Fatima Ijaz, Muhammad Raihan Moin

Gender and Number Generation of Urdu Nouns

Abstract: *This paper serves as the source to provide the information that how the process of gender (masculine, feminine) and number (singular, plural) formation of nouns varies due to phonological rules in the Urdu language.*

Keywords: *Gender, Number Generation*

1. INTRODUCTION

Gender and number plays a very important role in the language. The meaning of a sentence can change completely due to change in either gender or number. Gender (masculine, feminine) and number (singular, plural) distinctions are made in most of the languages but the linguistic distinction in Asian languages, especially in Urdu, is far different from other languages like English, French etc. Gender and number study is already done in many of the languages like English, French etc. Although these studies do not apply to Urdu language but it helps us to work on this issue.

The discussion comprises of our study and its results in the perspective of formation of feminine noun from a masculine noun and plural noun from a singular noun. Some work has already been done on this issue in Urdu but it is somewhat different from our analysis as the earlier studies emphasize on the types of classes formed by the words undergoing same morphological change. In spite of it, we are getting into the phonological study of these classes to find further phonetic distinction within the class. Our objective is to find the exceptions in the predefined different classes and derive the phonological rules that are able to explain those exceptions.

2. LITERATURE REVIEW

2.1 Gender Conversion

The gender is usually characterized in three types namely masculine, feminine and neuter. Many languages like English, Swedish follow this classification but Urdu does not have neuter classification.

The rules that are able to convert the gender of a noun have been formalized by some authors. These classifications are mainly done on the basis of suffixes. Only those classes of noun have been listed in which we have found some words that do not exactly follow the class rule for gender conversion from masculine to feminine. The classes are discussed in (Nadeem, 2000), (Rafique), (Shadani, Zia). The remaining classes are not listed here and can be found in the references.

1). Class A

Class A includes some of the native nouns as well as borrowed nouns that Urdu has inherited from Hindi, Persian and Turkish etc. The conversion from masculine to feminine is done by deletion of the vowel '□' from the word final position and insertion of the vowel 'i at the word final position. Examples are shown in Table1. The underlying rule of last syllable for this class (G1) is:

. C □ # → . Ci# (G1)

Table 1 Class A Examples

ƀ□k□ → ƀ□ki	n□n□ → n□ni
bət□t□□ → bət□t□i	□□or□ → □□ori
bəkr□ → bəkri	d□d□ → d□di

2). Class B

Class B also includes some of the native nouns as well as borrowed nouns that Urdu has inherited from Hindi, Persian and Arabic etc. The conversion from masculine to feminine takes place by deletion of the vowel 'i or '□' from the word final position and insertion of 'ən' at the word final position. Examples are shown in Table 2.The underlying rule for last syllable (G2) is:

. CV # → . Cən # [where V → □, i] (G2)

Table 2 Class B Examples

b□ən□i→ b□ən□ən	□əv□ƀ → □əv□ƀn
d□obi → d□obən	d□ƀ□ → d□ƀən

3). Class C

Class C includes most of the nouns that Urdu has inherited from Arabic. The conversion from masculine to feminine takes place by insertion of '□ni at the word final position. Examples are shown in Table 3.The underlying rule for last syllable (G3) is:

$$. C_1VC_2 \# \rightarrow C_1 V . C_2□ .ni\# \quad (G3)$$

Table 3 Class C Examples

□ex → □ex□ni	pənd□t□→ pənd□t□ni
set□ → set□□ni	m□htər→ m□htər□ni

2.2 Number Conversion

Number change i.e. singular to plural can be derived by either suffixation or infixation of the noun. Only those classes of noun have been listed in which we have found some words that do not exactly follow the

class rule for number conversion from singular to plural. The classes are discussed in (Bokhari, Sheikh), (Moiz-ud-din, 1989), (Rafique), (Shadani, Zia). The remaining classes are not listed here and can be found in the references.

