Case, Agreement, Pronoun Incorporation and Pro-Drop in South Asian Languages

Miriam Butt
Universität Konstanz
`miriam.butt@uni-konstanz.de`
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1 Overview

- South Asian languages:
  - have relatively free word order
  - employ a rich system of case marking
  - keep up a rich and varied agreement system
  - delight in pro-drop (of all arguments)
  - have historical evidence for pronominal incorporation
  - can be either morphologically (split) ergative or accusative
- South Asian languages therefore provide an ideal test bed for several strong hypotheses.
- **Findings:** Proposed correlations between pro-drop, agreement, case assignment and pronominal incorporation find no support in South Asia.
- **Proposal:** The data should instead be made sense of in terms of interacting modules (or projections) of grammar, such as that assumed by LFG.
  - Case marking carries a semantic as well as a syntactic load but is not connected to agreement.
  - Agreement must be seen as a possibly redundant wellformedness checker or "linker" of grammatical relations in the sense of Kiparsky (1987, 1988).
  - The ability to pro-drop is linked to the discourse structure of the language.
  - The projection from Argument Structure to grammatical relations is determined via Linking Theory (a version of LFG's Lexical Mapping Theory (LMT)).

2 Background

- South Asian languages include Indo-Aryan, Dravidian, Tibeto-Burman, Dardic and several Pahari (hill) languages.
- These languages are genetically unrelated but have entered into a regional Sprachbund or linguistic area (Masica 1976).
- The Indo-Aryan languages are descended from Sanskrit, one of Latin's sister languages.
- Sanskrit was much like Latin in that it was a primarily inflectional language (case and agreement).
- The modern descendents mix inflections, clitics and periphrastic constructions.

3 Pro-Drop

South Asian languages in general have the ability to pro-drop any and all arguments.

None of these languages have expletives.

Urdu/Hindi (Number and Gender Agreement, also Person)

(1) a. tʊm=ne nadya=ko kʰana di-ya?
you=Erg Nadya.F=Dat food.M.Sg.Nom give-Perf.M.Sg
'Did you give Nadya (some) food?'

ji, di-ya
yes.Polite give-Perf.M.Sg
'Yes, gave.'

Punjabi (Number and Gender Agreement, also Person)

(2) ji, dɪtta
yes.Polite give.Perf.M.Sg
'Yes, gave.'

Bengali (Person Agreement only)

(3) a. hæ̃, di-e-tʃʰ-e
yes give-Part-Perf-3
'Yes, (he) gave.

b. hæ̃, di-e-tʃʰ-i
yes give-Part-Perf-1
'Yes, (I) gave.

Kashmiri (Pronominal Clitics: Person, Number and Case)

(4) raath vuch-n-ay
yesterday saw-3sg-2sg
'He saw you yesterday.' (Bhatt 1999:48)

Pro-drop of all arguments is equally possible in Urdu/Hindi, Punjabi, Bengali, and Kashmiri.
But: The agreement patterns differ in all of these languages.

4 Proposed Correlations

Why should a difference in agreement patterns matter?

- **Pro-Drop and Agreement**
  - The ability to pro-drop is correlated with rich verb agreement (e.g., Rizzi 1986).
  - This correlation was shown not to hold exactly, but the general idea can still be found. For example, Alexiadou and Anagnostopoulou 1998 link pro-drop to the feature [+D], which allows agreement affixes to have independent entries in the lexicon.
  - The notion of indenpendent entries for agreement affixes is correlated with the idea that these affixes stem from pronominal incorporation.
- **Pro-Drop and Pronominal Incorporation**
  - Prononimal incorporation into the agreement system gives rise to the ability of agreement morphology to satisfy a predicate's argument slots (e.g., Jelinek 1984).
- **Case and Agreement**
  - Rizzi 1986: licensing of *pro* is coextensive with nominative Case assignment.
  - Structural Case and verbal agreement are intimately connected as structural Case can be assigned via Agr Positions (Mahajan 1989, 1992 for Hindi in particular).
  - EPP checking is parasitic on Case checking (e.g., Alexiadou and Anagnostopoulou 1998)

In the following sections, these ideas are examined with respect to available data from South Asian languages.

