Revision History:

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

Rule ID: UGR103

Rule Syntax: Following is the constituent description of the rule.

```
Sdec -> KPmain;     @SAP     @OBLIQUE   (KPmain; )     VPperf ;.
Sdec -> KPmain;     @SAP     @OBLIQUE   (KPmain; )     VPperf;.
Sdec -> KPmain;     @SAP     @OBLIQUE   KPmain;        VPperf;.
Sdec -> KPmain;     @SAP     @OBLIQUE   (KPmain; )     VPperf;.

Sdec -> KPmain;     @SAP     @OBLIQUE   (KPmain; )     VPnonperf;.
Sdec -> KPmain;     @SAP     @OBLIQUE   (KPmain; )     VPnonperf;.

Sdec -> KPmain;     @SAP     @OBLIQUE   (KPmain; )     VPraha;.
Sdec -> KPmain;     @SAP     @OBLIQUE   (KPmain; )     VPraha;.

Sdec -> KPmain;     @SAP     @OBLIQUE   KPmain;        VPperf;.
Sdec -> KPmain;     @SAP     @OBLIQUE   KPmain;        VPnonperf;.
Sdec -> KPmain;     @SAP     @OBLIQUE   KPmain;        VPraha;.

Sdec -> KPmain;     @SAP     @OBLIQUE   KPmain;        VPmodal;.
Sdec -> KPmain;     @SAP     @OBLIQUE   (KPmain; )     VPmodal;.
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,
        ^ SUBJ PERS =c ! PERS, ^ SUBJ GEND =c ! GEND, ^ SUBJ NUM =c ! NUM,
        ^ SUBJ 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,
        ^ 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 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,
        ! 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 NOM;
    @SAP
    @OBLIQUE
    (KPmain: ! CASE =c NOM,! SEM_TYPE =c {UNANIM_CONC,ANIMAL,ABSTRACT}, ^ 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 =!;
    VPperf : ^ =!,  ! _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;.
```

```
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:

وہ آیا۔

وہ سیب کھاتا ہے۔

اس نے سیب کھایا۔

سیب کھایا گیا۔

اس سے سیب کھایا گیا۔

اسے سیب کھانا ہے۔

اسے بخار ہے۔

اسے سردی لگی۔

سیب میٹھا ہے۔

سیب ٹوکری میں ہیں۔

میز کے اوپر سیب ہیں۔

آج صبح سے بلی باغ میں ہے۔

Rule Status: Active

Reference: [1] Butt and King, *"The Status of case"*
[2] Tara Mohanan, "Argument Structure in Hindi" Page 55.
[3] Rajesh Bhatt, Survey, Dative Subject, Passivization. http://web.mit.edu/rbhatt/www/24.956/
[4] Mirium Butt, Discussion at EGD_ULP meetings.

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 consist 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 سیب کھاتا ہے۔

وہ سیب کھا رہا ہے۔

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 سیب کھایا۔

Nominative Subject: وہ آیا۔

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 Verb 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.

(1) سیب میٹھا ہے۔

(2) ٹوکری میں سیب ہیں۔

(3) سیب ٹوکری میں ہیں۔

In sentence 1, سیب is SUBJ and میٹھا is PREDLINK. In sentences 2 and 3, Grammatical Function identification is disputed. Tara Mohanan says that ٹوکری is SUBJ in sentence 3 and میں is case marker. But the problem is that in sentence 2, سیب becomes the SUBJ. Both sentences 2 and 3 are same except the difference in phrase order. This is why, we inferred that 2 is commonly order of sentence 3, and we will analyze both the sentences in similar way. i.e. سیب is SUBJ and ٹوکری 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,

ٹوکری کے اندر سیب ہیں۔

میز کے اوپر سیب ہیں۔

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

Following sentence is an example of sentence having PredLink. It has Genitive Subject ('gari') and a Predlink (paihay').

گاڑی کے چار پہیے ہیں۔

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

(4)-سیب کھایا گیا

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.

(5)-لڑکے سے سیب کھایا گیا

لڑکے کے ذریعے سیب کھایا گیا

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.

Ability۔اس سے چلا نہیں جاتا

Habitual۔وہ کھاتا چلا جاتا ہے

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:

اسے پڑھنا چاہیے تھا۔

اسے جانا پڑسکتا ہے۔

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

اسے بخار ہے۔

اسے بخار تھا۔

The verb 'ho' named as 'hay_dat' is different from the verb 'ho' in following examples.

اسے بخار ہوا۔

اسے بخار ہو سکتا ہے۔

Other verbs like 'dikh' and 'lag' also needs Dative Subject.

اسے سردی لگی۔

مجھے تارا دکھا۔

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:

تم نے دیکھا۔

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:

CASE		Example
Subject	Object	
Nominative	Accusative	لڑکا سلیم کو ملا / ملا ہے / ملا تھا / ملا ہوگا ۔
Nominative	Nominative	گیا ہوگا ۔/ گیا تھا / گیا ہے /لڑکا گھر گیا
Ergative	Nominative	پڑھی ہوگی ۔/ پڑھی تھی / پڑھی ہے /میں نے کتاب پڑھی
Ergative	Accusative	دیکھا ہوگا ۔/ دیکھا تھا / دیکھا ہے /میں نے تمہیں دیکھا
Dative	Nominative	لگی ہوگی ۔/ لگی تھی / لگی ہے /لڑکے کو سردی لگی

Everything else is more or less same in all productions of VPpref.

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

CASE		Example
Subject	Object	
Nominative	Accusative	لڑکا مجھے ملتا ہے /ملے گا ۔
Nominative	Nominative	لڑکی کتاب پڑھتی ہے / پڑھے گی ۔
Dative	Nominative	لڑکے کو سردی لگتی ہے /لگے گی ۔

Everything else is same in all productions of VPnonpref.

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

CASE		Example
Subject	Object	
Nominative	Accusative	لڑکا تمہیں دیکھ رہا ہے / تھا / ہوگا۔
Nominative	Nominative	لڑکی کتاب پڑھ رہی ہے / تھی / ہوگی۔
Dative	Nominative	لڑکے کو سردی لگ رہی ہے / تھی / ہوگی۔

Everything else is same in all productions of VPraha.

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

CASE		Example
Subject	Object	
Nominative	Accusative	لڑکا تمہیں دیکھ سکتا ہے / تھا / ہوگا۔
Nominative	Nominative	لڑکی کتاب پڑھ سکتی ہے / تھی / ہوگی۔
Dative	Nominative	لڑکے کو سردی لگ سکتی ہے / تھی / ہوگی۔

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:
VPchahiyay

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	13 Sep, 2004	4.1.0.1	created.
Tafseer Ahmed	30 Oct, 2004	4.1.1.1	Rule modified for VPinf.
Sara Hussain	7th Feb, 2005	4.1.1.2	Rule modified
Aasim Ali	08-AUG-2005	5.1.0.1	Documentation of changes made in UGR file by Tafseer

Rule ID: UGR104

Rule Syntax: Following is the constituent description of the rule.

VPinf -> (KP) pro v

Rule Functional Description: Following are the functional specifications of the rule.

```
VPinf -> ([KP:^OBJ=!, ! SEM_TYPE =c {UNANIM_CONC,ANIMAL,ABSTRACT}, !CASE =c NOM;
                        |       KP:^OBJ=!, ! SEM_TYPE =c HUMAN, !CASE =c ACC;])
        pro:^SUBJ = !;
        v:^=!, !_MORPH_FORM =c INFINITIVE, !_INFL_AGREEMENT = c NEGATIVE, ^GEND =c M, ^NUM=SG; .
```

Frequency: -

Description: This rule models infinitival clause. Infinitival clauses are clauses ending with a verb in infinitival form.

c-structure: Infinitival clause consists of optional Case phrase (KP), compulsory pronoun and infinitival verb.

f-structure: This rule handles only non-agreeing infinitival form as shown in the column Dialect 2 of the table given below in the Analysis section.

Example:

مجھے روٹی کھانی ہے۔

وہ دوا کھانا چاہتا ہے۔

[سبق یاد کرنے] والا طالب علم آیا۔

[کتاب پڑھنا] اچھی عادت ہے۔

Rule Status: Under Process

Reference: 'Long Distance Agreement in Hindi-Urdu' by Rajesh Bhatt

Related Rules:

Related POS:

Replaces: - UGR001

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis 1:
There are three aspects of infinitival clauses that have been analyzed separately: (1) The position of infinitival clause in a sentence, (2) The occurrence of infinitival verb in Nominative and Oblique case, and (3) the gender agreement between the infinitival verb and its embedded object in an infinitival clause.

(1) It has been decided that infinitivals are verbs which have nominal behavior. That is they occur as either subjects or objects in a sentence depending on their position in a sentence. For this reason rule for infinitival clause is called from the main noun rule (i.e. UGR106 NPnoun rule). Some occurrences of infinitivals in different nominal positions are given below.

کھانے کے مزے (as a specifer in genitive phrase)

حامد کا لکھنا (genitive phrase)

لکھنے کے بعد (nominal post position phrase)

لکھنے سے (before case marker)

لکھنے والے نے (in wala phrase)

However infinitival verbs like verbs have sub-categorization frame but they lack a subject argument. They can further have additional description in form of adjuncts (as shown by KarP and S_adjunct in the above rule).

(2) Infinitival verb can occur in Nominative or Oblique case. Nominal case rules govern change in case of infinitival verbs. Thus an infinitival verb occurring before a case marker or a post position is in oblique form. Similarly other such rules are also followed by infinitival verbs. Different forms of the infinitival verb کھانا are given below. This information about cases can be embedded in the lexicon.

Masculine Singular Nominative: کھانا

Masculine Singular Oblique: کھانے

Masculine Plural Nominative/Oblique: کھانے

Feminine Singular/Plural Nominative/Oblique: کھانی

(3) In this case we are determining the presence or absence of gender agreement between the infinitival verb and its embedded object in an infinitival clause. Speakers show variation in this regard. That is some speakers prefer gender agreement in cases where other speakers prefer no gender agreement. While both the sentences below seem correct to a group of speakers.

اس نے ٹہنی کاٹنی چاہی Gender agreement between feminine object (ٹہنی) and Infinitival verb (کاٹنی).

اس نے ٹہنی کاٹنا چاہی Absence of gender agreement between feminine object (ٹہنی) and Infinitival verb (کاٹنا).

Variation and similarity in dialect in different sentence structure can be seen in the following table.

Ser. No.	Dialect 1	Gender Agreement	Dialect 2	Gender Agreement
1	حامد ٹہنی کاٹنا چاہتا ہے	no agreement	حامد ٹہنی کاٹنا چاہتا ہے	no agreement
2	آمنہ ٹہنی کاٹنا چاہتی ہے	no agreement	آمنہ ٹہنی کاٹنا چاہتی ہے	no agreement
3	اس نے ٹہنی کاٹنی چاہی	Agreement	اس نے ٹہنی کاٹنا چاہی	no agreement
4	اس نے کھانا کھانا چاہا	agreement	اس نے کھانا کھانا چاہا	no agreement
5	اس نے ٹہنی کاٹنے کو کہا	no agreement	اس نے ٹہنی کاٹنے کو کہا	no agreement
6	اسے ٹہنی کاٹنی [چاہیئے / تھی / آتی تھی]	Agreement	اسے ٹہنی کاٹنا [چاہیئے / تھی / آتی تھی]	no agreement
7	ان باغوں میں نقلی پہاڑیاں بنی تھیں	Agreement	ان باغوں میں نقلی پہاڑیاں بنی تھیں	agreement
8	ٹہنی کاٹنا کام آیا	no agreement	ٹہنی کاٹنا کام آیا	no agreement
9	ٹہنی کاٹنا اچھا ہوتا ہے	no agreement	ٹہنی کاٹنا اچھا ہوتا ہے	no agreement
10	کھانا کھانا اچھا ہوتا ہے	no agreement	کھانا کھانا اچھا ہوتا ہے	no agreement
11	ٹہنی کاٹنا اچھی عادت ہوتی ہے	no agreement	ٹہنی کاٹنا اچھی عادت ہوتی ہے	no agreement
12	کھانا کھانا اچھی عادت ہوتی ہے	no agreement	کھانا کھانا اچھی عادت ہوتی ہے	no agreement

It has been noticed that most speakers prefer the dialect 1. The analysis given below tries to model this dialect.

We agree with Marium Butt's analysis of infinitives which introduces two independent instances of local agreement. The first instance involves agreement between object of the embedded infinitival clause and the infinitival verb and the second instance involves agreement between the infinitival clause and the matrix (outer main) verb [1]. The second agreement is the same as between an object and the main verb in which the main verb agrees with the object only when the subject is blocked (i.e. subject is not in nominative form). So for infinitivals we only consider the agreement between object of the embedded infinitival clause and the infinitival verb.

As a rule the infinitival verb does not agree with its object when the infinitival clause is followed by case markers, post-positions, nominal post position or the word 'wala'. Also whenever the infinitival clause occurs as a subject this agreement does not hold (sentence 8-12). Thus the presence or absence of this agreement is questionable only when the infinitival clause occurs as an object in nominative case.

From the above sentences it can be deduced that the agreement holds when the sentence having infinitival object has a blocking subject. Thus 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.

Sentence number 11 and 12 in the above table indicates absence of gender agreement plus it shows absence of gender in the infinitival phrase. The absence of gender is indicated by the fact that the pred-link (اچھی عادت) does not agrees with the subject (sentence 12). In general it can be said that whenever gender agreement is absent gender is missing. To model this lexicon can have separate entries for infinitivals having positive gender agreement

(like Masculine کھانا, کھانے and Feminine کھانی) and for the ones that have negative gender agreement. Entries with negative agreement will have no gender feature in them (like کھانا, کھانے without any gender feature).

Result: We decided on analysis 1 & 2 above.

Future Work: To generate all accent variation.

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Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	23 Sep, 2004	4.1.0.1	Created
Sara Hussain	16 Dec, 2004	4.1.0.2	rule modified for compatibility with grammar file (changed name of AdjP to AdjPmain)
Sara Hussain	7th Feb, 2005	4.1.0.3	Modified to add infinitival rule (VPinf)
Sara Hussain	22nd Jan, 2005	4.1.0.4	Modified to add checks for Deverbal
Nayyara Karamat	**07-Jul-2005**	**5.1.0.1**	**Current NPnoun checked and rectified**
Tafseer Ahmed	**07-Jul-2005**	**5.1.0.2**	**Current NPnoun checked and rectified**
Aasim Ali	13-Jul-2005	5.1.0.3	WP (wala phrase) is shifted in the start (right after GP) AdjPmain is changed to AdjP*
Aasim Ali	16-Jul-05	5.1.0.4	Changed GP to GPmain

Rule ID: UGR106

Rule Syntax: Following is the constituent description of the rule.
NPnoun -> (GPmain) (WP) (DeverbalVP) (dem) ([QuantP | NumberP]) [AdjP]* (n) [n | VPinf].

Rule Functional Description: Following are the functional specifications of the rule.

