Markedness and Pronoun Incorporation
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*Proceedings of the Twenty-Sixth Annual Meeting of the Berkeley Linguistics Society: General Session and Parasession on Aspect* (2000), pp. 171-185

# Markedness and Pronoun Incorporation*

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## 1. Introduction

It has long been noted in various studies in Bantu languages that certain types of object cannot be expressed as a pronominal object marker in a passive verb form. For example, in many Bantu languages a passive construction is ungrammatical in which a passivized inanimate subject cooccurs with a human object marker which is pronominal. In Kichaga (Bresnan and Moshi 1990) this is exemplified in (1).

(1) *K-èlyá k-ĩ-mĩ-lyì-í-ò.[1]
7-food 7S-PR-1O-eat-AP-PAS
'The food is being eaten for/on him/her.'

However, an object can be expressed by a bound pronominal prefix incorporated into the passive form of the verb when the subject is higher in animacy than the object or when the animacy of the two arguments is equal.

In this paper I examine the pattern of selective pronoun incorporation, which I will call differential pronoun incorporation. In particular, I attempt to explain animacy-based gaps in the appearance of pronominal object markers in several Bantu languages within Optimality Theory (OT: Prince and Smolensky 1993). The analysis here draws crucially on hierarchy alignment as developed by Aissen (1999a) for the representation of morphosyntactic markedness hierarchies and on the theory of pronominal markedness developed by Bresnan (1998a,b, 1999) for the formal expression of conflicts of markedness and faithfulness. The ranking of markedness constraints derived through hierarchy alignment and faithfulness constraints derives the pattern of contextual neutralization and crosslinguistic variation found in differential pronoun incorporation systems in Bantu languages.

* I am grateful to Joan Bresnan, Peter Sells, Elizabeth Traugott and the audience at the 26th Meeting of the Berkeley Linguistics Society for useful comments, suggestions and discussion. I am also grateful to Lioba Moshi for her assistance with the Kichaga data cited here. This material is based upon work supported by the National Science Foundation under Grant No. BCS-9818077.

[1] The Kichaga data in this paper were taken from Bresnan and Moshi (1990) or kindly provided by Lioba Moshi. I follow Bresnan and Moshi (1990) in the glossing of the Kichaga examples. The following abbreviations are used for grammatical categories in Kichaga: AP 'applicative', FOC 'focus', O 'object', OM 'object marker', PR 'present', PAS 'passive', PRO 'pronoun', PS 'past', S 'subject', SM 'subject marker'.

## 2. Differential Pronoun Incorporation in Bantu

Kichaga, an example of a symmetrical object language (in the terminology of Bresnan and Moshi 1990), allows both objects in a double object construction to manifest primary or unrestricted object properties at once.[2] For example, when one object is passivized, the other may be pronominalized, and thus expressed by an object marker which is a bound pronominal incorporated into the verb, as (2) illustrates.

(2) M-kà n-ā́-ǐ́-kì-lyí-í-ò. ($OM_{pt}$-$V_{PAS}$)
1-wife FOC-1S-PR-7O-eat-AP-PAS
'The wife is being benefited/adversely affected by someone's eating it.'

While it is possible to express either or both of the objects in a double object construction in the active by means of an incorporated pronoun, however, certain types of objects cannot be expressed as an incorporated pronoun in a passive verb form.[3] The facts governing object pronoun incorporation in passives are rather complex, determined by the relative animacy and topicality of passivized subjects and objects. In Kichaga, an object cannot be expressed as a pronominal object prefix when a passivized subject is lower in animacy, and it is non-topic, hence expressed by a full lexical NP.[4] This is illustrated in the examples in (3)–(5). The subject marker functions as a non-referential marker of grammatical agreement, with a cooccurring NP required to fulfill the subject function of the verb.

(3) SUBJ: inanimate; OBJ: human (S<O in topicality, S<O in animacy)
*K-èlyá k-ǐ́-mǐ́-lyì-í-ò. (NP SM-OM-$V_{PAS}$)
7-food 7S-PR-1O-eat-AP-PAS
'The food is being eaten for/on him/her.'

