The Structure of Hindi Long Distance Agreement (LDA)

"The term 'long distance agreement' is a misnomer." Mahajan 1989

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Long Distance Agreement (LDA)

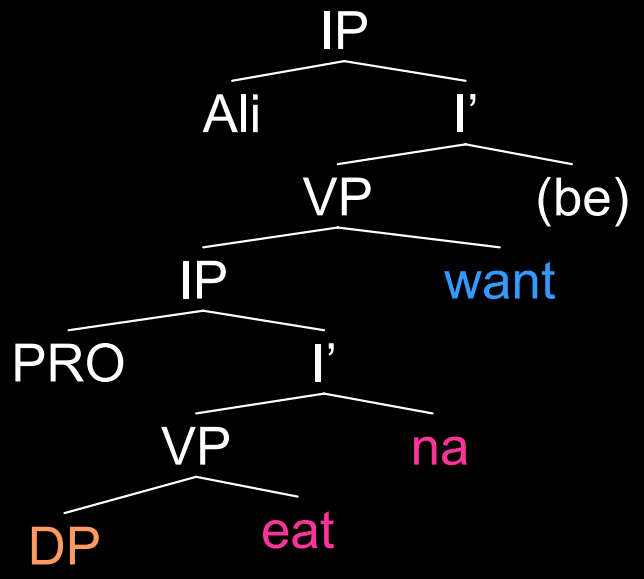
- Hindi Long Distance Agreement (Mahajan 1989, Butt 1995, Boeckx 2004, Bhatt 2005)
  - The object of the lower verb shares its agreement highest verb.

Ali ne [roṭi khaani] chaahi
Ali=ERG bread eat want
'Ali wanted to eat bread.'

3 Components of Hindi LDA (to be revised)

- Higher verb: chaahi ‘want’
- Lower verb: khaani ‘eat’
- DP Object: roṭi ‘bread’

Ali ne [PRO roṭi khaani] chaahi hai/thi
Ali=ERG bread eat want (present/past)
‘Ali (has/had) wanted to eat bread.’



The goal of this lecture

- Long Distance Agreement has two components
  - “agreement” and
  - “long distance” i.e. the domain of the agreement
- Previous literature has focused on agreement mechanisms.
- This lecture will focus on the structure of LDA.
  - A number of phenomena show the same domain as LDA.
  - What is this domain?

Road Map

- Description of Hindi Long Distance Agreement (Boeckx 2004)
- Previous proposals for Agreement Mechanisms and how LDA played a role
- Situating Hindi LDA in the bigger picture
- Description of Hindi clause structure
- Problem of Restructuring verbs like *chaahi* 'want'
- Problem of Non Finite verbs like *khaani* 'to eat'

The Road is Long....

- Problem of the perfect, why does the perfective/ergative subjects trigger LDA?
- Problem of the object's interpretation, does the object move or not?
- Problem of be, when is it required, impossible and optional?
- Problems of data quality, Long Distance Agreement in Hindi and Icelandic are rare and unnatural

Where we're heading:
Which mapping is Direct?

Semantic Structure

Surface morphemes

Indirect mapping

Direct mapping

Indirect mapping

Direct mapping

Syntactic Structure

Previously
Recently

Hindi Long Distance Agreement

Description

Verbs which allow Long Distance Agreement

Crosslinguistically:

be, seem, must, want, try, dare, forget, intend, forbid, recommend, allow, manage, fail

In Hindi:

be, want, come (to know)

1. Want (Mahajan 1989)

Ali=ne	chitt^{h}-i	lik^{h}-n-i	chaah-y-i	(hai/t^{h}-i)
Ali.MSg=ERG	letter-Fsg	write-NonFin-Fsg	want-Perf-Fsg	be.NonPast-3sg/be.Past-Fsg

'Ali has/had wanted to write letters.'

2. Come (Davison 1981)

Ali=ko	citt^{h}-i	lik^{h}-n-i	aa-y-i	(hai/t^{h}-i)
Ali.MSg=DAT	letter-Fsg	write-NonFin-Fsg	come-Perf-Fsg	be.NonPast-3sg/be.Past-Fsg

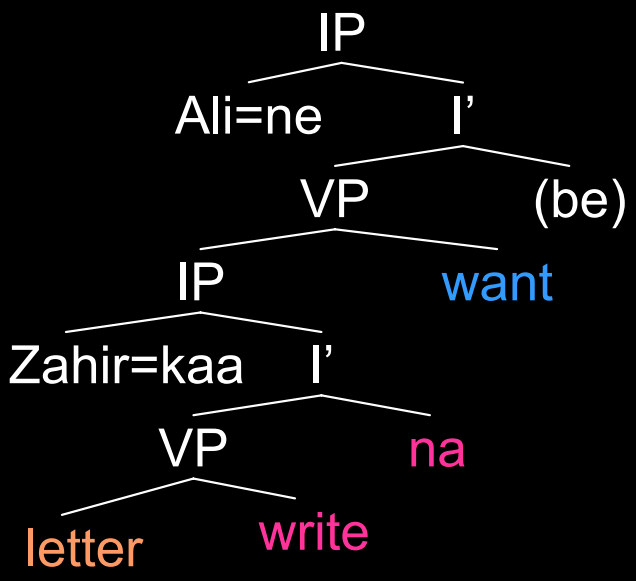
'Ali has/had known how to write letters.'

LDA does not cross an intervening potential goal

*Ali=ne Zahir=kaa chitt^{h}-i lik^{h}-n-i chaah-y-i

Ali.MSg=ERG Zahir.Msg=Gen letter-Fsg write-NonFin-Fsg want-Perf-Fsg

'Ali wanted Zahir to write letters.'



LDA doesn't cross a CP boundary

For (semi)-independent reasons this is difficult to show in Hindi, instead we turn to Icelandic

Mér	virðist/*virðast	[að	þeir	lesi	bókina.]
me.DAT	seem.3sg/*3pl	that	they.Nom	read	book.the.ACC

'It seems to me that they read the book.' (Boeckx 2004)

LDA occurs prior to Displacement

LDA occurs prior to scrambling the object out of the embedded clause:

chitt^{h}-i	Ali=ne	[	t	lik^{h}-n-i	chaah-y-i	]
letter-Fsg	Ali.MSg=ERG		t	write-NonFin-Fsg	want-Perf-Fsg	

'LETTERS Ali wanted to write.'

Hindi LDA is Optional

1. LDA

   Ali=ne chitt^{h}-i lik^{h}-n-i chaah-y-i
   Ali.MSg=ERG letter-Fsg write-NonFin-Fsg want-Perf-Fsg
   'Ali wanted to write letters.'

2. No LDA (Instead Default Agreement)

   Nadya=ne chitt^{h}-i lik^{h}-n-aa chaah-y-aa
   Nadya.FSg=ERG letter-Fsg write-NonFin-Msg want-Perf-Msg
   'Nadya wanted to write letters.'

Hindi LDA is "Parasitic" (in some dialects)

Some Hindi dialects require the agreement to present on both verbs, or not at all.

These are referred to as "parasitic" as the higher agreement is described as parasitic on the lower agreement.

Only embedded agreement

*Ali=ne	chiṭṭʰ-i	likʰ-n-i	chaah-y-aa
Ali.MSg=ERG	etter-Fsg	write-NonFin-Fsg	want-Perf-Fsg

'Ali wanted to write letters.'

These are the dialects which are considered theoretically interesting.

Why is LDA Theoretically Interesting

and Hindi parasitic LDA in particular...

Revisions to Agreement in the Syntax

- Spec-head
  - French participial agreement
- Agree
  - English Long Distance Agreement
- AGREE
  - Hindi Long Distance Agreement

Latter on, we'll see that all three have common properties.

Early Syntactic Accounts of Agreement: The Spec-Head Relationship

- French Participial agreement is only possible with displaced objects which proceed the verb.
- Kayne (1989) argued the objects move through a Spec-Head relationship with the participle in the course of the derivation

a. No agreement when the object follows the verb

Jean	a	vu-*e	la fille
Jean.MSg	has	seen-*Fsg	the girl

'Jean saw the girl.' Kayne (1989)

b. Pronominal Clitics, the object clitic moves over the verb

Jean	l'a	vu-e	t
Jean.MSg	her=has	seen-Fsg	t

'Jean saw her.' Kayne (1989)

c. Wh-Question, Object moves over the verb

Quelle fille	Jean	a(-t-il)	vu-e	t
which girl	Jean.MSg	has=he	seen-Fsg	t

'Which girl did Jean see.' Kayne (1989)

Agree: Probe + Active Goal

- English Long Distance Agreement shows no sign of movement, so the Spec-Head relationship cannot be maintained
- Chomsky (2000) reformulated agreement to be a feature checking relation between a probe (the verb) and a goal (the object). Each checks the others uninterpretable features.

English Long Distance Agreement: No movement

There seem-Ø/seem-*s to be two men in the boat.

