

Urdu/Hindi Modals

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1 Introduction

Modality is an area of linguistics for which a considerable amount of work exists. The majority of the work has focused mainly on patterns found in English. However, modality per se exhibits great empirical detail as well as considerable cross-linguistic variation Bhatt (2006). Even within a language, modals do not generally constitute a separate class, but can be expressed by verbal, adverbial, adjectival and nominal phrases. In this paper, we provide a brief survey of how modality can be expressed in Urdu, discuss the morphosyntactic and semantic differences among the modal verbs and modal constructions we identify.

Modality in Urdu is rather expressed constructionally than by the use of modal verbs, because only two dedicated modals exist in Urdu, namely *sak* ‘can’ and *cahiye* ‘need’, all other modality meanings are generated by an interplay of the verbs ‘find, fall, be, go’ with case marking and structures that appear to be control or raising structures or complex predicates.

- Languages like Urdu/Hindi provide a different perspective on modality, as the linguistic means of expressing modality differ somewhat.
- We provide a brief survey of how modality is expressed in Urdu/Hindi (section 3).
- We then concentrate on the following issues currently discussed in the literature:
 - Raising vs. Control Analyses (section 4)
 - Evidence for modality as involving a two-place operator (section 5)
 - The Actuality Entailment (section 6.1)
 - Distinction between root and epistemic modals being tied to a VP-level (root) vs. a TP-level (epistemic) and how to think of that within LFG (section 6.2).

2 Modality in Urdu/Hindi

Modal constructions in Urdu/Hindi basically fall into three types:

1. Finite verbs *sak* ‘can’ and *pa* ‘find’ in combination with a bare verb and a nominative subject (section 3.1).
2. Finite verbs *cahiye* ‘need’, *par* ‘fall’ and *ho* ‘be’ in combination with an infinitive verb and a dative subject (section 3.2).
3. Finite verb *ja* ‘go’ in a complex predicate that looks superficially exactly like the passive (section 3.3).

The dedicated modals *sak* ‘can’ and *cahiye* ‘need’ also allow finite complements (section 4).

2.1 Constructions with Bare Verbs

The two modals expressing possibility both require bare complements.

- (1a): *sak* ‘can’ ability to perform an action/possibility of an event.
- (1b): *pa* ‘find’ ability to perform an action depending on the circumstances (*pa* actually means ‘find/get/obtain’ → modal reading only when found in a construction with a bare verb).

(1) a. *yasin* *vo* ***kar sak-a***
Yasin.M.Sg.Nom that.Nom do can-Perf.M.Sg
‘Yasin could do that.’

b. *yasin* *vo* ***kar pa-ya***
Yasin.M.Sg.Nom that.Nom do find-Perf.M.Sg
‘Yasin was able to do that.’

2.2 Constructions with Infinitival Verbs

The three verbs signaling necessity or obligation in contrast all take an infinitive complement.

- (2a): *cahiye* ‘need’ advisability of performing a certain action.
- (2b): *par* ‘fall’ obligation, circumstances forcing the performance of a certain action (*par* actually means ‘fall’ → modal reading only when found in a construction with an infinitive and a dative subject).
- (2c): *ho* ‘be’ ambiguous between obligation or external constraint to perform an action and desire to perform the action → modal reading only when found in a construction with an infinitive.

(2) a. ***yasin=ko*** *ye* ***kar-na*** ***cahiye***
Yasin.M.Sg=Dat this.Sg.Nom do-Inf.M.Sg need.Sg
‘Yasin needs to do this.’

b. ***yasin=ko*** *ye* ***kar-na*** ***par-a***
Yasin.M.Sg=Dat this.Sg.Nom do-Inf.M.Sg fall-Perf.M.Sg
‘Yasin was obliged to do this.’

c. ***yasin=ko*** *ye* ***kar-na*** ***he***
Yasin.M.Sg=Dat this.Sg.Nom do-Inf.M.Sg be.Pres.3.Sg
‘Yasin has/wants to do this.’

