Optimality account of constraints on lexical co-occurrence in the Igbo language: Focus on "buy" verb - *zụ*

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Abstract

The principles and mechanisms that constrain the combinatorial properties of lexical items in some languages of the world have been noted in many works of recent linguistic studies. The Igbo language, particularly, has been observed to be consistent with most of the principles of co-occurrence constraints found in many other languages. Some of the combinatorial restrictions that have received attention in the language include, among others, selectional restriction, inherent verb compliment, and collocation. The first-mentioned is the concern of this study. So far, discussions on this topic have always been generative, suggesting that the mechanism is rule-based. This work departs from this traditional approach. It has been argued, with sufficient illustrative back-up, in the study that the acceptable (co-occurable) verb-noun combinations in the output representations of the language are reflections of optimal satisfaction of constraint hierarchy at the input (underlying) level. The instrumentalities of the Optimality Theory are exploited in driving home this argument. The verb "zụ" (buy) with various bought articles is used to illustrate how sensitive the specific forms of the verb are to the noun object they co-occur with. Data used are drawn from the Izhi dialect of the language (Igbo).

Introduction

Ìgbò verbs are semantically restricted from promiscuous association with other lexical items in the phrase. In other words, every Ìgbò verb bears some inherent features which must agree with the features that inhere in the adjacent or nearby complex symbol within the same structural unit. This mechanism is dealt with in generative grammar by a principle of selectional rules which specifies the restriction on the permitted combinations of lexical items within a given grammatical context.

The verb *zụ*, meaning "buy" in Ìgbo has been observed to have variants each of which has the referential meaning "to buy" and collocates only with certain specific lexical items (Anoka, 2003; Nwankwegu, 2008). This means, therefore, that each of the variants of the Ìgbò verb *zụ* has a different collocational range or a limited number of bought articles with which it can associate. Although, Nwankwegu (2008) focuses on collocation in Ìzhí dialect of Ìgbò language, he makes a relevant observation that the Ìgbò language generally exhibits finer-grained meaning through co-occurrence constraint imposed by collocation and selectional restrictions.

In this present work, though we are not exploring the generative theoretical framework, we will uphold the generative view that there are strong semantic factors determining what verb co-occurs with certain noun object in the principle of selectional restrictions. However, we will depart from the status quo, in terms of theoretical approach. This is to say that we are discarding with the rule-based theoretical framework of the generative grammar. We will therefore adopt the constraint-based approach of the OT.

A generative account of selectional restriction of the verb *zụ* for instance would specify in a re-write rule, the restrictions associated with the verb (and presumably other categories: N, A, P). For instance, the verb *zụ*

(1) *v[zụ] / ⟶ v(wú)*

This simple re-write rule can be specified thus:

zụ[v ⟶ wú/ __ +N, +concrete, +bird, +domestic].

This is to say that a buy verb *zụ* becomes *wú* in co-occurrence with a noun object which must be concrete and a domestic bird – leaving fowl and duck the only co-occurable object with *wú*. What this mean is that the solution of the specific ("numerator") verbs is a product of rules that change the underlying forms to surface forms.

Theoretical framework

This study explores the optimality approach, a theoretical framework proposed by Prince and Smolensky (1991, 1993), primarily as a model of phonology, but which, by extension, has been applied to other subfields of core linguistics. OT is one of the most recent linguistic theories; one that has brought about a shift from derivations to constraints by its claim that structural well-formedness (grammaticality) is enforced by sharply conflicting, mutually incompatible constraints. It posits that as it is impossible to satisfy all constraints simultaneously, grammars must resolve conflicts to determine an input's 'surface representation', the form 'most harmonic' with the constraints. Conflicts are resolved by ranking constraints in a *strict dominance hierarchy* (see Prince & Smolensky 1993). Put in simpler words, OT is a model of grammar which sees grammatical generalization as resolution of competing demands or constraints on the form of the output or surface representation.