[2] In asymmetrical object languages, in contrast, only one argument at a time can have primary or unrestricted object properties (Baker 1988; Bresnan and Moshi 1990; Alsina and Mchombo 1993). For example, if one argument is passivized, the other cannot be object marked. Of course, the typology of object asymmetries is not just a bipartite typology, consisting only of the symmetrical and the asymmetrical types, but includes further subtypes. See Alsina (1993) for a detailed of discussion of the typology of object asymmetries.

[3] In asymmetrical object languages object markers, both pronominal and nonpronominal, never appear on a passive verb. This is because both the passive subject and the object marker must correspond to unrestricted arguments. Asymmetrical object languages do not allow an argument structure to include more than one unrestricted argument, and thus a passive verb form fails to allow object agreement. This paper is concerned only with symmetrical object languages and nothing will be said about the problem of explaining the absence of an object marker with the passive in asymmetrical languages.

[4] The same animacy restriction appears with unaccusative applicative verbs with two internal arguments in Kichaga (Lioba Moshi, p.c., April 2000). That is, when an object of an unaccusative applicative verb is higher on the animacy hierarchy than its subject, the former cannot be expressed as an object marker which is pronominal.

(4) SUBJ: inanimate; OBJ: animate (S<O in topicality, S<O in animacy)

| | | |
|---|---|---|
| * K-èlyá | k-í-i-lyì-í-ò. | (NP SM-OM-$V_{PAS}$) |
| 7-food | 7S-PR-O-eat-AP-PAS | |

'The food is being eaten for it (i.e., goat).'

(5) SUBJ: animate; OBJ: human (S<O in topicality, S<O in animacy)

| | | |
|---|---|---|
| * Mbùrú | y-í-mǐ-lyì-í-ò. | (NP SM-OM-$V_{PAS}$) |
| 9-goat | 9S-PR-1O-eat-AP-PAS | |

'The goat is being eaten for him/her.'

However, an object can be expressed by an incorporated bound pronominal in passives when the subject is higher in animacy than the object as in (2) above or when their animacy is equal as in (6a) and (6b).

(6) a. SUBJ: human; OBJ: human (S<O in topicality, S=O in animacy)

| | | |
|---|---|---|
| M-ànǎ | n-ǎ-ǐ-m-lyì-í-ò. | (NP SM-OM-$V_{PAS}$) |
| 1-child | FOC-1S-PR-1O-eat-AP-PAS | |

'The child is being eaten for him/her.'

b. SUBJ: inanimate; OBJ: inanimate (S<O in topicality, S=O in animacy)

| | | |
|---|---|---|
| Kù-zrèndé | kǔ-l$^{!}$é-kí-réng-$^{!}$í-ô. | (NP SM-OM-$V_{PAS}$) |
| 15-leg | 15S-PS-carve-AP-PAS | |

'The leg was being carved for it (i.e., the chair).'

The examples in (3)–(5) become good if the subject is also topical (e.g., continuing topic or contrastive focus).[5] Note, in contrast to the subject marker in the examples above, that in (7a) and (7b) below it serves as an incorporated pronominal fulfilling the subject function; the external coreferential NP, anaphorically bound to the pronominal subject marker, has a non-argument function as a contrastive focus (7a) and a topic (7b). The tonal difference on the NP cooccurring with the pronominal SM indicates the non-local property of anaphoric agreement (Bresnan and Mchombo 1987: 752-756). (Note that the NP in (7a) differs from that in (3) tonally.)

[5] The topic designates what is under discussion, whether previously mentioned or assumed in discourse (Bresnan and Mchombo 1987: 746). This characterization is not meant as a definition. For reasons of space, I will not discuss how the term 'topic' should be defined, but assume that topics can be distinguished from non-topics in terms of a set of testable criteria for topichood (e.g., the 'referential distance' measurement, the 'topic persistance' measurement, incompatibility with pragmatic focus, etc.), proposed by Givón (1983) and by Bresnan and Mchombo (1987). Contrastive focus as well as topic has the same discourse properties that have been taken as defining properties of discourse topics: both topic and contrastive focus involve some presupposed alternatives (Dik et al. 1981: 42); they both possess the high degree of 'context-construability', which is defined by Rochemont and Culicover (1990: 20) to be 'under discussion' or to 'have a semantic or discourse antecedent in the discourse'.