- Only dedicated deontic modal is *cahiye* ‘need’.
- *cahiye* ‘need’ is also the only modal in the entire set to have a defective paradigm.
- Only two forms: singular (2a) and plural (3).

(3) ***yasin=ko*** *ye* *cizē* ***kar-ni*** ***cahiyē***
Yasin.M.Sg=Dat this.Pl.Nom thing.F.Pl.Nom do-Inf.F.Pl need.Pl
‘Yasin needs to do these things.’

- Historically derived from a perfect form of the verb *cah* ‘want’. Exactly how the modality changed from ‘want’ to ‘need’ in the process is something that needs to be investigated.

2.3 The (Dis)ability Passive

(4) is generally known as the passive of (dis)ability (Glassman 1976, Van Olphen 1980).

(4) **raza=se** vo parh-a (nahĩ) ga-ya
 Raza.M.Sg=Inst that.Nom do-Perf.M.Sg not go-Perf.M.Sg
 ‘Raza was (not) able to read that.’

- Looks exactly like a passive on the surface, but the instrumental is actually a subject.
- Analyzed as type of V-V complex predicate by Butt (1997).
- Construction predicates an absolute and fundamental (dis)ability on the part of the subject → there is some property of Raza that precludes him being able to perform an action (couldn’t read because he is illiterate, not because he is temporarily tired and can’t see).
- Butt (1997) has analyzed the semantics as being one of dispositional predication as articulated by Lawler (1973a,b).
- More specifically, as an instance of *conditional necessity*.
- Bhatt (1996) points out that these constructions are NPIs of a sort in that some negative element is generally needed for the construction to be felicitous.
- However, there is a dialectal divide here, Urdu speakers generally find the examples without a negation acceptable, whereas Hindi speakers appear to have a stricter requirement on the presence of the negation.

We will not be focusing on this construction, interesting as it is, in this talk.

3 Raising vs. Control

As Hacquard (2011) puts it in her recent summary of the state-of-the-art in modality: modals are generally raising verbs, except for when they are not.

This section examines whether the Urdu/Hindi modal constructions can be analyzed as instances of raising.

Section 5 then looks at the semantic consequences of the syntactic investigation and argues for the existence of a two-place modal operator.

3.1 Raising

There is no straightforward equivalent to English style raising constructions in Urdu/Hindi.

To express the meaning of ‘seem’ one uses a verb that actually means ‘to attach to’.

- (5) ye lag-ta he
 this.Nom attach_to-Impf.M.Sg be.Pres.3.Sg
 [ke raza g^har ga-ya he]
 that Raza.M.Sg.Nom home.M.Sg.Loc go-Perf.M.Sg be.Pres.3.Sg
 ‘It seems that Raza has gone home.’

However, (5) involves a finite complement and is thus not a raising construction.

One cannot use *lag* with non-finite complements (e.g., *John seems to be going home.*), only with adjectives or nominals in a copular like construction (6–7).

- (6) a. raza c^hota lag-ta he
 Raza.M.Sg.Nom small.M.Sg attach_to-Impf.M.Sg be.Pres.3.Sg
 ‘Raza appears small.’
 b. raza ustad lag-ta he
 Raza.M.Sg.Nom teacher.M.Sg attach_to-Impf.M.Sg be.Pres.3.Sg
 ‘Raza looks like a teacher.’

Bearing in mind that raising does not seem to naturally exist independently of modals in Urdu/Hindi, let’s take another look at the modals.

3.2 Modals with Infinitives

Case on Subject not licensed by embedded verb

- The modals with infinitives all involved dative subjects.
- This dative subject does not normally appear with the verb (when it is non-infinitive)
 - regardless of whether the verb is transitive and requires an ergative

- (7) **yasin=ne/*ko** ye **ki-ya**
 Yasin.M.Sg=Erg/Dat this.Nom do-Perf.M.Sg
 ‘Yasin did this this.’

