BETWEEN ARBITRARINESS AND LOGIC: REVISITING UNIVERSAL TRAITS IN NATURAL LANGUAGES

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ABSTRACT

A panoply of researches have consistently isolated certain features that characterize the human language, one of which is the arbitrariness of linguistic forms (Sapir, 1921; Hall, 1968; Gimson, 1980; Eka and Udofot, 1996; Essien, 2006; Josiah, 2009). This paper re-examines some peculiar characteristics of natural languages, and then, presents a theoretic polemic: that language is both arbitrary and logical in nature – a position that tends to contradict earlier semantic purview on the concept. While this article upholds, on the one hand, that linguistic forms evolve from accidental choices of symbols and their referent following the tacit agreement of members of the speech community involved, it equally stresses on the other, that from a functional perspective, the human language involves some forms of logic. This conclusion is drawn after examining some definitions of language in the light of earlier submissions vis-à-vis its meaning and usage. For its theoretical thrust, the work is anchored on the concept of logical semantics exemplified in Lyons (1968) and popularized in Lyons (1977; 1990). In the end, the paper re-presents a tersely modified definition of language to emphasize its logical content, asserting that it is the latter that identifies man as a rational being capable of organizing thought that could shape up the society where he lives.

Keywords: Language, Arbitrariness, Logic, Convention, Trait, Reasoning, Logical semantics, Definitions of language.

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1. INTRODUCTION

Several linguists have always viewed the concept of language from different perspectives. Some of the basic characteristics for which language is known include the idea of arbitrariness and convention, which suggests voluntary, illogical and sometimes, accidental choices of linguistic symbols and their referent based on the tacit agreement of members of a specific speech community. Others include variability, complexity, flexibility, adaptability and non-instinctiveness. We will attempt to re-examine some of the definitions of language to buttress the substance of the argument we are trying to resolve in this paper. Eka and Udofot (1996) examine various definitions of language and conclude that, it is difficult to give a comprehensive assessment of the subject. They admit that any attempt that captures the essential characteristics of language:
that it is a system made up of phonic or graphic symbols which are arbitrarily chosen or agreed upon by convention and are usually learned and used by a speech community for the purpose of communication can serve as a reasonable explication (Eka and Udofot, 1996).

This appears to be a summary of various definitions of language and it re-echoes popular linguists’ views on the subject. In this context, the logical nature of the human language is not apparently pointed out.

As a starting point, we will re-present a theoretic, semantic argument to establish the fact that, although language could be viewed, on the one hand, as an arbitrary and conventional system of human communication at the level of naming of linguistic forms; yet, from a purely functional perspective, language is logical in nature. This standpoint is deduced from the perception that, in most nonnative environments, language is basically an admixture of unpredictable sociolinguistic chemistry which manifests in several forms: transliteration, pidginization, creolization, attrition, diaglossia, word-borrowing, word-coinage, code-mixing, code-switching, onomatopoeic renditions, birth of new linguistic forms, among others, which sometimes result in its logical content rather than conventional and arbitrary, or illogical, choices.

1.1. A Critical Examination of Some Definitions of Language

Sapir (1921) provides one of the earliest known definitions of language. According to this source, language is “a purely human and non-instinctive method of communicating ideas, emotions and desires by means of a system of voluntarily produced symbols” (Sapir, 1921). This definition primarily identifies language with man and then suggests the idea of conscious choices of linguistic forms (with the words “non-instinctive” and “voluntarily”). However, the idea of logic in the choice of those forms is not clearly emphasized; yet, it is underscored in the words “method” and “system” as signified by the definition. Another definition of language given in Bloch and Trager (1942) is equally explicit on the subject of arbitrariness of linguistic forms. This source defines language as “a system of arbitrary vocal symbols by means of which a social group cooperates”. Again, the emphasis here is on accidental, illogical choices of linguistic items adopted for purposes of conveying human thoughts and feelings, without any major reference to the logical nature of the human language. Hall (1968) asserts that language is “the institution whereby humans communicate and interact with each other by means of habitually used oral–auditory, arbitrary symbols”. The implication from this excerpt is not far from suggesting that language is a human resource capable of facilitating communication through the use of sound symbols arbitrarily adopted by its users.

A similar view is presented in Gimson (1980). The latter defines language as:

- a system of conventional signals used for communication by a whole community. This pattern of conventions covers a system of significant sound units, the inflection and arrangement of words and the association of meaning with words (Gimson, 1980).