Three components that are very basic to OT are: GEN, EVAL, and CON. According to Savova & Frank (2004), a grammatical linguistic expression, in OT, is a

winner of an optimization. Given an underlying representation (UR), a generator function (GEN) produces a (potentially infinite) set of surface realizations (SRs) – candidates – and a process of optimization (EVAL) picks the SRs (candidates) that minimally violates the constraints in keeping with a language-particular ranking. CON then provides the criteria for violable constraints, used to decide between candidates. *Constraint* by definition - in this context - is a limit on what constitutes a possible acceptable/grammatical form. Every constraint is assumed in OT to be universal. This is to say that constraints are the same in every language; they only differ in their ranking. Two types of constraint exist: (1) *faithfulness constraint* and (2) *markedness constraint*. The former, according to Clark, Yallop and Fletcher (2007) "ensures that the surface forms are identical to the input or underlying form". By the contrast, the latter (markedness) is an additional force that makes sure that language-specific differences come into play either to create contrast or to give priority to cross-linguistically preferred forms. The sum of it all is that faithfulness requires identity between input and output while markedness motivate change (Wikipedia 2008) or, in the words of de Lacy (2008:10), markedness evaluates the structure of the output form, while faithfulness evaluates the input.

Methodology

Mapping the data from the underlying form to a surface form is represented in tables (technically referred to as tableau (sg) or tableaux (pl) in OT). Specifically, the classic tableaux are used, as against the comparative tableaux. The tableaux are designed in such a way that the topmost left cell of each contains the input while the leftmost column contains the output candidates. Each row shows the number of violation of a constraint by a candidate in respect of the ranking as shown in the topmost row of each of the tableaux. See definitions/explanations of functional terms and symbols used in a subsequent section. Note that in all the data presented; only the low tones are marked. Note also that all the verbs – candidates – in the tableaux are in their imperative forms.

The data

Selectional restrictions (constraints) have been observered in all dialects of Ìgbò on noun-verb co-occurrence (collocation). (See Anoka, 1983; Nwankwegu, 2008). The differences between the dialects and the Standard form of the language are just the limit and range of items the verbs can associate with.

The data for this present work are drawn from the Ìzhi dialect spoken mainly in Ebonyi State and in some border communities of the neighbouring states: Benue and Cross River all in Nigeria. The Dialect has a speaking population of approximately

800,000 (2006 Census); not including communities of speakers in Benue and Cross River. However, in order to far remove the discussion from mere dialectal study, we have chosen a verb that has near, if not complete, universal usage in all the dialects of the language, and which also is the standard form. This would authenticate the generalization of the findings.

The denominating verb selected for this investigation is *zụ*. According to Anoka, *zụ* is the stem of the verb which means 'buy' in Ìgbò. There are many other verbs, he further explains, which may equally be glossed 'to buy', but each of these verbs collocates with certain specific lexical item.

According to the range of bought items each variant of the verb (*zụ*) can associate with, the data have been grouped into ten. These, however, are not exhaustive of the range of items with which the verbs can collocate nor are all the specific variants exhausted. The verbs are:

(2) *zụ, wu, kpọ, nmụ, wụ*
na, kpa, ga, be, pa.

In line with the above buy verbs, we have grouped the bought-items into ten groups each containing set of objects co-occurable with a particular buy-verb. It should be noted that each of the above verb can receive affixes for various grammatical imports. Each of the verbs is in its bare form. In the contexts we will be using them, affixing the benefactive suffix 'ta' is obligatory for the verbs. Hence, we will use *zụta, wùta*, etc.

To avoid duplication and to conserve space, the bought articles/items used for the research are listed in the table below with binary specification of their semantic features.

(3)

Table of features for items of study

S/N	ITEM	Liquid	portable	edible	grain	ground	animate	paste	processed	craft	measure
1	àlụ (land)	-	-	-	-	-	-	-	-	-	±
2	ụlọ (house)	-	-	-	-	-	-	-	+	+	-
3	eghu (goat)	-	+	-	-	-	+	-	-	-	-
4	nkuta (dog)	-	+	-	-	-	+	-	-	-	-
5	busọ (cat)	-	+	-	-	-	+	-	-	-	-
6	ìgbàkpọ (pepper)	-	+	-	-	-	+	-	-	-	-
7	opfurù (okra)	-	+	+	-	-	-	-	-	-	±
8	ụkpọ (dried okra)	-	+	+	-	-	-	-	-	-	±
9	àshìmokọ (groundnout)	-	+	+	+	±	-	-	+	-	±
10	àshi (melon)	-	+	+	-	-	-	-	-	-	+
11	unu (salt)	-	+	+	+	+	-	-	+	-	+

