Form and Function in Urdu–Hindi Verb Inflection†

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The paper presents a comprehensive analysis of the inflectional categories of the Urdu–Hindi verb, focusing in particular on tense-aspect-mood categories. The basic tense contrast is shown to be 'past'/'nonpast'; the so-called 'future' is shown to be a complex mood construction. Aspect categories include 'perfective' and 'imperfective', as well as a third category, the 'telic', not distinguished in earlier work. Apart from the 'indicative' and 'interrogative' moods, six additional mood constructions are traditionally distinguished; these constructions are shown to be reflexes of three basic mood categories. The paper shows that once the basic verbal categories are isolated, certain dependent phenomena (such as tense-aspect-mood co-occurrence restrictions, 'split' and 'fluid' case marking patterns) permit a straightforward account.

1. Introduction

Our understanding that categories of tense, mood and aspect can be isolated as grammatical categories of a language is based on three distinct kinds of assumptions. First, that certain linguistic forms—morpheme configurations in specifiable syntactic constituency—can be isolated as segmentable markers of certain grammatical functions. Second, that such grammatical functions have a clear analysis within a theory of predicate modalization, a theory which

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clarifies the functional interpretation of criterial forms. The third assumption is that the interpretation of each grammatical category—*qua* pairing of form and function—remains invariant across utterance events in a specifiable way; this is tantamount to the assumption that the specific functional effects of grammatical forms can be isolated from the (contextually superimposed) effects of co-occurring forms. These three assumptions motivate three distinct perspectives on categories of verb inflection. The first assumption, considered by itself, constitutes a perspective on the analysis of *form categories*; the first and the second assumptions jointly constitute a perspective on *grammatical categories*; and all three assumptions taken together constitute a perspective on the *specific and differential coding* characteristics of grammatical categories.

The categories of tense, mood and aspect in Urdu–Hindi have traditionally proved to be recondite to grammatical analysis, especially with respect to form segmentability.[1] Several mood categories are not locally segmentable. The telic aspect exhibits partial formal overlap with certain forms of the infinitive, and is not distinguished in most traditional analyses. Although the analysis of past and present tense is clear, the so called 'future tense' is formally and functionally a complex mood construction; but showing this requires an independent analysis of mood categories.

In this paper, I offer a systematic analysis of Urdu–Hindi verb inflection, arguing that problems of form segmentability can straightforwardly be solved if all three of the above analytic perspectives are employed *concurrently* during grammatical analysis. In practice, these criteria are always employed concurrently, of course. Yet the theoretical significance of this fact is typically underestimated. The present analysis of Urdu–Hindi verb inflection demonstrates the importance of this issue, both for linguistic theory and method.

My analysis of the inflectional categories of Urdu–Hindi has several implications for the analysis of dependent grammatical phenomena in the language. These include ergative and dative case marking, and tense-mood-aspect co-occurrence restrictions. Once the analysis of verb inflection is clear, I argue, these dependent phenomena are straightforwardly explained. Let me turn first to the analytic considerations I have raised above, before turning to the data of Urdu–Hindi.

■ 2. Three Perspectives on Grammatical Categories

■ 2.1. Formal Perspective on Grammatical Categories[2]

From the standpoint of the analytic task of deducing the grammatical categories of a language, an ideal language would be one where distinct morphemic constituents coded distinct, non-overlapping domains of grammatical function, as schematized in (1).

$$\begin{array}{lccccc}
1.\ [[[[& m_1] & m_2] & m_3] & [m_4 & m_5] \ldots m_n]_s \\
 & - & - & - & - & - \\
 & f_1 & f_2 & f_3 & f_4 & f_5
\end{array}$$

In a coding scheme such as this—where each distinct morphemic constituent, m_i, has a distinct grammatical function, f_i—each grammatical category, m_i/f_i, can be segmented directly, as it were, from the surface form. Paradigms of such grammatical categories satisfy three formal conditions: (i) there exists a *one-to-one map* from form to function; (ii) the form coding each function is a single morpheme rather than a combination of elements, so that the formal mark of the category is *localizable* in expression; (iii) the category is marked by an expression identifiable in surface form, so that the category is *surface segmentable.* When all three conditions are met, we have something like an optimal analytic scenario (cf. Whorf 1956 [1945], Silverstein 1979, Gvozdanovic 1991).

While some grammatical categories in every language appear to approach this ideal, it is clear that any general approach to the functional individuation of grammatical categories must take note of their *partial formal syncretism.*

$$\begin{array}{lccccc}
2.\ [[& [m_1] & [m_2 & m_3] & m_4 & m_5] \ldots m_n]_s \\
 & - & - & - & - & \\
 & f_1 & f_2 & f_3 & f_4, f_5 & \\
 & & \multicolumn{2}{c}{\overline{\qquad\quad}} & \overline{\qquad} & \\
 & & \multicolumn{2}{c}{f_6} & f_7 &
\end{array}$$

In (2), the grammatical categories m_1/f_1, m_2/f_2 and m_3/f_3 satisfy all three conditions noted above; in each case, the formal mark of the category is constituted by a single surface morpheme having a one-to-one mapping relationship with a corresponding grammatical function. However, morpheme m_4 is quite different in that it encodes not one but at least two distinct grammatical functions, f_4 and f_5. Failure of condition (i) leads to a one-to-many map from form to function, thus constituting an instance of the well-known class of *portmanteau* morphemes (e.g. in English, the verbal suffix -s, marking 3rd-singular-nonpast-active-indicative). Such formal categories constitute the simplest kind of departure from the optimal analytic scenario. We might say, then, that the morpheme m_4 is portmanteau of functions f_4 and f_5, and conversely, that functions f_4 and f_5 are syncretic in morpheme m_4.

Function f_6 in (2) is an example of the violation of condition (i) in the other direction, leading to a many-to-one map from form to function. In addition, condition (ii)—the localizability condition—is violated as well. Neither m_2 nor m_3 is a marker of f_6; rather, the two morphemes co-occurring in a particular constituency form a configurative formal category whose mark is the morpheme collocation $[m_2 \ldots m_3]$ itself, and whose function f_6 is something distinct from any function that each morpheme might be said alone to have (e.g. f_2 or f_3). Negation in French and the passive voice in English are common examples of such *configurative* categories.

Violations of conditions (iii)—the surface segmentability condition—constitutes the functional basis of the modern notion of 'underlying' structure, yielding the class of grammatical categories which Whorf termed 'covert' categories. Insofar as some linguistic utterance is analyzable as having more than one type of categorial analysis in grammatical terms, the same 'surface' form has more than one 'underlying' categorial status. Since the surface expression contains no mark distinguishing the two underlying categories, the categorial distinction can only be clarified by appeal to some criterial test which will disambiguate the two possible analyses of the form at issue. Otherwise, the covert distinction remains opaque to grammatical analysis.

These considerations are critical to the analysis of mood and aspect in Urdu–Hindi. Most mood categories have configurative markers; some morphemic elements within these configurations (particularly 'agreement' markers) are portmanteau in function. On the other hand, the formal marker of the 'telic' aspect merges in surface form with certain shapes of the infinitive ending; the underlying covert contrast, however, is easily isolable by appeal to distributional tests. I return to these issues in sections 4 and 5 below.

■ 2.2. From Form to Grammaticalized Function

While such a perspective on the formal organization of grammatical functions constitutes an important component of the theory of grammatical categories, the grammatical functions identifiable with such forms require characterization in content-based terms as well. The simplest such characterization is a notional one, but such characterizations are less precise than cross-linguistically formulated generalizations about grammatical functions (cf. Jakobson 1971 [1957]). Thus, aspect may be characterized as a coding of the interval characteristics of a predicated event; 'tense' as the indexing of a temporal ordering relation between the predicated event and the event of speaking; and 'mood' as the modalization of sentence propositionality relative to some indexically focal participant of the speech event (Agha 1993, Ch. 6).

Such functional characterizations have two important properties that require comment. First, distinct verbal categories modalize distinct domains of sentence-propositional meaning. Thus, aspect and tense categories modalize predicates, whereas mood characterizations clearly require appeal to the proposition as a whole (cf. Palmer 1986, Ch. 1). Second, certain content types, such as aspect, require only a 'sense'-based characterization (Lyons 1968: 427ff., Lyons 1977: 197–206), whereas others, such as tense and mood are of a hybrid content type in that they possess irreducibly indexical properties as well. The indexical component of meaning lies in the fact that the contribution to sentence meaning of such categories is only statable as a function of the conditions of utterance of the sentence: a past tense, for example, is only interpretable as 'past' relative to the moment of speaking; an imperative mood is

interpretable as a command only relative to some individual constituted as the addressee of the speech event.

