Tense and Aspect in Urdu

Miriam Butt
Universität Konstanz
`miriam.butt@uni-konstanz.de`
Journée d'études sur le temps et l'aspect
Paris, October 18, 2003
(Slightly) Revised Version for ParGram Meeting, Dublin, September 2004

1 Central Problem

- Semantic analyses of tense/aspect are meant to be crosslinguistically valid.

- However, the available tools would appear to be inadequate for crosslinguistic analysis.

- This talk: case study of a non-European language.

  - How is the system organized?
  - What concepts are basic?

2 The Language

Urdu is a South Asian language spoken in:

- Pakistan (national language)

- India (one of the 18 official languages)

- World-Wide due to the South Asian Diaspora (big populations in the U.K., U.S.A., Canada, etc.)

Urdu is closely related to Hindi.
Taken together these represent the second most spoken language in the world: **400 000 000**.

Properties: SOV, subject and object agreement, non-nominative case including an ergative.

3   Tense

Methodology: Begin by trying to sort through the language roughly via traditional (Latin) conjugation classes.

Reason:

1. This world view still influences much of modern linguistics, despite long-standing work on Native American languages (for example).

2. Unlike the Native American languages (or Chinese, cf. Smith 1991), Urdu is an Indo-European language like Latin.

Semantics: Ehrich's (1992) DRT version of the basic Reichenbachian oncepts E,R and S.

Contextually Determined Relations: S (Speech Time) and R (Reference Time)
Intrinsic Relations: E (Event Time) and R

Roughly:

		Contextually Determined	
		S,R	R < S
Intrinsic	E,R	Present	Past
Relations	E < R	Perfect	Past Perfect
	E > R	—	—

The notation "S,R" signifies that these stand in a relation to one another. This relation could be either temporal overlap (S $\bigcirc$ R) or temporal precedence (determined by the context).

3.1   Present

First Problem: Urdu only has a present tense for one verb: *ho* 'be'.

(1)   **Present of Urdu *be***

	Singular	**Plural**	**Respect** (ap)	**Familiar** (tum)
1st	hũ	hɛ̃		
2nd	hɛ		hɛ̃	ho
3rd	hɛ	hɛ̃		

ho- 'be'

Present Tense: E $\bigcirc$ R & R $\bigcirc$ S

3.1.1   Subjunctive/Questions

The same morphology on other verbs signals either a subjunctive or a question.

(2) **Urdu Subjunctive Paradigm**
(Question)

	Singular	**Plural**	**Respect** (ap)	**Familiar** (tum)
1st	mar-ũ	mar-ẽ		
2nd	mar-e		mar-ẽ	mar-o
3rd	mar-e	mar-ẽ		

mar- 'hit'

Subjunctive:

(3) ɑgɑr mɛ̃   a-ũ,   to ɑccʰa ho-g-a
    if   I.Nom come-1.Sg so good be-Fut-M.Sg
    'If I were to come, that would be good.'

Question:

(4) mɛ̃   ɑbʰi a-ũ?
    I.Nom now come-1.Sg
    'Should I come (over) now?'

3.1.2   Imperative

The same morphology is used for imperatives with the second persons and the first plural.

(5) kʰana   kʰa-o
    food.Nom eat-2.Fam
    'Eat (your) food.'

(6) aye   kʰana   kʰa-ẽ
    come food.Nom eat-1/2.Resp
    'Come, let's eat.'   (Schmidt 1999:98)

There is also some special morphology for extra-polite imperatives.

This morphology is confined to the handful of stems ending in vowels (and ɽ).

	le 'take'	de 'give'	kɑr 'do'	pi 'drink'	si 'sew'
ap (2.respect)	lijiye	dijiye	kijiye	pijiye	sijiye
		'please do do X'			

3.1.3   Historical Development

Present Morphology

- The present morphology is a remnant of the old Sanskrit/Prakrit present and imperative morphology (the two collapsed in Middle Indo-Aryan).

- It is the only piece of tense morphology that has survived into the modern ages.

Special Imperative

- The special imperative is generally taken to derived from an Old Indo-Aryan (OIA) optative in *-yā*, which became *-eyya* in early Middle Indo-Aryan (MIA) and then is supposed to have "hardened" in later MIA to *-ejja-, -ijja-* (Kellog 1893:229–230, Beames 1872:108, Chatterji 1926:900).