(7) a. SUBJ: contrastive focus, inanimate; OBJ: topic, human
(S=O in topicality, S<O in animacy)
K-ẽlyã́, k-ĩ́-mm̃́-lyì-í-ò. (CFOC, SM-OM-$V_{PAS}$)
7-food, 7S-PR-1O-eat-AP-PAS
'The food is being eaten for/on him/her.'

b. SUBJ: topic, inanimate; OBJ: topic, human
(S=O in topicality, S<O in animacy)
K-ĩ́-mm̃́-lyì-í-ò. (SM-OM-$V_{PAS}$)
7S-PR-1O-eat-AP-PAS
'It (i.e., the food) is being eaten for/on him/her.'

Another situation where the animacy restriction disappears is when the object marker doubles a free pronoun object, used for emphasis or contrast:[6]

(8) SUBJ: inanimate; OBJ: emphatic focus, human (S<O in animacy)
K-èlyá k-ĩ́-m̀-lyì-í-ò òò.[7] (NP SM-OM-$V_{PAS}$ PRO)
7-food 7S-PR-1O-eat-AP-PAS 1PRO
'The food is being eaten for /on him/her.'

The pattern of differential object pronoun incorporation in Kichaga is summarized in (9).

(9) Table 1. Differential Object Pronoun Incorporation in Kichaga

| | Object | | |
|---|---|---|---|
| Subject | Human | Animate | Inanimate |
| Inanimate, Top– | X | X | C |
| Inanimate, Top+ | C | C | C |
| Animate, Top – | X | C | C |
| Animate, Top+ | C | C | C |
| Human, Top– | C | C | C |
| Human, Top+ | C | C | C |

(C: Contrast of Free/Reduced pronouns in object;
X: No contrast in object (Free pronoun objects only))

[6] In Kichaga prefixal pronouns incorporated into the verb are the normal anaphoric means of referring to topical entities, while free pronouns are used to establish a new topic or for giving emphasis.

[7] Bresnan and Moshi (1990: 151) note that all object markers in Kichaga have the obligatory pronoun-doubling property: when the NP object is an independent pronoun, the object marker obligatorily cooccurs with it. Following Bresnan and Mchombo (1987) and Bresnan and Moshi (1990), I assume that the doubling object marker is a marker of grammatical agreement, and the non-doubling object marker is an incorporated pronoun showing anaphoric agreement with a topic.

We see that the contrast of free and reduced pronouns is freely realized in most contexts, but it is avoided in objects occurring in three marked contexts. This pattern can be seen as an instance of positional neutralization: the contrast of free and reduced pronouns, even if otherwise preferred in the language, is neutralized to the unmarked free pronoun in *the most marked object types*, namely when objects are more prominent than subjects in both animacy and topicality.

The descriptive generalization that emerges from this pattern is clear:

(10) Generalization: An object pronoun cannot be incorporated into a passive verb form when the passivized subject is less prominent in animacy, and it is non-topical, hence expressed by a lexical NP. Only free pronouns can express such objects.

The Kichaga pattern is not arbitrary, but rather a manifestation of universal markedness relations. Cross-linguistically, the unmarked situation is for the subject to be a nominal which is human/animate and topical. The unmarked situation for the object is the reverse: objects prefer to be inanimate and non-topical. Therefore, it is more marked for a subject to be inanimate and non-topical rather than human and topical, and for an object to be human and topical rather than inanimate and non-topical. So the following questions emerge from the pattern of differential object pronoun incorporation: (i) how can such seemingly unusual effects of prominence hierarchies on pronoun incorporation be incorporated into theories of universal grammar in a way that accounts for the universal basis of differential pronoun incorporation and at the same time permits for the range of language-particular variation? and (ii) how is it possible to express that the contrast of free/reduced pronouns is neutralized in objects, while preserved in passivized subjects?

## 3. An OT Account of Differential Pronoun Incorporation

### 3.1 Harmonic Alignment and Markedness Constraints

The overall situation in the phenomenon of differential pronoun incorporation is characterized by markedness reversal (Croft 1990; Battistella 1990): high prominence on the dimensions of animacy and topicality is unmarked for subjects. What is unmarked for subjects is marked for objects.

The formal mechanism that derives markedness reversal in OT is harmonic alignment of prominence scales, which was developed in Prince and Smolensky (1993) within their account of syllable structure. The formal definition of harmonic alignment is given in (11).

