THE EVENT ARGUMENT
and ARGUMENT INTRODUCERS: little \( \nu \), and the Applicative Head

\[ \lambda e \langle s, t \rangle \nu \text{ Appl}^\circ \]
OUR ROADMAP

• Overview of morphosyntactic function of ν
• Adding “events” to our notation
• The semantic function of ν
• Another argument introducing head - Applicative°
How We Came to Know v as Our Morphosyntactic Friend

The Accusative Case-Assigner

• There’s not a one-to-one mapping between case, grammatical relations, and thematic roles - passives, unaccusatives, non-Nominative subjects, Nominative objects, Ergative-Absolutive case systems.

• Burzio’s Generalization: If a verb assigns accusative case, then it assigns an external θ-role.
  • No semantic subject θ-role → no accusative Case
  • In essence: When a verb phrase combines with a head that introduces an external argument, that head assigns accusative case to the internal argument of the verb.

• In b/d there’s only an internal argument, and the internal argument surfaces in subject position.

1. a. She fired me. 
   b. I was fired. (from Burzio 2000)
   c. They broke the window. (EX26)
   d. The window broke. (EX 2)

Review: There are two types of intransitives. Unaccusatives have an underlying semantic object. Unergatives have an underlying semantic subject.
Run of the Mill Transitive Sentences

Cherlon cooked a fantastic meal.

NOTE: In Kratzer 1996, there are trees in which the direct object occupies the specifier of VP. We’ll get to that.

v has two functions:
- It assigns accusative case to the object
  - The syntactic job
- It provides a home - via its specifier - for the verb’s external argument
  - The semantic job
“Normal” v’s and “Special” v’s

Icelandic
1. a. Við lásum bókina.
   we.Nom read.1pl book.the.Acc
   ‘We read the book.” (Sigurðsson 1996, Ex 14)
   --Normal v: assigns accusative to the object

   b. Einum málfraðingi líkuðu þessar hugmyndir.
      one.Dat linguist.Dat liked.3pl these.Nom ideas.Nom.pl
      ‘One linguist liked these ideas.’ (Sigurðsson and Holmberg 2008, EX 1)
      --Special v: assigns dative to the subject

Gujarati
2. a. Sudha away-i.
   Sudha(fem).Abs came-fem
   ‘Sudha came.’
   --Normal v: there’s no object for v to assign case to

   b. Sudha-e radio khəridy-o.
      Sudha(fem)-Erg radio(masc).Abs bought-masc
      ‘Sudha bought a radio.’ (Woolford 2006, EX 38c/39)
      --Special v: assigns ergative to the subject

Super Broad Overview of Ergative-Absolutive Case Systems:
• Subjects of intransitive verbs and objects of transitive verbs are absolutive.
• Subjects of transitive verbs are ergative.
• Note that in both the Dat-Nom Icelandic sentence and the Erg-Abs Gujarati sentence, the verb agrees with the nom/abs object, not with the dat/erg subject.
English
The students gave their professor a necklace.

Icelandic
Ég sendi Hildi fiskinn
‘I sent Hildur the fish.’

Greek
\[
\begin{align*}
\text{a. Tha mu} & \quad \text{stilume} \\
& \quad \text{fut} \quad \text{cl.Gen.sg.1 cl.Acc.sg.3.neut send.3.pl} \\
& \quad \text{‘They will send it to me.’}
\end{align*}
\]
\[
\begin{align*}
\text{b. Tha su} & \quad \text{stilume} \\
& \quad \text{fut} \quad \text{cl.Gen.sg.2 cl.Acc.sg.3.masc send.3.pl} \\
& \quad \text{‘They will send him to you.’}
\end{align*}
\]
\[
\begin{align*}
\text{c. *Tha su me} & \quad \text{sistisime} \\
& \quad \text{fut} \quad \text{cl.Gen..sg.2 cl.Acc.sg.1 introduce.3.pl} \\
& \quad \text{‘They will introduce me to you.’}
\end{align*}
\]
\[
\begin{align*}
\text{d. *Tha tu se} & \quad \text{stilume} \\
& \quad \text{fut} \quad \text{cl.Gen.masc.sg.3 cl.Acc.sg.2 send.3.pl} \\
& \quad \text{‘They will send you to him.’} \quad (\text{Bonet 1991:182})
\end{align*}
\]
SUMMARY OF MORPHOSYNTACTIC FUNCTION OF v

Burzio’s Generalization:

- “Normal” v assigns Accusative case to direct objects.
- The semantic subject is merged (starts off in) in the specifier of v.
- No accusative on the semantic objects in passives and unaccusatives.