In this definition, the idea of logic is subsumed, though not emphasized. The first part of it suggests that language involves the voluntary choices of linguistic forms based on some norms or conventions (the tacit agreement of members of the speech community involved). The author briefly posits that language involves “the association of meaning with words”, which presupposes the idea of arbitrariness. The second idea not explicitly stated in this definition is the presupposition that language is a rational human trait occurring in the form of “a system”, and involving “logical” arrangement of words to the extent that it conveys the intended meaning of its users. The latter constitutes the major concern of this paper - that linguistic forms are used logically to negotiate meaning within specific contexts. Moris cited in Josiah (2009) subscribes to the definition above. This source defines language as a plurality of arbitrary vocal sounds, having a common or shared significance to a group of individuals, regardless of the situation in which they are used, and can be produced as well as received by these individuals. These together constitute a system following certain rules of combination. Implied in the first part of this definition are the concepts of arbitrariness and conventionality of linguistic signs and symbols by a definable linguistic community. Closely
linked to this is the idea that there exists inherent logic in language. This is because since the human language is rule-governed in nature, it is logically systematized to convey meaningful thoughts and feelings. The first part then presupposes illogicality in language; the second, the logic that occurs during language use.

Essien (2006) equally provides a synoptic version of the definition of language. In what appears to be a review of several definitions of language from Dinneen (1967) to Chomsky (1968) to Cameroun (1990) and Essien (1990) the source asserts:

Language is a system of structured vocal symbols by means of which human beings make meaning and communicate and interact with each other in a given community. Put more simply, language is a system of rules and principles in which sound, structure and meaning are integrated for communication (Essien, 2006).

This definition highlights some key characteristics of language with the following words: “structured vocal symbols”, “human beings”, “communicate and interact”, “system of rules and principles”, among others. One major feature that is very prominent in Essien (2006) summation is that, language is composed of a system of logically-structured vocal symbols, which have rules and principles that govern its composition into meaningful units of utterances that can convey meaning to users within certain identifiable, linguistic community. Three basic features of language are exemplified in this definition: its inelastic variability, limitless versatility and interminable, plural complexity (Josiah, 2014). Again, in this definition, language is presented as a rule-governed behaviour that takes its root in the logical organization of linguistic forms in a way that conveys meaning. But this idea is an outcome of deduction rather than explicitness. One other definition of language which buttresses the perception we are nursing in this article is offered in Rice-Johnston (2008). The definition presents the notion of natural languages as it affects interpersonal, intra-group and inter-group communications thus:

Language is the process or set of processes used to ensure there is agreement between the sender and receiver for meanings assigned to the symbols and the schema for combining them used for each communication.

Here, language is conceived of in terms of ‘a process’ or ‘a set of processes’ involving the use of consciously systematized sets of arbitrary symbols (symbols, which in themselves are not meaningful or logical except at the level of function) to facilitate communication between interlocutors living within the ambience of a identifiable culture. By inference, William Rice-Johnston (himself a Mathematician) cleverly conjectures the notion of logic in language use, although that is not explicitly stated. But the word ‘process’, and the expression, ‘a set of processes’ convey the idea of the logical content of language. Again, from his illustrations, Rice-Johnston is basically interested in the logical domain of the human language. Josiah (2009) attempt a synthesis of the various definitions of language and concludes that it is any acceptable, non-instinctive and conventional system of human communication which employs arbitrary vocal sounds and symbols, as well as non-vocal signs and signals to convey thoughts, feelings, ideas and emotions within a specific speech community (Josiah, 1994). In sum, all the definitions highlighted so far as presented by various language experts tend to stress the notion of arbitrariness and conventionalization of linguistic forms without highlighting its logical component. This is where this article becomes relevant as an attempt to explicate and explore the logical content of natural languages at the functional level.

