

The unique functionality of Urdu light verb *jaa* and Voice head variation

SANA KIDWAI, *University of Cambridge*

FRANCES SOBOLAK, *Cornell University*

ABSTRACT

Variation in the properties and structural position of Hindi-Urdu light verbs is well-established. Similar accounts across the literature agree on three positions within the verbal spine: a lower *v/V* position, an intermediate position, and a high external-argument-introducing head (see Butt & Ramchand, 2005; Suliman, 2015; Sobolak, 2023). In this paper, we add light verb *jaa* to this discussion. Specifically, we show that *jaa* occupies an external-argument-introducing Voice head, using evidence from instrumental causers in *jaa*-constructions. We also show that, within the Voice head typology, Voice-*jaa* is distinct from the canonical active and passive Voice heads, and is, in fact, akin to Voice in marked anticausatives.

1 Introduction

Variation in the properties and structural properties of Hindi-Urdu light verbs (LVs) is well-established. Similar accounts across the literature agree on three positions within the verbal spine: a lower *v/V* position, an intermediate position, and a high external-argument-introducing head (see Butt & Ramchand, 2005; Suliman, 2015; Sobolak, 2023). In this paper, we add LV *jaa* to this discussion. Specifically, we show that *jaa* occupies an external-argument-introducing Voice head, using evidence from instrumental causers in *jaa*-constructions. We also show that, within the Voice head typology, Voice-*jaa* is distinct from the canonical active and passive Voice heads, and is, in fact, akin to Voice in marked anticausatives.

The organization of this paper is as follows. In Section 1.1, we briefly review the literature around LVs and specifically LVs in Hindi-Urdu. In Section 2, we present the structural properties of LV *jaa*: its distribution (§2.1), its semantic effect on the interpretation of the event (§2.2), and its effect (or lack thereof) on case (§2.3). In Section 3, we zero in on the structural properties of *jaa*; namely, its ability to introduce an instrumental-marked causer. We show that the structural properties of this causer pattern exactly like those of other external arguments, specifically oblique causers found in marked anticausative constructions. We propose an analysis for this *jaa* Voice head, situating it within the canonical Voice typology. Throughout this paper, we discuss the properties of *jaa* specifically in Urdu, and highlight relevant points of variation between Hindi and Urdu. We then step back and compare the properties of *jaa* to other light verbs in Urdu, in Section 4: namely, *de* ‘give’ (§4.1), *le* ‘take’ (§4.2), and *paR* ‘fall(en)’ (§4.3). We conclude in Section 5.

1.1 Relevant properties of light verbs

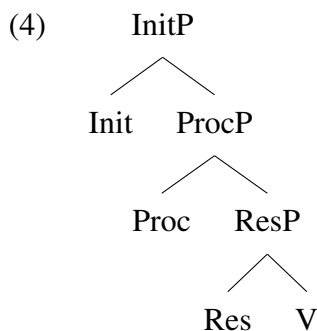
The first observation of LVs is often attributed to Jespersen (1965), who notes that some verbs in English appear to have little to no lexical semantics. Since then, there has been robust description and analysis of LVs cross-linguistically, many of which have common properties. Some key characteristics of LVs include: monoclausality (Butt, 2003), no θ -role (Grimshaw & Mester, 1988), and additional aspectual flavor to event interpretation (Butt & Ramchand, 2005; Sobolak, 2023). Consider the difference between *give* in (1) and (2). As a main verb *give* assigns two θ -roles in (1): THEME to *toy* and GOAL to *Lennon*. However, as a LV in (2), *give* does not assign a θ -role to its complement – *a sigh* is neither a theme nor a patient of the event. Additionally, adding the second internal argument, *Lennon*, is ungrammatical because LV *give* does not assign a θ -role.

- (1) Katherine gave a toy to Lennon.
 (2) Katherine gave a sigh (*to Lennon). \approx Katherine sighed.

In Urdu, a LV co-occurs with a main verb, as shown in (3), where the LV *le* ‘take’ modifies the main verb *likH* ‘write.’ (Butt & Ramchand, 2005) show that these LV constructions in Urdu are monoclausal.

- (3) Nadya=ne khat likH **li-ya**.
 Nadya=ERG letter.NOM write take-PFV.M.SG
 ‘Nadya wrote a letter [completely].’ (Butt, 2003, p.21)

Butt & Ramchand (2005) propose that LVs in Hindi-Urdu vary in their position in the verbal spine. Following Ramchand (2008), they assume three verbal heads: Result, Process, and Initiate (4). They propose that some LVs in Hindi-Urdu occupy the intermediary projection (Proc) while others occupy the highest verbal head (Init).



One of Butt & Ramchand’s (2005) arguments for multiple LV positions comes from stacking LV constructions. For example, LV *de* ‘give’ and LV *le* ‘take’ can stack, but crucially only in a specific order (5a vs. 5b). Butt & Ramchand argue this stacking asymmetry is due to the LVs’ positions in the verbal spine: *de* is introduced higher than *le*.

- (5) a. Nadya=ne Saddam=ko khat likH **le-ne**
 Nadya.F.SG=ERG Saddam.F.SG=DAT letter.M.NOM write take-INF
di-ya.
 give-PFV.M.SG
 ‘Nadya let Saddam write a letter [completely].’ (Butt, 2003, p.21)
- b. * Nadya=ne Saddam=ko khat likH **de-ne**
 Nadya.F.SG=ERG Saddam.F.SG=DAT letter.M.NOM write give-INF.OBL
li-ya.
 take-PFV.M.SG

Butt (1995) provides a detailed review of Hindi-Urdu LVs. She reports that LV *jaa* occurs only with unaccusative verbs, as in (6). Note that the main verb appears in bare root form and the LV hosts inflectional information. This differs from the lexical verb *jaa* ‘go’ which can occur by itself (7), and the passive morpheme *jaa*, which selects for a different form of the main verb, and also hosts inflectional information (8).

- (6) baraf **pigal gai.** (LV)
 ice.NOM melt jaa.PFV.F.SG
 ‘The ice melted [completely].’
- (7) Ahmed **gya.** (lexical verb)
 Ahmed go.PFV.M.SG
 ‘Ahmed went.’
- (8) baraf **pigl-a-i** **gai.** (passive morpheme)
 ice.NOM melt-CAUS-PFV.F.SG jaa.PFV.F.SG
 ‘The ice was melted.’

In the Sections 2–3, we dive into the structural and functional properties of LV *jaa*, showing that it has properties unique from other LVs in Urdu.

2 Properties of LV *jaa*

2.1 Distribution

Jaa occurs freely with unaccusative predicates (6), see Table 1, as well as some unergative (9) and transitive (10) verbs.

