

# Aspect and causality in two Hindi/Urdu ability constructions

*Numbered examples*

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## 1 Introduction

- Aspectual complex predicates with *le*

- (1) a. *Anjum gaarii calaa le-tii* (hai).  
Anjum car drive take-IMPF.F.SG (be.PRS.SG)  
‘Anjum will/does drive the car.’  
b. *Anjum-ne gaarii calaa l-ii*.  
Anjum-ERG car drive take-PFV.F.SG  
‘Anjum drove the car.’

- Ability attributions with *sak*

- (2) a. *Anjum gaarii calaa sak-tii* *thii* (*lekin us-ne gaarii kabhii*  
Anjum car drive can-IMPF.F.SG be.PST.F.SG (but 3SG.ERG car sometime  
*nahĩ chalaayii*.)  
NEG drive-PFV.F.SG.  
‘Anjum could drive the car (but she never drove the car).’  
b. *Anjum gaarii calaa sak-ii* (*#lekin us-ne gaarii nahĩ calaa-yii*)  
Anjum car drive can-PFV.F.SG (#but 3SG-ERG car NEG drive-PFV.F.SG  
‘Anjum was able to drive the car (#but she didn’t drive the car).’

## 2 Dispositional complex predicates

- Sample light verb constructions:

- (3) a. *Anjum-ne baccõ-ko so-ne di-yaa*  
Anjum-ERG children-DAT sleep-INF.OBL give-PFV.M.SG  
‘Anjum let the children sleep.’  
b. *Anjum so ga-yii*  
Anjum sleep go-PFV.F.SG  
‘Anjum slept off.’  
(4) a. *Anjum-ne gaanaa gaa daal-aa*  
Anjum-ERG song sing put-PFV.M.SG  
‘Anjum sang a song (deliberately, forcefully).’

- b. *Anjum gaanaa gaa paṛ-ii*  
 Anjum song sang fall-PFV.F.SG  
 ‘Anjum fell to singing (spontaneously, involuntarily).’
- Aspect contrast with simple predicates:
  - (5) *Anjum gaarīi calaa-tii hai/thii*  
 Anjum car drive-IMPF.F.SG be.PRS.SG/be.PST.F.SG  
 ‘Anjum drives/used to drive the car.’
  - (6) *Anjum-ne gaarīi calaa-yii (hai).*  
 Anjum-ERG car drive-PFV.F.SG (be.PRS.SG)  
 ‘Anjum drove (has driven) the car.’
- Le* as an aspectual auxiliary/culminating perfective:
  - (7) a. *Maayaa-ne biskat̤ khaa-yaa lekin use puuraa nahĩ khaa-yaa*  
 Maya-ERG cookie eat-PFV.M.SG but it.ACC whole NEG eat-PFV.M.SG  
 ‘Maya ate the cookie but did not finish it.’  
 b. *Maayaa-ne biskat̤ khaa li-yaa, #par use puuraa nahĩ khaa-yaa.*  
 Maya-ERG cookie eat take-PFV.M.SG, #but it.ACC whole NEG eat-PFV.M.SG  
 ‘Maya ate the cookie, #but did not finish it.’
- English existential/dispositional generic
  - (8) My pet toad will eat flies.  
*The toad can and does eat flies (under the right circumstances), but not necessarily in all eating situations, and not necessarily to the exclusion of other foods*
- Negative expectation contexts for the dispositional complex predicate:
  - (9) a. *acchaa, vo hindi bhii bol-tii hai?*  
 yes, she Hindi also speak-IMPF.F.SG be.PRS.SG  
 ‘Oh, she also speaks Hindi?’  
 b. *hãã hãã, bol le-tii hai. kyũ nahĩ bol-e?*  
 yes yes, speak take-IMPF.F.SG be.PRS.SG. why NOT speak-SUBJ  
 ‘Yes, she (can and) does speak Hindi. Why not?’
  - (10) In response to being asked why one never sees Anjum driving:
 

*climate change-kii vajah-se vo aaj-kal gaarīi nahĩ calaa rahii*  
 climate change-GEN reason-INST 3.SG today-tomorrow car NEG drive PROG.F.SG  
*hai, lekin bilkul vo gaarīi calaa le-tii hai.*  
 be.PRS.SG, but certainly 3.SG car drive take-IMPF.F.SG be.PRS.SG  
 ‘Due to climate change, she’s not driving the car (regularly) these days, but she certainly (can and) does drive the car.’

