

WEAK AND STRONG CORRELATIVES

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December 12, 2007

I. Correlative clauses

- Correlative clauses are relative clauses which are adjoined to a matrix clause, not the modified NP.

They are found in many languages, including the Indic languages of South Asia. Both the ancient language, Sanskrit, and modern Indic languages, including Hindi, have them as the unmarked way for a clause to modify a NP.

- Correlative clauses are characterized as **strong** or **weak**.

Hindi correlatives are **strong**:

They have only a restrictive relative interpretation;
They are adjoined to the left of the main clause;
The interpretation picks out a unique referent or set.
There must be a 'correlate', a modified constituent of the matrix.

Sanskrit correlatives are **weak**:

They may be appositive as well as restrictive;
The correlative clause form is also used for interrogative complements and conditional clauses.
A correlate is not required in the conditional interpretation.

- The feature [PRED] on relative clauses translates the clause into a restrictive predicate.

In Hindi, PRED is part of the narrow syntax read in the interpretation.
In Sanskrit, PRED is not part of the narrow syntax. It is a default feature which enters the interpretation if it is not blocked by other information in the sentence.

II. Head relatives and correlatives

A. General overview of structures:

(1) Headed relative:

I lost the books(i) [*which(i) you bought <which>*].

(2) Correlative version:

[*Which books(i) you bought <which books>*] I lost **them(i)**.

[Host clause with correlate]

Them is the **correlate**, modified by the correlative clause.

(3) Schematic correlative construction:

[Relative XP(i)	. . .	Verb-Finite]	[Correlate XP(i)	Verb-Finite]
CORRELATIVE			HOST OF ADJUNCTION	

Indic languages preserve the distinction between interrogative determiners (4a) and relative determiner (4b)

(4) a. Interrogative determiners (selection)

[Sanskrit] kás ‘who’	[Hindi] kaun ‘who’
kím, kád ‘what’	kyaa ‘what’
kva ‘where’	kahaaN ‘where’

b. Relative determiners (selection)

[Sanskrit] yás ‘who’	[Hindi] joo ‘who’
yád ‘what’	joo ‘what’
yátra ‘where’	jahaaN ‘where’

B. Hindi strong correlatives

Strong correlatives consist of a dependent clause with an operator phrase (1).

(5) [aap-nee **joo kitaabeeN** khariidiiN] maiN-nee **un-(kitaabooN)-koo** khoo Daal-aa
you-erg rel books.f.pl buy-pf.f.pl.I-erg 3pl-(books)dat lose put-pf.ms.
[Correlate]

‘I (carelessly) lost the books [which you bought] got.’

Correlatives are adjoined to the left of a matrix clause which contains a correlate corresponding to the operator phrase in the preceding clause (Grosu 2002, Den Dikken 2005, Bhatt 2005). In Hindi (Dayal 1996) correlatives are only restrictives, they have a maximalizing determiner ('the' 'all' 'any'), and they must be linked with a correlate phrase in the matrix clause (1).

C. Sanskrit weak correlatives

Weak correlatives

- (6) [yás tán ná véda] kím ṛcā kariṣyati
 rel-nom that-acc not know-pres-3s what-acc verses-inst do-fut-3s (correlate)
 'What will the one [who does not know this] do with the Verses?' R.V. 1.164.39c, Etter 1985:167.

In Sanskrit, relative clauses with a variety of interpretations are adjoined to either the left or the right of the host clause (Hettrich 1988). Left-adjoined relative clauses in Sanskrit (6) are formally similar to correlatives in Hindi.

Sanskrit relatives may be restrictive (6) but they have other interpretations.

Appositive (7)	Modify a pronoun or proper name.
Interrogative (8)-(10)	Selected as the complement of an interrogative verb.
Conditional (11)	Modify the matrix clause, with an indefinite interpretation.

- (7) [Sanskrit] Appositive, modifying a pronoun:

[yó gr̥ṇatām íd āsitha-
 rel-nom.s sing-part.gen.pl ptcl be-impf-middle-2s
 āpír ūtī śíváh sákhā]
 ally-NOM favor-INST auspicious-INST familiar-acc.pl
 sá tvám ná indra mṛḷaya
 ptcl you-nom we-dat Indra-voc be-gracious-caus-imper-2s
 O Indra, who has become the good friend of the Singers with your favor to your
 familiars, be merciful to us, (RV 6.45.17, Hettrich 1988, p. 639.)

- (8) Matrix interrogative clauses in Sanskrit use the interrogative determiners:

- a. [Constituent question]

... kím ṛcā kariṣyati
 what-acc verses-inst do-fut-3s
 'What will he do with the Verses?' R.V. 1.164.39c, Etter 1985.

b.**kó** dadarśa [prathamám jāyamānam]?
 who? see-perf-3s first-ms-acc born-ms-acc
 ‘Who has seen [(him) as first born]?’ (R.V. I. 164. 4a, Etter 1985:66.)

c. [Yes/no question] *kim* is a prefix to yes/no questions
kád aryamṇó mahás pathā- áti kramema dūd.hyò
 what? Aryaman-gen great-gen road-inst surpass-opt- 1pl inferior-pl-acc
 ‘Should we overcome the base people on the path of the great Aryaman?
 (R.V. I. 105.6cd, Etter 1985: 125.)