5 Agreement

5.1 Sanskrit

- Person and Number agreement on the verbs.
- Number, Gender and Case agreement on adjectives and participles.

5.2 The Modern Languages

The modern descendents (via the Prakrits and Pāli) display differing agreement systems.

Most involve number, person and gender (but not case) agreement in some distribution over auxiliaries and former participles.

5.2.1 Bengali

Bengali decided to do without gender and number, confining itself to person (Lahiri 2000).

The excerpt from the verbal paradigm in (5) is representative (adapted from Lahiri 2000:77).

(5)

Person		**Pres** (colloquial)	**Past** (colloquial)	**Past Habitual** (colloquial)	**Future**
ɑmi	1	mɑr-i	mɑr-l-ɑm	mɑr-t-ɑm	mɑr-b-o
tui	2FAM	mɑr-iʃ	mɑr-l-i	mɑr-t-iʃ	mɑr-b-i
tumi	2	mɑr-o	mɑr-l-e	mɑr-t-e	mɑr-b-e
ɑpni	2HON	mɑr-en	mɑr-l-en	mɑr-t-en	mɑr-b-en
ʃe	3	mɑr-e	mɑr-l-o	mɑr-t-o	mɑr-b-e
tini	3HON	mɑr-en	mɑr-l-en	mɑr-t-en	mɑr-b-en

mɑr- 'beat'

Alexiadou and Anagnostopoulou (1998:fn29), based on an observation by Holmberg, note that there is some evidence that person agreement could be the ϕ-feature which is the crucial one in terms of EPP checking.

Bengali would seem to be a case in point.

However, Bengali is the exception rather than the rule in South Asia.

5.2.2 Hindi/Urdu

Hindi/Urdu reprensents a more standard type of agreement distribution (for South Asia).

The **future** is the only tense that has an infix which varies according to number and person.

(6) **Urdu Future Paradigm**

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

mar- 'hit'

This irregular inflection appears to stem either from leftovers of the auxiliary *hɛ* 'be' (McGregor 1968:161), or from the original present inflections (Ashwini Deo, p.c. August 2000).

Compare the paradigm for the **present** tense of the modern Urdu verb *ho-* 'be'
(the only verb that has a present tense).

(7) **Present of Urdu *be***

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

ho- 'be'

The **subjunctive** and **imperative** are the only other tenses which show person and number agreement (remnants of the Sanskrit system).

All other parts of the verbal morphological paradigm involve only number and gender agreement. Table (8) shows the "imperfect" (habitual) forms for *mar* 'hit'.

(8) **Urdu Imperfect**

	Singular	**Plural**	**Respect** (ap)	**Familiar** (tum)
M	mar-t-a	mar-t-e	mar-t-e	mar-t-e
F	mar-t-i	mar-t-i	mar-t-i	mar-t-i

mar- 'hit'

All the forms which show number and gender agreement are old participles.

(9) sketches number, person and gender agreement across the verbal paradigm in Urdu.

(9)

Verb Type	**Number and Gender**	**Number and Person**
Past, Perfect, Imperfect, Progressive, Past 'be'	√	—
Imperative, Subjunctive, Non-past 'be'	—	√
Future	√	√

If person marking were indeed crucial for EPP checking, why are the sentences in (10) good?

(10) a. yassin ʃer=ko dekʰ-t-a tʰ-a
Yassin.M.Nom lion.M=Acc see-Impf-M.Sg be.Past-M.Sg
'Yassin used to watch the lion.'

b. yassin=ne ʃer=ko dekʰ-a (hɛ)
Yassin.M.Nom lion.M=Acc see-Perf.M.Sg be.Pres.3.Sg
'Yassin has seen the lion.' (with the auxiliary)
'Yassin saw the lion.' (without the auxiliary)

Questions:

- Should one parametrize according to the differing ϕ-features?
- If so, how can this distribution of ϕ-features across different parts of the verbal system be accounted for systematically? (Beyond a historical explanation.)
- Why is there no consistency across languages which are genetically closely related?