- (9) Ahmed **bHaag gya.**
 Ahmed.NOM run jaa.PFV.M.SG
 ‘Ahmed ran [away].’
- (10) Ahmed seb **kHa gya.**
 Ahmed.NOM apple eat jaa.PFV.M.SG
 ‘Ahmed ate [up] an apple.’

	Verb	<i>jaa</i>
i.	<i>mar-na</i> ‘to die’	✓
ii.	<i>pigal-na</i> ‘to melt’	✓
iii.	<i>gir-na</i> ‘to fall’	✓
iv.	<i>nikal-na</i> ‘to come out’	✓

Table 1: Distribution of *jaa* with unaccusatives.

However, *jaa* cannot occur as freely with unergatives or transitives as it can with unaccusatives. There appears to be no obvious pattern, such as lexical class, which determines whether *jaa* can occur with unergatives, see Table 2. Similarly, there appears to be no pattern that determines whether *jaa* can occur with transitive verbs, see Table 3.¹

	Verb	Lexical Class	<i>jaa</i>
i.	<i>bHaag-na</i> ‘to run’	Activity	✓
ii.	<i>naach-na</i> ‘to dance’	Activity	×
iii.	<i>uTH-na</i> ‘to get up’	Achievement	✓
iv.	<i>so-na</i> ‘to sleep’	State	✓

Table 2: Distribution of *jaa* with unergatives.

	Verb	Lexical Class	<i>jaa</i>
i.	<i>kHa-na</i> ‘to eat’	Activity	✓
ii.	<i>chakH-na</i> ‘to taste’	Activity	×
iii.	<i>le-na</i> ‘to take’	Achievement	✓
iv.	<i>bHag-a-na</i> ‘to cause to run’	Achievement	×

Table 3: Distribution of *jaa* with transitives.

2.2 Semantic contribution

Jaa adds a sense of completion to the event (see Butt, 1995). While in (11a), an appropriate response to the question could be ‘a little,’ in (11b), the presence of *jaa* makes the answer infelicitous. Throughout this paper, we indicate this sense of completion through the parenthetical adverb, *completely*.

- (11) a. Q: baraf **pigl-i?** A: tHoRi-si.
 Q: ice.NOM melt-PFV.F.SG A: little
 ‘Did the ice melt? A little.’

¹Interestingly, the set of unergatives and transitives *jaa* co-occurs with differs between Hindi and Urdu. For example, while Urdu does not allow *jaa* with *bHag-a-na* ‘to cause to run’ (Table 3, viii), Hindi does, *bHag-a jaa-na* ‘to cause to run’, meaning ‘to convince to elope’. Thanks to Sakshi Bhatia for this example.

2.3 Case

When *jaa* occurs with unaccusatives, the case of the internal argument does not change (15). Accusative case is not available both with and without the light verb. If *jaa* was an active Voice head, we'd expect the presence of *jaa* to allow accusative case as in other active constructions.

- (15) a. baraf(*=**ko**) pigl-i?
ice(*=ACC) melt-PFV.F.SG
'Did the ice melt?'
b. baraf(*=**ko**) pigal gai.
ice(*=ACC) melt jaa.PFV.F.SG
'The ice melted [completely].'

In contrast, accusative case is available in transitive constructions with (and without) *jaa*. If *jaa* was a non-active Voice head with transitives, we'd expect accusative case to be unavailable on the direct object.³ This is not the case (16).

- (16) Ahmed **seb=ko** kHa gya.
Ahmed.NOM apple=ACC eat jaa.PFV.M.SG
'Ahmed ate [up] the apple.'

2.4 Summary

In summary, *jaa* with unaccusative verbs has the following properties: it can occur freely (in fact, it appears to be required), it adds a sense of completion to the event, and it does not change the case of the internal argument (i.e. it does not make accusative case available). In contrast, *jaa* with unergative/transitive verbs has the following, and crucially, different properties: it cannot occur freely and appears to have an unpredictable distribution, the resulting interpretation is more similar to a particle verb construction than simply adding an aspectual flavor, and it does not change the availability of accusative case.

These facts, especially the contrast in the presence of accusative case and the required versus optional presence of *jaa* lead us to conclude that the *jaa* which occurs in unaccusative constructions is not the same *jaa* as occurs with unergatives/transitives. We argue that the *jaa* in unaccusatives is a more functional item than the *jaa* in unergative/transitive constructions. In the next section, we outline an analysis for *jaa* and its functionality, as it occurs with unaccusatives. This analysis cannot be extended to *jaa* with unergatives/transitives - we leave this gap open for future research.

³This follows the analysis of so-called 'accusative-preserving passives' as underlying active constructions, as proposed by (Kidwai, 2022b, to appear), meaning accusative case is never available in true Urdu passives.

3 LV *jaa* introduces an EA

We have shown that *jaa* with unaccusatives shows more functional properties than other LVs, including LV *jaa* with unergatives/transitives. This suggests that *jaa* occupies a different structural position from other LVs when it combines with unaccusatives (see §4 for discussion on other LVs). In this section, we argue that *jaa* occupies the functional head which introduces the external argument (EA). We call this head Voice. We show that *jaa* introduces an argument which passes subjecthood diagnostics, indicating that it is an EA. In particular, this argument shows the same syntactic properties as *by*-phrases in passives, suggesting that the two are in the same position, Spec of non-active Voice, and that *jaa* specifically occupies non-active Voice. We also show that this non-active Voice differs from the canonical passive Voice, and in fact, shows similarity to Voice in marked anti-causatives.

In Section 3.1, we discuss the properties of the EA introduced by *jaa*, in particular, comparing it to *by*-phrases. In Section 3.2, we provide a brief analysis of the Voice head occupied by *jaa*.

3.1 Properties of EA in *jaa*-constructions

Adding LV *jaa* to an unaccusative verb allows introduction of an instrumental causer (17).⁴

- (17) **garmi=se / Rami=se** baraf pigal gai.
heat=INS / Rami=INS ice.NOM melt *jaa*.PFV.F.SG
‘The ice melted [completely] because of the heat/Rami.’

Such instrumental arguments cannot be added otherwise (18).⁵

- (18) a. guRiya (***Rami=se**) naach-i. (unergative)
doll.NOM (*Rami=INS) dance-PFV.F.SG
‘The doll danced (*because of Rami).’
b. Rami=ne (***Omar=se**) baraf pigl-a-i. (causative)
Rami=ERG (*Omar=INS) ice melt-CAUS-PFV.F.SG
‘Rami melted the ice (*because of Omar).’