- Alternative Analysis (Butt and Lahiri):

  The source of the modern *-j-* is an allomorphic variant of the original Sanskrit verb *gā* 'go' (cf. modern Urdu *ja-/ga-* 'go'). The person endings of the indicative are simply remnants of the original inflections this verb carried. The *-j-* caused vowel raising on the stem vowel.

3.1.4   Summarizing Questions

- Is it crosslinguistically odd not to have a "real" present tense? Or is it normal?

- There is a clear historical affinity between present, subjunctive (modality) and future. Can formal semantic analyses reflect this affinity and even predict the historical changes?

  N.B. The notion of *semantic maps* (e.g., van der Auwera and Plungian 1998) is an attempt in this direction, but not an ultimately satisfactory one as yet.

3.2   Future

The future is the only tense in Urdu which is formed purely inflectionally and which applies regularly across the verbal inventory.

(7)

Urdu Future Paradigm

	Singular M/F	Plural M/F	Respect (ap) M/F	Familiar (tum) M/F
1st	mar-ũ-g-a/i	mar-ẽ-g-e/i		
2nd	mar-e-g-a/i		mar-ẽ-g-e/i	mar-o-g-e/i
3rd	mar-e-g-a/i	mar-ẽ-g-e/i		

mar- 'hit'

- The first piece of morphology after the stem is identical to the present/subjunctive morphology.

- The -*g*- is derived from a Sanskrit participle of the verb *gā* 'go' (Kellog 1893:231, Beg 1988:191, McGregor 1972).

- The gender and number agreement morphology (*a/i/e*) is regular synchronically in that it is also found on the perfect (section 3.3.2), imperfect (section 4.2) and and progressive (section 5.1) forms, all descended from participles.

  The morphology is unproblematic if the -*g*- is indeed associated with an old participle.

Evidence for On-Going Historical Change

- The -*g*- was separable until relatively recently, providing evidence for a change which pressed a version of 'go' into service as a tense auxiliary.

- This auxiliary is turning into a tense affix via the status of a clitic.

- The -*g*- is still somewhat separable (and is written as a separate word in the Urdu orthography, but not the Hindi one).

(8) vo   [lɪkʰ-e   or   paɽʰ-e]-gi
    Pron.3 write-3.Sg and read-3.Sg-Fut.Fem.Sg
    'She will read and write.'

Semantics, Absolute Future: E◯R & R > S

3.2.1   With Perfect Morphology

Perfect/past morphology (section 3.3.2) can also serve to express the future.

(9) mɛ̃   abʰi a-yi
    I.Nom now came-Perf.F.Sg
    'I'll be right there (come right away).'

This is perhaps analogous to the German situation, where the present morphology is systematically ambiguous between present and future readings.

Immediate Future: E◯R & R ≥ S

3.2.2   Imminent Future

There is yet another way to express imminently impending actions.

- *-vala* 'one' (as in 'the egg-eating-one') in combination with a verbal noun.

- The dative/accusative *ko* in combination with a verbal noun.

(10) kıʃti   ɖub-ne   vali   hɛ
      boat.F.Sg.Nom drown-Inf.Obl one.F.Sg be.Pres.3.Sg
      'The boat is about to sink.'   (Schmidt 1999:139)

(11) a. ıs   laɽki   ki   ʃadi   ho-ne   **vali**   hɛ
         this girl.F.Sg Gen.F.Sg marriage.Nom be-Inf.Obl one.F.Sg be.Pres.3.Sg
         'This girl's wedding is taking place soon.'   (Schmidt 1999:140)

      a. ıs   laɽki   ki   ʃadi   ho-ne   **ko** hɛ
         this girl.F.Sg Gen.F.Sg marriage.Nom be-Inf.Obl Acc be.Pres.3.Sg
         'This girl's wedding is taking place soon.'   (Schmidt 1999:140)

Imminent Future: E◯R & R > S & the event will take place with great certainty (i.e., minus the modal readings the future usually carries with it).

3.2.3   Summary and Questions

- The future is the only regular "finite" form for all verbs.

- Is this natural or exceptional? Cf. English and German which don't have morphological futures at all, but rely on futures culled from modals.

- A general theory of when verbal nouns plus case marking can be used in "tensed" contexts is desirable. Is there any connection to the cases used for tense in Australian languages (e.g., Evans 1995, Nordlinger and Sadler 2004)?