In earlier Sanskrit, embedded questions are expressed with relative instead of interrogative determiners (4):

(10)[Sanskrit] Complement constituent question:

nāhám tād bhagavan veda [yátra gamiṣyāmi]
 not.I this Lord-voc know-pres-1s where-rel. go-fut-1s
 ‘I do not know, O Lord, [where I will go] (S.B. 14.6.11.1, Hettrich 1988: 524.

(11) [Sanskrit] Complement yes/no question

ná tāsya vidma tād u śú prá vocata
 not this-gen know-pres-1pl this-acc prt good forth speak-imper-2pl

/yúvā ha yád yuvatyāh kṣéti yóniṣu/
 youth.m.-nom prt what-rel young.girl-gen lie-pres-3s womb-loc-pl
 ‘We do not know of **this**, tell us well [whether the young man lies in the lap of the young girl.’ (R.V. 40.11ab, Etter 1985, p.210)

Sanskrit allow relatives clause with no individual correlate. The relative gets a conditional clause interpretation, with relative XP as an indefinite:

(12) [Sanskrit] Conditional indefinite clause:

[yó me... yújyo vā sákhā vā
 rel-nom I-dat ally-nom or friend-nom or

svápne bhayám.. .máhyam āha [Correlative clause]
 dream-loc frightful-acc word-acc speak-pres-3s

stenó vā yó dípsati]
 thief-nom or rel-nom hurt-desid-pres-3s

no ... tásmād varuṇa pāhy asmān

we-acc that-abl Varuna-voc protect-imper-2S we-acc
 [If an ally or friend in a dream says terrible words to me, or if a thief wishes to hurt us] protect us, O Varuna, from that. R.V. 2.28.10, Gonda 1975, p. 196.

There is a singular correlate **tásmād**, which seems to refer to the disjunction of two sentences with relative determiners in them; if the DPs were real relatives, the correlate might rather be plural **tébhyas**. Instead it could be seen to refer to the disjunction of possibilities.

The corresponding Hindi sentences are ungrammatical as appositives (13), interrogatives (14) and conditionals (15):

(13) [Hindi] Correlative appositive modifying a proper name correlate

*[**joo(i)** khaRii hai] **anu(i)** lambii hai
 rel standing is Anu tall is
 ‘Anu, who is standing, is tall.’ Dayal 1996, p. 155

(14) [Hindi] Interrogative complement; only the interrogative pronoun is possible.

ham-nee (yah) puuch-aa [ki **kaun**/***joo** aa-eegaa]
 we-erg this asked-pf that who?/*rel come-fut-3s
 ‘We asked [**who (interrogative)**/***who (relative)** will come].’

(15) [Hindi] Indefinite conditional, without a correlate

*[**joo bijli-waalaa** abhii aa-yaa hai] (is-liyee) ham ghar-kee baahar
 rel electrician now-emph now-emph come-pf is therefore we house-gen outside
 jaa sak-eeNgee
 go be.able-fut-pl.
 ‘If some electrician has already come, then we can go out of the house.’

Weak correlatives, even those adjoined to the left of the host, are not obligatorily restrictive and maximalizing, as the strong correlatives are in Hindi. Sanskrit correlatives have a range of interpretations, which depends on what else is present in the host clause, either in the correlate DP, or the selection properties of the matrix verb.

Summary:

Both early Indic Sanskrit and modern Indic Hindi have finite correlative clauses. Correlatives are adjoined to the left of a finite clause which contains a correlate, the constituent which is modified by the correlative clause. Studies of correlatives in modern languages have shown a number of common properties of correlatives in the **strong** sense (Dayal 1996, Grosu and Landman 1999, Grosu 2002, Den Dikken 2006). Strong correlatives are consistently interpreted as restrictive

predicates intersecting with the interpretation of the common noun, modifying the correlate. The correlate may be a pronoun or DP with a common noun.

The correlatives in Sanskrit are interpreted in a variety of ways. They may be restrictive, but can also be appositive, interrogative or conditional. They are correlatives in a **weak** sense because of the fluidity of interpretation.

Elsewhere (Davison 2007), I argue that the syntactic relation between the correlative and the host clause in Sanskrit is paratactic and symmetric, so that the semantically dependent clause (the correlative) is not syntactically subordinate. The correlative construction is therefore the only available way of expressing subordination, especially for interrogative complements. There is no adjunction of finite clauses to NPs, the normal way in which appositive clauses are expressed in Hindi (Hock 1989). In Hindi, on the other hand, the correlative is asymmetrically adjoined to the host clause, so that it is both semantically dependent and syntactically subordinate.