- Comparing the dispositional complex predicate to standard ability:

- (11) a. *Anjum gaarii calaa sak-tii hai, lekin cala-tii hii nahĩĩ*  
 Anjum car drive can-IMP.F.SG be.PRS.SG, but drive-IMP.F.SG only NEG  
 ‘Anjum can (has the ability) to drive the car, but (she) doesn’t drive.’  
 b. *Anjum gaarii calaa le-tii hai, #/?lekin cala-tii hii*  
 Anjim car drive take-IMP.F.SG be.PRS.SG, #/?but drive-IMP.F.SG only  
*nahĩĩ*  
 NEG  
 ‘Anjum (can and) does drive the car, #/?but (she) doesn’t drive.’
- (12) a. *agar raastaa pakkaa ho, Anjum saikal calaa le-gii*  
 if road correct be, Anjum cycle drive take-FUT.F.SG  
 ‘If the road is good, Anjum will ride a bicycle.’  
 b. *??agar raastaa pakkaa ho, Anjum saikal calaa sak-egi*  
 if road correct be, Anjum cycle drive can-FUT.F.SG  
 ‘If the road is good, Anjum will be able to ride a bicycle.’

- Sinhala (in)volitives: intentional, accidental, dispositional readings

- (13) a. *laməya kooppe binda, eet hitəla nemeyi*  
 child.NOM cup break.PST but intend.PTCPL NEG  
 ‘The child broke the cup, but not intentionally.’ VOL  
 b. *laməya atij kooppe biñduna*  
 child ERG cup break.INV.PST  
 ‘The child (accidentally) broke the cup.’ INVOL
- (14) *?laməya atij piŋgaanə hitəla biñduna*  
 child ERG plate intend.PTCPL break.INV.PST  
 ‘The child broke the plate on purpose.’
- (15) a. *kellə atij maalu ageetəpihenəwa*  
 girl ERG fish.ACC.PL very.well cook.INV.PRS  
 ‘The girl can cook fish very well’ (De Silva 1960)  
 b. *Mahatun atij mee kəæmə hoñdətə hædenəwa*  
 Mahatun ERG this food well make.INV.PRS  
 ‘Mahatun makes this food well (as it turns out/unexpectedly).’ (Inman 1993)
- (16) Compare (15b) to the dispositional predicate  
*Mahatun ye khaanaa acchaa banaa le-taa hai.*  
 Mahatun this food well make take-IMP.F.M.SG be.PRS.SG  
 ‘Mahatun (can and) does make this food well.’

- Happenstantial modality (modality of non-necessity):

- (17) a. The child happened to break the cup, #but she didn’t break the cup.  
 b. Mahatun happens to make this dish well, #but he doesn’t make it well.

- (18)  $\llbracket \text{INV}(\alpha) \rrbracket^w := \alpha(w) \& \exists w' \in \text{ACC}(w)[\neg \alpha(w')]$
- (19) laməya atij kooppe biṇduna  
‘The child happened to break the cup.’  
*The child broke the cup and there is some world compatible with her intentions and circumstances in which she did not break the cup.*
- (20) mahatun atij mee kəæmə hoṇdətə hædenəwa  
‘Mahatun happens to makes this food well’  
*Mahatun makes this food well and there is some world compatible with the speaker’s expectations in which he does not do so.*
- Happenstantial modality for the dispositional predicate:

(21)  $\llbracket \text{le}(\alpha) \rrbracket^w := \alpha(w) \& \exists w' \in \text{EP}(w)[\neg \alpha(w')]$

(1a) *Anjum gaar̥ii calaa le-tii* (hai).  
Anjum car drive take-IMP.F.SG (be.PRS.SG)  
‘(As it happens), Anjum (can and) does drive the car.’  
*Anjum drives the car and there is some world compatible with (my) expectations in which she does not drive the car.*

(22) The child didn’t happen to break the plate  
→ *She didn’t break the plate, and it was possible that she would not break the plate*

