

Dual is Still More Marked Than Plural

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Abstract. Cowper (2005) claims that the plural category of number is more marked than dual, on grounds of explaining syncretism in Zuni pronominal forms. This claim goes against a wide range of typological, diachronic, and developmental evidence for the markedness of dual. However, Cowper's argument conflates markedness of a category with the notion of specification of vocabulary items. On a classical understanding of markedness, even the Zuni facts can be interpreted as evidence for the markedness of dual.

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1. Markedness

By Jakobson's definition of markedness, a marked category is one that is acquired later, more likely to be lost in language change, and typologically rarer (Trubetzkoy, 1941). Dual number clearly qualifies as marked by these criteria, as it is correctly mastered later than plural number (Ravid and Hayek (2003) on Palestinian Arabic), has been lost in many language families (Greek, Slavic), and is typologically rarer than plural number (Corbett, 2000). By Greenberg's definition of markedness, a marked category is one that implies the presence of the unmarked category (i.e. Universal 34: "The presence of dual implies the presence of plural (Greenberg, 1963)), and one that is frequently neutralized in certain environments, which can be observed in the Sámi facts discussed by Vinka (2001). According to Vinka, Sámi verbal agreement makes a dual-plural distinction for definite subjects:

- (1) Dat guokte mánat bohtiba deike.
 those two children.Nom come.Prs.Du here
 Those two children come here.
- (2) *Dat guokte mánat bohte deike.
 those two children.Nom come.Prs.Pl here
 Those two children come here.

However, this distinction is neutralized when the subject is indefinite, and plural agreement occurs for both dual and plural subjects.

- (3) *Guokte mánat bohtiba deike
 two children.Nom come.Prs.Du here
 Two children come here.
- (4) Guokte mánat bohte deike.
 two children.Nom come.Prs.Pl here

Two children come here.

Vinka interprets these facts as demonstrating that the marked category dual is neutralized in indefinite environments, a process which he implements through the feature-deleting operation of *impoverishment* (Bonet, 1991): in an indefinite environment, the marked feature distinguishing dual from plural is deleted, rendering verbal agreement for the two categories identical.

A final diagnostic for markedness is one echoed in both the work of Jakobson and Greenberg: that if a certain category is marked, then one will find fewer oppositions for other categories within it. For example, plural is more marked than singular, and one finds very little gender distinction in the plural in Russian, as opposed to the singular. Feminine is more marked than masculine, and one finds that English pronouns distinguish accusative from genitive case in the masculine (*him* vs. *his*), but not in the feminine (where both are *her*). First person is more marked than third, and one finds that no language exists in which gender distinctions are made for first person pronouns but not for third person pronouns Corbett (2000). We will call this source of markedness evidence *Marked Features Restrict Subdistinctions*.

Despite the massive evidence above that dual is more marked than plural, Cowper (2005) argues that the contrary is true, on the base of syncretism in the Zuni pronominal paradigm. It is the goal of this squib to show that the Zuni pronominal paradigm actually further upholds the traditional wisdom that dual is more marked than plural, as it exemplifies another case of *Marked Features Restrict Subdistinctions*.

2. Zuni

The relevant facts can be shown below, for the 2nd person pronoun forms.

		Obj	Possessive
(5)	dual	toʔnaʔ	toʔnaʔ
	plural	toʔnaʔ	toʔnʔa:wən

The form /toʔnaʔ/ is used for dual objective, dual possessive, and plural objective, while the form /toʔnʔa:wən/ is used for plural possessive only. Cowper interprets these facts as demonstrating that /toʔnaʔ/ is specified for the feature [>1] (meaning it is compatible with any non-singular features), while /toʔnʔa:wən/ is specified for the features [>1 , >2 , poss], meaning it is only compatible with plural possessive features.

Before discussing the features that distinguish dual and plural, however, let us take a step back. The relevant descriptive fact about the mini-paradigm in (5) is the following:

- (6) While Plural makes a distinction between Objective and Possessive Case forms, Dual does not make a distinction between Objective and Possessive Case forms.

This statement is true across the board in Zuni. It provides clear evidence for *Marked Features Restrict Subdistinctions*, and the specific conclusion that Dual is more marked than plural.

We have not yet discussed how *Marked Features Restrict Subdistinctions* is to be generally captured in a theory of inflectional morphology. Following the general line of argumentation developed by Bonet (1991); Noyer (1998); Bobaljik (2002); Bailyn and Nevins (2004); Harley (2004) and elsewhere, we can understand the systematic neutralization of subdistinctions in a category F as the result of an impoverishment rule. The idea is simple: just as Trubetzkoy (1969, p.213) argued that marked phonological positions may trigger neutralization rules (e.g. the marked environment of a coda triggers neutralization of [\pm voice]), in morphology, one may understand the marked environment of 1st person as triggering neutralization of [\pm feminine], or the marked environment of feminine as triggering neutralization of [\pm Genitive], and so forth. The specific impoverishment rule for Zuni will be one with the following characteristics:

- (7) In the marked environment of dual number, delete the features distinguishing objective from possessive.

With the inclusion of a specific implementation of (7), Zuni pronominal paradigms fit into a coherent picture of the markedness of dual number, to which all diagnostics for markedness point. It is precisely because dual number is marked that the process in (7) applies, yielding the paradigm in (5).

