Valency in the Urhobo Language

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Abstract: This paper examines verb valency in Urhobo, using minimalism as a theoretical framework. Verb valency deals with the question of how many participants a specific verb logically presupposes in order for the event denoted by the verb to be realizable. The method of data collection is categorized into two main sources: primary and secondary data. The preliminary data refers to the information obtained using intuitive knowledge, the secondary source refers to documented information obtained from the library, internet, and other published materials. The study reveals that where we have one argument structure, we have one theta function. There are two place predicates we have two theta roles or functions, and also, three arguments predicates possess three theta roles. This goes a long way to say that Urhobo verbs can take different arguments, and their syntactic and semantic well-formedness will still be intact. It also reveals that it takes only one individual to carry out one event, such as òvwèrè (sleeping event) in the Urhobo language. Finally, the paper identifies three valency classes in the Urhobo language (Mono-valent verb- takes or involves one entity, Di-valent verb- takes or involves two entities, and Tri-valent verb- takes or involves three entities).

1 Introduction

1.1 Background to the study

Copy is a new term, which minimalism has redefined technically to mean trace. A trace is a ghost copy of a moved lexical item hosted by all the nodes where the moving lexical item is iterated. Minimalism assumes that lexical items are not extracted by being copied and dropped at the new site. Napoli (1996) states that there is no actual movement perse in the new theory. Instead, one node is copied into another node. Hence, there are traces in this theory, but rather, a principle that tells us that in PF, only the chain receives a phonetic matrix. The node(s) in the chain is phonetically empty.

The determination of argument structure is a challenging task for several reasons. The little argument exists concerning (a) how many canonical usages a verb has, (b) which arguments are required by a verb, and (c) in what order they may be realized in sentences (Gildea 2002). Riemsdijk and Williams (1986) assert that the study of selection restrictions was an attempt to discover some empirical basis for the distinction between arguments and non-arguments. They further highlight that the verb will have selection regulations on its argument and not on anything else. They posit that the theta theory within Government – Binding Theory is another attempt to account for the relation between verbs and their arguments. They note that the terms θ role and thematic relation are synonyms. To designate different arguments of the verbs, terms such as agent, patient, or (theme), and goal are commonly used. This terminology maintains a system of argument types, in that, for example, it implies that the agent argument of two different verbs has something in common (Riemsdijk and Williams 1986).

Napoli (1996) remarks that the study of predicate argument structure reveals properties relevant to the realization of arguments. Consequently, the study of predicate argument structure of lexical items must be checked for coherence with the final semantic structure of the sentence. If they are consistent, the sentence is well formed

and is said to converge. If they are not compatible, the sentences are not well formed and are said to crash. In general, these approaches rely on syntactic information and subcategorization dictionaries for identifying the arguments for a verb in a sentence and/or assume, as known, the structure types in terms of number and order of statement a verb can take. The main goal of these approaches is to identify the lexemes that are most likely to fill a given argument slot.

Some researchers (Grishman and Sterling, 1994; Gomez, 2004) try to go beyond these lexemes and generalize the structures that are learned by analyzing the similarity between the words occurring across similar instances or by using lexical resources such as Levin (1993)'s verb classes and Mbah's {2012} GB Syntax.

2. Literature review

2.1 Theoretical studies

The term "argument structure" refers to the syntactic configuration projected by a lexical item (Hale and Keyser 2002). It is the system of structural relations, which hold between heads and their arguments within the syntactic structures projected by the head items. The argument structure of a lexical item is determined by the lexical properties of the lexical item in particular and by the syntactic configurations in which the lexical item must appear. Zubizarreta (1985) lists five basic properties of the lexical structure of verbs. These properties, according to him, include

a. The argument structure of a verb specifies the number of arguments that a verb takes and the semantic roles (e.g., agent, theme, goal, etc.) that each argument bears,

b. Verbs distinguishes two types of arguments in the argument structure: the external argument and the internal one. The external argument is syntactically identified as the realized in the (NP, S) position in a clause. The internal argument is syntactically realized in the VP (as a sister to the V). Lexical rules make crucial reference to the distinction between external and internal arguments (William 1981)

c. Besides the semantic roles of its argument, a verb specifies the syntactic frame in which the internal disputes are realized. The external /internal distinction of opinion is encoded in the lexical structure of verbs in terms of sub categorization features.

