Reflections on the Optimality Account of Borrowed Words in Ochuche Dialect of Igbo Language

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Abstract

This paper examines the considerations to be made while teaching Ochuche dialect of Igbo language with respect to how the various linguistic constraints, ranked hierarchically according to their order of importance, interact or operate in building the grammar of the dialect of Igbo language, as it relates to the handling of borrowed words. To achieve this, the framework of optimality theory is adopted in other to help analyse and explain the data obtained from the dialect. The findings show that five major constraints are operative. These include No CODA - meaning that no final consonant is permitted, Complex - meaning that consonant cluster is not permitted, Delete - meaning that no segment in the input must be deleted in the output, Onset - meaning that a syllable may have a first/initial consonant, and Add - meaning that addition is not allowed. The paper equally shows that in using these constraints as basis for analysing the borrowed words in the dialect, borrowed words such as

'neti' which is 'net' (for fishing) in English, 'buliu' which is 'blue' in the source language- English, 'poolu' which is 'pole' in English, as well as 'injinu' which is 'engine' in English, all correspond to the phonological rules of word-formation in Ochuche dialect of Igbo language. Teachers should, therefore consider these constraints while teaching Ochuche dialect or Igbo language.

Key words: *optimality theory; borrowed words; linguistic constraints; Ochuche dialect; language teaching*

1. Introduction

The world has become a global village and many regions of the world which had never been in contact with one another are, with a great speed, coming in contact and interacting among themselves. This has resulted in an ever increasing need for people to find or device a way of enhancing their communication with one another. Since language is the chief communication tool among human beings, several people and groups of people have had to drop their language to take up another; in many cases, by compulsion while several others have adopted the languages of others to be used alongside with theirs.

Notwithstanding the facts afore-mentioned, many people and regions of the world still retain, maintain and utilise their respective languages. However, with the incidence of coming in contact with various phenomena that are not originally in their culture due to their contact with other peoples of the world, these people and regions of the world have resorted to the phenomenon referred to as 'linguistic borrowing.' Thus, words or terms, which usually refer to new things or objects that are found in a given environment where they do not originally exist, are adopted in the borrowing language.

Ochuche-Umuodu is a town in Anambra state of Nigeria which is located along the River Niger. This river is an integral part of the life and culture of the people, providing means of livelihood in the form of fishing, transportation, etc. Thus, words which relate to contemporary practice related to water activities are borrowed to fill the grammatical void created in Ochuche dialect of Igbo language, orchestrated by modernisation and culture contact. Of course, the adoption of the words or terms often follow the phonological pattern obtainable

in the borrowing language. Teaching the dialect of Ochuche, therefore, requires the teacher to pay attention to the dictates of phonological constraints determining the morphological forms that borrowed words should take in the dialect. Optimality theory (OT) is adopted in this work to help account for these constraints.

Some researchers have equally conducted various studies relating to the analysis of borrowed words in some languages. McCarthy (2007), Barlow and Gierut (1999) among others, have conducted studies on optimality account of given languages. For instance, McCarthy (2007) conducted a study on the optimality account of borrowed words in Timugon Murut language and observed that though ONSET (syllabus having a first/initial consonant) is not necessarily inactive in the language, it cannot compel deletion or epenthesis, but it may have other effects such as syllabification of intervocalic consonants, since /VCV/ sequences are syllabified in an ONSET-obeying fashion as [V.CV]: [am.bi.lu.o], *[am.bil.u.o]. This is an effect of ONSET in a situation where ONSET can be active without triggering epenthesis or deletion.

Barlow and Gierut (1999), in their study of the optimality account of words in English language, noted phonological constraints that account for 'final-consonant deletion' as in 'cat' /kœt/ → [kœ]'. They identified one of them to be that a fatal violation of *CODA (the permission of final consonant) by the faithful 'Candidate A' allows for the unfaithful 'Candidate B' to surface with /t/ unparsed as ranking markedness over faithfulness constraints, here, yields unmarked structure as the optimal output form for the pattern of final-consonant deletion. They further noted that in the case of final-consonant deletion, target-syllable structure of the shape CVC, such as /kœt/ "cat," is realised as unmarked CV structure, as in [kœ]. The final /t/ will not surface if a child's grammar has a high-ranked markedness constraint against CVC syllables.