- or intransitive and requires a nominative

- (8) **yasin/*=ko** ga-ya
 Yasin.M.Sg.Nom/=Dat go-Perf.M.Sg
 ‘Yasin went.’

- (9) a. **yasin=ko** ye **kar-na cahiye**
 Yasin.M.Sg=Dat this.Nom do-Inf.M.Sg need.Sg
 ‘Yasin needs to do this.’

- b. **yasin=ko ja-na cahiye**
 Yasin.M.Sg=Dat go-Inf.M.Sg need.Sg
 ‘Yasin should go.’

- (10) a. **yasin=ko** ye **kar-na qar-a**
 Yasin.M.Sg=Dat this.Nom do-Inf.M.Sg fall-Perf.M.Sg
 ‘Yasin was obliged to do this.’

- b. **yasin=ko ja-na qar-a**
 Yasin.M.Sg=Dat ‘go-Inf.M.Sg fall-Perf.M.Sg
 ‘Yasin was obliged to go.’

Case Alternation and Control Analysis

The modal construction with *ho* ‘be’ is special in that the dative subject alternates with an ergative → the use of the ergative signals desire rather than obligation.

- (11) a. **yasin=ko** ye **kar-na** **hε**
Yasin.M.Sg=Dat this.Nom do-Inf.M.Sg be.Pres.3.Sg
‘Yasin has/wants to do this.’
- b. **yasin=ne** ye **kar-na** **hε**
Yasin.M.Sg=Erg this.Nom do-Inf.M.Sg be.Pres.3.Sg
‘Yasin wants to do this.’

Butt and King (2004) discuss this construction in some detail and analyze it as a control construction.

The case marking is seen to be an instance of *constructive case* in the sense of Nordlinger (1998), so again not licensed by the embedded verb.

Dative = Modality?

Given the existing *constructive case* analysis for (11), one possible analysis is that the dative case on the subject is in some way directly connected to the type of modality expressed in the clause.

However, a modal meaning can be expressed without a dative subject.

- (12) a. aj **barıf** **ho-ni** **cahiye**
today rain.F.Sg.Nom be-Inf.F.Sg need.Sg
‘It should rain today.’
- b. aj g^bar=ki **safai** **ho-ni** hε
today house.F.Sg=Gen.F.Sg cleaning.F.Sg.Nom be-Inf.F.Sg be.Pres.3.Sg
‘Today house cleaning is to/should happen.’

Summary

- If we analyze the modal plus infinitives as raising constructions, we have no good explanation for the case marking of the subject.
- The dative itself is not automatically required to express modality.
- Generally in Urdu/Hindi, embedded infinitives correspond to control constructions.

So a raising analysis is not really well motivated for the modal plus infinitive constructions.

3.3 Modals with Bare Verbs

The modal constructions with *sak* ‘can’ and *pa* ‘find’ do not seem to involve control.

- (13) a. yasin vo **kar sak-ta** hε
Yasin.M.Sg.Nom that.Nom do can-Impf.M.Sg be.Pres.3.Sg
‘Yasin can do that.’

b. yasin vo **kar pa-ta** hε
 Yasin.M.Sg.Nom that.Nom do find-Impf.M.Sg be.Pres.3.sg
 ‘Yasin is able to do that.’

- In addition to the ability uses in (13), *sak* ‘can’ and *pa* ‘find’ allow for pure possibility readings (14).

- No ability or agency is predicated of the subject.
- The subject is not thematically directly related to the ability modals (*rain*, *decision* and *account* are thematically related to the bare verbs, but not to the modals).