How about the interaction between Case and Agreement?

6 Case and Agreement

- Non-nominative subjects are another areal characteristic of South Asian languages.
- Many languages are morphologically ergative or split ergative.
- NP-splits (e.g., Punjabi) as well as tense/aspect splits (e.g., Hindi/Urdu) can be found.
- Agreement can generally occur with subjects as well as direct objects.
- Again, Hindi/Urdu exemplifies a pattern that many languages follow (e.g., Punjabi, Kashmiri (Bhatt 1999:51), Marathi (Joshi 1993:15)).

6.1 Hindi/Urdu Agreement

The basic generalization for Urdu agreement is that (Mohanan 1994):

- If the subject is nominative, the verb agrees with it ((11a)).
- If the subject is non-nominative and the object is nominative, then the verb agrees with the object ((11b)).
- If the subject and the object are non-nominative, then the verb shows "default" masculine singular agreement ((11c)).

(11) a. **ɑdnan** gari **cɑla-ta** hɛ
Adnan.M.Nom car.F.Nom drive-Impf.M.Sg be.Pres.3.Sg
'Adnan drives a car.'

b. nadya=ne/ɑdnan=ne **gari** **cɑla-yi** hɛ
Nadya.F=Erg/Adnan.M=Erg car.F.Nom drive-Perf.F.Sg be.Pres.3.Sg
'Nadya has driven a car.'

c. nadya=ne gari=ko **cɑla-ya** hɛ
Nadya.F=Erg car.F=Acc drive-Perf.M.Sg be.Pres.3.Sg
'Nadya has driven the car.'

For many South Asian languages, overt morphology seems to block agreement. However, some of the languages find overt case morphology no hindrance to showing agreement.

6.2 Nepali

Nepali has non-nominative ergative and dative (psych predicates) subjects just like Hindi/Urdu. However, the verb agrees with the ergative, unlike in Hindi/Urdu.

(12) raam-le nayõõ lugaa laa-yo?
Ram-Erg new clothes wear-3.Sg.M.Perf
'Has Ram put on the new clothes?'
(Clark 1963:20 as cited by Shibatani and Pardeshi 2001)

6.3 The Typological Perspective

Subbarao 1999 conducts a typological study of agreement in South Asian languages and finds that either

i. the presence of a lexical case marker blocks agreement (e.g., Urdu/Hindi)

ii. the presence of a lexical case marker is obligatory for agreement (e.g., Maithili)

iii. the presence or absence of an agreement marker is of no consequence for agreement (e.g., Mizo, Hmar, Paite)

In order to account for this diverse pattern, Subbarao postulates null agreement checking when there are no strong agreement features.

If Case and Agreement are difficult to correlate in South Asian languages, then how about the proposed connection between agreement, pro-drop and pronominal incorporation?

7 Pro-Drop and Pronominal Incorporation

- Some languages like Bengali have dispensed with most of the agreement system (a popular dialect of Hindi has basically given up on gender agreement as well, which leaves just number in most tenses/aspects).
- Other languages have acquired new agreement morphology.
- Some languages can be shown to have acquired new agreement morphology via pronominal incorporation.
- **However**, there seems to be no real correlation with the ability to pro-drop.

7.1 Pronominal Incorporation

7.1.1 Kashmiri

It is well known that Kashmiri uses pronominal clitics as part of its verbal morphology (e.g., Grierson 1895a, Wali and Koul 1994, 1997, Bhatt 1999), often in alternation with free pronouns.