Barlow and Gierut (1999) continue that in English language, this constraint, *CODA, prohibits syllables from being closed by consonants. *CODA must be ranked higher than the faithfulness constraint (MAX), which requires that all segments from the input surface in the output. In this grammar, because *CODA is ranked higher than MAX, it is better for an open syllable to surface than it is for

the segments to be parsed. They, therefore, concluded that with the English language phonological constraint that witnessed the production of [kœ] instead of [kœt] can be summarised as: *CODA: Syllables do not have codas and MAX: Segments in the input must correspond to segments in the output (No deletion.). They, therefore, ranked the constraints to run thus: *CODA>> MAX.

The works conducted by these respective researchers do not provide an idea of what an optimality account of borrowed words in Ochuche dialect of Igbo language is like. This paper identifies this gap and adopts as its objective of the study, the task of creating an optimality account of specified borrowed words in Ochuche dialect of Igbo language which will help to guide teachers while teaching the borrowed words in the dialect to second language (L2) learners.

2. Conceptual framework

The conceptual framework of this study focuses on the concept of optimality theory (OT) and other concepts that are operational in this study.

The basic assumption of OT is that the grammar of languages consists of a set of ranked violable well-formedness constraints (McCarthy and Prince, 1993; Prince and Smolensky, 1993; Archangeli and Langendoen, 1997). The major advances of OT stipulates that grammatical constraints can conflict with one another or each other and are violable under specified conditions rather than the previous assumption of being inviolable. Another is that grammatical constraints are ordered according to their respective weight rather than the previous assumption of not equally ranked. Again, OT advances that different rankings of constraints are responsible for differences between individual grammars or languages. By this, it points out that was previously conceived as grammatical parameters, has now been remodelled as constraints that are differently ranked. Its other innovation is that a construction is grammatical as long as it wins the competition in a candidate set, having satisfied the best among the higher-ranked constraints. The key concepts that underlie discussions in optimality theory are discussed below.

Candidates: Given that OT is a sought of competition, candidates refer to words that occur as contestants. These words are possible outputs, which are part of a

given analysis. Specified candidates are generated based on a given input or an underlying form and each candidate is evaluated based on faithfulness in terms of how each of them obey the rules guiding constraints in word formation and pronunciation of a given language. Of all the candidates, one must be optimal and what necessitates the optimality of a particular candidate is the context of its use. A candidate is optimal when it satisfies a set of ranked constraints.

Constraints

Constraints refer to a set of underlying principles or rules, which govern the combination of sounds in a given language. According to Uzoagba (2015), they serve as checks and balances to transformational analysis. Prince and Smolensky (2004:3) point out two basic classes of constraints, which include "those that assess output configuration and those responsible for maintaining the faithful preservation of underlying structures in the output". They refer to these constraints as *faithfulness constraints* and *markedness constraints*. Because the nature of constraints in a given language may differ in some other language. This is why Kager (2004:xi) points out that constraints are violable; which implies that there could be situations where one's utterance(s) may fail to adhere to the grammatical rules governing constraints in a given language.

Input (lexicon)

There are two levels of representation that are observable in OT. These are the underlying structure and the surface structure. Having stated this, it is then important to point out that 'input' refers to the raw material used in OT at the underlying structure, which yields the result produced in the surface level. McCarthy (2007:2) notes that the deep structure is the "input to the grammar". The lexicon contains the afore-mentioned raw materials in the form of lexical representations, which are found in the underlying forms of the morphemes and they supply the input for the generator (which will be discussed). Grimshaw (1997) holds that the input for a syntactic evaluation must be some representation of meaning However, Heck et al. (2002), in discussing several examples of dependent as well as movement structures, come to the conclusion that input can be dispensed with in OT-syntax. They argue that syntax is information-preserving, while phonology is not.

Output

Output refers to the possible outcome or realisation of linguistic item that are found at the surface structure after the input had operated in the underlying level. Uzoagba (2015) notes that '☞', which is the pointing finger in OT, identifies the winning or optimal candidate at the output level while '!' indicates a fatal violation by the candidate (so the winning candidate should not have a '!' in its violation profile); whereas the asterisk '*' indicates violation.