■ 2.3. Specific and Differential Interpretation: Minimal Dimensions of Coding

Although we can describe each grammatical category as a pairing of a particular form (specified by appeal to form-shape and formal distribution) and a functional dimension (specified by appeal to sentence- and utterance-level interpretation), the actual carrying out of such an analysis must take into account the fact that grammatical categories are seldom found in isolation in empirical data, that they tend to co-occur with other grammatical categories. Thus, the analysis of any grammatical category must distinguish the contribution to sentence meaning of the category at issue from the contribution of other co-occurring categories by means of careful permutation tests within grammatical paradigms. Moreover, not all the specific forms of one grammatical category co-occur with all the specific forms of every other. Such asymmetries of combination are part of the data criterial for analyzing the content coded by any particular form itself. They also provide criteria on labeling conventions for grammatical categories.

In particular, given the co-occurrence effects of category combination in sentences, it is absolutely essential to ask after the specific and differential contribution to overall 'content' of any particular form, before that form can be said to encode a distinct grammatical category. An analysis of such *minimal dimensions of coding* involves paring away from the totality of possible signal contents that may be summoned up by the use of a form, seeking only to capture those content dimensions which are specifically and differentially coded by the form itself—as distinct from those which are either coded by some other form(s) in grammatical combination with the first, or are not coded by any form in particular, but emerge as a result of implicatures from the contingent co-occurrence of some assemblage of forms in a given contextualized utterance.

Minimal dimensions of coding are analyzed in terms of a binary privative feature notation in the present study. Forms which are specific in interpretation with respect to a particular minimal dimension are said to *code* that minimal dimension, this fact being represented by the plus value of the feature representing that content dimension. Forms which are non-specific with respect to a category are, in principle, potentially ambiguous. A rule of residual semantic interpretation is used in markedness theory (Jakobson 1971 [1932], 1971 [1936], Silverstein 1976) to capture this fact, and I follow Silverstein's formulation (1976: 118) here:

3. Residual semantic interpretation:
   If grammatical feature [F] codes semantic property S, then
   [+ F] means 'S', and
   [– F] means ~'S'; but residually, ~'S' ⇒ '~S'

Thus, only [+F] is unambiguous. Although [–F] simply means failure to specify the property 'S', it can be construed as a (seemingly 'positive') specification for '~S', though this is by no means necessary. A second property of non-specific categories is that they are subject to considerable variability in interpretation, as a result of interaction effects with other co-occurring categories, a phenomenon discussed at several points in the exposition below.

■ 3. The Structure of the Predicate

In Urdu–Hindi, as in many South Asian languages, the distinction between verb phrase-'internal' arguments and an 'external' subject argument cannot be maintained by the use of any consistent formal criteria. The subject NP can take not only nominative and ergative, but also dative, instrumental, genitive and locative case marking (Kachru 1990); the properties of syntactic 'control' characteristic of subjects are differently distributed across these sentence types [both in Urdu–Hindi as well as in other South Asian languages (Kachru et al. 1976, Mohanan and Mohanan 1990, Gair 1990)]; the verb agrees with the subject in aspectless and imperfective sentences, but with the direct object in sentences with perfective and telic aspect [see (9)ff. below]. These facts motivate a 'flat' constituent structure for sentences, as in (4):

4. $[_S NP_1 \ldots NP_n [MV\ (COMP)]_{V'} [AUX]_{V\ S}]$

The AUX(iliary) verb—the only verb in the language which shows a distinction between a past and a non-past stem form—is a syntactic sister to a V' constituent, and to a number of NP arguments. The arguments are assigned case by lexical verbs within the V'. The verbs occurring within the V'—usually no more than two—are traditionally termed the main verb (or 'MV') and the complement verb (or 'COMP'). The MV provides the central semantic characteristics of the predication, and functions as primary case-assigner to argument NPs. The COMP verb is a dependent verb; it occurs only if a MV occurs. It must be analyzed in immediate constituency with the MV, since it functions as a semantic operator on it, modifying both inherent lexical content, aktionsart, valence, as well as the case assigning properties of the MV.

It is important at the outset to note that the MV vs. COMP distinction is a distinction between two fully inflected verbs and, as such, must be kept distinct from a rather different kind of verb serialization in the language whereby two verb stems occur in a type of lexical union to form a 'compound' MV, exemplified in (5).

5.

		MV		COMP	AUX
		$stem_1$	$stem_2$		
(a)	laRkā	[bhāg	rah]	-ø-ā	th-ā
	boy-NOM	run	stay	-P-C	PST-C
	'The boy was running'				

(b) laRkā [ā jā] -y-ā kar-t-ā th-ā
boy-NOM come go -P-C do-I-C PST-C
'The boy used to come'

In (5a) no COMP verb occurs. The MV, however, is a lexical compound where the two verbal lexemes share word inflection. In (5b), a compound MV occurs, followed by a COMP verb. Compound verb constructions are themselves quite interesting with respect to the analysis of verbal aspect: the $stem_2$ element occurs as an aspectual operator on the $stem_1$, modifying its inherent lexical aspect. I have discussed the aspectual characteristics of this construction elsewhere (Agha 1994). In the following discussion of aspect, I am concerned only with aspect markers which are morphemic suffixes.

■ 4. Tense

The traditional analysis of tense in this language distinguishes three tense categories, past, present and future. I will be arguing, however, that only the first two are true tense functionally—into two minimal mood categories. The future is therefore a complex mood category, not a true category of tense (see [14ff.] below).

The past and present tenses are coded exclusively by a stem alternation of the AUX verb, which may be characterized as *th-* 'past (PST)' vs. *h-* 'present (PRS)'. This is exemplified in (6) below, where (6a) is a past sentence and (6b–d) are in the present tense. Both tense-marking stems are distinguished by boldface in the examples.

6.

			MV	AUX	
(a)	laRkā	paise	bhej-t-ā	**th**-ā	
	boy-NOM	money-ACC	send-I-C	PST-C	
	'The boy used to send the money'				
(b)	laRkā	paise	bhej-t-ā	**h**–ai	
	boy-NOM	money-ACC	send-I-C	PRS-C	
	'The boy sends money'				
(c)	laRkā	abh	paise	bhej-t-ā	**h**-ai
	boy-NOM	just.now	money-ACC	send-I-C	PRS-C
	'The boy will send the money momentarily'				
(d)	laRkā	jab	tak	paise	
	boy-NOM	then	till	money-ACC	
	[bhej-cuk]-ø-ā	**h**-o-g-ā			
	send finish-P-C	PRS-C-PRSV			
	'The boy will have sent the money by then'				

Although both the past and the present are distinguished by the binary formal distinction, *th-* vs. *h-*, the interpretation of sentences coded by these tenses

does not form an equipollent functional contrast. All sentences in past tense are interpreted in a highly uniform way: the predicated event is always understood as occurring at some point prior to the moment of speaking, as in the interpretation of (6a).

Present tense sentences have the characteristic ambiguity of the present in many languages, and are subject to variabilities of interpretation as a result of other co-occurring categories. Sentence (6b) asserts that the predicated event of sending occurs over an interval which contains the present moment but extends well into the past and potentially into the future; this ambiguity of time reference is due to the presence of imperfective aspect. Sentence (6c) asserts that the predicated event occurs at some moment immediately following the moment of speaking, thus marking a 'proximate future' sense; this construal is due to the co-occurrence of a punctuate adverb with a present/immediate-future meaning. In (6d), the 'present' AUX stem, *h-*, is followed by a cross-reference suffix, *-o*, followed by the morpheme string *-g-ā*. The construction marks the 'presumptive' mood, and has an 'expected occurrence' meaning; in this case, the present tense is part of a construction which codes the predicated event as expected/presumed-to-occur at some point after the moment of speaking.

The functional asymmetry between the stems *th-* vs. *h-* can be described as a privative binary contrast: the two forms constitute a simple binary paradigm where one form is specific in time reference, but the other is not. The form *th-* specifically and differentially marks the fact that the predicated event occurs at some point prior to the moment of speaking, and this coding characteristic may be represented as [+past]. The paradigmatic alternant, *h-*, fails to signal the above temporal ordering, and the absence of this specific and differential coding characteristic may be represented as [–past]. The actual interpretations of the latter form are subject to the usual implicature from non-'past' to 'non-past' as noted in (3) above; this yields a 'present' construal as the default, allowing for a 'future' interpretation where other co-occurring elements in the sentence, or in prior discourse, entail such a construal. These facts are summarized in (7).