```
NPnoun -> (GPmani:^ SPEC GEN=!, ^NUM = !NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT,
                    ^FORM = ! FORM ;)
          (WP:  ^ SPEC WAL = ! , ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT , ^
                    FORM = ! FORM ;)
          (DeverbalVP: ^ SPEC DVER =!; )
          (dem: ^ SPEC DEM = !, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ FORM = ! FORM;)
               ([QuantP: ^ SPEC QUANT = !, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = !
               RESPECT , ^ FORM = ! FORM;
               | NumberP: ^ SPEC NUMBER = !, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT
               , ^ FORM = ! FORM;])
          (AdjP: ^ ADJUNCT ADJ = !, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = !
                    RESPECT , ^ FORM = ! FORM ; )
          [n: ! $ ^ ADJUNCT MOD_N, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT , ^ FORM
                    = ! FORM;]#0#3
          [  n: ^=!, ^ PERS = 3, !_INFL_AGREEMENT = NA; | VPinf:^=!, ^ PERS = 3, ^_INFL_AGREEMENT =
                     {NEGATIVE,POSITIVE}, ^ SEM_TYPE = ABSTRACT;].
```

Frequency: 1

Description: The rule shows the Noun Phrase having noun with its modifiers and specifiers.

c-structure: Noun Phrase can have Genitive Phrase, Deverbal Phrase, Determiner, Number, Demonstrative, Quantifier Phrase, Number Phrase, Adjective Phrase nodes with compulsory Noun or infinitival node.

f-structure: Features present in any of the daughter nodes are copied to NP.

Example:

حامد کی کتاب

حامد کا پڑھنا

میرا قلم

چند گھوڑے

ایسی تین کتابیں

گھاس چرتے ہوئے سفید گھوڑے

وہ گاڑی والا لڑکا

اوپر والی تین کتابیں

نیچے والی کتابیں

اوپر والی کتابوں والا بستہ

صبح والی بلی

ایک صبح والی میز والے کام والے لڑکے والی دو کتابوں والی باتوں کا ذکر

بڑے اچھے بہت پیارے بہت زیادہ بڑے بڑے خوبصورت پہاڑ

حامد کی، اسلم کی اور امجد کی کتابیں

Rule Status: Under-process

Reference: [1] Javaid, Ismat
"نئی اردو قواعد"
1985, 2nd Ed
[2] Platts, John T
"A Grammar of the Hinsustani or Urdu Language"
1909, 5th Ed.

Related Rules: UGR008, UGR010, UGR011, UGR013, UGR016

Replaces: - UGR008, UGR010, UGR011, UGR013, UGR016, UGR104

Reason: - NPcommon and NPproper are merged. Previous rules have hierarchal structure, which are merged into a flat structure rule.

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis 1: The previous analysis discussed in UGR008, 010, 011, 013, 016 that has different rules for Common and Proper Noun.

Analysis 2: Common and Proper noun are different in semantic properties, but their usage in sentence is similar. The Noun Phrase consists of a noun that is head word. It has modifiers and specifiers that describe it. Genitive Phrase, Deverbal Phrase, Demonstrative, Quantifier, Number and Wala phrase are used to specify the noun. Adjectives and Noun acting as adjective are used to describe properties of the head noun. The order of these modifiers/specifiers in a noun phrase can change but it has a more frequently used order.

Infinitivals have been modeled as noun since they occur in nominal positions and can take same modifiers (GP, adjectives, deverbals etc.) as nouns do. For this reason infinitival phrase has been placed in this rule.

WP (Wala Phrase) can handle translation of English phrase like “Top 3 books” as
“اوپر والی تین کتابیں”. This also works for “صبح والی دو چیزیں”, and thus with every noun before “والی، والا، والے” in this position (i.e, right after *GP*) in the *Noun*.
Long list of adjective (without any separator), as in بڑے اچھے بہت پیارے بہت زیادہ بڑے بڑے خوبصورت پہاڑ, caused the use of AdjP* in place of AdjPmain. Experiencing the problem that * allows only 0 to 3 occurences changed the * to become #0#7 instead. Though بڑے بڑے in this example is not a pair of simple adjectives (rather it holds the sense of “numerous” as well) yet they are left as it is for the sake of reducing ambiguity / time-complexity for Generator.

Result: We decided on analysis 2.

Future Work:
Examples as given below are not included in current analysis because they have not been encountered yet while translating from English, and they are complicated enough that may cause a marginal delay in response time of the Generator:

میز پر کی کتاب

اور سرخ

کوئی اور سرخ

اور بھی کالا

نیلا سا رنگ

بہت سا پانی

شیر کی سی صورت

کہیں بہتر بات

ایک ایک

دس دس

دودھ والا

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	25 Oct, 2004	4.1.0.1	Created
Tafseer Ahmed	4th Nov, 2004	4.1.0.2	F-Description are added to cover various types of VerbalP.

Rule ID: UGR109

Rule Syntax: Following is the constituent description of the rule.
VerbalP -> ComplexP (TenseAuxP).

VerbalP -> ComplexP asp_aux (TenseAuxP)

VerbalP -> ComplexP TenseAuxP

VerbalP -> ComplexP

Rule Functional Description: Following are the functional specifications of the rule.
VerbalP -> ComplexP:^ = !, ~[! _MORPH_FORM =c PERFECTIVE], ^ VTYPE = Usual,! _SUBJ_CASE =c NOM, ^ _MORPH FORM = ! _MORPH_FORM; (TenseAuxP:^ TNS_ASP = ! TNS_ASP,^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;).

VerbalP -> ComplexP:^ = !, ~[! _MORPH_FORM =c PERFECTIVE], ^ VTYPE = ERG,! _SUBJ_CASE =c ERG, ^ _MORPH FORM = ! _MORPH_FORM; (TenseAuxP:^ TNS_ASP = ! TNS_ASP, ^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;).

VerbalP -> ComplexP:^ = !, ^ VTYPE = Usual,! _SUBJ_CASE =c NOM; asp_aux:^ TNS_ASP = ! TNS_ASP,^ _MORPH_FORM =c ! _ALLOWED_FORM, ^ _MORPH FORM = ! _MORPH_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND; (TenseAuxP:^ TNS_ASP = ! TNS_ASP, ^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;).

VerbalP -> ComplexP:^ = !, ^ VTYPE = ERG,! PERF_CONTROL = c POS; asp_aux:^ TNS_ASP = ! TNS_ASP,^ _MORPH_FORM =c ! _ALLOWED_FORM, ^ _MORPH FORM = ! _MORPH_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND; (TenseAuxP:^ TNS_ASP = ! TNS_ASP, ^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;).

VerbalP -> ComplexP:^ = !, ~[! _MORPH_FORM =c PERFECTIVE], ^ VType = DAT,! _SUBJ_CASE =c DAT, ^ _MORPH FORM = ! _MORPH_FORM; (TenseAuxP:^ TNS_ASP = ! TNS_ASP,^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;).

VerbalP -> ComplexP:^ = !, ^ VType = DAT,! _SUBJ_CASE =c DAT; asp_aux:^ TNS_ASP = ! TNS_ASP,^ _MORPH_FORM =c ! _ALLOWED_FORM, ^ _MORPH FORM = ! _MORPH_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND; (TenseAuxP:^ TNS_ASP = ! TNS_ASP, ^ _MORPH FORM =

! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;).

VerbalP -> ComplexP:^ = !, ! _MORPH_FORM =c PERFECTIVE, ^ VTYPE = Usual,! _SUBJ_CASE =c NOM, ^ _MORPH FORM = ! _MORPH_FORM; TenseAuxP:^ TNS_ASP TENSE = PAST, ^ TNS_ASP FAR_TYPE = ! FAR_TYPE, ^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;.

VerbalP -> ComplexP:^ = !, ! _MORPH_FORM =c PERFECTIVE, ^ VTYPE = Usual,! _SUBJ_CASE =c NOM, ^ _MORPH FORM = ! _MORPH_FORM; TenseAuxP:! TNS_ASP TENSE =c FUTURE, ^ TNS_ASP = ! TNS_ASP,^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;.

VerbalP -> ComplexP:^ = !, ! _MORPH_FORM =c PERFECTIVE, ^ VTYPE = Usual,! _SUBJ_CASE =c NOM, ^ _MORPH FORM = ! _MORPH_FORM,^ TNS_ASP TENSE = PAST, ^ TNS_ASP FAR_TYPE = NEUTRAL;.

VerbalP -> ComplexP:^ = !, ! _MORPH_FORM =c PERFECTIVE, ^ VTYPE = ERG,! _SUBJ_CASE =c ERG, ^ _MORPH FORM = ! _MORPH_FORM; TenseAuxP:^ TNS_ASP TENSE = PAST, ^ TNS_ASP FAR_TYPE = ! FAR_TYPE, ^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;.

VerbalP -> ComplexP:^ = !, ! _MORPH_FORM =c PERFECTIVE, ^ VTYPE = ERG,! _SUBJ_CASE =c ERG, ^ _MORPH FORM = ! _MORPH_FORM; TenseAuxP:! TNS_ASP TENSE =c FUTURE, ^ TNS_ASP = ! TNS_ASP, ^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;.

VerbalP -> ComplexP:^ = !, ! _MORPH_FORM =c PERFECTIVE, ^ VTYPE = ERG,! _SUBJ_CASE =c ERG, ^ _MORPH FORM = ! _MORPH_FORM,^ TNS_ASP TENSE = PAST, ^ TNS_ASP FAR_TYPE = NEUTRAL;.

VerbalP -> ComplexP:^ = !, ! _MORPH_FORM =c PERFECTIVE, ^ VType = DAT,! _SUBJ_CASE =c DAT, ^ _MORPH FORM = ! _MORPH_FORM; TenseAuxP:^ TNS_ASP TENSE = PAST, ^ TNS_ASP FAR_TYPE = ! FAR_TYPE,^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;.

VerbalP -> ComplexP:^ = !, ! _MORPH_FORM =c PERFECTIVE, ^ VType = DAT,! _SUBJ_CASE =c DAT, ^ _MORPH FORM = ! _MORPH_FORM; TenseAuxP:! TNS_ASP TENSE =c FUTURE, ^ TNS_ASP = ! TNS_ASP, ^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;.

VerbalP -> ComplexP:^ = !, ! _MORPH_FORM =c PERFECTIVE, ^ VType = DAT,! _SUBJ_CASE =c DAT, ^ _MORPH FORM = ! _MORPH_FORM,^ TNS_ASP TENSE = PAST, ^ TNS_ASP FAR_TYPE = NEUTRAL;.

Frequency: 1

Description: This rule shows main rule for verb phrase.

c-structure: Verb phrase consists of a complex predicate phrase followed by optional aspectual auxiliaries and tense auxiliary phrase.

f-structure: Complex predicate phrase, auxiliary and tense auxiliary have agreement on the basis of number, gender, person and morphological form of verb.

Examples:

۔[وہ [پڑھتا ہے

۔[وہ [پڑھتا ہوگا

۔[وہ [پڑھے گا

۔[وہ [پڑھ رہا ہے

۔[اس نے [پڑھا

Rule Status: Under Process

Reference:
[1] UGR103
[2] Miriam Butt, Discussion at EGD_ULP meetings

Related Rules: UGR116, UGR024

Related POS: UPOS104

Replaces: - UGR020

Reason: - UGR020 was a general rule for all types of VP.

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis: The Usual Verb Phrase consists of Complex Predicate, Optional Auxiliary Phrase and Tense Auxiliary Phrase. In syntax of commonly used Urdu, only one aspectual auxiliary is used after Complex Predicate. Morphological form of each node depends on form of the next node. For example, 'ہے', 'تھا' and 'ہوگا' allow PERFECTIVE or HABITUAL form. 'گا' allows SUBJUNCTIVE form before it. The Complex Predicate provides the Sub-Categorization frame for the phrase. The case of subject is provided by last main or light verb of the phrase.

Result: We decided on above analysis.

Future Work: Verbal Phrase should deal all possible combinations of Aspectual auxiliaries so the sentences like 'پرندے اڑتے چلے جا رہے ہوتے ہوں گے' should be parsed successfully.

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	25 Oct, 2004	4.1.0.1	Created
Tafseer Ahmed	4th Nov, 2004	4.1.0.1	F-Description is added to the rule.
Sara Hussain	20th Dec, 2004	4.1.0.2	Renamed FORM feature of asp_aux to _AUX_FORM

Rule ID: UGR110

Rule Syntax: Following is the constituent description of the rule.

VerbalPpassive -> ComplexP asp_aux (asp_aux) (TenseAuxP)

Rule Functional Description: Following are the functional specifications of the rule.

VerbalPpassive -> ComplexP:^ = !; asp_aux: [!_AUX_FORM =c 'passive_ja'],^ TNS_ASP = ! TNS_ASP,^ _MORPH_FORM =c ! _ALLOWED_FORM, ^ _MORPH FORM = ! _MORPH_FORM,^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND; (TenseAuxP:^ TNS_ASP = ! TNS_ASP, ^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;).

VerbalPpassive -> ComplexP:^ = !; asp_aux: [!_AUX_FORM =c 'passive_ja'],^ TNS_ASP = ! TNS_ASP,^ _MORPH_FORM =c ! _ALLOWED_FORM, ^ _MORPH JA_FORM = ! _MORPH_FORM,^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND; asp_aux:^ TNS_ASP = ! TNS_ASP, ^ _MORPH JA_FORM =c ! _ALLOWED_FORM, ^ _MORPH FORM = ! _MORPH_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND; (TenseAuxP:^ TNS_ASP = ! TNS_ASP,^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;).

Frequency: 1

Description: This rule shows main rule for verb phrase.

c-structure: Verb phrase consists of a complex predicate phrase followed by optional aspectual auxiliaries and tense auxiliary phrase.

f-structure: Complex predicate phrase, auxiliary and tense auxiliary have agreement on the basis of number, gender, person and morphological form of verb.

Examples:

کتاب [پڑھی گئی]۔

کتاب [پڑھی جا سکتی ہے]۔

Rule Status: Under Process

Reference: UGR103, UGR109

Related Rules: UGR116, UGR024

Related POS: UPOS013

Replaces: - UGR020

Reason: - UGR020 was a general rule for all types of VP.

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis: Passive Sentence has a special syntax that is different from syntax of Usual Verb Phrase. It has Aspectual Auxiliary 'passive_ja' after Complex Predicate. The form of 'passive_ja' is determined by tense and aspect of the sentence. The Agreements in this kind of Verbal Phrase is same as discussed in UGR109.

Result: We decided on above analysis.

Future Work: Sentences having more than two aspectual auxiliaries will be modeled.

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	25 Oct, 2004	4.1.0.1	Created
Tafseer Ahmed	4th Nov, 2004	4.1.0.2	F-Description is added to the rule.

Rule ID: UGR112

Rule Syntax: Following is the constituent description of the rule.

VerbalPchahiye -> v (TenseAuxP)

Rule Functional Description: Following are the functional specifications of the rule.

VerbalPchahiye -> v: ^=!, !FORM =c 'chahiye'; (TenseAuxP:~[! TENSE =c PRES],^ TNS_ASP = ! TNS_ASP, ^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;).

Frequency: 1

Description: This rule shows main rule for verb phrase.

c-structure: Verb phrase consists of verb ‘chaihye’ followed by optional tense auxiliary phrase.

f-structure: verb and tense auxiliary have agreement on the basis of number, gender, person and morphological form of verb.

Examples:

اسے کتاب چاہیے۔

اسے پڑھنا چاہیے تھا۔

Rule Status: Under Process

Reference: UGR103, UGR109

Related Rules: UGR024

Related POS: UPOS013, UPOS014

Replaces: - UGR020

Reason: - UGR020 was a general rule for all types of VP.

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis: 'Chahiye' is a special modal of Urdu. It do not allow aspectual auxiliaries after it. The verb chahiye in this context has only one morphological form i.e. 'chahiye' used in all contexts. The behavior of this modal is different from verb 'chah', so it is considered as a separate lexical entry with seperate predicate. The Agreements in this kind of Verbal Phrase is same as discussed in UGR109.

Result: We decided on above analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	25 Oct, 2004	4.1.0.1	Created
Sara Hussain	16 Dec, 2004	4.1.0.2	rule modified for compatibility with grammar file (square brackets added) Modified tns_aux to tense_aux and FORM of tense_aux to _AUX_FORM

Rule ID: UGR114

Rule Syntax: Following is the constituent description of the rule.

VerbalPhay -> [v | [v tense_aux]]

Rule Functional Description: Following are the functional specifications of the rule.

VerbalPhay -> [v: ^ = !, ! _VERB_FORM =c 'hay_dat'; | [v: ! _VERB_FORM =c 'hay_dat'; tense_aux: ! _AUX_FORM =c 'ga';]].

Frequency: 1

Description: This rule shows main rule for verb phrase.

c-structure: Verb phrase consists of a verb.

f-structure:.

Examples:

اس بخار[ہے]۔

اسے آنا[ہے]۔

Rule Status: Under Process

Reference: UGR103, UGR109

Related Rules:

Related POS: UPOS013, UPOS016

Replaces: - UGR020

Reason: - UGR020 was a general rule for all types of VP.

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis: DATIVE 'hay' is a special verb that need dative subject. It is different from Copula 'hay' that needs nominative Subject and Predlink. The forms of 'hay_dat' is 'hay'(all forms), 'tha'(all forms) and 'ho'(followed by tense auxiliary 'ga').

Result: We decided on above analysis.

Future Work

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	25 Oct, 2004	4.1.0.1	Created
Sara Hussain	20th Dec,2004	4.1.0.2	Modified tns_aux to tense_aux and FORM of tense_aux to _AUX_FORM

Rule ID: UGR115

Rule Syntax: Following is the constituent description of the rule.

VerbalPpred -> [v | v tense_aux]

Rule Functional Description: Following are the functional specifications of the rule.

VerbalPpred -> [v: ^ = !, ! FORM =c 'hay_pred'; | [v: ! FORM =c 'hay_pred'; tense_aux: ! _AUX_FORM =c 'ga';]]

Frequency: 1

Description: This rule shows main rule for verb phrase.

c-structure: Verb phrase consists of a verb node and an optional tense auxiliary.

f-structure:

Examples:

لڑکا بیمار [ہے]۔

گاڑی گھر میں [ہے]۔

Rule Status: Under Process

Reference:

Related Rules:

Related POS: UPOS013, UPOS016

Replaces: - UGR026

Reason: - New Rules are introduced for all Verb Phrases.

Replaced by: -

Analysis: Following is the in-depth analysis of the rule.

Analysis: Predicative or Copular ‘hay’ is a special verb that needs nominative subject. It is different from Dative ‘hay’ that needs dative Subject. The forms of ‘hay_pred’ are ‘hay’(all forms), ‘tha’(all forms) and ‘ho’(followed by tense auxiliary ‘ga’)

Result: We decided on above analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	27 Oct, 2004	4.1.0.1	Created
Tafseer Ahmed	4th Nov, 2004	4.1.0.2	F-Description is added to the rule.
Sara Hussain	23 Feb, 2005	4.1.0.3	Added check so that deverbals do not pass through this rule
Sara Hussain	3 March, 2005	4.1.0.4	Added rule for verbal adjective/adverb
Aasim Ali	08-AUG-2005	5.1.0.1	Documentation of changes made in UGR file by Nayyara

Rule ID: UGR0116

Rule Syntax: Following is the constituent description of the rule.
ComplexP -> v
ComplexP -> v_n ltv

Rule Functional Description: Following are the functional specifications of the rule.
ComplexP -> v: ^ =!;.

ComplexP -> v_n: ^ = !; ltv: ^ = !;.

Frequency: 1

Description: This rule shows rule for main verb phrase.

c-structure: main verb phrase consists of a simple verb or light verb with some adjective or noun.

f-structure: light verb is head of phrase and noun or adjective coming before it becomes DPRED.

Examples:
وہ کہانی [یادکرتی] ہے۔
وہ کمرہ صاف [کرتی] ہے۔
وہ پودوں کو پانی [دیتا] ہے۔
اس نے کام [شروع کیا]۔

Rule Status: Under Process

Reference:

[1] UPOS014(Light Verb Document)

[2] Miriam Butt, Discussion at EGD_ULP Meetings

Related Rules:

Related POS: UPOS013, UPOS015, UPOS017

Replaces: - UGR023

Reason: - Structure of Verbal Phrase is made flatter. Previously auxiliaries were part of ComplexVP.

Replaced by: -

Analysis: Following is of the rule.

Analysis 1:
In Urdu, Complex Predicate can be a simple main verb or it can be a Noun-Verb or Adj-Verb Complex. In second case, Noun/Adjective followed by a light verb like 'hona', 'karna', 'aana' etc. There are two issues regarding Complex Predicate.

First issue is its definition. It is discussed in UPOS014 that aspectual auxiliaries are not part of Complex Predicate. For example, In

اسے جانا پڑتا ہے۔

'parta' is not a light verb.

The Complex Predicate involves 'karna' and 'hona' etc. as light verbs. But all instances of these verbs are not light verbs. For example, 'karna' in following sentence is not a light verb.

اس نے کام کیا۔

In this sentence, 'kaam' is object and 'kiya' is the main verb. Because of this reason, Form of the verb is depending on the Object. If we use a feminine object, the form of verb will be changed. For example:

اس نے بات کی۔

On the other hand, 'yaad karna' is a complex predicate because it requires Subject and Object and it agreement of 'karma' light verb depends on the Object and not on 'yaad'. For example:

اس نے کہانی یاد کی۔

اس نے سبق یاد کیا۔

If we introduce an accusative object, even then the light verb 'karna' will not agree with feminine 'yaad' but it will have default masculine agreement.

اس نے کہانی کو یاد کیا۔

It is important to note that 'yaad' does not always involve in a complex predicate. For Example,

اسے میری یاد آئی۔

is not a complex predicate. Because form of verb 'aana' is depending on the Object 'meri yaad'.

The second issue is of Subcategorization Frame and Agreement requirements. In case of a single verb (for example 'hay_dat' as discussed in UGR11x, the verb tells that it needs Subject and Object (in Subcategorization Frame). Subject will be dative and the object will be Nominative in all tenses. For example:

حامد کو بخار ہے۔

'hamid' is Subject and bukhaar is Object.

But in case of Complex Predicate, these responsibilities are divided between verbal_noun and the light verb. The verbal noun has the SubCategorization information. Hence 'yaad' tells that the complex predicate will require Subject and Object. The light verb determines Subject and Object Agreement and verbal_noun has no contribution in it. For example,

وہ سبق یاد کرتا ہے۔

اس نے سبق یاد کیا۔

Since deverbals are also verbs, an extra check has been added so that deverbals cannot pass through this rule. For all deverbals feature DEVERBAL is present having the value of either NOUN or ADJECTIVE.

Analysis 2:
There was another solution to these N-V complex predicates. It was that to list all such combinations as separate words. But it is not a proper solution because light verbs are very productive in making new complex verbs.

Result: We decided on analysis 1.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	24 Sep, 2004	4.1.0.1	Created
Aasim Ali	08-Jul-2005		Status Marked Deprecated

Rule ID: UGR118

Rule Syntax: Following is the constituent description of the rule.

NPnoun -> (GP) (DeverbalVP) (dem) ([QuantP | NumberP]) WP.

NPnoun -> (GP) DeverbalVP .

Rule Functional Description: Following are the functional specifications of the rule.