(14) a. aj **barıf** **ho sak-ti** hε
 today rain.F.Nom be can-Impf.F.Sg be.Pres.3.Sg
 ‘It’s possible that it will rain today.’

b. brasil=mẽ raſtrapati=ka **fεsla** nahĩ **ho pa-ya**
 Brazil=in president=Gen.M.Sg decision.M.Sg.Nom not be find-Perf.M.Sg
 ‘In Brasil a decision on the president was not able to be done.’

c. cunav=mẽ sipiem=ka **k^hata** nahĩ **k^hul pa-ya**
 election.M.Sg=in CPM=Gen.M.Sg account.M.Sg.Nom not open find-Perf.M.Sg
 ‘The account of the CPM (Communist Party Marxist) couldn’t be opened in the election.’ (i.e., the CPM couldn’t get even one seat in the election.)

Since the subject is not related thematically to the modals, it is hard to defend a control analysis.

Raising or Complex Predicate?

- The modals plus bare verbs look very much like V-V complex predicates (cf. Butt (1995)).
- But one could also analyze them as biclausal raising constructions.
- Either analysis would work from the syntactic point of view.
 - The monoclausality tests established by Butt (1995) cannot distinguish between the two possibilities (simply not enough and/or the right kinds of arguments around to test anaphora, agreement and control).
 - Scrambling possibilities and placement and scope of negation or adverbials are not helpful as tests either.
 - However, the modal plus bare verb construction actually displays a different syntactic distribution from V-V complex predicates.
- From a semantic perspective, having an XCOMP is the preferred option since then the proposition the modal operates on is easily identifiable.

Modals with Finite Complements

- *sak* ‘can’ as well as *cahiye* ‘need’ also allow modal expressions with finite complements.
- This is not typical of complex predicates, but is attested for raising constructions (*John seems to be sleeping*. vs. *It seems that John is sleeping*).

Only the dedicated modal verbs *sak* ‘can’ and *cahiye* ‘need’ allow finite complements.

(15) **ho sak-ta** hε [ke vo mehnat kar-e]
be can-Impf.M.Sg be.Pres.3.Sg that that.Nom hard_work.F.Sg do-Subj.3.Sg
‘It is possible that he will work hard.’

(16) a. ye **ho-na** **cahiye** [ke vo mehnat kar-e]
this.Nom be-Inf.M.Sg need.Sg that that.Nom hard_work.F.Sg do-Subj.3.Sg
‘This needs to happen, that he work hard.’

b. **raza=ko** **cahiye** [ke vo mehnat kar-e]
Raza.M.Sg=Dat need.Sg that that.Nom hard_work.F.Sg do-Subj.3.Sg
‘Raza needs to work hard.’

- As in English, when a finite clause is used, an impersonal subject is introduced in the matrix clause ((15), (16a)).
- However, *cahiye* ‘need’ is also compatible with a dative subject (16b).

Summary

- The modal plus infinitive constructions appear to be instances of control.
- The modal plus bare verb constructions are probably instances of raising.
- *cahiye* ‘need’ selects a thematic subject of its own, both with a finite complement or in combination with an infinitive → we discuss the significance of this in section 5.

3.4 Copy-raising?

It has been suggested that the examples in (15)–(16) could be analyzed as instances of *copy-raising* (Asudeh and Toivonen 2010).

Copy-raising crucially involves an anaphor in the embedded finite clause which refers back to the subject in the matrix clause.

- (17) a. Chris_i seemed like he_i enjoyed the marathon.
b. *Chris_i seemed like they_j enjoyed the marathon.
c. *Chris_i seemed like those people_j enjoyed the marathon.

However, examples as in (17b,c) are perfectly possible in Urdu/Hindi.

(18) **ho sak-ta** hε [ke vo log mehnat kar-e]
be can-Impf.M.Sg be.Pres.3.Sg that that.Nom people.M.Nom hard_work.F.Sg do-Subj.3.Sg
‘It is possible that those people will work hard.’