(11) Harmonic Alignment (Prince and Smolensky 1993: 136)
Suppose a binary dimension $D_1$ with a scale X>Y on its element {X,Y}, and another dimension $D_2$ with a scale a > b >... > z on its elements. The harmonic alignment of $D_1$ and $D_2$ is the pair of Harmony scales:

$H_X$: X/a > X/b > ... > X/z
$H_Y$: Y/z > ... > Y/b > Y/a

The constraint alignment is the pair of constraint hierarchies:

$C_X$: *X/z » ... » *X/b » *X/a
$C_Y$: *Y/a » *Y/b » ... » *Y/z

Harmonic alignment of two prominence scales associates the high-ranking elements on the two scales (e.g. vowels with peaks), as well as the low-ranking elements on the two (obstruents with margins). Thus the definition of harmonic alignment above formalizes the idea that elements on the high end of one prominence scale tend to occur together with elements on the high end of another scale, while elements on the low end of one scale tend to align with the low end of the other. Aissen (1997a, 1999a,b) proposes that the phenomenon of harmonic alignment is not limited to phonology, but also occurs in various morphosyntactic systems. Here the relevant dimensions are grammatical function (GF), animacy and topicality.

If the GF and animacy hierarchies (12) are harmonically aligned, we obtain the pair of harmony (markedness) scales in (13):

(12) Universal scales
a. GF Scale: SUBJ(ECT) > OBJ(ECT)
b. Animacy Scale: Hum(an) > Anim(ate) > Inan(imate)

The hierarchies in (13) express the idea that human subjects are (universally) less marked than inanimate subjects; and conversely, that inanimate objects are (universally) less marked than human objects.

(13) Harmony (markedness) scales:
a. SUBJ/Hum > SUBJ/Anim > SUBJ/Inan
b. OBJ/Inan > OBJ/Anim > OBJ/Hum

Markedness of inanimate subjects and animate objects is seen in languages like Tzotzil and Chamorro, where clauses with inanimate subjects and animate objects are avoided (Chung 1984; Cooreman 1987; Aissen 1997b, 1999b). Inverting the hierarchies in (13) and prefixing the Avoid operator ("*") yields the constraint subhierarchies in (14):

(14) Constraint subhierarchies:
a. *SUBJ/Inan » *SUBJ/Anim » *SUBJ/Hum
b. *OBJ/Hum » *OBJ/Anim » *OBJ/Inan

The subhierarchy in (14a) expresses the fact that given the choice between expressing a proposition through a clause with an inanimate subject or through a clause with a human subject, all other things being equal, the clause with a human subject will be universally preferred. (14b) has analogous effects.

As a further application of harmonic alignment, consider the GF and topicality scales in (15). Harmonic alignment yields the harmony scales in (16) and the corresponding constraint subhierarchies in (17).

(15) Aligning GF with topicality
  a. GF Scale: SUBJ(ECT) > OBJ(ECT)
  b. Topicality: TOP(IC) > Non-TOP(IC)

(16) Harmony (markedness) scales:
  a. SUBJ/TOP > SUBJ/~TOP
  b. OBJ/~TOP > OBJ/TOP

Markedness of non-topical subjects is seen in languages like Sesotho and Setawana, where non-topical subjects are avoided (Demuth and Johnson 1989; Demuth 1989); markedness of topical objects is seen in languages like Malay, in which such objects surface through non-canonical structures such as object preposing structures when they cooccur with non-topical subjects (Tham 2000).

(17) Constraint subhierarchies:
  a. *SUBJ/~TOP » *SUBJ/TOP
  b. *OBJ/TOP » *OBJ/~TOP

In (17a) the ranking of *SUBJ/~TOP over *SUBJ/TOP means that in the absence of any relevant higher ranking constraints, a clause with a non-topic subject will lose out in direct competition to a clause with a topic subject. (17b) has analogous effects. The ranking of constraints in each subhierarchy is universally fixed, and expresses the universal markedness relations in this domain. Language-particular variation can be described through the interpolation of other constraints among those in a subhierarchy, but not through differences in ranking within the subhierarchy itself (Aissen 1999a: 12-13).

