Chapter 4
ADVERB PHRASE

4.1 Introduction

An adverb phrase is either an adverb, or is derived from noun or verb phrase. An adverb phrase may denote cases other than those denoted by grammatical relations. These cases are determined by the type of the noun and the case marker following the noun [12].

Adverbs are divided into five major categories - adverb of time, adverb of place, adverb of manner, adverb of direction and adverb of degree [25]. These categories are further divided into subcategories. For example, the adverb of time is divided into pronominal and non-pronominal types. Similarly other adverb types are also divided into subcategories.

4.2 Adverb Phrase

Adverb phrase is a set of different types of adverbs occurring at different positions in a sentence. In this section, rules for adverb phrase are described. In the rules, symbols ADV, ADV_DEGREE, ADV_DIRECTION, ADV_MANNER, ADV_PLACE, ADV_TIME and INTENSF denote an adverb, an adverb of degree phrase, an adverb of direction phrase, an adverb of manner, an adverb of place, an adverb of time and an intensifier, respectively. Symbols ADVP, ADVP1 denote an adverb phrase. Rules are explained by giving examples together with a rule [29].

The rules proposed to describe the structure of an adverb phrase are:

1. \( \text{ADVP} \rightarrow \text{ADVP1}(\wedge = !) \ \text{ADVP}(\wedge = !) \ \text{ADVP1}(\wedge = !) \)

This rule states that an adverb phrase is either a sequence of more than one adverbs
(may be of different or same type), or only one adverb. The examples adhering to this rule are:

(i) lokesh roj subah Theek paanch baje idhar se Tahalate hue munirakaa jaataa hai.
(ii) raam shaam ko ghoomane jaataa hai.

2. ADVPl-> ADV_TIME(! advset ε ^ advp)
This rule states that an adverb phrase is an adverb of time. The examples adhering to this rule are:

(i) kal main baajaar gayaa thaa.
(ii) gandhee jayantee aaj hai.

3. ADVPl-> ADV_PLACE(! advset ε ^ advp)
This rule states that an adverb phrase is an adverb of place. The examples adhering to this rule are:

(i) ghaRee andar rakhee hai.
(ii) kitaaben baahar mej par rakhee hain.

4. ADVPl-> ADV_MANNER(! advset ε ^ advm)
This rule states that an adverb phrase is an adverb of manner. The examples adhering to this rule are:

(i) raam achaanak aa tapakaa.
(ii) hareesh ne kaam jaldee khatam kar diyaa..

5. ADVPl-> ADV_DIRECTION(! advset ε ^ advd)
This rule states that an adverb phrase is an adverb of direction. The examples adhering to this rule are:

(i) meree pustaken idhar de do.
(ii) raam kaa nastaa oopar bhej diyaa.

6. ADVPl-> ADV_DEGREE(! advset ε ^ advdg)
This rule states that an adverb phrase is an adverb of degree. The examples adhering
to this rule are:

(i) *suresh bahut beemaar hai.*
(ii) *raakesh bilkul achchhaa ho gayaa hai.*

7. **ADVP1-> V(!vtype =ci intransitive) (^ adv subj = ^ subj)(^ adv = !) kar**

An adverb phrase may be derived form a verb. This rule states that an adverb phrase is a verb root followed by a suffix *kar*. The examples adhering to this rule are:

(i) *naukar bhaagkar chalaa gayaa.*
(ii) *bachchaa dauRkar mere paas aayaa.*

8. **ADVP1-> V (!vtype =ci intransitive) AS (^aspect =c perfect) (^ = !) (^ adv subj = ^ subj) OR (^ adv = !) (!aspect =c imperfect) (^ = !) SP(^ = !)**

This rule states that an adverb phrase is a sequence of verb root, an aspect suffix and a form of suffix *haua*. The examples adhering to this rule are:

(i) *vah hameshaa piye hue rahataa hai.*
(ii) *bachchaa maan ke paas dauRataa huaa gayaa.*

9. **ADVP1-> OBJ (^ adv obj = !) V(! vtype =ci transitive) kar**

This rule states that an adverb phrase is a sequence of an object, verb root, suffix *kar*. The examples adhering to this rule are:

(i) *chor gahane churaa kar bhaag gaye.*
(ii) *dhobee kapaRe le kar chalaa gayaa.*