(13) a. tsɨ chu-kh **su** vucha:n
you-NOM be-2.SG.NOM him-ACC see-PRES.PPL
'You are looking at him.' (Sharma 2001:226)

b. tsɨ chu-kh-**an** vucha:n
you-NOM be-2.SG.NOM-3.SG.ACC see-PRES.PPL
'You are looking at him.' (Sharma 2001:226)

Kashmiri also shows a split ergative distribution with respect to these pronominal clitics (Sharma 2001).

Kashmiri is thus a language in which pro-drop would be expected and is indeed found ((4)).

7.1.2 Further Languages

- Grierson (1895a) takes Kashmiri and compares it with evidence from other languages.
- He concludes that Lahanda and Sindhi show agreement morphology of the same type.
- Grierson traces the agreement clitics/markers back to the incorporation of Sanskrit enclitic pronouns.

Lahanda ("Western Punjabi")

(14) a. kitu-s
do.Part-3.Sg.Obl
'It was done by him.'

a. kitō-vē
do.Part-2.Obl
'It was done by you.'

Sindhi

(15) a. chaḍḍiā̃-ī̃-se
left-3.Sg.Obl-3.Sg
'He gave him up.'

b. chaḍḍiā̃-ī̃-va
left-3.Sg.Obl-2.Pl
'He gave you up.'

7.2 No Immediate Correlation Evident

- Grierson (1895b) reconstructs pronominal incorporation of the same type for
  - Nepali
  - Maithili
  - Assamese
  - Bengali
  - Oṛiya
  - Marathi
- **Hindi/Urdu** and **Punjabi** are not mentioned in this analysis.
- But Bengali, Punjabi and Hindi/Urdu do not differ in their ability to pro-drop.
  (I don't have enough information about the others, but have seen no indications that they differ, except possibly for Marathi.)
- **Therefore:** Pronominal incorporation therefore seems to have nothing to do with the ability of a language to pro-drop.

7.2.1 Marathi

- Joshi 1993 suggests Marathi is not as permissive in terms of pro-drop.
- In (16) the indirect object can only be dropped when it is in the first person.

(16) suma-nı laḍu dı-la
Suma-Erg sweet.M.Sg.Nom give-Part.Masc.Sg
'Suma gave (me/us) a sweet.' (Joshi 1993:74)

- Deo 2001a,b links the appearance of person and number marking in Old Marathi (via pronominal incorporation) as in (17) to the establishment of IP and hence to the establishment of a notion of subject.

(17) māgān jaḷata **kāḍhilo** jauharīm
Earlier burning drag out-PART-1-MAS-SG. lac-house-LOC-SG.
'Earlier, (you) dragged (me) out, burning from inside the lac-house.'
(Dnyāneshwari 11:6, Old Marathi, from Deo 2001b)

- If what Joshi says is right, then it is not clear why pro-drop should possibly be restricted in Marathi.
- Deo (p.c., August 2001) suggests that Marathi does not differ from Hindi with respect to pro-drop (i.e., is not more restrictive).
- If this is right, it is not clear why there is no difference in the ability to pro-drop between Hindi/Urdu (no pronominal incorporation) and Marathi (pronominal incorporation).

7.2.2 Punjabi

Akhtar 1999 describes a number of "argument-replacing morphemes" as in (18).

(18) a. xɑt lɪkʰɪa-**i**?
letter.M.Sg.Nom write-Past-2.Sg
Have you written the letter?' (Akhtar 1999:282)

b. jɑndra kʰʊl gɪ-a **je**?
lock.M.Sg.Nom open go-Past.3.Sg 2.Pl
'Has the lock been opened by you?' (Akhtar 1999:284)

c. pʊtɑr=ne koṭiã pejıã **je**
son.M=Erg jumper.M.Pl.Nom send-Past.M.Pl 2.Pl
'(Your) son has sent jumpers for you (plural).' (Akhtar 1999:284)

- These morphemes are not restricted to core arguments, but also can refer to adjuncts ((18b)) or beneficiaries not specified by the subcategorization frame of the verb ((18c)).
- The historical origin of these morphemes remains to be investigated.
- Hindi/Urdu does not display this phenomenon, but does allow exactly the same range of pro-drop as Punjabi.
- Again, there seems to be no clear correlation between verbal pronominal morphology or clitics and pro-drop.

