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 کر دی۔   (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 چولہے 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.

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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 <u>رات بھر</u> 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.