Verb constructions in Bangla

presented by Lars Hellan

ELKL - 4 TypeCraft Skype session
Trondheim/Agra
February 25, 2016

Bangla constructions log

Edited by Gautam Sengupta and Lars Hellan

Presented here is a small number of Bangla sentences with morphological and construction level annotation. The annotated corpus is found in theTypeCraft database. Below we briefly discuss each of the constructions.

An overview over the word level annotation sets is found on the navigation bar to your left under TypeCraft Tools >> TypeCraft Help >> Gloss tag list and POS tag list. The construction level annotation uses the system *Construction Labeling*. You find an introduction to this system at Verbconstructions cross-linguistically - Introduction. The aim of the collection is to serve as a preliminary for a full *construction profile* (cf. Multilingual Verb Valence Lexicon) for Bangla.

For general discussion of some issues addressed, see Bengali Constructions. A discussion page related to the present page is found at Talk:Bangla constructions log page.

A related page is Vector Verbs of Bengali, by Soma Paul.

1. v-intr-suNom

An intransitive verb with a subject in the nominative case:

তুমি হাঁচলে

"You sneezed"

tumi	hã̆cle		
tumi	hã̆c	l	e
you2SG	sneeze	PAST	2p
PN	V		

2. v-copA-suNom

A copula construction: the subject is marked for the nominative case and the adjective is predicative.

তুমি বোকা

"You are stupid"

tumi	bokā
tumi	bokā
you2SG	stupid

3. v-copA-STATE

A copula construction expressing a state.

জানলাটা খোলা

"the window is open"

jānlāṭa	kholā
janlā ṭā	khol ā
window CL	V>ADJ
N	ADJ

4. v-intr-suNom-CHANGEofSTATE

An intransitive verb expressing a change of state.

আম পেকেছে

"The mango has ripened"

ām	pekeche			
ām	pek	e	ch	e
mango	ripen	CMPL	PRES	3P
N	V			

5. vvSuMover-v1intr-v2intr-MOTIONDOWN

A VV-sequence whose shared subject is *Mover*, and where both verbal parts are intransitive.

আমি পড়ে গেলাম

"I fell down"

āmi	paṛe		gelām	
āmi	poṛ	e	ge	lām
I1SG	fall	CMPL	go	1P
PN	V		V2	

6. v-trNV-suGen_obBaresg-suExp-STATE

আমার মাথা ধরেছে

"I have a headache"

amar	matha	ghoreche			
ama r	matha	dhor	e	ch	e
my POSS	head	catch	CMPL	PRES	3P
PN	N	V			

6. v-trNV-suGen_obBaresg-suExp-STATE

আমার মাথা ধরেছে

"I have a headache"

amar	matha	ghoreche
ama r	matha	dhor e ch e
my POSS	head	catch CMPL PRES 3P
PN	N	V

trNV signifies a construction where the apparent object is idiomatically fused with the verb, so that in a semantic representation there would be only one argument, and the predicate would be a fusion of the verb and the noun predicate. The object is always a bare singular.

7. v-intr-suInf

আমাকে যেতে হবে

"I will have to go/leave"

amake	jete	hObe
ama ke	je te	hO b e
me OBJ	go INF	FUT 3P
PN	V	V

8. cvSuIDALLsuAg-v1tr-v1obAff-v2trNV-EVENTSEQ

('conjoined participle verb series' with shared subject having Agent role throughout, where V1 is transitive with an affected object, and V2 is an 'NV'-transitive xtructure, and where the whole sequence expresses a series of events)

আমি ভাত খেয়ে বাড়ি যাবো

"I will eat rice and go home"

ami	bhat	khee	baRi	jabo
ami	bhat	khe e	baRi	ja b o
I1SG	rice	eat CMPL	home	go FUT 1P
PN	N	V	N	V

9. cv-v1intr-v1suTh-v2vvSuMover-v2v1intr-v2v2intr-EVENTSEQ

(cv-series whose first part is intransitive, and whose second part is a vv-sequence each part of which is intransitive, and with an agentive subject)

আমি চেয়ার ভেঙে পড়ে গেলাম

"The chair having broken I fell down"

9. cv-v1intr-v1suTh-v2vvSuMover-v2v1intr-v2v2intr-EVENTSEQ

(cv-series whose first part is intransitive, and whose second part is a vv-sequence each part of which is intransitive, and with an agentive subject)

আমি চেয়ার ভেঙে পড়ে গেলাম

"The chair having broken I fell down"

ami		cear		bheMe		poRe		gelam	
ami		cear		bheM	e	poR	e	ge	lam
1SG		chair		break	CMPL	fall	CMPL	go	1P.PAST
PN		N		V		V		V2	

Notice that unlike the previous case, the subject of V1 and V2 of this cv are *not* identical.

