequent and specific to the content while common words are less specific. Sole (2005) criticizing Ferreri Cancho et al. (2005) maintains that the linkage mentioned above is not to be correlated to the origin of syntax although it indicates association of words.

Some contemporary studies claim that recursion is not a universal property of language rather language is unique in terms of the human ability to produce iconic resemblance of the spontaneous articulation that substituted contextually (e.g., Ruwet 1991). This departure is important as it provides some phenomenological POVs towards the uniqueness of human language in contrast to the Chomskyan paradigm of UG (cf. HCF 2002).

From the POV of the native speakers, I have observed that in an ordinary conversational sense my language Bangla does not allow more than one embedding to either side of the root sentence. If it allows, e.g., influenced by its writing or other similar declarative practices (discussed earlier), it allows so, infrequently. Such rare utterances are interpreted by the other participants of the conversation either as a completely significant event or as a combination of partly significant events

associated with a single discourse. When a speaker produces (in conversations) embedded sentences, each of its clause yields to be interpreted as a single pragmatic unit equivalent to single utterance related to an event.

4.3 An Issue from Bangla Language

Now I demonstrate the issue of significance with instances taken from Bangla. Ability to generate significance according to my proposal is exclusive to HL in it-self. In this subsection, my demonstration includes context-specific choice-based uses of Bangla language. Significance-generating ability is culture-specific. Here I show how an utterance despite the default function and interplay of its words and phrases by their pre-scheduled meanings – produces a whole meaning as it becomes a pragmatic unit related to a specific context. However, this pragmatic unit is entirely based on the speaker's choice and selection of smaller units used in the utterance. Let me take an example from Bangla. In the following instances, (1) is a spontaneous utterance, collected from a linguistic environment I belonged to at the time of collection. The speaker of the utterance (1) is a 12-year-old girl.

(1) amar kintu khide pacche.
My KINTU hunger feeling
'I am rather hungry'

(2) tumi jaW ni kintu o eSechilo
You go-Imp not-Past but she came
'You didn't go but she came'

KINTU in (1) is said to be a discourse particle which diachronically became grammaticalized, i.e., semantically bleached out and at present has no lexical meaning. On the contrary, KINTU (but) in (2) is used as a simple conjunct. Apart from the grammatical contrast, KINTU in (1) includes some additional flavour into the utterance whereas KINTU in (2) clearly divides sentence (2) into two segments, i.e., /tumi jaW ni/ 'you didn't go' and /o eSechilo/ 'she came.' Someone who knows Bangla is simply unable to interpret the presence of discourse particle KINTU in (1) whereas KINTU in (2) is understandable by simple translation.

The context of utterance (1) can be stated as follows. KINTU as a discourse particle specifies the utterance for a discourse, where it was realized by the speaker that those who are responsible to arrange meal for her are ignoring their responsibility or busy with other works. KINTU in (1) adjoins a polite warning to the basic structure of expression to let one know about the speaker's feeling of hunger. This interpretation is one possibility. There may be more. For example, when KINTU is used by the head (an older male speaker) of a family in a patriarchal society, it works as the catalyst of the straight warning. Apart from conveying polite or straight warning KINTU as a discourse particle in Bangla has several other tasks. Consider following examples from Bangla.

(3) dilip kintu kolkataY jaY ni
Dilip KINTU Kolkata-Loc go-Pre-3P not-Past
'Dilip however didn't go to Kolkata'

(4) tumi TakaTa kintu dilipke dio
You money-Cl KINTU Dilip-Obj give-Imp
'Don't forget to give the money to Dilip'

Both in (3) and (4), KINTU plays completely unique pragmatic roles. In (3), speaker uses KINTU to contradict one's belief that 'Dilip went away to Kolkata' and in (4) speaker uses KINTU as a pre-reminder of giving the money to Dilip. Now, I can construct a simple equation about KINTU. I can say that KINTU as a discourse particle works as - warning, contradicting element and pre-reminder

respectively in (1), (3) and (4) and as acting - warning, contradicting element and pre-reminder are very close to each other in order to give alternatives to hearer's preoccupations.

