Markedness in Morphosyntactic Feature Geometries

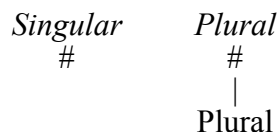Elizabeth Cowper, University of Toronto   Phi Workshop, McGill, August 2004

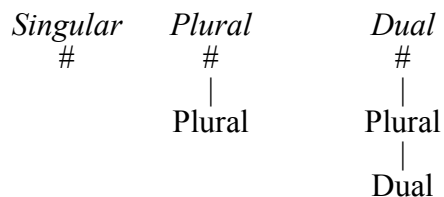## 1.   Markedness in Number Systems

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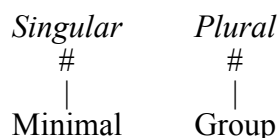

Harley (1994):

(1)   a. Two-way system

Singular	Plural
#	#
	Plural

b.   Three-way system

Singular	Plural	Dual
#	#	#
	Plural	Plural
		Dual

Harley and Ritter (2002):

(2)   a. Two-way system

Singular	Plural
#	#
<u>Minimal</u>	Group

b.   Three-way system

Singular	Plural	Dual
#	#	#
Minimal	Group	Minimal Group

c.   Four-way system:

Singular	Plural	Dual	Trial/Paucal
#	#	#	#
Minimal	Group	Group Minimal	Group Minimal
			Augmented
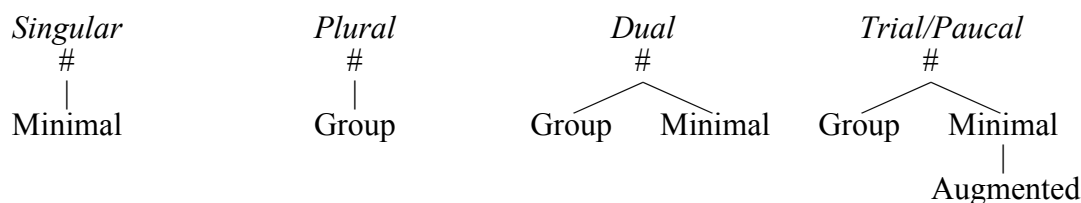
Cowper (to appear):

(3) a. Two-way system:

Singular	Plural
#	#
	>1

b.   Three-way system:

Singular	Dual	Plural
#	#	#
	>1	>1
		>2

c.   Four-way system

Singular	Dual	Trial/Paucal	Plural
#	#	#	#
	>1	>1	>1
		>2	>2
			>3/>few
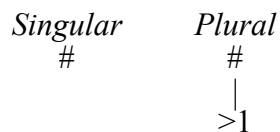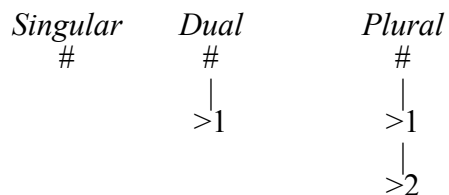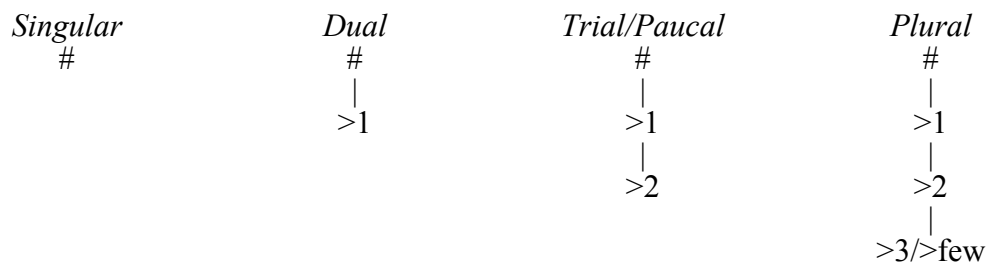
1.1   A Problem for (1): the constructed dual