- Special v’s are proposed to assign case to the DP in their specifier.
  - Dative subjects
  - Ergative subjects
  - Indirect objects of various cases

- ...BUT WHY is the semantic subject merged in the specifier of v???
...Enter Semantics: An Overview of Events and vP

Marantz (1984): The entire predicate (not just the verb) assigns a θ-role to the subject. The meaning/properties of the object influence the meaning of the verb, which, in turn, determines the semantic properties of the subject.

The object is assigned its semantic role by the verb. The subject is assigned its semantic role by the entire predicate.

1. a. throw support behind a candidate  
   b. throw a baseball  
   c. throw a boxing match (take a dive)  
2. a. take a book from the shelf  
   b. take a bus to New York  
   c. take a nap  
3. a. kill a cockroach  
   b. kill a conversation  
   c. kill an evening watching TV  

Kratzer argues that we need another syntactic position for the subject. Why? Just how many arguments does a verb have?

From a syntactic perspective, we’re used to thinking about a verb’s arguments as the DPs/CPs/PPs that the verbs subcategorizes for.

From a semantic perspective, verbs refer to events and in order to derive the meaning of a verb, the event that the verb refers to is part of the verb’s meaning.

So, verbs take an argument that is an event.

The semantic function of v is to “introduce” the external argument to the event encoded in the VP.
How to Represent Verb Meanings: We bought your slippers in Marrakesh.

- Figure 1: The verb has three arguments.
  - x: the thing that was bought
  - y: the agent of the buying
  - e: the event in which the buying happened

- Figure 2: The verb has one argument.
  - e: the event in which the buying happened
  - The theme and the agent are added separately

What Kratzer argues for:
- The verb has two arguments
  - e: the event of buying
  - x: the thing that was bought
Is the head that introduces the external argument lexical or functional? A detour through Malagasy.

- Hung 1988: The agent is introduced by the prefix *-an* that resides in a V head that is higher than the V head which hosts the verb.

- *-an* does two things:
  - Introduces the subject argument.
  - Assigns case to the object - *ny lamba* ‘the clothes’.

- For Hung, the external argument introducing head is a V - it’s lexical.

Head Movement: V→V→T
Phrasal Movement: The subject starts in the specifier of the higher VP and moves Spec,IP
Kratzer argues that external argument-introducing head is functional - not lexical.

*The data argument:* The head the external argument is not present in gerunds, so that head should not be lexical.

- His rebuilding of the barn took five months.
- *Rebuild* is a V that is nominalized. *The barn* gets case however objects of nouns get case (from the preposition here).
- There is no Voice head. Therefore, no external argument.
- *He rebuilding of the barn took five months.*

*The theory argument:* Structural vs lexical case. Structural case is assigned by functional heads.

- Structural case: The normal/expected case. E.g. - nominative on subjects and accusative on objects.
  - The functional head I/T assigns nominative.
- Lexical case: Cases that are determined by specific lexical items. E.g. - Prepositions in lots of languages - German, Russian, Icelandic - determine the case of their objects.
  - The lexical preposition assigns case to its object.
Enter \( \mu \)

- Johnson 1991: objects move to the specifier of VP and are assigned (accusative) case by \( \mu \). The verb moves and adjoins to \( \mu \).
- Only NPs (DPs) move to Spec,VP. Therefore, they precede adverbs and other complements of verbs.
  - Mittie fed the dog quickly.
  - *Mittie fed quickly the dog.
  - Mikey visited his parents quietly.
  - *Mikey visited quietly his parents.
  - Gary told Sam to leave.
  - *Gary told to leave Sam. (EX 20)
- For Johnson, \( \mu \)'s sole function is case assignment.
  - At the time, it was assumed that case was assigned in a very local configuration. Now, it is assumed that the case-assigning and the DP can be farther away in the structure.

For Kratzer, \( \mu \) has another role...

“Having acquired semantic content, \( \mu \) deserves a meaningful name. I will call it VOICE.” (p. 120)

- Kratzer assumes that since the external argument is an argument of the verb and is generated in Spec,VoiceP, the direct object is generated in Spec,VP, since it is an argument of the verb.
- Johnson moves the object from the complement of V to Spec,VP. Kratzer starts the object in Spec,VP.
Kratzer’s VoiceP is generally referred to as vP. It’s sometimes handy to posit both VoiceP and vP.