As noted in section 3, languages like Kichaga exclude clause types which are marked both with respect to grammatical function and animacy, and with respect to grammatical function and topicality. Thus this account requires constraints which characterize what the most marked clause types with respect to these dimensions. The intuition that having two marked structures within a single domain can result in a configuration that is more marked than having either of the marked structures alone is captured by the formal operation of *local conjunction*[8] proposed in Smolensky (1995): The first step is to show that an argument which is marked in two respects should be assessed as more marked than one which is marked in one respect. This is done through local conjunction of the highest

[8] The Local Conjunction of $C_1$ and $C_2$ in domain $D$, $C_1$ & $C_2$, is violated when there is some domain of type $D$ in which both $C_1$ and $C_2$ are violated (Smolensky 1995).

constraints in (17) (*SUBJ/~TOP and *OBJ/TOP) with subhierarchies in (14) involving alignment of grammatical function with animacy. When a subhierarchy locally conjoin with a markedness constraint, the ranking of the resulting subhierarchy is predetermined by that of the input subhierarchy. This property of ranking preservation is stated by Aissen (1999a) as follows:

(18) The local conjunction of $C_1$ with subhierarchy [$C_2$ » $C_3$ » ... » $C_n$] yields the subhierarchy [$C_1$&$C_2$ » $C_1$&$C_3$ » ... » $C_1$&$C_n$].

From this we form complex subhierarchies composed of constraints that refer to both the animacy and topicality of arguments. The subhierarchies which locally conjoin with *SUBJ/~TOP and *OBJ/TOP are listed in the left column of (19); the subhierarchies which result from local conjunction are listed in the right column. Per (18), the rankings of the resulting subhierarchies on the right are all predetermined by those of the subhierarchies on the left.

(19) Table 2. Local conjunction of constraints

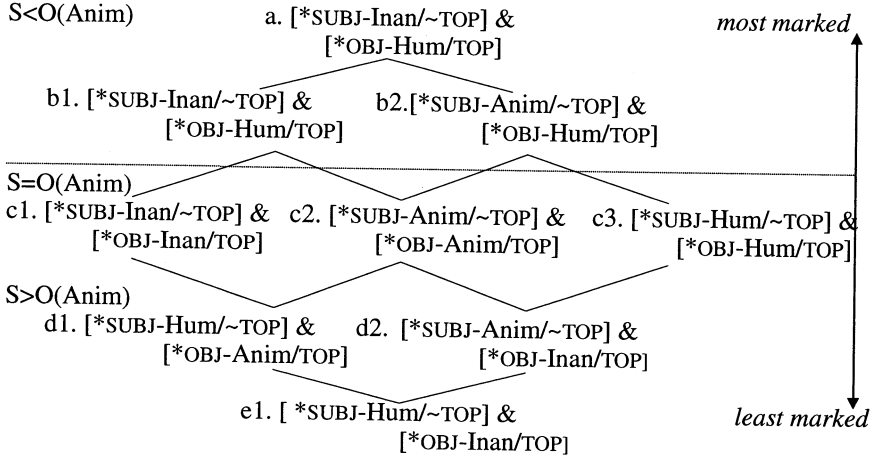
| Subhierarchies involving GF/Anim | Conjunction of subhierarchies (GF/Anim) with constraints (GF/TOP) |
|---|---|
| *SUBJ/Inan » *SUBJ/Anim » *SUBJ/Hum | *SUBJ/Inan & *SUBJ/~TOP » *SUBJ/Anim & *SUBJ/~TOP » *SUBJ/Hum & *SUBJ/~TOP |
| *OBJ/Hum » *OBJ/Anim » *OBJ/Inan | *OBJ/Hum & *OBJ/TOP » *OBJ/Anim & *OBJ/TOP » *OBJ/Inan & *OBJ/TOP |

While a simple constraint like *SUBJ/Inan will assign a violation to any inanimate subject, the conjoined constraint [*SUBJ/Inan & *SUBJ/~TOP] will assign a violation only to a non-topical inanimate subject, which is realized as a full NP or as an independent pronoun in Bantu languages. Thus I have shown that what the most marked types of arguments are. But this is not enough. Since the subhierarchies in (19) only assess the markedness of a single argument, to determine the markedness of structures with two arguments, next we need to construct constraint subhierarchies composed of both of the rankings in the right column of (19).