(4) Hopi (Corbett 2000:169)

    a.   pam   wari
          that.SG   run.PERFV.SG
          'He/she ran.'
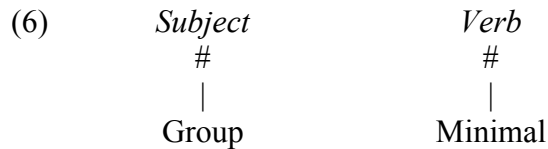
    b.   puma   yúutu
          that.PL   run.PERFV.PL
          'They (pl) ran.'

    c.   puma   wari
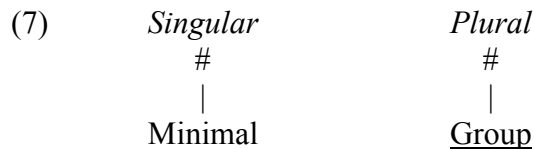   that.PL   run.PERFV.SG
          'They (two) ran.'

(5) Zuni (Corbett 2000:170)

    a.   hoʔ ʔaː-kya
          1   go-PAST
          'I went.'

    b.   hon   ʔaːw-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

i	u [Back]
a [Low]	

i [High]	u [Back, High]
e	o [Back]
a [Low]	

- /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) <u>marked</u>   <u>unmarked</u>
     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. hoʔ ʔaː-kya   Subject   Verb
         1 go-PAST   #   #
         'I went.'

     b. hon ʔaː-kya   Subject   Verb
         1.PL.NOM go-PAST   #   #
         'We (two) went.' | |
                                     >1   >1

     c. hon ʔaːw-aː-kya   Subject   Verb
         1-PL PL-go-PAST   #   #
         'We went.' | |
                                     >1   >1
                                      | |
                                     >2   >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 syncretic 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.
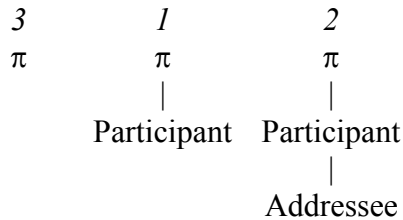
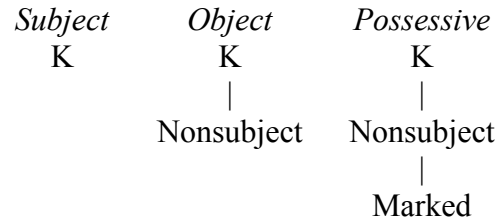## 1.2• Triangular syncretisms in Zuni pronouns: more evidence for (3):

(11)

		Subject		Object	Possessive	
		Medial	Final	Medial	Medial	Final
1st	Sg	hoʔ	hoːʔo	hom		homma
	Du	hon	hoʔno	**hoʔnaʔ**		
	Pl				**hoʔnʔaːwan**	
2nd	Sg	toʔ	toːʔo	tom		tomma
	Du	ton	toʔno	**toʔnaʔ**		
	Pl				**toʔnʔaːwan**	
3rd	Sg			ʔan		ʔaːni
	Du	--		ʔaːčiyaʔ		
	Pl			ʔaːwan		

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

(12) a. Person:

```
    3        1          2
    π        π          π
             |          |
        Participant  Participant
                        |
                    Addressee
```

b. Case:

```
   Subject      Object      Possessive
     K            K             K
     |            |             |
              Nonsubject    Nonsubject
                                |
                             Marked
```
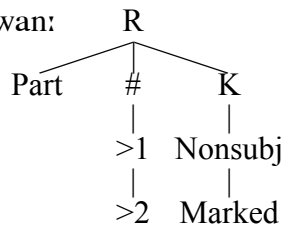
Triangular syncretism under (3):

(13) a. hoʔnʔaːwan:

```
            R
      ┌─────┼─────┐
    Part    #     K
            |     |
           >1  Nonsubj
            |     |
           >2  Marked
```

b. toʔnʔaːwan:

```
            R
      ┌─────┼─────┐
    Part    #     K
      |     |     |
     Addr  >1  Nonsubj
            |     |
           >2  Marked
```
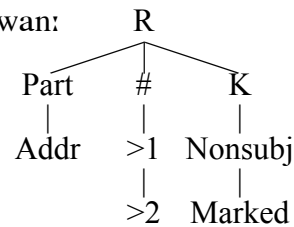
Compatible only with possessive plural.