7. Minimal distinctions of tense

Form and gloss	Minimal distinctive value
th- 'PST'	[+past] = the predicated event occurs at some point/interval prior to the moment of speaking
h- 'PRS'	[–past] = absence of above specification

The [–past] stem, *h-*, is clearly the unmarked form, since it has a less specific time reference than the [+past] category, as well as the wider syntactic distribution characteristic of all unmarked categories: it can occur in all the mood categories in which the [+past] form occurs (i.e. indicative and interrogative) as well as in the presumptive mood in (6d), where the [+past] category cannot occur.

■ 5. Aspect

Most recent analyses of the language have maintained that two categories of morphemic (suffixal) aspect are found in the language. I will be arguing that this is a misanalysis, and that there is in fact a third category of morphemic aspect in the language, which I will call the 'telic' aspect. All three aspectual categories occur as suffixes in paradigmatic contrast after the verb stem. I discuss the perfective–imperfective distinction first, turning to the telic thereafter.

The perfective aspect, signaled by the suffix *-ø/-y*[3], codes a highly specific point-like interval for the predication. In contrast, the imperfective, signaled by the suffix *-t*, is like interval for the predication. In contrast, the imperfective, signaled by the suffix *-t*, is less specific in sense value, signaling only the absence of point-like structure. Due to its lesser specificity of meaning, the imperfective aspect can vary in interpretation, such variation resulting from interaction effects with temporal adverbs and with aktionsart of the MV stem.

The meaning of 'point-like completion' is an invariant meaning of the perfective aspect, found in all verbs which are coded for the aspectual category. In the perfective sentence, (8a), each of the two perfectively coded verbs have a meaning of 'point-like completion'.

8. (a) šīšā gir-ø-ā aur ṬūṬ ga-y-ā
mirror-ABS fall-P-C and break go-P-C
'The mirror fell and broke'

(b) laRkā har roz axbār paRh-**t**-ā h-ai
boy-NOM every day newspaper-ACC read-I-C PRS-C
'The boy reads the newspaper every day' (habitual)

(c) use har dafā sharm ā-**t**-ī h-ai
he-DAT each time shame come-I-C PRS-C
'He feels shame every time' (habitual)

(d) māī das bārāh baras se yahā rah-**t**-ā h-ū
I-NOM ten twelve years-ABL here live-I-C PRS-C
'I've lived here for the last ten to twelve years' (durational)

(e) mādā ne nar se kah-ø-ā:
female ERG male DAT say-P-C
xabardār, dušman ā-t-ā h-ai
be.warned enemy come-I-C PRS-C
'The female said to the male: "Be warned! The enemy [now] comes".' (proximate future) [Nihal Chand (1961: 130)]

The imperfective aspect in 8(b–e) yields a range of interpretations, depending on other elements co-occurring in the sentence: the occurrence of iterative adverbs with both active (8b) and stative (8c) main verbs forces a habitual interpretation of the predicate; in (8d), an interval adverb and a stative main verb stem jointly yield a durational interpretation of the predicate; and in (8e) (as in [6e] above), the highly sudden or momentaneous meaning of the adverb combined with an active main verb jointly yield a proximate future interpretation.

The telic aspect is marked by the suffix *-n*, occurring in the same post verb-stem slot. The telic suffix specifies a temporal interval which is bounded by an endpoint in which the interval culminates. The endpoint can be made denotationally explicit by a specific tense coding {e.g. [+past] in (9b)}, or by adverbs (as in [9c–d]). But even in the absence of such explicit markers, the endpoint meaning is clear from the entailments of sentence meaning.

9. (a) tumhẽ sab ko xat likh-**n**-e h-ãĩ
you-DAT all-DAT letters-ACC write-T-C PRS-C
'You have to write letters to everyone'

(b) mujhe vah tasvīrẽ dekh-**n**-ī th-ī̃
I-DAT those pictures-ACC see-T-C PST-C
'I had to see those pictures'

(c) āj baraf paR-n-ī h-ai
today snow fall-T-C PRS-C
'It is going to snow today'

(d) kal bāriš ho-**n**-ī th-ī, magar nahī̃ hū-ø-ī
yesterday rain happen-T-C PST-C, but not happen-P-C
'It was supposed to rain yesterday, but it didn't'

In the [–past] sentence in (9a), the endpoint is recoverable only relative to entailments of sentence meaning: the addressee's obligation 'to write letters to everyone' holds until he has written to them all. In (9b), the endpoint of the interval is independently bounded by the deictically specific [+past] tense: the speaker's desire or need to see the photographs is construable as valid up to and including some moment in past time, not further specified; the sentence implies that the necessity or desire to see them was canceled beyond this point, whether by the satisfaction of the desire, or by its supercession by other considerations. In (9b) the endpoint is bounded by the interval denoted by *āj* 'today': the expectation of rain holds up to and including any point which falls within the day in which the speech event occurs. In (9d), the endpoint of the interval (during which rain was expected) is specified in the most denotationally explicit manner: it is denoted by [+past] tense and by an explicitly past adverb in the first clause, and by the perfective aspect of the second clause (specifying that it didn't rain). It should be clear from these examples that the endpoint-culmination sense is the only invariant aspectual value of the form; additional specificity is due to co-occurring devices.

In most cases the culminative sense of the telic aspect yields a modal implicature of expectation or desire or necessity for the action. Such an interpretation follows regularly as an implicature from an aspectual coding which specifies an event as culminating in an endpoint. Note that the actual type of modal interpretation *is not specified by the aspectual coding itself*, but depends upon other co-occurring variables. Sentences having animate, especially human, subjects (e.g. 9a–b above) are construed with a deontic modal meaning of 'desire' or 'obligation'. Sentences with inanimate subjects (e.g.

9c–d) are construed with an epistemic modal meaning of expected occurrence. Modality is, therefore, not a minimal dimension coded by the suffix, but an implicature of its endpoint-culminative sense, specified further only through interactions effects with other sentence categories. Moreover, a true deontic modal construction—such as the *cāhie* 'there is need/obligation' construction in (10) below—is not well-formed with perfective or imperfective aspects; it requires a telically marked verb, specifying its endpoint-culminative sense further to yield a deontic modal meaning.

10. tumhẽ sab logõ ko tasvīrẽ {bhej-n-ī/ *bhej-ø-ī/
you-DAT everyone-DAT pictures-ACC send-T-C/ send-P-C/
*bhej-t-ī} cĥ-īẽ
send-I-C} be-necessary
'You should send pictures to everyone'

The fact that the telic aspect has not been distinguished in previous studies of this language is apparently due to the fact that the morphemic constituency of the predicate has not been attended to in sufficient detail. Two kinds of confusion are found in the literature.

The first confusion is caused by the existence of a partial formal overlap between the telically coded form of the verb and certain forms of the infinitive. Thus, the finite 3rd singular masculine form of the verb in the telic construction, e.g. *paRh-n-ā*, resembles the infinitive of the same verb, *paRh-nā* 'to read'. Yet the constituency of the two forms is clearly different. In the finite telic form, the last element, *-ā*, is a segmentable morpheme, signaling cross-reference with a 3rd singular masculine noun, as in the case of agreement with the masculine noun *axbār* 'newspaper' in (11a) below. The fact that agreement is involved in (11a) is clear if we look at the minimally contrastive sentence, (11b), where a feminine noun *kitāb* 'book' occurs; here, the verb form gives way to *paRh-n-ī*, where the suffix -ī indicates cross-reference with the feminine noun. The confusion between the finite verb *paRh-n-ā* and the infinitive *paRh-nā* can therefore be clarified by appeal to such a permutation test.

11. (a) mujhe ek axbār paRh-**n**-ā th-ā
I-DAT one newspaper.MSC-ACC read-T-C PST-C
'I had to read a newspaper'
(b) mujhe ek kitāb paRh-**n**-ī th-ī
I-DAT one book.FEM-ACC read-T-C PST-C
'I had to read a book'
(c) mujhe sāre axbār paRh-**n**-e th-e
I-DAT all newspaper.MSC-ACC read-T-C PST-C
'I had to read all the newspapers'
(d) [[sāre axbār paRh-**ne**]$_{N'}$ se paihle]$_{PP}$
every newspaper reading INS before
'before reading all the newspapers'

(e) [[ek axbār paRh-**ne**]$_{N'}$ ke liye]$_{PP}$
one newspaper reading GEN for
'for the sake of reading one newspaper'

Similarly, the 3rd plural masculine form of the telic verb, *paRh-n-e*, illustrated in (11c), is sometimes confused with the oblique infinitive form of the verb, *paRh-ne*, illustrated in (11d–e). Here, again, the same permutation test for agreement clarifies the confusion: whereas the oblique infinitive, *paRh-ne*, occurs with both plural and singular arguments of nominalized clauses (see 11d vs. 11e), the telic verb form *paRh-n-e* occurs only with masculine plural arguments of finite clauses (as in [11c]; singular arguments receive distinctive treatment (*paRh-n-ā* or *paRh-n-ī*, depending on gender, as in [11a] and [11b], respectively). Thus there are really two unequivocal distinctions between the finite telic verb ending, *-n-e*, and the oblique infinitive marker, *-ne*: (i) the latter is not formally segmentable, so that the final vowel cannot be analyzed as an independent agreement marker; and (ii) the oblique infinitive formed by the latter is the head of an N' construction, as in (11d–e), whereas the telic verb in (11a–c) is the head of a V' which unites with an AUX verb to form a finite sentence.