A syntactician concentrating on the physical existence and the position of KINTU tries to explain its focusing effect on the syntactic object with the help of semantics. Contemporary development of syntax also allows it to accept pragmatic interpretation 'as the reason' of the syntactic operations (merge and move) in the formal analysis of the so-called sentence. In generative syntax, sentence is considered as a unit related to a linear discourse. In a sentence KINTU has no fixed position. For example, consider (5).

(5)
a. dilip kolkataY kintu jaY ni
Dilip Kolkata-Loc KINTU go-Pre-3P not-Past
'Dilip didn't go to Kolkata anyway'

b. dilip kolkataY jaY ni kintu
Dilip Kolkata-Loc go-Pre-3P not-Past KINTU
'Dilip didn't go to Kolkata anyway'

c. dilip kolkataY jaY kintu ni
Dilip Kolkata-Loc go-Pre-3P KINTU not-Past
'Dilip didn't go to Kolkata anyway'

Translations of (1) and (5) are almost the same, since I do not know how to translate such utterances into a language which is not my native tongue. In fact, most critical presence of KINTU has been shown in (5c). My experience supports that discourse particle KINTU may occur in any position of a sentence but always after a major constituent, e.g., NP, PP, VP, etc. Even in (5c), KINTU breaks such rule by taking place into the VP. In language anything is possible.

Therefore, although my experience endorses KINTU's freedom to occur anywhere in the sentence, each occurrence cannot be considered as the variations of the same meaning of the sentence. On the contrary, each occurrence should be considered as unique pragmatic unit related to specific contexts. Speaker has free choice to select one among many to suffice the current necessity. Generative analysis shows KINTU in the d-structure has certain representation. Different surface structures showcasing different information are generated due to different contexts. But this grammar has no option to show how a speaker is oriented to a specific context and performs certain action-enabled-by-speech acts related to that context.

On the other hand, significance generating view enables you to participate directly in the discourse by providing each utterance as an icon, chosen from a paradigm related to the context. We require to see physically how an utterance becomes an icon. Highlighting one interesting point seems necessary here. The instances (1), (5a), (5b) and (5c) can be set into a paradigm because these are close relatives. I designate utterances as different icons functionally close to each other, each of which can be substituted by the others constrained by instant specific context.

In human language, the component's internal organization is associated with many linguistic operations. An utterance achieves TAM like attributes in the replacement which is by nature non-linear. When the component is larger than a word or phrase, 'Merge' and 'Move' as operations are activated. But when a string of words become more than a single utterance or related to discourse then the operation 'replace' is activated. A human with his proficiency of innate playground has the ability of playing within it. An utterance related to a discourse or as a part of the discourse cannot be explained only through component-internal operations like 'merge' and 'move'. The utterance of the said characteristics should be compared with its paradigmatic field mates with the activated operation of 'replace'.

Any abstract and/or mathematical aspect of knowledge cannot be empirically proven to be true for all humans. At the same time, the aspect cannot be proven false since there are possibilities that are made up with the fundamentals. Thus, on one hand, generative explanation of natural language is so trivial and obscure to assess a real utterance so far and on the other hand only generative grammar has been successfully explaining the possibilities of universal grammar, which for any language can be estimated to be true even in the absence of data. But if one tries to sketch a full-blown analysis of live utterances related to live discourse (as far as a spoken language is concerned) with the package of 'merge' 'move' and 'replace', phenomenological view of a language along with its essential possibilities can be provided.

We have discussed that presence of a particle turns an utterance into an icon. Taking further the question posed in the earlier part of this section, I flag the concept of significance on what Dasgupta (2011) stressed. Only this conception can bridge between syntagmatic and paradigmatic components. When more than one speaker speaks, they make their world with their utterances. The utterances they produce consist of several cognate episodes. Syntagmatic relationship activates these episodes into a narrative. The paradigmatic relation on one hand, designs the macro level of the narrative and on the other hand, takes parallel alternate episodes to the syntagmatic field to make the utterances meaningful.