12	mee (wine)	+	+	+	-	-	-	-	+	-	+
13	anu (meat)	-	+	+	-	-	-	-	+	-	±
14	ekwà (cloth)	-	+	-	-	-	-	-	+	+	+
15	ùdò (rope)	-	+	-	-	-	-	-	+	+	+
16	èkpa ˙ngàri (bag og gari)	-	+	±	±	+	-	-	+	-	+
17	.. èreshì (bag of rice)	-	+	±	±	-	-	-	+	-	+
18	.. unu (bag of salt)	-	+	±	±	+	-	-	+	-	+
19	.. sume˙ntì (bag of cement)	-	+	+	+	+	-	-	+	-	+
20	motò (motor/car)	-	-	-	-	-	-	-	+	+	-
21	igwè (bicycle)	-	+	-	-	-	-	-	+	+	-
22	ogù (hoe)	-	+	-	-	-	-	-	-	+	-
23	nmà (machete)	-	+	-	-	-	-	-	+	+	-
24	utute (mat)	+	+	-	-	-	-	-	+	+	-
25	manù (oil)	+	+	+	-	-	-	-	+	-	+
26	èlì (palm kernel oil)	+	+	±	-	-	-	-	+	-	+
27	mano-okù (kerosene)	+	+	-	-	-	-	-	+	-	+
28	eswi (cow)	-	+	-	-	-	+	-	-	-	-
29	ìnyà (horse)	-	+	-	-	-	+	-	-	-	-
30	˙ngari (gari)	-	+	+	+	+	-	-	+	-	+
31	akpu (cassava)	-	+	+	-	-	-	+	+	-	+
32	okù (fowl)	-	+	-	-	-	+	-	-	-	+

(4)

Table of feature for Ìzhi buy-verbs

SN	VERB	Measure	Liquid	Grain	edible	heavy	Manuf/process	Craft	paste	portable	Animate	Bird
1	kp˙ọta	-	-	-	-	±	+	+	-	+	-	
2	wùta	-	-	-	-	-	-	-	-	+	+	+
3	z˙ụta	±	±	±	±	±	±	±	±	±	±	
4	màta	+	-	+	±	-	±	-	-	+	-	-
5	kpàta	+	+	-	±	-	+	-	+	+	-	-
6	gàta	+	+	-	+	±	+	-	-	+	-	-
7	nàta	+	-	+	+	-	+	-	-	+	-	-
8	w˙ụta	+	-	±	+	-	-	-	-	+	-	-
9	pàta	+	-	±	±	+	+	-	±	+	-	-
10	nmàta	+	-	-	-	-	+	±	-	+	-	-

Some functional terms and symbols used

(a) **Optimal:** Best satisfactory in respect of the ranking or order of preference in the language. This is to say that a candidate is optimal if it best satisfies the ranking order or violates less number of constraints. Note that violation of less number of constraints is not necessarily the determinant for optimization, rather less violation of the highly ranked constraint.

(b) **Violation:** Inconsistence with what is acceptable in the language. In this regard, when a linguistic output is not consistent with what is phonologically, morphologically, syntactically (depending on the domain of application), etc acceptable in the language, such an output is said to have violated a constraint. A candidate does not necessarily violate no constraint to emerge optimal. It is, in fact impossible, to violate none.

(c) **Candidate:** Candidates refers to the possible outputs or combinations given the input consideration. There is, in principle no limit to the number of possible candidates. It is the duty of GEN to generate both the constraints and the candidates.

(d) ☞ This symbol indicates the winning or optimal candidate. It is the optimal finger.

(e) ! **Crucial/Fatal violation:** crucial violation means that a candidate has incurred an unpardonable violation such that it can no longer win, no matter the number of constraints satisfied thereafter. When a candidate violates a high ranked constraint i.e. incurred fatal violation it is indicated by an (!).

(f) >> This signifies dominance ie the order of cruciality or importance of the constraints. The constraint to the left of the greater-than symbol dominates ie is more important in the language than the one to the right.

(g) * This symbol before a ranked constraint signifies "ignore" or do not consider. In the cells, it indicates violation of a constraint under which it appears. A multiple appearance of it shows a multiple violation.

Data Analysis: A Constraint-Based

GROUP 1

Input; zụta /z ` ʊta/; output: zụta /z ` ʊta/

Anoka (1983) describes *zụ* as the common mode of the buy verb. This is because the verb can co-occur with nearly all object of buying, except, according to Anoka 'ohu' (slave). In the Izhi dialect, the same holds true. However, given that other verbs are more specific, the native/competent speaker uses *zụ* only with a limited range of items with which no other buy verb can collocate. It is our view that in line with the ideas

of OT, certain semantic constraints interact before the emergence of these specific forms. The possible constraints that conflict for the choice of *zùta* are proposed and ranked below:

(5) (a) IDENT-SEM: The input and the output must be semantically equivalent/ identical

(b) VO SPEC: The object of buy must be a specific collocate to the buy-verb variant

(c) SEM FEAT: The output must be sensitive to the semantic feature of the buy object.