E.g. There is one way of thinking about passives in which the agent occupies Spec,vP - just as in actives - and by overtly or silently occupies Voice.

[Memory jogger from Morphology: Collins 2005]

μ died a long time ago. (But Kyle Johnson is very much alive!)

There are many v’s, as we’ve seen. Kratzer actually suggests that there might be more than one Voice head – e.g. an active voice head and a stative voice head. (p.123)

Some syntacticians/semanticists place the direct object in Spec,VP and others position it as the sister to V. Unless a particular point is being made about object positions, either way works.
The verb ‘buy’ from Kratzer’s perspective.

The meaning of a VP headed by the verb ‘buy’ is derived by supplying an Event argument (e) and a Theme argument (x).

The notation is different from the type theory notation: here (e) does not mean entity.

Since the meaning of the subject is determined by the meaning of the verb plus its object, the meaning of the subject can’t actually be specified.

NOTE: In the semantics world, the term “argument” is used differently than we’ve seen. Arguments are used to encode the elements/items that give a particular word/phrase meaning.

1. \[\text{buy} = \lambda x \lambda e \ [\text{buy}(x)(e)] \text{ or } \lambda x \lambda e \ [\text{buying}(x) \& \text{Theme}(x)(e)]\] (Kratzer 1996, Figure 3)

‘Buy’ has two arguments, but not an Agent and a Theme, as we’re accustomed to thinking. The Agent argument is not present as part of the meaning of the verb...because there’s not necessarily an agent.

2. a. I bought a new set of fancy dishes. = I volitionally engaged in the activity of paying for new dishes.
   b. I bought his alibi. = I, perhaps passively, accepted the story. I didn’t actually do anything.

The argument which surfaces as the subject is “external” to the meaning of the verb. The object is the verb’s “internal” argument.

A more technical description of unaccusatives and unergatives:

- Unaccusatives have an internal argument.
- Unergatives have an external argument.
In type theory, events are of type $s$. Entities are still $e$ and truth values are still $t$.

In this simplified lambda abstraction, events are $e$ and entities are $x$.

$\lambda x.\text{wine}(x)$. The meaning of wine is expressed as a function because it is a common noun. Some entity has the property of being wine iff it has the requisite characteristics.

$\lambda x\lambda e.\text{bought}(x)(e)$. bought is a two-place predicate. $\lambda x$ is its internal argument and $\lambda e$ is the event.

$\lambda e.\text{bought}(\text{wine})(e)$. When bought and wine combine, wine saturates the internal argument slot. $\lambda x$ disappears because it now has a meaning.

$\lambda x\lambda e.\text{agent}(x)(e)$. $\nu$ is also a two-place predicate. $\lambda x$ is the agent and $\lambda e$ is the event.

$\lambda x\lambda e.\text{bought}(\text{wine})(e) & (\text{agent})(x)(e)$. The event argument unifies the event encoded in the VP and the agent of the event.

- The $\nu'$ is a conjunction of sorts in which both conjuncts have an event argument. The formula means, “There was an event of buying wine and there is some agent of that event.”

- Unlike wine, Cherlon is not a function. I simply am. 😊 I saturate the $\lambda x$ argument slot and we get:

$\lambda e.\text{bought}(\text{wine})(e) & (\text{agent})(\text{Cherlon})(e)$

- There is an event in which wine is bought and Cherlon is the agent of buying wine in that event.

- The event variable is valued by the context higher in the tree.
The Compositional Operations

- **Functional Application:** This is the normal way of composing meaning. There is an open argument slot and the sister node saturates (provides the content for) that slot.

- **Passing Up:** When node doesn’t have a sister, then the meaning of that node travels up to the next highest node.

- **Event Identification:** This operation combines the external argument with the event denoted in the VP.
  - There is an agent and that agent is the agent of the event described in the VP.
  - “Event Identification makes it possible to chain together various conditions for the event described by a sentence.” (p.122)

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(24) Example of Event Identification

\[ f \rightarrow <e, <s, >> \]
\[ g \rightarrow <s, >> \]
\[ \lambda x. \lambda e_s [\text{Agent}(x)(e)] \quad \lambda e_s [\text{feed}(\text{the dog})(e)] \]
\[ h \rightarrow <e, <s, >> \]
\[ \lambda x. \lambda e_s [\text{Agent}(x)(e) \& \text{feed}(\text{the dog})(e)] \]
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Tense and the Event Argument

• \( v \) has to be higher than VP because its role is to relate the agent to the event denoted in the VP.

