

## 0. Introduction

The Indo-Aryan languages with close historical and/or geographical contact to Dravidian (Assamese, Bangla (Bengali), Oriya and Marathi) usually show a peculiar mixture in their grammar of clausal complementation. There are two types of finite complements which are largely distributed complementarily. The Indo-Aryan model of sentential complementation shows an articulated left periphery which is signaled by a complementizer or by an operator-like relative pronoun. CPs of this type, i.e. C+IP, deviate from the dominant SOV-pattern by being uniformly positioned to the right of the matrix predicate. The Dravidian model of complementation, on the other hand, typically lacks an articulated left periphery and rather shows clause-final affixal operators as well as a grammaticalized verb of speaking which seems to serve as a clause final complementizer (classically called a “quotative” marker), i.e. IP+C (or IP+QUOT). In the unmarked case, complements of this type are positioned to the left of the matrix predicate. As such they pattern with infinitives of various sorts. My goal is to formulate some thoughts on the grammars of these languages in the context of Kayne's (1994) Antisymmetry Hypothesis.

## 1. Some typological background

- strictly head-final SOV
- focus to the immediate left of V
- leftward scrambling
- rightward scrambling/stranding of light elements
- obligatory extraposition of finite CPs with the structure C+IP
- optional extraposition of finite CPs with the structure IP+C and infinitives

## 2. The primary data

(IC = initial COMP, FC = final COMP)

- (1) a. chele-Ta Sune-che [je [or baba aS -be]] Bangla  
*boy -CF hear-PTS3 COMP his father come-FUT3*  
"The boy has heard that his father will come"
- b. chele-Ta [[ or baba aS -be] bole ] Sune-che  
*boy -CF his father come-FUT3 COMP hear-PTS3*  
"The boy has heard that his father will come"

These complements are in close to complementary distribution:

- (2) *No IC-clause to the left of V*
- a. \*chele-Ta [je [or baba aS-be]] Sune-che  
b. \*[je [or baba aS-be]] chele-Ta Sune-che

- (3) *Markedness of FC-clause to the right of V*  
 %chele-Ta Sune-che [[or baba aS-be] bole ]

	“extraposed” ( ... V _ )	“in-situ” ( ... _ V )	L-moved ( _ ... V )
<b>C + IP</b>	√	*	*
<b>IP + C</b>	marked	√	√

The ban against IC-CP raising exists also in all SA-languages as well as in Persian, Turkish, Uzbekh etc.

If SA-languages are underlyingly VO, IC-complements conform to the underlying order, whereas FC-complements (and infinitives) are normally raised to a specifier associated with VP or to some higher projection. But why are IC-clauses frozen in place in surface OV languages but not in surface VO languages or in Dutch/German?

## 2. IC-CPs

As predicted by the theory of syntactic antisymmetry, the IC-CP cannot be extraposed and high-adjoined. Various tests show that it is c-commanded by material to the left of V:

- (4) *Focus binding*  
 SEmoli **Sudhu** bhebe-che [je ami **ROBINDRO** Songit pocchondo kor-i na]  
*Shyamali only think -PTS3 that I Rabindra song like do -I NEG*  
 "Syamali only thought that I dislike songs by RABINDRANATH (TAGORE)"
- (5) *Bound variable pronoun*  
 ami **prottek-Ta chele-ke<sub>1</sub>** bole-chi [CP je Ek -jon  
*I each -CF boy -OBJ say -PTS1 that one-CF*  
**ta-ke<sub>1</sub>** durga pujo-Y notun jama kapoR de -be]  
*he-OBJ Durga Puja-LOC new clothes give -FUT3*  
 "I told each boy that someone will give him new clothes at the festival of Durga Puja"
- (6) *Negative Polarity licensing*  
 ami biSSas kori **na** [ je Sipra **ekTu-o** ingreji bolte pare]  
*I belief make not that Sipra little-even English speak can*  
 "I don't believe that Sipra can speak any English"

However, IC-CPs are obviously not directly merged with V. They are often linked to an overt nominal correlate. Assuming that the correlate may be deleted but not erased (cf. Chomsky, 1995:280), leftward movement of the IC-CP would always induce a crossover violation:

- (7) a. chele -Ta [ta ]<sub>1</sub> / [e kOtha]<sub>1</sub> jane na [je baba aS -be]<sub>1</sub>  
*boy -CL this / this story knows not that father come-will*  
 "The boy does not know it that his father will come"  
 b. chele-Ta [∅]<sub>1</sub> jane na [je baba aS-be]<sub>1</sub>  
 c. \*chele-Ta [je baba aS-be]<sub>1</sub> [ta ]<sub>1</sub>/[e kOtha]<sub>1</sub> jane na t<sub>1</sub>  
 d. \*chele-Ta [je baba aS-be]<sub>1</sub> [∅]<sub>1</sub> jane na t<sub>1</sub>