A second type of confusion seems to follow from certain global restrictions on verb agreement in the language. In Urdu–Hindi, a finite verb can agree in person, number and gender only with NPs which are unmarked for case, according to a specific hierarchy: the verb can agree with subject NPs in unmarked case (NOM or ABS); if the subject NP is in a marked case form (e.g. ERG or DAT), the verb can agree with the direct object, but only if the direct object NP is also in unmarked case; if the direct object is in the 'marked accusative' case (formally identical to the DAT), agreement morphology is neutralized to the 3rd singular masculine suffix form.

Moreover, as I argue below, the telic aspect conditions a DAT-ACC case marking split in this language, just as the perfective aspect conditions an ERG-ABS case marking split (see section 6 for details). When the subject of a telic sentence is datively marked, the verb does not agree with it; in such sentences, the verb can agree only with the direct object, but only if the direct object is itself in unmarked case. However, this is not a peculiarity of the telic aspect. It follows from the global case marking restriction noted above, and applies equally to the perfective aspect. Thus, in the two perfective sentences in (12), the verb agrees with the feminine direct object only in (12a), marking cross reference by means of the feminine suffix *-ī*; non-agreement occurs in (12b), because the direct object is in a marked accusative case, formally identical to the dative. The corresponding telic sentences, (11b) and (12c), are exactly parallel to (12a) and (12b) in terms of agreement. Thus, verb agreement in the telic aspect is governed by the same rule as that in the perfective aspect, at least in standard Urdu–Hindi.[4]

12. (a) mãĩne vah kitāb acchi tarāh paRh-ø-ī h-ai
I-ERG that book-ABS carefully read-P-C PST-C
'I have read that book carefully'
(b) mãĩne us kitāb ko acchi tarāh paRh-ø-ā h-ai
I-ERG that book-DAT carefully read-P-C PST-C
'I have read that book carefully'
(c) mujhe unhī kitābõ ko paRh-**n**-ā th-ā
I-DAT those very books-DAT read-T-C PST-C
'I had to read those very books'

Of the three categories of aspect distinguished by suffixal means in this language, the imperfective is the least specific in interpretation. All tokens of the perfective aspect mark a point-like interval characteristic; all tokens of the telic aspect mark an endpoint to the predicate interval; but imperfectively coded stems are quite variable in interval interpretation, as noted in (8b–e). These facts of specific and differential coding capacity motivate the analysis of (13a) for the minimal aspectual dimensions of the system; the gross labels 'perfective', 'imperfective' and 'telic' correspond to these minimal dimensions as in (13b).

13. Summary of aspect distinctions
(a) minimal dimensions of the aspectual system
[+perfective] = point-like interval characteristic
[+telic] = interval bounded by an endpoint
(b) interpretation of category labels

category label	minimal dimensions coded	interpretation
'perfective'	[+perfective, –telic]	specified only for point-like interval
'telic'	[+telic, –perfective]	specified only for endpoint
'imperfective'	[–perfective, –telic]	not specific as to either dimension

■ 6. Mood

■ 6.1. Form-based Perspective

Before we turn to the analysis of mood categories proper, it is necessary to clarify the analysis of the segmental forms which are used in these constructions. Three points are worthy of note in this regard.

The first point concerns forms of the verb *honā* 'to be'. One form of the verb *honā* has already been noted in the foregoing discussion. This is the stem form *h-* which is restricted in distribution to the AUX verb, occurring as a 'present' tense marker (specifically, [–past]), in paradigmatic contrast to the [+past] marker, *th-*. Distinct from *h-*, however, are two other forms of this

verb, *ho-* and *hū-*, which are in complementary distribution with respect to *h-*: whereas *h-* occurs only as an AUX verb stem, *ho-* and *hū-* never occur as part of the AUX. They are restricted to MV or COMP position, as shown in (14).

14.

	MV		COMP	AUX
(a)	kya	**hū-ø-ā**		**h-ai**
	what	be-P-C		PRS-C
	'what has happened?'			
(b)	vahā̃	šor	**ho-t-ā**	**h-ai**
	there	noise	be-I-C	PRS-C
	'[It] is [usually] noisy there'			
(c)	kām	zarūr	**ho-n-ā**	**h-ai**
	work	must	be-T-C	PRS-C
	'The work must get done'			
(d)	vah	vahā̃	baiTh-ø-ā **hū-ø-ā**	th-ā
	he	there	sit-P-C be-P-C	PST-C
	'He was sitting over there'			

The stem contrast, *hū-* vs. *ho-*, of the verb *honā* 'to be' is conditioned by the aspectual morpheme immediately following the stem; the verb belongs to the irregular class of 'strong verbs' which show a stem variation, conditioned by the feature [+/– perfective].[5]

The second point concerns the form and interpretation of the so-called 'future' construction. This construction is formed by the occurrence of three morphemic suffixes after the stem (e.g. *bhāg-e-g-ā* '[he] will run'). Some previous analyses have attempted to analyze the last two morphemes as constituting a separate word (e.g. as *g-*, rather than as *-g-ā*), and to stipulate a third AUX verb on analogy with the present and past AUX verbs exemplified in (14), thus proposing a third tense category by formal analogy. But the lack of insertability of emphatic and negative clitics in the so-called 'future' construction shows that the formal analogy is incorrect. Whereas such particles can occur in VP-initial as well as VP-medial positions in both present (cf. [15a/b]) and past constructions (cf. [15c/d]) (the formal alternation here marks a contrast of discourse emphasis), they are only admissible in VP-initial position in the future construction, as shown in (15e–h).

15.

(a/b)	aur	vah	paise	{**bhī**	le-t-ā	h-ai/	le-t-ā
	and	he	money	{EMPH	take-I-C	PRS-C/	take-I-C
	bhī	h-ai}					
	EMPH	PRS-C}					
	'And he takes money too'						
(c/d)	vah	kām	mujh se	{**nahī̃**	ho-t-ā	th-ā/	ho-t-ā
	that	work	I–INS	{NEG	be-I-C	PST-C/	be-I-C
	nahī̃	th-ā}					
	NEG	PST-C}					
	'I was unable to do that work'						

(e/*f) aur vah paise {**bhī** l-e-g-ā/ *l-e **bhī** g-ā}
and he money {EMPH take-C-g-C/ take-C EMPH g-C}
'And he'll take money too'

(g/*h) vah ghar {**nahĩ** jā-e-g-ā/ *jā-e **nahĩ** g-ā}
he home {NEG go-C-g-C/ go-C NEG g-C}
'He won't go home'

Such lack of insertability of clitics provides evidence for the absence of a word boundary between the morpheme *-e* and the morpheme string *-g-ā* in verbs like *l-e-g-ā* 'will take' in (15e) and *jā-e-g-ā* 'will go' in (15g). Moreover, functional facts also preclude the analysis of a minimal dimension of 'future' coding in this construction. The *-e* element clearly lacks deictic reference to future time, since it also occurs in the optative construction (see [16m–n] below), which wholly lacks any time reference whatsoever, coding merely the potential or hypothetical possibility of an event to occur. The *-g-ā* element appears to code a reference to future time in a sentence like (15e); but its occurrence in other constructions—e.g. the presumptive in (16k–l) and the prospective imperative, exemplified in (16t–u)—clearly shows that its basic meaning is that of speaker expectation, not of deictic time reference. In fact, both semantically distinct elements of the so-called future construction, namely *-e* and *-g-ā*, really are code minimal categories of mood, a point to which I return in section 5.3.