- (19) a. ye **ho-na** **cahiye** [ke vo log mehnat kar-e]
 this.Nom be-Inf.M.Sg need.Sg that that.Nom people.M.Nom hard_work.F.Sg do-Subj.3.Sg
 ‘This needs to happen, that those people work hard.’
- b. **raza=ko_i** **cahiye** [ke vo_j mehnat kar-e]
 Raza.M.Sg=Dat need.Sg that that.Nom hard_work.F.Sg do-Subj.3.Sg
 ‘Raza needs for her/him to work hard.’
- c. **raza=ko_i** **cahiye** [ke vo log mehnat kar-e]
 Raza.M.Sg=Dat need.Sg that that.Nom people.M.Nom hard work.F.Sg do-Subj.3.Sg
 ‘Raza needs for those people to work hard.’

Furthermore, if these were instances of copy-raising, we would not expect the copy-raised version to result in a meaning that is distinct from the version without copy-raising.

That is, the meanings of the sentences in (20) do not seem to be distinct.

- (20) a. John seems to be happy.
 b. John seems like he is happy.

However, the same is not true for Urdu/Hindi, as shown in (21).

- (21) a. **baccō=ko** vakt=par skul **pahūc** ja-na **cahiye**
 child.Pl=Dat time.M.Sg=on school.F.Sg.Obl arrive go-Inf.M.Sg need.Sg
 ‘It is necessary that the children be at school punctually.’
- b. **baccō=ko** **cahiye** [ke vo vakt=par skul **pahūc** ja-ẽ]
 child.Pl=Dat need.Sg that Pron.3.Nom time.M.Sg=on school.F.Sg.Obl arrive go-Subj.3
 ‘The children need to make sure they arrive at school on time.’

- The example in (22a) is actually ambiguous as to who the *holder-of-obligation* is — it could be the children (the dative subject), or it could be some other person whose responsibility it is to make sure the children are at school on time.
- However, in (22b) with a finite complement, the holder-of-obligation **must** be the dative subject.
- (Note that (22) contains a V-V complex predicate, namely *pahūc ja* ‘reach go’, where the ‘go’ signals completion of the event.)

We therefore conclude that the Urdu/Hindi constructions are not instances of copy-raising.

4 One- or Two-Place Operator?

- General assumption in the literature is that modals are raising verbs (shown not to hold for Urdu for all modal verbs).
- Semantic effect is that modals are generally taken to be instances of one-place operators (a.o. Lewis (1944), Carnap (1947)).
- That is, the modal operator takes a proposition and provides modal information about that proposition.

- However, the data from the modal plus infinitive constructions (*cahiye* ‘need’, *paṛ* ‘fall’ and *ho* ‘be’) showed that
 - a raising analysis is not probable
 - the subject is thematically related to the modal verb
- The above data taken together thus argues for two-place modal operator in Urdu/Hindi.
 - This operator would take an individual and a proposition and relate the two to one another.

(22) ravi=ko cahiye [ke vo mehnat kar-e]
 Ravi need.Sg that he.Nom hard_work.F.Sg do-Subj.3.Sg
 ‘It is necessary that Ravi will work hard.’

- In (22), Ravi is the bearer of obligation that Ravi works hard.

Further evidence for a two-place operator comes from *paṛ* ‘fall’.

Unlike *sak* ‘can’ ((18)), *cahiye* ‘need’ ((12a), (19a)) and *ho* ‘be’ ((12b), (14b)), *paṛ* ‘fall’ does not allow for non-referential non-dative subjects (23).

- (23) a. *ho paṛ-ta he [ke vo mehnat kar-e]
 be fall-Inf.M.Sg be.Pres.3.Sg that that.Nom hard_work.F.Sg do-Subj.3.Sg
 ‘It is necessary that he will work hard.’
- b. *ye ho-na paṛ-a [ke vo mehnat kar-e]
 this.Nom be-Inf.M.Sg fall-Perf.M.Sg that that.Nom hard_work.F.Sg do-Subj.3.Sg
 ‘This needs to happen, that he work hard.’
- c. *aj barīḥ ho-ni paṛ-i
 today rain.F.Sg.Nom be-Inf.F.Sg fall-Perf.F.Sg
 ‘It should rain today.’