Recall that there is a strong preference to include LV *jaa* with unaccusative verbs in neutral contexts (§2.1). The instrumental causer is also possible in contexts where *jaa* is absent (19).⁶

⁴Interestingly, it is not possible to add an OC with an animate internal argument.

- (i) (***Bilal=se**) Ahmed mar gya.
(*Bilal=INS) Ahmed.NOM die *jaa*.PFV.M.SG
‘Ahmed died [completely] (*because of Bilal).’

⁵(18b) is acceptable in some dialects as an indirect causative with the reading ‘Rami made Omar melt the ice’ (Saksena, 1980, 1982). While acceptable, *Omar* is a causee in this interpretation, not a causer.

⁶Thanks to an anonymous reviewer for (F)ASAL-13 for this example.

- (19) **Ahmed=se** glass gir-a **hi** tHa keh Mina
 Ahmed=INS glass.NOM fall-PFV.M.SG FOC be.PST.M.SG that Mina.NOM
 chiikh-ne lag-i.
 scream-INF start-PFV.F.SG
 ‘The glass had only just fallen because of Ahmed that/when Mina started
 screaming.’

Given the general preference for *jaa* with unaccusative verbs, and the fact that instrumental causers cannot occur freely in other contexts, we take it that instrumental causers are directly correlated with *jaa*, and that the absence of *jaa* in cases like (19) is due to independent factors allowing the LV to be dropped.

In the rest of this section, we discuss the syntactic and interpretive properties of these instrumental causers.

3.1.1 Syntactic properties

The argument introduced by *jaa* bears instrumental case and is optional (20).

- (20) **(Rami=se)** baraf pigal gai.
 (Rami=INS) ice.NOM melt jaa.PFV.F.SG
 ‘The ice melted [completely] (because of Rami).’

These properties are characteristic of arguments introduced in the specifier of non-active Voice (Kidwai, to appear), such as *by*-phrases and causees.⁷ Here, we compare the argument introduced by *jaa* to *by*-phrases.

- (21) a. baraf **(Rami=se)** pigl-a-i gai. (passive)
 ice.NOM (Rami=INS) melt-CAUS-PFV.F.SG PASS.PFV.F.SG
 ‘The ice was melted (by Rami).’
 b. Rami=ne **(Omar=se)** baraf pigal-va-i. (indirect causative)
 Rami=ERG (Omar=INS) ice melt-CAUS-PFV.F.SG
 ‘Rami had the ice melted (by Omar).’ (≈ ‘Rami made Omar melt the ice.’)

By-phrases have been argued to be external arguments (EAs) on the basis of their behaviour with respect to subjecthood diagnostics (Mahajan, 1995; Srishti, 2011; Davison, 2015; Kidwai, to appear). There are three commonly used subject diagnostics in Urdu: anaphor binding, control into participial clauses, and pronoun obviation (see Davison, 2015, for an overview). Subjects but not objects are able to bind the anaphor, *apna* ‘self’s’ (22a), and control into participial *kar* clauses (22b). Subjects are not able to bind non-reflexive pronominal possessors, however, while objects are (22c). These tests are strictly associated with subjecthood, and are not specific to agents or base-generated external arguments. For example, promoted objects of passives and unaccusatives are also able to pass these tests (Kidwai, to appear).

⁷Several works have proposed that indirect causatives have a Voice-over-Voice construction, with Bhatt & Embick (2017) specifically arguing that indirect causatives in Urdu have an embedded passive Voice.

- (22) a. Rami_i=ne **apni_i** baraf pigl-a-i.
 Rami_i=ERG SELF_i ice melt-CAUS-PFV.F.SG
 ‘Rami_i melted his_i own ice.’
- b. Rami_i=ne [**PRO_i** gHar jaa kar] baraf pigl-a-i.
 Rami_i=ERG [PRO_i home.LOC go do] ice melt-CAUS-PFV.F.SG
 ‘Upon [Rami] going home, Rami melted the ice.’
- c. Rami_i=ne **us_{*i/j}=ki** baraf pigl-a-i.
 Rami_i=ERG 3SG_{*i/j}=GEN ice melt-CAUS-PFV.F.SG
 ‘Rami_i melted his_{*i/j} ice.’

By-phrases pass some of these tests: they can bind anaphors (23a) and control into participial clauses (23b). However, *by*-phrases do not show pronoun obviation (23c).

- (23) a. Rami_i=se **apni_i** kHiRki toR-i gai.
 Rami_i=INS REFL_i window.NOM break.CAUS-PFV.F.SG PASS.PFV.F.SG
 ‘His_i own window was broken by Rami_i.’
- b. Rami_i=se [**PRO_i** zor laga kar] kHiRki toR-i
 Rami_i=INS [**PRO_i** force put do] window.NOM break.CAUS-PFV.F.SG
 gai.
 PASS.PFV.F.SG
 ‘Upon [Rami] applying force, the window was broken by Rami.’
- c. Rami_i=se **us_{i/j}=ki** kHiRki toR-i gai.
 Rami_i=INS 3SG_{i/j}=GEN window.NOM break.CAUS-PFV.F.SG PASS.PFV.F.SG
 ‘His_{i/j} window was broken by Rami_i.’

This pattern is similar to that of dative subjects, which also bind anaphors, and control into participial clauses, but do not show pronoun obviation (Davison, 2004). To account for the behaviour of *by*-phrases, Kidwai (to appear) argues that they are generated in Spec-VoiceP, similar to ergative/nominative subjects. Hence, they are able to bind anaphors and control into participial clauses, but do not move further to Spec-TP because they have inherent case, similar to dative subjects. Therefore, they do not show pronoun obviation.⁸ Similar explanations have been proposed for the behaviour of dative subjects by Davison (2004) and Poole (2016).

Returning to *jaa*-constructions, instrumental causers also pass two out of three subject diagnostics: they show anaphor binding (24a) and control into participial clauses (24b) (contra Bhatt & Embick, 2017, fn.22), but do not show pronoun obviation (24c). In other words, the argument introduced by *jaa* shows the same behaviour as other low subjects, namely *by*-phrases and dative subjects.

⁸There is a long line of literature which argues that subject properties are not associated with a single subject position, but rather are spread across multiple subject positions (see McCloskey, 1997, and following).

- (24) a. Rami_i=se **apni** kHiRki TooT gai.
 Rami_i=INS REFL_i window.NOM break jaa.PFV.F.SG
 ‘His_i own window broke [completely] because of Rami_i.’
- b. Rami_i=se [**PRO_i** ball maar kar] kHiRki TooT gai.
 Rami_i=INS [**PRO_i** ball hit do] window.NOM break jaa.PFV.F.SG
 ‘Upon [Rami] hitting the ball, the window broke [completely] because of Rami.’
- c. Rami_i=se **us_{i/j}=ki** kHiRki TooT gai.
 Rami_i=INS 3SG_{i/j}=GEN window.NOM break jaa.PFV.F.SG
 ‘His_{i/j} window broke [completely] because of Rami_i.’