(14) a. hoʔnaʔ:

```
            R
      ┌─────┼─────┐
    Part    #     K
            |     |
           >1  Nonsubj
```

b. toʔnaʔ:

```
            R
      ┌─────┼─────┐
    Part    #     K
      |     |     |
     Addr  >1  Nonsubj
```
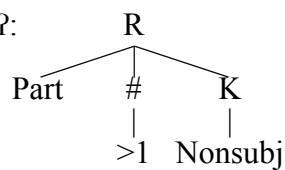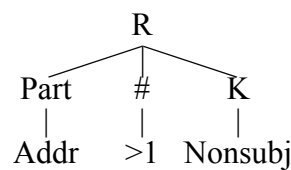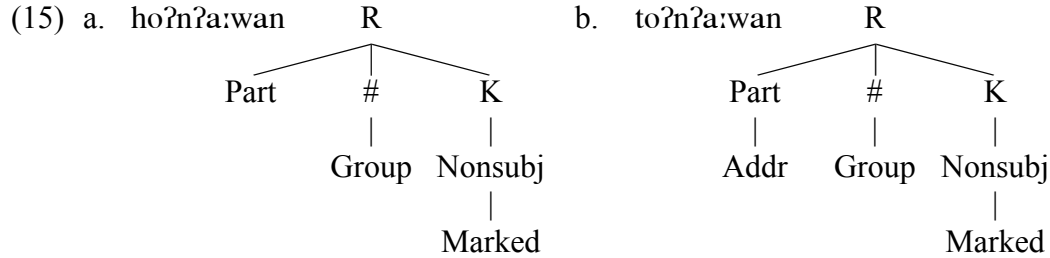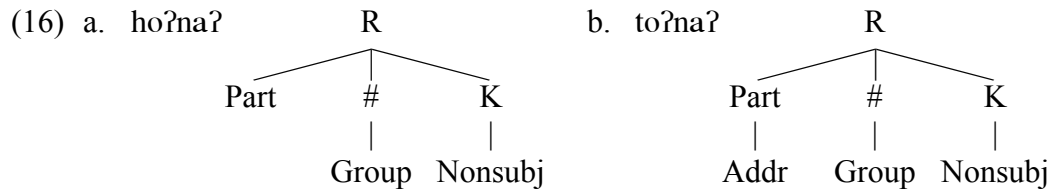
Compatible with objective/possessive dual/plural. Blocked in possessive plural by the forms in (13)

Triangular syncretism under (2):

(15) a. hoʔnʔaːwan

```
              R
      ┌───────┼───────┐
    Part      #        K
              |        |
            Group   Nonsubj
                       |
                    Marked
```

b. toʔnʔaːwan

```
              R
      ┌───────┼───────┐
    Part      #        K
      |       |        |
    Addr    Group   Nonsubj
                       |
                    Marked
```

Compatible with possessive dual/plural.

(16) a. hoʔnaʔ

```
              R
      ┌───────┼───────┐
    Part      #        K
              |        |
            Group   Nonsubj
```