The third point concerns the analysis of the 'cross-reference' markers represented by the symbol '-C' in all the example sentences in the foregoing discussion. These morphemes are portmanteau forms. On the one hand, they mark agreement with noun phrase arguments, cross-referencing categories of person, gender, number and deference. But in addition to this well-known function, these morphemes also serve as markers of mood categories in the language, a categorial dimension of these forms which has so far escaped any adequate analysis.[6]

As far as the cross-referencing functions of these suffixes are concerned, it may be noted, first, that lexical nouns in Urdu–Hindi are differentiated for the following cross-referenceable distinctions: the usual three categories of person (first, second and third); two categories of number (singular and plural); two categories of gender (masculine and feminine); and three categories of deference-entitlement to addressee (akin to the T/V pronominal distinction in European languages), one marking addressee as 'lower' in deference-entitlement, one marking addressee as 'higher', and a third marking addressee as an 'equal' (not specifically higher or lower). Of course, not all noun phrase types lexically differentiate these categories: grammatical gender distinctions are lexicalized only in third person nouns, deference marking is generally restricted to second person pronouns, and the 'lower' category of deference marking, in particular, to second singular pronouns. These facts are displayed in summary fashion in Table 1.

The table is organized into three sub-boxes or regions: box I. is a display of NP categories, listed by lexical content with examples; box II. lists cross-reference suffixes, distinguishable into five separate form-classes (labeled -C_1, -C_2, -C_3, -C_4 and -C_5) on distributional grounds; box III., at the bottom, distinguishes those mood categories which are locally coded by the suffixes (additional mood categories require a separate discussion).

Table 1: Classes of cross-reference suffixes

I. NP categories		II. verbal suffixes of cross-reference/mood				
lexical content	*example form*	-C_1*(msc/fem)*	-C_2	-C_3	-C_4	-C_5
1. 1st sg.	māī	-ā/-ī	-ū̃	-ũ	-ũ	–
2. 1st pl.	ham	-e/-ī̃(-ī)[7]	-āī	-ẽ	-õ	–
3. 3rd sg.	vah (laRk-ā/-ī)	-ā/-ī	-ai	-e	-o	–
4. 3rd pl.	vah sab (laRk-e/-iyā̃)	-e/-ī̃(-ī)	-āī	-ẽ	-õ	–
5. lower, 2nd sg.	tū	-ā/-ī	-ai	-e	-o	-ø
6. equal, 2nd sg.	tum	-e/-ī	-o	-o	-o	-o
7. equal, 2nd pl.	tum sab	-e/-ī̃(-ī)	-o	-o	-o	-o
8. higher, 2nd sg.	āp	-e/-ī̃(-ī)	-āī	-ẽ	-õ	-īe
9. higher, 2nd pl.	āp sab	-e/-ī̃(-ī)	-āī	-ẽ	-õ	-īe
III. Mood categories:		–	*indicative (present)*	*potential*		*imperative*

Note that whereas cross-reference distinctions are differentiated by specific suffixes within each paradigm, mood categories are coded by the *generic* suffixal form-class in each case. For example, *different* members of the paradigm of -C_2 forms distinguish different values of cross-reference. However, all the members of this paradigm—considered now as a class of forms—mark the indicative mood. Let me say something, then, about the specific agreement markers, before I turn to a discussion of the generic mood markers in the next section.

From the point of view of noun phrase agreement, -C_1 is the most elaborate form-class since it is the only category which disambiguates gender in addition to person, number and deference. Note that verb-argument agreement with respect to gender is, strictly speaking, an indexical category like deference marking since it is not driven exclusively by NP lexical content: even noun phrase types which are not lexically coded for gender (such as first person categories) are nonetheless marked for the gender of the contextualized referent (for first person forms, the speaker). -C_5 is the most marked member, in the sense of having the narrowest distribution: it can only mark second person subjects. Form-classes -C_2, -C_3 and -C_4 show a high degree of paradigm-internal parallelism, including regular neutralizations for certain categories of cross-referenced NP (e.g. in rows 1, 6 and 7, all three form-types are identical in shape). Such neutralizations entail considerable loss of information about cross-referenced NP; moreover, the question of which form-class a particular suffix belongs to can only be settled by means of careful permutation tests.

-C_1 is not only the most elaborate class (by criteria of paradigm elaboration), it is the unmarked class as well (by criteria of sentence distribution): it occurs in the largest number of tense/mood categories; -C_5 occurs only in the imperative mood; -C_3 and -C_4 occur only in potential mood constructions; and -C_2 is found only in the present indicative.

■ 6.2. Traditionally Distinguished Categories of Mood

The terminology which is traditionally used to describe mood categories in Urdu–Hindi is not sensitive to the minimal morphemic distinctions in the structure of the mood paradigm, nor to the formal constituency of the elements coding these distinctions. Six mood categories are generally distinguished: the indicative (INDC), the interrogative (INTR), the contingent (CONT), the presumptive (PRSV), the optative (OPTV) and the imperative (IMPV). We will see that the category which is generally called the future 'tense' (FUTR) is also a mood category, albeit complex in structure. It is compositionally analyzable in terms of simpler mood categories. An eighth mood category, sometimes termed the 'polite request' form, also exists. This is built from the imperative mood, and is also formally and functionally complex. I will refer to it as the 'prospective imperative' (PROS-IMPV) since the label reflects its formal composition somewhat more clearly; the 'polite request' meaning is a reflex of this basic sense. These categories are exemplified in (16) below. In each set of examples, the form-configurations which mark the mood category appear in boldface. Interlinear glosses are used to specify the particular form-class to which the cross-reference suffixes in each construction belong, and such glossing may be verified by appeal to Table 1.

16. *(i) indicative (INDC)*

(a/b) {laRkā/laRkī} phūl bec-t-{ā/ -ī} **h-ai**
boy/girl flowers sell-I-C_1 PRS-C_2
'The {boy/girl} sells flowers'

(c/d) {laRkā/laRkī} phūl bec-t-{ā/ -ī} **th-**{ā/ -ī}
{boy/girl} flowers-ACC sell-I-C_1 PST-C_1 flowers'
'The {boy/girl} used to sell

(ii) interrogative (INTR)

(e/f) **kyā** {laRKā/laRkī} phūl bec-t-{ā/ -ī} h-ai
YNQ boy/girl flowers sell-I-C_1 PRS-C_2
'Does the {boy/girl} sell flowers?'

(g/h) phūl **kaun** bec-t-{ā/ -ī} th-{ā/ -ī}
flowers who sell-I-C_1 PST-C_1
'Who {masc./fem.} sells flowers?'

(iii) contingent (CONT)

(i) (agar) vah āy-ā **h-o...**
if he-ABS come-P-C_1 PRS-C_4
'(If) he has come...'
(potential point-like state)

(j) šayed āp na ā-t-e **h-õ...**
perhaps you NEG come-I-C_1 PRS-C_4
'Perhaps you don't [usually]
come...' (potential habitual state)

(iv) presumptive (PRSV)

(k) āp ā-ø-e **h-õ-g-e**
you-ABS come-P-C_1 PRS-C_4-g-C_1
'You must have come'
(presumptive point-like state)

(l) mãĩ hi rakh-t-ā **h-ũ-g-ā**
you-NOM EMPH put-I-C_1 PRS-C_4-g-C_1
'It must be me who puts it [there]'
(presumptive habitual state)

(v) optative (OPTV)

(m) (agar) tum ā-**e...**
you–NOM come-C_3
'(If) you come...'

(n) šāyed mãĩ vahā-tak na pahunc-ũ
perhaps he-NOM there will NEG arrive-C_3
'Perhaps I won't reach there'

(vi) future (FUTR)

(o) vah na ā-**e-g-ā**
he-NOM NEG come-C_3-g-C_1
'He will not come'

(p) tum DhũnD-t-e rah-**o-g-e**
you-NOM search-i-C_1 remain-C_3-g-C_1
'You will keep searching'

(vii) imperative (IMPV)

(q) DhũnD-**ø**
seek-C_5
'Look (for it)!' [addressee lower]

(r) DhũnD-**o**
seek-C_5
'Look (for it)!' [addressee equal]

(s) DhũnD-**ie**
seek-C_5
'Please look (for it)!' [addressee higher]

(viii) prospective-imperative (PROS-IMPV)

(t) khā-**ie-g-ā**
eat-C_5-g-C_1
'Please do eat!'

(u) na jā-**ie-g-ā**
NEG go-C_5-g-C_1
'Please don't go!'

■ 6.3. The Minimal Distinctions of Mood

In the present section I argue that there are really only three minimal distinctions of mood in the Urdu–Hindi system (these will be labeled by the distinctive features [+/– potential], [+/– imperative] and [+/– prospective]) and that several of the categories traditionally termed 'mood' are really derivative category clusters formed by the asymmetric combination of minimal mood categories, or by combinations of mood and tense.