1). Class A

Class A includes most of the nouns that Urdu has inherited from Arabic, Persian etc. The conversion from singular to plural takes place by insertion of the vowel 'e̞' and 'o̞' at the word final position as shown in Table 4. The underlying rule for this class representing only the last vowel (N1) is:

$V_1 \# \rightarrow V_1V_2 \#$ [where $V_2 \rightarrow$ o̞, e̞] (N1)

Table 4 Class A Examples

əd□ → əd□e̞□, əd□o̞□	□ʊ□ → □ʊae̞□, □ʊao̞□
dʊ□ → dʊae̞□, dʊao̞□	həv□ → həvae̞□, həv□o̞□

2). Class B

Class B includes most of the nouns that Urdu has inherited from Arabic. The conversion from singular to plural takes place by insertion of the vowel '□' after first two consonants as in Table 5. The underlying rule of this class (N2) is:

$C_1V_1C_2.C_3V_2C_4\# \rightarrow C_1V_1.C_2 \square .C_3 \square C_4 \#$ (N2)

Table 5 Class B Examples

məs□□d□→ məs□□□d□	məksəd□→ mək□sd□
mənz□l→ mən□z□l	

3). Class C

Class C includes most of the nouns that Urdu has inherited from Arabic. The conversion from singular to plural takes place by deletion of first vowel and insertion of 'ə' before first consonant and insertion of the vowel '□' after first two consonants as shown in Table 6. The underlying rule of this class (N3) is:

$C_1V_1.C_2 (V_2) C_3\# \rightarrow$ ə $C_1.C_2 \square .C_3\#$ (N3)

Table 6 Class C Examples

t̪ərəf→ ət̪□f	□□ns → ə□n□s
□əd□ər→ ə□d□□r	

4). Class D

Class D includes most of the nouns that Urdu has inherited from Arabic. The conversion from singular to plural takes place by insertion of the vowel 'u' after first two consonants as in Table 7. The underlying rule of this class (N4) is:

$C_1V_1 C_2 C_3 \rightarrow C_1V_1 . C_2$ u $C_3\#$ (N4)

Table 7 Class D Examples

nəkl→ nəkul	nəfs → nəfus
nək□ → nəku□	nə□m → nə□um

5). Class E

Class E includes most of the nouns that Urdu has inherited from Arabic. The conversion from singular to plural takes place by insertion of '□□' after first two consonants as in Table 8. This class contains monosyllabic words, which have extra syllabic material at their word boundary. The rule of this class (N5) is:

$C_1V_1C_2C_3\# \rightarrow C_1V_1.C_2 \square \square C_3 \#$

(N5)

Table 8 Class E Examples

fərz → fər□□z	□ərt̪□→ □ər□□t̪□

6). Class F

Class F includes most of the nouns that Urdu has inherited from Arabic. The conversion from singular to plural takes place by insertion of '□' after first two consonants and changing the last vowel to 'i̞' before the last consonant. Some of the examples are shown in Table 9. The underlying rule of this class (N6) is:

$(C_1)V_1C_2.C_3\ V_2C_4\# \rightarrow C_1V_1\ .\ C_2 \square\ C_3$ i̞$C_4\#$ (N6)

Table 9 Class F Examples

t̪əsvir → t̪əs□vir	t̪ədbir → t̪əd□bir
t̪əsnif → t̪əs□nif	t̪əd□viz → t̪əd□□viz
məd̪hur → mə□□hir	əslub → əs□lb
dəst̪ur → dəs□t̪ir	fərm□n → fər□min

3. METHODOLOGY

The classes defined by various authors, as in (Bokhari, Sheikh), (Moiz-ud-din, 1989), (Rafique), (Shadani, Zia) on the basis of the words belonging to a specific noun class and following the same rule for gender conversion from masculine to feminine by suffixation or infixation were studied and consolidated in a list of all possible classes under gender conversion for analysis. Against each possible class or rule of gender conversion at least 25 examples were taken for data analysis from (Nadeem, 2000) and (Feroz-ud-din). The variations in each class were identified and the words identified as exception in a class following a similar pattern were classified under a group. For each such identified groups thus forming a collection of a particular type of exception, rules were derived. After stating the rule for each group of exceptions, further data satisfying the rule was collected to verify the existence and correctness of the group.

