Markedness in Morphosyntactic Feature Geometries
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Phi Workshop, McGill, August 2004

1. Markedness in Number Systems

Greenberg (1963): The presence of distinctive dual number in a given language entails the presence of distinctive plural number.

### Harley (1994):

(1) a. Two-way system

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b. Three-way system

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<tr>
<th>Singular</th>
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<tr>
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<td>Plural</td>
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### Harley and Ritter (2002):

(2) a. Two-way system

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<tr>
<th>Singular</th>
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b. Three-way system

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
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<tr>
<td></td>
<td>Group</td>
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<td>Minimal</td>
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<td></td>
<td>Group</td>
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<td></td>
<td>Minimal</td>
<td>Augmented</td>
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</table>

c. Four-way system

### Cowper (to appear):

(3) a. Two-way system

<table>
<thead>
<tr>
<th>Singular</th>
<th>Plural</th>
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<tr>
<td>&gt;1</td>
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b. Three-way system

<table>
<thead>
<tr>
<th>Singular</th>
<th>Dual</th>
<th>Plural</th>
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<tr>
<td>&gt;1</td>
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<tr>
<td></td>
<td>&gt;1</td>
<td>&gt;2</td>
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<td></td>
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<td>&gt;3/&gt;few</td>
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</tbody>
</table>

c. Four-way system
1.1 A Problem for (1): the constructed dual

(4) Hopi (Corbett 2000:169)
   a. pam wari
      that.SG run.PERFV.SG
      ‘He/she ran.’
   b. puma yúutu
      that.PL run.PERFV.PL
      ‘They (pl) ran.’
   c. puma wari
      that.PL run.PERFV.SG
      ‘They (two) ran.’

(5) Zuni (Corbett 2000:170)
   a. ho? ?aːː-kya
      1 go-PAST
      ‘I went.’
   b. hon ʔaː-w-aː-kya
      1-PL.NOM PL-go-PAST
      ‘We went.’
   c. hon ʔaː-kya
      1-PL.NOM go-PAST
      ‘We (two) went.’

The constructed dual under (2):

(6) Subject   Verb
    #  #
      Group Minimal

An unattested system permitted by (2):

(7) Singular   Plural
    #  #
      Minimal Group

Interpretation depends on contrasts in the system:

(8) a. Three-vowel system
    b. Five-vowel system

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<tr>
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<tbody>
<tr>
<td>i</td>
<td>u</td>
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<td>[Back]</td>
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<td>a</td>
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<td>[Low]</td>
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<tr>
<td>[High]</td>
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<td>e</td>
<td>o</td>
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<tr>
<td>[Back, High]</td>
<td></td>
</tr>
<tr>
<td>a</td>
<td></td>
</tr>
<tr>
<td>[Low]</td>
<td></td>
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</tbody>
</table>
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• /o/ appears only when /u/ appears. But when /o/ appears, it is less marked than /u/. (analogous to dual in (3)).
• /u/ is characterized by one feature in a three-vowel system, and by two features in a five-vowel system. (analogous to plural in (3)).
• [back] characterizes /u/ in 3-vowel system, /o/ in 5-vowel system. (analogous to [>1] in (3)).

Corbett (2000:41): “[T]he meaning of ‘plural’ will vary according to the system of which it is a part.”
What does marked mean? Rice (1999):

(9) marked  unmarked
less natural  more natural
more complex  simpler
more specific  more general
less common  more common
unexpected  expected
not basic  basic
less stable  stable
appear in few grammars  appear in more grammars
later in language acquisition  earlier in language acquisition
subject to neutralization  result of neutralization
early loss in language deficit  late loss in language deficit
implies unmarked feature  implied by marked feature
harder to articulate  easier to articulate
perceptually more salient  perceptually less salient

Back to the constructed dual:

(10) a. ho? ?a:-kya
    Subject  Verb
    1 go-PAST # #
    ‘I went.’

b. hon ?a:-kya
    Subject  Verb
    1.PL.NOM go-PAST # #
    ‘We (two) went.’