We take the subjecthood diagnostics in conjunction with the facts about case and optional realisation to mean that instrumental causers are introduced in the specifier of non-active Voice in *jaa*-constructions.

3.1.2 Interpretive properties

Although the instrumental argument in *jaa*-constructions shows the same syntactic properties as *by*-phrases, its interpretive properties are significantly different.

Like ergative/nominative subjects of actives, *by*-phrases can be either volitional or non-volitional. This can be demonstrated using agency tests. *By*-phrases are compatible with purpose clauses (25), and with both volitional and non-volitional adverbs (26).

- (25) kHiRki Rami=se [**gHar=mein daakhil ho-ne**]=ke liye toR-i
 window.NOM Rami=INS [house=LOC enter be-INF]=GEN for break-PFV.F.SG
 gai.
 PASS.PFV.F.SG
 ‘The window was broken by Rami to enter into the house.’
- (26) Rami=se kHiRki **ghalti=se** / **jaan=ke** toR-i
 Rami=INS window.NOM mistake=INS / know=GEN break-PFV.F.SG
 gai.
 PASS.PFV.F.SG
 ‘The window was broken by Rami by mistake / on purpose.’

On the other hand, the instrumental argument with *jaa* can only be non-volitional. It is not compatible with purposes clauses (27), and is only compatible with non-volitional adverbs, and not volitional ones (28).

- (27) * kHiRki Rami=se [**gHar=mein daakhil ho-ne**]=ke liye TooT
 window.NOM Rami=INS [house=LOC enter be-INF]=GEN for break
 gai.
 jaa.PFV.F.SG
 ‘The window broke because of Rami so that he could enter the house.’

- (28) Rami=se kHiRki **ghalti=se** / #**jaan=ke** TooT gai.
 Rami=INS window.NOM mistake=INS / #know=GEN break jaa.PFV.M.SG
 ‘The window broke because of Rami by mistake / #on purpose.’

Thus, instrumental arguments in *jaa*-constructions are always interpreted as causers – never as agents.⁹ Table 4 summarises the syntactic and interpretive properties of these arguments.

	ERG/NOM subjects	By-phrase	INS causer
a. Realisation	obligatory	optional	optional
b. Case	ERG/NOM	INS	INS
c. Anaphor binding	✓	✓	✓
d. Control into participials	✓	✓	✓
e. Pronoun obviation	✓	×	×
f. Interpretation	volitional/ non-volitional	volitional/ non-volitional	non-volitional only

Table 4: Syntactic properties of argument introduced by *jaa*.

3.1.3 No implicit argument

As mentioned earlier, the instrumental argument introduced by *jaa* is optional, similar to *by*-phrases. A key property of short passives (i.e. passives without *by*-phrases) is that they have an implicit argument which can be detected through syntactic and semantic diagnostics. One syntactic diagnostic is adding *by itself*, a phrase which is only possible when there is no explicit or implicit argument. *By itself* is ungrammatical in short passives (29), which has been taken as evidence for the presence of an implicit argument.

- (29) * kHiRki **khud-ba-khud** toR-i gai.
 window.NOM self-with-self break.CAUS-PFV.F.SG PASS.PFV.F.SG
 ‘The window was broken by itself.’

The implicit argument in short passives can also be detected through truth-conditional semantics. Short passives are judged as true only if there is an agent present in the context. For example, (30) is only true if there is an agent/causer which causes the event (i.e. the ice cream melted due to the actions of an agent or due to an event, not simply from the heat of the sun).

- (30) ice-cream dHoop=mein pigl-a-i gai.
 ice-cream.NOM sun=LOC melt-CAUS-PFV.F.SG PASS.PFV.M.SG
 ‘The ice cream was melted in the sun [by someone/something].’

⁹Based on their non-volitionality, Bhatt & Embick (2017, fn.22) categorise instrumental causers in *jaa*-constructions as ‘manner/means adjunct[s] and not related to a syntactically present agent’. They also report that this argument cannot control into participial clauses, in contrast to the judgements presented here.

However, there is no implicit argument in *jaa*-constructions when the instrumental argument is not realised. Firstly, *by itself* is ungrammatical in such cases (31).

- (31) kHiRki **khud-ba-khud** TooT gai.
window.NOM self-with-self broke jaa.PFV.F.SG
‘The window broke [completely] by itself.’

Secondly, these sentences are judged as true regardless of whether there is an agent/causer present or not (e.g. the ice cream melted due to general weather conditions with no agent/causer present)

- (32) ice-cream dHoop=mein pigal gai.
ice-cream.NOM sun=LOC melt jaa.PFV.M.SG
‘The ice cream melted [completely] in the sun.’

Therefore, there is no syntactic or semantic evidence for an implicit agent in these constructions.

3.2 Analysis

The subjecthood diagnostics discussed in Section 3.1.1 show that instrumental causers in *jaa*-constructions are EAs, similar to *by*-phrases. *By*-phrases have been argued to be in the specifier of non-active Voice, Spec-Voice_{NACTP} (Baker et al., 1989; Collins, 2005; Roberts, 2019; for Hindi-Urdu, see Mahajan, 1990; Srishti, 2011; Kidwai, to appear). Based on the shared syntactic properties of *by*-phrases and instrumental causers in *jaa*-constructions, we argue that instrumental causers are in the same syntactic position as *by*-phrases, Spec-Voice_{NACTP}. Consequently, this is clear evidence for Voice_{NACT} in unaccusative *jaa*-constructions.¹⁰

The logic outlined above has been used frequently in the literature on anticausatives to argue for the presence of a non-active Voice head in marked anticausatives (Kallulli, 2006, 2007). In many languages, such as Greek and Albanian, marked anticausatives share morphology with passives, and have a morphologically identical argument, introduced by the same adposition or bearing the same case. Although unmarked anticausatives or simple unaccusatives have been argued not to have Voice (Alexiadou et al., 2015), *marked* anticausatives have been argued to have non-active Voice, similar to that in passives, based on shared morphology with passives, and the shared syntactic behaviour of *by*-phrases and oblique causers.