8 Pro-Drop

8.1 Agreement and Case

Agreement and case are orthogonal to the possibility of pro-drop.

- In (19) (from a Hindi movie), the current topic is nominative 'they'(=some pigeons).
- The overt realization of 'they'(=pigeons) would be **ergative** in (19b) (no verb agreement), but **nominative** in (19c) (verb agreement).

(19) a. [**ye**]$_T$ bʰi mer-i=ki tərã **hɛ̃**
Pron.3.Sg also I.Gen-F.Sg=Gen.F.Sg like be.Pres.Pl
'They$_{topic}$ are also like me.' (Dilwale Dulhania Le Jayenge)

b. jahã **dana** dekʰ-**a**
where seed.M.Sg.Nom see-Perf.M.Sg
'where (they$_{cont.topic}$) see a seed'

c. ʊdɑr ga-**ye** or peṭ bɑr kɑr ʊṛ ga-**ye**
there go-Perf.M.Pl and stomach.M.Sg.Nom fill having rise go-Perf.M.Pl
'there (they$_{cont.topic}$) go and having filled (their) stomach (they$_{cont.topic}$) fly away.'

8.2 An Alternative Perspective: Discourse Considerations

- Butt and King 1997 link pro-drop in Hindi/Urdu to the discourse structure of the language (cf. Grimshaw and Samek-Lodovici 1998 for Italian).

- Based on a study of Hindi film dialogs, Butt and King 1997 propose that only old information such as continuing topics or background information is dropped.

- This rough finding is basically confirmed by Prasad 2000 (on the basis of a corpus study), but within Centering Theory.

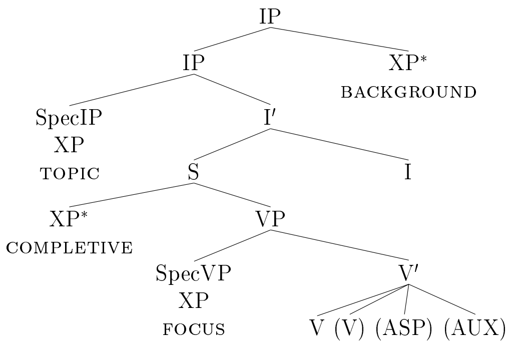
- Prasad 2000 furthermore argues for a tendency to only drop the object if the subject has already been dropped (not accounted for by Butt and King 1997).

8.3 An LFG Analysis

- LFG (Lexical Functional Grammar) architecture — mutually constraining but independent levels of representation.

  - c(onstituent)-structure: word order, constituency
  - f(unctional)-structure: predicate-arguments, head-modifier relationships
  - d(iscourse)-structure: discourse functions

(20)



- This assumes the treatment of phrase structure in King 1995, Bresnan 2001a.

- Specifier positions are for topic and focus.

- Other positions are associated with less prominent discourse functions.

- Assumes a four-way distinction based on two features: [±New] and [±Prom(inent)] (adapted from Choi 1999).

(21) **Discourse Functions**

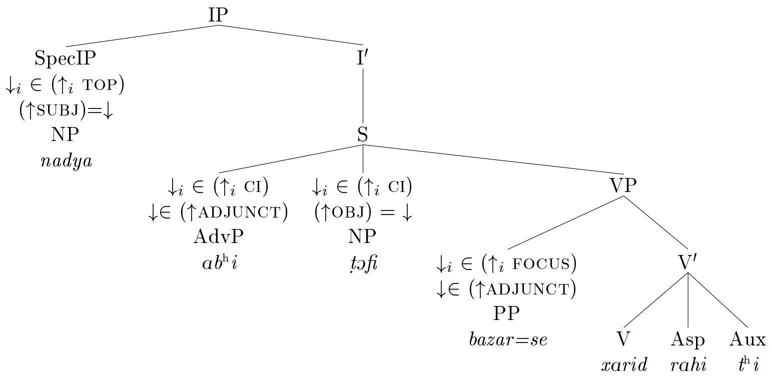
[+New] =	**focus** [+Prom]
	completive information [−Prom]
[−New] =	**topic** [+Prom]
	background information [−Prom]