(d) MODE OF SALES: The mode of sales and or the unit of measuring the object of buy must be considered.

(e) NATURE: The nature or texture of the material must be considered.

(f) QUANTITY: Consider the quantity of the item of sale.

These constraints are the same over all the buyable items and the verbs they select. What differs is the ranking. Hence, the same constraints would apply in all cases but with different ranking.

The constraints can be ranked thus:

(6) IDENT-SEM >> *MODE OF SALE >>*SEM FEAT >> *NATURE >>*QTY

Tableau 1

z`ụta 'buy' eghu (goat), nkutà (dog), àlì (land), ụlò (house), busù (cat)	IDENT-SEM	*MODE OF SALES	*SEM FEAT	*NATURE	*QUANTITY
kp`ọta			*	*	*
w`ụta		*	*	*	*
☞ zùta					
màta		*	*	*	*
lùta	*!				
kpàta			*	*	*
gata		*	*	*	*
nàta		*	*	*	*
kùta		*	*	*	*

In the above tableau, *zuta* is the winner of optimization because it satisfies most (all) of the constraints therein. The candidate is compatible with all buyable goods and can co-occur with all without constituting ungrammaticality. Therefore, in all cases where

the bought items are not sensitively restricted to a particular buy-verb, *zụta* is used. The faithfulness constraint IDENT-SEM is the only one to be satisfied; satisfaction of any other constraint is, therefore, a violation.

GROUP 2

Input: zụta /z ˋʊtaˊ/; Output: wˋụta /wˋʊtaˊ/;
Below is the possible ranking that results in the preference of *wụta* as the optimal candidate.

(7) IDENT-SEM >> MODE OF SALE >> SEM FEAT >> NATURE >>QTY

Tableau 2

zˋụta 'buy' ìgbàkpò (pepper); ọpfùrù (okra) àshìmokò (groundnut); àshi (melon); ùkpọ (dry okra)	IDENT-SEM	MODE OF SALES +measure	SEM FEAT -liquid +farm prod +soup item -flesh	NATURE grain (1)	QUANTITY
a) kpòta		*!	**	*	*
b) gàta			***!	*	*
c) nàta			*	*	*
d) ☞ wˋụta				*	*
e) kpàta			*	*	*
f) bèta			**		
g) màta			*		
h) gbàta	*!				
i) zûta		*!			

As can be seen, the winning candidate in the conflict above is *wˋụta*, having satisfied most of the higher ranked constraints. Wˋụta is the preferred variant of *zˋụta* when co-occurring with certain objects/items, particularly, those used for soup or as soup base. The next optimal candidate is *màta* which violated the least (just one) of the constraints. However, it could not win because that only one constraint violated, since it is ranked higher, is more fatal than the two violated by the optimal candidate. Note that while wˋụta is used strictly for edible/food items, *màta* can be used for non-food items such as fertilizer, cement, etc, all of which are granulated and also measurable in cup. Candidate (h) equally violated one constraint but is out of consideration having violated the highest ranked.

GROUP 3

Input: zụ̀ta /z`ʊta/; output: nàta /nata/

(8) Proposed constraint ranking: MODE OF SALES>> *IDENT-SEM>> NATURE>> QTY

Tableau 3

z`ụta 'buy' Unu (salt)	MODE OF SALES +measure	*IDENT-SEM	NATURE Granulated/ concealed	QUANTITY
a) z`ụta	*!	*	*	*
b) màta		*	*	*
c) w`ụta		*	**	*
d) bèta		*	***	*
e) kpàta		*	**	*
f) ☞ nàta				*
g) nmàta	*!		*	*
h) pàta			*	

The optimal candidate in the above tableau is *nàta*. The optimization of *nàta* over other candidates is pragmatic because, denotatively, it *(nàta)* does not mean *buy* but by extension of meaning, historically traceable to the initial mode of obtaining this good in Ìzhi land. Salt used to be freely obtained as gift of essentiality. For this reason, though, sugar possesses the same semantic features as salt, it does not yield to the same constraint ranking as above. Interestingly, *z`ụta*, which should ordinarily co-occur with all items, happens to be the least preferred candidate here, having incurred a fatal violation by being sensitive to the mode of sale and ignoring IDENT-SEM constraint – the two highest ranked. Note that *z`ụta* is a faithfulness candidate which does not submit to any markedness constraint.

