# Revision History:

<table>
<thead>
<tr>
<th>Name</th>
<th>Change Date</th>
<th>Version</th>
<th>Description of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tafseer Ahmed</td>
<td>13 Sep, 2004</td>
<td>4.1.0.1</td>
<td>created.</td>
</tr>
<tr>
<td>Tafseer Ahmed</td>
<td>27 Oct, 2004</td>
<td>4.1.0.2</td>
<td>Analysis is modified after meeting with Dr. Miriam Butt.</td>
</tr>
<tr>
<td>Tafseer Ahmed</td>
<td>4 Nov, 2004</td>
<td>4.1.0.3</td>
<td>Rules updated</td>
</tr>
<tr>
<td>Sara Hussain</td>
<td>17th Jan, 2005</td>
<td>4.1.0.4</td>
<td>Added Kar phrase (KarP) and sentence level adjunct (S_Adjunct) in each rule</td>
</tr>
<tr>
<td>Sara Hussain</td>
<td>7th Feb, 2005</td>
<td>4.1.0.5</td>
<td>Added gender agreement check for infinitivals in Subject and object position (KPmain)</td>
</tr>
<tr>
<td>Aasim Ali</td>
<td>05-AUG-2005</td>
<td>5.1.0.1</td>
<td>Documenting the analyses and modifications (on the basis of these analyses) made by Nayyara</td>
</tr>
</tbody>
</table>

## Rule ID: UGR103

### Rule Syntax:

Following is the constituent description of the rule.

- \texttt{Sdec -> KPmain; @SAP @OBLIQUE (KPmain; ) VPperf ;.}
- \texttt{Sdec -> KPmain; @SAP @OBLIQUE (KPmain; ) VPnonperf ;.}
- \texttt{Sdec -> KPmain; @SAP @OBLIQUE (KPmain; ) VPpra ;.}
- \texttt{Sdec -> KPmain; @SAP @OBLIQUE (KPmain; ) VPmodal ;.}
Rule Functional Description:

Sdec -> KPmain:^ SUBJ =!,! CASE =c NOM; @SAP @OBLIQUE
(KPmain: ! CASE =c NOM, ! SEM_TYPE =c{UNANIM_CONC,ANIMAL,ABSTRACT},^ OBJ =!; )
VPperf : ^ =!, ^ SUBJ CASE =c !_SUBJ_CASE, ^ TNS_ASP MODAL =c NONE,
^ TNS_ASP NEED =c NEG, ^ TNS_ASP PERF =c POS, ^ TNS_ASP PROG =c NEG,
^ SUBJ PERS =c PERS, ^ SUBJ GEND =c ! GEND, ^ SUBJ NUM =c ! NUM,
^ SUBJ RESPECT =c ! RESPECT, !VOICE =c ACTIVE;.

Sdec -> KPmain:^ SUBJ =!,! CASE =c NOM; @SAP @OBLIQUE
(KPmain: ! CASE =c ACC,! SEM_TYPE =c HUMAN, ^ OBJ =!; )
VPperf : ^ =!, ^ SUBJ CASE =c !_SUBJ_CASE, ^ TNS_ASP MODAL =c NONE,
^ TNS_ASP NEED =c NEG, ^ TNS_ASP PERF =c POS, ^ TNS_ASP PROG =c NEG,
^ OBJ PERS =c ! PERS, ^ OBJ GEND =c ! GEND, ^ OBJ NUM =c ! NUM,
^ OBJ RESPECT =c ! RESPECT, !VOICE =c ACTIVE;.

Sdec -> KPmain:^ SUBJ =!,! CASE =c ERG; @SAP @OBLIQUE
(KPmain: ! CASE =c NOM, ! SEM_TYPE =c {UNANIM_CONC,ANIMAL,ABSTRACT}, ^ OBJ =!;)
VPperf : ^ =!, ^ SUBJ CASE =c !_SUBJ_CASE, ^ TNS_ASP MODAL =c NONE,
^ TNS_ASP NEED =c NEG, ^ TNS_ASP PERF =c POS, ^ TNS_ASP PROG =c NEG,
! NUM =c SG, ! GEND =c M, ! PERS =c 3, ! RESPECT =c NORESPECT, !VOICE =c ACTIVE;.