As far as the indicative mood is concerned, the examples in (16a–d) show that it is not marked by any distinctive morphemic mark, since the present and the past indicative share no recurrent partials. The indicative is in fact, the unmarked, or least specified category in this language—as it is in most, if not all languages. The interrogatives—both yes–no questions as in (e, f), and content question as in (g, h)—are marked by a paradigm of question words whose analysis is well-known; as such, they present no special problems, and I will not discuss them in any further detail here.

The interesting and hitherto puzzling categories are the ones listed in (iii)–(viii), termed contingent, presumptive, optative, future, imperative, and prospective–imperative. As far as the formation of these categories is concerned, the following form proportions should be evident from the examples and their interlinear glosses:

17. Recurrent partials in mood paradigms

CONT: PRSV	::	PRS-C_4	: PRS-C_4-g-C_1
OPTV: FUTR	::	-C_3	: -C_3-g-C_1
IMPV: PROS-IMPV	::	-C_5	: -C_5-g-C_1

The patterning of formal categories shows that the contingent, optative, and imperative are a series of basic categories from which the presumptive, the future and the prospective-imperative are derived by the affixation of the morpheme string -g-C_1. Further clarification is required, then, as to the categorial meaning of the three basic categories (i.e. CONT, OPTV and IMPV) and of the fourth element (-g-C_1, which is used to derive the other three (i.e. PRSV, FUTR and PROS-IMPV) from the first set.

Let me begin with the last of the three basic categories, the imperative, illustrated in (q–s). As the examples show, this category is marked by the suffixal form class -C_5, specifically and differentially coding in all cases a command imposed upon the addressee. Note that whereas *specific* members of this form class differentiate degrees of deference-entitlement to addressee through the mechanism of cross-reference to (optional) second person NP, the imperative marker itself is the *generic* suffixal form-class, -C_5. In terms of our decomposition of the mood system into minimal categories, the meaning of the imperative marker, -C_5, will be represented by the feature [+imperative], to be given a further interpretation below.

The optative mood, exemplified in (16m–n), is coded by the suffix -C_3, which regularly marks an evaluation of the likelihood or possibility of an event's occurrence, relative to some other contextual fact. The interpretation of this category is highly grounded in discursive context and co-text, to the extent that the optatively marked verb with its arguments does not, by itself, form a complete, independent sentence. In order to form a complete sentence, it must occur as part of a biclausal conditional sentence, or as a clause subordinated to various types of expectation clauses (e.g. *ummīd hai ki* 'it is hoped that...') or with some type of modalizing adverb (e.g. *šāyed* 'perhaps' in [16n]). Consequently, optative sentences in Urdu–Hindi always acquire secondary construction-specific meanings in the various category collocations in which they occur.[8] In general, however, the optative marks the evaluation of an outcome relative to the contextual possibility for potential occurrence: in positive sentences, the form is interpreted to mean that the occurrence of the event is a potential possibility; and in negated sentences, such as (16n), that it is not likely, for reasons either contextually presupposable as given, or entailed by the use of the form, and to be elaborated upon. The minimal content of this formal category may be represented, thus, by the feature [+potential], to be characterized further below.

The contingent category, exemplified in (16i–j), is not a pure mood category at all, but a tense-mood complex: it is formed from the present AUX stem, *h-*, and the mood suffix -C_4. The -C_4 element in the contingent construction codes a meaning of potentiality, much in the same way as the -C_3 element in the optative. Since the verb stem *h-* is lexically stative, the meaning of 'potentiality' is always realized here as 'potential state'. This meaning is perfectly transparent in sentence (16i), where the state is further specified as 'point-like' due to the perfective coding of main verb; in (16j), however, the aspectual component of the meaning is not that of a point-like state, but of a 'habitual' state. This reflex is due to the imperfective aspect of the main verb. We may say, therefore, that the basic meaning of the element *h*-C_4 is that of 'potential state', where the element *h-* is specifically 'stative' and the element -C_4 is specifically 'potential' in meaning; and the 'point-like' (vs. 'habitual') meaning derives from independent occurrence of the perfective (vs. imperfective) aspect in the main verb.

Although both -C_3 and -C_4 are markers of the [+potential] mood, they occur in complementary distribution: the suffix -C_4 can only occur on the AUX verb stem *h-*; -C_3, on the other hand never occurs here, only on other verbs. Since the AUX stem *h-* is a tense marker, the complementarity of distribution appears to be conditioned by the tense marking: the -C_4 form occurs only in tensed sentences. A cross-category implicational relationship obtains as a result: whenever the [+potential] mood category occurs in a [+tense] construction (with shape -C_4) the specific value of tense is always [–past]. This cross-category relationship derives from the fact that an event which is perspectivally 'potential' cannot at the same time already have occurred and be

coded as deictically in past time. The distributional rule for the formal shape-class of the mood category [+potential] is stated in (18a); the specific cross-categorial implicational relationship is stated in (18b).

18. (a) [+potential] → -C_4/[+tense]__
-C_3 otherwise
(b) mood-tense co-occurrence restriction: $[+\text{potential}]_{\text{mood}} \Rightarrow [-\text{past}]_{\text{tense}}$

Let us turn now to the function of the -g-C_1 suffix which forms a secondary series of three categories derived from the basic three discussed above. For example, the -g-C_1 element forms the future construction, exemplified in (16o–p), by suffixation after the -C_3 [+potential] mood suffix. As noted above, the -g-C_1 element makes the future a complete monoclausal sentence, unlike the optative (cf. [16m]), which requires some additional element (e.g. a bi-clausal conditional, a modal adverb as in [16n], etc.) to complete it. Second, it adds a meaning of 'definite expectation', in addition to the meaning of 'potential outcome' code by -C_3 itself. We can characterize this specific meaning of 'definite expectation' by means of the minimally distinctive mood feature [+/–prospective], where the presence of the -g-C_1 element specifies the positive value. The future construction, according to this analysis, is specified as a [+potential, +prospective] mood complex derived from the optative (or simply [+potential]) mood.

Similarly, the presumptive category, exemplified in (16k–l), is formed derivationally from the contingent category by suffixing the -g-C_1 element to the [+potential] mood element, -C_4. Given the co-occurrence of two mood-specifying elements, -C_4 and -g-C_1, the presumptive is a complex mood category as well: it has the same feature decomposition as the future [+potential, +prospective], relative to the minimal dimensions of the system. The difference between the future and the presumptive lies in the verb stem which takes mood inflection: the presumptive mood (like the contingent mood) is formed from the AUX stem *h-*, whereas the future (like the optative) is formed from a MV. Observe that in the AUX-based presumptive (16k–l) and contingent (16i–j) sentences, the *independent* possibility of aspectual inflection in the MV yields comparable variability in overall interval characteristics. In the MV-based optative and future, the MV itself takes no aspect markers; as a result, these constructions are less variable in interval characteristics.

Finally, a second type of imperative construction, the prospective-imperative, exemplified in (16t–u), is formed from the simple imperative by suffixation of the -g-C_1 element to the -C_5 marker of [+imperative] mood. However, this is a highly marked and specialized construction: the -C_5 form-class is frozen to a single specific form, the 'addressee-higher-rank' element of the -C_5 paradigm, *-īe*; the -C_1 element is always frozen to its default masculine singular form, *-ā*. Hence, this is a sub-category of the [+imperative], specified for an additional meaning: its meaning is 'prospective' rather than futuristic (as the more commonly used, but rather inappropriate category label 'future imperative'

might suggest): the construction lacks any *specific* deictic reference to future time since it can be used to request someone to do something not only at a moment in future time, but also at a hypothetical time as well. The construction can thus be analyzed as [+imperative, +prospective], the meaning of 'polite request' emerging from the -C_5 and -g-C_1 elements occurring in concert, signaling a command to an addressee indexed as higher in rank, the force of the command muted by a seemingly solicitous and respectful expectation regarding addressee compliance.

We are now in a position to give an analysis of the basic categories of the mood system. The values [+imperative], [+potential] and [+prospective] mentioned above can be identified with isolable forms in the following way.

19. Minimal categories of mood
    (a) -C_5 = [+imperative]
    (b) -C_3 (*and* -C_4) = [+potential] [see (18)]
    (c) -g-C_1 = [+prospective]

The interrogative, on the other hand, is marked by a question word, and does not belong to this paradigm. Moreover, the indicative is not specifically and differentially coded by any form, as noted above; it is the unmarked, default mood category. Thus, the suffix -C_2 which occurs only in the present indicative after the stem *h-*, codes no mood category *per se*, though it is part of the tense-mood complex which we term the present indicative. Similarly, -C_1 codes no distinction of mood by itself. When it occurs in the -g-C_1 construct, the *bimorphemic configuration* codes the value [+prospective]; however, -C_1 also occurs in a wide range of other environments, as the data in (16) show, where it signals no specific value. The functional interpretation of the minimal dimensions of mood is given in (20). A compositional analysis of the traditionally analyzed category names is given in Table 2. The traditional labels name category clusters, as their decomposition in Table 2—relative to the minimal mood distinctions of (20)—shows.