¹⁰It is worth noting that while a similar instrumental phrase is also possible with unergative/transitives, it differs in three important respects, as discussed by Kidwai (to appear, pp.193–94). Firstly, it is not possible with all unergative/transitive *jaa*-constructions. Secondly, where possible, it is not interpreted as a causer but rather as a source or adjunct. Finally, and most importantly, it does not pass any subject tests, which is strong evidence that it is not an EA in Spec-VoiceP. This is unsurprising given the presence of the ergative/nominative subject, which is an EA, as is also confirmed by its behaviour with respect to subject diagnostics. These facts confirm our initial conclusion that *jaa* occupies different functional heads in unaccusatives and in unergatives/transitives.

The *jaa*-constructions examined in this paper bear a striking similarity to marked anticausatives. Firstly, *jaa* is identical to passive morphology. Secondly, it only occurs with verbs that participate in the causative alternation, that is, unaccusative verbs. (As discussed in §2, the *jaa* in question here is only found with unaccusatives, and is different from *jaa* found with unergative and transitive verbs.) Finally, *jaa*-constructions also have an argument identical to *by*-phrases, and which exhibits the same syntactic behaviour. In light of this parallel between *jaa*-constructions and marked anticausatives, we propose that *jaa* can be analysed as an anticausative marker occupying non-active Voice.

This analysis of *jaa* explains its more functional behaviour in comparison to other LVs, as seen in Section 2. As a Voice head, it selects for a particular structure rather than lexical items, hence explaining its distribution with unaccusatives. This is similar to the distribution of passive Voice, which attaches to all causative/transitive verbs, and does not vary by lexical item. Likewise, this analysis also explains why *jaa* is obligatory with unaccusative verbs – it spells out a functional head which is essential to the anticausative structure. Once again, this is similar to passive *jaa*, which is also obligatory in passive structures due to the requirement for passive Voice in these constructions.

Despite the many similarities between passive Voice and Voice-*jaa*, the two also have some key differences, indicating that they cannot be the same Voice head. Firstly, as we saw in Section 3.1, unlike *by*-phrases, instrumental causers in *jaa*-constructions are obligatorily interpreted as non-volitional. This indicates that the range of possible θ -roles that can be assigned by Voice-*jaa* is more limited than that in passives.¹¹ Secondly, as also discussed in Section 3.1, when the instrumental argument is not realised, there is no implicit argument. This means that unlike passive Voice, Voice-*jaa* does not dispense its external θ -role when it does not project a specifier. As a result, there is no implicit argument, syntactically or semantically. A final point in favour of Voice-*jaa* being different from passive Voice is that the two select different forms of the main verb, showing that there are two different heads in play with different morphological selection. Table 5 summarises the key properties of the two constructions, as well as actives.

	Actives	Passives	<i>jaa</i>-constructions
a. EA	obligatory	optional	optional
b. Case of EA	ERG/NOM	INS	INS
c. θ -role of EA	all external	all external	causer only
d. No EA projected	N/A	implicit EA	no implicit EA
e. Form of main verb	–	PFV	ROOT

Table 5: Properties of actives, passives, and *jaa*-constructions.

To conclude, *jaa* is an exponent of non-active Voice with unaccusatives. This explains its more functional behaviour in comparison to other LVs. As a Voice head, *jaa* can in-

¹¹Many works, most notably Roberts (1987), have noted that *by*-phrases in passives can have the full set of θ -roles available in actives.

roduce an EA in its specifier. This argument receives instrumental case from non-active Voice. Finally, Voice-*jaa* is different from that in passives. A formal analysis of the properties of this new Voice head is beyond the scope of this paper (see Kidwai, to appear, for a detailed analysis).

4 Comparison to other LVs

As mentioned in Section 1.1, Butt & Ramchand (2005) show that different LVs in Hindi-Urdu occupy different heads. However, the properties of *jaa* that we've discussed in this paper (especially the EA-introducing properties) do not map onto their proposed verbal spine. In this section, we review the properties of other LVs in Hindi-Urdu, showing that (i) they do not occupy the same head as *jaa*, and (ii) they have their own flavors/effects based on their relative position in the verbal spine. Thus, *jaa* is clearly in a different functional position from other Urdu LVs.

4.1 *de*

In this section, we focus on permissive *de* 'give', as seen in (33b). Many works have argued that permissive *de* introduces an EA (Butt & Ramchand, 2005; Butt et al., 2008; Suliman, 2015). In (33a), the main verb *chal-a-na* 'to drive' has two arguments: AGENT and THEME. Adding permissive *de*, as in (33b), adds an additional argument for the permission-giving event.

- (33) a. Jack=**ne** gaaRi chal-a-i.
 Jack=ERG car drive-CAUS-PFV.F.SG
 'Jack drove the car.'
- b. **Fran=ne** Jack=**ko** gaaRi chal-a-ne di.
 Fran=ERG Jack=DAT car drive-CAUS-INF give.PFV.F.SG
 'Fran let Jack drive the car.'

Butt et al. (2008, p.10) suggest that *de* adds an argument because it is derived from lexical verb which is a 3-place predicate. However, we can see that LV *de* is truly a valency-increasing unit by looking at ditransitive + *de* construction. In (34), *de* occurs with a ditransitive main verb, *bHej-na* 'to send'. The number of arguments increases from three to four upon adding *de*.

- (34) a. Sana=**ne** Omar=**ko** kitaab bHej-i.
 Sana=ERG Omar=DAT book send-PFV.F.SG
 'Sana sent a book to Omar.'
- b. **Rami=ne** Sana=**ko** Omar=**ko** kitaab bHej-ne di.
 Rami=ERG Sana=DAT Omar=DAT book send-INF give.PFV.F.SG
 'Rami let Sana send a book to Omar.'

Butt & Ramchand (2005) and Butt et al. (2008) propose that *de* occupies an EA-introducing head (Init in their terms; see (4)). Upon comparing the EA of permissive *de* constructions to (unaccusative) *jaa*-constructions, we see that permissive *de* does not occupy the same Voice head as *jaa*.

Firstly, the EA of permissive *de* constructions is obligatory, unlike the EA of *jaa*-constructions, which as we saw in Section 3.1.1, is optional (20), similar to *by*-phrases. Secondly, the EA of permissive *de* constructions bears ergative/nominative case, depending on aspect, as seen in (33b) and (34b), in contrast with the EA of *jaa*-constructions, which bears instrumental case, as we saw in Section 3.1.1. These two properties together are already strong evidence against an analysis of *de* as non-active Voice unlike *jaa* – as mentioned in Section 3.1.1, EAs of non-active Voice in Urdu are consistently optional, and when present, are marked with instrumental case.

In terms of syntactic properties, the EA of permissive *de* constructions passes all the subject diagnostics, similar to ergative/nominative subjects in other constructions. It can bind anaphors (35a) and control into participial clauses (35a), and it cannot bind non-reflexive pronominal possessors (35c), hence showing pronoun obviation.