• \( v \) has to be lower than Tense. Kratzer proposes that the role of tense is to “existentially quantify” the event argument.

• Kratzer proposes the meaning in (31) for tense. (The * is used in semantics to indicate that the denotation can refer to multiple events.)

\[(31) \text{past} - * = \lambda P_{<s,t>} \exists e_s [ P(e) \& \text{past}(e) ] \]

• There is some proposition, \( \lambda P \), and there exists at least one event, \( \exists e \), such that the proposition encodes the event and the event happened in the past.

• Tense combines with VoiceP and the meaning of VoiceP saturates \( \lambda P \).

• \( T' = \exists e.\text{feed (the dog)(e) \& (agent)(Mittie)(e) \& past(e)} <s,t> \)

• There is at least one event of feeding the dog and of which Mittie is the agent and which happened in the past.

• At this point, the real-world situation that maps to the sentence saturates \( \exists e \) and we end up with the meaning of the sentence.

• TP is our truth value.
Mapping the event argument to events

- This sentence has multiple interpretations - collective, cumulative, and distributive.

1. Three architects designed four buildings.

- In both the collective and cumulative, the total number of buildings designed is four.
- **Collective**: all three of the architects collaboratively design all four buildings.
- **Cumulative**: it is underspecified as to how many architects design each building. Perhaps one architect designed three buildings and the other two designed one building or all three architects collaborated on one building and each of them individually designed the remaining three buildings.
- **Distributive**: there are twelve buildings; each architect designs four buildings.

- The events that the collective, cumulative, and distributive interpretations map to are independent of the meaning delivered by the combination of the verb and the object.
- In the collective interpretation, we need one event in which all three architects design four buildings. In the distributive interpretation, we need three events in which each architect designs four buildings. The cumulative interpretation is more complicated; we don’t know how many events there are. We just know that some subset of architects designed some subset of buildings.

- **Whatever the event is, it supplies the value for the event argument within the TP projection.**

See Kratzer’s chapters *The Event Argument and the Semantics of Verbs* posted on the Semantics Archive for much more detailed discussion of quantifying over events. [http://semanticsarchive.net/Archive/GU1NWM4Z/](http://semanticsarchive.net/Archive/GU1NWM4Z/)
Voice was proposed in order to build into the syntax the semantic observation that verbs have an asymmetric relationship with their objects versus their subjects.

- Objects have a closer relationship with the verb and the compositional meaning of the verb plus its object select for the subject.
- The subject is external to the meaning of the verb.
- Voice builds on $\mu$, which was proposed (by a syntactician) as the accusative case-assigner.

Kratzer proposes Event Identification, which combines the external argument with the denotation of the VP.

In contemporary theory, Kratzer’s voice is generally represented as $\nu$ and voice is used to encode other kinds of information, such as passives.

There are many $\nu$’s in contemporary theory – and some of them do what “normal” $\nu$ does.

- $\nu$-ergative/dative/genitive all introduce an argument into the structure and they assign case to that DP.

The tense head combines with $\nu P$ and the event argument is saturated at the $T'$ level.
Some Practice

Part 1. For each of the following sentences, draw a tree which includes both type theory and lambda notation. Draw your trees up to TP. You can 4 the DPs and label them as type e.

1. Three architects designed four buildings. 2. The professor wore a new necklace. 3. The exhausted athletes slept.
4. The ice melted.

Part 2. For these trees, just do type theory.

5. Many contemporary chefs believe people prefer locally-grown food.
6. Mary claims John saw her duck. [Remember this one? It’s ambiguous. Draw two trees.]
7. The delicious sushi made Cherlon happy.
8. Icelandic chefs seem to attend exquisite culinary schools.
9. Cherlon refused to eat pulverized bacon.
10. *It refused Cherlon to eat pulverized bacon. [In terms of type theory, describe what goes wrong with this sentence. You don’t have to draw a tree.]

Part 3. Returning to the copula, propose type theory trees. (NOTE: You may borrow from an analysis that we’re now familiar with...or not.)

11. That meal was delicious. 12. Mike is the department chair. 13. I consider Sylvia my best friend.
14. That cute cat is under the couch.
Argument Structure and the Applicative Head
English
a. The ice melted.
b. John melted the ice.
c. John melted me some ice.