d. There is still another distinction involving the arguments of a verb, this distinction cuts across the external/internal one. The semantic role of an argument realized in the app is restricted by the preposition such that the complement of "of" (in English, for instance) is usually a <u>theme</u>, the complement of "from" a <u>source</u> while the complement of "in" a <u>location</u>. On the other hand, an argument realized as an object of a verb or subject is systematically unrestricted. This is because different roles rather than an agent may be assigned to the subject position just as other roles than theme may be assigned to the object position.

e. The lexical structure of verbs specifies referential Indices. The motivation behind the assumption is that there is a class of verbs known as inherent reflexive. These types of verbs impose co-referentiality between the internal and the external argument. Once such verb, according to Zubizarreta (1985), is the verb, *behave* which can function either intransitively or transitively. If it functions transitively, the object must be coreferential with the subject e.g.

(1) (a) John behaved
    (b.) John behaved himself.

According to Hale, Ihionu and Manfredi (1995) have, however, raised lot of issues, according to them, the most important of the problems is the observation that argument structures, unlike (sentential syntactic structures) are highly constrained and limited in variety. The implication of this observation, according to them, is that there are not many different types of argument structures and again, the total number of thematic arguments is quite limited. This has even been reflected in the findings of argument structure research where the numbers of theta roles that have been proposed are not many and usually are assigned according to a strict hierarchy. Hale, Ihionu, and Manfredi further state that the depth of argument structure never exceeds that attributed, say, to the English, "put" and it, therefore, follows logically that the number of 'direct' arguments which a basic verb can have does not exceed three (subject, direct and indirect object).

Hale, Ihionu, and Manfredi (1995) believe that the limits on lexical argument structure derive from certain fundamental aspects of grammar which include the lexical categories (V, N, A and P) and their inherent properties as shown below.

Properties of lexical categories

a. V takes a complement and forms an expression denoting a dynamic event
b. N represents an entity.
c. A is a predicate and denotes a state or attribute.
d. P takes a complement from a "predicate

According to Gibea (2002), the term argument comes from philosophy, more particularly, from predicate calculus. Sentences are regarded as well-formed propositions that may be true or not in which something is predicated, i.e., claimed, about another entity or entities. The argument structure of verbs is particularly important in theta theory, which seeks to describe the thematic role that an argument fulfills in individual sentences.

Linguists employ a thematic role to describe aspects of the interface between semantics and syntax, in particular, to characterize the link between the semantic classification of its participant inherent in a verb's meaning and the grammatical relations it supports. If we take a simple sentence such as 'John is a man,' as an example, we have a predication in which it is said of the individual John that he has the property of being a man. According to Palmer (1981), it is possible to symbolize this with M (j), where M stands for the predicate is a man and 'j' refers to the individual 'John'. This symbolism can extend to deal with relations where more than one individual is concerned. Thus, John loves Mary may be symbolized as L (j, m), where L stands for the predicate (loves) and (j) and (m) for John and Mary. The difference between this and the previous formula in the words of Palmer (1981) is that we have not one but two arguments, j, and m. It is essential to add that arguments are ordered since John loves Mary (L (j, m) is not the same as Mary loves John (L (m. j). Other predicates may take even more arguments. e.g., 'give' has three. Thus, 'John gave Mary a book' may be shown as G (j,m,b).

Finch (2000) sees the argument as the term used by linguists to describe the role played by particular entities in the semantic structure of sentences. He says that all verbs are said to have arguments. Indeed, it is the number and nature of the arguments they require, distinguishing them grammatically. According to Hopper and Thompson (1980), and Givon (1985), clauses may be postulated, and their semantic aspect may be decomposed into semantic factors such as the following:

i. Participants: There are two (or more) participants, agent, and patient
ii. Agent: The agent carries out an activity volitionally and controls it.
iii. Activity: The Activity is complete, realized, punctual, actual or affirmative
iv. Patient: The patients are affected by the activity; a change is caused in it.

McCarthy (2000) asserts that a verb like a failure, which is typically intransitive, requires only one argument, as in 'The man fails' whereas a di-transitive verb, such as kick needs two, 'The boy kicks the ball', and a tri transitive verb needs three. e.g. 'I give her some flower'.