Expl.3sg seem-3pl/seem-3sg be.inf men.pl

The Spec-Head phenomena is now captured by two separate procedures

1. Agree
2. Movement to satisfy the EPP

AGREE: Probe + Goal

- Bhatt 2005 reformulates Chomsky's Agree, removes the Activity Criterion (that the Goal's features be active) is needed to trigger movement to satisfy the EPP, but not for agreement.
- Now Goals can agree with multiple probes.

Hindi LDA: multiple probes agree with one goal

Ali=ne	chitt^{h}-i	lik^{h}-n-i	chaah-y-i
Ali.MSg=ERG	letter-Fsg	write-NonFin-Fsg	want-Perf-Fsg

'Ali wanted to write letters.'

Situating LDA:
Why is LDA a theory changer?

- Clause Size
- Other Long Distance Phenomena

Complements

- Typical complements are DPs
  - John ate [the bread].
- Some verbs take DPs and PPs
  - John put [the bread] [into a basket].
- Other verbs take a Proposition (State of Affairs)
  - I complained [that John ate the bread].
  - I asked [if John ate the bread].
  - I think [John ate the bread].

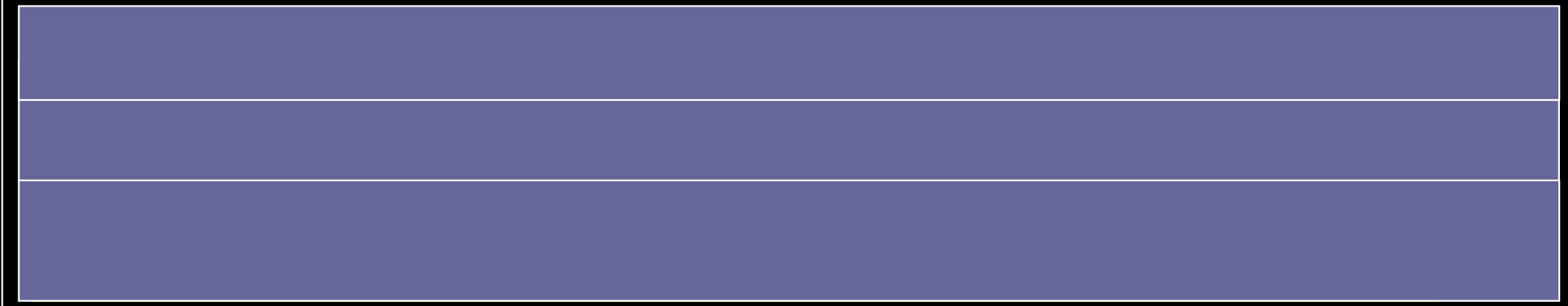
Embedded propositions vary by size and properties both crosslinguistically, and within the lexicon of one language.

The size of English propositional complements

Verbs which appear to take clausal/propositional complements

She complains/murmurs that he steals her toys.

She wonders/inquires if he steals her toys.



He is stealing her toys.

He has stolen her toys.

The toys were stolen.

The Fuzzy Middle

- Even though both (1) and (2) technically contain two verbs, everyone agrees:
  - Auxiliaries are Monoclausal
    1. He is stealing her toys.
  - Lexical verbs are Biclausal
    2. She complains that he steals her toys.
- Specialists on different language families/regions have coined their own term for the monoclausality of the "Fuzzy Middle"
  - "One person's complex predicate or compound verb is another person's serial verb, composite predicate, auxiliary construction, or even a control construction." (Butt 2003)

Long Distance Agreement is somewhere in this crosslinguistic "fuzzy middle"

Some keywords for the Fuzzy Middle

- Serial Verbs
  - (Asian, Oceanic, Native American, West African)
- Complex Predication
  - (European, Asian, Oceanic, Native American, West African)
- Restructuring
  - (Romance, Germanic)
- Clause Union
  - (Germanic, Finno-Ugric)
- Verb Clusters
  - (Germanic)
- Light Verbs
  - (Indian-Aryan)

Where is Long Distance Agreement?

- If we take all verbs to indicate a clause
  - "long distances" are relations over what linguists originally considered to be two clauses.
  - With more crosslinguistic data we see that there is a fuzzy middle between monoclausality and biclausality which needs further elaboration.

"The term 'long distance agreement' is a misnomer." Mahajan 1989

What constitutes “long distance”?

Long Distances

- Long Distance Agreement
- Long Distance Clitic Climbing
- Long Distance Argument Movement (A-movement)
- Long Distance non Argument movement (A-bar movement)
- Long Distance Reflexives
- Long Distance Negative Polarity Item Licensing

Are all “long distances” the same?

- Roughly, No:
  - Agreement, clitic climbing, argument movement crosslinguistically cant go over C°
  - Topicalization/Wh-movement and Binding vary crosslinguistically whether they can go over C°

It appears that long distances are relativized to the relation and the level of the grammar where its evaluated.

“Argumental” Long Distance	Agreement Clitic climbing Argument movement Some Reflexives
“Operator” Long Distance	Topic/wh-movement/NPIs
“Reference Theory” Long Distance	Some Reflexives/Binding

Tests for “Argumental” Long Distance

The tests

- No intervening goal
- No intervening CP boundary
- Relation (still) holds after overt displacement
- When the relation holds the object is specific, non-specific when the relation doesn’t hold

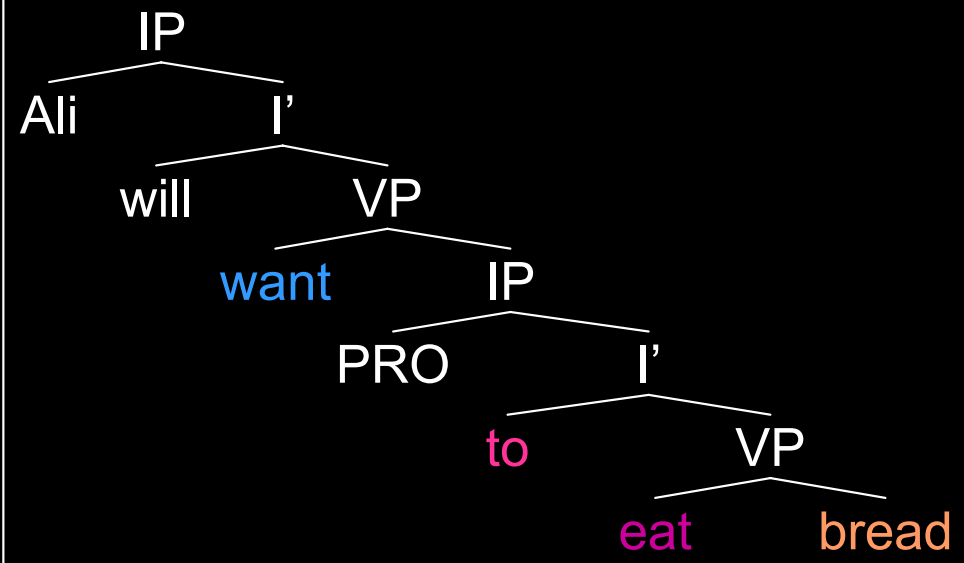
The following phenomena produce the same results on the tests we applied earlier to Hindi LDA

- Long Distance Clitic Climbing
- Long Distance A-Movement (argument movement)
- Long Distance Agreement
- (Long Distance Negative Polarity Item Licensing)
- (Long Distance Reflexives)

Handy Templates of "Argumental" Long Distance (to be revised)

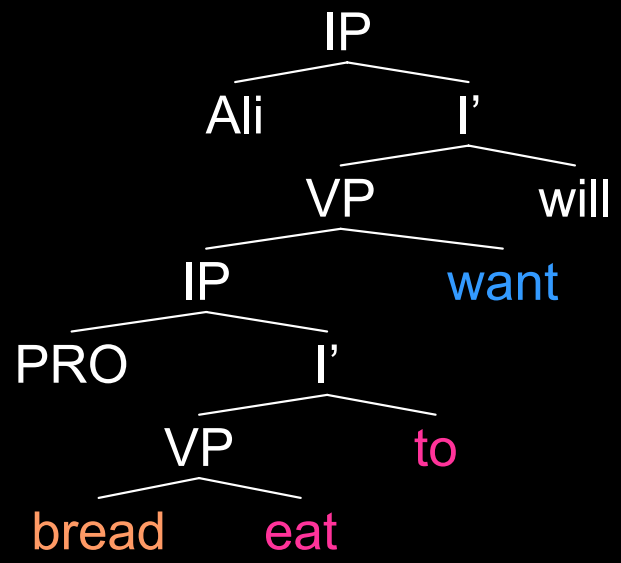
SVO

Ali (will) want [PRO to eat bread].



SOV

Ali [PRO bread to eat] want (will).



Long Distance Clitic Climbing

- French Clitic Climbing (Rosen 1989)
  - The object clitic of the lower verb "climbs" to be in front of the highest verb.