20. Minimal mood distinctions
    (a) [+/– imperative] = the '+' value indexically entails addressee-compliance; the '–' value fails to index such addressee compliance,
    (b) [+/– potential] = the '+' value indexes speaker's modalization that the proposition may potentially be true, the '–' value fails to index such speaker evaluation,
    (c) [+/– prospective] = the '+' value indexes speaker's evaluation that the proposition is expected to be true, the '–' value fails to index such evaluation.

■ 7. Aspect and Case Marking

In the foregoing, I have argued that in addition to the two traditionally recognized aspect categories, the perfective and the imperfective, a third category of

Table 2: Formal compositionality of traditionally analyzed mood categories

		(a) 'Pure' mood categories		
A. 'Optative'	=	$-C_3$ [+potential]		
B. 'Future'	=	$-C_3$ [+potential]		$-g-C_1$ [+prospective]
C. 'Imperative'	=	$-C_5$ [+imperative]		
D. 'Future imperative	=	$-C_5$ [+imperative]		$-g-C_1$ [+prospective]
		(b) Tense-mood category clusters		
E. 'Contingent'	=	h- [–past]		$-C_4$ [+potential]
F. 'Presumptive'	=	h- [–past]	$-C_4$ [+potential]	$-g-C_1$ [+prospective]
G. 'Past indicative'	=	th- [+past]	$-C_1$	
H. 'Present indicative'	=	h- [–past]	$-C_2$	

grammatical aspect, the telic, must be distinguished on distributional grounds (see [13] above for summary of aspectual distinctions). Moreover, the telic is like the perfective (and unlike the imperfective) in being highly specific in aspectual interpretation. Given a set of aspectual distinctions in a language, we would expect that if there are any aspectually driven splits in case marking in the language, such splits of case marking would be conditioned by the more marked, more categorially specific grammatical aspects, before any are conditioned by the unmarked, non-specific ones. This is just what we find in Urdu–Hindi: case marking splits are in fact conditioned by the perfective and the telic, but not by the imperfective.

The imperfective does not require any case marking pattern specific to its aspectual category: the ACC-NOM case marking pattern, occurring in the imperfective aspect, as in (21a), is the most widely occurring case marking pattern, found even in clauses which lack any aspectual coding whatsoever, such as (21b).

21. (a) laRkā kitābẽ bec-**t**-ā h-ai
boy-NOM books-ACC sell-I-C PRS-C
'The boy sells books'

(b) laRkā kitābẽ bec-e-g-ā
boy-NOM books-ACC sell-FUTR
'The boy will sell books'

(c) laRke ne kitābẽ bec-**ø**-ī h-āī
boy-ERG books-ABS read-P-C PRS-C
'The boy has sold books'

(d) laRkā kaī dafā bhāg-ø-ā h-ai
boy-ABS many times run-P-C PRS-C
'The boy has run many times'

However, sentences with bivalent, perfectively marked verbs require a distinctive coding of the agent argument, as in (21c). Both conditions must be met jointly, since agents of monovalent verbs do not require ergative case, even if the verb is perfective, as in (21d). The contrast (21a) vs. (21c) yields the usual analysis of Urdu–Hindi as a split-ERG case system.

The DAT case marking of subjects of telically coded verbs, on the other hand, is not traditionally identified as constituting a case marking split. Before I turn to its characterization, however, I should point out that such telically governed DAT case must be distinguished from a more general lexically based pattern of DAT subjects in the language, which is well-known.

22. (a) mujhe abhī tanxā mil-**e**-**g**-ī
I-DAT just.now salary-ACC get-FUTR
'I will get my salary very soon'
(b) mujhe har hafte tanxā mil-**t**-ī h-ai
I-DAT every week salary-ACC get-I-C PRS-C
'I get my salary every week'
(c) mujhe abhī tanxā mil-ø-ī h-ai
I-DAT just.now salary-ACC get-P-C PRS-C
'I just got my salary'
(d) mujhe abhī tanxā mil-**n**-ī h-ai
I-DAT just.now salary-ACC get-T-C PRS-C
'I am yet to get my salary'

Certain two-place agentless verbs, like *mil-* 'get, meet with' lexically specify dative case for subject arguments, regardless of grammatical inflection (Kachru 1990). For such verbs, aspectless 'future' sentences ([22a]), as well as aspectually imperfective ([22b]), perfective ([22c]) and telic ([22d]) sentences, all have dative subjects. Such verbs lexically specify a p(D,O) case frame.

However, verbs which are not lexically specified for dative subjects regularly exhibit dative subject case marking in the telic aspect. Sentences (23a), (21a) and (21c) may be compared to confirm that case marking is here split by aspectual inflection.

23. (a) laRke ko kitābẽ bec-**n**-ī h-āī
boy-DAT books-ACC sell-T-C PRS-C
'The boy has to sell books'
(b) mujh ko kitāb paRh-**n**-ī h-ai
I-DAT book-ACC read-T-C PRS-C
'I have to read (a/the) book'

(c) laRke ko bhāg-**n**-ā h-ai
boy-DAT run-T-C PRS-C
'The boy is to (/has to/wants to) run'

(d) musībat ā-**n**-ī h-ai
misfortune-NOM come-T-C PRS-C
'Misfortune is bound to strike (us)'

(e) vah xat abhī ā-**n**-e hāĩ
that letter-NOM yet come-T-C PRS-C
'Those letters are yet to come'

Note, however, that verbal valence is not a co-factor in defining split-DAT case inflection. Thus, whereas monovalent perfective verbs do not require ERG case marking on their single arguments (e.g. 21d), monovalent telic verbs do require the DAT case, as in (23c). It appears, rather, that the co-factor defining split-DAT inflection is the animacy of the criterial argument. Thus, whereas the animate subjects in (23a–c) require DAT case, the inanimate subjects in (23d–e) do not. The condition on split-DAT inflection can be stated more precisely by appeal to Silverstein's hierarchy of lexical features for noun phrase type (Silverstein 1976): verbs which are in telic aspect, and whose subject argument is specified for a lexical feature higher on Silverstein's NP hierarchy than [+animate] require DAT inflection for that argument.

Thus, both the perfectively driven and the telically driven splits in case marking involve co-factors in addition to aspect marking: the former additionally requires that predicate valence be greater than one, and the latter additionally requires that the criterial argument be of a lexical type specifiable as higher than [+animate] on the hierarchy of noun phrase features. Such *complex–global* splits of case marking (cf. Silverstein 1976: 124–5), are describable only in terms of Boolean conjuncts of lexico-grammatical features, as summarized in (24).

24. Splits of case marking in Urdu–Hindi
    (a) Perfectively driven splits:
        If [aspect = +perfective] & [predicate valence > 1] → agent gets ERG case; otherwise, agent gets ABS
    (b) Telically driven splits:
        If [aspect = +telic] & [argument ranks above +animate] → subject gets DAT case; otherwise, subject gets NOM

From these two patterns of 'split' case marking in the language—patterns which are conditioned by co-occurring lexico-grammatical categories—two additional patterns of 'fluid' case marking must be carefully distinguished. 'Fluid' case marking patterns are conditioned by discourse rather than grammatical variables. Our ability to distinguish 'split' case marking from 'fluid' case marking is particularly important, since the former type of pattern coexists with the latter type (in this, as well as in other languages) in what is only seemingly a homogeneous system of surface patterning.

The first such pattern of 'fluid' case marking is the expansive use of the ERG case in environments where ERG case is not obligatory (i.e. not required by any grammatical rule), but optional. Thus, certain *perfectively* marked *intransitive* verbs, like *chīk-* 'sneeze', allow for the optional possibility of ERG case, in addition to the normally expected ABS case (expected by rule [24a]), as shown in (25a/b). The ERG case in (25b) implies a greater degree of volitionality on the part of the actor (or, contrastive reference to actor), than does the ABS case marking in (25a). Similarly, *telically* marked verbs with *animate* arguments, optionally allow ERG case marking in addition to the normal DAT case as shown in (25c/d): this type of case fluidity extends the optional ERG (with its contrastive, volitional reflexes) to environments where DAT case marked subjects are otherwise expected by grammatical rule (see [24b]). Such optional possibilities are probably derived from contact with Punjabi, and are not well-formed in every regional dialect of Urdu–Hindi, as noted by Masica (1990: 235–6).