An Example

(22) [nadya]$_T$ (to) [ɑbʰi]$_{CI}$ [ʈɔfi]$_{CI}$ [bazar=se]$_F$ xɑrid
Nadya.F.Nom indeed just now toffee.F.Nom market.M=from buy

rɑh-i tʰ-i
stay-Perf.F.Sg be.Past-F.Sg
'Nadya was just buying toffee at the market.'

(23)



(24) **Functional structure:**

$$\begin{bmatrix} \text{PRED} & \text{'buy<SUBJ,OBJ>'} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'NADYA'} \end{bmatrix} \\ \text{ADJUNCT} & \left\{ \begin{matrix} \begin{bmatrix} \text{PRED} & \text{'MARKET'} \end{bmatrix} \\ \begin{bmatrix} \text{PRED} & \text{'NOW'} \end{bmatrix} \end{matrix} \right\} \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{'TOFFEE'} \end{bmatrix} \end{bmatrix}$$

Information-structure:

$$\begin{bmatrix} \text{TOPIC} & \left\{ \begin{bmatrix} \text{PRED} & \text{'NADYA'} \end{bmatrix} \right\} \\ \text{FOCUS} & \left\{ \begin{bmatrix} \text{PRED} & \text{'MARKET'} \end{bmatrix} \right\} \\ \text{COMP.INF} & \left\{ \begin{matrix} \begin{bmatrix} \text{PRED} & \text{'NOW'} \end{bmatrix} \\ \begin{bmatrix} \text{PRED} & \text{'TOFFEE'} \end{bmatrix} \end{matrix} \right\} \end{bmatrix}$$

An Example with Pro-Drop

(25) a. [mɛ̃]$_T$ bais baɾf=se yahã rah rah-a hũ
I.Nom twenty-two winter=from here stay stay-Perf.M.Sg be.Pres.1.Sg
'I$_{topic}$ have been living here for 22 years.'

b. rozana ɪs hi sɑɾɑk=se gʊzɑɾ-ta hũ
daily this Emph street.F=from pass-Impf.M.Sg be.Pres.1.Sg
'Daily (I$_{cont.topic}$) go through this street.' (Dilwale Dulhania Le Jayenge)

(26) **Functional structure** for (25a):

$$\begin{bmatrix} \text{PRED} & \text{'live<SUBJ,OBL>'} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{'I'} \end{bmatrix} \\ \text{ADJUNCT} & \left\{ \begin{bmatrix} \text{PRED} & \text{'TWENTY-TWO YEARS'} \end{bmatrix} \right\} \\ \text{OBL} & \begin{bmatrix} \text{PRED} & \text{'HERE'} \end{bmatrix} \end{bmatrix}$$

Functional-structure for (25b):

$$\begin{bmatrix} \text{PRED} & \text{'pass<SUBJ>'} \\ \text{SUBJ} & \begin{bmatrix} \text{PRED} & \text{PRO} \end{bmatrix} \\ \text{ADJUNCT} & \left\{ \begin{matrix} \begin{bmatrix} \text{PRED} & \text{'STREET'} \end{bmatrix} \\ \begin{bmatrix} \text{PRED} & \text{'DAILY'} \end{bmatrix} \end{matrix} \right\} \end{bmatrix}$$