GROUP 4

Input: zụ̀ta /z`ʊta/; output: gàta /gàta/

(9) Constraint ranking: IDENT-SEM>>SEM FEAT>>NATURE>>MODE OF SALES>>*QTY

Tableau 4

z`ụta 'buy' mẹẹ (wine)	IDENT-SEM	SEM FEAT +alcohol	NATURE +liquid	MODE OF SALES/PACKAGING +measure	*QUANTITY
a) ☞ gàta					
b) gòta		*!			
c) w`ụta		*!			
d) gbàta					*

e)	z`ụta		*!		
f)	nàta		*!		*
g)	pàta				
h)	k`ụta		*!		

In tableau 4, *gàta* wins the optimization conflict. From the data in the tableau, and the proposed constraint ranking, it can be readily affirmed that *gàta* is chosen because it is compatible alcohol, liquid, sales by measure and insensitive to quantity. Next to the winner is *pàta* which seems to co-occur comfortably with most buy-items intended for re-sell; bought in large quantity (with few exceptions though); or heavy to carry. All other candidates incurred fatal violation and got automatically disqualified because no matter how good they may fare afterwards, they cannot be the winner.

GROUP 5

Input: zụ̀ta /z`ʊta/; output: beta /beta/

(10) Proposed constraint ranking: MODE OF SALE>>*SEM-FEAT>>NATURE>>QUANTITY

Tableau 5

z`ụta 'buy' anụ'(meat); ekwà (cloth), ùdò (rope)	MODE OF SALES +measure, +slit/cut	*SEM FEAT	IDENT-SEM	NATURE +woven/flesh	QUANTITY
a) z`ụta				*	
b) ☞ bèta					
c) gàta	*!				
d) wûta	*!				
e) bûta			*!		

The data in tableau 5 above evince *bèta* the optimal candidate. A survey of the buyable items in the Ìzhî dialect shows that *bèta* co-occurs with only objects or items that can be cut or slit as a process of sale or measure. *Bùta* could not win because although it denotes cut or slit, it is simply and strictly more compatible with mere activity or process other than mode of sale. *Bèta* is strictly used in the dialect for the activity or process of buying for only the items whose mode of sale is by slit or cut. *Zèta*, the next optimal candidate, failed because it yielded to nature-sensitivity and survive-quantity constraints. It is, however, the next optimal/preferred candidate given that its violation of these constraints is not fatal; hence its usage can be ignored in the absence of *bèta*.

Group 6

Input: zụ̀ta /zʾ ʊta/; output: pàta /pàta/

(11) Constraint ranking: MODE OF SALE>>QTY>>NATURE>>*IDENT-SEM>>IDENT-SEM-FEAT

Tableau 6

*Z`ụta èkpà* 'buy *a bag of* `ngàrí (garri), èreshì (rice), unu- (salt), sumenti (cement) or katọnụ bwị (carton of beer), etc.	MODE OF SALES +measure +bagged +packaged	QUANTITY +large	NATURE +Heavy weight +portable	*IDENT-SEM	IDENT-SEM-FEAT
a) k`ụta	*!**				
b) màta	*!*	*	*		
c) ☞ pàta					*
d) nàta		*!			
e) z`ụta				*!	

The winner of optimization in the above tableau (6) is candidate 'c' *(pàta)* which is chosen because it is co-occurable with items bought in large quantity or objects that are of heavy weight. Here, whether the object is liquid or solid is immaterial. However, the object is necessarily packaged or put in a big container. Sometimes, the weight is not necessarily a determinant of optimization of *pàta* but the intention to re-sale the object. It should be noted that just as many other verbs used for buying in Ìzhi, *pàta* does not necessarily or primarily denote 'buy' but by extension used in cognizance of the foregoing consideration. As a matter of fact, a number of verbs in Ìzhi – *z`ụta, wùta, gùta, kp`ọta* and *gòta* – exclusively denote 'buy'. However, there are also a good number of verbs (list of all which are not exhaustive in this paper) that are, by extension, used to mean 'buy'. For instance, *k`ụta* primarily means 'pack' (especially, with hands/palms) – used for substances like mud, cassava or anything of such pasty texture – *nàta* means 'receive'; *màta,* means 'measure'; *beta* - 'cut'; *nmàta* - 'trap', etc., the reason for which they emerge optimal in different ranges of bought items only when *IDENT-SEM constraint is proposed; the same constraint *zùta* or any other exclusive 'buy-verb' could never satisfy since 'buy' is semantically core to it and once ignored or suppressed, the word becomes meaningless in the dialect.