```
NPnoun -> (GP:^ SPEC GEN=!, ^NUM = !NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT, ^FORM =
        ! FORM ;)
        (DeverbalVP: ^ SPEC DVER =!; )
        (dem: ^ SPEC DEM = !, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT , ^
        FORM = ! FORM;)
        ([QuantP: ^ SPEC QUANT = !, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = !
        RESPECT , ^ FORM = ! FORM;
                | NumberP: ^ SPEC NUM = !, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = !
                RESPECT , ^ FORM = ! FORM;])
        WP:  ^ = ! , ^ PERS = 3, ^ NFORM =c POS;

NPnoun -> (GP:^ SPEC GEN=!, ^NUM = !NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT, ^FORM =
        ! FORM ;)
        DeverbalVP: ^ SPEC DVER =!, ^ PERS = 3, ^ NFORM =c POS;
```

Frequency: 1

Description: This rule shows pre-adjectival phrase.

c-structure: Noun Phrase can have Genitive Phrase, Deverbal Phrase, Demonstrative, Wala Phrase as nodes.

f-structure: Features present in any of the daughter nodes are copied to NP.

Examples:

[اس کے گھر والے] آئے۔

میں نے [کھاتے ہوئوں] کو دیکھا۔

Rule Status: Under Process ----- It has been Deprecated, please see UGR106

Reference:

Related Rules:

Related POS: UPOS011

Replaces: -

Reason: -

Replaced by: - UGR106

Analysis: Following is the analysis of the rule.

Analysis 1: Usually Noun acts as head of Noun Phrase. In absence of noun demonstratives, Deverbals, quantifiers, adjective etc. can act as noun (and head of noun phrase). For example,

اچھوں نے کہا ہے۔

اتنوں نے سنا تھا۔

چارآئے۔

In above examples, adjective, demonstrative and number act as noun.

Analysis 2: An alternate analysis of above phenomenon is that اچھوں, اتنوں, چار are nouns. A point favoring the analysis is that these words have noun morphology and do not show morphology of adjective or demonstrative etc. For example, Plural Oblique of adjective اچھا is اچھے, but it is اچھوں in above example that follows noun's rule. Hence, it can be said that adjectives, demonstratives, numbers, quantifiers are noun also.

Deverbal and wala phrase, act as noun in the absence of noun head word.

Result: We decided on Analysis 2.

Future Work:
Genitive Phrase used as noun is not dealt here because its evidence is not available. The sentences like

تمہارے نے کہا۔

اس کے آئے۔

seems to be unacceptable. But it requires search of this phenomenon in written text and spoken language.

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	5 Oct, 2004	4.1.0.1	Created
Sara Hussain	16 Dec, 2004	4.1.0.2	rule modified for compatibility with grammar/Lexicon file (removed square brackets and removed NUM, RESPECT, GEND and FORM checks from intens)
Aasim Ali	07-Jul-2005	4.1.0.3	Updated for multiple adverbs
Aasim Ali	15-Jul-05	5.1.0.4	Analysis about "سب سے کم" added

Rule ID: UGR119

Rule Syntax: Following is the constituent description of the rule.
N_AdvP -> PP.
N_AdvP -> A_advP.
N_AdvP -> PP A_advP.

Rule Functional Description: Following are the functional specifications of the rule.

N_AdvP -> PP: ^ = !, !PFORM =c 'se', ^ NUM = {SG,PL}, ^ RESPECT =
{NORESPECT,FAMILIAR,USUAL,EXTRA}, ^ GEND = {M,F}, ^ FORM = {NOM,OBL};.

N_AdvP -> A_AdvP: ^ ADV=!, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ GEND = ! GEND,
^ FORM = ! FORM;.
N_AdvP -> PP: ^ = !, !PFORM =c 'se', ^ NUM = {SG,PL}, ^ RESPECT =
{NORESPECT,FAMILIAR,USUAL,EXTRA}, ^ GEND = {M,F}, ^ FORM = {NOM,OBL};
A_AdvP: ^ ADV=!, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ GEND = ! GEND,
^ FORM = ! FORM;.

Frequency:

Description: This rule shows Adverbial effects on Adjective used in Noun Phrase.

c-structure: Pre-Nominal Adverbial Phrase consists of a adverb or postpositional phrase having 'se'. The adverb is followed by optional intensifier.

f-structure: Pre-Nominal Adverbial Phrase usually becomes ADJUNT of an adjective.

Examples:

[بہت ہی] اچھا

[مجھ سے] اچھا

[زیادہ] اچھا

[بہت][زیادہ]اچھا

[[اس سے][بہت][زیادہ]]اچھا

[[سب سے][زیادہ]]اچھا

[[زیادہ سے][زیادہ]]خوبصورت

Rule Status: Under Process

Reference: Discussion with Mr Tafseer and Ms Nayyara

Related Rules: UGR128, UGR146, UGR120

Related POS:

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis1: Adverbial Phrases have many functions in Urdu grammar. These can modify sentences, verbs or adjectives. Pre-Nominal Adverbial Phrase is commonly used before adjective in a noun phrase. The adverb commonly modifies the quality of adjective e.g. بہت اچھا، ہلکا نیلا ۔ The postposition phrase can have only 'se' as postposition. Here 'se' is used for comparison like حامد سے اچھا، سب سے خوبصورت . The intensifier e.g. 'hi' is used to intensify the effect of adeverb.

Two adverbs may come together in a situation when 1st adverb (sub-adverb) tells the degree/intensity of the 2nd one (main-adverb), like بہت زیادہ خوبصورت۔ It is also observed that comparison (PP with pform='se'), if exists in the N_AdvP, occurs only in the start of the phrase. All elements of this rule are kept at parallel level because no single element is dependent on the other, as:

اس سے بہت زیادہ خوبصورت

اس سے زیادہ خوبصورت

اس سے بہت خوبصورت

اس سے خوبصورت

بہت زیادہ خوبصورت

زیادہ خوبصورت

بہت خوبصورت

Analysis2:

In case of two adverbs, 1st one is qualifier of 2nd one. Thus the f-structure of phrase اس سے بہت زیادہ خوبصورت should be as discussed in the rule describing A_AdvP (UGR146).

In phrase like سب سے اچھا, POS for 'سب' is analyzed to be *noun* because this position is nominal, as: احمد سے اچھا. Same observation is noted for کم سے کم، زیادہ سے زیادہ، خراب سے خراب، بڑے سے بڑا. In these examples the starting words (کم، زیادہ، خراب، بڑے) work as *noun*.

Result: We decided on above analysis1 in all respects except where Analysis2 overrides (more than one adverb).

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	5 Oct, 2004	4.1.0.1	Created
Aasim Ali	25-Jul-05	5.1.0.1	Added a sub-rule AdjP1

Rule ID: UGR120

Rule Syntax: Following is the constituent description of the rule.
AdjP -> [AdjP1] #1#4 AdjP1
AdjP -> AdjP1

AdjP1 -> N_AdvP adj
AdjP1 -> adj

Rule Functional Description: Following are the functional specifications of the rule.

AdjP1 -> N_AdvP:^ SPEC =!, ^NUM=!NUM, ^GEND = !GEND, ^RESPECT = !RESPECT , ^FORM = !FORM;
adj:^=!, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT , ^ FORM = ! FORM,
^NDERIVED = !NDERIVED; .

AdjP1 -> adj:^=!, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT , ^ FORM = ! FORM,
^NDERIVED = !NDERIVED; .

AdjP -> AdjP1: ^=!, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT , ^ FORM = ! FORM; .
AdjP -> [AdjP1: !$^, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT , ^ FORM = ! FORM;] #1#4
AdjP1: !$^, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT , ^ FORM = ! FORM; .

Frequency:

Description: This rule shows Adjectival Phrase used in Noun Phrase.

c-structure: Adjectival Phrase consists of an adjective that is followed by an optional Pre-Nominal Adverbial Phrase.

f-structure: Adjectival Phrase usually becomes member of ADJUNT ADJ set of the noun.

Examples:

[سرخ]

[[قدیم][زیادہ]]

[اچھا[بہت ہی]]

[اچھا[مجھ سے]]

Rule Status: Under Process

Reference:

Related Rules: UGR119

Related POS: UPOS110

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis: Adjectival Phrase consists of an adjective and the adverbial phrase modifying it.

Result: We decided on above analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	5 Oct, 2004	4.1.0.1	Created
Sara Hussain	6th Jan, 2005	4.1.0.2	Modified to add adjunct (adverb) cases
Sara Hussain	7th Feb, 2005	4.1.0.3	Modified to add gender agreement check for infinitivals in NPnoun
Aasim Ali	16-Jul-05	5.1.0.1	Removd adv, which was added to accommodate یہاں، ہمیشہ، آج (their POS has already been changed to *noun*)

Rule ID: UGR121

Rule Syntax: Following is the constituent description of the rule.
GP -> [NPnoun | NPpronoun] cm
GP -> gen_pro

Rule Functional Description: Following are the functional specifications of the rule.

GP -> [NPnoun: ^ GENOBJ =!, ! FORM =c OBL, !_INFL_AGREEMENT =c NEGATIVE ; | NPpronoun: ^ GENOBJ =!, ! FORM =c OBL, ! CASE =c GEN;]
cm: ^=!, ! CASE = GEN;.

GP -> gen_pro: ^ =!;.

Frequency:

Description: This rule shows Genitive Phrase that is special type of Case Phrase.

c-structure: Genitive Phrase consists of an noun phrase/pronoun followed by genitive case marker or a genitive pronoun in accusative/dative form.

f-structure: Genitive Phrase has case marker as head and the noun phrase is present as its object.

Examples:

[اچھی لڑکی کی] کتاب

[کتاب پڑھنے کا] طریقہ

[اس کا] قلم

[میری] میز

[یہاں کے] کھیت

[ہمیشہ کی] طرح
[ہمیشہ کا] ساتھ

Rule Status: Under Process

Reference:

Related Rules: UGR1017, UPOS106

Related POS: UPOS120, UPOS001

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis 1: Genitive Phrase is a special type of case phrase that can occur in a noun phrase. It acts as a specifier, and specifies a known. For example, in کتاب [لڑکی کی], it is specified that book(kitaab) belongs to girl. Genitive Pronoun is special type of pronoun that has Genitive case and do not need a case marker. We make a separate phrase for Genitives, because unlike other case phrases, these modify noun and become its adjunct. Other modify verbs and act as subject, object, obliq and adjunct etc. of it.

Adverbs which indicate place (direction) or time can also act as a specifier. For example in کھیت [یہاں کے], it is specified that we are taking about the fields (khet) that exist here (in this place).

In the phrase طریقہ [کتاب پڑھنے کا], an infinitival clause precedes the genitive case marker *ka*. The gender agreement is absent between the infinitival verb and its embedded object whenever the infinitival clause is followed by a case marker. For this reason a check (~[!_INFL_AGREEMENT =c POSITIVE]) has been added to allow only negative agreement to pass through this rule.

Analysis 2: Genitive Phrase is a case phrase, so a KP with genitive case as constraint should be used for it.

Result: We decided on analysis 1.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	5 Oct, 2004	4.1.0.1	Created
Sara Hussain	7th Feb, 2005	4.1.0.2	Modified to add gender agreement check for infinitivals in NPnoun
Aasim Ali	13-Jul-2005	5.1.0.1	Using NPmain instead of NPnoun Introducing AdjP and ordinal

Rule ID: UGR122

Rule Syntax: Following is the constituent description of the rule.
WP -> NPmain wala
WP -> AdjP wala
WP -> ordinal wala

Rule Functional Description: Following are the functional specifications of the rule.

WP -> NPmain: ^ WALOBJ = !, ! FORM =c OBL, !_INFL_AGREEMENT =c NEGATIVE;
wala: ^=!;.
WP -> AdjP: ^ WALOBJ = !, ^GEND=!GEND, ^NUM=!NUM, ^FORM=!FORM, ^RESPECT=!RESPECT;
wala: ^=!;.
WP -> ordinal: ^ WALOBJ = !, ^GEND=!GEND, ^NUM=!NUM, ^FORM=!FORM, ^RESPECT=!RESPECT;
wala: ^=!;.

Frequency:

Description: This rule shows Wala Phrase that is an adjunct of noun.

c-structure: Wala Phrase consists of a noun phrase followed by ‘wala’.

f-structure: Wala Phrase has ‘wala’ as head and the noun phrase is present as its object.

Examples:

[قلم [نیلا والا]

[میز [بڑی والی]

[کتاب [سبز جلد والی]

[آدمی [کتاب پڑھنے] والا]]

[کتاب [اچھی] والی]]

[راستہ [وہ] والا]]

[شخص [بڑے بالوں، چھوٹے کانوں اور موٹے ہونٹوں] والا]]

Rule Status: Under Process

Reference: [1] UPOS119 (Wala POS Document)
[2] Javaid, Ismat
"نئی اردو قواعد"
1985, 2nd Ed

Related Rules: UGR106

Related POS: UPOS119

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis : Wala Phrase is a specifier used to modify the noun. The phrase is unique as it has 'wala' word as its head. 'wala' is a word that is also a POS too. See POS document of 'wala'(UPOS119). The structure of wala phrase is similar to Genetive phrase and its semantics are also some-what similar.

In the phrase والا [کتاب پڑھنے], an infinitival clause precedes 'wala'. In such cases the gender agreement is absent between the infinitival verb and its embedded object. Additional check (~[!_INFL_AGREEMENT =c POSITIVE]) has thus been added to allow only negative agreement to pass through this rule.

Agreement of gender, number, form, and respect is observed only in case of Adjective-Wala phrase, like اچھا والا، اچھی والی،اچھے والے so disagreement in this case is incorrect as *اچھا والی .

In case of ordinal-Wala phrase, the agreement is optional (dpending upon the context), as in پہلا والا، پہلی والی، پہلے والا .

However, for restricting the over-generation, this agreement is also defined as required.

As far as NPmain-Wala phrase is concerned, there is no need/concept of agreement between the NPmain and the following wala, as in:

میزوں والا

قلم والی

Result: We decided on analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	5 Oct, 2004	4.1.0.1	Created

Rule ID: UGR123

Rule Syntax: Following is the constituent description of the rule.
PPmain -> PP
PPmain -> PP [[comma PP]]* coord_conj

Rule Functional Description: Following are the functional specifications of the rule.
PPmain -> PP: ^=!;.
PPmain -> PP: ! $ ^; [[comma:; PP: ! $ ^;]]* coord_conj:^=!; PP:! $ ^;.

Frequency:

Description: This rule represents the co-ordination of Postpositional Phrase.

c-structure: It consists of a single postpositional phrase or a list of comma separated postpositional phrases.

f-structure: A set of postpositional phrase having co-ordination type at root..

Examples:
میرے بغیر یا میرے ساتھ

Rule Status: Under Process

Reference:

Related Rules: UGR106

Related POS: UPOS121, UPOS122

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis : Postpositional Phrases can be conjuncted like other phrases. The co-ordination consists of a comma-seperated PP list having a co-ordinating conjunction before last PP.

Result: We decided on analysis.

Future Work: Conjunction between disimiliar phrases e.g. Case Phrase and Postpositional Phrase, or Case Phrase and Nominal Postpositional Phrase are to be modeled. For example,

[میز پر] یا [دراز کے اندر] KP and NomPP

[زمین کے اوپر] اور [آسمان تلے] PP and NomPP

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	5 Oct, 2004	4.1.0.1	Created
Sara Hussain	16 Dec, 2004	4.1.0.2	comments added for compatibility with grammar file and better understanding
Aasim Ali	29-Jun-2005	5.1.0.1	Removed redundant rule for coordinate conjuntion of 2nd & 3rd Person
Aasim Ali	18-Jul-2005	5.1.0.2	Removed constraint for PERSon
Aasim Ali	19-Jul-2005	5.1.0.3	Changed ~AUR to YA
Aasim Ali	28-Jul-05	5.1.0.4	Removed redundant checks on Form, Case, Num, Gend etc.

Rule ID: UGR124

Rule Syntax: Following is the constituent description of the rule.
KPmain -> KP

KPmain -> KP [[comma KP]]* coord_conj KP

Rule Functional Description: Following are the functional specifications of the rule.
KPmain -> KP:^=!; .

//AUR Conjuncted
KPmain -> KP: ! $ ^; [[comma:; KP: ! $ ^;]]* coord_conj:^=!, !CONJ_FORM =c AUR; KP: ! $ ^; .

//YA Conjuncted
KPmain -> KP: ! $ ^; [[comma:; KP: ! $ ^;]]* coord_conj:^=!, !CONJ_FORM =c YA; KP: ! $ ^; .

Frequency:

Description: This rule represents the co-ordination of Case Phrase.

c-structure: It consists of a case phrase or a list of comma separated case phrases.

f-structure: A set of case phrases having co-ordination type and agreement features at the root.

Examples:

میں یا وہ

مجھے، تمہیں یا اسے

تم نے اور عمران نے

Rule Status: Under Process

Reference:

Related Rules: UGR002

Related POS: UPOS121, UPOS122

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis : Case Phrase can be coordinated by using coordination conjunction. So a Case Phrase(KP) in sentence can be a single case phrase or a list of comma separated case phrase having a coordinating conjunction before last case phrase.

There are two issues in the coordination of KP. There is a favorable order of KPs depending upon their types. For example, مجھے، تمہیں یا اسے is more acceptable than تمہیں ، اسے یا مجھے . The natural order is that 1st person will be followed by 2nd Person and that will be followed by third person.

The other issue is the features of coordinated KP. A case phrase(KP) has person, number, gender, form, case and respect features. The verbal phrase agrees with all these features(except case). So the features for coordinated KP as a whole should be known.

If coordination is made by using AUR, then it shows a collection which results in plural number. For example,

میں اور تم آئے۔

Similarly, we can say that respect feature will be usual because usual repect is equivalent to plural in Urdu syntax. The Gender of AUR coordinated KP is masculine, because coordination of masculine KP and feminine KP results in masculine KP(that is default gender of Urdu.) For example,

لڑکا اور لڑکی آئے۔

حامد اور عمران آئے۔

Co-ordination of KP has a condition that KPs of same form and case can be coordinated. For example, following are not valid

*میں نے اور اسے

*تم اوراس

Rules for these features are given in following table.

Conjunction Type	Aur	Others(e.g. ya)
Number	Plural	Of last KP
Gender	Masculine	Of last KP
Person	1st then 2nd then 3rd	Of last KP
Form	All KPs should have same.	All KPs should have same.
Respect	Usual	Of last KP
Case	All KPs should have same.	All KPs should have same.

The rules for coordination like above are not present in grammar books.The rules are extracted from a small survey from native speakers. The rules for AUR coordination seems to be well established among these people. But for others, the rules are confusing and more than one rules can exist. For example,