- We conclude from (23) that *paṛ* ‘fall’ directly and thematically selects its subject argument.
- This means that in (24), *Ravi* must be analyzed as a thematic argument of *paṛ* ‘fall’.
- That is, *Ravi* is placed in a relationship with the proposition expressed by the non-finite clause and this relationship is mediated by *paṛ* ‘fall’.

(24) ravi=ko bahut mehnat kar-ni paṛ-ti he
 Ravi.M.Sg=Dat much hard work.F.Sg do-Inf.F.Sg fall-Inf.F.Sg be.Pres.3.Sg
 ‘Ravi has to work very hard.’

Summary

So far, we have looked at the morphosyntax and drawn conclusions about the semantics. Only for *cahiye* in its finite clause guise, we have evidence for the 2-place operator. All other modals are assumed to be one-place-operators.

In the next section, we look at another issue in which syntax and semantics have been assumed to be closely tied to one another and examine how this issue plays out with respect to Urdu modals: the *Actuality Entailment*.

5 The Actuality Entailment and Root vs. Epistemic Readings

5.1 The Actuality Entailment

A long-standing puzzle about ability modals involves the contrast illustrated by (25).

- (25) a. In her twenties, Jane was able to swim across Lake Balaton, though she never did.
b. Yesterday, Jane was able to swim across Lake Balaton, ??but she didn't.
(examples based on Piñon (2003))

- In (25b), the modal does not merely express a possibility, but implicates that Jane did swim across the lake.
- Bhatt (2006) showed that this behavior of ability modals correlates with grammatical aspect:
 - In the perfective, the proposition expressed must hold in the actual world (and not in some possible world, as is the case in (25b) and (26b)).
 - In the imperfective, on the other hand, no such requirement is imposed ((26a)).
 - This has to do with episodic statements vs. generic statements.

- (26) a. *raza tez gari=ko cal-a sak-ta he,*
Raza.M.Sg.Nom fast car.F.Sg=Acc walk-Caus can-Impf.M.Sg be.Pres.3.Sg
magar us=ne gari=ko nahĩ cal-a-ya
but Pron.3.Sg.Obl=Erg car.F.Sg=Acc not walk-Caus-Perf.M.Sg
'Raza is able to drive a fast car, but he didn't drive the car.'
- b. *raza tez gari=ko cal-a sak-a,*
Raza.M.Sg.Nom fast car.F.Sg=Acc walk-Caus can-Perf.M.Sg
??magar us=ne gari=ko nahĩ cal-a-ya
but Pron.3.Sg.Obl=Erg car.F.Sg=Acc not walk-Caus-Perf.M.Sg
'Raza was able to drive a fast car, but he didn't drive the car.'

Bhatt called this the *Actuality Entailment*.

5.2 Root vs. Epistemic Readings

- Hacquard (2009, 2010) argues that the actuality entailment is not confined to ability modals, but to all *root* interpretations.
- This includes possibility and necessity modals, but crucially not epistemic modals or epistemic readings of possibility and necessity modals.

For Urdu/Hindi, this prediction works out right in an interesting way.

- Root interpretations (modality connected to circumstances in the world surrounding the event) are found with: *sak* 'can', *pa* 'find', *par* 'fall' and *ho* 'be'.
- Epistemic interpretations (modality connected to speaker's knowledge of the world) are found with: *cahiye* 'need' and *ho* 'be'.

Root Readings and Actuality Entailment

The verb *pa* ‘find’ patterns exactly like *sak* ‘can’ thus is in compliance with Hacquard’s generalization.

- (27) a. *raza* *tez gari=ko* *cal-a* **pa-ta** *he*,
 Raza.M.Sg.Nom fast car.F.Sg=Acc walk-Caus find-Impf.M.Sg be.Pres.3.Sg
magar vo *gari=ko* *nahi cal-a-ta*
 but Pron.3.Sg.Nom car.F.Sg=Acc not walk-Caus-Perf.M.Sg
 ‘Raza can drive a fast car, but he didn’t drive the car.’
- b. *raza* *tez gari=ko* *cal-a* **pa-ya** *he*,
 Raza.M.Sg.Nom fast car.F.Sg=Acc walk-Caus find-Perf.M.Sg be.Pres.3.Sg
 ??*magar us=ne* *gari=ko* *nahi cal-a-ya*
 but Pron.3.Sg.Obl=Erg car.F.Sg=Acc not walk-Caus-Perf.M.Sg
 ‘Raza could drive a fast car, but he didn’t drive the car.’