3.3   Past

There is no specialized past tense morphology. A form of the "perfect" morphology is used to express past tense.

The verb 'be' forms a suppletive paradigm with t^h- (from 'stand') in that this form expresses the past tense of 'be'.

(12)

Past of Urdu *be*

	Singular M/F	Plural M/F	Respect (ap) M/F	Familiar (tum) M/F
1st	t^h-a/i	t^h-e/ĩ		
2nd	t^h-a/i		t^h-e/ĩ	t^h-e/ĩ
3rd	t^h-a/i	t^h-e/ĩ		

t^h- 'be'

The verb is marked for gender and number because it is derived from an old participial form.

3.3.1 Imminent Action Again

Just as with the present tense, the past tense 'be' also allows a combination with verbal nouns to express an imminent action in the immediate past.

(13) a. jɑb   ḍakṭar   sahɪb   bol-ne=ko   tʰ-e
         when   doctor   sahib.M.Nom   speak-Inf.Obl=Acc   be.Past-M.Pl
         to   sɑb   log   cʊp   ho   gɛ-ye
         though   all   people.Nom   quiet   become   go.Perf.M.Pl
         'When the doctor was about to speak, everybody fell quiet.'   (Glassman 1986:233)

   b. mem-sahɪba   cai   bɑna-ne=ko   tʰ-ĩ
      Madam.F.Nom tea.F.Nom make-Inf.Obl=Acc be.Past-F.Pl
      'Madam was just about to make tea.'   (Glassman 1986:233)

3.3.2 With Perfect Morphology

The "perfect" is formed with the verb stem and the general gender/number morphemes *a/i/e*.

There used to be a *-i-* or *-y-* which explicitly marked this tense/aspect, but it disappeared over the last few hundred years.

(14)   **Urdu Perfect/Past Paradigm**

	Singular	**Plural**	**Respect** (ap)	**Familiar** (tum)
	M/F	**M/F**	**M/F**	**M/F**
1st	mar-a/i	mar-e/i		
2nd	mar-a/i		mar-e/i	mar-e/i
3rd	mar-a/i	mar-e/i		

mar- 'hit'

In isolation, this marking results in a past tense reading.

(15) ɑnjum   aj   sʊbɑh   skul   cɑl-i
     Anjum.F.Sg.Nom today   morning school.F.Sg.Loc walk-Perf.F.Sg
     'Anjum walked/went to school this morning.'

Past: E◯R & R < S

Historical Origin:
This morphological marking has been termed "perfective" or "perfect", presumably because the (now null) morpheme is descended from an OIA past participial form in *-tā* (e.g., *the eaten apple*).

4 Aspect

4.1 Perfect

In combination with the 'be' auxiliary, the perfect/past morphology yields standard present and past perfect readings.

(16) ɑnjum=ne   adnan=ko   dekʰ-a   hɛ
     Anjum.F.Sg=Erg Adnan.M.Sg=Acc see-Perf.M.Sg be.Pres.3.Sg
     'Anjum has seen Adnan.'

(17) ɑnjum=ne   adnan=ko   dekʰ-a   tʰ-a
     Anjum.F.Sg=Erg Adnan.M.Sg=Acc see-Perf.M.Sg be.Past-M.Sg
     'Anjum had seen Adnan.'

Present Perfect: E<R & R $\bigcirc$ S
Past Perfect: E<R & R < S

4.2 Imperfect

The "imperfect" is formed with the verb stem, a *-t-* morpheme and the general gender/number morphemes.

(18)
<div align="center">Urdu Imperfect Paradigm</div>

	Singular **M/F**	**Plural** **M/F**	**Respect** (ap) **M/F**	**Familiar** (tum) **M/F**
1st	mar-t-a/i	mar-t-e/i		
2nd	mar-t-a/i		mar-t-e/i	mar-t-e/i
3rd	mar-t-a/i	mar-t-e/i		

mar- 'hit'

In combination with the 'be' auxiliaries it yields a habitual present/past reading.

(19) ɑnjum   adnan=ko   mar-t-i   hɛ
     Anjum.F.Sg.Nom Adnan.M.Sg=Acc hit-Perf.f.Sg be.Pres.3.Sg
     'Anjum hits Adnan.'

(20) ɑnjum   adnan=ko   mar-t-i   tʰ-i
     Anjum.F.Sg.Nom Adnan.M.Sg=Acc hit-Perf.F.Sg be.Past-F.Sg
     'Anjum used to hit Adnan.'