Applying the schema for conjoining two subhierarchies (see Aissen (1999a), fn. 20) to the two subhierarchies on the right of (19), we get the partial ordering in (20), which assess the markedness of both the subject and object.[9]

[9] In fact, the constraints needed here must be such that they rule out expressing marked object types as a bound pronoun only in a clause containing a patient subject such as passive or unaccusative constructions. It is possible to devise more complex constraints restricted to clauses with a patient subject by conjoining the constraint *SUBJ/pt (avoid a patient subject) with the constraints in (20). Though the conjoined constraints in this paper should be understood as involving further conjunction with *SUBJ/pt, I will not indicate this for ease of presentation.

(20) Figure 1. Conjunction of the two subhierarchies in (19)
(*GF/Anim&*GF/TOP is written as *GF-Anim/TOP)




The sets of constraints shown in (20) express the relative markedness of all combinations of subject and object with respect to their animacies in a context where the subject is topic and the object is non-topic. The most marked situation is to have the non-topic subject lower in animacy than the topical object. The maximally marked clause types expressing this situation are exactly the configuration in the Kichaga data that is ungrammatical, and will be penalized by the constraints labeled (a) and (b) in (20); the least marked situation, penalized by the constraints labeled (d) and (e) in (20), is to have the non-topic subject higher in animacy than the topical object.

I will abbreviate the groups of constraints in (20) as shown below in (21) due to space limitations.

(21) Constraints in (20a,b): *S/~TOP<O/TOP(Anim)
Constraints in (20c): *S/~TOP=O/TOP(Anim) ] *S/~TOP≥O/TOP(Anim)
Constraints in (20d,e): *S/~TOP>O/TOP(Anim) ]

### 3.2 Conflict of Markedness and Faithfulness

Now consider how the markedness constraints derived through harmonic alignment and local conjunction interact with other constraints that play a role in pronominal systems. Those that are relevant for the present discussion are given in (22) and (23). The constraint in (22), proposed by Bresnan (1998a,b, 1999), is one instance of constraints on faithfulness to pronominal features in the input (PRO, AGR, TOP), which require these features to be preserved in the output pronominal expression. Opposing this faithfulness constraint is the markedness constraint in (23), also taken from Bresnan (1998a,b, 1999). This constraint

expresses the syntactically marked status of reduced pronominals (zero, bound, clitic or weak) from the point of view of iconicity and the avoidance of allotaxy.

(22) FAITH(TOP): Pronominal topicality feature in the input must be expressed by pronominal forms specialized for topic anaphoricity in the output form.

(23) *RED[PRO]: Avoid reduced expression of pronominals.

The constraints introduced so far are ranked in the following way in Kichaga:

(24) Ranking for Kichaga:
*S/~TOP<O/TOP(Anim) » FAITH(TOP) » *RED[PRO], *S/~TOP≥O/TOP(Anim)

The ranking of FAITH(TOP) above *RED[PRO] yields a pronominal inventory consisting of both reduced and free pronouns. Under this ranking the reduced form will be optimal for expressing topical content; the free pronoun remains optimal elsewhere (Bresnan 1998a,b, 1999). However, due to the high ranking markedness constraints, derived through hierarchy alignment and local conjunction, the contrast of free/reduced pronouns, even if preferred in the language elsewhere, will be avoided in highly marked objects (human objects) in the maximally marked clause types (clauses with non-topical inanimate subjects).

The consequences of this ranking are summarized in (25) and (26). As input to the evaluation module, I assume a predicate-argument structure, argument prominence, and a representation of morphosyntactic information, following Legendre et al. (1993), Aissen (1999a) and Sells (1999). In languages like English and the Bantu languages under discussion here, the passive is a better choice than the active when the patient (internal argument) is more prominent than the agent. The evaluation of a clause with a prominent beneficiary and theme (indicated in the input as BEN and TH respectively) and a non-prominent agent (indicated as ag) is shown in (25). Though active and passive clauses compete against each other in the universal candidate set (Legendre et al. 1993, Aissen 1999a, Sells 1999), I have omitted active candidates in the tableaux below for simplicity.