1. Jean a fait [partir Marie]
   Jean has made [go Marie]
   'Jean made Marie go.'
2. Jean l' a fait [partir t]
   Jean her has made [go t]
   'Jean made her go.'
3. Jean a entendu [Pierre parler à Marie]
   Jean has heard [Pierre talk to Marie]
   'Jean heard Pierre talk to Marie.'
4. *Jean l' a entendu [Pierre parler t]
   Jean her has heard [Pierre talk t]
   'Jean heard Pierre talk to her.'
5. Jean a entendu [Pierre l' parler t]
   Jean has heard [Pierre her talk t]
   'Jean heard Pierre talk to her.'

- Italian Clitic Climbing (Wurmbrand 2004)
  - The object clitic of the lower verb "climbs" to be in front of the highest verb.

5. Anna lo voleva [PRO vedere t]
   Anna him wanted-1sg [see t]
   'Anna wanted to see him.'

Long Distance A-Movement

Necessary Background:

- A-movement = Movement to an **A**rgument position.
- German embedded “that clauses” show the basic order SOV in embedded clauses

- German Long Passives (Wurmbrand 2004)
  - The object of the lower verb becomes the subject of the the highest verb.

dass der Traktor	[PRO t	zu repaireren]	versucht	wurden
that the-NOM tractor	[t	to repair]	try	was

lit. ‘that the tractor was tried to be repaired.’

What do they have in common?

- They appear to be situations where the object is moved (overtly or covertly) in front of the verb
- This is argued to be result in specificity where the object scopes over another operator due to the (overt or covert) movement
- Other Phenomena where the object scopes over the verb:
  - Icelandic Object Shift
  - French Participial agreement
  - Specific inanimate case marked indefinites in Spanish

Object scope shows that “argumental” long distances require a more sophisticated understanding of the syntax-semantics interface.

Delaying the Commonality: Argumental Long Distance and Object Shift

In order to unify these phenomena we need to take their semantics into account

- Today, we'll build the syntactic structure to our best abilities using just syntax...
- Then we'll add some semantics to motivate the variation of covert/overt operations in their
  - typical distances and
  - "long" distances

Building a Syntactic Structure for Hindi LDA

- Background:
  - Hindi Agreement
  - Hindi Clause Structure
- Issues in Clause Structure:
  - Intensional verbs
  - NonFinite verbs

General Properties of Hindi Agreement (Kachru 1980)

1. If the subject is unmarked, the verb agrees with the subject

Laṛk-aa	roṭ-i	khaa	rah-aa	h-ai/t^h-aa
child-Msg=Erg	bread-Fsg	eat	progressive-Msg	be.NonPast-3sg/be.Past-Msg

'The/a child is/was eating bread.'

2. In case the subject is marked with a postposition, the verb agrees with the next lower noun phrase that is unmarked (typically the object)

Ali=ne	roṭ-i	khaa-y-i	h-ai/t^h-i
Ali.Msg.Obl=Erg	bread-Fsg	eat-Perf-Fsg	be.NonPast-3sg/be.Past-Fsg

'Ali has/had eaten bread.'

3. In case there are no unmarked noun phrases in the sentence, the verb is in the default 3rd person masculine singular form.

Mira=ne	Saima=ko	bulaa-y-aa	hai/t^h-aa
Mira.Fsg.Obl=Erg	Saima.Fsg.Obl=Dat	called-Perf-Msg	be.NonPast-3sg/be.Past-Msg

'Mira has/had called Saima.'

Hindi Verbal Agreement Manifestation : [Person,Number] or [Gender,Number]

1. NonPast auxiliary agrees in person

roʈ-i	khaa	=h-ũ
bread-Fsg	eat	be.NonPast-1sg

'I'll eat bread?'

roʈ-i	khaa	=h-o
bread-Fsg	eat	be.NonPast-2sg

'Eat bread!' (familiar)

roʈ-i	khaa	=h-ẽ
bread-Fsg	eat	be.NonPast-Pl

'Eat bread!' (formal)

2. Past auxiliary agrees in gender

Laɽk-ii	kel-aa	khaa-t-i	t^h-i
child-Fsg	bananna-Msg	eat-Hab-Fsg	be.Past-Fsg

'The/a girl used to eat banana.'

Laɽk-aa	roʈ-i	khaa-t-aa	t^h-aa
child-Msg	bread-Fsg	eat-Hab-Msg	be.Past-Msg

'The/a boy used to eat bread.'

3. Aspect agrees in gender

Laɽk-ii	kel-aa	khaa-t-i	t^h-i
child-Fsg	bananna-Msg	eat-Hab-Fsg	be.Past-Fsg

'The/a girl used to eat banana.'

Laɽk-aa	roʈ-i	khaa-t-aa	t^h-aa
child-Msg	bread-Fsg	eat-Hab-Msg	be.Past-Msg

'The/a boy used to eat bread.'

4. Progressive agrees in gender

Laɽk-ii	kel-aa	khaa rah-i	t^h-i
child-Fsg	bananna-Msg	eat prog-Fsg	be.Past-Fsg

'The/a girl is was eating banana.'

Review: Long Distance Agreement

The object of the lower verb shares its agreement highest verb.

Ali=ne [roṭ-i khaa-n-i] chaah-y-i
Ali=ERG bread-Fsg eat-NonFin-Fsg want-Perf-Fsg
'Ali wanted to eat bread.'

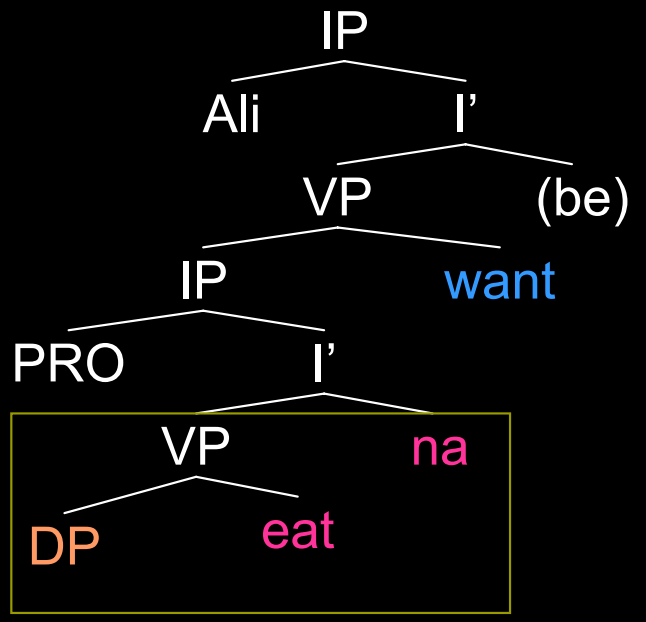
Ali [roṭ-i khaa-n-aa] chaah-t-aa
Ali bread-Fsg eat-NonFin-Msg want-Hab-Msg
'Ali wants to eat bread.'

Key Components of Hindi LDA

- Higher verb: chaahi ‘want’
- Lower verb: khaani ‘eat’
- DP Object: roṭi ‘bread’

Lets find out what can be inside the lower IP

Ali ne [PRO roṭi khaani] chaahi hai/thi
Ali=ERG bread eat want (present/past)
‘Ali (has/had) wanted to eat bread.’



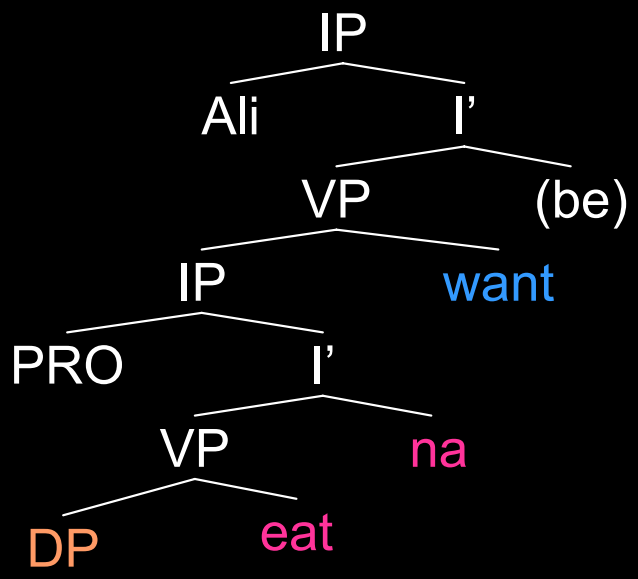
Hindi Verbal Morphology:

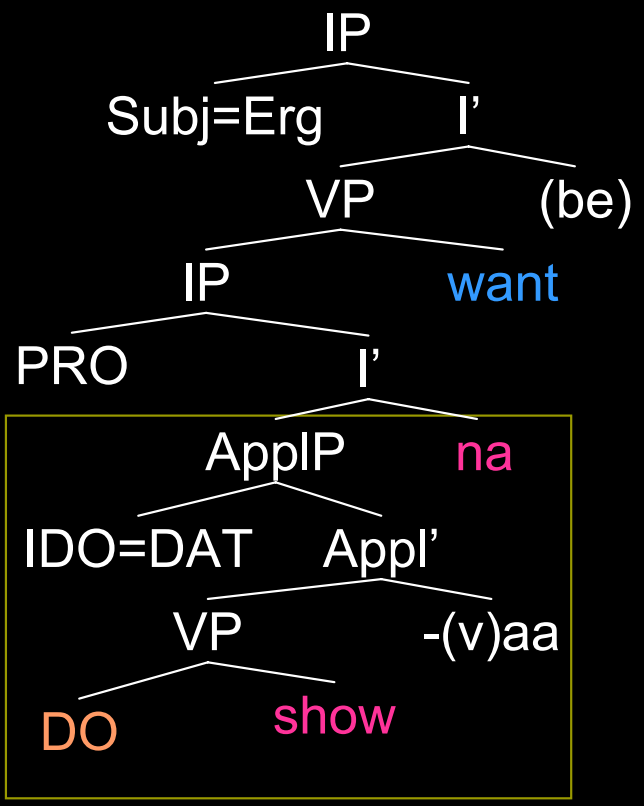
1. Applicative suffix –(v)aa

a. Mira			bol-t-i		t^h-i
Mira.Fsg			speak-Hab-Fsg		be.Past-Fsg
'Mira used to speak (a lot).'					
b. Mira	Saima=ko		bul-aa-t-i		t^h-i
Mira.Fsg	Saima.Fsg.Obl=Dat		speak-Appl-Perf-Fsg		be.Past-Fsg
'Mira used to call to Saima.'					
c. Mira		filam	dek^h-t-i		t^h-i
Mira.Fsg		film.Fsg	see-Hab-Fsg		be.Past-Fsg
'Mira used to watch films.					
d. Mira	Saima=ko	filam	dek^h-aa-t-i		t^h-i
Mira.Fsg	Saima.Fsg.Obl=Dat	film.Fsg	see-Appl-Perf-Fsg		be.Past-Fsg
'Mira used to show films to Saima.'					
e. Ali=ne	Hassan=ko	filam	dek^h-aa-n-i	chaah-y-i	t^h-i
Ali.Msg=Erg	Hassan.Msg.Obl=Dat	film.Fsg	see-Appl-NonFin-Fsg	want-Perf-Fsg	be.Past-Fsg
'Ali had wanted to show films to Hassan.'					

ApplP vaa in (b) and (d) goes next to the verb root and adds an additional argument to which the action is directed/applied. ApplP can be inside the naP in (e).

Hindi Clause Structure (revising)





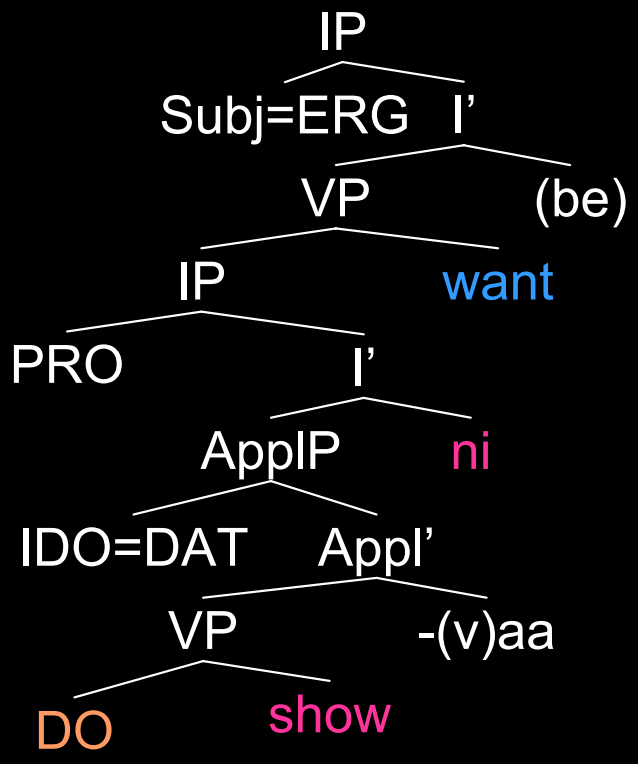
Hindi Verbal Morphology:

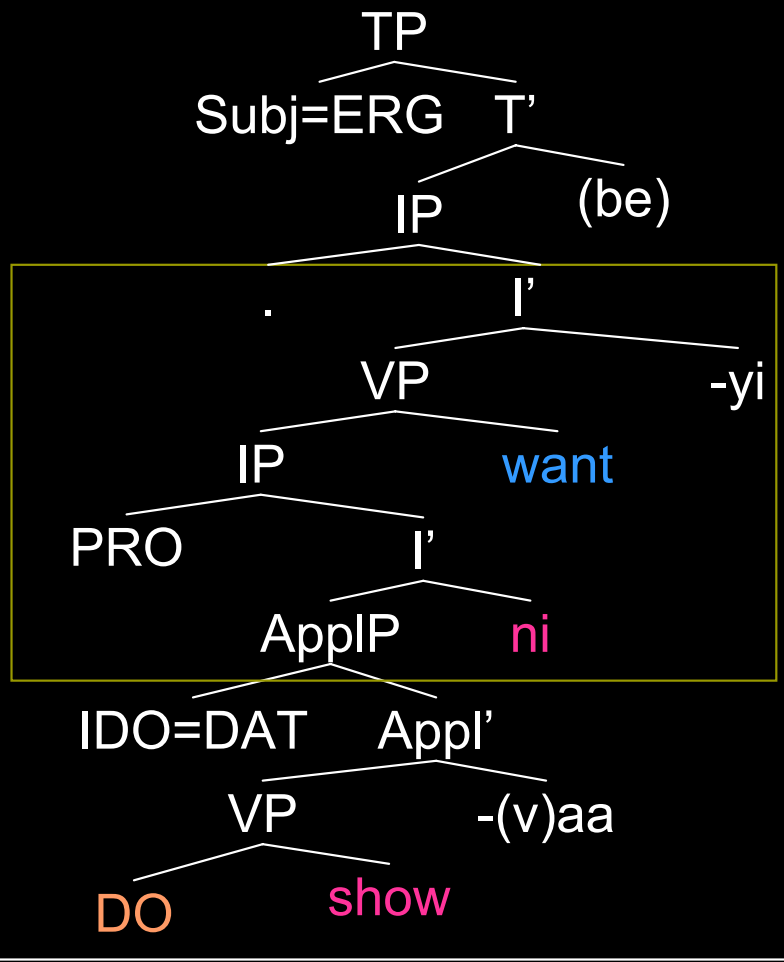
2. Aspect suffixes Habitual –taa/i/e, Perfect-(y)aa/i/e

a. Mira	kel-aa	khaa-t-i	t^h-i	
Mira.Fsg.Obl=Erg	banana-Msg	eat-Hab-Fsg	be.Past-Fsg	
'Mira used to eat bananas.'				
b. Ali=ne	roṭ-i	khaa-y-i	t^h-i	
Ali.Msg.Obl=Erg	bread-Fsg	eat-Perf-Fsg	be.Past-Fsg	
'Ali had eaten bread.'				
c. *Ali=ne	roṭ-i	khaa-y-n-i	chaah-y-i	t^h-i
Ali.Msg.Obl=Erg	bread-Fsg	eat-Perf-Nonfin-Fsg	want-Perf-Fsg	be.Past-Fsg
intended: Ali had wanted to eaten bread.				
d. Ali=ne	roṭ-i	khaa-n-i	chaah-y-i	t^h-i
Ali.Msg.Obl=Erg	bread-Fsg	eat-NonFIn-Fsg	want-Perf-Fsg	be.Past-Fsg
'Ali had wanted to eat bread.'				

AspP cannot be inside the naP (c), instead it is outside the naP (d).