Sdec -> KPmain:^ SUBJ =!,! CASE =c NOM; @SAP @OBLIQUE
(KPmain: ! CASE =c ACC, ! SEM_TYPE =c HUMAN, ^ OBJ =!;)
VPnonperf : ^ =!., _SUBJ_CASE =c {NOM,ERG}, ^ TNS_ASP MODAL =c NONE,
^ TNS_ASP PERF =c NEG, ^ TNS_ASP NEED =c NEG, ^ TNS_ASP PROG =c NEG,
^ SUBJ PERS =c ! PERS, ^ SUBJ GEND =c ! GEND, ^ SUBJ NUM =c ! NUM,
^ SUBJ RESPECT =c ! RESPECT, !VOICE =c ACTIVE;.
Sdec -> KPmain:^ SUBJ =!,! CASE =c NOM;
@SAP  
@OBLIQUE
(KPmain: ! CASE =c NOM, ! SEM_TYPE =c {UNANIM_CONC,ANIMAL,ABSTRACT}, ^ OBJ =!;
VPnonperf : ^ =!,! _SUBJ_CASE =c {NOM,ERG}, ^ TNS_ASP MODAL =c NONE, 
^ TNS_ASP PERF =c NEG,^ TNS_ASP NEED =c NEG, ^ TNS_ASP PROG =c NEG, 
^ SUBJ PERS =c ! PERS, ^ SUBJ GEND =c ! GEND, ^ SUBJ NUM =c ! NUM, 
^ SUBJ RESPECT =c ! RESPECT, !VOICE =c ACTIVE;.

Sdec -> KPmain:^ SUBJ =!,! CASE =c NOM;
@SAP  
@OBLIQUE
(KPmain: ! CASE =c ACC,! SEM_TYPE =c HUMAN, ^ OBJ =!;
VPraha : ^ =!,! _SUBJ_CASE =c {NOM,ERG},^ TNS_ASP MODAL =c NONE,^ TNS_ASP NEED =c NEG, 
^ TNS_ASP PROG =c POS, ^ SUBJ PERS =c ! PERS, ^ SUBJ GEND =c ! GEND, 
^ SUBJ NUM =c ! NUM, ^ SUBJ RESPECT =c ! RESPECT, !VOICE =c ACTIVE;.

Sdec -> KPmain:^ SUBJ =!,! CASE =c DAT;
@SAP  
@OBLIQUE
(KPmain: ! CASE =c NOM, ^ OBJ =!;
VPrf : ^ =!,! _SUBJ_CASE =c DAT, ^ TNS_ASP MODAL =c NONE,^ TNS_ASP NEED =c NEG, 
^ TNS_ASP PERF =c POS, ^ TNS_ASP PROG =c NEG, ^ OBJ PERS =c ! PERS, 
^ OBJ GEND =c ! GEND, ^ OBJ NUM =c ! NUM, ^ OBJ RESPECT =c ! RESPECT, 
!VOICE =c ACTIVE;.

Sdec -> KPmain:^ SUBJ =!,! CASE =c DAT;
@SAP  
@OBLIQUE
(KPmain: ! CASE =c NOM, ^ OBJ =!;
VPnonperf : ^ =!,! _SUBJ_CASE =c DAT, ^ TNS_ASP MODAL =c NONE,^ TNS_ASP PERF =c NEG, 
^ TNS_ASP NEED =c NEG,^ TNS_ASP PROG =c NEG, ^ OBJ PERS =c ! PERS, 
^ OBJ GEND =c ! GEND, ^ OBJ NUM =c ! NUM, ^ OBJ RESPECT =c ! RESPECT, 
!VOICE =c ACTIVE;.

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Sdec -> KPmain: ^ SUBJ =!,! CASE =c DAT;
   @SAP
   @OBLIQUE
   KPmain: ! CASE =c NOM, ^ OBJ =!;
   VPraha : ^ =!,! _SUBJ_CASE =c DAT, ^ TNS_ASP MODAL =c NONE, ^ TNS_ASP NEED =c NEG,
   ^ TNS_ASP PROG =c POS, ^ OBJ PERS =c ! PERS, ^ OBJ GEND =c ! GEND,
   ^ OBJ NUM =c ! NUM, ^ OBJ RESPECT =c ! RESPECT, !VOICE =c ACTIVE;

Sdec -> KPmain: ^ SUBJ =!,! CASE =c DAT;
   @SAP
   @OBLIQUE
   KPmain: ! CASE =c NOM, ^ OBJ =!;
   VPmodal : ^ =!,! _SUBJ_CASE =c DAT, ^ TNS_ASP MODAL =c ! TNS_ASP MODAL,
   ^ TNS_ASP NEED =c NEG, ^ OBJ PERS =c ! PERS, ^ OBJ GEND =c ! GEND,
   ^ OBJ NUM =c ! NUM, ^ OBJ RESPECT =c ! RESPECT, !VOICE =c ACTIVE;