(25) Tableau 1. Differential object pronoun incorporation in Kichaga

| Input: BEN: [TOP, HUM, PRED: 'PRO']<br>TH: [INAN, PRED: 'food']<br>ag | *S/~TOP<O/TOP(Anim) | FAITH (TOP) | *RED [PRO] |
|---|---|---|---|
| a. *$NP_{SUBJ}$ $SM_{TH/INAN}$-$OM_{[PRO]/BEN/HUM}$-$V_{PAS}$<br>'The food is being eaten for him/her.' | *! | | |
| ☞b. $SM_{[PRO]/BEN/HUM}$-$V_{PAS}$ $NP_{TH/INAN/OBJ}$ | | | |
| c. $NP_{SUBJ}$ $SM_{TH/INAN}$-$OM_{BEN/HUM}$-$V_{PAS}$ $PRO_{OBJ}$ | | *! | |

In (25), candidate (a) is ruled out, due to the high ranking conjoined markedness constraint that penalizes an non-topical inanimate subject with a topical human object, expressed as an incorporated bound pronoun. This highly marked configuration requires an alternative passive construction available in symmetrical

object languages like Kichaga, that is, one that has a human reduced pronoun as a subject and an inanimate lexical NP as an object. Hence, candidate (b) is the optimal output that best satisfies the high-ranked constraints. For non-topical content, a candidate like (c) with the free pronoun object, unspecialized for topic anaphoricity, becomes optimal under the same ranking; see (26).

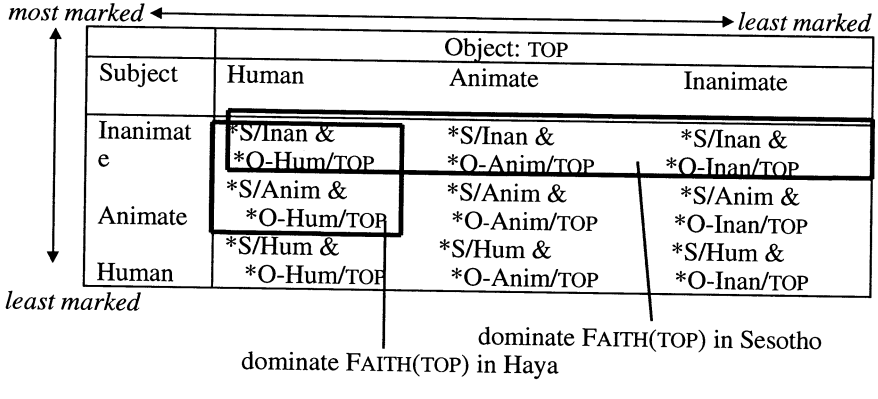
(26) Tableau 2. Emergence of the unmarked pronoun in non-topical content

| Input: BEN: [HUM, PRED: 'PRO']<br>TH: [INAN, PRED: 'food']<br>ag | *S/~TOP<O/TOP(Anim) | FAITH (TOP) | *RED [PRO] |
|---|---|---|---|
| a. *$NP_{SUBJ}$ $SM_{TH/INAN}$-$OM_{[PRO]/BEN/HUM}$-$V_{PAS}$<br>'The food is being eaten for him/her.' | *! | | |
| b. $SM_{[PRO]/BEN/HUM}$-$V_{PAS}$ $NP_{TH/INAN/OBJ}$ | | | * |
| ☞c. $NP_{SUBJ}$ $SM_{TH/INAN}$-$OM_{BEN/HUM}$-$V_{PAS}$ $Pro_{OBJ}$ | | | |