Similar process as in case of gender data analysis was also followed in data analysis of number conversion from singular to plural. All the possible categories of

pluralization process defined in (Moiz-ud-din, 1989), (Bokhari, Sheikh), (Rafique), (Shadani, Zia) were considered for data analysis. The data was collected for each class using (Nadeem, 2000) and (Feroz-ud-din). The possible exceptions that have some variations in their pluralization process in each category were identified. Rule for each group of exceptions following a particular pattern of variation from the original process of number conversion was derived and further data for each such rule was collected for the verification and validity of the rule.

All rules stated in this paper are following linear phonology representation and phonetic transcription.

4. RESULTS

The methodology stated earlier identified the following rules based on number and gender conversion for nouns in the above-mentioned classes.

4.1 Gender Conversion

1). Deletion of j

Some of the words that belong to class 'A' have 'ɟ as the last consonant in the word which is deleted during the process of suffixation, as shown in Table 10. The rule for last syllable (R1) is:

.ɟV # → . i# (R1)

2). Reduction in duration of i

Some of the words that belong to class 'B' have '▫i at word final position and as a result there is a replacement of the last vowel by '▫' as shown in Table 11. The rule representing last two vowels (R2) is:

V_1V_2 # → V_1▫n # [where V_1 → ▫, V_2 → i] (R2)

3). Deletion of 'ə'

Some of the words that belong to class 'C' having first open syllable undergoes the deletion process of 'ə' occurring in the last syllable of the word as shown in Table 12. The rule (R3) is:

C_1V_1 . C_2V_2 C_3 # → $C_1V_1C_2$. C_3 ▫ni# [where V_2 → ə] (R3)

4.2 Number Conversion

1). Deletion of Vowel Nasalization

Some of the words that belong to class 'A' have nasalized vowel at word final position so the nasalization of existing vowel is deleted as in Table 13. The rule for last vowel can be written as (R4):

V▫# → V_1V_2 # [where V_2 → o▫e] (R4)

2). Deletion of Rime of Last Syllable

Almost in all rules of pluralization that undergo the process of infixation follow this rule for the last syllable. Some of the examples are shown in Table 14. The rule for this deletion (R5) is:

. $C_1V_1(C_2)$ # → C_1 # (R5)

3). Insertion of 'v'

Incase of monosyllabic word with long vowel belonging to class 'C', 'v' is inserted after the first consonant. Some examples are shown in Table 15. The rule for insertion of 'v' can be written as (R6):

$C_1V.C_2$ # → ə C_1.v▫.C_2 # [where V → ɔ, u, ▫] (R6)

Similarly, incase of words belonging to class 'F', having first open syllable with long vowel will result in replacement of vowel by 'ə' and insertion of 'v' before '▫' as in Table 16. The rule for this insertion is (R7):

$C_1V_1.C_2$ V_2 C_3# → C_1 ə.v▫ C_2 iC_3 # (R7)

4). Insertion of 'j'

Incase of monosyllabic word with long vowel belonging to class 'C' and class 'D', 'ɟ is inserted after the first consonant as in Table 17. The rule for class 'C' is written as (R8) and for class 'D' as (R9):

Class C: $C_1V.C_2$ # → ə C_1.j▫.C_2 # [where V → i, æ] (R8)

Class D: (C_1)V.C_2 # → C_1 ə.ju.C_2 # [where V → æ] (R9)

5). Repetition of the last consonant

Incase of monosyllabic word with short vowel belonging to class 'C' and class 'D', last consonant gets repeated after the insertion of '▫' and 'u' respectively. Some examples are shown in Table 18. The rule for class 'C' is written as (R10) and of class 'D' as (R11):

Class C: $C_1V_1.C_2$ # → ə C_1. C_2 ▫.C_2 # (R10)

Class D: $C_1V_1.C_2$ # → C_1 V_1. C_2 u.C_2 # (R11)

6). Deletion of 'v'

Incase of monosyllabic word, belonging to class 'C', with 'v' as starting syllable having short vowel and extra-syllabic material at the end, the 'v' gets deleted from the start of the word as shown in Table 19. The deletion rule can be written as (R12):

v V C_1 C_2 # → ɔ . C_1 ▫.C_2 # (R12)