1.2. Conceptual Clarifications of Other Key Terms

Having established the fact that some linguists are unanimous on the subject of arbitrariness and convention as basic characteristics of language, and that these notions suggest the lack of logic in the choice of linguistic forms, we now proceed to define our key terms namely: “arbitrariness”, “convention” and “logic. The definitions of these terms will facilitate the following: first, it will help eliminate ambiguity and assumptions; second, it is meant to provide the focus of the subject matter and show the limitations of the discourse; and finally, it will serve to amplify, and thereby,
clarify the basic objectives of this essay. This last point - to clarify the main objectives of this essay - is an important consideration. Eka and Udofot (1996) explain that language is arbitrary and conventional in the sense that there is often no link between a word and what it means, but there exists some form of unwritten agreement or convention about the way language is to be used. This means, for instance, that the words ‘man’ or ‘book’ do not actually mean the objects they represent. Thus the signifier and its referent are merely the outcome of arbitrary choices. These basic features, according to Gleason (1955) “are shared by all languages in spite of their divergences”. Of course, this is true of all natural languages, but must not be misconstrued as absolute in the choice of all linguistic forms as we shall soon discover. The situation pictured above implies that there is no logical connection between a label and the symbol or concept it represents in the objective world. Dinneen (1967) agrees with this notion of language. The conclusion is that language is an arbitrary and conventional human behaviour and, therefore, cannot be seen as a logical phenomenon. The Merit Students Encyclopedia, Volume 16 (1979) is equally supportive of this – that words have no necessary connection with what they refer to, and that the meaning of a word depends on the general agreement of a culture, and in many cases, there are many words that have different meanings depending on their context. Once again, the interest in this article is not to entirely dispute this fact, but to also point to some logic at the level of usage of linguistic forms, whether lexical, syntactic, semantic, and so on.

Relatively, the term ‘logic’ is important to define, particularly, in the present context. Logic deals with the reasoning process. It involves skill in appraising the correctness of reasoning, in criticizing incorrect reasoning, and in reasoning correctly. It involves a process in which conclusion is arrived at and affirmed on the basis of one or more other propositions assumed or accepted as the starting point of the process. Thus, any phenomenon on the logical parlance must ask the question: “Does the conclusion reached follow the premises assumed, or does it provide adequate grounds for valid judgment?” If the premises provide good evidence for reasonable conclusion, then the reasoning is valid, otherwise, it is invalid.

Any logical process is usually based on this trend of reasoning. To say then that language is logical is to imply that it involves some rational processes in its articulation, formation, functionality, manipulation, and so on. To state otherwise is to accept that there is no reasoning existing between convention and usage of language. The former is what this article intends to support while the latter is what it contests against. Our position is that language, to some extent, is a logical human phenomenon which combines moderately with arbitrariness of linguistic forms to give meaning to human utterances.

1.3. The Traditional Grammarians’ Concept of Language

According to Lyons (1968) traditional grammarians were the first to start questioning whether there was “any necessary connection between the meaning of a word and its form”. This was part of Greek philosophical speculations. By virtue of their traditional doctrine, to say that a particular institution was conventional or arbitrary implied that it resulted from custom and tradition. Convention and arbitrariness negate empiricism and operates outside the realm of logical reasoning. In traditional grammar, therefore, the conventionalists maintained that there exists in language no relationship between the “signifier” and the “signified”. The relationship, they opined, is arbitrary. This approach was considered rather dogmatic and methodical and it was the outcome of the prescriptive approach to language study. Generally, prescriptivism was opposed to structural or descriptive analysis of language. The latter had its root in empiricism and logic.

Supporting this view, Abercrombie (1975) admits that, to some extent, language signs are arbitrary in the sense that there is no reason why the media in which they are embodied should give any shape or sound rather than any other. It further adds: “Arbitrariness of language signs has to be accepted as a general principle in linguistics”. This goes back to the traditional grammarians’ view of language. From the foregone explications, arbitrariness, therefore,
is not a new concept in language. Its main thrust is on the notion that there is no reasonable connection between the object and its referent. In other words, the relationship between the two is illogical.

This view can be practically illustrated with words from different languages of the world. The word ‘akpasa’ is a lexical item that occurs in both Ibibio language in Southern Nigeria and Ashanti language in Ghana. But, while ‘akpasa’ in Ibibio means ‘basket’, the same word in Ashanti means ‘an armed chair’. Obviously, the word ‘akpasa’ could symbolize anything else in any other language in any part of the world depending mostly on the convention existing within such speech community, or sometimes, the historical or etymological connection between the languages involved. The same observation goes for the word ‘ewa’ with different tonal modifications. In Ibibio language in Southern Nigeria, ‘éwá’ means ‘dog’ while èwà (as verb) is translated, ‘You (plural) sacrifice’, and depending however, on the tonal modifications as could be seen in each case here. In Nupe language spoken in Northern Nigeria, ‘ewa’ means ‘snake’ whereas in the Yoruba language spoken in the Western part of Nigeria, ‘ewa’ variously mean ‘beans’, ‘come’ (to an elder) or ‘beauty’ respectively, depending on the tonal modification of each of these lexical items.