(23) **Sketch proposal.** Given a one-place predicate  $P$  and an agent  $x$ ,  $\text{le}(P(x))$   
a. *Presupposes:* A prior choice  $A(x)$  for  $x$  is necessary and sufficient to bring about  $P(x)$   
b. *Asserts:*  $x$  made choice  $A(x)$

### 3 Ability and implicativity

- Actuality entailments:

(24) *Yusuf havaii-jahaaz uṛaa sak-taa thaa, lekin us-ne havaii-jahaaz kabhii*  
Yusuf air-ship fly can-IMP.F.M PST, but 3SG-ERG air-ship sometime  
*nahĩĩ uṛaa-yaa.*  
NEG fly-PFV.M  
‘Yusuf could fly planes, but he never flew a plane.’

(25) *Yusuf havaii-jahaaz uṛaa sak-aa, #lekin us-ne havaii-jahaaz nahĩĩ uṛaa-yaa.*  
Yusuf air-ship fly can-PFV.M, #but 3SG-ERG air-ship NEG fly-PFV.M  
‘Yusuf could fly the plane, #but he didn’t fly the plane.’
- Standard semantics for ability/perfective:

(26)  $\llbracket \text{CAN} \rrbracket^{w, \text{CIRC}} := \lambda P \lambda e. \exists w' \in \text{CIRC}(w)[P(e)(w')]$

(27)  $\llbracket \text{PFV} \rrbracket := \lambda w \lambda t \lambda P. \exists e[\tau(e) \subseteq t \& P(e)(w)]$

(28) Yusuf could-PFV fly the plane  $\sim \exists e[\tau(e) \subseteq t\{\prec t^*\} \& \exists w \in \text{CIRC}(w^*)[\text{fly-plane}(Y)(e)(w)]]$   
*The relevant past interval contains an event of Yusuf flying a plane in some circumstantially accessible world*

- Comparison with *manage*

(29) (25)  $\equiv$  Yusuf managed to fly the plane, #but he didn't fly the plane

(30) a. Anjum managed / did not manage to ride a bike.

b. *Anjum saikal (nahĩĩ) calaa sak-ii*

Anjum cycle (NEG) drive can-PFV.F.SG

'Anjum was (not) able to ride a bike.'

$\rightsquigarrow$  *cycling was unexpected? abnormal? difficult?*

(31) Yusuf manages to fly a plane, #but he never flies a plane.

(32) French *réussir* ('succeed', 'manage')

*Yusuf { réussissait / a réussi } à piloter un avion, #mais il n'a*

*Yusuf { managed-IMPF / managed-PFV } to fly a plane, #but he NEG-has pas piloté d'avion.*

NEG fly-PFV the-plane.

'Yusuf { used to manage / managed } to fly a plane, #but he did not fly a plane.'

## 4 Causal semantics for implicativity

- Implicative verbs: semantic template

(33) a. Ria dared to open the door.

$\rightarrow$  *Ria opened the door*

b. Ria did not dare to open the door.

$\rightarrow$  *Ria did not open the door*

$\rightsquigarrow$  *Opened the door required Ria to act bravely*

- What *manage* projects (or does not project)

(34) a. Without intending to, Ms. Streisand [...] managed to synthesize the problem [...]  $\nrightarrow$  intention,  $\nrightarrow$  difficulty,  $\rightsquigarrow$  unlikely

b. By 1998, [...] gun manufacturers had easily managed to bypass the laws by making small alterations [...]  $\rightsquigarrow$  intention,  $\nrightarrow$  difficulty, ?  $\rightsquigarrow$  unlikely

c. The Socialdemokratiet managed to strengthen their position as Denmark's strongest political force as expected [...]  $\rightsquigarrow$  intention, ?  $\rightsquigarrow$  difficulty,  $\nrightarrow$  unlikely

(35) *Context:* Nur is extremely busy with work lately

$\rightsquigarrow$  *Finding/making time was required*

$\rightarrow$  Nur made the time (and consequently meditated)

- Toy model examples:

(36) a. Dreyfus dared to spy for the Germans.

b. Dreyfus did not dare to spy for the Germans.