7). Deletion of 'i

There exists some words that follows the same rule of conversion from singular to plural as in class 'E' but these words are not monosyllabic with first syllable as open and have 'i as vowel in the second syllable. Some of the examples are shown in Table 21. This deletion rule can be written as (R12):

C_1 V_1 . C_2 iC_3 # → C_1 V_1 C_2 ▫▫ C_3 # (R12)

5. DISCUSSION

5.1 Gender Conversion

1). Deletion of j

The last consonant is deleted if it is 'j' because in the process of gender change, there is a vowel insertion of 'i̯' and language cannot have 'j' and 'i̯' in a single syllable next to each other so the existing 'j' gets deleted and the vowel 'i̯' makes the final syllable of the word. The words ending with consonants other than 'j' are shown in Table 1 and the words having last consonant as 'j' are shown in Table 10.

Table 10 Deletion of 'j' Examples

t□j□ → t□i	həm s□j□ → həm s□i

2). Reduction in duration of i

As shown in Table 11, some words ending at '□i̯' have reduction in the duration of vowel 'i̯'. In normal cases 'ə' is inserted, as in Table 2, but there already exists a long vowel '□' therefore it does not allow the insertion of 'ə' after it.

Table 11 Reduction in duration of iExamples

n□i→ n□□n	həѵ□i→ həѵ□□n
bəd̪h□i→ bəd̪h□□n	

3). Deletion of 'ə'

Incase of multi syllables words that have first open syllable, the 'ə' is deleted, as in Table 12. Urdu language avoid heavy syllables i.e. multiple consonants in coda, so in normal case, as in Table 3, 'ə' remains there and structure of first syllable after conversion of gender remains same. While in the other case, the syllabification of first syllable assigns the consonant before 'ə' to the coda of the first syllable and the consonant after it follows the same rule of syllabification that exists under normal conditions.

Table 12 Deletion of 'ə' Examples

m□□əl→ m□□ɭni	dɐvər→ dɐvr□ni
nɔkər→ nɔkr□ni	

5.2 Number Conversion

1). Deletion of Vowel Nasalization

In the words having nasalization on its last vowel as in Table 13, the nasalization of vowel gets deleted after the pluralization of the word. It seems from the examples that two nasalized vowels do not occur next to each other and often the first nasalized vowel gets deleted.

Table 13 Deletion of vowel nasalization Examples

m□□→ m□e□, m□o□	d□u□→ d□ue□, d□uo□

2). Deletion of Rime of Last Syllable

The deletion of rime usually occurs in the pluralization classes that have infixation during the conversion as in Table 14. In such cases, where the word has more syllables than the normal case then the rime of the last syllable is deleted. The deleted rime is usually made up of a single long vowel or a short vowel with a consonant in the coda of the syllable.

Table 14 Deletion of rime of last syllable Examples

məkbər□ → məkə□bə□r	mərhəmət□→ mərə□hə□m	Class B
t□hf□ → t□h□□f	xəsɓt□→ xəs□□l	Class E
səd□d□ → səd□ud□ hɨndɯ → hɨnud□	vəd□□ → vəd□u	Class D

3). Insertion of 'ѵ'

There is normal insertion of vowel '□' after the second consonant as in Table 6 and the last consonant remains at the last position. Incase of monosyllabic words, as in Table 15, second consonant is missing and there is a need of a consonant between the first and the last consonant in order to insert '□'. Therefore a default consonant 'ѵ' is inserted after the first consonant to enable the insertion of '□'.

Table 15 Insertion of ѵ Examples

fɔd□ → əfѵ□d□	kɔl→ əkѵ□l
nur→ ənѵ□r	m□l→ əmѵ□l

Similarly incase of class 'F' as in Table 16, if second consonant is missing and the word has first open syllable then for the insertion of '□' after the second consonant, a default consonant 'ѵ', as in (Sarfraz, 2002), is inserted as second consonant for insertion of '□'.