10. cvSuIDALLsuAg-v1tr_v1obTh-v2tr_v2obAff-EVENT_INSTR

(cv series with identical, agentive subjects, whose over-all meaning is an event in which the first V expresses an *instrument*)

আমি ছুরি দিয়ে আপেল কাটবো

"I will cut the apple with a knife"

ami		churi		die		apel		kaTbo	
ami		churi		di	e	apel		kaT	b	o
1SG		knife		give	CMPL	apple		cut	FUT	1P
PN		N		V		N		V		

11. v-trScpr-suGen_scObNrg-suExp_obTh-PSYCHSTATE

(transitive with a secondary predicate, which is predicated of the object, which in turn is a non-argument, i.e., not a semantic argument relative to the verb (but relative to the secondary predicate))

আমার ওকে ভালো লাগে

"I like him"

amar		oke		bhalo		lage			
ama	r	o	ke			lag	e		
1SG	GEN	3SG	OBJ	good		feel	3P.HAB		
PN		PN		ADJ		V			

12. v-tr-obEqInf

(transitive whose object is an infinitive with 'equi'-reading, i.e., an understood subject identical to the matrix subject)

আমি বাড়ি যেতে চাই

"I want to go home"

12. v-tr-obEqInf

(transitive whose object is an infinitive with 'equi'-reading, i.e., an understood subject identical to the matrix subject)

আমি বাড়ি যেতে চাই

"I want to go home"

ami	baRi	jete	cai
ami	baRi	je te	ca i
1SG.NOM	house	go INF	want 1P.HAB
PN	N	V	V

13. v-trScpr-scObNrg_scBareinf

আমি ওকে যেতে দেখলাম

"I saw him go/leave"

ami	oke	jete	dekhlam
ami	o ke	je te	dekh lam
1SG	3SG	go INF	see 1P.PAST
PN	PN	V	V

14. vCaus-trLghtOblCs-suCsr_oblCsee_oblV

(the head is a verb whose form includes a causative formative; the construction is of type 'transitive light' plus an oblique constituent, where the subject is the Causer and the oblique expresses the Causee, and where the head of the oblique is a *verb*)

আমি ওকে দিয়ে কাজ করাচ্ছি

"I am making him work (for me)"

ami	oke	die	kaj	kOracchi
ami	o ke	di e	kaj	kOr a cch i
1SG	3SG OBJ	give CMPL	work	do CAUS CONT 1P.PRES
PN	PN	V	N	V

trLght has the definition 'transitive light verb whose complement is an NP expressing an event-type performed (or in other ways operated on) by the subject.' (Ex. Eng.: *he makes progress*.) The combination N - V is here not idiomatic, hence not an instance of **trNV**.

15. v-tr-obDECL

আমি দেখলাম যে ও কাজ করছে

"I saw that he was working"

ami	dekhlam	je	o	kaj	korche

(Odia)
imperfective-visualEvidence--serialVerbConstruction-adverbPhrase:manner-perception-NP+ADVPpred

ଧିରେ ଧିରେ ପାଣିର ସ୍ତର ଉପରକୁ ଉଠିବାକୁ ଲଗିଲା।
"the level of water started rising slowly"

ଧିରେ	ଧିରେ	ପାଣିର		ସ୍ତର
ଧିରେ	ଧିରେ	ପାଣି	ର	ସ୍ତର
slow.REDP	*slow*.REDP	*water*.SG	POSS	*level*.SG.NOM
ADVm	ADVm	N		Nbare

ଉପରକୁ	ଉଠିବାକୁ	ଲାଗିଲା	
ଉପର	କୁ ଉଠିବାକୁ	ଲାଗିଲା	
up.LOC	*to* *rise*.INF	*start*.3SG.NOM.PAST	
ADVplc	V1	V2	

Some glimpses of how TC grammar specifications can be used

We have illustrated how linguists can employ TC for various levels of specification.

As has been mentioned, TC allows *import* from external sources as well as *export* to other media, both automatic and semi-automatic.

For purposes of grammar research, the semi-automatic facilities may often be the most interesting. We here mention a couple.

Uses of the ’string’ notation

Valency profiles are lists of strings of the format illustrated, enumerating *valency frames* of a language.

Test suites paired with valency profiles can declare which valency frames the grammar ascribes to the language.

Through valency profiles we can start building ’bar-codes’ for languages, and add a level to language comparison and typology.