Sdec -> KPmain: ^ SUBJ =!,! CASE =c NOM;
   @SAP
   @OBLIQUE
   (KPmain: ! CASE =c ACC,! SEM_TYPE =c HUMAN, ^ OBJ =!; )
   VPmodal : ^ =!,^ TNS_ASP MODAL =c ! TNS_ASP MODAL,^ TNS_ASP NEED =c NEG,
   ^ SUBJ PERS =c ! PERS, ^ SUBJ GEND =c ! GEND, ^ SUBJ NUM =c ! NUM,
   ^ SUBJ RESPECT =c ! RESPECT, !VOICE =c ACTIVE;

Sdec -> KPmain: ^ SUBJ =!,! CASE =c NOM;
   @SAP
   @OBLIQUE
   (KPmain: ! CASE =c NOM,! SEM_TYPE =c {UNANIM_CONC,ANIMAL,ABSTRACT}, ^ OBJ =!; )
   VPmodal : ^ =!,^ TNS_ASP MODAL =c ! TNS_ASP MODAL,^ TNS_ASP NEED =c NEG,
   ^ SUBJ PERS =c ! PERS, ^ SUBJ GEND =c ! GEND, ^ SUBJ NUM =c ! NUM,
   ^ SUBJ RESPECT =c ! RESPECT, !VOICE =c ACTIVE;

**Frequency:** -

**Description:** This rule shows the sentence level production of Urdu Grammar.

c-structure: Sentence consists of Case Phrases (KP) and a Verb Phrase (VP). Sentence level adjunct phrase (@SAP) and oblique (@OBLIQUE) are optional and handled through macro.

f-structure: The Case Phrases can be Subject or Predlink according to their Case. The adjunct phrase and Xadjunct phrase act as adjuncts of a sentence.
Example:
وه سبب کہہتا ہے
اس لئے سبب کھیتیا
سرب کھیتیا گیا
اس سے سبہ کھیتیا گیا
اسے سبہ کھیتیا ہے
اسی بخرج ہے
اسی دوسری لگی
سرب ملی ہے
سرب توکری مون بیہ،
میر کی اورہ سبہ بیہ،
ای ج صبح سے لئی ناغ مون بیے۔

Rule Status: Active

http://web.mit.edu/rbhatt/www/24.956/

Related Rules:

Related POS:

Replaces: - UGR001

Reason: -

Replaced by: -
Analysis: Following is the analysis of the rule.

Analysis 1:
Urdu is free-order language. It means that phrases can change their place in a sentence. We have analyzed only the most commonly used phrase order of Urdu.

On the basis of Verbal Phrase structure and CASE of Subject, Urdu Sentences can be divided into following types:

Usual Sentences: It is the most commonly used type of Urdu Sentences. It consists of default behavior of all its constituent i.e. Subject is in Nominative case, and any verb can be part of the Complex Predicate. Example sentences are:

ﻮہ سےب کھیتا یہ.
ﻮہ سےب کھاربا یہ.

Perfective Sentences: Urdu like other South Asian language has special syntax for Perfective Sentences. The simplest model for this type of sentence is that Transitive Verbs requires Ergative Subject and Intransitive verbs like Nominative Subject. For Example,

Ergative Subject: اس نے سےب کھیتاا۔
Nominative Subject: وہ آزا۔

But there are few examples in which the above rule fails. For Example,

ﻮہ کرکٹ کھیلا۔
اس نے تھوکا۔

Hence the Rule is that: if Subject of a Verb has control on action, then it will have Ergative Case, Otherwise it will have Nominative case. We denote this property by PerfControl feature.

Predicate Sentences: The sentences having “fail-e-naqis” (copular verb) has a subject and its modifier(called PREDLINK in LFG). There are two types of PREDLINK sentences.

سےب میتہا یہ(1)
تکرکی میں سےب بیہ(2)
سےب تکرکی میں بیہ(3)

In sentence 1, سےب is SUBJ and میتہا is PREDLINK. In sentences 2 and 3, Grammatical Function identification is disputed. Tara Mohanan says that تکرکی SUBJ in sentence 3 and میں is case marker. But the problem is that in sentence 2, بیہ becomes the SUBJ. Both sentences 2 and 3 are same except the change in phrase order. This is why, we inferred that 2 is commonly used sentence 3, and we will analyze both the sentences in the same way. i.e. سےب is SUBJ and میں is PREDLINK. Another argument in favor of this analysis is that there are many similar sentences that has postposition and nominal postposition phrase at start of the sentence. For example,

If we consider میں as Case Marker then we have to classify all postpositions and nominal postpositions as Case Marker.