- (35) a. Fran_i=ne Jack=ko **apni**_i gaaRi chal-a-ne di.
 Fran_i=ERG Jack=DAT REFL_i car drive-CAUS-INF give.PFV.F.SG
 ‘Fran let Jack drive her_i own car.’
- b. Fran_i=ne [**PRO**_i gHar aa kar] Jack=ko gaaRi chal-a-ne
 Fran_i=ERG [**PRO**_i house.LOC come do] Jack=DAT car drive-CAUS-INF
 di.
 give.PFV.F.SG
 ‘Upon [Fran] arriving home, Fran let Jack drive the car.’
- c. Fran_i=ne Jack_j=ko **us***_{i/j}=**ki** gaaRi chal-a-ne di.
 Fran_i=ERG Jack_j=DAT REFL*_{i/j} car drive-CAUS-INF give.PFV.F.SG
 ‘Fran_i let Jack_j drive *her_i/his_j own car.’

This is unlike instrumental causers in *jaa*-constructions which do not pass the pronoun obviation subject test. This difference is unsurprising given the difference in case – assuming pronoun obviation is associated with Spec-TP, and that only arguments which receive case from T move to Spec-TP, EAs of permissive *de* are expected to differ from EAs of *jaa*-constructions given their difference in case.

The two types of EAs also differ with respect to interpretation. Recall that instrumental causers in *jaa*-constructions can only be interpreted as non-volitional (§3.1.2). EAs of permissive *de* can be interpreted as either volitional or non-volitional. They can license purpose clauses (36) and both volitional and non-volitional adverbs (37).

- (36) Fran=ne Jack=ko [**PRO** gHar **jaa-ne**]=**ke** liye gaaRi chal-a-ne
 Fran=ERG Jack=DAT [**PRO** house.LOC go-INF]=**GEN** for car drive-CAUS-INF

di.

give.PFV.F.SG

‘Fran let Jack drive the car for going home.’

- (37) a. Fran=ne **jaan=ke** Jack=ko gaaRi chal-a-ne di.
 Fran=ERG know=GEN do Jack=DAT car drive-CAUS-INF

give.PFV.F.SG

‘Fran let Jack drive the car on purpose.’

- b. Fran=ne **ghalti=se** kar Jack=ko gaaRi chal-a-ne di.
 Fran=ERG mistake=INS do Jack=DAT car drive-CAUS-INF give.PFV.F.SG
 ‘Fran let Jack drive the car by mistake.’

The above facts show that the EA of permissive *de* constructions does not behave like the EA of *jaa*-constructions, suggesting that *de* does not occupy the same non-active Voice head as *jaa*. The interaction between *de* and passivisation suggests that *de* does not occupy Voice at all. Many LVs can be passivised in Urdu (see §4.2). *Jaa* cannot be passivised (38b) – this is to be expected if *jaa* itself is an instantiation of a Voice head. On the other hand, permissive *de* can be passivised (39b).

- (38) a. baraf pigal gai. (active)
 ice.NOM melt jaa.PFV.F.SG
 ‘The ice melted.’

- b. * baraf pigal gai gai. (passive)
 ice.NOM melt jaa.PFV.F.SG PASS.PFV.F.SG

- (39) a. Fran=ne Jack=ko gaaRi chal-a-ne di. (active)
 Fran=ERG Jack=DAT car drive-INF give.PFV.F.SG
 ‘Fran let Jack drive the car.’

- b. Jack=ko gaaRi chal-a-ne di gai. (passive)
 Jack=DAT car drive-INF give.PFV.F.SG PASS.PFV.F.SG
 ‘Jack was allowed to drive the car.’

This suggests that *de* is not a Voice head at all, hence allowing passive Voice to stack on top of it. Suliman (2015) proposes an analysis along these lines for passives of permissive *de*, and argues that *de* is introduced below Voice. Assuming EAs are introduced by Voice, this characterisation of *de* leads to several questions regarding its EA-introducing properties. We leave this open for future research, but emphasise the point that even a seemingly EA-introducing LV does not occupy the same functional head as *jaa*, underling its unique functionality.

4.2 *le*

As mentioned in Section 1.1, Butt & Ramchand (2005) argue that LV *le* occupies an intermediary head on the verbal spine. A pillar of this analysis is the fact that *le* can co-occur

with higher LVs but only in a specific order (see (5) above). Similarly, Sobolak (2023) argues that *le* occupies an Inner Aspect head between the lexical VP and the EA-introducing projection. The use of Inner Aspect is motivated by systematic aspectual changes to the event when *le* is present. Crucially, for the purposes of this paper, *le* is again reported to be in an intermediary head that does not introduce an EA.

Additionally, *le*-constructions can passivize (40). Because the passive morpheme in Voice and *le* can co-occur, *le* must not be in Voice. Therefore, *le* differs from *jaa* both in function and structural position: *Jaa* is in Voice and introduces an EA, while *le* is in a lower head (*v* or Inner Aspect) and does not introduce an EA.

- (40) khat likH li-ya gya
 letter.NOM write take-PFV.M.SG PASS.PFV.M.SG
 The letter was written [completely].

Le and *jaa* also have distinct selection properties. As shown in Section 2, *jaa* occurs with all unaccusative verbs, and only some unergative and transitive verbs. Crucially, Voice-*jaa* is only found with unaccusatives, and does not occur with unergatives/transitives. On the other hand, *le* only occurs with transitive predicates, as discussed by (Butt, 1995).

In following with the above literature, as well as our own observations about *le* in passives and its selectional properties, we maintain that *le* occupies a lower head than *jaa*.

4.3 *paR*

As observed in Butt (1995), *jaa* appears to have similar properties as LV *paR* ‘fall(en).’ Like *jaa*, *paR* can occur with unaccusative verbs (41).¹²

- (41) glass gir **paR-a**.
 glass.NOM fall fall-PFV.M.SG
 ‘The glass fell [suddenly, accidentally].’

PaR with (some) unaccusative verbs can have an optional instrumental causer, similar to *jaa*-constructions. In (42), *Ahmed* is the instrumental-marked causer of the event.

- (42) (**Ahmed=se**) glass gir *paR-a*.
 (Ahmed=INS) glass.NOM fall fall-PFV.F.SG
 The glass fell [suddenly, accidentally] (because of Ahmed).’

Instrumental causers in *paR*-constructions behave exactly like those in *jaa*-constructions with respect to the structural and interpretive properties discussed in Section 3. The properties are summarised in Table 6, with relevant examples for rows c–f shown in (43–46).