10. **ADVP1-> OBJ (^adv obj = !) V(!vtype =ci transitive) (^ adv subj = !) (^ adv = !) AS (^aspect =c perfect) (^ = !) SP(^ = !) OR**
This rule states that an adverb phrase is a sequence of an object, verb root, aspect suffix and a form of suffix huaa. The examples adhering to this rule are:

(i) \textit{vah sharaab pive hue jaa raha thaa.}
(ii) \textit{ve shey khaatee huee chal rahee theen.}

11. ADVP1-> OBJ(\textit{^adv obj = !}) IOBJ(\textit{^adv iobj = !})
\hspace{1cm} V (\textit{! vtype = ci ditransitive}) \textit{kar}
\hspace{1cm} \textit{(\textit{^adv subj} = \textit{^subj}) (\textit{^adv = !})}

This rule states that an adverb phrase is a sequence of an object, indirect object, verb root and suffix \textit{kar}. The examples adhering to this rule are:

(i) \textit{vah kitaab mohan ko de kar ghar lauT raha hai.}
(ii) \textit{ve patra dastan ko bhej kar badhaee de chuke hain.}

12. ADVP1-> OBJ(\textit{^adv obj = !}) IOBJ(\textit{^adv iobj = !})
\hspace{1cm} V (\textit{! vtype = ci ditransitive}) \textit{AS(\textit{aspect = imperfect}) (\textit{^ = !}) SP(\textit{^ = !})}
\hspace{1cm} \textit{(\textit{^adv subj} = \textit{^subj}) (\textit{^adv = !})}

This rule states that an adverb phrase is a sequence of an object, indirect object, verb root, aspect suffix and a form of suffix huaa. The example adhering to this rule is:
\textit{vah sharaab mohan ko pilaate hue mujhase baat kar raha thaa.}

13. ADVP1-> IOBJ(\textit{^adv iobj = !}) OBJ(\textit{^adv obj = !})
\hspace{1cm} V (\textit{! vtype = ci ditransitive}) (\textit{^adv subj} = \textit{^subj}) (\textit{^adv = !}) \textit{kr}

This rule states that an adverb phrase is a sequence of an indirect object, object, verb root and suffix \textit{kar}. The examples adhering to this rule are:

(i) \textit{vah mohan ko kitaab de kar ghar lauT raha hai.}
(ii) \textit{ve doston ko patr bhej kar badhaee de chuke hain.}

14. ADVP1-> IOBJ(\textit{^adv iobj = !}) OBJ(\textit{^adv obj = !})
\hspace{1cm} V (\textit{! vtype = ci ditransitive}) \textit{AS (\textit{aspect = imperfect}) SP(\textit{^ = !})}
\hspace{1cm} \textit{(\textit{^adv subj} = \textit{^subj}) (\textit{^adv = !}) (\textit{^ = !})}

This rule states that an adverb phrase is a sequence of an indirect object, object, verb root and suffix \textit{hui}. The examples adhering to this rule are:

(i) \textit{vah mohan ko kitaab de kar ghar lauT raha hai.}
(ii) \textit{ve doston ko patr bhej kar badhaee de chuke hain.}
root, aspect suffix and a form of suffix *haa*. The example adhering to this rule is:

>vah mohan ko sharaab pilaate hue mujhase baat kar raha thaa.

15. \( \text{ADVP1} \rightarrow \text{NP}(\epsilon \overset{!}{\text{pred}} \epsilon^\text{advtype}) \)

This rule states that an adverb phrase consists of a noun phrase. The examples adhering to this rule are:

(i)  *raam mathuraa jaa raaha hai.*

(ii) *rabeenaa ameriakaa jaayaa karatee thee.*

16. \( \text{ADVP1} \rightarrow \text{TM}\_\text{PRO}(\epsilon \overset{!}{\text{adv}} \epsilon^\text{advt}) \text{SAK}(\epsilon \overset{!}{\text{parsarg}} \epsilon^\text{advt}) \)

In the rule, TM\_\text{PRO} and SAK denote time pronominal adverb and postpositions, respectively. This rule states that adverb phrase consists of time pronominal adverb followed by a postposition. The examples adhering to this rule are:

(i)  *vah kab se kharee aapaka intajaar kar rahee hai.*

(ii) *vah abheek tak nahee lauTaa.*

17. \( \text{ADVP1} \rightarrow \text{PL}\_\text{PRO}(\epsilon \overset{!}{\text{adv}} \epsilon^\text{advp}) \text{KO}(\epsilon \overset{!}{\text{parsarg}} \epsilon^\text{advp}) \)

In the rule, PL\_\text{PRO} and KO denote place pronominal adverb and postpositions, respectively. This rule states that adverb phrase consists of place pronominal adverb followed by a postposition. The examples adhering to this rule are:

(i)  *vah yahin par hogee.*

(ii) *rassee yahaan se yahaan tak lambee thee.*

18. \( \text{ADVP1} \rightarrow \text{NP}(\epsilon \overset{!}{\text{pred}} \epsilon^\text{advp}) \text{PAR1}(\epsilon \overset{!}{\text{parsarg}} \epsilon^\text{advp}) \)

This rule states that adverb phrase consists of a noun phrase followed by a postposition. The examples adhering to this rule are:

(i)  *raakesh ghar par hee rahataa hai.*

(ii) *vah agaraa se lauT chukaa hai.*

19. \( \text{ADVP1} \rightarrow \text{NP}(\epsilon \overset{!}{\text{pred}} \epsilon^\text{advp}) \text{PL}\_\text{NPRO}(\epsilon \overset{!}{\text{adv}} \epsilon^\text{advp}) \text{CKA}(\epsilon \overset{!}{\text{parsarg}} \epsilon^\text{advp}) \)

In the rule, PL\_\text{NPRO} and CKA denote non pronominal type place adverb and
postpositions, respectively. This rule states that adverb phrase is a sequence of noun phrase, postposition and non pronominal type adverb. The examples adhering to this rule are:

(i) *mohan ghar ke baahar nahin nikalataa.*  
(ii) *main mandir ke saamane rahataa hoon.*

20. **ADVP1 -> TM_NEMPH(adv ε ^ advt) INTENSF(intensifier ε ^ advt)**

In this rule, TM_NEMPH and INTENSF denote adverb of time without emphasis and an intensifier, respectively. This rule states that adverb phrase consists of adverb of time without emphasis followed by an intensifier. The examples adhering to this rule are:

(i) *aapakaa ab bhee jee nahin bharaa.*  
(ii) *jab bhee baarish hotee hai achchhaa lagataa hai.*

21. **ADVP1 -> PL_NEMPH(adv ε ^ advp) INTENSF(intensifier ε ^ advp)**

In this rule, PL_NEMPH and INTENSF denote adverb of place without emphasis and an intensifier, respectively. This rule states that adverb phrase consists of adverb of place without emphasis followed by an intensifier. The examples adhering to this rule are:

(i) *vahaan bhee khoob baarish huee.*  
(ii) *vahaan bhee sookhaa paraa hai.*

22. **ADVP1 -> MANR_NEMPH(adv ε ^ advm) INTENSF(intensifier ε ^ advm)**

In this rule, MANR_NEMPH and INTENSF denote adverb of manner without emphasis and an intensifier, respectively. This rule states that adverb phrase consists of adverb of manner without emphasis followed by an intensifier. The examples adhering to this rule are:

(i) *ramesh ke saare kaam von hee ho jaate hain.*  
(ii) *jvon hee raakesh pahunchaa usakaa bhaaee bhaag gayaa.*
4.3. Adverb of Time

This section describes formation of rules for adverb of time. In the rules symbols 
ADV_TIME, TM_E_DEMO, TM_E_INTRO, TM_EMPH, TM_E_PROX, 
TM_E_REL, TM_E_REMOT, TM_NE_DEMO, TM_NE_INTRO, TM_NEMPH, 
TM_NE_PROX, TM_NPRO, TM_PRO, TM_NE_REL and TM_NE_REMOT denote 
adverb of time, demonstrative type with emphasis, interrogative type with emphasis, 
adverb of time with emphasis, proximate type with emphasis, relative with emphasis, 
remote type with emphasis, demonstrative type without emphasis, interrogative type 
without emphasis, adverb of time without emphasis, proximate type without emphasis, 
pronominal type adverb of time, non-pronominal type adverb of time, relative without 
emphasis and remote type without emphasis.