25. (a/b) {mãĩ/ mãĩ ne} chīk-ø-ā
{I-ABS/ I-ERG} sneeze-P-C
'I sneezed'

(c/d) {us ko/ us ne} jā-n-ā h-ai
{he-DAT/ he-ERG} go-T-C PRS-C
'He has to go'

(e/f) {xat/ xat ko} ā-n-ā h-ai
{letter-NOM/ letter-DAT} come-T-C PRS-C
'The letter is to come'

A second type of 'fluid' case marking pattern involves the *expansive* use of the DAT case in environments where its occurrence is not predictable by grammatical rule. Thus in (25e/f), the *inanimate* subject of the telic verb can optionally take a DAT case marking, in addition to the NOM case, predicted by rule (24b). But this optional DAT case marking is not limited to subject arguments; it occurs also with *inanimate* direct objects, which can optionally take a DAT case, as exemplified in (12a–b) above. In both instances, the optional DAT argument is acceptable only under certain discourse conditions: the referent of the noun phrase in DAT case must be rhematic, presupposed information, relative to prior discourse.

It should be clear, moreover, that both discourse-conditioned types of case marking patterns are entirely independent of the aspectually-driven grammatical phenomena noted in (24). The expansive ERG can occur in both perfective ([25b]) and telic ([25d]) sentences. The expansive DAT can occur on *subjects* of telic sentences (25f), and on *direct objects* of perfective ([12a]), telic ([12c]) or imperfective sentences. These patterns of case marking (along with conditioning factors, and interpretation) are easily distinguished once the categories of verb inflection are themselves analyzed correctly.

■ NOTES

Symbols: The following glossing conventions are used in this chapter: Aspect: P 'perfective', I 'imperfective', T 'telic'; Tense: PST 'past', PRS 'present'; Mood: INDC 'indicative', CONT 'contingent', PRSV 'presumptive', OPTV 'optative', IMPV 'imperative', FUTR 'future', PROS IMPV 'prospective imperative'. Case: NOM(inative), ACC(usative), ERG(ative), INS(trumental), DAT(ive), etc. Cross-reference suffixes are represented by the generic symbol -C in the first part of the paper; in section 5.1, this class of suffixes is distinguished into five sub-classes $-C_1$, $-C_2$, $-C_3$, $-C_4$ and $-C_5$.

1. Early attempts at analysis, such as those of Lienhard (1961), suffer from too great a reliance on an intuitive segmentation of units of word-structure, not distinguished by consistent formal criteria. The effort is limited, further, by the acceptance of traditional notions of Sanskrit or Latin grammar which prove inadequate to the task. Generative grammar approaches, like that of Pray (1970 [1969]), ignore the morphemic constituency of the verb in favor of 'abstract' phonological segments stipulated in order to correlate syntactic structures directly with phonetic outputs. A general disregard of morphemic structure in these approaches precludes the question of what segmental means may actually serve to code these grammatical categories. Van Olphen (1975), on the other hand, does attempt to give a morphemic segmentation but fails to distinguish between stems and affixes, thus analyzing the stem *rah-* 'stay, remain' as a durative aspectual suffix. But the insertability of negative particles and emphatic clitics between *rah-* and the preceding verb clearly shows that it is not a bound form but an independent stem, acting as a complement verb in the construction at issue. Even Kachru (1980), whose analyses are generally the most thorough is unable to resolve the categories of mood, aspect and tense into recurrent partials, saying, for example that '[i]t is not possible to identify one particular form with one grammatical distinction' (1980: 48). However, precisely such an analysis is offered here.
2. The discussion in this section is adapted from Agha (1993: 4–6).
3. The perfective aspect a morphemic category, *//ø//*, with allomorphs /y/ and /ø/. The /y/ alternant only occurs between two [+tense] vowels, where the first may be /ā/ or /o/, and the second vowel, /ā/; the /ø/ alternant occurs in all other environments. There is one exceptional verb in the language with respect to this rule, the irregular verb *jānā* 'to go': for this verb, the form /y/ occurs with the [+tense] vowel stem variant (e.g. *jā-y-ā kar-o*, *jā-y-ā kar-t-ā*, etc.) as well as with the [–tense] vowel stem variant (e.g. *ga-y-ā* 'went').
4. It seems clear that the telic aspect is being re-analyzed from the infinitive construction just as the perfective and imperfective aspects were re-analyzed from other nominal constructions at an earlier stage in the language. It is interesting to note that during this transitional phase in the re-analysis, grammatical norms vary somewhat in a diglossic way. For some speakers, the older masculine agreement pattern appears to exist as a generalized *alternative* possibility. However, this is a very sociolectally marked construction. With feminine nouns such as *tasvīr* 'picture' and *baraf* 'snow', the standard agreement pattern is the one in (a) and (b).

   (a) mujhe vah tasvīrē dekh-**n**-ī h-āī
   I-DAT those pictures ACC see-T-C PRS-C
   'I have to see those pictures'

   (b) āj baraf paR-**n**-ī h-ai
   today snow fall-T-C PRS-C
   'Its going to snow today'

   (a') *? mujhe vah tasvīrē dekh-**n**-ā h-āī
   I-DAT those pictures ACC see-T-C PRS-C
   'I have to see those pictures' (non-standard)

   (b') * āj baraf paR-**n**-ā h-ai
   today snow fall-T-C PRS-C
   'Its going to snow today' (not possible)

However, (a') exists as a second possibility in the speech of certain speakers, the author not included. Even for such speakers, the alternative masculine pattern appears to be possible only where the verb is predicated-of an animate, particularly human, subject; it appears not to be possible with inanimate subjects, as in (b'). Four other native speakers whom I have consulted regarding this point (all in their thirties, one an Urdu speaker like myself, the other three, Hindi speakers) all agree that (a') does not occur in their speech. Two of them point out, and I would agree, that utterances such as (a') are characteristic of the speech of older speakers from Uttar Pradesh, and has a somewhat upper-class, even aristocratic ring to it. One informant suggests that the same pattern exists in the speech of lower-class speakers from Bihar, though I am unable to comment on this judgement.

5. In addition to ho-n 'to be', five other verbs (*jā-n* 'to go', *de-nā* 'to give', *le-nā* 'to take' and *kar-nā* 'to do') show a distinct stem form in the perfective aspect. For all five verbs, the stem form in the telic and the imperfective aspects is the same as the infinitive stem.
6. For example, in his SPE style treatment of agreement in Urdu–Hindi, Pray (1970, [1969]) does not distinguish the morphemic classes to which these forms belong, treating them instead as derivable by rule from a single underlying 'abstract' segment (op. cit. 67–68). This analysis is motivated partly by the existence of neutralizations of forms for certain values across the five paradigms; what Pray fails to appreciate, however, is that such phonological identity is 'systematic' not 'accidental', to put it in the terms of Zwicky (1991). Thus, his attempts to deal with morphemic variants solely by morphophonemic rule completely obscures the fact that distributionally distinct form-classes of such segmentable morphemes also differentiate distinct grammatical categories of mood.
7. The general rule for the shape of the 3rd feminine plural marker, -*ī*, is that when it occurs serially on successive verbs, the nasalization is deleted in all but the last case.
8. Thus, for example, when the OPTV occurs in the protasis of conditional clauses, it acquires a 'hypothetical condition' sense, clearly a composite, construction-specific meaning. An additional category collocation with a resulting derived meaning occurs in optative clauses with 2nd pers. sg, deferentially 'higher' pronoun subjects (the polite pronoun, p, is optional). In this construction the form yields a polite injunction or request to addressee (polite due to the indexing of deference): e.g. (*āp*) *khā-ē* '(you) please eat', (*āp*) *dekh-ē* '(you) please see/note', (*āp*) *āge cal-ē* '(you) go ahead'; the corresponding polite imperative forms *khā-īe*, *dhek-īe*, *cal-īe* also exist, of course, and are more pointed as polite requests. The same -C_3 suffix can yield a 'hortative' meaning: (*ham*) *cal-ē* 'let (us) go', with optional ellipsis of pronoun subject. The identity of verb forms in the injunctive and hortative constructions is due to a neutralization of the second-sg.-'addressee-higher' and first-plural forms in the -C_3 paradigm. The underlying shape of the latter construction may be seen clearly in questions—*kyā ham cal-ē* 'shall we go?', where only the first plural pronoun may occur. However, both the injunctive and the hortative are construction-specific derived meanings of the mood category [+potential]: both may be analyzed in terms of the root meaning of conditional possibility, co-occurring with the speaker- and addressee-indexing by first plural or second person polite pronouns.

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