Venda
   snow 3sg.PAST-melt-FV
   'The snow melted.'
b. Mukasa o-nok-is-a
   Mukasa 3sg.PAST-melt-CAUSE-FV
   snow
   'Mukasa melted the snow.'
c. Mukasa o-nok-is-æ
   Mukasa 3sg.PAST-melt-CAUSE-APPL-FV Katonga snow
   'Mukasa melted Katonga the snow.'

Pylkkänen (2008) proposes that there is an applicative head which introduces the applicative argument.

The basic division between applicatives is that some are high and others are low.

High applicatives (HA): the applicative head attaches above the verb.

- There is a relation between an individual/entity and an event. =Venda

Low applicatives (LA), the applicative head attaches below the verb.

- There is a relation between two individuals/entities. The applicative is either the recipient or the source. =English

LA requires a direct object because the relationship is between the direct object and the applicative argument.
The applicative, John, has a relation with the direct object. John is the intended recipient of the book.

Wife is in a benefactive relation to the event of eating but bears no relation to the object of eating, food.

Likewise, in b, friend benefits from the event of running.

“A high applicative head is very much like the external-argument-introducing head: it simply adds another participant to the event described by the verb.” (Pylkkänen 2008:14)
Why Examine Applicatives??

“A comprehensive theory of linguistic representation must minimally:

- (i) define the nature of the primitive building blocks that enter into linguistic computation,
- (ii) characterize the manner in which the basic units combine into complex representations,
- and (iii) identify the ways in which languages may differ with respect to their inventory of possible representations.” (p.1)

Pylkkänen will:

- Argue for specific heads in the syntax (the primitive building blocks);
- Propose denotations for those heads (which encode how those heads combine with other building blocks; and
- Illustrate a typology of those heads (showing how languages differ).

Like Kratzer:

- Pylkkänen assumes a very tight connection between syntax and semantics. “..syntactic structure building is the only mode of structure building in natural language.” (p.5)
- Pylkkänen also builds on Kratzer’s work directly: “Thus, one of the main contributions of this book is to provide a new empirical argument for separating the external argument from its verb.” (p.7)
Back to Our Compositional Operations

- **Functional Application:** This is the standard way of composing meaning. There is an open argument slot and the sister node saturates (provides the content for) that slot.

- **Passing Up:** When node doesn’t have a sister, then the meaning of that node travels up to the next highest node. [Pylkkänen doesn’t use this operation. There aren’t empty nodes in her derivations.]

- **Event Identification:** This operation combines the external argument with the event denoted in the VP.
  - There is an agent and that agent is the agent of the event described in the VP.
  - “Event Identification makes it possible to chain together various conditions for the event described by a sentence.” (Kratzer 1996 p.122)

- **Predicate Modification:** This is new for us. This operation combines two daughters of the same type and returns a value of that type. Like Event Identification, it’s a conjunction operation of sorts.
  - For the Applicative analysis, the two nodes that are combined both have type \(<e, <s,t>>\). They combine and their mother has type \(<e, <s,t>>\).
Big Difference Between the Denotations for the High and Low Applicative Heads

High Appl...
- ...is like Voice in that it adds an entity to an event denoted in the VP and relates that entity to the event in the VP.

(4) *Chichewa instrumental*

*Mavuto a-na-umb-ir-a mpeni mtuko.*

*Mavuto* sp-past-mold-appl ASP knife waterpot

*‘Mavuto molded the waterpot with a knife.’*  
*Baker 1988b, 354*

(13) **High Appl**

*λx.λe. Appl(e, x)*  
(collapsing AppL<sub>Ben</sub>, AppL<sub>Inst</sub>, AppL<sub>Loc</sub>, etc.)

- This looks a lot like the denotation for Voice!
- High Appl has 2 arguments: the applicative [λx] and the event [λe].

Low Appl...
- ...is not like Voice. There is no semantic relationship between the Applicative and the event.
- The relationship is between the Applicative and the direct object.

(7) **Low recipient applicative: English**

a. I wrote John a letter.  
   ‘I wrote a letter and the letter was to the possession of John.’

b. I baked my friend a cake.  
   ‘I baked a cake and the cake was to the possession of my friend.’

c. I bought John a new VCR.  
   ‘I bought a new VCR and the VCR was to the possession of John.’