لڑکا یا لڑکی آئی۔

لڑکی یا لڑکے آئے۔

In both of the above examples, verb is agreeing with the last KP. But there are examples that are confusing fro the speakers. For example, one can predict both 'aaya' and 'aayen' in following sentence.

؟لڑکیاں یا لڑکا آیا۔

The sentence is also confusing, because it seems that Urdu prefers singular phrases before plural ones. So a more natural version of above sentence in Urdu will be

لڑکا یا لڑکیاں آئیں۔

The sentence also show agreement of verb with last KP.

Constraint for person has been removed keeping in view to prefer the order of the original sentence in English.

All checks related to Form, Case, Num, Gend etc have been removed because they will be coming from English and will fill the Urdu / Mapping f-structure accordingly.

Result: We decided on analysis.

Future Work: The Gender rule for AUR conjunction is an over-simplification, that says that gender of aur conjuncted phrase is always Masculine. The rule is true for masc-masc and fem-masc conjunction, but it is not true for fem-fem conjunction. New rules should be written to successfully parse sentences like

لڑکیاں اوراستانیاں آئیں۔

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	5 Oct, 2004	4.1.0.1	Created
Sara Hussain	16 Dec, 2004	4.1.0.2	comments added for compatibility with grammar file and better understanding
Aasim Ali	29-Jun-2005	5.1.0.1	Removed redundant rule for coordinate conjuntion of 2nd & 3rd Person
Aasim Ali	18-Jul-2005	5.1.0.2	Removed constraint for PERSon
Aasim Ali	19-Jul-2005	5.1.0.3	Changed ~'AUR' to 'YA'

Rule ID: UGR125

Rule Syntax: Following is the constituent description of the rule.
NPmain -> NP

NPmain -> NP [[comma NP]]* coord_conj NP

Rule Functional Description: Following are the functional specifications of the rule.

NPmain -> NP: ^=!; .

//AUR Conjuncted
NPmain -> NP: ! $ ^; [comma:; NP: ! $ ^, ^ FORM = ! FORM;]* coord_conj:^=!, !CONJ_FORM =c AUR; NP: ! $ ^; .

//YA Conjuncted
NPmain -> NP: ! $ ^; [comma:; NP: ! $ ^, ^ FORM = ! FORM;]* coord_conj:^=!, !CONJ_FORM =c YA; NP: ! $ ^; .

Frequency:

Description: This rule represents the co-ordination of Noun Phrase.

c-structure: It consists of a noun phrase or a list of comma separated noun phrases.

f-structure: A set of noun phrases having co-ordination type and agreement features at the root.

Examples:

میں یا وہ

تم، حامد اورعمران

Rule Status: Under Process

Reference: UGR137(KP Coordination Document)

Related Rules: UGR138

Related POS: UPOS121, UPOS122

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis : Noun Phrase can be coordinated by using coordination conjunction. So a Noun Phrase (NP) can be a single noun phrase or a list of comma separated noun phrases having a coordinating conjunction before last case phrases.

The features of coordinated noun phrase are determined by the grammar rules. The rules are similar to the rules of KP discussed in UGR137. The only except is that NP do not deal CASE feature. The feature rules are following:

Conjunction Type	Aur	Others(e.g. ya)
Number	Plural	Of last NP
Gender	Masculine	Of last NP
Person	1st then 2nd then 3rd	Of last NP
Form	All NPs should have same.	All NPs should have same.
Respect	Usual	Of last NP

Constraint for person has been removed keeping in view to prefer the order of the original sentence in English.

Result: We decided on analysis.

Future Work: (1) The Gender rule for 'aur' conjunction is an over-simplification, that says that gender of 'aur' conjuncted phrase is always Masculine. The rule is true for masc-masc and fem-masc conjunction, but it is not true for fem-fem conjunction. New rules should be written to successfully parse sentences like

لڑکیوں اوراستانیوں نے کہا۔

(2) We assume that NP do not have CASE feature, the assumption is not true for pronouns having accusative/dative case. For example, اسے، تمہیں. It is required that these pronouns should be constrained in this phrase.

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	5 Oct, 2004	4.1.0.1	Created
Aasim Ali	08-Jul-2005	5.1.0.1	Verified for correctness and fixed by few minor changes
Aasim Ali	15-Jul-05	5.1.0.2	Modified to allow ONLY YA (یا) conjunction.

Rule ID: UGR126

Rule Syntax: Following is the constituent description of the rule.
AdjPmain -> AdjP [[comma AdjP]]* coord_conj AdjP .

AdjPmain -> AdjP

Rule Functional Description: Following are the functional specifications of the rule.
AdjPmain -> AdjP: ! $ ^, ^NUM = !NUM, ^GEND = !GEND, ^FORM = !FORM, ^RESPECT = !RESPECT, ^NDERIVED = !NDERIVED;
[[comma:; AdjP: ! $ ^, ^NUM = !NUM, ^GEND = !GEND, ^FORM = !FORM, ^RESPECT = !RESPECT, ^NDERIVED = !NDERIVED;]]*
coord_conj: ^=!, !CONJ_FORM =c YA; AdjP: ! $ ^, ^NUM = !NUM, ^GEND = !GEND, ^FORM = !FORM, ^RESPECT = !RESPECT, ^NDERIVED = !NDERIVED; .

AdjPmain -> AdjP:^ =!, ^NUM = !NUM, ^GEND = !GEND, ^FORM = !FORM, ^RESPECT = !RESPECT, ^NDERIVED = !NDERIVED; .

Frequency:

Description: This rule represents the co-ordination of Adjective Phrase.

c-structure: It consists of a adjective phrase or a list of comma separated adjective phrases.

f-structure: A set of adjective phrases having co-ordination type and agreement features at the root.

Examples:
[سچا یا کھرا] لڑکا
[سبز، نیلی یا سرخ] کتاب

Rule Status: Under Process

Reference:

Related Rules: UGR120

Related POS: UPOS121, UPOS122

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis : Adjective Phrase can be coordinated by using coordination conjunction. So a Adjective Phrase (AdjP) can be a single adjective phrase or a list of comma separated adjective phrases having a coordinating conjunction before last adjective phrases. As features of adjectives are used for agreement in noun phrase and copular sentences, the conjuncted phrase have features whose values are same as the values of the constituent. Hence adjectives having similar features can be co-ordinated. For example, following phrase is not valid.

*سچا یا کھری

It has been observed that 'AND' conjunction (اور) hardly occurs when combining Adjectives (using replication of ***AdjP*** would suffice in such cases). For example:

لمبے گھنے کالے ریشمی بال

So keeping the majority cases in view, *AdjPmain* has been modified to accommodate ONLY YA conjunction (یا).

کالی، نیلی یا ہری پتنگ

صاف یا گندے کپڑے

Result: We decided on analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	5 Oct, 2004	4.1.0.1	Created
Sara Hussain	18th Feb, 2005	4.1.0.2	Modified

Rule ID: UGR127

Rule Syntax: Following is the constituent description of the rule.

DeverbalVP -> (KPmain) v v
DeverbalVP -> (KPmain) v_n ltv v

Rule Functional Description: Following are the functional specifications of the rule.
DeverbalVP -> (KPmain: ^OBJ=!;) v:^=!, !_MORPH_FORM =c {PERFECTIVE, HABITUAL}, !DEVERBAL =c {NOUN, ADJECTIVE}; v: ^HO=!, !_VERB_FORM =c 'ho', !DEVERBAL =c {NOUN, ADJECTIVE}, ^NUM = !NUM, ^GEND = !GEND, ^FORM = !FORM;.

DeverbalVP -> (KPmain: ^OBJ=!;) v_n:^=!; ltv: ^=!, !_MORPH_FORM =c {PERFECTIVE, HABITUAL}, !DEVERBAL =c {NOUN, ADJECTIVE}; v: ^HO=!, !_VERB_FORM =c 'ho', !DEVERBAL =c {NOUN, ADJECTIVE}, ^NUM = !NUM, ^GEND = !GEND, ^FORM = !FORM;.

Frequency:

Description: Deverbal Verb Phrase can be used as adjective in a noun phrase, a noun phrase or as an adjunct.

c-structure: Deverbal Verb Phrase consists of an optional case phrase and two verbs.

f-structure: Deverbal Verb Phrase checks that the first verb is in either in habitual or perfective form and the second verb is a morphological form of verb 'ho' .

Examples:

لڑکی [پڑھتی ہوئی]

لڑکی [کتاب پڑھتی ہوئی]

لڑکا [دوڑتا ہوا]

سیب [کھایا ہوا]

کتاب [پڑھی ہوئی]

Rule Status: Under Process

Reference: عصمت جاوید، نئی اردو قواعد، صفحہ 54

Related Rules: UGR007, UGR109

Related POS:

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis : Deverbial Phrase can act as an adjective, a noun or as an adjunct phrase in a sentence. The phrase is of two type: Habitual and Perfective. Perfective phrase is used to indicate the completion of an action. e.g. مرا آدمی، گری ہوئی دیوار. Habitual phrase is used to indicate the continuity of an action e.g. بہتا پانی. This verb is optionally followed by the verb 'ho'. Since there is no clear semantic difference introduced by adding the verb 'ho' we can chose to generate (optional) verb 'ho' with every deverbial Phrase. This choice is based on the observation that the verb 'ho' completes meaning of this phrase when it occurs as a noun. For this reason verbal form of 'ho' is always generated in a deverbial phrase.

Deverbial Phrase has another difference with normal verbal phrases. The verbs in deverbal phrase have nominative and oblique forms. So a deverbial phrase can be in oblique form in a case phrase or postpositional phrase. For Example:

میں نے [[بہتا ہوا] پانی] دیکھا۔

میں [[بہتے ہوئے] پانی میں] تیرا۔

The table below shows different forms of a deverbal phrase with verb in habitual form, when it occurs as modifiers of noun phrases.

	Sample phrases	Other adjective / noun	ho	Habitual
singular nominative	کانپتا ہوا لڑکا	ا	ا	ا
	کانپتا لڑکا	ا	×	ا
	کانپتی ہوئی لڑکی	ی	ی	ی
	کانپتی لڑکی	ی	×	ی

plural nominative	کانپتے ہوئے لڑکے آئے	ے	ے	ے
	کانپتے لڑکے	ے	×	ے
	کانپتی ہوئی لڑکیاں آئیں	ں / یں	ی	ی
	کانپتی لڑکیاں	ں / یں	×	ی
singular oblique	کانپتے ہوئے لڑکے نے کہا	ے	ے	ے
	کانپتےلڑکے نے	ے	×	ے
	کانپتی ہوئی لڑکی نے کہا	ی	ی	ی
	کانپتی لڑکی نے	ی	×	ی
plural oblique	کانپتے ہوئے لڑکوں نے	وں	ے	ے
	کانپتے لڑکوں نے	وں	×	ے
	کانپتی ہوئی لڑکیوں نے	وں	ی	ی
	کانپتی لڑکیوں نے	وں	×	ی

Deverbial Phrase can also act as adverb. For example,

میں نے اسے [تیرتے ہوئے] دیکھا۔

The following sentences show that case of Deverbial Phrase is not affected by number and gender. For example,

عمارت بنتے ہوئے دیکھی

عمارتیں بنتے ہوئے دیکھیں

مکان بنتے ہوئے دیکھا

مکانات بنتے ہوئے دیکھے

The table below shows different forms of a deverbal phrase with verb in habitual form, when it occurs as a noun.

	Sample phrases	ho	Habitual
singular nominative	کانپتا ہوا	ا	ا
	کانپتا	×	ا
	کانپتی ہوئی	ی	ی
	کانپتی	×	ی
plural nominative	کانپتے ہوئے	ے	ے
	کانپتے	×	ے

	کانپتی	یں	ی
	کانپتی	×	یں
sing oblique	کانپتے ہوئے نے	ے	ے
	کانپتے نے	×	ے
	کانپتی ہوئی نے	ی	ی
	کانپتی نے	×	ی
plural oblique	کانپتے ہوؤں نے	وں	ے
	کانپتوں نے	×	وں
	*کانپتی ہوؤں نے Use default (masculine) case i.e. کانپتے ہوؤں نے	وں	ے
	کانپتوں نے Using default gender	×	وں

Result: We decided on analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Omar Javed	06 Nov, 04	0.1	Created
Sara Hussain	27th Dec, 2004	4.1.0.0	rule modified for compatibility with grammar file (changed KP to NP). *This approach also constraints over generation of cm with p cases*
Sara Hussain	7th Jan, 2005	4.1.0.1	Modified rule to add adjunct (adverb) cases
Sara Hussain	7th Feb, 2005	4.1.0.2	Modified to add gender agreement check for infinitivals in NP
Aasim Ali	07-Jul-2005	5.1.0.3	Adjunct (adverb) rule eliminated
Aasim Ali	15-Jul-05	5.1.0.4	NP changed to NPmain

Rule ID: UGR128

Rule Syntax: Following is the constituent description of the rule.
PP → NPmain p

Rule Functional Description: Following are the functional specifications of the rule.
PP -> NPmain: ^OBJ=!, ! FORM =c OBL, !_INFL_AGREEMENT =c NEGATIVE; p: ^=!;.

Frequency: 1

Description: This rule shows the Postpositional Phrase of Urdu Grammar. This phrase can act as Oblique or Adjunct.

c-structure: This phrase consists of a Case Phrase and Postposition. See POS Definition Document for details about postposition.

f-structure: All features present in postposition are moved to Postposition Phrase. KP becomes object of the phrase.

Example:

سامان سمیت

گھر پر

یہاں پر

ہمیشہ سے

ادھر تک

کتاب پڑھنے تک

Rule Status: Active

Reference:
[1] John T. Platts, *"A Grammar of the Hindustani or Urdu Language"*

Related Rules: UGR002, UGR129, UPOS112 (adv)

Replaces: - UGR004

Reason: -

Replaced by: -

Analysis: Following is the in-depth analysis of the rule.

Analysis:
Postpositional phrase can consist of (1) case phrase and a postposition, or (2) an adverb and a postposition. Case Phrase can have Nominative (NOM) or Genitive (GEN) case as specified by postposition's lexicon entry. Case Phrase has two possible forms, Nominative (NOM) and Oblique (OBL), e.g لڑکے کا،لڑکے کے respectively. In Postpositional phrase, case phrase can be only Oblique form.

In the phrase کتاب پڑھنے سے, an infinitival clause precedes the post position. In such cases the gender agreement is absent between the infinitival verb and its embedded object. Additional check (~[!_INFL_AGREEMENT =c POSITIVE]) has thus been added to allow only negative agreement to pass through this rule.

Adverbs which indicate place (direction) or time can also occur before postpositions. For example in یہاں سے, سے is the postposition while یہاں is the place adverb. [The POS of these adverbs has been modified to be *noun* so the rule taking care of adverbs in place of NP is no more required.]

NP has been modified to be NPmain to accommodate احمد، جمیل، اوراکرم سے چھوٹا single PP clause correctly, instead of generating it incorrectly as *احمد سے، جمیل سے اوراکرم سے چھوٹا،

Result: We decided on above analysis.

Future Work: Some of postposition also act as preposition, e.g بغیر تمہارے, This is not catered in current rule.

Revision History:

Name	Change Date	Version	Description of Changes
Omar Javed	06 Nov, 04	0.1	Created
Sara Hussain	16 Dec, 04	4.1.0.0	modified (added a semi colon)

Rule ID: UGR129

Rule Syntax: Following is the constituent description of the rule.
NomPP → (KP) nomp

Rule Functional Description: Following are the functional specifications of the rule.
NomPP → (KP: (^OBJ)=!;) nomp: ^=!;.

Frequency: 1

Description: This rule shows the Nominal Prepositional Phrase. This phrase can act as Oblique or Adjunct of sentence.

c-structure: This phrase consists of a Case Phrase and an Nominal Preposition. See POS Definition Document for details about nominal preposition (UPOS03).

f-structure: All features present in preposition are moved to the phrase. KP becomes object of the phrase.

Example:

اندر

باہر

مسجد کے اندر

گھر کے باہر

گھر سے باہر

Rule Status: Active

Reference:
[1] John T. Platts, *"A Grammar of the Hindustani or Urdu Language"*

Related Rules: UGR002, UGR128

Related POS: UPOS103

Replaces: - UGR005

Reason: -

Replaced by: -

Analysis: Following is the in-depth analysis of the rule.

Analysis:
Nominal Postpositional phrase consists of an optional case phrase and a postposition. These postpositions can occur without any object. While taking Case Phrase as object, Case Phrase can have Genitive (GEN), or Ablative (ABL) case, i.e. case denoted by سے, as specified by postposition's lexicon entry. It can have more than one possible case values with different semantics. Examples below show this variation. Case Phrase has two possible forms, Nominative (NOM) and Oblique (OBL), e.g. لڑکے کا، لڑکے کے respectively. In Nominal Postpositional phrase, case phrase can be only Oblique form.

An alternative analysis for words likes *ander* اندر is to give them two separate POS for with object and without object cases. This way we can call them adverbs when they occur separate and preposition when occur with object. This analysis was rejected in discussion because it does not seem natural to give two POS to a word when it is playing same role in sentence in both cases. e.g. *who* ***bahir*** *geya* وہ باہر گیا, *woh* ***gher ke bahir*** *geya* وہ گھر کے باہر گیا۔

Result: We decided on above analysis.

Future Work: Some of postpositions also act as preposition, e.g. باہر گھر کے۔ This is not catered in current rule.

Revision History:

Name	Change Date	Version	Description of Changes
Omar Javed	06 Nov, 04	0.1	Created

Rule ID: UGR130

Rule Syntax: Following is the constituent description of the rule.
KPP → NomPP cm

Rule Functional Description: Following are the functional specifications of the rule.
KPP -> NomPP: ^=!, ! ALLOWED_CASE =c ! CASE; cm: ^=!;.

Frequency: -

Description: This rule shows the prepositional phrase marked with case.

c-structure: This phrase consists of an Independent Prepositional Phrase and Case Marker.

f-structure: All features present in Independent Prepositional Phrase and Case Marker are moved to this phrase.

Example:
اندرتک
باہرسے
مسجد کے اندرتک
گھر کے باہرسے
گھر سے باہرتک

Rule Status: Active

Reference:
[1] John T. Platts, *"A Grammar of the Hindustani or Urdu Language"*

Related Rules: UGR002, UGR129

Related POS: UPOS101, UPOS103

Replaces: - UGR006

Reason: -

Replaced by: -

Analysis: Following is the in-depth analysis of the rule.

Analysis:

Nominal Prepositional Phrase NomPP (UGR005) can take case marker after them. For example مسجد کے اندر is a NomPP, and there can be a case marker after it, i.e مسجد کے اندرتک . Possible cases which can occur after any Nominal Postpositional Phrase are determined by head nominal postposition. Case Marker is headless and it will provide case feature to phrase. This information is mentioned in corresponding lexicon entry of nominal postposition in form of an attribute ALLOWED_CASE, which can take set of possible case values.

Result: We decided on above analysis.

Future Work: Feature ALLOWED_CASE may be replaced with some common semantic features of case markers after analysis.

Revision History:

Name	Change Date	Version	Description of Changes
Omar Javed	06 Nov, 04	0.1	Created
Sara Hussain	16 Dec, 2004	4.1.0.0	rule modified for compatibility with grammar file (renamed the L.H.S non-terminal)

Rule ID: UGR131

Rule Syntax: Following is the constituent description of the rule.
NPpronoun → pro

Rule Functional Description: Following are the functional specifications of the rule.
NPpronoun -> pro:^ = !; .

Frequency: 1

Description: This rule shows pronoun acting as noun phrase.

Examples:
[میں]نے[اسے]کتاب دی۔
اسلم نے [اس]سے سوال پوچھا۔

Rule Status: Active

Reference:

Related Rules: UGR007

Related POS: UPOS105

Replaces: - UGR017

Reason: -

Replaced by: -

Analysis: Following is the in-depth analysis of the rule.

Analysis:
Pronouns can act as noun phrase. Unlike nouns modifiers cannot occur before pronouns.

Result: We decided on the above analysis.

Future Work: Some specifiers like *seb*, *log* etc are used with second person plural, these will be handled later.

Revision History:

Name	Change Date	Version	Description of Changes
Omar Javed	06 Nov, 04	0.1	Created
Sara Hussain	16 Dec, 2004	4.1.0.0	rule modified for compatibility with grammar file (checks added)

Rule ID: UGR132

Rule Syntax: Following is the constituent description of the rule.
NumberP → (ordinal) (cardinal).

Rule Functional Description: Following are the functional specifications of the rule.
NumberP -> ordinal:^ SPEC = !, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT,^FORM=!FORM;
cardinal:^ = !, ^ GEND = {M, F}, ^ FORM = {NOM, OBL}, ^ RESPECT ={NORESPECT,FAMILIAR,USUAL,EXTRA};.

NumberP -> ordinal:^ = !, ^ NUM = ! NUM, ^ GEND = ! GEND, ^ RESPECT = ! RESPECT , ^ FORM = ! FORM;.
NumberP -> cardinal:^ = !, ^ GEND = {M, F}, ^ FORM = {NOM, OBL}, ^ RESPECT = {NORESPECT, FAMILIAR, USUAL, EXTRA};.

Frequency: 1

Description: This rule shows number phrase.

Examples:
دو کتابیں
پہلی دو کتابیں
پہلی کتاب

Rule Status: Active

Reference:

Related Rules:

Related POS: UPOS108, UPOS109

Replaces: - UGR018

Reason: -

Replaced by: -

Analysis: Following is the in-depth analysis of the rule.

Analysis:
Number phrase shows number on any noun phrase. Number information can be of two types. Cardinal numbers such as ایک، دو and ordinal numbers such as پہلا، دوسرا, When these two types come together ordinal number becomes specifier of the other, as in پہلی دو کتابیں , پہلی is more attached with دو than کتابیں so it is specifier of دو.

Result: We decided on above analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Omar Javed	06 Nov, 04	0.1	Created
Sara Hussain	16 Dec, 2004	4.1.0.2	rule modified for compatibility with grammar file (checks added

Rule ID: UGR133

Rule Syntax: Following is the constituent description of the rule.
QuantP → quant

Rule Functional Description: Following are the functional specifications of the rule.
QuantP -> quant: ^=! ;.

Frequency: 1

Description: This rule shows quantifier phrase.

Examples:
چند لوگ
تھوڑا پانی

Rule Status: Active

Reference:

Related Rules: UGR016

Related POS: UPOS107

Replaces: - UGR019

Reason: -

Replaced by: -

Analysis: Following is the in-depth analysis of the rule.

Analysis:
This rule shows quantifier phrase. It consists of a single quantifier. It specifies quantity of noun occurring after it. Detail about quantifiers will be in UPOS107.

Result: We decided on above analysis.

Future Work: Quantifier phrase can have more than one quantifiers which will be dealt later. Examples are تھوڑا سا، چند ایک

Revision History:

Name	Change Date	Version	Description of Changes
Omar Javed	06 Nov, 04	0.1	Created

Rule ID: UGR134

Rule Syntax: Following is the constituent description of the rule.
S → [Sint | Sdec | Simp | Sconj | Scomp].

Rule Functional Description: Following are the functional specifications of the rule.
S -> [Sint:^ = !; | Sdec: ^ = !; | Simp: ^ = !; | Sconj: ^ = !;| Scomp: ^ = !;].

Frequency: 1

Description: This is starting rule of the grammar.

Examples:
اس نے کھانا کھایا

کیا وہ ایک اچھا لڑکا ہے؟

تیزی سے کام کرو۔

اسلم کھیل رہا ہے اوراحمد سو رہا ہے۔

اسلم کھیل رہا ہے کیونکہ اس کی امی سو رہی ہیں۔

Rule Status: Active
Reference:
Related Rules: UGR01, UGR028, UGR029, UGR033, UGR036
Related POS:
Replaces: - UGR030
Reason: -
Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis:
This is initial rule of grammar. S is starting symbol of grammar. Sentences can be of declarative, imperative or interrogative type. They can also be joined by coordinating conjunction or subordinating conjunction. This rule is merely added to make a singly starting point for grammar.

Result: We decided on above analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Omar Javed	06 Nov, 04	0.1	Created

Rule ID: UGR135

Rule Syntax: Following is the constituent description of the rule.
Sconj → [Sdec comma]* Sdec coord_conj Sdec.
Sconj → [Sint comma]* Sint coord_conj Sint.
Sconj → [Simp comma]* Simp coord_conj Simp.

Rule Functional Description: Following are the functional specifications of the rule.
Sconj -> [Sdec:! $ ^; comma:;]* Sdec:! $ ^; coord_conj: ^ = !; Sdec:! $ ^;.
Sconj -> [Sint:! $ ^; comma:;]* Sint:! $ ^; coord_conj: ^ = !; Sint:! $ ^;.
Sconj -> [Simp:! $ ^; comma:;]* Simp:! $ ^; coord_conj: ^ = !; Simp:! $ ^;.

Frequency: 1

Description: This rule describes sentence level coordinate conjunction.

Examples:
اسلم کھیل رہا ہے اوراحمد سو رہا ہے۔

Rule Status: Active
Reference:
Related Rules: UGR001, UGR028, UGR029
Related POS:
Replaces: - UGR032
Reason: -
Replaced by: -

Analysis: Following is the in-depth analysis of the rule.

Analysis:
Sentence level coordinate conjunction is handled in this rule. Two coordinate conjunctions, یا and اور, are considered. Three kinds of sentences are joined with each other. When two sentences are being joined, they are separated by a conjunction. If there are more than two sentences, they are separated by comma ',' followed by conjunction and the last sentence. A sentence can only be joined with sentences of same sentence type.

Result: We decided on above analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Omar Javed	06 Nov, 04	0.1	Created

Rule ID: UGR136

Rule Syntax: Following is the constituent description of the rule.
Scomp → Sdec sub_conjP.
Scomp → Simp sub_conjP.
sub_conjP → sub_conj Sdec.

Rule Functional Description: Following are the functional specifications of the rule.
Scomp -> Sdec: ^=!; Sub_conjP: ^=!;.
Scomp -> Simp: ^=!; Sub_conjP: ^=!;.
Sub_conjP -> Sub_conj: ^=!; Sdec: ^ SUBCOMP = !;.

Frequency: 1

Description: This rule describes sentence level subordinate conjunction.

Examples:
اسلم کھیل رہا ہے کیونکہ اس کی امی سو رہی ہیں۔

Rule Status: Active
Reference:
Related Rules: UGR025, UGR028
Related POS:
Replaces: -
Reason: -
Replaced by: -UGR034

Analysis: Following is the analysis of the rule.

Analysis:
Sentence level subordinate conjunction is handled in this rule. In subordinate conjunction first sentence must be declarative or imperative and the second one must be declarative. Second sentence becomes complement (COMP) to the first one.

Result: We decided on above analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Omar Javed	6th Nov, 2004	4.1.0.3	Created
Sara Hussain	21st Feb, 2004	4.1.0.4	Modified for Infinitival agreement check and Deverbal entry
Aasim Ali	08-Jul-2005	5.1.0.1	Relative Clause added, and Deverbal-only production removed
Tafseer Ahmed	**07-Jul-2005**	**5.1.0.2**	**Current NPnoun checked and rectified**
Aasim Ali	08-Aug-2005	5.1.0.3	Documented the NOUN feature added by Nayyara

Rule ID: UGR137

Rule Syntax: Following is the constituent description of the rule.
KP -> NP cm (Rel_Cl)
KP -> NPnoun (Rel_Cl)
KP -> NPpronoun (Rel_Cl) (DeverbalVP)

Rule Functional Description: Following are the functional specifications of the rule.

KP -> NP: ^=!, !FORM =c OBL; cm: ^= !; (Rel_Cl:^ADJUNCT REL_CL=!;).
KP -> NPnoun: ^=!, !FORM =c NOM, ^CASE = NOM, ^ NOUN = POS; (Rel_Cl: ^ ADJUNCT REL_CL= !;).
KP -> NPpronoun:^=!,!FORM=c NOM,!CASE=c {NOM,ACC,DAT,GEN},!_INFL_AGREEMENT=c NA,^NOUN=NEG;
(Rel_Cl: ^ ADJUNCT REL_CL= !;)
(DeverbalVP: ^SPEC DEM= !, ^ NUM = ! NUM, ^ GEND = ! GEND, ^FORM = ! FORM;).

Frequency: 1

Description: This rule shows the Case Phrase of Urdu Grammar. This Case Phrase can act as Subject, Object or Object2.

c-structure: Case phrase consists of a Noun phrase and an optional case marker. In case the noun phrase is a pronoun it can be followed by an optional adverbial phrase.

f-structure: All features present in Noun Phrase and case marker are moved to Case Phrase. Since these features are unified, if there is any inconsistent feature in NP and cm, production will fail.

Example:
لڑکے کو
سیب کو
مجھ سے
تمہیں

[وہ (بھاگتا ہوا)]آیا
[[لکھا ہوا]جومیں نے پڑھا تھا]مٹ چکا ہے
[اس آدمی نے [جس نے سوال پوچھا تھا]] ہاتھ ہلایا ہے

Rule Status: Under Process

Reference:
[1] Butt and King, *"The Status of case"*
[2] مولوی عبدالحق، اردو صرف و نحو، صفحہ 41-42
[3] Bhatt, Rajesh
"Topics in the Syntax of the Modern Indo-Aryan Languages"
April 4, 2003, "Correlative Clauses"
[4] Bhatt, Rajesh
"Topics in the Syntax of the Modern Indo-Aryan Languages"
April 11, 2003, "Other Correlative Clauses"

Related Rules: UGR138, UGR131, UGR106, UGR144

Related POS: UPOS101

Replaces: -UGR002

Reason: -

Replaced by: -

Analysis: Following is the in-depth analysis of the rule.

Analysis:
Case phrase can consist of only noun phrase or noun phrase with a case marker. It consists of only noun phrase when its case is nominative, as in Urdu there is no Nominative case marker. Other possibility is that noun phrase itself contains case. This situation is with pronouns like *mujhe* مجھے, *tumhen* تمھیں etc. For definition of case marker and possible cases in Urdu, see POS document for case markers (ref: UPOS01).
Correct form of noun with case marker is determined on the basis of their lexical features. Nouns have two forms, Nominative and one altered form which can take any case marker. Some pronouns take case markers to make KP, i.e *men ney* میں نے is ergative case of first person singular. Some pronouns contain case themselves and form KP

without adding case marker, i.e *mujhe* مجھے, *tumhen* تمھیں are accusative and dative. Adding case marker with such pronouns is syntax error, i.e *mujhe ko* مجھے کو is wrong. To check this error FORM feature is used.

Deverbals can occur in case phrase as optional specifiers (adjective) for pronouns. In this case number, gender and form of deverbal and pronoun should be same. Deverbals can also occur in a sentence as a noun in nominative case.

Whenever the Relative Clause appears adjacent to its related Noun Phrase, it carries post-nominal form, in Urdu. This rule follows the fixed order of the sentence as already decided and implemented in the rule UGR103 (Sdec). Thus the Relative Clause is only allowed to occur at its syntactically fixed position in the sentence.

میں نے وہ ادھار لی تھی۔ [جو کتاب میز کے نیچے ہے] - Not Handled

میں نے وہ کتاب [جو میز کے نیچے ہے] ادھار لی تھی۔ - Handled

Result: We decided on above analysis.

Future Work:

NPconj will be added rules to deal NP co-ordination.

In addition to the hybrid relatives following tasks are also to be handled in future:

- Relatives in place other post-NP
- Sentence-level relative

Revision History:

Name	Change Date	Version	Description of Changes
Omar Javed	06 Nov, 04	0.1	Created
Sara Hussain	23 Feb,05	4.1.0.1	Modified to remove infinitival phase and add deverbal phrase
Aasim Ali	29-Jun-05	5.1.0.1	Added Relative Clause
Tafseer Ahmed	**07-Jul-2005**	**5.1.0.2**	**Current NPnoun checked and rectified**
Aasim Ali	08-Jul-05	5.1.0.3	Transferred Relative Clause to KP (UGR137), and Transferred DeverbalVP to NPnoun

Rule ID: UGR138

Rule Syntax: Following is the constituent description of the rule.
NP -> NPnoun | NPpronoun

Rule Functional Description: Following are the functional specifications of the rule.
NP -> [NPnoun: ^=!; | NPpronoun: ^= !, !_INFL_AGREEMENT =c NA;].

Frequency: 1

Description: This rule shows Noun phrase.

c-structure: Noun Phrase can consist of Noun Phrase(covering Common Noun, Proper Noun, Verb acting as noun (gerund) or Adjective acting as Noun), Pronoun Phrase or deverbal phrase.

f-structure: Features present in any of the daughter nodes are copied to NP.

Example:

(common noun) [لڑکا] پڑھ رہا ہے

(common noun) [جانور] کھا رہے ہیں

(proper noun) [احمد] اچھا لڑکا ہے

(pronoun) [وہ] اچھا لڑکا ہے

(Deverbal Phrase) [لکھے ہوئے] کو مٹایا ہے

Above mentioned examples are simplest forms of corresponding phrases. Complex phrases will be discussed in their respective rules.

Rule Status: Under-process

Reference:

Related Rules: UGR131, UGR106

Replaces: -UGR007

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis 1:
Noun phrase can consist of common noun phrase, in which head is a common noun and there are modifier attached to it. In the same way it can be a Proper Noun phrase or pronoun. Sometimes verb acts like a noun phrase, it is called gerund. Verb acting as noun is in *masder* مصدر form. Sometime adjectives occur at noun phrase position, e.g *jahil* جاہل, *accha* اچھا

Analysis 2:
Common and Proper Noun do not have any syntactical difference. Therefore, there is no need of two separate rules for common and proper noun. Noun Phrase can be divided as phrases having Noun, phrases having pronoun and deverbal phrase.

Result: We decided on analysis 2.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Omar Javed	06 Nov, 04	0.1	Created

Rule ID: UGR139

Rule Syntax: Following is the constituent description of the rule.
Sint → pro Sdec

Rule Functional Description: Following are the functional specifications of the rule.
Sint -> pro: !PRONFORM =c 'KIYA'; Sdec: ^ = !, ^ STMT_TYPE = INT; .

Frequency: 1

Description: This rule is for yes/no interrogative questions.

Examples:
کیا وہ ایک اچھا لڑکا ہے؟
کیا لڑکے کھیل رہے ہیں؟

Rule Status: Under Process

Reference: [1] John T. Platts, *"A Grammar of the Hindustani or Urdu Language"*

Related Rules:

Related POS:

Replaces: - UGR029

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis:
Yes/no question can be formed using word *kiya* before a declarative sentence [1].

Result: We decided on above analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Tafseer Ahmed	18th May, 04	0.1	Created, replaced UGR028
Aasim Ali	08-AUG-2005	5.1.0.1	Documentation of changes made in UGR file by Nayyara

Rule ID: UGR140

Rule Syntax: Following is the constituent description of the rule.
Simp → pro (KPmain) v

Rule Functional Description: Following are the functional specifications of the rule.
Simp -> pro:^ SUBJ=!, !PRONTYPE =c NULL;
(KPmain:^OBJ=!, !CASE =c NOM;)
v:^=!, !_MORPH_FORM =c PERCATIVE; .

Frequency: 1

Description: This rule shows imperative sentences.

Examples:
کام کر۔

Rule Status: Active
Reference:
Related Rules: UGR002, UGR004, UGR005, UGR006, UGR012, UGR020, UGR034
Related POS:
Replaces: - UGR028
Reason: - previous release document is deprecated.
Replaced by: -

Analysis: Following is the in-depth analysis of the rule.

Analysis:
This rule shows imperative sentences. In imperative sentence there is no explicit subject, therefore, it is kept NULL. There can be four ways of imperative sentences with different level of respect which is shown through morphology of verb being used, as shown in the Future Work section below.

Result: We decided on above analysis.

Future Work:

کام کرو۔

کام کریں۔

کام کیجئے۔

تیزی سے کام کرو۔

کام تیزی سے کرو۔

Revision History:

Name	Change Date	Version	Description of Changes
Sara Hussain	21st Dec, 2004	4.1.0.0	Created
Aasim Ali	08-AUG-2005	5.1.0.1	Documentation of changes made in UGR file by Nayyara

Rule ID: UGR141

Rule Syntax: Following is the constituent description of the rule.

TenseAuxP -> tense_aux

Rule Functional Description: Following are the functional specifications of the rule.

TenseAuxP -> tense_aux: ^ = !, [! _MORPH_FORM =c SUBJUNCTIVE && ! _AUX_FORM =c 'ho'] ,
^ TNS_ASP PROBABLE =c NEG, ^ _MORPH ALLOWED_FORM =c ! _ALLOWED_FORM,
^ TENSE =c ! TENSE;.

Frequency: 1

Description: This rule shows main rule for tense auxiliary phrase.

c-structure: tense auxiliary phrase consists of simple tense auxiliaries or verb ‘ho’ followed by 'ga'/ 'gi' etc..

f-structure:

Examples:

وہ ہنس پڑا[ہو گا]۔

Rule Status: Under Process

Reference:

Related Rules:

Related POS: UPOS116

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis: There are three undisputed tense auxiliaries: *hay*, *tha* and *ga* with there inflectional forms. They show present, past and future tense respectively. "*ho ga"* also acts as tense auxiliary. Combination of two tense auxiliaries also act as tense auxiliary phrase, where first one is *ho* in bare form and second one is *ga.* This combination shows agreement on the basis of their number and person. Gender agreement is only reflected on *ga.*

Result: We decided on above analysis.

Future Work:

کتاب پڑھی جاتی [تھی]۔

Revision History:

Name	Change Date	Version	Description of Changes
Sara Hussain	17th Jan 2005	4.1.0.0	Created
Aasim Ali	08-AUG-2005	5.1.0.1	Documentation of changes made in UGR file by Nayyara

Rule ID: UGR142

Rule Syntax: Following is the constituent description of the rule.

KarP -> (KP) pro v v

Rule Functional Description: Following are the functional specifications of the rule.