Rules proposed to describe the structure of adverb of time are:

1. ADV_TIME -> TM_PRO(\text{advset} = \text{!adv}) | TM_NPRO(\text{advset} = \text{!adv})
   This states that adverb of time is either pronominal type or non pronominal type. The examples adhering to this rule are:
   (i) \text{abhee main nahaane jaaoongaa.}
   (ii) \text{kai main melaa dekhane gayaa thaa.}

2. ADV_TIME -> TM_E_DEMO(!adv \varepsilon ^ \text{advset}) TM_E_DEMO(!adv \varepsilon ^ \text{advset})
   This rule states that adverb of time is demonstrative type with emphasis followed by demonstrative type with emphasis. The example adhering to this rule is:
   \text{vah ghar se abhee abhee gayaa hai,}

3. ADV_TIME -> TM_E_INTRO(!adv \varepsilon ^ \text{advset}) naa TM_E_INTRO(!adv e ^ \text{advset})
   This rule states that adverb of time is interrogative type with emphasis followed by interrogative type with emphasis. There is a negative marker in between them. The example adhering to this rule is:
   \text{suresh kabhee naa kabhee idhar jaroor aayeea.}
4. ADV_TIME -> TM_NE_INTRO(adv ε ^ advset) TM_NE_INTRO(adv ε ^ advset)
   This rule states that adverb of time is interrogative type without emphasis followed by
   interrogative type without emphasis. The example adhering to this rule is:
   
   *tum kab kab beemaar the.*

5. ADV_TIME -> TM_NE_PROX(adv ε ^ advset) TM_NE_PROX(adv ε ^ advset)
   This rule states that adverb of time is proximate type without emphasis followed by
   proximate type without emphasis. The example adhering to this rule is:
   
   *jab jab pleg aayaa hajaaron log mar gaye.*

6. ADV_TIME -> TM_NE_REMOT(adv ε ^ advset) TM_NE_REMOT(adv ε ^ advset)
   This rule states that adverb of time is remote type without emphasis followed by
   remote type without emphasis. The example adhering to this rule is:
   
   *jab jab jarooree kaam rahaa tab tab vah beemaar rahaab.*

7. ADV_TIME -> TM_NE_PROX(adv ε ^ advset) TM_E_INTRO(adv ε ^ advset)
   This rule states that adverb of time is proximate type without emphasis followed by
   remote type without emphasis. The example adhering to this rule is:
   
   *jab kab aanaa ho aap mere ghar aa jaanaa.*

8. TM_PRO -> TM_EMPH(ε = !) ; TM_NEMPH(ε = !)
   This rule states that TM_PRO is either emphatic or non emphatic. The examples
   adhering to this rule are:
   
   (i) vah *tabhee chalaab gayaa thaa.*
   (ii) ab *main nahaane jaa rahaab hoon.*

9. TM_EMPH -> TM_E_DEMO(ε = !) ; TM_E_REL(ε = !) ; TM_E_INTRO(ε = !)
   This rule states that TM_EMPH is either demonstrative type, relative type, or
   interrogative type, The examples adhering to this rule are:
   
   (i) *abhbee main nahaane jaaoonaa.*
   (ii) vah *tabhee chalaab gayaa thaa.*
   (iii) raam *kabhee beemaar nahin paaraa.*

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10. $\text{TM\_NE\_EMPH} \rightarrow \text{TM\_NE\_DEMO}(^=!) \mid \text{TM\_NE\_REL}(^=!) \mid \text{TM\_NE\_INTRO}(^=!)$

This rule states that $\text{TM\_NE\_EMPH}$ is either demonstrative type, relative type, or interrogative type. The examples adhering to this rule are:

(i) *ah main nahaane jaa raha hoon.*

(ii) *vah tab baahar gayaa huaa thaa.*

(iii) *raam kab ghar se alag raheega.*

11. $\text{TM\_E\_REL} \rightarrow \text{TM\_E\_PROX}(^=!) \mid \text{TM\_E\_REMO}T(=!)$

This rule states that $\text{TM\_E\_REL}$ is either proximate type or remote type. The examples adhering to this rule are:

(i) *jabhee main nahaane jaataa hoon paanee chalaa jaataa hai.*

(ii) *vah tabhee chalaa gayaa thaa.*

12. $\text{TM\_NE\_REL} \rightarrow \text{TM\_NE\_PROX}(^=!) \mid \text{TM\_NE\_REMO}T(=!)$

This rule states that $\text{TM\_NE\_REL}$ is either proximate type, remote type. The examples adhering to this rule are:

(i) *jab main aayaa koi nahin thaa.*

(ii) *vah tab chalaa gayaa thaa.*

4.4 Adverb of Place

This section describes formation of rules for adverb of place. In the rules symbols $\text{ADV\_PLACE, PL\_E\_DEMO, PL\_E\_INTRO, PL\_EMPH, PL\_E\_PROX, PL\_E\_REL, PL\_E\_REMO}T, PL\_NE\_DEMO, PL\_NE\_INTRO, PL\_NEMPH, PL\_NE\_PROX, PL\_NPRO, PL\_PRO, PL\_NE\_REL}$ and $\text{PL\_NE\_REMO}T$ denote adverb of place, demonstrative type with emphasis, interrogative type with emphasis, adverb of place with emphasis, proximate type with emphasis, relative with emphasis, remote type with emphasis, demonstrative type without emphasis, interrogative type without emphasis, adverb of place without emphasis, proximate type without emphasis, pronominal type adverb of place, non-pronominal type adverb of place, relative
without emphasis and remote type without emphasis.

Rules proposed to describe the structure of adverb of place are:

1. \text{ADV\_PLACE} -> \text{PL\_PRO}(\neg \text{advset} \land \neg \text{adv}) \lor \text{PL\_NPRO}(\neg \text{advset} \land \neg \text{adv})

This rule states that adverb of place is either pronominal type or non pronominal type. The examples adhering to this rule are:

(i) saaree kitaaben \textit{vahaan rakh do}.
(ii) raam andar \textit{baiThaa hai}.

2. \text{ADV\_PLACE} -> \text{PL\_NE\_PROX}(\neg \text{advset}) \text{PL\_NE\_PROX}(\neg \text{advset})

This rule states that adverb of place is proximate type without emphasis followed by proximate type without emphasis. The example adhering to this rule is:
\textit{vahaan vahaan sab mitTee bhar do}.

3. \text{ADV\_PLACE} -> \text{PL\_NE\_REMO}(!\text{advset}) \text{PL\_NE\_REMO}(!\text{advset})

This rule states that adverb of place is remote type without emphasis followed by remote type without emphasis. The example adhering to this rule is:
\textit{vahaan vahaan sab saphaee kar do}.

4. \text{ADV\_PLACE} -> \text{PL\_NE\_REL}(\neg \text{advset}) \text{PL\_NE\_REL}(\neg \text{advset})

This rule states that adverb of place is relative type without emphasis followed by relative type without emphasis. The example adhering to this rule is:
\textit{jahaan jahaan bhee akaal hai vahaan khaanaa pahunchaao}.

5. \text{ADV\_PLACE} -> \text{PL\_NE\_INTRO}(\neg \text{advset}) \text{PL\_NE\_INTRO}(\neg \text{advset})

This rule states that adverb of place is proximate type without emphasis followed by interrogative type without emphasis. The example adhering to this rule is:
\textit{main tumhen kahaan kahaan nahin DhoonDhaa}.

6. \text{ADV\_PLACE} -> \text{PL\_E\_INTRO}(\neg \text{advset}) \text{PL\_E\_INTRO}(\neg \text{advset})

This rule states that adverb of place is interrogative type with emphasis followed by
interrogative, type with emphasis. The example adhering to this rule is:

*aajkal baarish kahin kahin ho rahee hai.*

7. ADV PLACE -> PL_E_PROX(!adv ε ^ advset) PL_E_INTRO(!adv ε ^ advset)

This rule states that adverb of place is proximate type with emphasis followed by interrogative type with emphasis. The example adhering to this rule is:

*saaree kitaaben vahin kahin rakheen hongee.*

8. ADV PLACE -> PL_NE_REL(!adv ε ^ advset) PL_E_INTRO(!adv ε ^ advset)

This rule states that adverb of place is relative type without emphasis followed by interrogative type with emphasis. The example adhering to this rule is:

*vah jahaan kahin bhee ho use DhoonDho.*

9. ADV PLACE -> PL_E_PROX(!adv ε ^ advset) KA(!parsarg ε ^ advset) PL_E_PROX(!adv ε ^ advset)

This rule states that adverb of place is a sequence of proximate type with emphasis, postposition and proximate type with emphasis. The example adhering to this rule is:

*aap sab kaa kaam vahin kaa vahin ho jaayegaa.*

10. ADV PLACE -> PL_NE_PROX(!adv ε ^ advset) KA(!adv ε ^ advset) PL_NE_PROX(!adv ε ^ advset)

This rule states that adverb of place is a sequence of proximate type without emphasis, postposition and proximate type without emphasis. The example adhering to this rule is:

*aap kaa sab kaam yahaan kaa yahaan ho jaayegaa.*

11. ADV PLACE -> PL_E_REMOT(!adv ε ^ advset) KA(!adv ε ^ advset) PL_E_REMOT(!adv ε ^ advset)

This rule states that adverb of place is a sequence of remote type with emphasis, postposition and remote type with emphasis. The example adhering to this rule is:

*saaraa kaam vahin kaa vahin nipaTa lenge.*
12. PL_PRO -> PL_EMPH(^ = !) \| PL_NEMPH(^ = !).
This rule states that PL_PRO is either adverb of place with emphasis or adverb of place without emphasis. The examples adhering to this rule are:
   (i) kitaaben vahaan rakh do.
   (ii) almaaree vahin rahane do.

13. PL_EMPH -> PL_E_DEMO(^ = !) \| PL_E_REL(^ = !) \| PL_E_INTRO(^ = !)
This rule states that PL_EMPH is either demonstrative type with emphasis, relative type with emphasis, or interrogative type with emphasis. The examples adhering to this rule are:
   (i) kitaaben vahin rakh do.
   (ii) raam kahin bhee ho use bulaao.

14. PL_NEMPH -> PL_NE_DEMO(^ = !) \| PL_NE_REL(^ = !) \| PL_NE_INTRQ(^ = !)
This rule states that PL_NEMPH is either demonstrative type without emphasis, relative type without emphasis, or interrogative type without emphasis. The examples adhering to this rule are:
   (i) kitaaben vahaan rakh do.
   (ii) almaaree vahaan thee vahin lagaa do.
   (iii) aap kal kahaan the.

15. PL_E_DEMO -> PL_E_PROX(^ = !) \| PL_E_REMOT(^ = !)
This rule states that PL_E_DEMO is either proximate type with emphasis or remote type with emphasis. The examples adhering to this rule are:
   (i) kitaaben vahaan rakh do.
   (ii) almaaree vahaan lagaa do.

16. PL_NE_DEMO -> PL_NE_PROX(^ = !) \| PL_NE_REMOT(^ = !)
This rule states that PL_NE_DEMO is either proximate type without emphasis or remote type without emphasis. The examples adhering to this rule are:
   (i) kitaaben vahaan rakh do.
   (ii) almaaree vahaan lagaa do.
4.5 Adverb of Manner

This section describes formation of rules for adverb of manner. In the rules symbols ADV_MANNER, MANR_E_DEMO, MANR_EMPH, MANR_E_PROX, MANR_E_REL, MANR_E_REMOT, MANR_NE_DEMO, MANR_NE_INTRO, MANR_NEMPH, MANR_NE_PROX, MANR_NPRO, MANR_PRO, MANR_NE_REL and MANR_NE_REMOT denote adverb of manner, demonstrative type with emphasis, adverb of manner with emphasis, proximate type with emphasis, relative with emphasis, remote type with emphasis, demonstrative type without emphasis, interrogative type without emphasis, adverb of manner without emphasis, proximate type without emphasis, pronominal type adverb of manner, non-pronominal type adverb of manner, relative without emphasis and remote type without emphasis.

Rules proposed to describe the structure of adverb of manner are:

1. ADV_MANNER -> MANR_PRO(\^advset = !adv) | MANR_NPRO(\^advset = !adv)
   This rule states that adverb of manner is either pronominal type or non pronominal type. The examples adhering to this rule are:
   
   (i) tumane saaree kitaaben yonhi rakh deen.
   (ii) raam achaanak vaapas aa gayaa.