Compare English and German:

- (8) a. \*[Who stole my money]<sub>1</sub>, I'll find [the crook]<sub>1</sub> t<sub>1</sub>  
 b. I am glad ~~about the fact~~<sub>1</sub> [that you came]<sub>1</sub>  
 c. \*[That you came]<sub>1</sub>, I am glad ~~about the fact~~<sub>1</sub> t<sub>1</sub>
- (9) a. \*[Der mein Geld gestohlen hat]<sub>1</sub> finde ich [den Schuft]<sub>1</sub> t<sub>1</sub>  
 b. Ich bin froh ~~da (r)über~~ [dass du gekommen bist]<sub>1</sub>  
 c. \*[Dass du gekommen bist]<sub>1</sub> bin ich froh ~~da (r)über~~ t<sub>1</sub>

### 3. FC-CPs

FC-CPs differ from IC-CPs on all counts (cf. Bayer, 1999). They can, in particular, not be used with a correlate. They seem to be merged as a direct object of V in either one of the following ways; in addition, C is either a true FC or an IC accompanied by IP-movement:

- (10) a. {[<sub>CP</sub> IP C] V}                      traditional assumption  
 b. {V [<sub>CP</sub> C IP]}                      antisymmetry assumption

To derive the right word order, (10b) requires two steps:

- (11) a. V [<sub>CP</sub> C IP]                      IP-to-SpecCP    ⇒  
 b. V [<sub>CP</sub> IP<sub>1</sub> C t<sub>1</sub>]                      CP-to-SpecXP   ⇒  
 c. [<sub>CP</sub> IP<sub>1</sub> C t<sub>1</sub>]<sub>2</sub> V t<sub>2</sub>

### 4. Interrogative Scope

It is widely known from work on Hindi (Mahajan, Davison, Dayal) that IC-CPs do not allow wide scope of a *wh*-in-situ element; it is less widely known that FC-clauses do allow wide scope (cf. Wali, 1988 on Marathi; Bayer, 1996 on Bangla). While Hindi allows *wh*-elements in *ki*-clauses, Bangla disallows them in *je*-clauses. To avoid this problem, we use here CPs with a zero-complementizer (or no C at all):

- (12) \*tumi bhebe-cho [ke baRi kore -che]                      Bangla  
*you think -PTS2 who house make-PTS3*  
 \*"You thought who has built a house?"
- (13) tumi Sune-cho [ke baRi kore -che]  
*you hear-PTS2 who house make-PTS3*  
 "You heard who has built a house"  
 NOT: "Who did you hear built a house?"
- (14) ora [[ke aS -be] bole] Sune-che  
*they who come-FUT3 COMP hear -PTS3*  
 i. "They have heard who will come"                      (narrow scope of *ke*)  
 ii. "Who have they heard will come?"                      (wide scope of *ke*)

- (15) Minila [Lilini Ravila **kay** dila asa] vatta  
*Mini Lili to-Ravi what gave COMP believes*  
 "What does Mini believe that Lili gave to Ravi?"

Marathi  
 (Wali, 1988)

#### 4.1 Traditional approach (Bayer, 1990; 1996)

An operator in-situ may undergo long LF-movement, if CP is canonically selected according to head-finality/head-initiality.

#### 4.2 Antisymmetry approach (Jayaseelan, 1998; Simpson & Bhattacharya, 2000)

- South-Asian languages are actually VO; OV-order is derived
  - wh-in-situ is actually wh-movement to a clause-internal focus position (SpecFocP)
  - there is no LF-movement (of wh-elements)
  - there is pied-piping
- it follows/is desired that ...
- wh cannot scope out of IC-CP because IC-CP cannot access SpecFocP
  - wh can scope out of FC-CP because it moves first to SpecFocP of the FC-CP's IP; if this move can turn the entire IP into a wh-phrase, and IP raises to the Spec of the FC-CP (=SpecboleP), the FC-CP will be +wh; if this CP raises to SecFocP of the next higher clause, this clause will be turned into a +wh clause too.

(ii) C is formally identical with the relative pronoun *je*, the CP in (7a) essentially having the form of a relative construction. (iii) No operator (e.g. a wh-pronoun) in CP can by itself scope out of CP. (iv) As indicated in tab.1, CP can never be raised, scrambled or topicalized. These facts receive a natural explanation, if the extraposed CP is linked to a possibly deleted pronominal, the CP itself being in a base-adjoined position. This leads to an apparent conflict with the fact that there is c-command from the matrix into CP. It will be argued that this conflict is resolved by material leaving the VP via leftward movement (scrambling). The revised form of (1a) is then as in (7b) where we assume following Chomsky (1995: 280) that  $\emptyset$  is deleted but not fully erased.