The modal semantics of *par* ‘fall’ pattern differently in that there is actually no possible world in which the holder of obligation could end up not performing that action, regardless of the aspect.

- (28) a. *ravi=ko* *skul* *ja-na* **par-ta** *he*
 Ravi.M.Sg=Dat school.M.Sg.Obl go-Inf.M.Sg fall-Impf.M.Sg be.Pres.3.Sg
 ??*magar vo* *nahi ja-ta*
 but Pron.3.Sg not go-Inf.M.Sg
 ‘Ravi has to go to school but he didn’t go.’
- b. *ravi=ko* *skul* *ja-na* **par-a** *he*
 Ravi.M.Sg=Dat school.M.Sg.Obl go-Inf.M.Sg fall-Impf.M.Sg be.Pres.3.Sg
 ??*magar vo* *nahi ga-ya*
 but Pron.3.Sg not go-Perf.M.Sg
 ‘Ravi had to go to school but he didn’t go.’
- c. *ravi=ko* *skul* *ja-na* **par-e-g-a**,
 Ravi.M.Sg=Dat school.M.Sg.Obl go-Inf.M.Sg fall-3.Sg-Fut-3.M
 ??*magar vo* *nahi ja-e-g-a*
 but Pron.3.Sg not go-3.Sg-Fut-3.M
 ‘Ravi will have to go to school but he won’t go.’

The root reading of *ho* ‘be’ again presents a different pattern, since no actuality entailment effect can be identified.

- (29) a. *ravi=ko* *skul* *ja-na* **he**
 Ravi.M.Sg=Dat school.M.Sg.Obl go-Inf.M.Sg be.Pres.3.Sg
magar vo *nahi ja-ta*
 but Pron.3.Sg not go-Inf.M.Sg
 ‘Ravi has to go to school but he doesn’t go.’

- b. ravi=ko skul ja-na **t^h-a**
 Ravi.M.Sg=Dat school.M.Sg.Obl go-Inf.M.Sg be.Past-M.Sg
 magar vo nahĩ ga-ya
 but Pron.3.Sg not go-Perf.M.Sg
 ‘Ravi had to go to school but he didn’t go.’
- c. ravi=ko skul ja-na **ho-g-a,**
 Ravi.M.Sg=Dat school.M.Sg.Obl go-Inf.M.Sg fall-3.Sg-Fut-3.M
 magar vo nahĩ ja-e-g-a
 but Pron.3.Sg not go-3.Sg-Fut-3.M
 ‘Ravi will have to go to school but he won’t go.’

Epistemic Readings → No Actuality Entailment

- (30) a. ravi=ko skul ja-na **cahiye**
 Ravi.M.Sg=Dat school.M.Sg.Obl go-Inf.M.Sg need.Sg
 magar vo nahĩ ja-ta
 but Pron.3.Sg not go-Impf.M.Sg
 ‘Ravi has to go to school but he doesn’t go.’
- b. ravi=ko skul ja-na **cahiye t^h-a**
 Ravi.M.Sg=Dat school.M.Sg.Obl go-Inf.M.Sg need.Sg be.Past-M.Sg
 magar vo nahĩ ga-ya
 but Pron.3.Sg not go-Perf.M.Sg
 ‘Ravi had to go to school but he didn’t go.’

For examples of *ho* ‘be’ in the epistemic reading, see (30) — they look exactly like that.