This insertion is normally done with back vowels but we were unable to find any similar example with vowel 'o'.

Table 16 Insertion of 'ѵ' Examples

t□rɨk → təѵ□rɨk

4). Insertion of 'j'

Incase of monosyllabic words, as in Table 17, sometimes there is insertion of 'j̯' in the middle. The process is same as in the insertion of 'ѵ' but the only difference is that this insertion usually occurs with the front vowels. Incase of front vowel 'e', vowel itself gets deleted and 'j̯' is not inserted.

Table 17 Insertion of 'j̯' Examples

dɨn → ədj̯ən	□ær→ ə□j̯ər	Class C
kæd□→ kəjud□	æb → əjub	Class D

5). Repetition of the last consonant

The monosyllabic words with no extra syllabic material following the rule of infixation under class C and class 'D' involve the repetition of last consonant in the process of making plural nouns, as in Table 18. The reason behind it is that a vowel is to be inserted before the third consonant in the word, which is missing in these monosyllabic words. Therefore second consonant is repeated to fill up the place of the third consonant.

Table 18 Repetition of last consonant Examples

rəb → ərbəb	zəd→ əzdəd	Class C
həd→ hədəd	fən → fənun	Class D

6). Deletion of 'ə'

In class C, there is a normal insertion of 'ə' before the first consonant of the word, as in Table 6, but if the first consonant is 'v' then 'əv' gets deleted and is replaced by 'ɔ' as in Table 19. This shows that if 'əv' occurs in the same syllable then it generates the back long vowel 'ɔ'.

Table 19 Deletion of 'ə' Examples

vəkf→ ɔkəf	vətd→ ɔtd
vəsf→ ɔsəf	vəzn → ɔzən

The normal deletion process of /əv/ is also explained in (Nawaz, 2002). According to the author the deletion takes place only when /əv/ occurs in the context /xəvə/ conditioning the source of word i.e. the rules in the parent language from where the word came from or root of the word. The examples are /xəvəb/, /xəvədə/ in which the /ə/ is deleted due to phonotactic constraint according to the author. But in case of /xəvətin/, the deletion rule does not apply because it is a general pronunciation. However, according to our observation and analysis, /əv/ → [ɔ] if syllable boundary does not exist between 'ə' and 'v'; otherwise each phone retains itself in the pronunciation of the word. Some of the supporting examples are shown in Table 20

Table 20 Deletion of 'v' Examples

'əv' in different syllables		'əv' in same syllable	
x ə . və .tin	/xə.və.tin/	x ɔ ə b	/xəvəb/
x ə .və .rid	/xə.və.rid/	ɔ .k ə t	/əv.kət/
k ə .və .nin	/kə.və.nin/	x ɔ ə .d ə	/xəvə.də/

7). Deletion of 'i'

As in the normal process of conversion, the words do not have 'i' as the last vowel. So when words falling into the same class have a long vowel word finally, they undergo the deletion process of vowel hence the actual process of the class is followed. Some of the examples are shown in Table 21.

Table 21 Deletion of 'i' Examples

dəfil→ dəfəl	ərbi → ərəbi

5.3 Conversion Involving Multiple Rules

Certain words exist that undergo more than one rule for conversion from singular to plural e.g.

kə.bil → kə.bəl

In the above example, two rules are applied. Firstly, the rime of the last syllable is deleted and secondly, there is deletion of vowel 'i' i.e. rule (R5) and (R12). Some more examples of this type are shown in Table 22.

Table 22 Coversion involving multiple rules examples

fəzilət→ fəzəl	səhifi → səhəf
həkikət→ həkək	nəti → nətəd

6. SUMMARY

Gender and number distinctions are very important in a language. The conversion from masculine to feminine and from singular to plural takes place by a series of processes, at the morphological and phonological level. There is a well-defined set of rules in the Urdu language for gender and number conversion but within these rules, some exceptions exist that do not truly follow these rules; phonological rules change the structure of these words. Some of these rules are stated in this paper which help us to conclude that the gender and number conversion process is not solely a morphological process but there are many phonological processes taking place in parallel with them resulting in the conversion of word form.

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