```
KarP -> ([KP:^OBJ=!, ! SEM_TYPE =c {UNANIM_CONC,ANIMAL,ABSTRACT}, !CASE =c NOM;
                                |       KP:^OBJ=!, ! SEM_TYPE =c HUMAN, !CASE =c ACC;])
        pro:^SUBJ = !;
        v:^=!, !_MORPH_FORM =c BARE, ^ GEND =c M, ^ NUM=SG;
        v:^KAR=!, !_VERB_FORM =c 'kar', ! _MORPH_FORM =c BARE; .
```

Frequency: 1

Description: Complex sentences are those sentences which contain more than one clause (more than one verb): a main clause and complement clause(s).

c-structure: Infinitival clause consists of optional Case phrase (KP), compulsory pronoun and infinitival verb in its BARE form. The clause ends with the verb *kar* in its BARE form.

f-structure:

Examples:

اس نے [جل کر] جواب دیا۔

اس نے [سر اٹھا کر] میری طرف دیکھا۔

اس کو [ندی تیر کر] پار کرنا تھی۔

وہ [یہاں آکر] آزاد ہو جاتا ہے۔

Rule Status: Under Process

Reference:

Related Rules:

Related POS: UPOS103

Replaces: -

Reason: - Sentences containing the verb *kar* as an adjunct was not analyzed before.

Replaced by: -

Analysis: Following is the in-depth analysis of the rule.

Analysis: The *Kar* clause can acts as a Xadjunct and/or a conjunction (meaning after) in a sentence. Syntactically there is no different between these two constructions. This rule models the Xadjunct form of the Kar clause.

The Kar clause consists of a main verb in BARE form followed by the verb Kar. Objects may occur for some verbs. Also additional description can be added through further adjuncts.

In complex predicates, if the verbal phrase ends with the light verb kar, then the clausal kar is modified to kae. Consider the following example:

* وہ یادکرکرلکھتا ہے

وہ یادکرکے لکھتا ہے۔

Result: We decided on above analysis.

Future Work:

(1) To handle multiple *Kar* Clauses in a sentence

(2) وہ[یادکرکے]لکھتا ہے۔

Revision History:

Name	Change Date	Version	Description of Changes
Sara Hussain	18th Jan 2005	4.1.0.0	Created
Sara Hussain	22 Feb 2005	4.1.0.1	Added deverbal entry

Rule ID: UGR143

Rule Syntax: Following is the constituent description of the rule.