GROUP 7

Input: zụ̀ta /z ` ʊta/; output: kp`ọta /kpɔ̀ta/

(12) Constraints: IDENT-SEM>>*MODE OF SALE>>IDENT-SEM-FEAT>> NATURE>>QTY

Tableau 7

Z`ụta 'buy' motɔ̀ (car), ígwè (bicycle), ọgù (hoe), mmà (knife), ututo (mat)	IDENT-SEM	*MODE OF SALES	IDENT-SEM FEAT	NATURE +manufactured +processed	QUANTITY
a) gɔ̀ta			*!	*	*
b) zɔ̀ta			*!	*	*
c) kpɔ̀ta	*!		*	*	*
d) w`uta		*!	*	*	*
e) ☞ kpọta					*

Kp`ọta usually goes with manufactured goods/items or product of handicraft like basket, mat, processed clothing items, etc. candidate 'e' is, therefore, the winner in the above tableau (7) having violated the least of the highly-ranked constraints.

GROUP 8

Input: zụ̀ta /z ` ʊta/; output: kpàta /kpàta/

(13) Constraints: IDENT-SEM>>MODE OF SALE>>IDENT-SEM-FEAT>> NATURE>>QTY

Tableau 8

Z`ụta 'buy' manù (oil), èlì (palm kernel oil), manu-okù (kerosene)	IDENT-SEM	MODE OF SALES +measure	IDENT-SEM FEAT +liquid	NATURE +oil	QTY
a) k`ụta		*!			
b) mata			*!		
c) pàta			*!		
d) nàta	*!				
e) z`ụta		*!			
f) kpàta					

In tableau 8, the candidate that best satisfies the constraints is 'f' (kpata). *Kpata* is strictly used for buying of oil products only.

GROUP 9

Input: zụ́ta /z ̀ʊta/; output: nmàta /ɱmàta/

(14) Constraints: IDENT-SEM>>IDENT-SEM-FEAT>>MODE OF SALE>>SIZE

Tableau 9

Z ̀ụta 'buy' eswi (cow), ìnyà (horse)	IDENT-SEM	IDENT-SEM FEAT +quad +animate +domestic	MODE OF SALES -measure	SIZE +big
a) ☞ nmàta				
b) z ̀ụtá		*!		
c) kp ̀ọtá		*!		
d) pàta		*!		

Nmàta is optimal in tableau 9 above. Nmàta as a buy verb co-occurs only with *eswi and ìnyà* (cow and horse respectively).

GROUP 10

Input: zụ́ta /z ̀ʊta/; output: wùta /w ̀ʊta/;

(15) Constraints: IDENT-SEM>> IDENT-SEM-FEAT>> MODE OF SALE

z ̀ụtá 'buy' ókù (fowl), òkúkú ̀mbà (duck)	IDENT-SEM	IDENT-SEM FEAT +feather +animate +domestic -quad	MODE OF SALES -measure
a) nmàtá		*!	
b) 'zùtá		*!	
c) kpòtá		*!	
d) pàtá		*!	
e) ☞ wuta			

Discussion

Every native speaker possesses both linguistic and communicative competence in his language. Such knowledge results in the speaker's ability to make appropriate choice of verb in respect of the complement or object they take. The results of our optimality analyses of some verb-noun co-occurrence constraints above show that for the buy-verb *zu*, there are variants, each being optimal for some group of buy-objects. Generally, *zu* may co-occur with all of the buy-objects shown above but would not

create a fine-grain nuance or make specification of the item as the use of the optimal variant would.