2. ADV_MANNER -> MANR_NE_PROX(\^adv \in \^advset) | MANR_NE_PROX(\^adv \in \^advset)
   This rule states that adverb of manner is proximate type without emphasis followed by proximate type without emphasis. The example adhering to this rule is:

   jyon jyon garmee barhegee mushkil ho jaayegee.

3. ADV_MANNER -> MANR_NE_REMOT(\^adv \in \^advset) | MANR_NE_REMOT(\^adv \in \^advset)
   This rule states that adverb of manner is remote type without emphasis followed by remote type without emphasis. The example adhering to this rule is:

   jyon jyon basrasaat hogee tyon tyon keeRe barenge.
4. ADV_MANNER -> MANR_NE_PROX(!adv ε ^ advset)
   MANR_NE_REMOT(!adv ε ^ advset)
This rule states that adverb of manner is proximate type without emphasis followed by remote type without emphasis. The example adhering to this rule is:
   *jyon tyon saaraa kaam samaapt ho gayaa.*

5. ADV_MANNER -> MANR_NE_PROX(!advε ^ advset) KA(!advε ^ advset)
   MANR_NE_REMOT(!advε ^ advset)
This rule states that adverb of manner is a sequence of proximate type without emphasis, postposition and remote type without emphasis. The example adhering to this rule is:
   *aapakaa sab kaam jyon kaa tyon paRaa hai.*

6. MANR_PRO -> MANR_EMPH(= !) | MANR_NEMPH(= !)
This rule states that MANR_PRO is either adverb of manner with emphasis or adverb of manner without emphasis. The examples adhering to this rule are:
   (i) *main yonhi saaree kitaab paR Daalee.*
   (ii) *almaaree sahasaa gir paRee.*

7. MANR_EMPH -> MANR_E_DEMO(= !) | MANR_E_REL(= !)
This rule states that MANR_EMPH is either demonstrative type with emphasis, relative type with emphasis, or interrogative type with emphasis. The examples adhering to this rule are:
   (i) *kitaabon ko yonhin almaaree men rakh do.*
   (ii) *alamaaree ivonhi hilane lagee main bhaag gayaa.*

8. MANR_E_REL -> MANR_E_PROX(= !) | MANR_E_REMOT(= !)
This rule states that MANR_E_REL is either proximate type with emphasis or remote type with emphasis. The examples adhering to this rule are:
   (i) *ravi ivonhi aaye use mere pass bhej denaa.*
   (ii) *yonhi baarish huee ivonhi keeRe baRh gaye.*
9. MANR_NE_REL -> MANR_NE_PROX(\(\wedge = 1\)) \mid MANR_NE_REMOT(\(\wedge = 1\))

This rule states that MANR_NE_REL is either proximate type without emphasis or remote type without emphasis. The examples adhering to this rule are:

(i) \textit{jyon main andar ghusaa sabhee log chale gaye.}
(ii) \textit{jyon meraa bhaadee aayaa tyon main khush ho gayaa.}

10. MANR_NEMPH -> MANR_NE_DEMO(\(\wedge = 1\)) \mid MANR_NE_REL(\(\wedge = 1\)) \mid MANR_NE_INTRO(\(\wedge = 1\))

This rule states that MANR_NEMPH is either demonstrative type without emphasis, relative type without emphasis, or interrogative type without emphasis. The examples adhering to this rule are:

(i) \textit{kitaabon ko yon mat rakho.}
(ii) \textit{fony raahul andar aayaa sab khush ho gaye.}
(iii) \textit{aap kal kyoon nahnin aaye.}

### 4.6 Adverb of Direction

This section describes formation of rules for adverb of direction. In the rules symbols ADV_DIRECTION, DIR_NE_DEMO, DIR_NE_INTRO, DIR_NE_PROX, DIR_NPRO, DIR_PRO, DIR_NE_REL and DIR_NE_REMOT denote adverb of direction, demonstrative type without emphasis, interrogative type without emphasis, proximate type without emphasis, pronominal type adverb of direction, non-pronominal type adverb of direction, relative without emphasis and remote type without emphasis.