(37) Dreyfus managed to spy for the Germans

- Semantics for manage (using causal premise semantics; Kaufmann 2013, Nadathur 2023b,c)

$$(38) \quad \llbracket \text{manage}(P)(x) \rrbracket^{w,t} := \lambda e. (\iota A. \forall w' \in \text{CAUS}(w, t) [\text{IN}(t, w', A(x)) \leftrightarrow \text{IN}(t, w', P(x))]) (w)(e)$$

- *Happen to* is an implicative:

- (39) a. Ria happened to break the plate.  $\rightarrow$  *Ria broke the plate*  
 b. Ria didn't happen to break the plate.  $\rightarrow$  *Ria didn't break the plate*  
 $\leadsto$  *There was something she did (or didn't do) which (would have) resulted in breaking the plate.*

- Choosy semantics for ability:

- (40) A statement of the form *x is able to / can P*  
 a. *Presupposes:* the existence of some action  $A(x)$  which is necessary/sufficient to bring about  $P(x)$   
 b. *Asserts:*  $A$  is in  $x$ 's *choice set* (doing  $A$  is a live option for  $x$ )
- (41)  $\text{orall} w, t, x [A(x) \in \text{CH}(x, w, t) \rightarrow \exists w' \in \text{CIRC}(w) [\text{IN}(t, w', A(x))]]$   
*Actions in  $x$ 's choice set at  $\langle w, t \rangle$  are possibilities for  $x$  at  $\langle w, t \rangle$*
- (42) *Context:* Rookie Tara makes a single hole in one during the reference interval (but otherwise has shown no golfing skill)  
 a. ??Tara can (has the ability to) make a hole in one.  
 b. ??*Taaraa hole in one kar sak-tii hai/thii*  
 Tara hole in one do can-IMPF.F.SG be.PRS.SG/be.PST.F.SG  
 'Tara has/had the ability to make a hole in one.'
- (43)  $\llbracket \text{ABLE}(x)(P) \rrbracket^{w,t} := (\iota A. \forall w' \in \text{CAUS}(w, t) [\text{IN}(t, w', A(x)) \leftrightarrow \text{IN}(t, w', P(x))]) (x) \in \text{CH}(x, w, t)$   
*Agent  $x$  is able to  $P$  at  $\langle w, t \rangle$  if  $x$  can choose the final cause of  $P(x)$*

- Ability to actuality: dynamic capacity stative under aspectual modification

- (44) Juno is loud/fast/tactful.  
*Juno is capable of actions which are loud/fast/tactful.*
- (45) *Juno était rapide.*  
 Juno was.IMPF fast  
 'Juno was (generally) fast.'
- (46) *Juno a été rapide.*  
 Juno was.PFV fast  
 'Juno was (did something) fast.'
- (47) Juno was fast enough to win the race  
*Juno was able to win the race, in view of her capacity for speed*
- (48) a. *Juno était assez rapide pour gagner la course*  
 Juno was-IMPF enough fast for win the race  
 'Juno was fast enough to win the race.'
- b. *Juno a été assez rapide pour gagner la course*  
 Juno was-PFV enough fast for win the race  
 'Juno ran fast enough to win the race.'  $\rightarrow$  *She won*

- (49) *Yusuf gaarii calaa sak-aa*  
 Yusuf car drive can-PFV.M.SG  
 ‘Yusuf managed to drive the car.’
- Presupposes:* Some action by Yusuf was the final cause of car-driving  
 $\exists A : \forall w' \in \text{CAUS}(w, t) [\text{IN}(t, w', A(Y)) \leftrightarrow \text{IN}(t, w', \text{drive-car}(Y))]$
  - Base assertion:* The proximate cause was in Yusuf’s (local) choice set (stative)  
 $A(x) \in \text{CH}(Y, w, t)$
  - With coercion + PFV:* Yusuf chose (acted on) the proximate cause  
 $\text{IN}(t, w, A(Y))$
  - Entailed result:** Yusuf drove the car  
 $\text{IN}(t, w, \text{drive-car}(Y))$

## 5 Implicative structure for the dispositional complex predicate

- Implicative semantics for *le*

$$(50) \quad \llbracket \text{le}(P)(x) \rrbracket^{w,t} := \lambda e. (\iota A_{vt} \in \text{CH}(x, w, t). \forall w' \in \text{CAUS}(w, t) [\text{IN}(t, w', A(x)) \leftrightarrow \text{IN}(t, w', P(x))]) (w)(e)$$