IV. The difference in interpretation between strong and weak correlatives

- a. Strong correlatives: the interpretable feature PRED is present in *narrow syntax* in Hindi.
- b. Weak correlatives: the interpretable feature PRED is a *default feature* in Sanskrit. It is entered at the interpretative interface, to provide a well-formed interpretation. It is inserted if no other information is already present in the sentence which determines a well-formed interpretation (see (8)-(11) above).

PRED is a feature of C in correlative clauses. It requires the correlative to be a restrictive (intersective, maximalizing) predicate on the correlate in the host clause (Grosu 2002). It is an instruction to the interpretative interface to translate the finite correlative clause as a predicate intersecting with the set defined by the common noun expression.

It is in some ways similar to Rizzi's feature Rel, attached to C, which distinguishes relative clauses from questions and declarative complements (Rizzi 1990: 67). Rizzi's feature is both a motivation for movement of a wh- phrase and an instruction for interpretation. Below I separate these functions.

PRED is equivalent to the Λ is a feature on C in Scottish Gaelic and Irish (Adger and Ramchand 2005). It requires the translation of a CP or chain of Λ -marked C as a predicate (λ expression) on the head NP, at the Conceptual-Intentional Interface. The Λ feature is lexically encoded in Gaelic/Irish by complementizers used only for restrictive relative clauses.

The association of PRED and left-adjoined Hindi relatives (correlatives) is strong, but so far follows from no independent principle.

V. Predicational linking

- a. Headed relatives: the relative clause is syntactically adjoined to NP.
- b. Correlatives: the correlative clause and its correlate are anaphorically linked, and are not necessarily adjacent in narrow syntax.

(See Dayal 1996 for a clause adjunction structure, and Bhatt 2003 for clause adjunction and raising from DP.)

The correlate contains a determiner, which can be deictic or anaphoric:

(16) Deictic/anaphoric determiners:

a. Sanskrit:

- (i) sás ‘that’, tá ‘that’
- (ii) tátra ‘there’ (etc.)

b. Hindi

- (i) woo ‘that’ (distal in contrast to deictic/proximal yah ‘this)
- (ii) wahaaN ‘there’ distal in contrast to deictic/proximal yahaaN ‘here’) (etc)

An anaphoric relation is established between the correlative clause and its correlate.

This relation identifies the correlate to be modified by the correlative clause with the PRED feature.

In Sanskrit, this relation is akin to discourse anaphora, as a correlative and its correlate can be non-adjacent.

In Hindi, the relation can be based on movement of the correlative from DP (Bhatt 2005) or in the interpretation of a clausal adjunct (correlative) combined with a correlate (Dayal 1996, and Bhatt 2005 for multiple correlatives).

VI. The internal structure of correlative clauses

(17) Within the correlative CP:

- a. Sanskrit: The relative D(P) moves to a left peripheral position [Force according to Rizzi 1997].
- b. Hindi: The relative DP may move to the left peripheral Spec of Force.

(18) The feature Rel on C is strong (Sanskrit) and either strong or weak (Hindi).

It attracts D(P)s which have the relative series of determiners

VII. Sequence of derivation of correlative structures

A. Numeration

- (a) C is specified [Rel]; it is specified PRED (Hindi only)
Hindi: PRED is in the lexicon as distinct from [Rel]

B. Narrow syntax.

- (b) Relative D(P)s move to Spec/Force within the CP projection.
- (c) Correlative CP is merged with the host clause (moved/adjoined)

C. Interpretative interface

- (d) An anaphoric link is established between the correlative and the correlate
- (e) Hindi: PRED requires a restrictive predicative interpretation modifying the correlate, blocking other clausal interpretations.
- (f) Sanskrit: PRED is a default/repair if no other interpretation is provided by information in the correlate or host predicate.

Sanskrit uses clauses specified as [Rel] very broadly for subordination. Their interpretation is specified by the nature of the correlate (proper name [appositive] or pronoun without reference to an individual [conditional]), or the verb of the host clause (subcategorizing for an interrogative complement). If none of these factor are present, then PRED is inserted as the default restrictive interpretation of the correlative. That is, PRED is inserted unless it is blocked by the prior existence of other information in the correlate-host combination..

Conclusions

In this paper, I have considered two kinds of correlative clauses with similar forms but not the same range of interpretations. Strong correlatives in Hindi have only a restrictive interpretation, which I derive from the presence of the feature PRED at the beginning of the syntactic derivation, persisting to the interface, where it requires translation of the correlative clause into a predicate expression. Weak correlatives in Sanskrit are not initially specified with PRED, as correlatives express a general relation of interpretive but not syntactic subordination. Lexical information in the narrow syntax may block a restrictive interpretation. If no lexical information blocks a restrictive interpretation, PRED is entered as a default at the interpretive interface. PRED is required to provide a well-formed interpretation of a clause as an intersective predicate (rather than a complement, conditional or appositive).

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