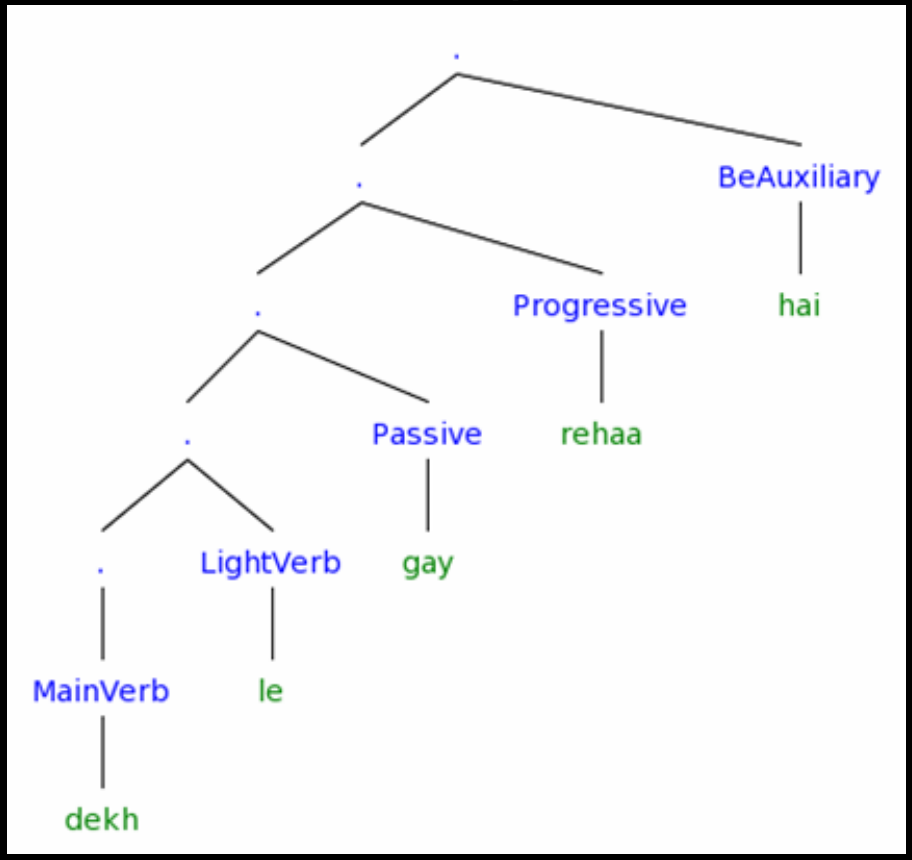
Hindi Clause Structure (revising)





There's more than morphemes: The verbal complex (Butt 2003)

- How do we turn this into an X' representation?



The VP internal Structure

Hindi often uses more than one verb/predicate to express what one verb expresses in English...

Ali=ne	us=ko	hoon	kiyaa
Ali=Erg	him=Dat	blood	do-Perf-Msg

'Ali killed him'

Light Verbs Crosslinguistically

The light verb renders the event bounded, but other subtle modifications such as benefactive readings, forcefulness, suddenness or inception are also possible (Hook 1974, Butt 2003)

1. English Light Verbs (Jespersen 1965,Volume VI:117)
   - -Take isn't really the verb: one does not actually physically "take" a "plunge" but rather one "plunges"
   - -Take isn't devoid of content either: there is a clear difference between take a bath and give a bath.
     - *have* a rest, a read, a cry, a think
     - *take* a sneak, a drive, a walk, a plunge
     - *give* a sigh, a shout, a shiver, a pull, a ring
2. Japanese Light Verbs (Grimshaw and Mester 1988)
   - *suru* 'do' (N+V constructions)
3. Romance Light Verbs (Rosen 1989)
   - periphrastic causatives with *faire/hacer* 'make' (V+V)
4. Hindi Light Verbs (Mohanan 1994, Butt 1995)
   - complex predicates (N+V)
   - complex predicates (V+V)

Hindi Light Verbs

1. NonVolition light verbs (get,fall) can be added Unaccusatives and Inchoatives

a. Saima pas/pakaɽ/gir gay-i/jaa-t-i t^{h}i

Saima.Fsg trap/catch/fall got-Perf-Fsg/get-Hab-Fsg
be.Past-Fsg

'Saima got stuck/caught/fallen.'

~~*(involuntary theme) (Butt 2003)*~~

b. Shishaa khol gay-i/jaa-t-i

Hindi Light Verbs

3. Progressive

a. Laṛk-aa roṭ-i khaa rah-aa t^{h}-aa
child-Msg=Erg bread-Fsg eat progressive-Msg be.Past-Msg
'The/a child is/was eating bread.'

4. Inception/Completion

b. Ali=ne cit͡t^{h}-i lik^{h} li-y-i/le-t-aa t^{h}i/aa
Ali.Msg=Erg letter-Fsg write take-Perf-Fsg/ take-Hab-Msg be.Past-Fsg
'Ali had written up the/a letter (for his benefit).' (Butt 2003)

c. Ali=ne cit͡t^{h}-i lik^{h} di-y-i/de-t-aa t^{h}i/aa
Ali.Msg=Erg letter-Fsg write give-Perf-Fsg/give-Hab-Msg be.Past-Fsg
'Ali had written up the/a letter (for someone else).' (Butt 2003)

d. Ali=ne cit͡t^{h}-i lik^{h} mar-y-i/mar-t-aa t^{h}i/aa
Ali.Msg=Erg letter-Fsg write hit-Perf-Fsg/hit-Hab-Msg be.Past-Fsg
'Ali had dashed off a letter (forcefully).' (Butt 2003)

e. Ali=ne cit͡t^{h}-i lik^{h} cuk-y-i/?cuk-t-aa t^{h}i/aa
Ali.Msg=Erg letter-Fsg write finish-Perf-Fsg/finish-Hab-Msg be.Past-Fsg
'Ali had finished up writing a letter.'

Note: Some light verbs have alternating stem forms in the perfect vs. habitual aspects, some light verbs are not compatible with either aspect (the Progressive) or one of the aspects (finish)

Light verbs in LDA

- LDA requires an agent who is capable of volition (ie an agent with thoughts and wants)
- LDA requires that embedded verb have the same subject, thus it must also be volitional
- This limits us to the light verbs which allow volition (take, give, hit) but not those which are non-volitional (get, fall, rise)

Hindi Light Verbs in LDA

Light verbs can go inside the naP (a), and outside the chaahP (b)

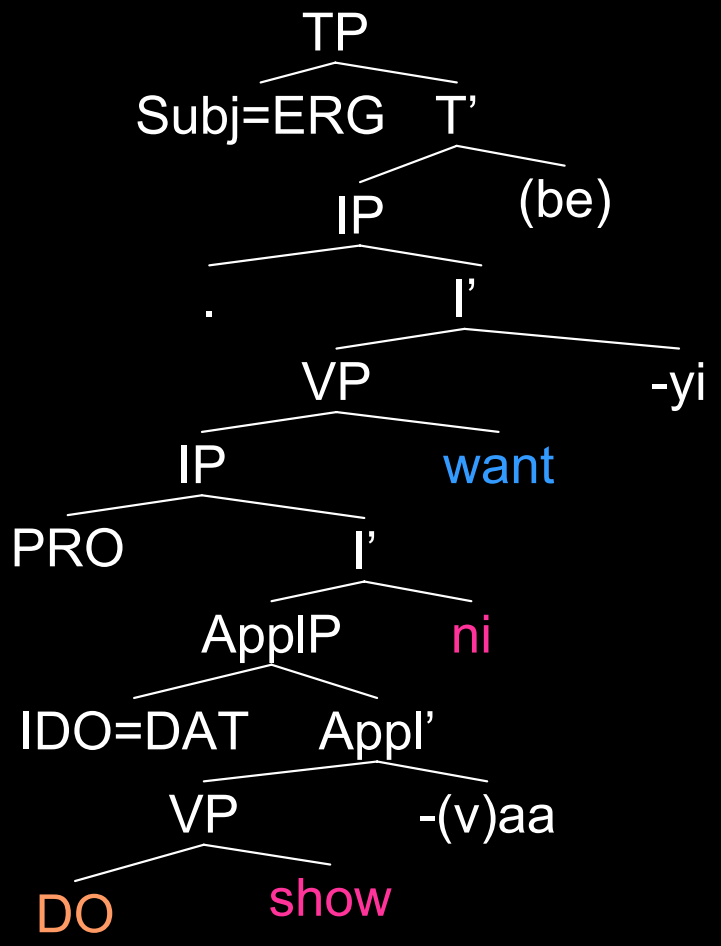
a. Ali=ne	citt^{h}-i	lik^{h}	leni	chaahi	t^{h}i
Ali.Msg=Erg	letter-Fsg	write	take-NonFin-Fsg	want-Pref-Fsg	be.Past-Fsg