b. toʔnaʔ

```
              R
      ┌───────┼───────┐
    Part      #        K
      |       |        |
    Addr    Group   Nonsubj
```
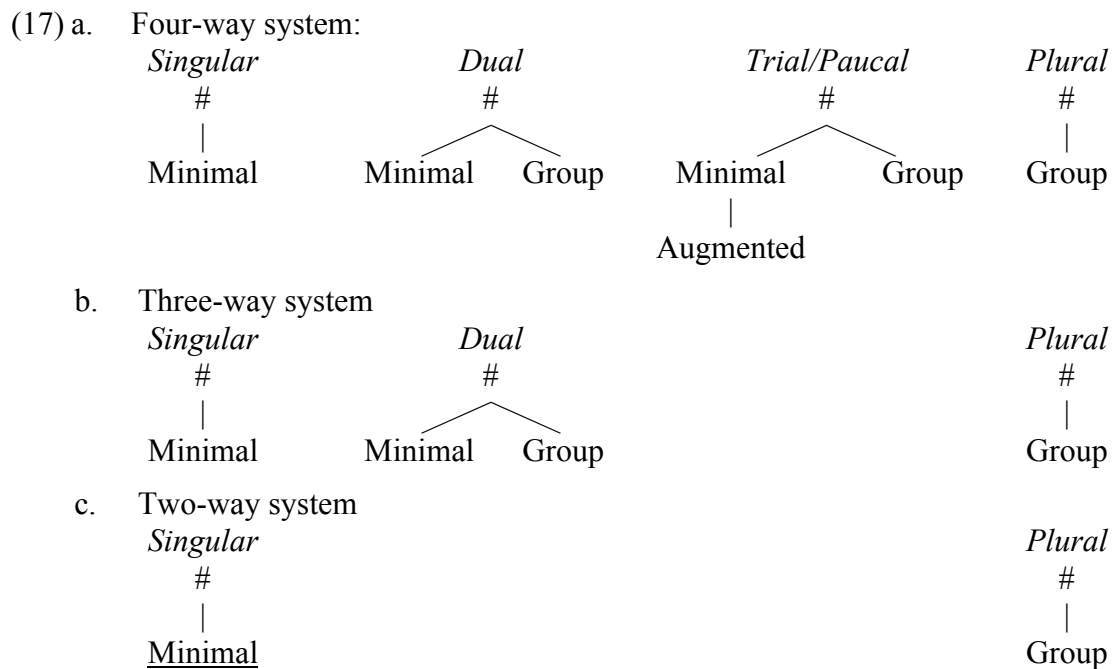
Compatible with objective/possessive dual/plural. Blocked in possessive by (15).

Problem: Possessive Dual. (15) is a closer match than (16). This account wrongly predicts that *hoʔnʔaːwan/toʔnʔaːwan* should be inserted.

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

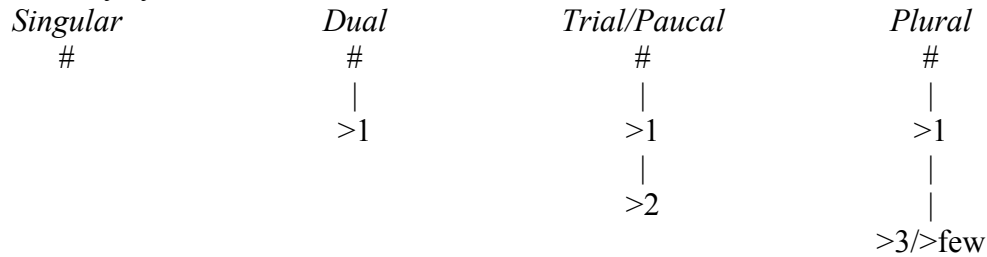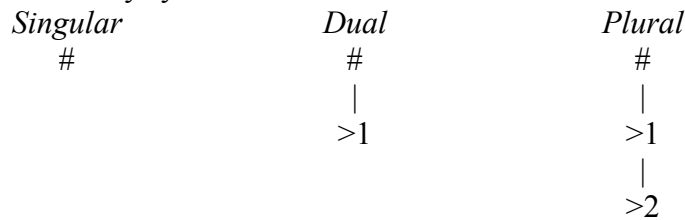## 1.3   Diachronic considerations

Loss of number distinctions under (2):

(17) a.   Four-way system:

```
   Singular           Dual            Trial/Paucal         Plural
      #                 #                  #                  #
      |              ┌──┴──┐            ┌──┴──┐               |
   Minimal       Minimal  Group     Minimal   Group        Group
                                        |
                                    Augmented
```

b.   Three-way system

```
   Singular           Dual                                 Plural
      #                 #                                     #
      |              ┌──┴──┐                                  |
   Minimal       Minimal  Group                            Group
```

c.   Two-way system

```
   Singular                                               Plural
      #                                                     #
      |                                                     |
   Minimal                                                Group
```

Loss of number distinctions under (3):