Again, the Russian symbol “c+o”, the Arabic symbol “100” and the Roman symbol ‘C’ are all figures expressing the concept ‘one hundred’. These lexical items, as pointed out in Gleason (1955) “are obvious results of accidental choices”. This source draws the conclusion that, this is irrational (illogical) and these irrational facts constitute the English (and, of course, the entire human) language, and virtually, each language is a similarly arbitrary system. These all affirm that language is primarily illogical as a consequence of being arbitrary and conventional in nature.

1.4. Logical Content of the Human Language

The main thrust of the argument posed in this paper is that language is, to some extent, a logical human behaviour. The idea of arbitrariness should not be conceived of in absolute terms. Language signs and symbols only become rational when they are presented in some form of logically organized entity. This accounts for why Abercrombie (1975) notes that, there is the need to admit that there are times when the physical properties of the medium do make language appear “to be not entirely arbitrary”. There are instances that could be pointed out to support this standpoint. First, it has been observed by various scholars that where the choice and arrangement of words are such that they produce (when they are spoken out) sounds to which the words refer, there seems to be immediate and direct link rather than an arbitrary relation between expression (medium) and its referent (Lyons, 1968; Abercrombie, 1975). In such an instance, some form of logic is involved. This is particularly true of onomatopoeic expressions. There is obvious connection which onomatopoeic words and expressions have with the sense which they express. For instance, there is an apparent logical connection between words like crash, bleat, bleed, mew, crow, cuckoo, flow, crack, crow, and so on, and the physical symbol or referent to which these sets of words signify. Such connection is obviously logical. By these illustrations, language, to some extent, is logical because of the rational connection between these words and their referent.

Onomatopoeic expressions in poetic rendition are even more glaring examples of the logical connection between words or expressions and their referents. For instance, Tennyson’s lines in “Come Down, O Maid”, (Kermode, 1973) reads:

The moan of doves in immemorial elms,
And murmuring of innumerable bees… (lines 30-31).

In these poetic lines, the expressions, ‘moan of doves’ which inherently has the diphthong /əʊ/ playing the role of assonance and ‘in immemorial elms’ re-echoing the nasals /n/ and /m/, along with the bilabials /m/ and /b/ in ‘mummuring of innumerable bees’ are apparently not accidental choices, but a deliberate or conscious packaging of lexical items that illustrate the logical connection between words and their referents, or sense and denotation. Of course, in these lines, the expressions used denote the sense implied, not arbitrarily, but logically. In it, the choice
and arrangement of the words produce (when spoken out) sounds that reflect the actual phonics to which the words refer, which obviously, are not an outcome of accidental choices but conscious selection of the lexical items by the language user (in this case, the poet).

Another poetic rendition in the Ibibio language is presented below:

Nsana, Nsana, Nsana: “I walk, I walk, I walk”
Nkop frok kpob… “I hear a ”falling” sound…”

In this poetic rendition derived from oral poetry in the Ibibio language in Nigeria, the expression, ‘frok kpob’ is both onomatopoeic and ideophonic, and so, does not have an exact equivalent in the English translation. The fact is that the expression creates a logical connection between the words within the context in which it occurs, and this phrase is used to indicate the sound of a falling object. This is where logic occurs in language and such usage is indispensable if the rendition must be made effective, rhythmic and metrical.

Again, the semantic details available in language use prove that language is logical. Linguists generally avoid the study of the meaning plane of language because it involves some logical rigour resident in the psychic realm. They consider that raw data from the psychic entity could be difficult to obtain for linguistic analysis (Dinneen, 1967; Lyons, 1977). But observably, language use demands some level of logic, which requires proactive, psychic exercise. For instance, hyponyms and superordinate terms involve the notion of logical inclusion in language. The latter refers to an umbrella term within which sub-units of related but independent members could be recognized; while hyponyms, on the other hand, refers to the sense unit that is admissible under a term or word. For instance, if we are talking about building, we must select from several options namely: house, mansion, bungalow, villa, hut, skyscraper, and so on. If the reference is to reptiles, we would be constrained to make a choice from alligator, lizard, frog, toad, snake, crocodile, and so on. The choice of one lexical item from this range of terms in preference to another is obviously a logical exercise, not arbitrary. Besides, there is generally some form of entailment involved in the principle of hyponymy and superordinate terms. A lot of statements we make have some underlying assumptions. Such assumptions are not usually stated explicitly. They require logical inference, if actual meaning must be deduced. For instance, if one makes a statement like: “You appear neatly dressed today”, there is an underlying assumption, a presupposition that yesterday (or possibly on other days excluding today), the referent had been shabbily dressed. It is through logical consideration that this inference is drawn. This is the logic involved in the use of linguistic items and this could be identified in virtually all natural languages.