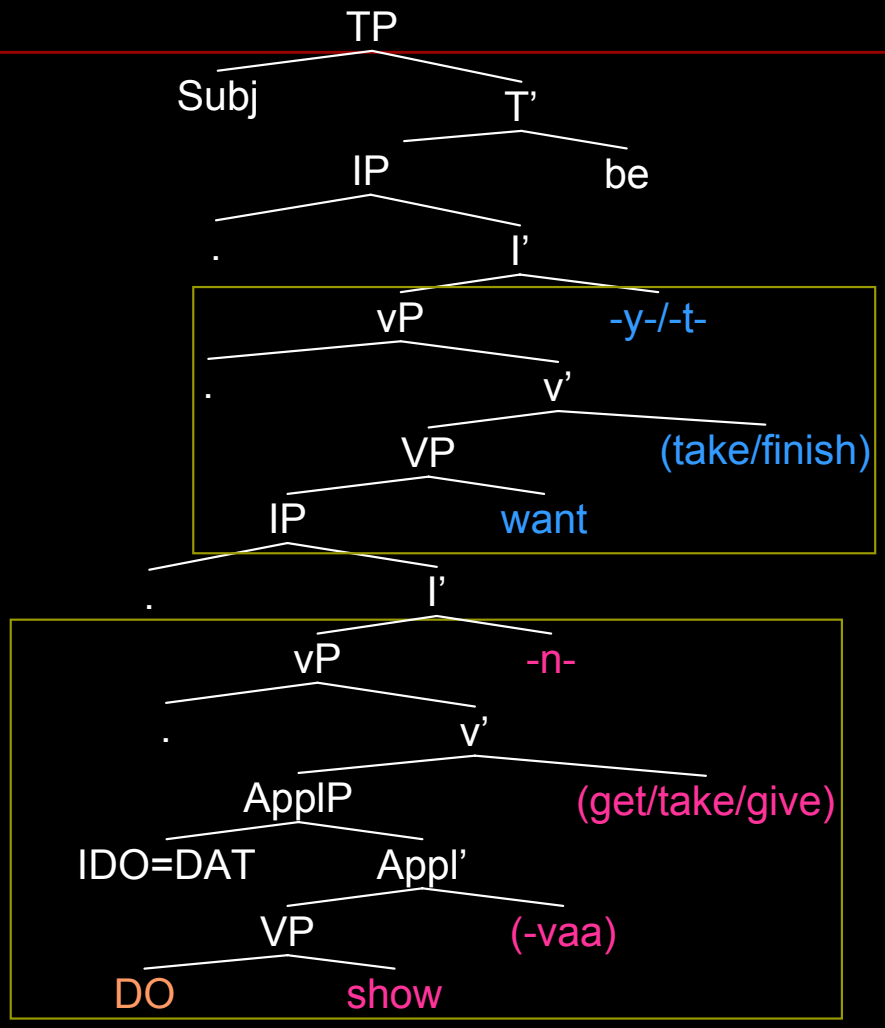
'Ali had wanted to write up the/a letter (for his benefit).'

b. Ali=ne	citt^{h}-i	lik^{h}ni	chaah	li-y-i	t^{h}i
Ali.Msg=Erg	letter-Fsg	write-NonFin-Fsg	want	take-Perf-Fsg	be.Past-Fsg

'Ali had wanted (for his own benefit) to write up a letter.'

Hindi Clause Structure





Light Verbs as *v*

- Under one approach, light verbs are instantiations of v (Adger 2003:134)
  - Within the Minimalist Program (MP), *v* is either
    - a functional or
    - a lexical category, or
    - a mixture of both
- Light Verbs are both lexical and functional (Butt 2003)
  - Semantically structure or modulate the event structure of the main predicator in a distinct manner than auxiliaries, modals and main verbs
  - Form identical with a main verb (Butt & Lahiri 2003)
  - Can be distinguished syntactically from auxiliaries and main verbs
  - Can be distinguished phonologically from auxiliaries and main verbs
  - Monoclausal for Negative Polarity Items, Clitic Climbing, passivization, relativization (Rosen 1989)

The birth of *v*P

- Camps on both the syntax and the semantics side began to see a need to put event semantics
- Event semantics:
  1. Simple Event: x died
  2. Complex Event: y killed x = y caused + x died

Historical Development of Semantic Decomposition of Events

- Vendler's ontology of events
  - Vendler 1967
- Early (generative semantics) lexical representations containing event decomposition
  - Carter 1976
  - Dowty 1979
- Neo-Davidsonian Event Semantics
  - Kratzer 1996

Vendler's 1967 ontology of conceptual events:

	Temporally bounded/ complete	Progress	Internal structure	Duration
States	No (atelic)	No	No (static)	Yes (Inherently)
Activities	No (atelic)	Yes	Yes (dynamic)	Yes
Accomplishments	Yes (telic)	No	No?	No
Achievements	Yes (telic)	Yes	Yes (dynamic)	Yes

States	*Activities*	*Accomplishments*	*Achievements*
have	run	make a chair	arrive
believe	walk	draw a circle	find
be pretty	swim	read a book	reach

Early Lexical Representations Containing Event Structure

- Early Lexical Representations contain complex event structure which must be linked to syntactic structures via a Linking Theory [1]
  1. Carter 1976: x CAUSE [[y BE DARK] CHANGE]
  2. Dowty 1979: [x DO [CAUSE BECOME [y dark]]]]
  3. Levin & Rappaport 1995, 1998: [x CAUSE [BECOME [y dark]]]

- Notice, all have the structure
  - [Outer causing event [inner change of state event]]
- This semantic structure is mapped onto the syntactic structure by splitting VP
  - $[_{vP}$ $[_{VP}$]]

[1] Semantic primitives CAUSE, BE, BECOME, DO[1] (Carter 1976; Dowty 1979; Jackendoff 1987, 1990; Levin and Rappaport 1998; Pustejovsky 1988,1991, 1995; Croft 1988; Parsons 1990)

Neo-Davidsonian Event Semantics: severing the arguments from the verb

Kratzer 1996 shows that it is possible to use Neo-Davidsonian event semantics achieve a compositional semantic representation

- Verbs are one place predicates over events f(e),
- Arguments are thematic relations/two place predicates over events and entities R(e,x)

A lot of syntacticians think this is too complicated to be the actual syntax of English 'kill'

- Fortunately, this is a moot point in Hindi where 'kill' is transparently 'do blood'

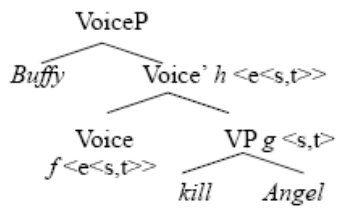
1. Ali=ne us=ko hoon kiyaa
Ali=Erg him=Dat blood do-Perf-Msg
'Ali killed him'

2. English:
Buffy killed Angel.

3. Three predicates:
KILL(e)
AGENT(e,y)
THEME(e,x)

4. Semantics:
∃ e.[kill(e) & Agent(e, Buffy) & Theme(e, Angel)]

a.



b. ⟦Angel⟧ = Angel (TN)

⟦kill⟧ = λx. λe [kill (e) & Theme (e, x)] (TN)

⟦kill Angel⟧ =λe. [kill (e) & Theme (e, Angel)] (FA)

⟦Voice⟧ =λy. λe. [Agent (e, y)] (TN)

⟦Voice'⟧ = λy.λe. [Agent (e, y) & kill (e) & Theme (e, Angel)] (EI)

⟦Buffy⟧ = Buffy (TN)

⟦VoiceP⟧ = λe. [Agent (e, Buffy) & kill (e) & Theme (e, Angel)] (FN)

Historical Development of Syntactic Decomposition of Events

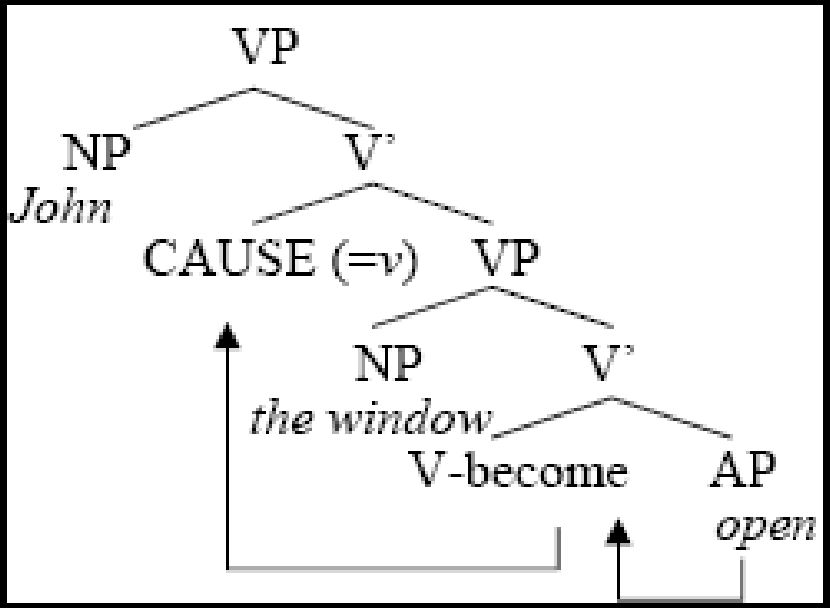
- Lexical Decomposition
  - Hale and Keyser 1993
- Larson's VP Shells
  - Larson 1988
- Harley's $_{\text{Phave}}$
  - Harley 2002, Richards 2001
- First Phase Syntax: CauseP,ProcessP,ResultP
  - Ramchand 2006

Hale and Keyser 1993

Hale and Keyser 1993 propose getting rid of the need for Linking Theories by having the syntactic structure directly reflect the semantic event structure.

In their syntactic structure the semantic primitives CAUSE and BECOME are treated as abstract morphemes present in the syntax, later becoming the V heads in Larson's VP-shell theory.