Following sentence is an example of sentence having PredLink. It has Genitive Subject (‘gari’) and a Predlink (pañhay).
گزی کے جار بیہ۔

Passive Sentences: Passive constructions in Urdu involves Auxiliary verb ‘Ja’. The Subject of passive sentence (usually Logical Object) is in Nominative form. For Example:

سےب کھیتاا۔(4)

An alternate analysis is that ‘saib’ is Object in above sentence, and a NULL subject is present in the sentence. This analysis says that ‘larka’ is Subject and ‘saib’ is Object in following sentence.
The problem with first sentence is the multiple usage of word ‘ja’. It is used as Passive Auxiliary as in (4), but it is also used as Ability Auxiliary and Habitual Auxiliary as in following examples.

Sentence (5) is similar to Ability sentence. Hence we will analyze it as different type of sentence. Sentence (6) is a passive sentence, but “ke zarye” is used as an ADJUNCT. Historically “ke zarye” examples are not present in traditional text. It is introduced after interaction with English in which “by Somebody” is present in passive sentence.

**Ability Sentences**: The syntax of Ability sentences is similar to Passive Sentences, but these sentences require Dative Subject. The sentences shows ability/disability of Subject to perform the action.

**Dative Subject Sentences**: The verbs of these sentences require a Dative Subject. Dative subject is required due to different types of Verbal Phrases. Modal verbs like ‘chahiye’ and ‘par’ need dative subject as:

Similarly verb ‘ho’ has a special usage which needs dative subject. For example:

Other verbs like ‘dikh’ and ‘lag’ also needs Dative Subject.

In Summary, Subjects can be Nominative, Dative, Genitive and Ergative. Object can be Nominative or Accusative. The transitive Verb can be used in a sentence without its object. For example:

**Analysis 2**: This was observed that resolving the type of sentence on the basis of syntax in the early stages is more efficient and effective for the application; therefore, some checks have been introduced at sentence level (which were being performed at some deeper level in the parse tree) to prune the huge production-set to the most suitable subset, as early as possible.

Following are the major types of sentences on the basis of Verb Phrase: Perfective (VPperf), Non-Perfecetive (VPnonperf), Progressive (VPraha), Modal (VPmodal), Infinitival (VPinf);

**VPperf**: There are subtle differences among multiple productions of VPperf:

<table>
<thead>
<tr>
<th>CASE</th>
<th>Subject</th>
<th>Object</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative</td>
<td>Accusative</td>
<td></td>
<td>لازکا سلیم کو ملا ملا بی / ملا ته ج / ملا جا / گیا بھگا.</td>
</tr>
<tr>
<td>Nominative</td>
<td>Nominative</td>
<td></td>
<td>لازکا کیا گیا / کیا ہنا / کیا ہنا / گیا بھگا.</td>
</tr>
</tbody>
</table>
Everywhere the subject or the object is an infinitival occurring in nominative case this agreement varies. When an infinitival act as an object and its subject is in ergative, dative or instrumental case then this agreement is positive. For other cases it is negative. Reasons behind these agreements are discussed in detail in the document UGR104.

**VPnonperf:** There are subtle differences among multiple productions of VPnonperf:

<table>
<thead>
<tr>
<th>CASE</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative Accusative</td>
<td>لزکا تھر کر دیکھ کر بی بی / نہیں / بوگا۔</td>
</tr>
<tr>
<td>Nominative Nominative</td>
<td>لزکا کا بی بی / نہیں / بوگا۔</td>
</tr>
</tbody>
</table>

Everything else is same in all productions of VPnonperf.

**VPraha:** There are subtle differences among multiple productions of VPraha:

<table>
<thead>
<tr>
<th>CASE</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative Accusative</td>
<td>لزکا تھر کر دیکھ کر بی بی / نہیں / بوگا۔</td>
</tr>
<tr>
<td>Nominative Nominative</td>
<td>لزکا کا بی بی / نہیں / بوگا۔</td>
</tr>
</tbody>
</table>

Everything else is same in all productions of VPraha.

**VPmodal:** There are subtle differences among multiple productions of VPmodal:

<table>
<thead>
<tr>
<th>CASE</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominative Accusative</td>
<td>لزکا تھر کر دیکھ کر بی بی / نہیں / بوگا۔</td>
</tr>
<tr>
<td>Nominative Nominative</td>
<td>لزکا کا بی بی / نہیں / بوگا۔</td>
</tr>
</tbody>
</table>

Everything else is same in all productions of VPmodal.

**Infinitival Agreement**
Gender agreement of infinitival verb with its embedded object is dependant on its position in the sentence. When ever the subject or the object is an infinitival occurring in nominative case this agreement varies. When an infinitival act as an object and its subject is in ergative, dative or instrumental case then this agreement is positive. For other cases it is negative. Reasons behind these agreements are discussed in detail in the document UGR104.

**Result:** We decided on analysis 2.

**Future Work:**
VPchahiyyay

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