Without the auxiliaries, this marking expresses unfulfilled wishes (Schmidt 1999:118).

(21) mɛ̃   tala lɑga-t-i   . . .
     I.Nom lock put-on-Impf-F.Sg
     'Had I put on a lock, . . .'

It is also used in a continued narrative (Schmidt 1999:118). and is often referred to as the "literary imperfect" (Montaut, p.c., October 2003)

5   Continuation

While Urdu has no prototypical present or past, it makes intense use of various ways of expressing a continuing action (beyond the habitual and narrative detailed above).

5.1   Progressive

A general progressive meaning is achieved by combining the verb stem with a progressive auxiliary *rah* 'stay' (in the present or past). The progressive auxiliary is morphologically perfect.

(22) a. ɑnjum   adnan=ko   mar rɑh-i   hɛ
        Anjum.F.Sg.Nom Adnan.M.Sg=Acc hit stay-Perf.f.Sg be.Pres.3.Sg
        'Anjum is hitting Adnan.'

   b. ɑnjum   adnan=ko   mar rɑh-i   tʰ-i
        Anjum.F.Sg.Nom Adnan.M.Sg=Acc hit stay-Perf.F.Sg be.Past-F.Sg
        'Anjum was hitting Adnan.'

Present Progressive: E $\bigcirc$ R & R $\bigcirc$ S & the event is a continuing one.

5.2   Iteration and Longer Continuation with the Progressive

The progressive with an imperfect main verb signals iteration.

(23) a. kʊtta   bʰõk-t-a   rɑh-a
        dog.M.Sg.Nom bark-Impf-M.Sg stay-Perf.M.Sg
        'The dog kept on barking.'

        E $\bigcirc$ R & R $\bigcirc$ S & the event iterates over a give time span.

   b. kʊtta   bʰõk-t-a   rɑh-t-a
        dog.M.Sg.Nom bark-Impf-M.Sg stay-Impf-M.Sg
        'The dog keeps on barking.'

E $\bigcirc$ R & R $\bigcirc$ S & the event is a continuing one over a long time span that has not ended.

5.3   Iteration and Longer Continuation with 'go'

(24) kʊtta   bʰõk-t-a   ja-t-a   hɛ
      dog.M.Sg.Nom bark-Impf-M.Sg go-Impf.M.Sg be.Pres.3.Sg
      'The dog keeps on barking (willfully, over a long time).'

Features: long time span that has not ended yet, willfulness of actor, iteration, event itself is of a longer duration

One can add yet another auxiliary: *cal* 'walk' (data courtesy of the MT group in Lahore).

(25) kʊtta   bʰõk-t-a   cal-a   ja-t-a   hɛ
    dog.M.Sg.Nom bark-Impf-M.Sg walk-Perf.M.Sg go-Impf.M.Sg be.Pres.3.Sg
    'The dog keeps on barking (willfully, over a long time).'

And yet another iteration.

(26) kʊtta   bʰõk-t-a   cal-a   ja rɑh-a   hɛ
    dog.M.Sg.Nom bark-Impf-M.Sg walk-Perf.M.Sg go stay-Perf.M.Sg be.Pres.3.Sg
    'The dog keeps on barking (willfully, over a long time, continuously).'

These indicate a yet greater degree of iteration and continuition: longer duration of the iterated events.

5.4 Imperatives as to Habitual Actions

A special morphosyntactic construction is used to express imperatives which command/forbid the general/habitual practice of an action.

(27) a. mɑt bol-a   kɑr-o
      not speak-Perf.M.Sg do-2.Fam
      'You shouldn't keep speaking (saying things when you shouldn't)!'

    b. mɪl-n-e   a-ya   kɑr-o
      meet-Inf-Obl come-Perf.M.Sg do-2.Fam
      'You should keep coming to visit.'

Davison analyzes the verbs ('speak', 'come') as nouns in this instance, so the doing of a certain thing, namely "speaking" or "coming" is commanded/forbidden. The nominalization gives the sense of continuation/habituality.

5.5 Summary

- Beyond these examples here, a long list of further combinations with various forms of the future and participial forms of 'be' and some of the other auxiliaries are also possible.

- The tense/aspect system is therefore quite complex and no good analysis exists yet to date (though several dissertations have made an attempt).