Furthermore, it is important to note that OT has three major components, which include the constraint (CON), the generator (GEN) and the evaluator (EVAL), with each performing a singular function. These concepts are discussed below:

GEN: It is the component that produces infinite number of output candidates, which can be compared to find out the optimal candidate, and, then passes them to the EVAL. For example,

CON: As earlier discussed, CON runs the candidates generated by GEN through a list of violable ranked constraints. Three types of constraints are identifiable and they include markedness constraints, faithfulness constraints and alignment constraints.According to Kager (2004:4), markedness constraints are a general denominator for the grammatical factors that exert pressure towards unmarked types of structure. Uzoagba (2015) notes that markedness constraints may be positively or negatively influenced. It may be positive when we have structure as 'sonorants must be voiced' (SONVOICE), syllable must have an onset (ONSET), or syllable must have a peak (PEAK); and negative when we have instances such as 'vowels are not nasalised' (*VNASAL), 'syllables have no coda' (NOCODA or *CODA), or 'coda obstruents are not voiced' (*VOICECODA). It is within the domain of markedness that not too many features are realised.

Uzoagba (2015) continues that in contrast to markedness constraints, which only refer to output forms, faithfulness constraints are inherently conservative and usually require the output of the grammar in order to be identical to the input. To be in conformity with the faithfulness constraints, the output must preserve all segments together with their linear order in the output. Output segment must have counterparts in the input such that both input and output segments must

share values for voicing. In other words, there should be no elision (the omission of a sound or syllable when speaking as in *I'll*, *let's*), metathesis (phonological situations where speech sounds interchange positions such as in /aks/ for /ask/), epenthesis (insertion of a speech sound in a phonetic environment where it does not originally appear as in the insertion of /p/ in something [s$mpɵin]) or even assimilation (speech sound influencing a neighbouring speech sound(s) and making it to take up the former's feature).

The above named author further states that because markedness constraints favour some linguistic structures over others, they are often in tension with faithfulness constraints, which resist changes to input structures. This tension is called 'constraint conflict', and it is resolved in OT by the ranking optimal candidates. Conflict between two markedness constraints or between two faithfulness constraints is also possible. She, then, notes that 'alignment constraint', which is not widely discussed, stems from the suggestion of Prince and Smolensky (1993) that Lardil forms like /kaŋ/ augment to /kaŋka/ to achieve a minimal size while aligning the stem that is root + suffixes with a syllable boundary.

EVAL: It selects one function as the grammar's output based on its performance in CON. EVAL consists of a set of ordered constraints: {B1 >> B2 >> ..... Bn} and evaluate the output candidates with regard to their harmony values; that is, the extent to which they comply with the constraints. EVAL does the duty of selecting the optimal of all the candidates generated.

Bearing in mind these issues that underlie the representation of borrowed words in given languages, one understands that there is a need to ensure that a given language teacher to arm oneself with the knowledge of the grammatical rules relating to the constraints regarding the spelling of borrowed words in Ochuche dialect of Igbo language. Teaching, which refers to the act of imparting given or specific knowledge to a person or group of people, need to be carried out effectively. A teacher cannot give out a knowledge that he or she does not possess. Therefore, it is important for this paper to address the optimality account of borrowed words in Ochuche dialect of Igbo language so as to enable teachers in their teaching activities regarding the dialect.

2.4. Theoretical framework

This study is conducted within the framework of optimality theory. Uzoagba (2015), Optimality Theory (henceforth OT) is a modern approach to phonological analysis that has taken the lead all over the world. Initiated by Prince and Smolensky (1993) and McCarthy and Prince (1993), the theory concentrates on the application of Chomsky's universal grammar (UG) in the analysis of world languages to serve as a new phonological framework that deals with the interaction of violable constraints. Uzoagba notes that UG suggests the possible existence of a universal human reality underlying the particular worlds of diverse cultures. This model of grammar was introduced having found out that there are basic underlying features which cut across languages and some that are peculiar to languages.

Optimality Theory (OT) is a theory which has originally been developed for dealing with phonological problems, abandoning the assumption that grammatical constraints are inviolable (Prince & Smolensky 1993/2004, McCarthy & Prince 1995). The fundamental ideas have been adopted in several other grammatical areas of language, such as in morphology (Legendre, 2000; Wunderlich, 2001; Wunderlich, 2004), in syntax (Grimshaw, 1997; Ackema and Neeleman, 1998; Grimshaw and Samek-Lodovici, 1998; Barbosa, Fox, Hagstrom, McGinnis and Pesetsky, 1998; Kager, 1999; Dekkers, Leeuw and Weijer 2000; Legendre, Grimshaw and Vikner 2001) as well as in pragmatics (Blunter and Zeevat, 2004), etc.