Expressions that do not function as arguments are described as non-arguments. McCarthy (2000) gives an example of a non-argument with the sentence;

(2)   I gave her some flowers yesterday.

She asserts that the adverb 'yesterday' is not part of the argument structure of the sentence. She maintains that the information about the argument required by the verb is contained in our mental lexicon and plays a vital part in the construction of well-formed sentences.

Riemsdijk and Williams (1986) believe that the verb governs the internal arguments. They note that, to designate different arguments of the verb, terms such as agent, patient and goal are commonly used. They say that this terminology implies a system of argument types, in that the agent argument of two different verbs could have something in common.

2.2 Theoretical framework

The theoretical framework adopted for this work is minimalism. The minimalist program is an attempt to situate linguistic theory in the broader cognitive science. Minimalism makes a case for an economical and elegant theory of syntax, which eliminates the rigors of convoluted analysis of the process of generating and interpreting linguistic structures. It claims that grammar is minimally complex and that it is a perfect system of optimal design.

2.3 Empirical studies

Aziza (2010) posits that verb in Urhobo can be classified into transitive and intransitive verbs. The transitive verb obligatorily takes objects while the intransitive verbs do not take a thing, and those transitive verbs may be used intransitively, when that happens, the construction takes an –rv suffix, with varying realizations, depending on the ATR requirements and some morphophonemic rules of the language.

Ndiribe (2008) examines maleficiary as theta role. That maleficiary is a function played by the entity, which suffers indirectly from an action which one entity performs on another of which the maleficiary has an interest.

Nneji (2013) examines the interface between morphology and syntax in forming compound verbs in Igbo, the study adopts transformational generative grammar as its framework. The study shows that the composite verbs of compounds co-occur with the extensional suffixes' 'o' and 'a' when in isolation and that to form infinitives from the compounds, the suffix 'i' is added to the compound.

Ajiboye (2014) examines the description of some of the morphological factors involved in compounding in Urhobo. It was observed that Urhobo has both headed and headless compounds. Though the heads of Urhobo compounds are left branching, there are instances where the heads are right branching. Pronominal affixes were found to head some Urhobo compounds.

Aziza & Utulu (2018) examine the comparative study of word formation process in Èwùlù and Ùrhòbò and attempts to explore the various procedures by which both languages adopt in deriving compounds. The study adopts a descriptive approach. The work reveals that Èwùlù and Ùrhòbò, though are two different Nigerian languages, yet exploit nearly the same morphological patterns of compounding to create new words.

2.4 Summary of literature

The literature review has shown that the determination of argument structure has been a challenging task for several reasons. The argument structure of a verb specifies the number of arguments that a verb takes and the semantic roles (e.g., agent, theme, goal, etc.) that each argument bears, verbs make a distinction between two types of arguments in the argument structure, namely: the external argument and the internal one. The external argument is syntactically identified as the realized in the (NP, S) position in a clause. The internal argument is syntactically recognized in the VP (as a sister to the V). It shows that a lot has been done in other languages, little or none has been done in the Urhobo language hence this work.

3 Valency in the Urhobo Language

In Urhobo, verb valency or valence refers to the number of arguments controlled by a verbal predicate. It is related, though not identical, to verb transitivity, which counts only object arguments of the verbal predicate. Verb valency, on the other hand, includes all arguments, including the subject of the verb. The linguistic meaning of valence derives from the definition of valency in chemist1ry. This scientific metaphor is due to Lucien Tesnière, who developed verb valency into a major component of his (what would later become known as) dependency grammar theory of syntax and grammar. The notion of valency first appeared as a comprehensive concept in Tesnière's posthumously published book (1959) *Éléments de syntaxe structurale* (Elements of structural syntax).