    >1  >1

c. hon ?a:w-a:-kya
    Subject  Verb
    1-PL.PL-go-PAST # #
    ‘We went.’

    >1  >1

    >2

“Plural” VI in the pronoun system spells out [>1], giving a dual/plural syncretism. The unmarked form thus spells out only singular.

“Plural” VI in the verbal system spells out [>2], and is thus inserted only in the plural. The unmarked form is thus syntactic between singular and dual.

Conclusion: the system in (3) provides a better account of the constructed dual than either (1) or (2) does.

Unanswered question (see also Bliss 2004): Why is it that in all observed instances of the constructed dual, it’s always the subject that looks as though it’s plural, and the verb that looks as though it’s singular?

Non-answer: there are only a couple of such cases known. It could easily be an accident.
1.2• Triangular syncretisms in Zuni pronouns: more evidence for (3):

<table>
<thead>
<tr>
<th></th>
<th>Subject</th>
<th>Object</th>
<th>Possessive</th>
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<tbody>
<tr>
<td></td>
<td>Medial</td>
<td>Final</td>
<td>Medial</td>
</tr>
<tr>
<td>Sg</td>
<td>ho?</td>
<td>ho:?o</td>
<td>hom</td>
</tr>
<tr>
<td>Pl</td>
<td></td>
<td></td>
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<tr>
<td>Sg</td>
<td>to?</td>
<td>to:?o</td>
<td>tom</td>
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<tr>
<td>Du</td>
<td>ton</td>
<td>to:?no</td>
<td>to?na?</td>
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<td>Pl</td>
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<tr>
<td>Sg</td>
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<td></td>
<td>?an</td>
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<tr>
<td>Du</td>
<td>--</td>
<td></td>
<td>?a:čiya?</td>
</tr>
<tr>
<td>Pl</td>
<td></td>
<td></td>
<td>?a:wan</td>
</tr>
</tbody>
</table>

**Person and Case features:** (Harley and Ritter 2002, Cowper to appear)

(12) a. Person:  
   | 3 | 1 | 2 |
   | Participant | Participant | Addressee |
   | Subject | Object | Possessive |
   | K | K | Nonsubject |
   | K | Nonsubject | Marked |

**Triangular syncretism under (3):**

(13) a. ho?n?a:wan: R  
    Part # K  
    >1 Nonsubj  
    >2 Marked  

b. to?n?a:wan: R  
    Part # K  
    Addr >1 Nonsubj  
    >2 Marked  

Compatible only with possessive plural.

(14) a. ho?na?: R  
    Part # K  
    >1 Nonsubj  

b. to?na?: R  
    Part # K  
    Addr >1 Nonsubj  

Compatible with objective/possessive dual/plural. Blocked in possessive plural by the forms in (13)
Triangular syncretism under (2):

(15) a. hoʔnʔa:wan  R  b. toʔnʔa:wan  R

\[\begin{array}{c|c}
\text{Part} & \# \\
\hline
\text{Group} & \text{Nonsubj} \\
\text{Marked} & \\
\end{array}\]

Compatible with possessive dual/plural.


\[\begin{array}{c|c}
\text{Part} & \# \\
\hline
\text{Group} & \text{Nonsubj} \\
\end{array}\]

Compatible with objective/possessive dual/plural. Blocked in possessive by (15).

Problem: Possessive Dual. (15) is a closer match than (16). This account wrongly predicts that hoʔnʔa:wan/toʔnʔa:wan should be inserted.

Conclusion: The features \([>1]\) and \([>2]\) give a more elegant account of the Zuni pronoun system than do the features \([\text{Group}]\) and \([\text{Minimal}]\).