(27) **Information-structure** for (25a) and (25b):

$$\begin{bmatrix} \begin{bmatrix} \text{TOPIC} & \left\{ \begin{bmatrix} \text{PRED} & \text{'I'} \end{bmatrix} \right\} \\ \text{FOCUS} & \left\{ \begin{bmatrix} \text{PRED} & \text{'HERE'} \end{bmatrix} \right\} \\ \text{COMP.INF} & \left\{ \begin{bmatrix} \text{PRED} & \text{'TWENTY-TWO YEARS'} \end{bmatrix} \right\} \end{bmatrix} \\ \begin{bmatrix} \text{TOPIC} & \left\{ \begin{bmatrix} \; \end{bmatrix} \right\} \\ \text{FOCUS} & \left\{ \begin{bmatrix} \text{PRED} & \text{'STREET'} \end{bmatrix} \right\} \\ \text{COMP.INF} & \left\{ \begin{bmatrix} \text{PRED} & \text{'DAILY'} \end{bmatrix} \right\} \end{bmatrix} \end{bmatrix}$$

9 Case

9.1 Semantic Effects of Case

- The agreement pattern in Urdu/Hindi and other South Asian languages could be analzyed via Alexiadou and Anagnostopoulou's 1999 idea of agreement as a PF reflex of either the EPP or formal Case feature checking.
- **However**, overt case in South Asian languages is correlated with semantic effects such as specificity ((28)), volitionality ((29)), or a difference in modality ((30)).

Specificity

(28) a. ram=ne jiraf dek^h-i
Ram=Erg giraffe.F.Nom see-Perf.F.Sg
'Ram saw a/some giraffe.'

b. ram=ne jiraf=ko dek^h-a
Ram=Erg giraffe.F=Acc see-Perf.M.Sg
'Ram saw the (particular) giraffe.'

Volitionality

(29) a. ram k^{h}ãs-a
Ram.M.Nom cough-Perf.M.Sg
'Ram coughed.'

b. ram=ne k^{h}ãs-a
Ram.M=Erg cough-Perf.M.Sg
'Ram coughed (purposefully).'

Modality

(30) a. nadya=ne zu ja-na hɛ
Nadya.F=Erg zoo.Loc go-Inf.M.Sg be.Pres.3.Sg
'Nadya wants to go to the zoo.'

b. nadya=ko zu ja-na hɛ
Nadya.F=Dat zoo.Loc go-Inf.M.Sg be.Pres.3.Sg
'Nadya wants/has to go to the zoo.'

See Butt and King 1999, 2001 for extensive discussions and an alternative theory of case involving the notion of Constructive Case.

9.2 Constructive Case

LFG allows for an analysis whereby case markers can interact positively with the syntax and and the semantics by contributing lexically specified information of their own.

- *Constructive Case* (Nordlinger 1998) allows case markers to specify information about the larger syntactic context in which they are embedded.
- In the Wambaya sentence in (31), for example, 'big dog' is a discontinuous constituent.
- Both parts of the constituent are marked with ergative case.

(31) galalarrinyi-**ni** gini-ng-a dawu bugayini-**ni**
dog.I-ERG 3SG.MASC.A-1.O-NFUT bite big.I-ERG
'The big dog bit me.' (Wambaya, Nordlinger 1998:96)

- The ergative case itself specifies that it is an ergative and that it must be part of a subject for the clause to be grammatical.

(32) a. *ni*
-ERG
$(\uparrow \text{CASE}) = \text{ERG}$
$(\text{SUBJ} \uparrow)$

- Combined with the lexical entry for 'do' this results in the (simplified) f-structure in (33) for 'dog-Erg'.

(33)

$$\left[\text{SUBJ} \left[\begin{array}{ll} \text{PRED} & \text{'}dog\text{'} \\ \text{CASE} & \text{ERG} \end{array} \right] \right]$$

- This can then be unified with the representation projected by the adjective (adjunct) 'big-Erg' (34) to give a coherent analysis of the subject of the clause, as in (35).