(18) a. Four-way system

Singular	Dual	Trial/Paucal	Plural
#	#	#	#
	>1	>1	>1
	>2		
			>3/>few

   b. Three-way system

Singular	Dual	Plural
#	#	#
	>1	>1
	>2	

   c. Two-way system

Singular	Plural
#	#
	>1
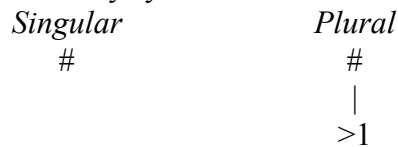
1.3.1   Loss of Plural forms

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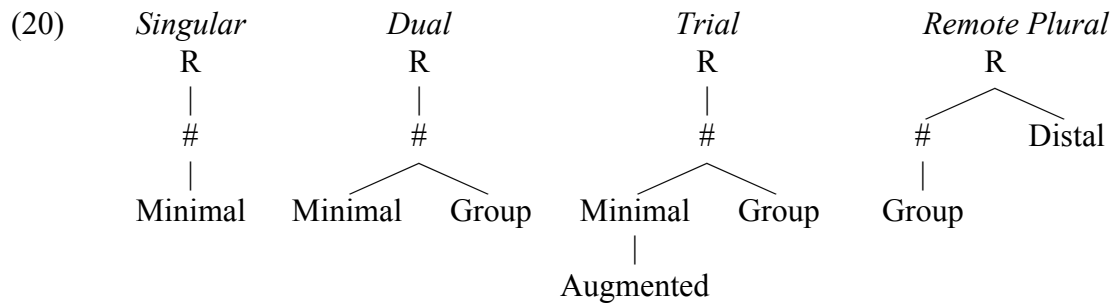
(19)	Singular	Dual	Plural	Remote/ greater plural
1ex	ngoah, ngoahi	kama	kamai	kimi
1incl	—	kisa	kisai	kihs
2	koah, koawoa	kamwa	kamwai	kimwi
3	ih	ara, ira	arai, irai	ihr

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:

(20)   *Singular*   *Dual*   *Trial*   *Remote Plural*
              R   R   R   R
              | | | ╱╲
              #   #   #   #   Distal
              | ╱╲   ╱╲ |
          Minimal   Minimal   Group   Minimal   Group   Group
                                                                 |
                                                            Augmented

   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):

   Loss of [>2] as a marked feature.

   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).
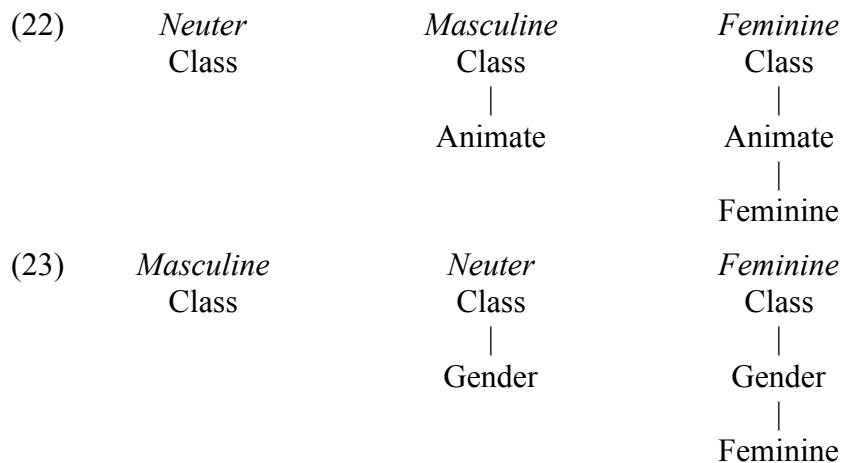
1.4 Reduced contrast: impoverishment