1.3 Diachronic considerations

Loss of number distinctions under (2):

(17) a. Four-way system:

\[
\begin{array}{cccc}
\text{Singular} & \# & \text{Dual} & \# & \text{Trial/Paucal} & \# & \text{Plural} & \# \\
\hline
\text{Minimal} & & \text{Minimal} & \text{Group} & \text{Minimal} & \text{Group} & \text{Group} & \\
\end{array}
\]

b. Three-way system

\[
\begin{array}{cc}
\text{Singular} & \# \\
\hline
\text{Minimal} & \text{Minimal} \\
\end{array}
\]

Plural

\[
\begin{array}{c}
\# \\
\text{Group} \\
\end{array}
\]

c. Two-way system

\[
\begin{array}{c}
\text{Singular} \\
\hline
\text{Minimal} \\
\end{array}
\]

Plural

\[
\begin{array}{c}
\# \\
\text{Group} \\
\end{array}
\]
Loss of number distinctions under (3):

(18) a. Four-way system

<table>
<thead>
<tr>
<th>Singular</th>
<th>Dual</th>
<th>Trial/Paucal</th>
<th>Plural</th>
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<tbody>
<tr>
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<td>#</td>
<td>#</td>
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<td>&gt;1</td>
<td>&gt;1</td>
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1.3.1 Loss of Plural forms

• Austronesian languages: older trial/quadrupal/paucal forms survive as plural forms. (Capell 1971, Corbett 2000)

• Mokilese: older trial form survives as plural; older plural form survives as “remote/greater plural” (Corbett 2000: 34)

(19) | Singular      | Dual  | Plural  | Remote/ greater plural |
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>1ex ngoah, ngoahi</td>
<td>kama</td>
<td>kamai</td>
<td>kimi</td>
</tr>
<tr>
<td>1incl —</td>
<td>kisa</td>
<td>kisai</td>
<td>kihs</td>
</tr>
<tr>
<td>2 koah, koawoa</td>
<td>kamwa</td>
<td>kamwai</td>
<td>kimwi</td>
</tr>
<tr>
<td>3 ih ara, ira</td>
<td>arai, irai</td>
<td></td>
<td>ihr</td>
</tr>
</tbody>
</table>

Account under (3)

• Loss of plural, reanalysis of trial as plural:
  - The feature [>3] is lost, along with the VI spelling it out (i.e. the old plural form). In the absence of a contrast between [>2] and [>2,>3], [>2] is automatically reinterpreted as plural. The VI spelling out [>2] thus automatically becomes the new plural marker.

• Mokilese:
  - The VI spelling out [>3] acquires a new marked feature, [Distal]. It thus can’t be used except for pronouns referring to remote groups. The best match for [>3] without [Distal] is now the VI spelling out [>2], i.e. the old trial marker. It thus automatically becomes the new plural marker for non-remote DPs.
Account under (2)

- Loss of plural, reanalysis of trial as plural:
  - The feature [Augmented] is lost, but not the VI that spells it out.
  - That VI is reanalysed, so as to spell out just the feature [Group] (note: this also requires the VI to lose the feature [Minimal]).
  - The old VI spelling out [Group] is lost.

- Mokilese:
  - The VI spelling out [Group] acquires a new marked feature, Distal, giving VIs as follows:

\[
\begin{array}{cccc}
\text{Singular} & \text{Dual} & \text{Trial} & \text{Remote Plural} \\
R & R & R & R \\
\# & \# & \# & \# \\
\text{Minimal} & \text{Minimal} & \text{Group} & \text{Group} \\
\text{Augmented} & \\
\end{array}
\]

Not clear what would happen next. For trial to take over as the best match for [Group] without [Distal], it would have to lose both [Augmented] and [Minimal]. Not clear why dual wouldn’t take over rather than trial.

1.3.2 Loss of Dual forms (Arabic, Slavic)

Dual form lost, except for nouns more often used in the dual (eye, hand, knee, etc.)

Surviving dual forms not true duals, rather “pseudo-duals” with plural meaning. No contrast with true plural.

“The modern number system distinguishes singular and plural, with relics of the Old Polish dual preserved in the declension of reka ‘hand’, ucho ‘ear’, oko ‘eye’ and dwa ‘2’. A few dialects preserve dual forms with dual meaning (mostly in conjugation); much more common are remnants of dual endings with plural meaning.” (Rothstein 1993:696)

Account under (2):

Loss of [Minimal] as a marked feature. Leaves only two sorts of structures to be spelled out: those with unmarked #, and those with [Group]. Old plural form still spells out plural.