```
S_Adjunct ->  (NPmain) (adv)* (PPmain)*  //temporal
              (adv)* (PPmain)*           //place
              (adv)* (PPmain)*           //manner
              (NomPPmain)*               //manner / purpose
               (DeverbalVP)              //manner
```

Rule Functional Description: Following are the functional specifications of the rule.

```
S_Adjunct ->  (NPmain: ! $ ^TIME, !SEM_TYPE =c TEMPORAL;)                    //temporal
                        ([adv: ! $ ^ TIME,!SEM_TYPE =c TEMPORAL;]*)
                        ([PPmain: ! $ ^ TIME, !OBJ SEM_TYPE =c TEMPORAL;]*)
              ([adv: ! $ ^ PLACE, !SEM_TYPE =c PLACE;]*)                     //place
                        ([PPmain: ! $ ^PLACE, !OBJ SEM_TYPE =c PLACE;]*)
              ([adv: ! $ ^, ~[!SEM_TYPE =c TEMPORAL], ~[!SEM_TYPE =c PLACE];]*)     //manner and others
                        ([PPmain: ! $ ^, ~[!OBJ SEM_TYPE =c PLACE], ~[!OBJ SEM_TYPE =c TEMPORAL];]*)
                ([NomPPmain: ! $ ^;]*)              //manner / purpose
                (DeverbalVP: ! $ ^MANNER, !DEVERBAL =c NOUN, !FORM =c OBL, !NUM =c SG, !GEND =c M;)
                .
```

Frequency: 1

Description: Additional (optional) information about time or place (or manner or purpose, etc.) of an activity is said to serve as an adjunct. This rule shows main order of verbal adjuncts in a sentence.

c-structure: Adjuncts consist of temporal nouns, adverbs, postpositions phrases and deverbals. Since adjuncts are additional information all nodes are optional.

f-structure: Temporal adjuncts are followed by place, manner and then other adjuncts.

Examples:

وہ [کل یہاں گھر پر] آیا ہوا تھا۔ (order: temporal noun, place adverb and then place postposition phrase)

اس نے [فوراً تعظیماً ان کے لیے] جگہ خالی کردی۔ (order: temporal adverb, manner adverb and nominal postposition phrase)

کتاب [گھر میں میز پر] پڑی تھی۔ (order: multiple place postposition phrases)

وہ [آج رات سے گھر پر] کام شروع کرے گا۔ (order: temporal noun, temporal postposition phrase and then place postposition phrase)

[کل یہاں] ایک مشاعرہ تھا۔ (order: temporal noun then place adverb)

وہ [بھاگتے ہوئے] بولا (occurrence of deverbal as adjunct)

Rule Status: Under Process

Reference:

Related Rules:

Related POS: UGR103 (S_dec), UPOS129 (NomPP), UGR125 (NPmain), UGR123 (PPmain), UPOS112 (adv)

Replaces: -

Reason: - Order of sentence level adjuncts was not analyzed before.

Replaced by: -

Analysis: Following is the in-depth analysis of the rule.

Analysis: Urdu is free-order language. For this reason various sentence level adjunct phrases can change their place in a sentence. Thus both sentences given below are correct.

وہ [آج کل] آیا ہوا تھا۔
[آج کل] وہ آیا ہوا تھا۔

This rule models commonly used adjunct order in Urdu. The following lexical and phrase categories can occur as sentence level adjuncts in Urdu: Few nouns (like temporal nouns), adverbs, prepositional phrases and nominal post position phrases. Their description is given below. Relative order of these adjuncts is discussed next.

Noun Adjuncts

Nouns having temporal properties can act as adjuncts. Some examples of temporal nouns are آج، رات، صبح These words could be modeled in two ways. (1) Either they could be assigned two lexical entries: one in which they are nouns and the other in which they are adverb. And it is the adverb entry which can act as an adjunct. (2) Or such words could be assigned a single noun entry in lexicon having temporal property. And rules (such as the one given above) govern when a noun can occur as an adjunct.

We chose the second option, since there are many temporal nouns. Two entries for each one of them can easily be avoided by rule formation.

Adverbial Adjuncts

Meaning of some adverbs can equivalently be expressed by certain prepositional phrases. Consider the table below.

Adverbs	Equivalent prepositional phrases
اتفاقاً	اتفاق سے
جنوباً	جنوب کی طرف
باہم	آپس میں
بخوبی	خوبی سے
درحقیقت	حقیقت میں

During generation there exits a choice between using such adverbs (formed through morphology) and using equivalent prepositional phrases. Since the prepositional phrases form simpler Urdu sentences therefore it was decided that they will be preferred.

Postpositional Adjuncts
Postpositional phrases (including nominal post position phrases) also act as adjuncts in a sentence. This can be seen in the following examples:

وہ[تیزی سے]آیا

اس نے [ان کے لیے] جگہ خالی کر دی۔

Deverbal phrase as Adjuncts
Deverbal phrase can also be used to describe manner of a verb. Such deverbals always occur in oblique form. Their number and gender is not affected by context. This can be seen in the following examples:

عمارت بنتے ہوئے دیکھی

عمارتیں بنتے ہوئے دیکھیں

مکان بنتے ہوئے دیکھا

مکانات بنتے ہوئے دیکھا

Duplication of words and Adjuncts
At times meaning generated by duplicated words is equivalent to the occurrence of the same word with a preposition and / or quantifier. This can be seen in the first two examples given below. Other examples show behavior of duplicated words as adjuncts.

Duplicated words	Sample Sentence	Equivalent meaning phrases
گھر گھر	گھر گھر مٹی کے چولھے ہیں	ہر گھر میں
بات بات	بات بات پر رونا اچھا نہیں ہوتا	ہر بات
چلتے چلتے	مسافر چلتے چلتے تھک گئے	Duplication shows state چلتے ہوئے

بیٹھے بیٹھے	بیٹھے بیٹھے کام نہیں چلتا	Duplication shows state بیٹھے ہوئے
دن دن	دن دن میں منزل پر پہنچ جانا چاہیئے	Duplication intensifies meaning
آہستہ آہستہ	ہوا آہستہ آہستہ چل رہی ہے	Duplication intensifies meaning
کبھی کبھی	وہ کبھی کبھی آتا ہے	Duplication completes sentence کبھی کبھار

During generation there exits a choice between using such duplicated words and using equivalent phrases. Since these phrases form simpler Urdu sentences therefore it was decided that they will be preferred.

Order of Adjuncts:
After analyzing couple of dozen sentences the following order of adjuncts was observed. First temporal adjuncts occur. They are followed by place (spatial) adjuncts. Adjuncts depicting manner occur next. Adjuncts indicating the purpose (usually nominal post positions phrases) are last to occur in sentence level adjuncts.

Result: We decided on above analysis.

Future Work:
(1) Some temporal nouns can take another noun / adverb after it to form an adjunct. For example:
وہ **رات بھر** گھر سے غائب رہتا ہے

Other such words are:
صبح سویرے
رات گئے
دن بھر
کل رات

These words need to be analyzed.

(2) Position of intensifier phrase, which may act as adjunct, need to be determined. Relative position of NomPP and few adverbs like () may need to be reanalyzed.
(3) In actual practice, it is highly unusual to have a number of adjunct phrases. Because the placement of adjuncts is so flexible, when many adjunct phrases occur in a sentence, some of them would probably move to the beginning of the sentence. This phenomenon can to be analyzed. Also in case of such movements long distance dependency may occur.
Reference No:

Revision History:

Name	Change Date	Version	Description of Changes
Aasim Ali	27-Jun-05	0.1	Created

Rule ID: UGR144

Rule Syntax: Following is the constituent description of the rule.
Rel_Cl -> Sdec

Rule Functional Description: Following is the functional description of the rule.
Rel_Cl -> Sdec: ^ =! ; .

Frequency: -

Description: This rule shows the relative clause that modifies NP.

c-structure: Relative Clause is a clause having a complete sentence modifying NP. The sentence can be transitive or intransitive. Relative clause is introduced by relative pronoun.

f-structure: Initially it has been kept same as Sdec. Thus forcing that SUBJ must come in the start of the clause.

Examples:

وہ آدمی [جس نے سوال پوچھا تھا] جا چکا ہے۔

وہ دروازہ [جو کھلا ہے] میرے گھر کا ہے۔

وہ جوتی [جس کا رنگ سبز ہے] اس وقت موجود نہیں ہے۔

وہ سمت [جدھر ہم جا رہے ہیں] درست نہیں ہے۔

وہ جگہ [جہاں ہم گئے تھے] اچھی ہے۔

وہ وقت [جب سب یہاں موجود تھے] اس کام کے لئے مناسب تھا۔

Rule Status: Active
Reference: [1] Bhatt, Rajesh
"Topics in the Syntax of the Modern Indo-Aryan Languages"
April 4, 2003, "Correlative Clauses"
[2] Bhatt, Rajesh
"Topics in the Syntax of the Modern Indo-Aryan Languages"
April 11, 2003, "Other Correlative Clauses"
[3] Pam Peters, "The Cambridge English Guide to Usage", p 468
[4] Miriam Butt, Tracy Holloway King, "A Grammar Writer's Cookbook"

Related Rules: UGR138
Related POS: UPOS105
Replaces: -
Reason: -
Replaced by: -
Reason: -

Analysis: Following is the in-depth analysis of the rule.
Analysis1: There are two types of relative clauses in Urdu: (1) Personal Relative Pronoun, (2) Adverbial Relative. Personal Relative Pronoun clause serves either to define, or to describe and evaluate the noun to which it is attached. Examples 1 to 3 given above illustrate Personal Relative Pronoun, and others illustrate Adverbial Relative. Relative Clause in Urdu may occur at any position in the sentence even away from its related Noun Phrase, but this grammar only handles post-NP relative clause.

Relative clauses are often introduced by the *relative pronouns* such as جو، جس، جن etc. However, in some informal speech, relative pronoun may be omitted:
وہ شخص [اس ادارے کا روح رواں] اس کے خلاف بول رہا تھا۔

Some relative clauses are linked to the main clause by adverbial relatives, such as جب، جہاں، جتنا, For example:

وہ گھر [جہاں ہم ٹھہرے تھے] بہت پرانا ہے۔

The adverbial relatives act as relaters of the second clause to a noun of time, place or reason in the main clause. In less formal styles, the relative adverbs can be replaced by جو, as in

سب ڈبے [جتنے بھی باہر پڑے ہیں] اندر لے آنا۔ – Handled in JO form

سب ڈبے [جو باہر پڑے ہیں] اندر لے آنا۔ – Handled

Result: The above analysis was finalized except:

The relative pronoun جونسے، جونسا، جونسی is word translation of English relative *which*, but in Urdu these relative pronouns can be equally represented by with one relative clause جو so later option has been chosen for simplicity.

Future Work:
Some relatives, in Urdu, are of hybrid nature, which are not dealt with, because they may occur at Sentence level that will be handled in future. They may be used as personal relative pronoun and as adverbial relative, depending on the context. These are جیسے، جیسی، جیسا

In addition to the hybrid relatives following task is also to be handled in future:

- Multiple head relatives

Reference No:

Revision History:

Name	Change Date	Version	Description of Changes
Aasim Ali	15-Jul-2005	5.1.0.1	Created
Aasim Ali	18-Jul-2005	5.1.0.2	Removed constraint for PERSon

Rule ID: UGR145

Rule Syntax: Following is the constituent description of the rule.
GPmain -> GP

GPmain -> GP [[comma GP]]* coord_conj GP

Rule Functional Description: Following is the functional description of the rule.
GPmain -> GP: ^=!; .

//AUR Conjuncted
GPmain -> GP: ! $ ^, ^PERS=!PERS, ^ FORM = ! FORM, ^GEND=!GEND;
[[comma:; GP: ! $ ^, ^ FORM = ! FORM, ^GEND=!GEND;]]*
coord_conj:^=!, !CONJ_FORM =c AUR, ^ NUM = PL, ^RESPECT = USUAL;
GP: ! $ ^, ^ FORM = !FORM, ^GEND=!GEND; .

//YA Conjuncted
GPmain -> GP: ! $ ^, ^ FORM = ! FORM, ^GEND=!GEND;
[[comma:; GP: ! $ ^, ^ FORM = ! FORM, ^GEND=!GEND;]]*
coord_conj:^=!, !CONJ_FORM =c YA;
GP: ! $ ^, ^PERS=!PERS, ^ GEND = !GEND, ^NUM = !NUM, ^ RESPECT = !RESPECT, ^ FORM = !FORM; .

Frequency: -

Description: This rule represents the co-ordination of Genitive Phrase.

c-structure: It consists of a genitive phrase or a list of comma separated genitive phrases.

f-structure: A set of genitive phrases having co-ordination type and agreement features at the root.

Examples:
ہماری یا ان کی
میری، تیری، اس کی اورعمران کی

Rule Status: Active
Reference:

Related Rules: UGR106
Related POS: UPOS121, UPOS122
Replaces: -
Reason: -
Replaced by: -
Reason: -

Analysis: Following is the analysis of the rule.

Analysis : Genitive Phrase can be coordinated by using coordination conjunction. So a Genitive Phrase (GP) can be a single genitive phrase or a list of comma separated genitive phrases having a coordinating conjunction before last case phrases. Gender of all the participating genitive phrases must be same like:

میرا ، تمہارا اوراس کا

ہمارا ، تیرا اوران کا

* ہماری ، تیری اوراس کا

The features of coordinated genitive phrase are determined by the grammar rules. The rules are similar to the rules of KP discussed in UGR137. The only except is that GP do not deal CASE feature. The feature rules are following:

Conjunction Type	**Aur**	**Others(e.g. ya)**
Number	Plural	Of last GP
Gender	Masculine	Of last GP
Person	1st then 2nd then 3rd	Of last GP
Form	All GPs should have same.	All GPs should have same.
Respect	Usual	Of last GP

Constraint for person has been removed keeping in view to prefer the order of the original sentence in English.

Result: We decided on analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Aasim Ali	08-Jul-2005	5.1.0.1	Created

Rule ID: UGR146

Rule Syntax: Following is the constituent description of the rule.

A_AdvP -> (adv) adv (intens)
A_AdvP -> adv intens adv (intens)

Rule Functional Description: Following are the functional specifications of the rule.

A_AdvP -> (adv: ^ MOD_ADV = !, !ADVTYPE =c ADVERB;)
adv: ^ =!, !ADVTYPE =c ADJECTIVE, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ GEND = ! GEND, ^ FORM = ! FORM;
(intens: ^ INSFORM=!INSFORM, !INSTYPE =c ADVERB ;).

A_AdvP -> adv: ^ MOD_ADV = !, !ADVTYPE =c ADVERB;
intens: ^ MOD_ADV INSFORM=! INSFORM, !INSTYPE =c ADVERB ;
adv: ^ =!, !ADVTYPE =c ADJECTIVE, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ GEND = ! GEND, ^ FORM = ! FORM;
(intens: ^ INSFORM =! INSFORM, ! INSTYPE =c ADVERB ;).

Frequency:

Description: This rule shows Adverbial Intensifier and Specifier used in Adverbial Phrase.

c-structure: Pre-Nominal Adverbial Phrase consists of a adverb or postpositional phrase having ‘se’. The adverb is followed by optional intensifier.

f-structure: Pre-Nominal Adverbial Phrase usually becomes ADJUNT of an adjective.

Examples:

[بہت]

[زیادہ][بہت]

[ہی] [زیادہ]

[ہی] [بہت]

[ہی] [زیادہ] [بہت]

[زیادہ] [ہی] [بہت]

[ہی] [زیادہ] [ہی] [بہت]

Rule Status: Under Process

Reference: Discussion with Mr Tafseer and Ms Nayyara

Related Rules: UGR119

Related POS: UPOS112, UPOS118

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis: Two adverbs may come together in a situation when 1st adverb (sub-adverb) tells the degree/intensity of the 2nd one (main-adverb), like بہت زیادہ خوبصورت. However example of more than two adverbs used in formal writing has not been encountered yet. Therefore maximum of two adverbs are allowed in this rule.

بہت زیادہ خوبصورت

زیادہ خوبصورت

بہت خوبصورت

It was also analyzed that *زیادہ بہت خوبصورت is invalid in Urdu. Therefore 1st one is qualifier of 2nd one. So, if two adverbs are present in the phrase then 1st one will become the SPEC feature of the 2nd one. In addition, PP should be recorded as SPEC of the Adjective since it compares the adjective of the head noun. Thus the f-structure of phrase اس سے بہت زیادہ خوبصورت گھر should be as under:

خوبصورت be recorded as ADJUNCT ADJ of گھر

زیادہ be recorded as SPEC ADV of خوبصورت

بہت be recorded as MOD_ADV of زیادہ

The Intensifier (intens) simply sends up its lexicon feature INSFORM to its related head (ADJUNCT or SPEC).

Result: We decided on above Analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Aasim Ali	08-AUG-2005	5.1.0.1	Created to document the changes made in UGR file by Nayyara

Rule ID: UGR147

Rule Syntax: Following is the constituent description of the rule.

VPperf -> ComplexP.
VPperf -> ComplexP TenseAuxP.

Rule Functional Description: Following are the functional specifications of the rule.

VPperf -> ComplexP:^ = !, ^ _MORPH_FORM =c PERFECTIVE,^ TNS_ASP NEARNESS =c INDEFINITE, ^ NUM =c ! NUM_END;.
VPperf -> ComplexP:^ = !, ^ _MORPH_FORM =c PERFECTIVE, ^ NUM =c ! NUM_MID;
[[TenseAuxP:^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ TNS_ASP NEARNESS =c POS, ! _MORPH_FORM =c SUBJUNCTIVE, ! _AUX_FORM =c 'ho', ^ TNS_ASP TENSE =c PAST, ^ NUM =c ! NUM, ^ RESPECT =c ! RESPECT, ^ PERS =c ! PERS, ^ GEND =c ! GEND;

| TenseAuxP:^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ TNS_ASP NEARNESS =c NEG, ! _MORPH_FORM =c PERFECTIVE, ! _AUX_FORM =c 'tha', ^ TNS_ASP =c ! TNS_ASP, ^ NUM =c ! NUM, ^ RESPECT =c ! RESPECT, ^ PERS =c ! PERS, ^ GEND =c ! GEND;]

| [TenseAuxP: ^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ TNS_ASP NEARNESS =c NA, ! TNS_ASP PROBABLE =c POS, !, ^ TNS_ASP =c ! TNS_ASP, ^ NUM =c ! NUM, ^ RESPECT =c ! RESPECT, ^ PERS =c ! PERS, ^ GEND =c ! GEND;]].

Frequency: 1

Description: This rule shows main rule for verb phrase in PERFECTIVE form.

c-structure: Verb phrase consists of a complex predicate phrase followed by optional tense auxiliaries phrase.

f-structure: Complex predicate phrase and tense auxiliary have agreement on the basis of number, gender, person and morphological form of verb.

Examples:

- لڑکا سلیم کو ملا [TNS_ASP NEARNESS =c INDEFINITE]
- لڑکا گھر گیا ہے [TNS_ASP NEARNESS =c POS]
- میں نے کتاب پڑھی تھی [TNS_ASP NEARNESS =c NEG]
- میں نے تمہیں دیکھا ہوگا [TNS_ASP NEARNESS =c NA]
- لڑکے کو سردی لگی [TNS_ASP NEARNESS =c INDEFINITE]

Rule Status: Under Process

Reference:
[1] UGR103
[2] Miriam Butt, Discussion at EGD_ULP meetings

Related Rules: UGR103 UGR116, UGR141

Related POS:

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis: The Usual Verb Phrase consists of Complex Predicate and Optional Tense Auxiliary Phrase. In syntax of commonly used Urdu, only one aspectual auxiliary is used after Complex Predicate. Morphological form of each node depends on form of the next node. For example, 'ہے', 'تھا' and 'ہوگا' allow PERFECTIVE or HABITUAL form.

'گا' allows SUBJUNCTIVE form before it. The Complex Predicate provides the Sub-Categorization frame for the phrase. The case of subject is provided by last main or light verb of the phrase.

NUMber of the VPnonperf is chosen from two features, namely, NUM_MID and NUM_END. NUM_MID means the NUMber of the middle element in the composition, whereas NUM_END means the NUMber of the last element.

Result: We decided on above analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Aasim Ali	08-AUG-2005	5.1.0.1	Created to document the changes made in UGR file by Nayyara

Rule ID: UGR148

Rule Syntax: Following is the constituent description of the rule.

VPnonperf -> ComplexP TenseAuxP.

Rule Functional Description: Following are the functional specifications of the rule.

VPnonperf -> ComplexP:^ = !, ^ _MORPH_FORM =c {HABITUAL,SUBJUNCTIVE}, ^ NUM = ! NUM_MID;
TenseAuxP: ^ _MORPH_FORM = ! _MORPH ALLOWED_FORM, ^ TNS_ASP TENSE = ! TENSE,
^ TNS_ASP PROBABLE = ! TNS_ASP PROBABLE, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT,
^ PERS = ! PERS, ^ GEND = ! GEND;.

Frequency: 1

Description: This rule shows main rule for verb phrase in NON-PERFECTIVE forms.

c-structure: Verb phrase consists of a complex predicate phrase followed by tense auxiliaries phrase.

f-structure: Complex predicate phrase and tense auxiliary have agreement on the basis of number, gender, person and morphological form of verb.

Examples:

- لڑکا مجھے ملے گا [TNS_ASP TENSE = FUTURE]
- لڑکی کتاب پڑھتی ہے [TNS_ASP TENSE = PRES]
- لڑکے کو سردی لگتی ہے [TNS_ASP TENSE = PRES]

Rule Status: Under Process

Reference:
[1] UGR103
[2] Miriam Butt, Discussion at EGD_ULP meetings

Related Rules: UGR103 UGR116, UGR141

Related POS:

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis: The Usual Verb Phrase consists of Complex Predicate and Tense Auxiliary Phrase. In syntax of commonly used Urdu, only one aspectual auxiliary is used after Complex Predicate. Morphological form of each node depends on form of the next node. For example, 'ہے', 'تھا' and 'ہوگا' allow PERFECTIVE or HABITUAL form. 'گا' allows SUBJUNCTIVE form before it. The Complex Predicate provides the Sub-Categorization frame for the phrase. The case of subject is provided by last main or light verb of the phrase.

NUMber of the VPnonperf is chosen from two features, namely, NUM_MID and NUM_END. NUM_MID means the NUMber of the middle element in the composition, whereas NUM_END means the NUMber of the last element.

Result: We decided on above analysis.

Future Work:

Revision History:

Name	Change Date	Version	Description of Changes
Aasim Ali	08-AUG-2005	5.1.0.1	Created to document the changes made in UGR file by Nayyara

Rule ID: UGR149

Rule Syntax: Following is the constituent description of the rule.

VPraha -> ComplexP asp_aux TenseAuxP.

Rule Functional Description: Following are the functional specifications of the rule.

VPraha -> ComplexP:^ = !, ^ _MORPH_FORM =c BARE;
asp_aux: ^ _MORPH_FORM = ! _ALLOWED_FORM, ! _AUX_FORM =c 'raha',
^ _MORPH FORM = ! _MORPH_FORM, ^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS,
^ GEND = ! GEND;
TenseAuxP: ^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ TNS_ASP TENSE = ! TENSE,
^ NUM = ! NUM, ^ RESPECT = ! RESPECT, ^ PERS = ! PERS, ^ GEND = ! GEND;.

Frequency: 1

Description: This rule shows main rule for verb phrase in NON-PERFECTIVE forms.

c-structure: Verb phrase consists of a complex predicate phrase followed by aspect auxiliary and tense auxiliary phrase.

f-structure: Aspect auxiliary and tense auxiliary have agreement on the basis of number, gender, person and morphological form.

Examples:

- لڑکا تمہیں دیکھ رہا ہے [TNS_ASP TENSE = PRES]
- لڑکی کتاب پڑھ رہی ہو گی [TNS_ASP TENSE = FUTURE]
- لڑکے کو سردی لگ رہی تھی [TNS_ASP TENSE = PAST]

Rule Status: Under Process

Reference:
[1] UGR103
[2] Miriam Butt, Discussion at EGD_ULP meetings

Related Rules: UGR103 UGR116, UGR141

Related POS: UPOS114

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis: The Usual Verb Phrase consists of Complex Predicate and Tense Auxiliary Phrase. In syntax of Urdu progressive sentences the main verb occurs in BARE form, and is followed by aspectual auxiliary 'raha'. The Complex Predicate provides the Sub-Categorization frame for the phrase. The case of subject is provided by last main or light verb of the phrase.

Result: We decided on above analysis.

Future Work: Verbal Phrase should deal all possible combinations of Aspectual auxiliaries so the sentences like 'پرندے اڑتے چلے جا رہے ہوتے ہوں گے' should be parsed successfully.

Revision History:

Name	Change Date	Version	Description of Changes
Aasim Ali	08-AUG-2005	5.1.0.1	Created to document the changes made in UGR file by Nayyara

Rule ID: UGR150

Rule Syntax: Following is the constituent description of the rule.

VPmodal -> ComplexP asp_aux TenseAuxP.
VPmodal -> ComplexP asp_aux.

Rule Functional Description: Following are the functional specifications of the rule.