- **Basic features:** beyond the standard notions of E,R,S and modality, one needs to express different lengths (duration) of continuation and iteration of the event.

6 Complex Predicates

In addition to these elements of the verbal complex, light verbs also play a role.

The semantic contribution of the light verb is difficult to characterize. It indicates a range of meanings from completion, inception, benefaction, force, suddenness, etc. (see Hook 1974 for a detailed study). The light verb does not predicate its own event — rather: it serves to modify the event semantics of the main verb (Butt and Geuder 2001).

(28) a. nadya=ne   xɑt   **lɪkʰ** **li-ya**
      Nadya.F=Erg letter.M.Nom write take-Perf.M.Sg
      'Nadya wrote a letter (completely).'

    b. nadya=ne   mɑkan   **bɑna di-ya**
       Nadya.F=Erg house.M.Nom make give-Perf.M.Sg
       'Nadya built a house (completely, for somebody else).'

    c. nadya   mɑkan   **bɑna paṛ-i**
       Nadya.F.Nom house.M.Nom make fall-Perf.F.Sg
       'Nadya fell to building a house.'

    d. nadya   **gɪr paṛ-i**
       Nadya.F.Nom fall fall-Perf.F.Sg
       'Nadya fell (down, suddenly).'

    e. nadya   **gɪr gɛ-yi**
       Nadya.F.Nom fall go-Perf.F.Sg
       'Nadya fell (down).'

    f. nadya   **bol** **ʊṭʰ-i**
       Nadya.F.Nom speak rise-Perf.F.Sg
       'Nadya spoke up/broke into speech (suddenly, forcefully).'

This construction provides evidence for the result projection (Butt and Ramchand 2003).

Basic Feature: Telicity (completion/inception).

7 Aspectual Verbs

In addition to the light verbs, there are also some aspectual verbs: *cʊk* 'pick up', *lag* 'begin'.

These may look like light verbs, but they do not have the full meaning spectrum of light verbs and are compatible with every main verb (light verbs generally impose selectional restrictions).

(29) a. nadya   makan   bɑna cʊk-i   hɛ
     Nadya.F.Sg.Nom house.M.Nom make pick-up-Perf.F.Sg be.Pres.3.Sg
     'Nadya has built a house (finished it completely, already).'

    a. nadya   ga   cʊk-i   hɛ
     Nadya.F.Sg.Nom sing pick-up-Perf.F.Sg be.Pres.3.Sg
     'Nadya has sung (completely, already).'

(30) nadya   makan   bɑna-n-e   lɑg-i   hɛ
     Nadya.F.Sg.Nom house.M.Nom make-Inf-Obl begin-Perf.F.Sg be.Pres.3.Sg
     'Nadya began building a house.'

Basic Features:

- *lɑg* is a control verb that embeds another verb. Its basic meaning is 'begin'.

- *cʊk* is more difficult to analyze. It seems to be more like the light verbs in that the syntax is similar and telicity is involved. However, it is too general to be a light verb (though it is better with intransitives).

8   Summary and Outlook

- Much more work needs to be done on Urdu (and similar languages).

- There is no "ready made" semantic analysis that can do justice to the differing shades of iteration, continuation and duration.

- There is also no overall theory that can do justice to the interaction between different types of tense/aspect auxiliaries, morphology and complex predication (or to the historical aspects).

Outlook:

- Currently under development: computational LFG grammar for Urdu within the ParGram project (Butt, King, Niño and Segond 1999).

- ParGram stands for *Parallel Grammars* and the idea is to gear analyses so that they are as crosslinguistically valid as possible.

- One part of this effort is the determination of a crosslinguistically valid *feature space* (Butt et al. 2003).

- Glasbey (2001) concludes that temporal (discourse) information is well placed at the level of f(unctional)-structure within LFG.

- So: encode the relevant information within a feature space? (And then let semantics deal with it properly.)

(31)

$$
\left[
\text{TNS-ASP}
\left[
\begin{array}{ll}
\text{TENSE} & \left[
\begin{array}{ll}
\text{R-S} & \text{precede/follow/overlap} \\
\text{DISTANCE} & \text{standard/far/close}
\end{array}
\right] \\[2ex]
\text{ASPECT} & \left[
\begin{array}{ll}
\text{E-R} & \text{precede/follow/overlap} \\
\text{DISTANCE} & \text{standard/far/close} \\
\text{TELIC} & +/- \\
\text{DUR} & +/- \\
\text{CONT} & +/- \\
\text{ITER} & +/-
\end{array}
\right]
\end{array}
\right]
\right]
$$

Notes:

- Tense/Aspect is made up of the Reichenbachian E,R,S relations.