The OT grammar is an input-output model that pairs an output form to an input form. To achieve this, the grammar contains the division of labour between its components. These components are discussed by Prince (2007) as the architecture of OT. According to de Prince (2007) GEN derives its input either directly from the lexicon or from the output of separate syntax module. This is to say that the lexicon contains the lexical representation of the morphemes and supplies them to GEN which in turn produces a potential infinite number of output candidate and still passes them on to EVAL. The EVAL consists of a set of ordered constraints which evaluate the output candidate with regard to their harmony values that is the degree to which they comply with the constraint. It is the EVAL that determines the optimal candidate. To work out or apply the OT architecture discussed above,

the tableau (pluralized as tableaux) is often used. There are two types of tableau - classic tableau and comparative tableau.

More specifically, given an input, the function called GEN (Generator) generates a set of possible candidate analyses based on the universal well-formedness constraints. Then this candidate set is submitted to another function EVAL (Evaluation). The function EVAL, composed of a language-specific ranking of constraints, evaluates all the possible candidates generated by GEN in parallel and selects one which best satisfies or minimally violates the ranking as the optimal output.

No CODA - meaning that no final consonant is permitted, Complex - meaning that consonant cluster is not permitted, Delete - meaning that no segment in the input must be deleted in the output, Onset - meaning that a syllabus may have a first/initial consonant, and Add - meaning that addition is not allowed

3. Research methodology

This study adopts a qualitative research design. The area of study for this work is an interface of applied linguistics and phonology, being that it looks at studies how the phonemes, which are peculiar, distinctive or functional in a given language or dialect should be effectively taught to L2 learners. In this study, thus, the phonological rules guiding the principles of word formation in the dialect of Ochuche which is located in Ogbaru Local Government Area of Anambra state will be used to analyse the phonetic forms of borrowed words in the language to find out how they relate with the framework of optimality theory.

The study further adopts the purposive random sampling technique to obtain the necessary data required, which constitutes borrowed words relating to fishing/water-related activities in Ochuche-Umuodu, Ogbaru local government area of Anambra State, Nigeria.

The data collected or obtained from the dialect of Ochuche will be analysed based on the principles of optimality theory. Thus, a table will be provided to discuss the rules of the constraints (CONS) such as:

- No CODA: No final consonant is permitted

- Complex: Consonant cluster is not permitted
- Delete: No segment in the input must be deleted in the output
- Onset: A syllabus may have a first/initial consonant
- Add: Addition is not allowed,

which guide the formation of grammatical rules of the dialect of Ochuche. These will be used to evaluate the various candidate sets of each phonological realisation of the various borrowed word in order to select the candidates that are optimal. These constraints will equally be placed in the hierarchy below:
No CODA >> Complex >> Delete >> Onset >> ADD.

Analysis will also be aided by the formal model of optimality theory as presented by Archangeli (1997), which include:

GEN: Given an input representation, Generator provides a set of potential output forms.

EVAL: Given the candidate set created by GEN, Evaluator chooses the most optimal or harmonic output for the given input representation.
CON: A language-specific ranking of a universal set of Constraints is used by EVAL in determining the optimal output form

4. Data analysis

The various borrowed words which have been adopted in the wordlist of Ochuche dialect of Igbo language include:

Borrowed word	Original gloss/word
Neti	net (for fishing)
Buliu	blue (a kind of colour)
Poolu	pole
Injinu	engine
Buredi	bread
Huuku	hook (fishing implement), etc.

Due to phonological resemblance in some of the words, the ones that will help reflect varying differences in analysis and result obtained will be analysed.

Table 1: Borrowed word- neti (Original gloss/word- net [for fishing])

Input: neti	No CODA	Complex	Delete	Onset	ADD
(a) Nett	*!	*!	*		
(b) Neet	*!		*		*
(c) Neeti					*
(d) →Neti					

The data above shows different attempts by four candidates to realize the written form of the phonological realization of the borrowed word 'neti' which means 'net (for fishing/catching fish)' in English language from which the word has been borrowed.

The first candidate realizes it as 'nett'. This realization was designated with the signs *! for both the constraints No CODA and Complex, * for the constraint 'Delete' while the constraint 'Onset and 'ADD' were not violated. The sign * means 'that a constraint (grammatical rule/restriction) has not been adhered to (has been violated) by a given candidate. When this sign is joined by an exclamation mark (!), it means that the violation is 'unpardonable' or 'is considered a grave offence' and is called a 'fatal violation'. When this is the case, the candidate can never be chosen as the best or optimal candidate among the contestants in the given grammatical contest.