```
VPmodal -> ComplexP:^ = !, ^ _MORPH_FORM  =c BARE;
        asp_aux: ^ _MORPH_FORM = ! _ALLOWED_FORM, ^ TNS_ASP MODAL =c ! TNS_ASP MODAL,
        ^ TNS_ASP PERF =c NEG,^ TNS_ASP NEED =c NEG, ^ TNS_ASP PROG =c NEG,
        ^ _MORPH FORM  =c {HABITUAL,SUBJUNCTIVE}, ^ _MORPH FORM =c ! _MORPH_FORM,
        ^ NUM =c ! NUM_MID, ^ RESPECT =c ! RESPECT, ^ PERS =c ! PERS, ^ GEND =c ! GEND;

        TenseAuxP: ^ _MORPH FORM = ! _MORPH ALLOWED_FORM, ^ TNS_ASP TENSE =c ! TENSE,
        ^ NUM =c ! NUM, ^ RESPECT =c ! RESPECT, ^ PERS =c ! PERS, ^ GEND =c ! GEND;.

VPmodal -> ComplexP:^ = !, ^ _MORPH_FORM  =c BARE;
        asp_aux: ^ _MORPH_FORM = ! _ALLOWED_FORM, ^ TNS_ASP MODAL =c ! TNS_ASP MODAL,
        ^ TNS_ASP PERF =c POS, ^ TNS_ASP PROG =c NEG, ^ _MORPH FORM  =c PERFECTIVE,
        ^ _MORPH FORM =c ! _MORPH_FORM, ^ TNS_ASP NEARNESS =c INDEFINITE,
        ^ NUM =c ! NUM_END, ^ RESPECT =c ! RESPECT, ^ PERS =c ! PERS, ^ GEND =c ! GEND;.

VPmodal -> ComplexP:^ = !, ^ _MORPH_FORM  =c BARE;
        asp_aux: ^ _MORPH_FORM = ! _ALLOWED_FORM, ^ TNS_ASP MODAL =c ! TNS_ASP MODAL,
        ^ TNS_ASP PERF =c POS, ^ TNS_ASP PROG =c NEG, ^ _MORPH FORM  =c PERFECTIVE,
        ^ _MORPH FORM =c ! _MORPH_FORM, ^ NUM =c ! NUM_MID, ^ RESPECT =c ! RESPECT,
        ^ PERS =c ! PERS, ^ GEND =c ! GEND;
        [[                  TenseAuxP:^ _MORPH FORM = ! _MORPH ALLOWED_FORM,
        ^ TNS_ASP NEARNESS =c POS, ! _MORPH_FORM =c SUBJUNCTIVE, ! _AUX_FORM =c 'ho',
        ^ TNS_ASP TENSE =c PAST,  ^ NUM =c ! NUM, ^ RESPECT =c ! RESPECT, ^ PERS =c ! PERS,
        ^ GEND =c ! GEND;
        |                   TenseAuxP: ^ _MORPH FORM = ! _MORPH ALLOWED_FORM,
        ^ TNS_ASP NEARNESS =c NEG, ! _AUX_FORM =c 'tha',^ TNS_ASP =c ! TNS_ASP, ^ NUM =c ! NUM,
        ^ RESPECT =c ! RESPECT, ^ PERS =c ! PERS, ^ GEND =c ! GEND;]
        |                   [TenseAuxP:^ _MORPH FORM = ! _MORPH ALLOWED_FORM,
        ^ TNS_ASP NEARNESS =c NA, ! TNS_ASP PROBABLE =c POS, !, ^ TNS_ASP =c ! TNS_ASP,
        ^ NUM =c ! NUM, ^ RESPECT =c ! RESPECT, ^ PERS =c ! PERS, ^ GEND =c ! GEND;
        ]].
```

Frequency: 1

Description: This rule shows main rule for verb phrase in NON-PERFECTIVE forms.

c-structure: Verb phrase consists of a complex predicate phrase followed by aspect auxiliary and tense auxiliary phrase.

f-structure: Aspect auxiliary and tense auxiliary have agreement on the basis of number, gender, person and morphological form.

Examples:

لڑکا تمہیں دیکھ سکتا ہے ۔
لڑکی کتاب پڑھ سکتی ہو گی ۔
لڑکے کو سردی لگ سکتی تھی ۔
لڑکا سلیم کو مل سکا۔
لڑکا گھر جا سکا ہے ۔
میں کتاب پڑھ سکا تھا ۔
وہ تمہیں دیکھ سکا ہوگا ۔
لڑکا مجھے مل سکے گا ۔

Rule Status: Under Process

Reference:
[1] UGR103
[2] Miriam Butt, Discussion at EGD_ULP meetings

Related Rules: UGR103 UGR116, UGR141

Related POS: UPOS114

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis: The Usual Verb Phrase consists of Complex Predicate and Tense Auxiliary Phrase. In syntax of Urdu progressive sentences the main verb occurs in BARE form only and is followed by aspect auxiliary ‘sak’. The

Complex Predicate provides the Sub-Categorization frame for the phrase. The case of subject is provided by last main or light verb of the phrase.

The aspectual auxiliaries other than the one shown above (سکنا) in examples, are چکنا، پڑنا etc.

NUMber of the VPmodal is chosen from two features, namely, NUM_MID and NUM_END. NUM_MID means the NUMber of the middle element in the composition, whereas NUM_END means the NUMber of the last element.

Result: We decided on above analysis.

Future Work: Verbal Phrase should deal all possible combinations of Aspectual auxiliaries so the sentences like 'پرندے اڑتے چلے جا رہے ہوتے ہوں گے' should be parsed successfully.

Revision History:

Name	Change Date	Version	Description of Changes
Aasim Ali	08-AUG-2005	5.1.0.1	Created to document the changes made in UGR file by Nayyara

Rule ID: UGR151

Rule Syntax: Following is the constituent description of the rule.

VPhay -> (neg_adv) v .

VPhay -> (neg_adv) v tense_aux .

VPhay -> VPperf .

VPhay -> VPraha .

Rule Functional Description: Following are the functional specifications of the rule.

```
VPhay -> (neg_adv:^ADJUNCT NEG=!, !NEGFORM =c nahin;)
        v:^=!, !_MORPH_FORM =c {PERFECTIVE,SUBJUNCTIVE}, ^ TNS_ASP MODAL =c NONE,
        ^ PROBABLE=c NEG,^TNS_ASP PERF=c NEG,^TNS_ASP NEARNESS=c NA,^TNS_ASP NEED=c NEG,
        ^ TNS_ASP PROG =c NEG, ^TNS_ASP TENSE =c !TENSE, ^TNS_ASP TENSE =c {PAST,PRES}; .

VPhay -> (neg_adv:^ADJUNCT NEG=!, !NEGFORM =c nahin;)
        v:^=!, , !_MORPH_FORM =c PRE_GA, ^ TNS_ASP MODAL =c NONE, ^ PROBABLE =c NEG,
        ^ TNS_ASP PERF =c NEG, ^ TNS_ASP NEARNESS =c NA, ^ TNS_ASP NEED =c NEG,
        ^ TNS_ASP PROG =c NEG, ^TNS_ASP TENSE =c !TENSE, ^TNS_ASP TENSE =c FUTURE;
        tense_aux: ^NUM=!NUM,^GEND=!GEND,^PERS=!PERS,^RESPECT=c !RESPECT,!_AUX_FORM=c 'ga';
        .
//woh khush hoa, hoa hay, hoa tha
VPhay -> VPperf:^=!, ^ TNS_ASP MODAL =c NONE, ^ PROBABLE =c NEG, ^ TNS_ASP PERF =c POS,
        ^ TNS_ASP NEED =c NEG, ^ TNS_ASP PROG =c NEG; .

//woh khush ho raha hay, tha
VPhay -> VPraha: ^=!, ^ TNS_ASP MODAL =c NONE, ^ PROBABLE =c NEG, ^ TNS_ASP PERF =c NEG,
        ^ TNS_ASP NEARNESS =c NA, ^ TNS_ASP NEED =c NEG, ^ TNS_ASP PROG =c POS; .
```

Frequency: 1

Description: This rule shows main rule for verb phrase in NON-PERFECTIVE forms.

c-structure: Verb phrase consists of a complex predicate phrase followed by aspect auxiliary and tense auxiliary phrase.

f-structure: Aspect auxiliary and tense auxiliary have agreement on the basis of number, gender, person and morphological form.

Examples:

وہ خوش ہے ۔

وہ خوش تھا ۔

وہ خوش ہوگا ۔

وہ خوش ہوا ۔

وہ خوش ہوا ہے ۔

وہ خوش ہوا تھا ۔

وہ خوش ہوا ہوگا ۔

وہ خوش ہو رہا ہے ۔

وہ خوش ہو رہا تھا۔

Rule Status: Under Process

Reference:
[1] UGR103
[2] Miriam Butt, Discussion at EGD_ULP meetings

Related Rules: UGR103, UGR147, UGR149

Related POS: UPOS113, UPOS116, neg_adv

Replaces: -

Reason: -

Replaced by: -

Analysis: Following is the analysis of the rule.

Analysis: The Usual Verb Phrase consists of Complex Predicate and Tense Auxiliary Phrase. In syntax of Urdu progressive sentences the main verb occurs in BARE form only and is followed by aspect auxiliary ‘sak’. The Complex Predicate provides the Sub-Categorization frame for the phrase. The case of subject is provided by last main or light verb of the phrase.

Predicative or Copular ‘hay’ is a special verb that needs nominative subject and Predlink. The forms of ‘hay_dat’ is ‘hay’(all forms), ‘tha’(all forms) and ‘ho’(followed by tense auxiliary ‘ga’).

Result: We decided on above analysis.

Future Work: Verbal Phrase should deal all possible combinations of Aspectual auxiliaries so the sentences like 'پرندے اڑتے چلے جا رہے ہوتے ہوں گے' should be parsed successfully.