In other words, verb valency deals with the question of how many participants a certain verb logically presupposes for the event denoted by the verb to be realizable. For instance, it takes only one individual to carry out *òvwèrẹ̀* (sleeping event). Each one of us can do that without any assistance from others. Therefore, we say that a verb(s) denoting a sleeping event presupposes one argument, namely the individual doing the *òvwèrẹ̀* (sleeping). In Urhobo, the following classes of valency are identified Mono-valent, Di-valent, and Tri-valent

3.1 Mono-valent verbs

This is a verb taking one entity for the sentence to be grammatical and syntactically well form. A full sentence describing *òvwèrè̩* (sleeping event), then, typically consists of an appropriate form of the verb plus a phrase, typically an NP denoting the individual who sleeps, as in

(3a)   òkè̩ vwèrè̩
name sleep
òkè̩ sleep

(b)   ò̩mò̩ nà djè̩
child that run
The child runs

(c)   ò ghwùrù
he/she die
He dies

(d)   ò yà
He/she walk
He walks

Accordingly, the verb *vwèrè̩, ghwùrú, dje* and *yà,* are described as belonging to the class of mono-valent verbs, which comprises all intransitive verbs, *ghwùr*ù(die), *yà*(walk), *dj̩è̩* (run), etc.. In these sentences, the arguments are realized as an NP with the sentential grammatical function of subject and experiencer, and in a sentence (3d), the subject has the semantic role of agent, while (3a-c) has the semantic functions of the experiencer.

A verb in the Urhobo language could have one place argument, yet the sentence will be grammatical and syntactically wellformed. eg

(4)a   Titi ghwùrù ò̩dè̩yè̩
name die pst yesterday
Titi died yesterday
ghwù(Titi)

(b)   ò phiè̩rè nònè̩nà
She put to birth today
She puts to birth today

In sentences (4a and b), the verb *ghwù -die* and *phì̩è-birth* subcategorize only the external arguments *Titi-name* and ò-*she, ò̩dè̩yè̩* (yesterday) and *nònè̩nà* (today) are not arguments. This is because `*ò̩dè̩yè* and *nònè̩nà* are adverbials, and therefore cannot be arguments of the verb *ghwù -die* and *phì̩è-birth* respectively. This is unlike the example below:

(5) a   ò̩mòni tè̩ ò̩tà
name says pst talk
ò̩mòni talked
ò̩tà (ò̩mòni)

(b)   ò̩mò̩tè̩ nà dà àmè
the girl that drinks water
The girl drinks water

Here, *tè̩-say* and *dà-drink* assign the roles of agents to *ò̩mòni-name* and *ò̩mò̩tè̩-girl* respectively, the structures have no arguments. This is because *ò̩tà-talk* is a cognate noun and does not have any argument in the sentence, likewise *àmè̩-water,* they only complete the meaning of the verbs; *tè̩-say* and *dà-drink* which cannot exist independently in the language.

(6) a   ò̩vò yàrhè nònè̩nà
the name came past today

ọ̀vò came today

(b)   ọ̀ yàrhè ọ̀ghẹ̀reụ̀vò nà
             He/she come pst afternoon that
             He came this afternoon

In sentence (6a-b) above, *yàrhè-come* assign the role of the agent to *ọ̀vò-name* and *ọ̀-he* respectively. The sentences are one argument because the adverbial *nònẹ̀-today* and *'ọ̀ghẹ̀reụ̀vò -afternoon* do not argue. It only helps to bring out the days that *ọ̀-he* and *ọ̀vò-name* came.

3.2 Di-valent verbs

Di-valent verb are verb that takes two entities for the sentence to be grammatical and syntactically well formed: For a hitting-event to be possible, two entities have to be involved, one doing the hitting and one being hit.

In Urhobo, for an individual to perform the role of agent, that individual must have intentions and be able to make conscious choices to perform actions or not. But we must acknowledge that non-intentional or non-volitional forces exist, which may perform the same kind of actions as intentional agents. For instance, I may decide to destroy my house, which makes me the Agent, in a sentence like ò *kẹ̀-name* destroyed his own house'. Of course, a storm may do precisely the same thing, but we would not commonly ascribe intentions to storms, and so, the storm is a non-intentional agent.

