

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



### **Reference No:**

## **Revision History:**

| Name           | Change Date               | Version | Description of Changes                                       |
|----------------|---------------------------|---------|--|
| Shanza Nayyer  | 22 <sup>nd</sup> Oct, 04  | 0.1     | Created  |
| Kiran Khurshid | 7 <sup>th</sup> Feb, 05   | 0.2     | Allowed multiple PPnmain and<br>VPparticiple in post nominal |
| Kiran Khurshid | 15 <sup>th</sup> Feb, 05  | 0.3     | Allowed parenthesis  |
| Zunaira Malik  | 13 <sup>th</sup> June, 05 | 0.4     | Addition of ADJ_CompP, CompP and NPmain                      |
| Shanza Nayyer  | 29 <sup>th</sup> June, 05 | 0.5     | ADJ  |
| Zunaira Malik  | 25 <sup>th</sup> July, 05 | 0.6     | Change of NPmain to NPnoun                                   |

Rule ID: EGR220

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

POSTNOMP -> (comma) [PARENP | VPparticiple| PPnmain | Rel\_Cl | ADJ\_CompP | CompP | NPnoun ].

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

POSTNOMP -> (comma;) [PARENP: ^ADJUNCT-PAREN=!; | VPparticiple: ! \$ ^ADJUNCT PARTICIPLE; |
PPnmain:! \$ ^ADJUNCT PREP; | Rel\_Cl:^ADJUNCT REL\_CL=!; | ADJ\_CompP:^ADJUNCT ADJ = !; | CompP:
^ADJUNCT ADJ COMPARITIVE = !, ^ADJUNCT ADJ ADJ\_FORM = 2; | CompP: ^SPEC POST-DET QUANT COMPARITIVE = !, ^SPEC POST-DET QUANT SEM\_TYPE = COMPARITIVE; | NPnoun: ! \$ ^ADJUNCT RESTRICTIVE\_NP, ^NUM = !NUM; | VPinfmain:^XCOMP = !, ^XCOMP SUBJ = NULL, ^\_FLAG = ^XCOMP \_FLAG;].

### Frequency: -

Description: This rule shows the phrase/ clause that occurs after an NP and functions as a modifier of NP.

*c-structure:* Noun Phrase can be followed by a prepositional phrase, a relative clause, a participle verb phrase, a parenthetical phrase, an adjective comparative phrase, an adjectival comparative, a comparative quantifier or an NPnoun.

*f-structure:* The parenthetical phrase is made a part of the ADJUNCT-PAREN structure according to the Cookbook analysis [1, p. 148]. All of the productions are made into sets as they can occur one or many times. VPparticiple can also come as an adjunct to NP, providing some detail of the noun, e.g. 'she <u>being the eldest</u> has to be most responsible'.

PPnmain can also occur as a modifier of head noun, e.g. 'Ahmad, from Lahore is applying for visa'. A relative clause is the clause adding description to the noun and hence is added as an ADJUNCT. ADJ\_CompP is used to show an adjective comparison phrase and it goes as an ADJUNCT to NP, .e.g. 'more beautiful than her'.

A CompP production which is part of ADJP is made an ADJUNCT in f-structure and checks for presence of comparative form of adjective in earlier part of ADJP, e.g. 'more amazing work <u>than I thought</u>'. CompP can also be part of the QUANTP as in 'more wok <u>than I wanted</u>', so the production checks for the SEM\_TYPE of quant to be COMPARATIVE.



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In case of the NPnoun, example 7 type occurrences are handled as restrictive NPs. This will later be in a comma separated form to avoid over-generation e.g. 'John, the vice president is resigning'.

## **Examples:**

- 1) The girl whose books I'm reading is good. (Relative Clause)
- 2) The glass on the table in the car is broken. (multiple PPn)
- 3) The letter written by me is placed on the table. (VPparticiple: -ed participle)
- 4) The girl writing the letter has left. (VPparticiple: -ing participle)
- 5) The girl more beautiful than me is in the contest. (ADJ\_CompP with more as ADV)
- 6) The girl <u>quicker than me</u> is in the race. (ADJ\_CompP with comparative form of an ADJ)
- 7) The more beautiful girl than me. (CompP)
- 8) John, the Vice President is resigning. (NPmain)

Rule Status: Active

Reference:

(1) Miriam Butt, Tracy Holloway King, "A Grammar Writer's Cookbook"

Related Rules: EGR113, EGR144, EGR148

Related POS: -Replaces: EGR112

Reason: - change of NPmain to NPnoun

Replaced by: -

Reason: -







**Analysis:** After parsing the sample corpus it was found that multiple prepositional phrases are allowed after each noun.

Kindly refer to the related rules documents for more details.

## Result: -

### **Future Work:**

- The rule for PPnmain further has NPmain allowed in it. Hence for NPs containing more than one PPs there
  should be over-generation. However due to a bug in the parser only one f-structure is formed. This will be
  seen into later.
- More post-nominals might be added in the future.
- Once the comma starts working in the parser, a (comma) optional phrase can also occur before the POSTNOMP (John, the vice president, father of two, and CEO of the company came to lunch). It is commonly seen that NPs occurring post-nominally are preceded by comma, hence for NPs comma will be made mandatory to avoid over-generation.
- The checking of comparative form in CompP is done till yet through assignment operation due to parser problem and hence is over-generating some redundant f-structures. This will be changed to constraint operation (=c) operation in the later stage.