#### 4.3 Adjuncts

If 4.2 can be made to work, there is an interesting advantage over 4.1. As in most languages, overt extraction from adjuncts is blocked, while covert wide scoping is fine. Notice that *bole*-clauses can also function as causal/reason clauses:

- (15) tomar mon kharap [ami kolkata-Y ja-bo na bole]  
*your mood bad I Calcutta-LOC go-FUT1 NEG because*  
 "You are in bad mood because I won't go to Calcutta"

- (16) \*kotha-Y<sub>1</sub> tomar mon kharap [ami t<sub>1</sub> ja -bo na bole]?  
*where-LOC your mood bad I go-FUT1 NEG because*  
 \*"Where are you in bad mood because I won't go?"

- (17) [ami kotha-Y ja-bo na bole] tomar mon kharap?  
 "You are in bad mood because I won't go where?"

A popular approach is to say that there is a zero wh-scope marker which can act as an unselective binder of the wh-item in situ. But this cannot explain why the following examples are deviant:

- (18) a. \*tomar mon kharap [ karon ami kotha-Y ja-bo na]  
           *your mood bad because I where-LOC go-FUT1 NEG*  
 b. \*[karon ami kotha-Y ja-bo na] tomar mon kharap?

An unselective binder could supply both examples with the proper scope without forcing movement. (Further relevant cases in Bayer, 2000).

The approach in 4.2 suggests the derivation in (19):

- (19) a. tomar mon kharap [bole [ami kotha-Y ja-bo na]]      IP-to-SpecCP       $\Rightarrow$   
 b. tomar mon kharap [[ami kotha-Y ja-bo na]<sub>1</sub> [bole t<sub>1</sub>]]      CP-to-SpecFocP       $\Rightarrow$   
 c. [[[ami kotha-Y ja-bo na]<sub>1</sub> [bole t<sub>1</sub>]]<sub>2</sub> [ FOC° [tomar mon kharap t<sub>2</sub>]]]

If the *bole*-clause is indeed +wh, and FOC agrees with it via spec-head agreement, the copy-and-deletion theory (Chomsky, 1995) yields an output which resembles (16) semantically, but is not committed to the violation of the adjunct condition; once the wh-feature of the wh-word has identified and marked the head FOC, it is stripped off, and the reconstructed form resembles an indefinite (existentially closed and restricted variable):

- (20) [[~~ami kothaY jabo na~~] [~~bole [ami kothaY jabo na]]~~] [ FOC°/wh<sub>x</sub> [ x [tomar mon kharap [[~~ami kothaY jabo na~~] [bole [ami PLACE x ja-bo na]]]]]]]

## 5. Some problems

### 5.1 Non-peripherality

How can pied-piping proceed to the entire IP, if the landing site of the operator is in clause-medial position? Categories are standardly typed in their periphery.

### 5.2 IP-raising

What should be the reasons for IP to raise to SpecCP? Why should exactly a strange guy like IP move, although it is otherwise notoriously unable to do so? And why should it move to Spec*bole*P but not to Spec*je*P?

### 5.3 Freezing

Material that has moved to SpecCP is normally immune to subextraction. Consider German *was-für* splitting with respect to overt subextraction and absorption:

- (21) a. Was<sub>1</sub> glaubst du [ daß der Hans [t<sub>1</sub> für Leute] kennengelernt hat?  
*what think you that the Hans for people come-to-know has*  
 "What kind of people do you think that Hans has come to know?"  
 b. \*Was<sub>1</sub> glaubst du [[t<sub>1</sub> für Leute]<sub>2</sub> (daß) der Hans t<sub>2</sub> kennengelernt hat?  
 c. Wer glaubt [daß der Hans [was für Leute] kennengelernt hat?  
*who believes that the Hans what for people come-to-know has*  
 d. \*Wer glaubt [[was für Leute]<sub>2</sub> (daß) der Hans t<sub>2</sub> kennengelernt hat?

This, however, is precisely not the case in South-Asian languages with FC-CPs:

- (22) a. [tomar beral-ke]<sub>1</sub> amra SObai [ paS-er baRi -r kukur t<sub>1</sub> Bangla  
*your cat -ACC we all side-GEN house-GEN dog*  
 kamRe-che bole] Sune-chilam  
*bite -PTS3 COMP hear -PTS1*  
 "Your cat, we have all heard that the dog from next door has bitten"  
 b. [bas theke]<sub>1</sub> amar didi [Otogulo duronto bacca t<sub>1</sub>  
*bus from my sister so-many uncontrollable children*  
 laphi-ye nam -be bole] bhabe ni  
*jump-PPT descend -FUT3 COMP think3 NEG-PTS*  
 "From the bus, my sister didn't think that so many uncontrollable  
 children would jump off"
- (23) [aa kulatt-il]<sub>1</sub> ayaal [waliya miinu-kal t<sub>1</sub> unt ennə ] parannu Malayalam  
*that pond -LOC he big fish -PL is COMP said* (Hany Babu, p.c.)  
 "In that pond, he said there are big fish"

#### 5.4 Negative Polarity

negative polarity items (NPIs) are normally only licensed under surface c-command, not under reconstruction.