Have to assume that [Minimal] also lost from representation of Singular VI, so that it can be inserted to spell out bare #.

If [Minimal] also lost from representation of Dual VI, then a second plural VI is created. Frequency could decide which of the two plural forms survives.

Account under (3):


As with (2), have to assume that [>2] is lost from representation of Plural VI, creating a second form spelling out only [>1]. Frequency determines which of these [>1] VIs survives.
Proposal: two kinds of feature loss:

- Loss of a feature from the syntax, and of the VIs that distinctively spell it out (Austronesian).
- Loss of a feature from both the syntax and from the VIs, giving synonymy, with the resulting frequency effects.

Conclusion: The system in (3) provides a better account of the collapse of number systems than does the system in (2).

1.4 Reduced contrast: impoverishment

Old Church Slavonic: fewer case distinctions in the dual than in the plural:

<table>
<thead>
<tr>
<th></th>
<th>Sing.</th>
<th>Dual</th>
<th>Plur.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nom.</td>
<td>-U, -i</td>
<td>-a</td>
<td>-i, -ê</td>
</tr>
<tr>
<td>Acc.</td>
<td>-o, -ê</td>
<td>-a</td>
<td>-a, -i</td>
</tr>
<tr>
<td>Gen.</td>
<td>-e, -ê</td>
<td>-a</td>
<td>-U, -e</td>
</tr>
<tr>
<td>Loc.</td>
<td>-ê, -ê</td>
<td>-u</td>
<td>-axU, -ixU</td>
</tr>
<tr>
<td>Dat.</td>
<td>-ê, -ê</td>
<td>-oma, ema</td>
<td>-omU, -emU, -amU</td>
</tr>
<tr>
<td>Inst.</td>
<td>-o, -ê</td>
<td>-ejô, -ejô</td>
<td>-â, -ê</td>
</tr>
</tbody>
</table>

Under (2): Impoverishment of case features due to complexity of number features.
Under (3): Impoverishment of case features due to low frequency of dual forms.

2. Markedness in Gender systems: a first step

(22) Neuter       Masculine       Feminine
Class
|       |       |       |
| Animate | Animate | Feminine |

(23) Masculine       Neuter       Feminine
Class
|       |       |       |
| Gender | Gender | Feminine |

2.1 Synergetisms in Old Church Slavonic

- predominantly masculine-neuter and neuter-feminine, though there is one masculine-feminine syncretism.
2.2 The Constructed Neuter in Romanian

(24) a. Nouns triggering masculine agreement on predicate adjectives in both the singular and the plural.
   b. Nouns triggering feminine agreement on predicate adjectives in both the singular and the plural.
   c. Nouns triggering masculine agreement on predicate adjectives in the singular, and feminine agreement in the plural.

(25) a. bărbațul e bun  
    man.the is good+ø  
    ‘The man is good.’

   b. bărbații sînt buni  
    men.the are good+i  
    ‘The men are good.’

(26) a. fată e bună  
    girl.the is good+a  
    ‘The girl is good.’

   b. fetele sînt bune  
    girls.the are good+e  
    ‘The girls are good.’

(27) a. scaunul e bun  
    chair.the is good  
    ‘The chair is good.’

   b. scaunele sînt bune  
    chairs.the are good+e  
    ‘The chairs are good.’

VIs: ø: unmarked
  -i: [>1]
  -a: [Feminine] (isolates feminine in singular)
  -e: [>1, Gender] (gives neuter-feminine syncretism in plural)

(28) a. bărbațul |  
    bun+ø  
    #  
    #  
    Class  
    Class

   b. bărbații |  
    bun+i  
    #  
    >1  
    #  
    Class  
    Class

(29) a. fată |  
    bună  
    #  
    #  
    Class  
    Class

   b. fetele |  
    bun+e  
    #   
    >1  
    #  
    Class  
    Class

(30) a. scaunul |  
    bun+ø  
    #  
    #  
    Class  
    Class

   b. scaunele |  
    bun+e  
    #  
    >1  
    #  
    Class  
    Class

Conclusion: (23) provides a better account of Romanian gender marking than (22) does.

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References