5.3 Discussion and Analysis

- Hacquard (2009, 2010) proposes to tie the different interpretation possibilities of modals to syntactic structure (based on, e.g., Cinque (1999)).
 - Root modals are situated just above the VP.
 - Epistemic modals occur right above TP.
- The difference in semantics is related to how the modals are evaluated.
- Hacquard proposes that
 - modals situated just above VP are evaluated with respect to the event of the VP.
 - modals situated above TP are evaluated with respect to a speech or attitude event (thus giving rise to epistemic readings)

The interaction with aspect comes about because modals situated above VP are bound by the aspectual projection that appears above the VP and the modal.

She can thus explain Bhatt’s Actuality Entailment and why root modals in general display the Actuality Entailment.

Accounting for Urdu/Hindi

- The root modals *sak* ‘can’ and *pa* ‘find’ behave as predicted by Hacquard.
- The epistemic modal *cahiye* ‘need’ and the epistemic reading of *ho* ‘be’ also conforms to theory.
- However, it is not clear why the Actuality Entailment for *par* ‘fall’ is insensitive to aspect and always exists.
 - The modal contribution of *par* ‘fall’ may simply differ at the lexical level from other modals.
 - It appears to predicate of a participant that the event described by the VP had to be performed by the participant so that the participant had no choice in the matter (no possible worlds, but only an actual world).
 - In this case, there would not be an Actuality Entailment per se that plays a role in the interpretation, but some lexical content which predicates an obligation to perform a certain action with no choice in the matter.
- The verb *ho* ‘be’ does not show an Actuality Entailment in the root reading.
- This may be because
 - The clauses with *ho* ‘be’ as a modal actually do not contain any aspect (cf. (29)).
 - If there is no aspect in the clause, then aspect cannot interact with the VP and cannot bind it.
 - And if there is no interaction with aspect, then Actuality Entailment is not expected.

5.4 Syntax-Semantics Correspondence?

The Urdu/Hindi patterns can thus be accounted for in terms of Bhatt’s Actuality Entailment and Hacquard’s structural distinction between root and epistemic modals.

Question:

- The tight connection between semantic interpretation and structural position and scope is not one espoused by LFG.
- How does Hacquard’s proposal translate into LFG?

Ramchand (2011) offers an interesting solution:

- Rather than tying the different interpretive possibilities to a structural configuration, she localizes the difference in the lexicon.
- She distinguishes between *indexical* (\approx epistemic) and *anaphoric* (\approx root) modals.
- Follows Kratzer (2008) in claiming that propositions are not sets of possible worlds, but sets of situations.
- Modal operators quantify directly over situations.

- Follows Hacquard’s event evaluation/anchoring idea for modals.
- Modals then differ in how they resolve what the situation denoted by the proposition refers to, i.e., with respect to what it must be evaluated.
- Indexical modals require the proposition situation to be evaluated with respect to the current utterance situation, which means they are speaker-oriented (epistemic).
- Anaphoric modals can bind the proposition situation to any number of other situations (certain laws, cultural values, etc.) — this makes the interpretation circumstantial and results in a root reading.

5.5 Lexical Approach

- So rather than invoking structural configurations, the differences can be encoded lexically in the modals.
- This can account for all of the patterns seen for Urdu/Hindi.
- Not Accounted for: the difference in modal constructions in Urdu/Hindi
 - Why are there both bare and infinitive complements?
 - What role does the dative play exactly?
- Assumption: These have to do with the historical origin of the modals and needs to be investigated further.

6 Summary

- Provided a survey of Urdu/Hindi modals.
- Investigated them with respect to two issues:
 - Raising vs. Control and whether one should assume a one-place or two-place operator in the semantics
 - Bhatt’s Actuality Entailment
- Conclusion:
 - Not all of the modal constructions are raising predicates (which is the default assumption).
 - There is evidence for a two-place modal operator.
 - Patterns with respect to the Actuality Entailment can be accounted for within Hacquard’s generalization.
 - However, one does not need to go her structural route as there are independent arguments from Ramchand for lexical encoding of the relevant properties.

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