¹²*PaR* is also possible with some unergatives (e.g. *naach paR-na* ‘to dance suddenly, involuntarily’) and transitives (e.g. *likH paR-na* ‘to write suddenly, involuntarily’), although we do not discuss this here.

	<i>jaa</i>	<i>paR</i>
a. Realisation	optional	optional
b. Case	INS	INS
c. Anaphor binding	✓	✓
d. Control into participial clauses	✓	✓
e. Pronoun obviation	×	×
f. Interpretation	non-volitional only	non-volitional only

Table 6: Syntactic properties of argument introduced by *jaa* and *paR*

- (43) Anaphor binding (Table 6, row c):
 Sana=se_i **apni**_i kursi gir paR-i.
 Sana=INS_i REFL_i=GEN chair.NOM fall fall-PFV.F.SG
 ‘Her_i own chair fell [suddenly, accidentally] because of Sana_i.’
- (44) Control into participial clauses (Table 6, row d):
 Sana=se_i [**PRO**_i pHisal kar] kursi gir paR-i.
 Sana=INS_i [PRO_i slip do] chair.NOM fall fall-PFV.F.SG
 ‘Upon [Sana] slipping, the chair fell [suddenly, accidentally] because of Sana.’
- (45) Pronoun binding (Table 6, row e):
 Sana=se_i **us_{i/j}=ki** kursi gir paR-i.
 Sana=INS_i 3SG_{i/j}=GEN chair.NOM fall fall-PFV.F.SG
 ‘Her_{i/j} chair fell [suddenly, accidentally] because of Sana_i.’
- (46) Non-volitional interpretation (Table 6, row f):
- # Sana=se [**daakhil ho-ne**]=**ke** liye khiRki TooT paR-i.
 Sana=INS [enter be-INF]=GEN for window break fall-PFV.F.SG
 Intended: ‘The window broke because of Sana to enter [suddenly, accidentally].’
 - Sana=se **ghalti=se** / #**jaan=ke** khiRki TooT paR-i.
 Sana=INS mistake=INS / know=GEN window.PRO break fall-PFV.F.SG
 ‘The window broke because of Sana [suddenly, accidentally] by mistake / #on purpose.’

However, despite these similarities, we argue that *paR* does not occupy the same non-active Voice head as *jaa* (see also Butt, 1995). First, the distribution of *paR* is much more restrictive than *jaa* – *paR* cannot occur with all unaccusative predicates (see Table 7).

Secondly, the distribution of instrumental causers in *paR*-constructions is also more restricted than in *jaa*-constructions. In (47), the instrumental-marked *Ahmed* is ungrammatical with *paR*.

	Verb	<i>jaa</i>	<i>paR</i>
i.	<i>mar-na</i> ‘to die’	✓	×
ii.	<i>pigal-na</i> ‘to melt’	✓	×
iii.	<i>gir-na</i> ‘to fall’	✓	✓
iv.	<i>nikal-na</i> ‘to come out’	✓	✓

Table 7: Distribution of *paR* with unaccusatives.

- (47) (??**Ahmed=se**) kapRay tHeli=se nikal paR-ay.
 (??Ahmed=INS) clothes plastic-bag=INS come-out fall-PFV.M.PL
 ‘The clothes came/fell out of the plastic bag [suddenly, accidentally] (??because of Ahmed).’

Once again, *jaa* proves to be more functional than other LV. Its distribution with unaccusative verbs does not vary by lexical item, and it is consistently able to introduce an EA.

4.4 Summary

Jaa clearly exhibits more functional properties than other LVs in Urdu. This may or may not be linked to the number of uses *jaa* has in the language; for example, as a lexical verb (7) and passive morpheme (8), as well as a marker for (in)abilitative and necessity/prohibition reading (Davison, 1982). The tendency for grammaticalization of *jaa* in the language more generally may have influenced its functionality as a LV.

5 Conclusion

Variation of LVs in Hindi-Urdu is well-established in the literature. In this paper, we have shown that *jaa* occupies a different head than other LVs in Urdu – namely, the EA-introducing head, Voice. Additionally, *jaa* as a Voice head has distinct properties from both active and passive Voice heads. Therefore, we have shown both further variation across LV structural properties and variation within Voice head properties. *Jaa* as a Voice head introduces an instrumental-marked external argument, similar to anticausatives.

While not the focus of this paper, there is the obvious consideration of *jaa*’s status in the lexicon. To our knowledge, no analysis has been proposed that outlines the relationship between the different usages (lexical verb, passive, light verb). There are two most likely relationships: (i) homophony (ii) a single, underspecified entry. Butt (2010) and Butt & Lahiri (2003) support the second possibility for the connection between light verbs and lexical verbs more generally in Hindi-Urdu. Given that *jaa* has so many more functions than just light and lexical verb, this could be an especially interesting place to further investigate the connection between different functions of a verb.

Acknowledgements

We'd like to thank the many who contributed to this project: Molly Diesing, Theresa Biberauer, participants of Cornell Syntax Circle, Cambridge SyntaxLab, Berkeley SSCircle, and participants at (f)ASAL-13. All errors are our own. Sana Kidwai's research is supported by the Harding Distinguished Postgraduate Scholarship.

References

- Alexiadou, Artemis, Elena Anagnostopoulou & Florian Schäfer. 2015. *External Arguments in Transitivity Alternations: A Layering Approach* Oxford Studies in Theoretical Linguistics. Oxford University Press online edn. doi:10.1093/acprof:oso/9780199571949.001.0001.
- Alsina, Alex & Smita Joshi. 1991. Parameters in causative constructions. In John Doe (ed.), *Chicago linguistics society (CLS)*, vol. 27, 1–16. Chicago, IL: Chicago Linguistics Society.
- Alsina, Alex, Tara Mohanan & KP Mohanan. 2005. How to get rid of the COMP. In Miriam Butt & Tracy Holloway King (eds.), *Proceedings of the LFG05 conference*, 21–41. Stanford, CA: CSLI Publications.
- Baker, Mark, Kyle Johnson & Ian Roberts. 1989. Passive Arguments Raised. *Linguistic Inquiry* 20(2). 219–251.
- Bhatt, Rajesh. 2003. Topics in the syntax of modern Indo-Aryan languages: Causativization. Class handout.
- Bhatt, Rajesh & David Embick. 2017. Causative derivations in Hindi-Urdu. *Indian Linguistics* 78(1-2). 93–151. ISSN 0378-0759. [Draft in wide circulation since 2004].
- Butt, Miriam. 1995. *The structure of complex predicates*. CSLI Publications.
- Butt, Miriam. 2003. The light verb jungle. In Gulsat Aygen, Claire Bowerman & Conor Quinn (eds.), *Harvard working papers in linguistics: Papers from the GSAS/Dudley House workshop on light verbs*, vol. 9, 21–49. Cambridge, MA: Harvard University.
- Butt, Miriam. 2010. The Light Verb Jungle: Still Hacking Away. *Complex predicates: Cross-linguistic perspectives on event structure*.
- Butt, Miriam & Tracy Holloway King. 2006. Restriction for morphological valency alternations: The Urdu causative. In Miriam Butt, Mary Dalrymple & Tracy Holloway King (eds.), *Intelligent linguistic architectures: Variations on themes by Ronald M. Kaplan*, 235–258. Stanford, CA: CSLI Publications.
- Butt, Miriam, Tracy Holloway King & Gillian Ramchand. 2008. Complex Predication: How Did the Child Pinch the Elephant? In Linda Ann Uyechei & Lian-Hee Wee (eds.), *Reality Exploration and Discovery: Pattern Interaction in Language and Life*, chap. 17, 231–256. Stanford: CSLI Publications. ISBN 978-15-75865-88-1.
- Butt, Miriam & Aditi Lahiri. 2003. Verbal passepartouts.
- Butt, Miriam & Gillian Ramchand. 2005. Complex Aspectual Structure in Hindi/Urdu. *The Syntax of Aspect* 117–153.