### 3.3 Crosslinguistic Variation in Differential Pronoun Incorporation

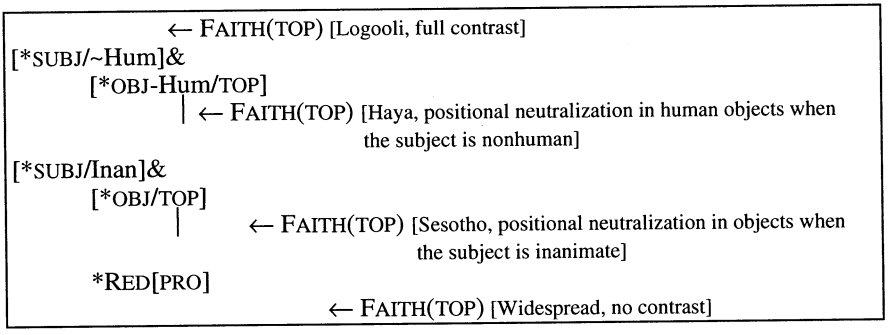
There is considerable variation in the strategies or factors influencing which pronominal arguments will be incorporated into a verb. For example, in Logooli, a dialect of Luhya, the animacy of arguments plays no role (Morolong and Hyman 1977; Hyman and Duranti 1982): a human pronoun can be freely incorporated into the passive form of a verb even when the subject is not human; in Sesotho (Morolong and Hyman 1977; Artstein 1998) no types of pronoun object can be incorporated into a passive verb form taking an inanimate subject irrespective of the topicality of subject; in Haya (Duranti and Byarushengo 1977: 66-68), a human object pronoun cannot be expressed as a pronominal object prefix when the passive subject is nonhuman regardless of the topicality of subject. The constraints needed to characterize the differential pronoun incorporation patterns in these languages are derived by local conjunction of the subhierarchies on the animacies of the subject and object and object topicality:

(27) Table 3. Subhierarchy on object pronoun incorporation based on animacy and topicality



The figure in (28) shows that interpolation of FAITH(TOP) above the constraints of (27) or between these results in different object pronoun incorporation systems. Promotion of FAITH(TOP) above all the markedness constraints introduced so far, for example, yields a language like Logooli, in which either free or incorporated pronouns can express a human object even in highly maked passive clauses with an inanimate subject. The demotion of FAITH(TOP) admits the neutralization of the free/reduced contrast in less marked situations. For example, ranking FAITH(TOP) between the constraints penalizing nonhuman subjects on the leftmost column of (27) and other constraints in (27) yields, a system in which the contrast of free/reduced pronouns is neutralized to the free pronoun in human objects when the (patient) subject is nonhuman, exactly the Haya system. Sesotho can be described by interpolating FAITH(TOP) between the constraints on the top row of (27), which exclude an inanimate subject, and other constraints in (27). Lastly, the ranking with all markedness constraints above FAITH(TOP) yields a system in which only free pronouns can express all argument types.

(28) Figure 2. Interpolation of FAITH(TOP) in the subhierarchies from (27)




A prediction that follows from the constraint interaction shown above is that no language can have the contrast of free and reduced pronouns exclusively in the context where a context-sensitive markedness constraint bans reduced pronouns, for example, in human objects. This seems to be correct, although further testing is required. Alternative theories which do not assume markedness to be the actual substance of the grammar would fail to derive this general prediction.

## 4. Conclusion

I have shown that the OT theory of markedness expresses the intuition that the more subject-like the object is, the less likely it is to be expressed by reduced pronominals, which are topic-oriented. This theory not only accounts for the universal basis of differential pronoun incorporation, but also permits for the range of language-particular variation that is observed.

In other symmetrical Bantu languages differential animacy is not a conditioning factor in differential object pronoun incorporation systems, and other

restrictions such as thematic prominence are operative. For example, in Kinyarwanda (Kimenyi 1980), Runyambo (Alsina 1994; Rugemalira 1993) and SiSwati (De Guzman 1987), the thematically higher of arguments (e.g. beneficiary) cannot be expressed as an OM in a passive form and can only be realized as a subject. This fact can be analyzed as reflecting a constraint which penalizes object pronoun incorporation when the object is more prominent than the subject at the level of argument structure.

The inability of certain argument types to be expressed as an OM in a passive, which seems to indicate that symmetrical object languages may have an asymmetrical passive, has been analyzed as relating to a property of the passive morpheme in pre-OT generative grammar (e.g. Woolford 1993). Space limitations prevent me from discussing this morpheme-based approach to object marking in a passive and contrasting it with the current approach, which treats the same phenomenon as a manifestation of a more general property of the grammatical system, i.e., markedness. However, the main difference between the two approaches becomes obvious once we take into account other related facts discussed in the present paper – the same pattern in object marking in passives and unaccusative verbs with two internal arguments in languages like Kichaga, and the animacy factor in pronoun incorporation. The facts about differential pronoun incorporation in languages outside the Bantu family will also help us decide which of the two approaches is to be preferred.

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