It is also noticeable that a verb could also take two-place arguments in Urhobo language, and the sentence could still be syntactically and grammatically wellformed. e.g

(7) (a)   Èfè hwẹ̀ ọ̀mọ̀ nà
            name kill/beat child that
            Èfè kill/beat the child
            hwẹ̀ (Èfè, ọ̀mọ̀)

  (b)   ọ̀mọ̀ hwẹ̀ Èfè
            child kill/beat name
            ọ̀mọ̀ kill /beat Èfè
            Hwẹ̀ (ọ̀mọ̀, Èfè)

From the two examples above, it can be observed that the Urhobo sentences align with the principles of universal grammar (UG). This grammar highlights the structural similarities of languages in terms of argument structures. Examples (7a-b) above show that orderliness operates in the Urhobo language (sentences). Although both *Èfè-name* and *ọ̀mọ̀-child* are the arguments of the verb '*hwe-kill*', the two sentences do not convey the same meaning. In sentence (7a), *Efe-name* is the agent while *ọ̀mọ̀-child* is the patient of the verb. In (7b), the reverse is the case *ọ̀mọ̀-child* now becomes the agent in the sentence, while *Èfè-name* is the direct object of the verb.

(8a)   ẹ̀dẹ̀ chò ùji
            name steal pst theft
            ẹ̀dẹ̀ stole
            chò ùji (Edẹ̀)

(b)   ẹ̀dẹ̀ chò ùji ọ̀nẹ̀
            name streal past thief yam
            ẹ̀dẹ̀ stole yam
            Chùji (ẹ̀dẹ̀, ọ̀nẹ̀)

In a sentence, (8a-b) above, *chùji*(steal, stole) assigns theta role to *ẹ̀dẹ̀-name* in (8a) and *ọ̀nẹ̀* (yam) in (8b). The reason being, that the verb *chò-steal* and the cognate noun *uji-thief* cannot be used in isolation. They must co-occur to bring out their whole semantic meaning. Since the cognate noun, *ùji* is not a direct object of *chò*. In Urhobo, once there is the statement ò *chùji* (he stole), the question that will follow is ò *chùji ri dièè*? (he stole what?). This question is mandatory for everyone who cares about and wants to show interest in the discussion.

Failure to ask this question brings disinterest in the matter. The object of *chùji- stole* in (8b) occupies its argument position.

Typically, the arguments of di-valent verbs have the grammatical functions of subject and direct object, respectively in Urhobo, as shown in the examples below:

(9a)   òkòrò vièẹ̀ ùnù rẹ̀ ọphà ròyè
             name suck pst mouth of the bride of his
             òkòrò kissed his bride

(b)   òki mrẹ̀ ọsẹ̀ rẹ̀yè
             name see the father of his
             Òki saw his father

But the fact that the grammatical function is the same for the two sentences does not entail that the semantic roles that the verbs assign to their respective arguments are also the same. That is because the nature of the event determines the semantic roles that the verb denotes and not by the syntactic properties of the verbs. Thus, for the examples in (9a) and (9b) *òkòrò-name* is the agent while *ọphà-bride* is the patient, in a sentence (9b), *òki-name* is the experiencer while *ọsẹ̀-father* is the patient.

The reason why *òkòrò-name* is assigned the role of the agent in (9a) is that he performs an intentional act of kissing the bride. In (9b), however, *ni-look* is not doing anything actively. The verb see is a verb of so-called inert perception, i.e., to see something, you only need to open your eyes; you do not have to make a conscious decision to see something. This implies that semantically closely related verbs may ascribe different roles to their arguments. For example, when you *ni*(watch) something or *no* (look) at something, you carry out the acts of watching or looking as a result of your having decided to do so, they are both acts of will, whereas seeing is not. Therefore, the agency is involved with both of the verbs watches and looks, as shown below.

(10a)   Imu nò ọsẹ̀ ròyè
             name look pst father of his
             Imu looked at his father

(b)   òkòkò ni mẹ̀
             name watch pst me
             Okoko watched me

From the sentence, *Imu-name* and *òkòkò-name* are assigned the roles of agents while *ọsẹ̀-father* and *mẹ̀-me* are assigned the grammatical functions of patient.

3.3 Tri-valent verbs

Tri-valent verbs take or involve three entities for the sentence to be grammatical and syntactically well-formed. For instance, for a giving-event to be possible, three entities have to be involved, one doing the giving, something given, and someone or something receiving what is shown.