Rules proposed to describe the structure of adverb of direction are:

1. ADV_DIRECTION -> DIR_PRO(\(\wedge \text{ set} = 1\)) \mid DIR_NPRO(\(\wedge \text{ set} = 1\))

This rule states that adverb of direction is either pronominal type or non pronominal type. The examples adhering to this rule are:

(i) \textit{saaree kitaaben idhar rakh do.}
2. ADV_DIRECTION -> DIR_NE_PROX(!adv ε ^ advset)
   DIR_NE_PROX(!adv ε ^ advset)
This rule states that adverb of direction is proximate type without emphasis followed by proximate type without emphasis. The example adhering to this rule is:
   *idhar idhar aao.*

3. ADV_DIRECTION -> DIR_NE_REMOT(!adv ε ^ advset)
   DIR_NE_REMOT(!adv ε ^ advset)
This rule states that adverb of direction is remote type without emphasis followed by remote type without emphasis. The example adhering to this rule is:
   *khelane ke liye udhar udhar jaao.*

4. ADV_DIRECTION -> DIR_NE_INTRO(!adv ε ^ advset)
   DIR_NE_INTRO(!adv ε ^ advset)
This rule states that adverb of direction is interrogative type without emphasis followed by interrogative type without emphasis. The example adhering to this rule is:
   *tumane kitaaben kidhar kidhar rakh deen.*

5. ADV_DIRECTION -> DIR_NE_REL(!adv ε ^ advset)
   DIR_NE_REL(!adv ε ^ adv set)
This rule states that adverb of direction is relative type without emphasis followed by relative type without emphasis. The example adhering to this rule is:
   *jidhar bhee jaao tumhe pareshaanee hogee.*

6. DIR_PRO -> DIR_NE_DEMO(^ = !) | DIR_NE_REL(^ = !) |
   DIR_NE_INTRO(^ = !)
This rule states that DIR_PRO is either demonstrative type without emphasis, relative type without emphasis, or interrogative type without emphasis. The examples adhering to this rule are:
7. DIR_NE_DEMO -> DIR_NE_PROX(\(^=\) \(\neq\)) \(\lor\) DIR_NE_REMOT(\(^=\) \(\neq\))

This rule states that DIR_NE_DEMO is either proximate type with emphasis or remote type with emphasis. The examples adhering to this rule are:

(i)  tum shaam ko idhar aa jaayaa karo.
(ii) tum udhar mat jaayaa karo.

4.7 Lexical Entry for Adverbs

The lexical entry for an adverb contains the root noun/pronoun and its associated information. The associated information may be morphological, syntactic, and semantic information. The morphological information consists of suffixes which a root can take. The syntactic information consists of number, gender, and person. These semantic information consists of predicate and some other features of the noun such as 'animate', 'human'. These information are stored in form of functional equations. In our system, a lexical entry for a noun is as:

\[ ne : \text{parsarg} \]
\[ ^\text{parsarg} = 'ko' \]
\[ \text{aur : conjunction} \]
\[ ^\text{coordinating_conjunction} = 'aur' \]

\[ ke : \text{CKA} \]
\[ ^\text{parsarg} = 'ke' \]

\[ kee : \text{CKA} \]
\[ ^\text{parsarg} = 'kee' \]

\[ se : \text{CKA} \]
\[ ^\text{parsarg} = 'se' \]

\[ se : \text{SKA} \]
\[ ^\text{parsarg} = 'se' \]

\[ kaa : \text{SKA} \]
\[ ^\text{parsarg} = 'kaa' \]

\[ tak : \text{SKA} \]
\[ ^\text{parsarg} = 'tak' \]

\[ ko : \text{KO} \]
\[ ^\text{parsarg} = 'ko' \]

\[ se : \text{KO} \]
\[ ^\text{parsarg} = 'se' \]

\[ par : \text{KO} \]
\[ ^\text{parsarg} = 'par' \]
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<th>Value</th>
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jyonhi : MANR_E_PROX  tyonhi : MANR_E_REMOT  yon : MANR_NE_DEMO
^adv = 'jyohin'       ^adv = 'tyohin'       ^adv = 'yon'

kyon : MANR_NE_INTRO  jyon : MANR_NE_PROX  tyon : MANR_NE_REMOT
^adv = 'kyon'         ^adv = 'jyon'         ^adv = 'tyon'