- Collins, Chris. 2005. A smuggling approach to the passive in English. *Syntax* 8(2). 81–120.
- Dalrymple, Mary. 2001. *Lexical functional grammar*. New York, NY: Academic Press.
- Davison, Alice. 1982. On the Form and Meaning of Hindi Passive Sentences. *Lingua* 58. 149–179.
- Davison, Alice. 2004. Non-nominative subjects in Hindi-Urdu: VP structure and case parameters. In Peri Bhaskararao & Karumuri Venkata Subbarao (eds.), *Non-nominative subjects I*, vol. 60 Typological Studies in Language, chap. 7, 141–168. Amsterdam/Philadelphia: John Benjamins Publishing.
- Davison, Alice. 2015. Hindi-Urdu: Central Issues in Syntax. In Artemis Alexiadou & Tibor Kiss (eds.), *Syntax - Theory and Analysis: An International Handbook*, vol. 2, chap. 42, 1478–1518. Berlin: De Gruyter Mouton.
- Dowty, David. 1991. Thematic proto-rules and argument selection. *Language* 67. 547–619. <https://doi.org/10.1353/lan.1991.0021>.
- Grimshaw, Jane & Armin Mester. 1988. Light verbs and theta-marking. *Linguistic Inquiry* 19(2).
- Harley, Heidi. 1995. *Subjects, events, and licensing*. Cambridge, MA: Massachusetts Institute of Technology dissertation. <http://hdl.handle.net/1721.1/11073>.
- Hook, Peter Edwin. 1974. *The compound verb in Hindi* The Michigan series in South and Southeast Asian Studies. Ann Arbor, MI: The University of Michigan.
- Jespersen, Otto. 1965. *A modern english grammar on historical principles, part vi, morphology*. BaGeorge Allen and Unwin Ltd.
- Kallulli, Dalina. 2006. A unified analysis of passives and anticausatives. In Christian Ebert & Cornelia Endriss (eds.), *Proceedings of the Sinn und Bedeutung 10*, vol. 44 1, 171–182. Berlin: ZAS Papers in Linguistics. doi:10.21248/zaspil.44.2006.308.
- Kallulli, Dalina. 2007. Rethinking the Passive/Anticausative Distinction. *Linguistic Inquiry* 38(4). 770–780. <https://muse.jhu.edu/article/224872>.
- Kaplan, Ronald M. & Jurgen Wedekind. 1993. Restriction and correspondence-based translation. In *Association for computational linguistics European chapter (EACL)*, vol. 6, 193–202. Utrecht, The Netherlands: Association for Computational Linguistics. <https://aclanthology.org/E93-1024>.
- Kidwai, Sana. 2022b. The Urdu Active Impersonal. In Samir Alam, Yash Sinha & Sadhwi Srinivas (eds.), *Proceedings of (Formal) Approaches to South Asian Languages 11 ((F)ASAL-11)*, Konstanz: University of Konstanz.
- Kidwai, Sana. to appear. *Voice, case and the external argument: The perspective from urdu*: University of Cambridge dissertation.
- Kratzer, Angelika. 1996. Severing the external argument from its verb. *Phrase Structure and the Lexicon* 109–137.
- Mahajan, Anoop. 1990. *The A/A-Bar Distinction and Movement Theory*. Cambridge, MA: Massachusetts Institute of Technology dissertation.
- Mahajan, Anoop. 1995. ACTIVE Passives. In Paul Aranovich, William Byrne, Susanne Preuss & Martha Senturia (eds.), *The Proceedings of the 13th West Coast Conference on Formal Linguistics (WCCFL-13)*, 286–301. Stanford, CA: CSLI Publications.

- McCloskey, Jim. 1997. Subjecthood and Subject Positions. In Liliane Haegeman (ed.), *Elements of Grammar: Handbook in Generative Syntax* Kluwer International Handbooks of Linguistics, 197–235. Dordrecht: Springer. doi:10.1007/978-94-011-5420-8_5.
- Mohanan, Tara. 1988. Causatives in Malayalam. Unpublished Ms. Stanford University.
- Poole, Ethan. 2016. Deconstructing subjecthood. Ms. University of Massachusetts Amherst. <http://ethanpoole.com/papers/poole-2016-subjecthood.pdf>.
- Ramchand, Gillian. 2008. *Verb meaning and the lexicon: A first phase syntax*. Cambridge, UK: Cambridge University Press.
- Roberts, Ian. 1987. *The Representation of Implicit and Dethematized Subjects*, vol. 10 Linguistic Models. Dordrecht: De Gruyter Mouton. doi:10.1515/9783110877304.
- Roberts, Ian. 2019. *Parameter Hierarchies and Universal Grammar*. Oxford: Oxford University Press.
- Saksena, Anuradha. 1980. The Affected Agent. *Language* 56(4). 812–826. <https://www.jstor.org/stable/413490>.
- Saksena, Anuradha. 1982. Case Marking Semantics. *Lingua* 56(3–4). 335–343. doi:10.1016/0024-3841(82)90017-1.
- Sobolak, Frances. 2023. *The event structure of light verbs*: Cornell University dissertation.
- Srishti, Richa. 2011. *Hindi Verb Classes and Their Argument Structure Alternations*. Newcastle-upon-Tyne: Cambridge Scholars Publishing. ISBN 978-14-43831-48-2.
- Suliman, Faheem. 2015. Light verbs in hindi.