As a useful parallel, we may consider part of the English verbal agreement paradigm, which has a syncretism pattern that is formally identical to Zuni: four slots, three of which are covered by a single form.

	Singular	Plural
(8) 2nd	are	are
3rd	is	are

On the basis of (8), we would not want to conclude that 3rd person is more marked than 2nd. Rather, we might follow the general insight that *are* is the most general form of verbal agreement in English, and that there is something special (namely markedness) of the 2nd person that yields identical agreement for singular and plural. Halle (1997) provides an implementation of this insight by proposing that number features are systematically deleted in the 2nd person, thus yielding use of the general verbal form *are* for all

2nd person agreement, as well as 3rd person agreement. An exemplification is given below.

- (9) /am/ realizes 1st singular (e.g. [+Participant, +Author, +Singular])
 /is/ realizes 3rd singular (e.g. [-Participant, -Author, +Singular])
 /are/ is the elsewhere agreement
- (10) Delete the feature [\pm Singular] on Verbal Agreement in the environment of [+Participant, -Author]

The effect of (10) is that 2nd person agreement will be systematically identical for singular and plural. (Arguably, many learners have independent motivation for (10) on the basis of the fact that English pronouns do not distinguish 2nd person singular from plural (in dialects without *y'all* or *yinz*)). The paradigm in (8) can thus be understood as the result of a systematic impoverishment rule operating on 2nd person, and providing evidence for the fact that 2nd person is more marked than 3rd. As additional evidence by way of *Marked Features Restrict Subdistinctions*, witness the fact that 2nd person also does not distinguish gender.

In the next section, we turn to an implementation of (7), which requires a specific proposal about the featural distinction between dual and plural. However, the reader should keep in mind that alternative representations for the distinction between dual and plural will fare equally well in capturing (7) and establishing the general conclusion that the impoverishment rule occurs because dual is more marked than plural.

3. Number Features

I adopt the system of number features proposed in Harbour (2003, p.84ff), who extends and modifies the system developed in Noyer (1992). Singular and Plural are distinguished by the feature [\pm singular]. Languages that make an additional distinction between singular-dual-plural involve activation of the feature [\pm augmented]. The featural make-up of singular, dual, and plural is in (11), while the definition of the features is in (12).

- (11) a. [+F] = \neg [-F]
 b. Singular = [+singular, -augmented]
 c. Dual = [-singular, -augmented]
 d. Plural = [-singular, +augmented]
- (12) a. [+singular] holds of N if $|N| = 1$
 b. [+augmented] holds of N if $\exists N' \subset N, N' \neq \emptyset$, such that [A] holds of N'

As for markedness, I propose the following two markedness statements:

- (13) a. [–singular] is the marked value (an instance of context-free markedness)
 b. [–augmented] is marked in the environment of [–singular] (a instance of context-sensitive markedness)

In the approach to context-sensitive markedness proposed by Noyer (1992); Calabrese (1995, 2005), note that (13-b) could be implemented by adopting a UG filter *[-singular, –augmented], which needs to be deactivated in the case of languages that adopt dual number.

Let us also assume that masculine-feminine gender systems are distinguished by [± feminine], or which [+feminine] is the marked value. Finally, while there has been little research on Case features for a three-way system such as Zuni, let us adopt the following features: [± Superior], [± Oblique] (following Halle and Vaux (1997)), of which [–Superior] and [+Oblique] are the marked values, respectively.

- (14) a. Nominative = [+Superior, –Oblique]
 b. Accusative = [–Superior, –Oblique]
 c. Possessive = [–Superior, +Oblique]

We may now adopt the following impoverishment rules

- (15) English: In the environment of marked [+feminine] and marked [-Nominative], delete the feature [± Oblique]
 (16) Zuni: In the environment of marked [-augmented] and marked [-Nominative], delete the feature [± Oblique]

The rule in (15) accounts for English accusative-possessive syncretism in the feminine gender: *her* is specified only as [+Feminine, -Nominative]. The rule in (16) accounts for the Zuni accusative-possessive syncretism in the dual number: *toʔnaʔ* is specified as [–Singular, –Nominative] and *toʔnaʔa:wan* is specified as [–Singular, +Augmented, –Nominative, +Oblique].

Employing impoverishment rules such as (16) accounts for systematic neutralization of Case distinctions in the marked category dual and integrates markedness of dual on both language-wide scales (for languages that lack dual altogether) with markedness of dual on a language-internal scale (for languages that neutralize dual in certain environments, such as Sámi, or languages that neutralize other features within dual, such as Zuni). As a final demonstration of the coherence of the feature system adopted here, let us examine the constructed duals of Hopi (Noyer, 1992; Cowper, 2005; Harley and Ritter, 2002):

- (17) Pam wari
 He ran-sg

- (18) Puma yúutu
They ran-pl
- (19) Puma wari
They ran-sg
“They (two) ran-dual”

Recalling the feature specifications in (11), this is an instance of syncretism: /puma/ is specified as [-singular], and /wari/ is specified as [-augmented]. For an extended exemplification of the constrained typological space yielded by the features [\pm singular] and [\pm augmented] in more complex number systems including paucal number distinctions, the reader is referred to Harbour (2003).

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