There are some pragmatic considerations underlying the choices or emergence of buy-verb candidates as optimal. The various *zu*-verbs and noun object possibilities as discussed above may and/or sometimes seem interchangeable on the surface due to overlap in these verbs and noun objects, but nevertheless, there are some conflict resolution and constraint satisfaction such as between the measure modes, quantity, etc. Take the following for instance:

(16)

a) màta
b) pàta
c) kpàta
d) w`ụta

Mata implies sales with cup, and buying of few measures, whereas *pàta* implies buying of the object in bulk, particularly in a container, bag or any form of packaging. Again, it sometimes implies the intention of purchase – for sale. *Kpàta* collocates only with the referential terms of liquid, specifically oil. *Kpàtá* does not enter the same slot as *gàta*, which is believably emotive – having a strong nuance of pleasure – and co-occurs only with mee (wine). *Kùta and gbàta* are both used for obtaining *mini* (water) but with different overtone. *Kùta* does not occur as buy-verb but as a process of the water-fetching activity, commonly from stream, pond or lake; it does occur as a generic variant for the activity of fetching water. However, when water is bought, *gbàta* is used based on the origin that buyable water is always from running taps. Often time, even when tap water is not bought, *gbàta* is generally used. *Gbàta* is also used for other liquid like oil (not thickened like pomade) when buying is not intended. *W`ụta* has a semantic nuance of 'pour' (as in water). This claim is supported by the fact that the non-liquid objects co-occurable with the verb (w`ụta) are those that have to be poured out from a container object of measure when bought. These buy objects, as observed by Anoka (1983a) seem all to be dry. May we add that these objects include grains and seeds, especially, edible ones. We must also point out that some of the buy verbs like *w`ụta* and *màta* may occur in free variation when they associate with certain buy-items like *èreshi* (rice), *ès`ụsà* (beneseed), etc. For the buy-object like *`ngàri* (garri), wuta cannot optimally enter into the same slot as *màta*, but *gbàtá* can, hence *màta* and *gbàta* are equally optimal co-occurable buy verb for the object *`ngari* (garri).

For the verbs:

(17)
a) *kp`ọta*
b) *nàta*
c) *wùta*
d) *nmàta*

there seem to be unique constraints satisfaction at the input level. First, *Kpọta,* seems to collocate only with manufactured durable and non-edible goods and products of handicraft. *Nàta* which denotes receive/collect seems to have entered into repertoire of buy-verbs by semantic extension owing to the mode of obtaining the item originally – by free distribution/collection as essential commodity. Only the object *unu* (salt) enters into buy referential range with the verb. The optimality of *wuta* and *nmàta* as buy verb for domestic animal but restricted for birds and some quadruped respectively constitutes a height of intricacy of this study. While zuta goes optimally with *eghu* (goat), *aturu* (sheep), etc *nmata* is restricted to *eswi* (cow) and *inya* (horse). The possible explanation for this is the traditional manner of capturing these bigger domestic animals – by trapping (anmata) with rope – not by bare hands as in capturing goats, and these other smaller animals. This claim is supported by our finding that cows were usually in the olden days bought from the owners homes where the intended buyer would come to negotiate price, and afterward the owner/ rarer would order the cattle boys to capture the agreed cow for the buyer. It was the process of this capturing that resulted to the extension of its meaning to 'buy'. In this case rope is tied on the leg/s of the cow instead of the neck for easier control. The use of this verb for horse is possibly by extension, with the assumption that the process of capturing is the same as that of cow considering the size and since horses are not sold in Izhi market, the assumption stuck. Wuta also strictly collocates with only domestic fowl.

It is pertinent to note that there are groups of verbal forms meaning to buy which cannot enter into the same slots as either the common mode or the mode verbs we have discussed above. Many of such verbs have total obscure origin.

Conclusion

Our analyses above have evinced various constraints interacting between verbs and the object complements they optimally co-occur with. This work has led strong support to the caveat of T.F. Mitchell regarding semantic relations, quoted by Anoka (1983a), that "a linguistic item or class of items is meaningful not because of inherent

properties of its own but because of the contrastive differential relationship it develops with other items or classes." Although we examined only buy-verbs (and not even did we exhaust these), the phenomenon of constraint on co-occurrence is not restricted to this set of verbs only. More works are needed to explore the whole range and gamut of intricacies that inhere in this phenomenon in other semantic fields of the Ìzhí dialect.

In the forgoing paper, we have argued and tried to prove, using the instrumentalities of the optimality constraint-base theory, that the selection of the specific or "numerator" buy-verbs or what Nwankwegu (2008) referred to as "finer-grain meaning" seen at the output level (i.e. the optimal surface output) is not a product of rules changing the underlying forms into surface forms, but rather, a reflection of conflicts resolved at the input level by means of optimal satisfaction of highly ranked constraints by a candidate from a set of candidates.

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