- Notions like progressive are composed out of the duration, continuation and iteration features.

- Aktionsart and modality still need to be encoded under separate feature bundles.

Assume a Complex Verbal Complex:

(32)
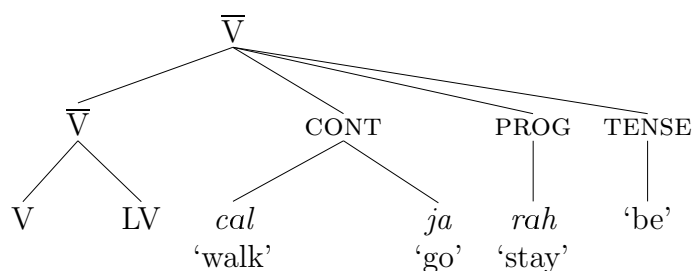
References

van der Auwera, Johan and Vladmimir A. Plungian. . 1998. Modality's Semantic Map. *Linguistic Typology* 2(1): 79–124.

Beames, John. 1872–79. *A Comparative Grammar of the Modern Aryan Languages of India.* Delhi: Munshiram Manoharlal. Republished 1966.

Beg, Mirza Khalil A. 1988.*Urdu Grammar: History and Structure.* New Delhi: Bahri Publications.

Butt, Miriam. 1995. *The Structure of Complex Predicates in Urdu.* Stanford, California: CSLI Publications.

Butt, Miriam, Tracy Holloway King, Maria-Eugenia Niño, and Frederique Segond. 1999. *A Grammar Writer's Cookbook.* Stanford: CSLI Publications.

Butt, Miriam, Martin Forst, Tracy Holloway King, and Jonas Kuhn. 2003. The Feature Space in Parallel Grammar Writing. In *ESSLLI 2003 Workshop on Ideas and Strategies for Multilingual Grammar Development.*

Butt, Miriam and Wilhelm Geuder. 2001. On the (Semi)Lexical Status of Light Verbs. In N. Corver and H. van Riemsdijk (eds.) *Semi-lexical Categories: On the content of function words and the function of content words.* Berlin: Mouton de Gruyter.

Butt, Miriam, and Gillian Ramchand. 2003. Complex Aspectual Structure in Hindi/Urdu. In *The Syntax of Aspect*, ed. Nomi Ertishik-Shir and Tova Rappaport. Oxford: Oxford University Press. To appear.

Chatterji, Suniti Kumar. 1926. *The Origin and Development of the Bengali Literature, Volume* II. Calcutta: D. Mehra, Rupa & Co (1975 edition).

Ehrich, Veronika. 1992. *Hier und jetzt: Studien zur lokalen und temporalen Deixis im Deutschen.* Tübingen: Max Niemeyer Verlag.

Evans, Nicholas. 1985. *A Grammar of Kayardild: With Historical-Comparative Notes on Tangkic.* Berlin: Mouton de Gruyter.

Glasbey, Sheila. 2001. Tense, Aspect and the Temporal Structure of Discourse: Towards an LFG Account. In M. Butt and T.H. King (eds.) *Proceedings of the LFG01 Conference*, Hong Kong. http://csli-publications.stanford.edu/LFG.

Glassman, Eugene. 1976. *Spoken Urdu.* Lahore: Nirali Kitaben.

Hook, Peter E. 1974. *The Compound Verb in Hindi.* Center for South and Southeast Asian Studies: The University of Michigan.

Kellogg, S.H. 1893. *Grammar of the Hindi Language.* Delhi: Munshiram Manoharlal Publishers Pvt. Ltd. Second Edition, reprinted 1990.

McGregor, R.S. 1968. *The Language of Indrajit of Orchā.* Cambridge: Cambridge University Press.

Nordlinger, Rachel and Louisa Sadler. 2004. Tense beyond the Verb: Encoding clausal tense/aspect/-mood on nominal dependents. *Natural Language and Linguistic Theory* 22:597–641.

Schmidt, Ruth Laila. 1999. *Urdu: An Essential Grammar.* London: Routledge.

Smith, Carlotta. 1991. *The Parameter of Aspect.* Dordrecht: Kluwer Academic Publishers.