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

(21)	Sing.			Dual			Plur.		
	masc.	neut.	fem.	masc.	neut.	fem.	masc.	neut.	fem.
Nom.	-U, -I	-o, -e	-a	-a	-æ,-i		-i	-a	-ɨ, -ẽ
Acc.			-õ				-ɨ, -ẽ		
Gen.	-a		-ɨ, -ẽ	-u			-U, -I		
Loc.	-æ, -i						-æxU,-ixU		-axU
Dat.	-u		-æ, -i	-oma, ema		-ama	-omU,-emU		-amU
Inst.	-omI, -emI		-ojõ, -ejõ				-ɨ,-i		-ami

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   Class   Class
                          | |
                        Animate   Animate
                                              |
                                            Feminine

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

2.1 Syncretisms 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. bărbatul e bun   b. bărbaţii sînt buni
        man.the is good+ø   men.the are good+i
        'The man is good.'   'The men are good.'

(26) a. fată   e   bună   b. fetele   sînt   bune
        girl.the is   good+a   girls.the are   good+e
        'The girl is good.'   'The girls are good.'

(27) a. scaunul e bun   b. scaunele sînt bune
        chair.the is   good   chairs.the are good+e
        'The chair is good.'   '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.

(29) a.

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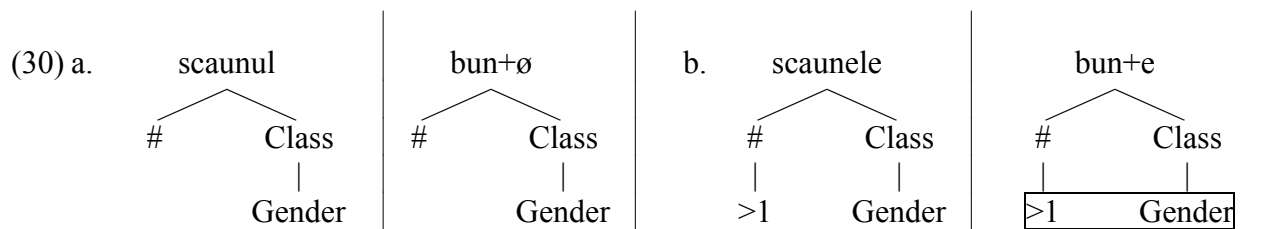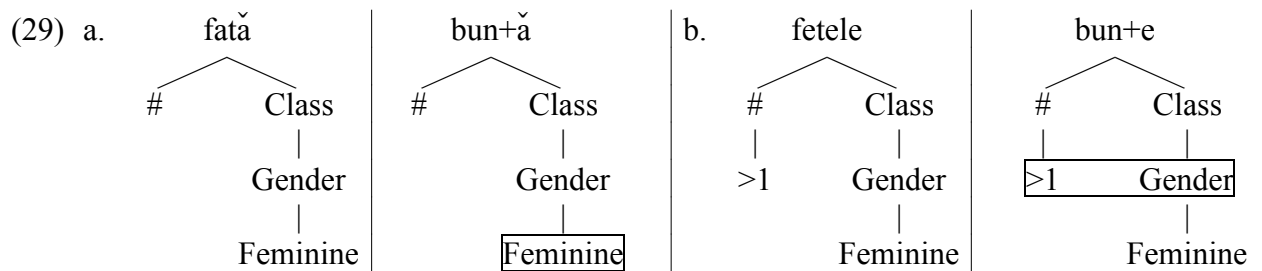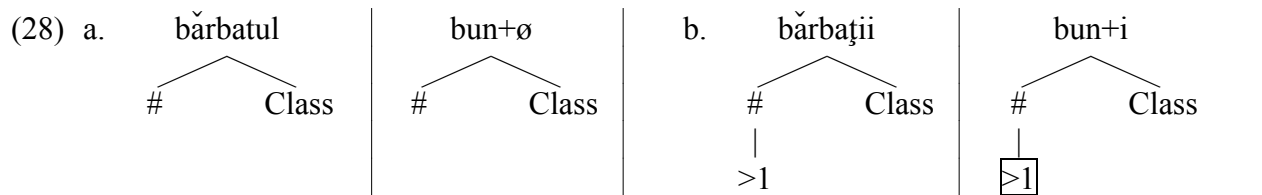
Conclusion: (23) provides a better account of Romanian gender marking than (22) does.

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