1.5. Instances from Logical Semantics

We have so far established the fact that language is basically arbitrary and conventional in terms of form, but it is logical at the level of function. The latter is anchored on the concept logical semantics (Lyons, 1977); (Lyons, 1968). Semanticists make use of arbitrary symbols to formalize logical semantics. Such approach has helped to establish logical relationships between words, ideas and symbols. Before presenting a novel definition on language, a few explanations are essential to support the standpoint we are adopting for a valid conclusion.

Logical relationships between words, ideas and symbols take several forms. One way of doing this is by predication. For instance, the sentence, “Victor is a man” has a predication in which it is inferred that an individual named “Victor” has a characteristic of being a man. In a formal sense, this statement can be expressed thus: ‘M (a)’ where ‘M’ is the predicate, ‘man’ and ‘a’ is the individual, ‘Victor’. Equally, the proposition: ‘Mary loves Janet’ could be formally represented as L (a, b) where ‘love’ is the general property, ‘L’ that shows the relationship ‘a’ (Mary) and ‘b’ (Janet). To universalize logical arguments, semanticists often use individual constants ‘XYZ’ and ‘∀’ (for all), the universal quantifier. A whole lot of logical relations can be expressed this way. This explains the idea behind such semantic concepts like transitive, symmetric and reflexive relations. For instance, if one makes a statement like, “Charles is married to Jenny”, the statement equally entails that, “Jenny is married to Charles”. There
is, therefore, a symmetrical relationship between Charles and Jenny. One can then go ahead to formalize this statement thus:
\[ \forall X \exists Y (R(X, Y) \rightarrow R(Y, X)) \]. This means that for all X’s and Y’s, ‘X’ is related to ‘Y’ and ‘Y’ is related to ‘X’.

The implication is that, the inference drawn from some ostensible human values or utterances are derived by logical analysis, and not arbitrarily. In other words, to resolve that five plus five equals ten (or \(5 + 5 = 10\)) results from both arbitrariness and logic simultaneously, and by extension, members of the same culture must have conventionally accepted the symbols used as being meaningful to them. A wide spectrum of other semantic concepts like synonymy, antonymy, homophones, hyponymy, polysemy and homographs also suggest the notion of class inclusion, which requires logical choices (Palmer, 1996). For instance, the word “charged” can be used in different contexts to mean different things at different times. As an example, such expression as: “The commander charged the soldiers” would be deemed different from “He was charged to court” and “They charged high price for the repairs”. These all point to the fact that, although language is arbitrary in nature, the functional level requires some logical considerations hence the idea that there is inevitable logic in language. More so, relational opposites, presuppositions, entailments, implicatures and componential analysis (which involves factorization of componential terms) require basic knowledge of logic. The use of Venn diagrams and the truth table to authenticate statements and isolate truth from fallacies, valid statements from non-valid ones as well as verifying contradictions, equivalent statements, among others, all prove the logical content of the human language. From the foregoing, we come to the conclusion that logic is the analysis of language and language cannot be effectively used without an appeal to logic. Therefore, logic is an integral part of all natural languages. This leads to an attempt in this article to re-define language so as to reflect one of its basic characteristics – logic. In the light of the above, we will define language as:

\[ \text{a plurality of complex sets of arbitrary vocal symbols, visual signs and aural-oral signals \ derived by convention, but which are predominantly logically structured and adapted by humans for purposes of communication and interaction within geographically identifiable linguistic communities.} \]

3. CONCLUSION

This paper has attempted a review of the various definitions of language. It has also re-assessed its major characteristics and has provided theoretical analysis of various linguists’ views on language as an arbitrary and conventional human behaviour. The kernel of the resolution of this essay is that language is arbitrary and conventional at the level of naming of linguistic forms, but in the application and organization of human thoughts and feelings, some form logic is inevitable. Essentially, the form of sounds, words and expressions which constitute language are derived through arbitrary convention. The phonological system constitutes more of the arbitrariness than the grammatical system – the two planes of analysis for which language is known (Gleason, 1955). Also, at the level of structure (whether phonological or grammatical), linguistic forms are arbitrary and conventional; however, in terms of function, language is empirical in that it involves some form of logic. Thus, neither the concept of arbitrariness and convention is anachronistic to germane linguistic studies, nor the notion of logic irrelevant. Both are characteristics of the human language.

4. END – NOTES

3. These lines are excerpts from Ibibio oral poetry “Nyeneke Eyen Nsabo”. It is a long poem that normally ends with the repir ‘Nyeneke eyen nasbo’.

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