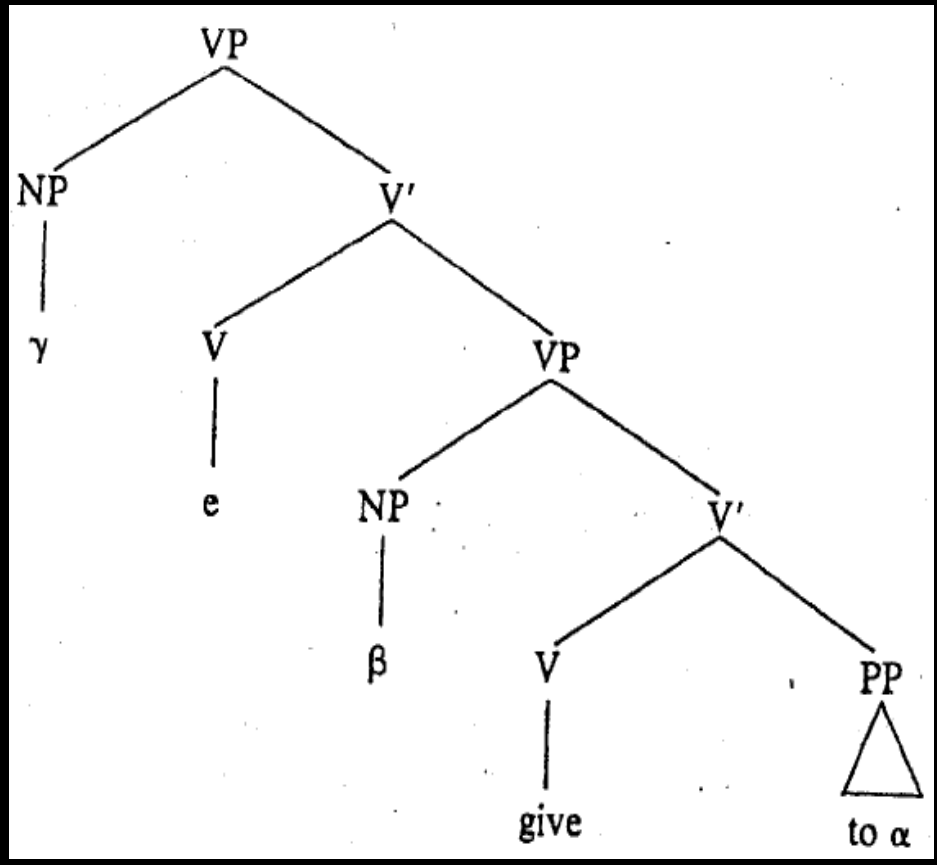
John opened the window.



Larsons VP shells 1988

The Double Object Construction
John gave the book to Mary

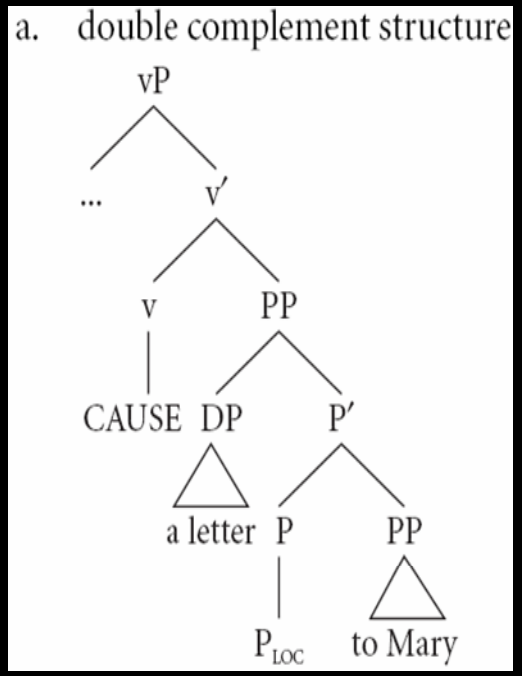
- The agent is generated in (ɣ)
- The upper verb is empty (e)
- The theme is generated in (β)
- The lower verb is (give) which combines with the indirect object (α)

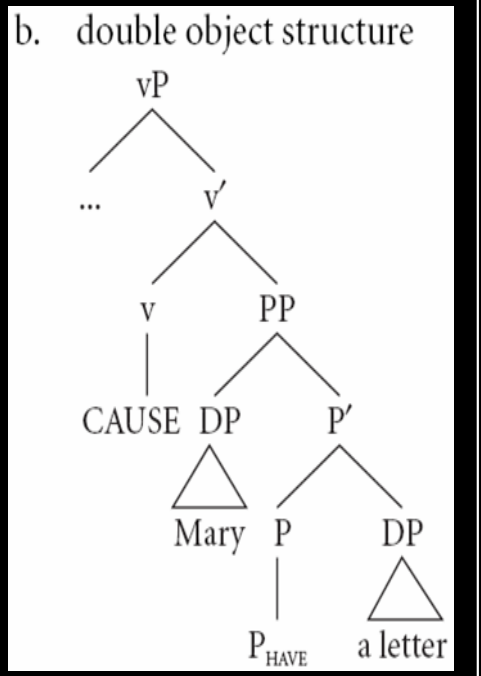


Harley 2002, 2006

Ditransitives and Double Objects differ in the lower head

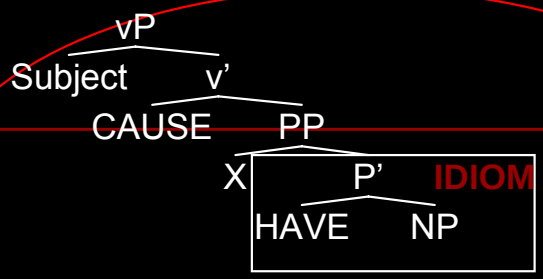
- Ditransitives structures (a) have a $P_{locative}$ head
- Double object structures (b) have a P_{have} head



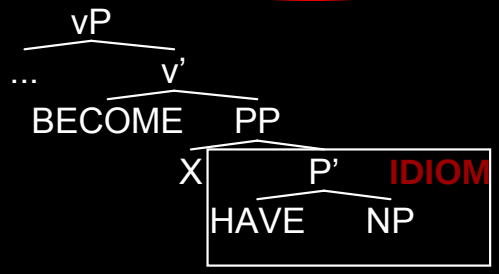


Arguments decomposition in English using Idioms:

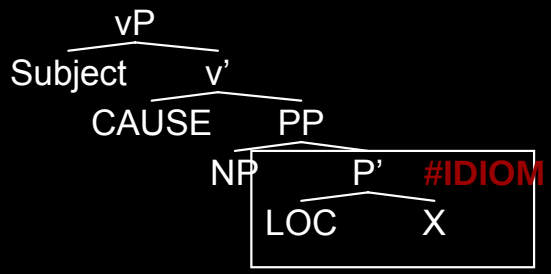
From Richards 2001 who sites Harley 1995/2002/2004, who adopts a modified Pesetsky 1995, who changed Larson 1988
(red bubbles indicate the basic examples of each idiom)



Subject gives X the boot/the sack/the creeps/flak/shit/butterflies in ones stomach

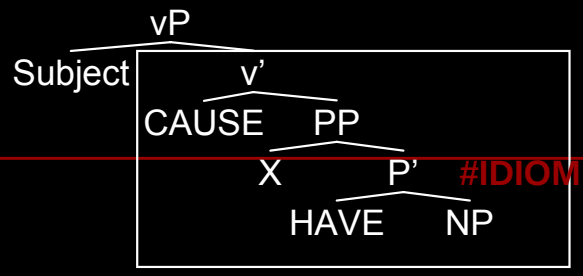


X takes/gets the boot/flak

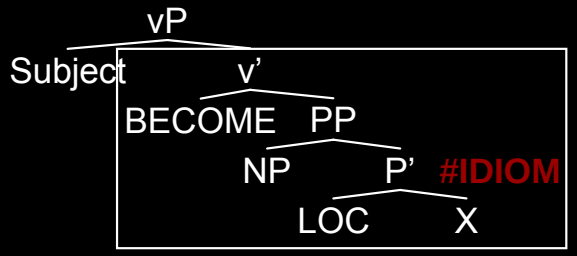


#Subject gives the boot/flack to X

- cant be an idiom, because HAVE (not LOC) is part of it...

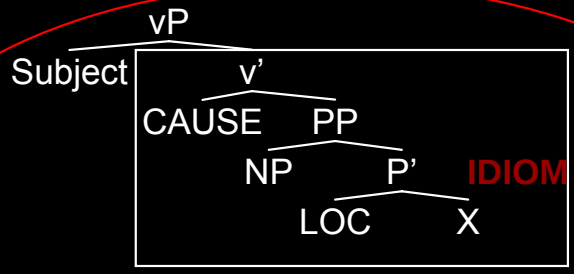


#Subject gives X birth/chase/rise/way/the lie



#X takes/gets birth/the lie

- cant be an idiom, because CAUSE (not BECOME) is part of it...