Based on the forgoing, the first two candidates (candidates A and B) which committed fatal violation cannot be optimal candidates. Candidate C committed a violation of the ADD constraint (CONS) while candidate D did not commit any violation. Consequently, candidate D which is 'neti' is the 'optimal candidate'. The sign → shows optimality

Table 2: Borrowed word - buliu (Original gloss/word - blue)

Input: buliu	No CODA	Complex	Delete	Onset	ADD
(a) Bulu			*!		
(b) →buliuu					*
(c) Bliu		*!	*		
(d) Buluu			*		*

The data above show that all the candidates (four in number) violated a constraint or another. The first candidate - 'bulu', violated the constraint 'Delete', which is considered a highly ranked constraint. Consequently, the violation is a fatal violation. Candidate B- 'buliuu commits no fatal violation, but rather, violates a lower ranked constraint, which is the 'ADD' constraint. The third candidate- 'bliu' commits a fatal violation with its consonants cluster, as well as the violation of the constraint- 'Delete', which is here, considered a lower-ranked constraint. The fourth candidate, which is the last candidate, violates two lower ranked constraints which are the constraints 'Delete' and 'ADD'. Thus, the candidate that is considered optimal among all these candidates, though committed a violation, is B- 'buliuu'.

Table 3: Borrowed word – poolu (Original gloss/word - pole)

Input: poolu	No CODA	Complex	Delete	Onset	ADD
(a) Polu			*		
(b) pool	*!		*		
(c) →pooluu					*

The table above shows that there are three candidates taking part in the phonological competition. That is, rather than four candidates, as obtainable in the last two data analysed, there are three. Candidate B- 'pool' is the only candidate that committed a fatal violation- being that it violates a higher-ranked constraint which is 'No CODA'. Candidates A- 'polu' and C- 'pooluu' both violate a lower-ranked constraint each- constraints 'Delete' and 'ADD' respectively. However, based on the hierarchy of the constraints violated, the 'ADD' constraint is ranked lower than the 'Delete' constraint. Consequently, Candidate C which violates the lowest ranked constraint, with regards to the hierarchical organization or orderliness of the constraints, becomes the optimal candidate.

Table 4: Borrowed word –injinu (Original gloss/word –engine [relating to engine boat])

Input: injinu	No CODA	Complex	Delete	Onset	ADD
(a) →njinu			*		
(b) injin	*!		*		
(c) njin	*!		*		
(d) iinjin	*!		*		*

From the data above, one can understand that out of the four candidates for the optimality test, only one candidate succeeded in not committing a fatal violation. This candidate is Candidate A who only violated the constraint 'Delete' as it deleted the initial vowel sound /i/.

The other three candidates- candidate B, candidate C and candidate D, committed fatal violations; though candidate D commits its violation on a different degree. Candidates B and C committed the fatal violation of 'No CODA constraint and the 'Delete' constraint while candidate D violated both, as well as the 'ADD' constraint.

Thus, since to candidate who commits a fatal violation becomes an optimal candidate, irrespective of the degree of the violation, candidate A, who succeeded in avoiding the violation of a higher-ranked constraint ends up winning the optimal candidacy.

5. Summary of findings and conclusion

From the discussions and analysis of data done in this research cum seminar paper, one understands, clearly and vividly, that there are indeed certain constraints which help to shape the grammar of Ochuche dialect of Igbo language. These constraints which include No CODA, Complex, Delete and Add, as well as Onset help to shape the grammatical rules or formation of words in the dialect.

Furthermore, one can notice that several words which are associated with places or regions located around a water body or bordered by water body where fishing and water transportation are carried out, are adequately borrowed from English

language to be operative in the recent culture and language of Ochuche-umuodu people; thus, words such as neti and injinu surface in the analysed data.

The study therefore, shows that in Ochuche dialect of Igbo language, as well, foreign words which in find themselves into the dialect by means of borrowing or otherwise, are subjected to a concious phonological consideration and patterning, based on the constraints that guide the formation of grammar in the dialect. This is geared towards ensuring that they conform to the phonological rules for word formation in Igbo, which is required before they can be adopted, domesticated and used in Ochuche dialect of Igbo language.

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