



### Center for Research in Urdu Language Processing National University of Computer and Emerging Sciences, Lahore Pakistan

### **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.

**EGD Urdu Localization Project - Grammar Rule Document** 





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*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 دیکہ سکتا ہے۔
- رُکی کتاب پڑھ سکتی ہو گی۔ ٹرکی کتاب
- لڑکے کو سردی لگ سکتی تھی ۔
- لڑکا سلیم کو مل سکا۔
- لڑکا گھر جا سکا ہے۔
- میں کتاب پڑھ سکا تھا۔
- وه تمہیں دیکه 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.





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Result: We decided on above analysis.

**Future Work:** Verbal Phrase should deal all possible combinations of Aspectual auxiliaries so the sentences like 'چرنے ہوں گے' should be parsed successfully.