Now let us turn to the language, imagined to be made up with compound words. According to the semiotic analysis, we can take a single element word as a signifier combination which also has a significance related to its context. We cannot realize significance of those primitive words when we take part in a conversation where an utterance comes with a complete significance. Now the question is, how to differentiate an imagined language made up with compound words and a real one that is subject to the process of diffusion when syntactic recursion is activated in order to complement the incomplete pragmatic concepts derived at signs?

One whole unit of sign (no other sign) works as a bridge between speaker and hearer, where according to the context, the speaker in order to establish her intention uses symbols (single or more than one linguistic unit of speaker's strategic expression) to understand hearer's mental situation in advance. The possible answer to the question raised in Dasgupta et al. (2000) is that the speaker does not participate in the whole signification of the imagined language whereas in a real language speaker always participate in a full-blown narrative which is combined with utterances each of which is a symbolic unit.

5. Concluding Discussion

Infinite recursiveness as a universal function of HL may be considered only as a cartesian possibility of syntactic structures. Empirical evidences collected from the specific languages may not always suffice the possible structure. Thus the phenomenological views of HL do not consider syntactic recursiveness as universal to all languages as embedded sentences are being examined mainly from those languages each of which has a written form. An utterance from a written language has always been considered from writer's POV, because written forms of a language influence its speech forms to display syntactic or other embedding with a limit. Universal claims must be justified by the rigorous study of human evolution since it is assumed that all humans are not evolved as a monolithic creature called Homo sapiens. I have argued thus:

First, I argue that empirically syntactic recursion is impossible although it has an essential impact on designing language as a universal system. This determination is not only social but also biological, though I am yet to experiment anything on this perspective. We hardly find components of UG as these have been categorized by generative grammar in the real use of language, we experience like recursion is nothing but an essential property of UG which is hardly found in even the well-established languages. But recursion also cannot be denied as this is a bio-linguistic possibility. However, the infinite possibilities of recursion would be constrained by the socio-cultural aspects that in my view can only be explained by semiotic tools apart from the syntax.

Secondly, I assume that human beings are not a monolithic single species as for say malabar parakeet or psittacula columboides such that all human languages are not evolved in a single manner. Thus, it is not possible to map all human languages by certain universal features like syntactic recursion. HL is said to be special among the PVCs in terms of the human-centric estimations which are always hierarchically biased where human remains are always referent in the comparison between human and non-human creatures.

Thirdly, as far as human memory is concerned, writing requires comparatively strong and complex memory than speaking. As a result, producing long sentence or more than one clause in ordinary conversation is possible only up to the mark that memory allows mind to recollect syntactic elements and method of merge. As writing memory influences spoken memory, speakers of those languages which have no writing system lack the ability to produce long sentences. Thus, the languages of the world can be divided into two groups, one of which has writing system and as a result has history of culture whereas the other group where the members do not have so. Therefore, the languages which belong to the latter group may not show recursion. So even in the cultured languages recursion in ordinary conversation is only possible when speaking is just a replacement of writing, e.g., act of demonstration or declaration.

On one hand, what generativists follow to explain a string of words is the axiom that considers only syntagmatic relationship between words. They require to collect data from the natural use of language, where ordinary form of language is observable. On the other hand, the concept of infinitude has been an issue of debate among the mathematician and philosophers since long. But one should remember that anybody can use the concept of "infinite" when he needs legitimating counting of more number than necessity. Advocators of UG do not intend to make infinite embedding analogous to the concept of infinite numbers. Even the sentences seem to be artificial if one wishes to embed say 10 embedded clauses to the root. Rather some linguists find "singular inertness" in the form of language.

The second kind of languages that the linguists haven't studied yet are LPLs in terms of the less practiced and cultured. Since these languages have no writing system, the speakers of these languages produce non-embedded structure of utterance with no recursion. These languages having a comparatively smaller number of speakers in case of Indian languages are mentioned as the "other languages" as in Indian Census.

Then why do we consider a common basis of language as communication tools of all humans? How do we believe there is only human as a species gradually learnt to produce sentences with a universal mechanism? Even being the member of the same language family (it means each language has same root and each evolves through a systematic change) each language as a necessity-driven communication tool for a certain group of humans exhibits difference with its neighbours.

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