Subject gives birth/chase/rise/way/the lie to X

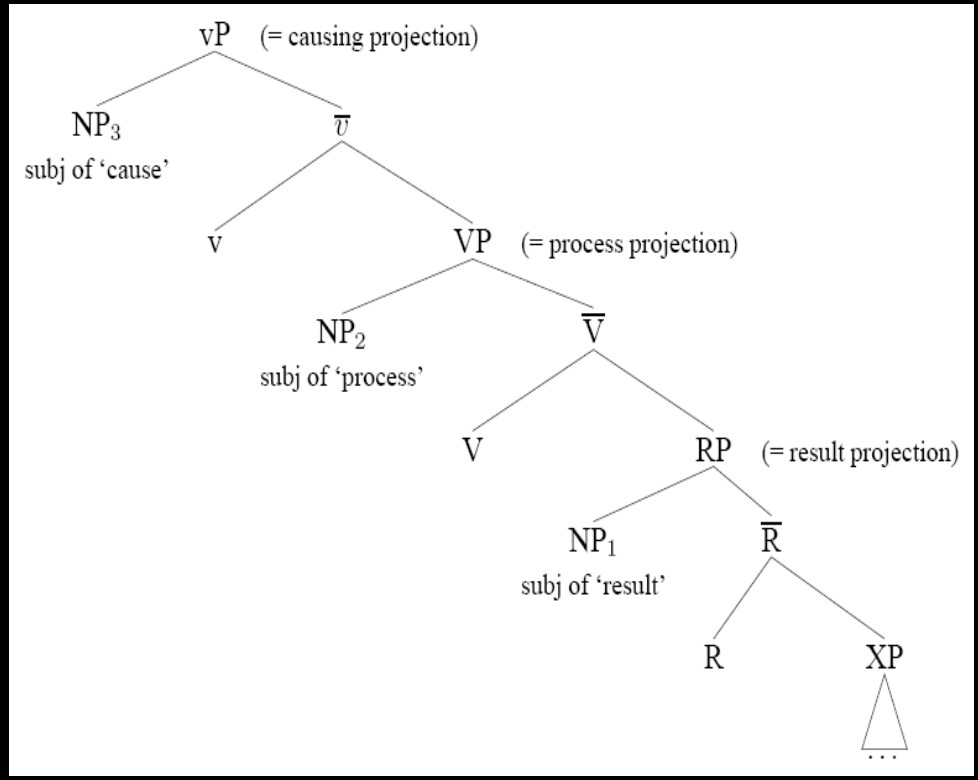
The further split VP: Ramchand 2006

A logical combination of the earlier work:

- Causatives
  - John killed [Bob (P_{have} dead)]
- Resultatives
  - John painted [the barn P_{have} red]
- Ditransitives and Double Objects
  - John gave [her P ... the book]

Ramchand's 2006 3-layered VP

- Cause projection
  - cause
  - volition
  - animacy
- Process projection
  - aspect
  - boundedness
  - manner
- Result state
  - location
  - finished product of the event



North Australian Light Verbs

- In (13), the coverb denotes the manner, while the light verb supplies the event predication.
- In (16), the coverb supplies a path and the light verb supplies information about the type of motion on that path. The coverb
- In (17) denotes a result and the light verb supplies the cause.

Lexicalisations of multiple heads in one lexical item are the result of common conceptual combinations

- Telicity (goal orientedness of action volitional + bounded process + result)
- Causatives (cause + result)

(13) **burdurdubba=biya ga-ngga** ngayin thanthu
race=now 3Sg-go.Pres animal(Abs) Dem(Abs)
'It is racing off now that animal.' (Jaminjung, Schultze-Berndt 2002)

(16) buru ga-ruma-ny
back 3Sg-come-Past
's/he came back' (Jaminjung, Schultze-Berndt 2002)

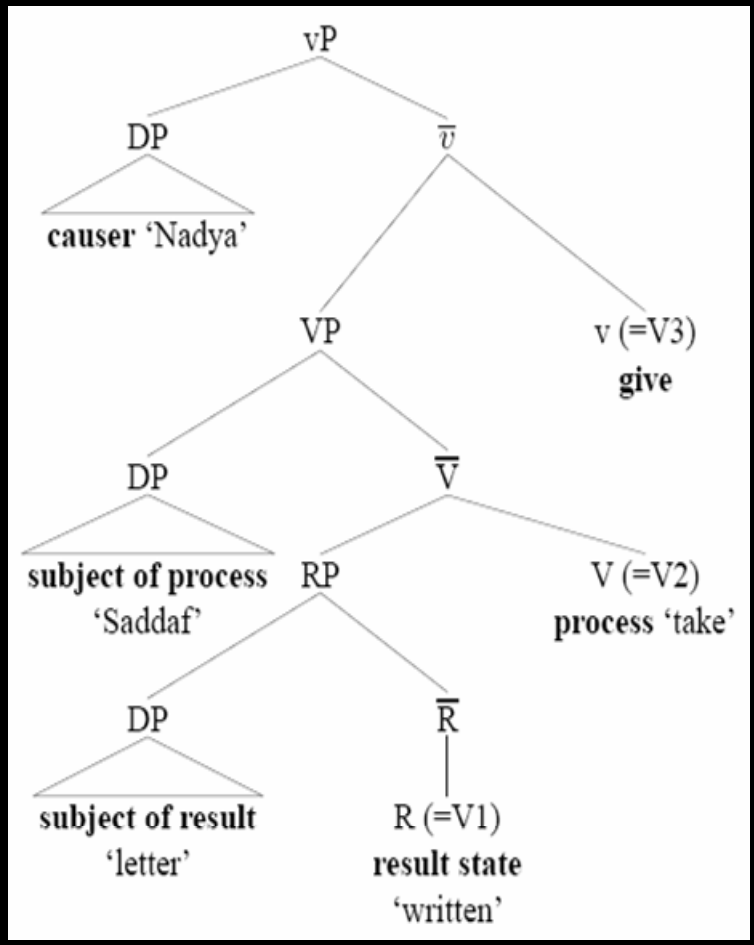
(17) ning burr-wa-na
break.off 3Pl:3Sg-bite-Impf
'They were biting something off.' (Jaminjung, Schultze-Berndt 2002)

Hindi Event Structure (Butt & Ramchand 2003)

Nadya=ne Saddaf=ko cit͡ʃʰ-i likʰ leni di-y-i
Nadya.Fsg=Erg Sadaf.Fsg=DAT letter-Fsg write take-NonFin-Fsg give-Perf-Fsg
'Nadya let Saddaf write a letter (completely).'

While there are some geometrical similarities, so far we have considered *di/de* 'give' not to be a light verb, but rather a "restructuring" verb like *chaah* 'want'

What is the difference between light verbs and restructuring verbs, and why?



Predicates which take propositional complements in Hindi

- Some are verbs which take CPs
  - think, believe, know, feel, agree, hear, speak, tell, see, be.aware, understand

    Ali verb [CP]
    - Hind CPs look like English, which is strange since Hindi is S O V, it should be S CP V
- Most are nouns-like
  - attempt, desire, necessity, beginning, thought

    Ali=DAT [VP-na] noun is/was
- Some are verb-like
  - light verbs: take, give, hit
    - Ali [VP] verb (is/was)
  - restructuring verbs: want, know, allow
    - Ali [VP-na] verb (is/was)
    - This is where we find the LDA predicates

Predicates which take non-finite complements

1. Want (Long Distance Agreement)

Ali=ne chitt^{h}-i lik^{h}-n-i chaah-y-i (hai/t^{h}-i)

Ali.MSg=ERG letter-Fsg write-NonFin-Fsg want-Perf-Fsg be.NonPast-3sg/be.Past-Fsg

'Ali has/had wanted to write letters.'

2. Come (Long Distance Agreement)

Ali=ko citt^{h}-i lik^{h}-n-i aa-y-i (hai/t^{h}-i)

Ali.MSg=DAT letter-Fsg write-NonFin-Fsg come-Perf-Fsg be.NonPast-3sg/be.Past-Fsg

'Ali has/had known how to write letters.'

3. Allow ("The Permissive")

Ali=ne Saima=ko chitt^{h}-i lik^{h}-n-e di-y-aa (hai/t^{h}-aa)

Ali.MSg=ERG Saima.Fsg=DAT letter-Fsg write-NonFin-Opt give-Perf-Msg be.NonPast-3sg/be.Past-Msg

'Ali has/had let Saima write letters.'

Notice: Allow is different from LDA, but in interesting ways...

For next time: What is this –n– in the lower IP?

- Sure, its nonfinite and its found around the area where Inflection goes...
- But the same element in the “Argumental” Long Distance domain has gotten a lot of names:
  - Gerund
  - Participle
  - Infinitive
  - Telic Stem
  - Nominalization

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