- Composition with habitual imperfective:

$$(51) \quad \llbracket \text{HAB} \rrbracket := \lambda w \lambda t \lambda R_{it} \lambda P_{vt}. \forall t' [t' \subset t \ \& \ R(w)(t')] [\text{IN}(t', w, P)]$$

$$(52) \quad \llbracket \text{IMPF}(\text{HAB}(\text{le}(P)(x))) \rrbracket = \lambda w \lambda t. \exists t [t \supset t^* \ \& \ \forall t' [t' \subset t \ \& \ \iota A \in \text{CH}(x, w, t). \forall w' \in \text{CAUS}(w, t') [\text{IN}(t', w, A(x)) \leftrightarrow \text{IN}(t', w', P(x))]] [\text{IN}(t', w, A(x))]]$$

*All situations in which  $x$  has a choice which is necessary/sufficient for  $P$  are ones in which  $x$  acts on this choice*

- (53) *agar raastaa pakkaa ho, Anjum saikal calaa le-tii hai*  
 if road correct be, Anjum cycle drive take-IMPF.F.SG be.PRS.SG  
 ‘If the road is good, Anjum rides a bicycle.’  
*Whenever the road is good, Anjum has a choice which is necessary/sufficient for her to ride a bike, and she makes this choice.*

- Composition with episodic perfective:

$$(54) \quad \exists e [\tau(e) \subseteq t \ \& \ (\iota A_{vt} \in \text{CH}(x, w, t). \forall w' \in \text{CAUS}(w, t) [\text{IN}(t, w', A(x)) \leftrightarrow \text{IN}(t, w', P(x))]) (w)(e)]$$

*Agent  $x$  had a choice which was causally necessary and sufficient for realizing  $P$  within reference time and acted on that choice*

- (1b) *Anjum-ne gaarii calaa l-ii*  
 Anjum-ERG car drive take-PFV.F.SG  
 ‘Anjum drove a car.’ (Anjum chose to drive)  
*Anjum had a choice which was necessary/sufficient for her to drive, and she made this choice (so she drove)*

(55) Anjum managed to drive a car.  
 (2b) *Anjum gaarii chala sak-ii.*  
 Anjum car      drove can-PFV.F.SG  
 ‘Anjum was able to drive a car.’  
 (1b) *Anjum gaarii chala l-ii*  
 Anjum car      drove take-PFV.F.SG  
 ‘Anjum chose to drive a car.’

(56) a. \**us-ne gaanaa nahĩĩ gaa li-yaa*  
           \*3SG-ERG song NEG sing take-PFV.M.SG  
           *Intended:* ‘He didn’t (choose to) sing a song (completely)’  
 b. \**vo gaanaa nahĩĩ gaa le-taa*  
           \*3SG-ERG song NEG sing take-IMP.F.M.SG  
           *Intended:* ‘He doesn’t/won’t (choose to) sing songs.’

(7) a. *Maayaa-ne biskat̚ khaa-yaa lekin use puuraa nahĩ khaa-yaa*  
 Maya-ERG cookie eat-PFV.M.SG but it.ACC whole NEG eat-PFV.M.SG  
 ‘Maya ate the cookie but did not finish it.’  
 b. *Maayaa-ne biskat̚ khaa li-yaa, #par use puuraa nahĩ khaa-yaa.*  
 Maya-ERG cookie eat take-PFV.M.SG, #but it.ACC whole NEG eat-PFV.M.SG  
 ‘Maya ate the cookie, #but did not finish it.’

(57) a. *Anjum-ne [likh li-yaa] patr.*  
 Anjum-ERG [write take-PFV.M.SG] letter  
 ‘Anjum wrote a letter.’  
 b. *\*Anjum-ne likh patr li-yaa.*  
 \*Anjum-ERG write letter take-PFV.M.SG  
 ‘Anjum wrote a letter.’

(58) *Acceptable in context:* Dancing in the Taj is forbidden, but Anjum really wanted to  
*Anjum-ne Taj Mahal-mein naac li-yaa*  
 Anjum-ERG taj mahal-IN dance take-PFV.M.SG  
 ‘Anjum (deliberately) danced in the the Taj Mahal.’ (R. Bhatt, p.c.)