(34)

$$\left[\text{SUBJ} \left[\begin{array}{ll} \text{CASE} & \text{ERG} \\ \text{ADJUNCT} & \left[\text{PRED} \;\; \text{'}big\text{'} \right] \end{array} \right] \right]$$

(35)

$$\left[\text{SUBJ} \left[\begin{array}{ll} \text{CASE} & \text{ERG} \\ \text{PRED} & \text{'}dog\text{'} \\ \text{ADJUNCT} & \left[\text{PRED} \;\; \text{'}big\text{'} \right] \end{array} \right] \right]$$

9.3 Urdu

A similar analysis can be applied to Urdu/Hindi case marking (Butt and King 1999, 2001).

(36) shows a sample entry for *ko*, which has the functionality of an accusative (associated with specificity) and of a dative (associated only with goal arguments).

(36) ko
`Possibility 1` $(\uparrow \text{CASE}) = \text{ACC}$
$(\text{OBJ} \uparrow)$
$(\uparrow_{sem-str} \text{ SPECIFICITY}) = +$

`Possibility 2` $(\uparrow \text{CASE}) = \text{DAT}$
$(\text{GOAL} \uparrow_{arg-str})$
$(\text{SUBJ} \uparrow) \vee (\text{OBJ}_{go} \uparrow)$

9.4 Structural Case?

The notion of Structural Case finds no echo in this approach: core arguments are linked to core grammatical functions such as subject and object via LFG's linking theory.

9.5 Linking

In LFG's linking theory grammatical functions and thematic roles are both classified by means of two features: [± r(estricted)], [± o(bjective)].

The core grammatical relations are shown in (37).

(37)

Grammatical Functions	**Features**
SUBJ	[−r, −o]
OBJ	[−r, +o]
OBJ_θ	[+r, +o]
OBL_θ	[+r, −o]

(38) shows an example of linking (based on Bresnan and Zaenen's 1990 overview).

(38)

a-structure	*pound* <	ag	th	> (transitive)
		[−o]	[−r]	
f-structure		SUBJ	OBJ	

Kiparsky 1987, 1988 proposes three basic *linkers* which help determine the linking of thematic roles to grammatical relations.

- Position, Case, Agreement

This is echoed in LFG — case and agreement and positional information may interact with the Linking Principles as needed: when the linking possibilities give rise to ambiguities which can be resolved via case, agreement or positional information.

10 Agreement

10.1 LFG and Agreement

- Unlike GB and Minimalism, LFG does not inherently posit a deep connection between agreement and the determination of case marking and grammatical relations.
- Agreement is treated (language dependently) either as
  1. the instantiation of a pronoun (pronominal incorporation) (e.g., Bresnan 2001b)
  2. wellformedness conditions on the structure
- This may be a feature of the theory.

10.2 Uses of Agreemnt

- Unlike case or pro-drop (or structural position) agreement is semantically inert (cf. Chomsky's 1995 arguments that AGR is not relevant for the LF interface).
- Given the empirical data for South Asian languages, it is not clear what agreement is good for given ideas like *Economy of Expression* (Bresnan 2001a) or Minimalist notions of Economy (Chomsky 1995).
- **Proposal:**
  - See agreement as a potentially redundant wellformedness checker or linker.
  - It seems that languages like to pursue "fail-safe" strategy by keeping around morphology even when it carries no functional or semantic load.
  - I would argue that this is what makes language a robust vehicle for communication — too much emphasis on notions of economy tends to obscure the redundant and very robust nature of language.

11 Conclusion

- A preliminary look at South Asian languages shows that the strong hypotheses which postulate an intimate interaction between pro-drop, agreement, pronominal incorporation and case are not confirmed by South Asian languages.
- An alternative was proposed in which
  - The ability to pro-drop is linked to the discourse structure of the language.
  - Case marking is dealt with via a notion of Constructive Case which allows case markers to interact with the syntax and semantics of a clause actively.
  - Agreement is seen as a possibly redundant wellformedness checker or "linker" of grammatical relations.

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