- (24) a. Beans<sub>1</sub> I don't like t<sub>1</sub> A'-movement  
 b. I don't like **any** beans  
 c. \***Any** beans<sub>1</sub> I don't like t<sub>1</sub>
- (25) a. The storm didn't kill **anyone** A-movement  
 b. \***Anyone**<sub>1</sub> wasn't killed t<sub>1</sub>
- (26) a. It doesn't seem that **anyone** would listen  
 b. \***Anyone**<sub>1</sub> doesn't seem t<sub>1</sub> to listen

Data from Bangla and Hindi show, that NPIs can be licensed in *both* directions:

- (27) *Leftwards, simplex clause* (the "unmarked case")  
 a. Sipra ama-ke **ekTu-o** bhalobaS-e **na** Bangla  
*Sipra me little -even loves -3 not*  
 "Sipra doesn't love me at all"

- b. maiN-ne **kisii-ko bhii nahiiN** dekhaa Hindi  
*I -ERG anyone not saw* (U. Lahiri, 1998)  
 "I didn't see anyone"
- (28) *Rightwards, simplex clause* (stranded light NPI; the "marked case")
- a. ami okhane dekh-i **ni kau-ke** Bangla  
*I there see-I not anyone*  
 "I didn't see anyone"
- b. mE yahaaN **nahiiN** jaantaa **kisii-ko bhii** Hindi  
*I here not know anyone* (Mahajan, 1990)
- (29) *Leftwards, complex clause*
- a. ami [Sipra **ekTu-o** ingreji bolte pare bole] bhab-i **ni** Bangla  
*I Sipra little-even English speakcan COMP think-I not*  
 "I didn't think that Sipra can speak any English"
- b. maiN-ne rameS-ko [**ek bhii** aadmii-se baat-ciit karne-se] Hindi  
*I -ERG Ramesh-ACC one even person talk* (U. Lahiri, 1998)  
**mana kiyaa / rokaa**  
*prohibited / prevented*  
 "I didn't keep Ramesh from talking to anyone"
- (30) *Rightwards, complex clause*
- a. ami biSSas kor-i **na** [je Sipra **ekTu-o** ingreji bolte pare] Bangla  
*I belief make-I not that Sipra little-even English speakcan*  
 "I don't believe that Sipra can speak any English" (=6)
- b. amar **Sondeho** ache [je o amader jonno **ekTu-o angul nara-be**]  
*me doubt is that (s)he us for little -even finger move-FUT*  
 "I doubt that he/she will lift a finger for us"
- c. mujhe is baat par **aaScarya** huaa [ki **ek bhii** aadmii Hindi  
*me this fact on surprise be that one even person* (U.Lahiri)  
 tumhaare ghar gayaa]  
*your house went*
- d. mujhe **nahiiN** lagtaa [ki **koi bhii** aaya] Hindi  
*to-me not seems that someone even came* (Bhatia, 1977)  
 "It doesn't seem to me that anyone came"

Under the assumption of a NegP, these facts suggest either (i) two different phrase structures for leftward and rightward licensing (cf. (31a,b)), or (ii) reconstruction:

- (31) a. [<sub>NegP</sub> [<sub>IP</sub> ... NPI ...] Neg<sup>o</sup>] (Neg<sup>o</sup> must c-command up to the subject)  
 b. [<sub>VP</sub> ... t<sub>1</sub> ... V]<sub>2</sub> [<sub>NegP</sub> Neg<sup>o</sup> [... NPI ...]<sub>1</sub> t<sub>2</sub>]

The existence of sentences like (32) falsifies option (i):

- (32) **ke -u** bhab-e **na** [je Sipra **ekTu-o** Sahajj-e aS -be]  
*someone-even think-3 not that Sipra little-even help -LOC come -FUT2*  
 "It is not believed by anybody that Sipra will help even a little"

This leaves option (ii), but option (ii) is not attractive either because (a) the "unmarked cases" would be the reconstruction cases, while the "marked" cases would be the "in-situ" cases; (b) the South-Asian languages would be languages which are systematically in conflict with the constraint that NPIs are (normally) not licensed under reconstruction.

If Neg does not project a NegP but is a feature of the verb's extended projection, it would m-command everything in the span of the extended V-projection, but m-command is not readily compatible with radical antisymmetry. Since Bangla shows certain intricate interactions between the placement of the neg-morpheme and indicative/subjunctive mood (cf. Dasgupta, 2000), a simplistic feature approach seems to be unrealistic.

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