Example, for *Ga*:

http://typecraft.org/tc2wiki/Ga_Valence_Profile

(with links to annotated examples)

Valency profile for Ga, excerpt

v-ditr-suAg_obTrgt_ob2Content-COMMUNICATION
v-ditr-suAg_iobRec_obTh-TRANSFER
v-ditr-suAg_obTrgt_ob2Loc-COMMUNICATION
v-ditr-suAg_iobTrgt_obThmover-COMMUNICATION
v-ditr-suAg_obAff_ob2Instr-CUTTING
v-ditr-suAg_obLoc_ob2Res-CUTTING
v_hab-ditr-suNrg_ob2DECLcmp-obSens_ob2Thsit-COGNITION
v-ditr-obPostp-suAg_obEndpt_ob2Th-PLACEMENT
v-ditr-obPostp-suAg_obLocus_ob2Instr-CARETAKING
v-ditr-obPostp-suAg_obLocus-ob2Thmover-REMOVAL
v-ditr-obPostp_ob2DECLcmp-suAg_obLoc_ob2Thsit-COGNITION
v-ditr-obUnif-suAgsens_iobTrgt_obTh-PERCPT
v-ditr-obUnif-suAgsens_iobTrgt_obContent-EMOTION_DIRECTED
v-ditr-ob2Unif-suIDobSpec_obPostp-suAgsens_ob2Locus_obTh-PERCPT
v-ditrVid-suIDob2SpecSpec_obIDvidObSpec_ob2SpecPostp-suAg_obTrgt-ob2Th-vidObLoc-REMOV

A sentence like ***He ate the cake*** is *transitive*, has an *agent* subject, an *incrementally affected* object, and the situation type (Aktionsart) *accomplishment*. An AVM expressing this can be as follows:

$$\begin{bmatrix} \text{HEAD verb} \\ \text{GF} \begin{bmatrix} \text{SUBJ} \left[\text{INDX } \boxed{1}\left[\text{ROLE agent}\right]\right] \\ \text{OBJ} \left[\text{INDX } \boxed{2}\left[\text{ROLE aff-increm}\right]\right] \end{bmatrix} \\ \text{ACTANTS} \begin{bmatrix} \text{ACT1 } \boxed{1} \\ \text{ACT2 } \boxed{2} \end{bmatrix} \\ \text{SIT accomplishment} \end{bmatrix}$$

V-tr-suAg_obAffincrem-ACCOMPLISHMENT

v **<->** [HEAD verb]

tr **<->**

$$\left[\begin{array}{l}\text{GF}\left[\begin{array}{l}\text{SUBJ}\left[\text{INDX}\ \boxed{1}\right]\\ \text{OBJ}\left[\text{INDX}\ \boxed{2}\right]\end{array}\right]\\ \text{ACTANTS}\left[\begin{array}{l}\text{ACT1}\ \boxed{1}\\ \text{ACT2}\ \boxed{2}\end{array}\right]\end{array}\right]$$

suAg **<->** [GF [SUBJ [INDX [ROLE agent]]]]

obAffincrem **<->** [GF [OBJ [INDX [ROLE aff-increm]]]]

ACCOMPLISHMENT **<->** [SIT accomplishment]

Examples of valency ‘banks’

FrameNet (https://framenet.icsi.berkeley.edu/fndrupal/; (also other languages are developing their FrameNet versions.), VerbNet and PropBank (http://verbs.colorado.edu/~mpalmer/projects/verbnet.html), The Erlangen Valence Patternbank (http://www.patternbank.uni-erlangen.de/cgi-bin/patternbank.cgi?do=introtxt), Hanks’ Corpus Pattern Analysis (http://nlp.fi.muni.cz/projects/cpa).

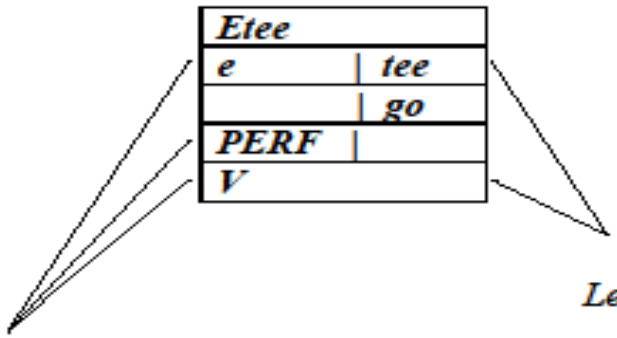
For German, Evalbu (http://hypermedia2.ids-mannheim.de/evalbu/), Wortschatz (http://wortschatz.uni-leipzig.de/), and GermaNet (http://www.sfs.uni-tuebingen.de/lsd/verb_frames.shtml); for Czech Vallex (http://ucnk.ff.cuni.cz) and VerbaLex; for Polish, Walenty (http://clip.ipipan.waw.pl/Walenty)

As multilingual valence resources, ContraGram (http://www.contragram.ugent.be/), The Leipzig Valency Classes project (ValPaL: http://www.eva.mpg.de/lingua/valency/index.php)

http://regdili.hf.ntnu.no:8081/multilanguage_valence_demo/multivalence

http://typecraft.org/tc2wiki/Multilingual_Verb_Valence_Lexicon

From TypeCraft morphological gloss via XML to Grammar:



Lexical entry:

tee-v := v-lxm & [ORTH <"tee">,
ACTNTS.PRED tee_rel].

Inflectional rule:

verb-Perf_irule := %prefix (* e) word &
[ACTNTS.AKTRT perf, DTR < v-lxm >].

Thank you for your attention!