But note that, as in the other valency classes, several different event types may be involved with the tri-valent verbs. For instance, a putting-event involves three entities: one carrying out the putting, the entity put somewhere, and finally, the place where the thing is put. On a very abstract level, there is a certain affinity between giving and putting. In many cases, when you give something to someone, the thing given moves from the giver to the receiver. When you put something somewhere, the item moves from the putter to some final destination. Typically, the arguments of trivalent verbs have the grammatical functions of the subject, indirect object and direct object, respectively, as shown below:

(11a)   òni mẹ̀ kẹ̀ ọsẹ̀mẹ̀ èmù
             mother my give pst father my food
             my mother serviced/gave my father food
(b)   ọsẹ̀mẹ̀ kẹ̀ áyè ròyè iviè
             Father my give pst wife his beads

My father gave his wife beads

From the sentences above**,** *ònimẹ̀-my mother* and *ọ̀sẹ̀mẹ̀-my father* are agents; *ọ̀sẹ̀mẹ̀-my father* and *áyè ròyè-his wife* are Beneficiary, while *èmù-food* and *iviè-beads* are patient.

In the Urhobo language, just like in other languages, verbs differ in the number of arguments they take. A verb can take three-place arguments for the sentence to be grammatically and syntactically well-formed in Urhobo language. e.g

(12a)   Èjirò kẹ̀ òkẹ̀ ighò
the name gives pst name money
Èjirò gave òkẹ̀ money
Èjirò gave some money to òkẹ̀.
kẹ̀ (Èjirò, òkẹ̀, ighò)

(b)   Titi rè ọ̀nẹ̀ vẹ̀ òwhò
name eat yam with food
Titi ate yam and food
Titi ate some of the yam and food
rè (Titi, ọ̀nẹ̀, òhwò)

The above examples support the claim that the verbs *give* and *eat* has three arguments. It also highlights the view that *ighò* (money) and *òhwò*(food) are the direct objects in the construction while *òkẹ̀*(name), and *ọ̀nẹ̀*(yam), the recipients, are the indirect objects of the sentences following the swopping of the things and the introduction of the infinitival 'to and of' to accompany the indirect objects in the English equivalent of the sentences.

In the Urhobo language, the swop is possible. Though in some circumstances, '*ighò- money* and *òhwò-*food are seen as themes and not patients. When the emphasis is placed on *ighò*(money) and *òhwò*(food), respectively. However, some tri-valent verbs differ from this pattern of grammatical functions, e.g., a verb like *phieyo*:

(c)   òghọ̀ghọ̀ phiẹ̀ ighò nà yẹ̀ èkpù nà
name put money that in the bag that
òghọ̀ghọ̀ put the money in the bag
(d)   òki sẹ̀ ẹ̀bè nà kẹ̀ ògbàrierie nà
òki read book that gives professor that
òki read the book for the professor

From the arguments above, *òghọ̀ghọ̀-name* and *òki-name* are the agents; *ighò-money* and *ẹ̀bè-book* is the patient while *èkpù-bag* and *ògbàrierie-professor* are the locations and the beneficiary respectively.

4 Summary of findings

The study reveals that where we have one argument structure, we have one theta function. Where there are two place predicates, we have two theta roles or functions, and also, three arguments predicates possess three theta roles. This goes a long way to say that Urhobo verbs can take different levels of arguments and its syntactic and semantic wellformeness will still be intact. It also reveals that it takes only one individual to carry out one event, such as *òvwèrẹ̀* (sleeping event) in the Urhobo language. Finally, the paper identifies three valency classes in the Urhobo language (mono-valent verb- takes or involves one entity, Di-valent verb- takes or involves two entities, and tri-valent verb- takes or involves three entities).

5 Conclusion

Verb valency deals with how many participants a specific verb logically presupposes for the event denoted by the verb to be realizable. For instance, in the analysis above; it takes only one individual to carry out *òvwèrẹ̀*

(sleeping event). Each one of us can do that without any assistance from others. Therefore, we say that a verb(s) denoting a sleeping event presupposes one argument, namely the individual doing the *òvwèrẹ̀* (sleeping).

Furthermore, it could be observed that where we have one argument, we have one theta function. All the examples in the mono-valent verb above have one place predicate and have one theta role. Sentences with two place predicates have two theta roles or functions. While the verb in three arguments predicate possesses three theta roles.

The three valency classes of verbs investigated above reveal that Urhobo verbs can be classify according to the number of arguments a verb take.

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