(15) a. **Low-Appl<sub>To</sub> (Recipient applicative)**

*λx.λy.λf<sub>(e, y)</sub>λc. f(e, x) & theme(e, x) & to-the-possession(x, y)*

b. **Low-Appl<sub>From</sub> (Source applicative)**

*λx.λy.λf<sub>(e, x)</sub>λc. f(e, x) & theme(e, x) & from-the-possession(x, y)*

- This does not look like the denotation for Voice!
- Low Appl has 4 arguments: the direct object [λx], the applicative [λy], the verb [λf], and the event [λe].
High Appl Derivation

The Steps:

1. The transitive verb combines with the direct object, just as we would expect.

2. The Appl head combines with the VP. Just like Voice, the High Appl head introduces a spot for an entity argument to saturate. Here, it’s the applicative.

3. The Applicative is merged in the specifier of ApplP and saturates the λx slot.

4. The Voice head combines with ApplP and introduces a spot for the subject external argument.

5. The subject is merged in in the specifier of VoiceP and saturates the λx slot.

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Low Appl Derivation

(16) Low applicative
   a. Mary bought John the book.
   b. VoiceP \( \lambda e. \text{buying}(e) \land \text{agent}(e, \text{Mary}) \land \text{theme}(e, \text{the book}) \land \text{to-the-possession}(\text{the book, John}) \)

The Steps:

- In the high applicative derivation, the verb combines with its object.
- NOT SO in the low applicative derivation.
- The direct object combines with the Appl head and saturates the \( \lambda x \) slot.
- The applicative is merged in the specifier of ApplP and saturates the \( \lambda y \) slot.
- The verb combines with ApplP and saturates the \( \lambda f \) slot.
- \( f \) stands for function and, here, the function is necessarily of type \( <e,<s,t>> \). This is the type of the verb.
- Remember: \( \lambda P \) (the proposition) in the denotation for Tense is specified as type \( <s,t> \), which is the type of \( vP/Vp/PredP \).
- The Voice head combines with VP and introduces a spot for the subject external argument.
- The subject is merged in in the specifier of VoiceP and saturates the \( \lambda x \) slot.
Low Recipient vs Low Source Applicatives

- English has a low **recipient** applicative.
- Korean has a low **source** applicative.
  - The applicative is the source of the direct object.
- The only difference is that the denotation encodes “from the possession of” instead of “to the possession of”.

(12) *Low source applicative: Korean*

<table>
<thead>
<tr>
<th>English</th>
<th>Korean</th>
</tr>
</thead>
<tbody>
<tr>
<td>thief-DAT</td>
<td>thief-NOM</td>
</tr>
<tr>
<td>Mary-DAT</td>
<td>Mary-hanthey</td>
</tr>
<tr>
<td>ring-ACC steal-PAST-PLAIN</td>
<td>pansi-lul humchi-ess-ta.</td>
</tr>
</tbody>
</table>

‘The thief stole a ring from Mary.’ (Lit.: ‘The thief stole Mary a ring.’)

Hypothesized meaning: ‘The thief stole a ring and it was from Mary’s possession.’

(15) a. **Low-Appl\textsubscript{T0} (Recipient applicative)**

\[ \lambda x. \lambda y. \lambda f \langle e, x, y \rangle . \text{i.e. } f(e, x) \& \text{theme}(e, x) \& \text{to-the Possession}(x, y) \]

b. **Low-Appl\textsubscript{From} (Source applicative)**

\[ \lambda x. \lambda y. \lambda f \langle e, x, y \rangle . \text{i.e. } f(e, x) \& \text{theme}(e, x) \& \text{from-the Possession}(x, y) \]
What about “normal” ditransitives (in English)?

- For Pylkkänen, these are the same as low applicatives. The indirect object is still the “recipient” of the direct object.

- NOTE: *I showed Mary herself* is a famous example from Larson 1988 (a very well-known paper on ditransitives). The “recipient” meaning is a stretch here. This meaning also doesn’t fit object control constructions, which are ditransitive - e.g. *I told the cat to teleport to the moon.*

(8) Small clause|Causative analysis of double object verbs
a. I gave Mary a book.
b. I CAUSE [Mary HAVE a book]

(10) Causative
a. #I flew the kite over the field but it didn’t fly.
b. #I broke the vase but it didn’t break.
c. #I cooked the meat but it didn’t cook.

(9) Double object construction
a. I threw John the ball but he didn’t catch it.
b. I sent Bill the letter but he never got it.
c. I wrote Sue a letter but she never got it.

(11) a. Double object construction
   *I told John the news drunk.*
   b. Small clause
   I saw John drive his car drunk.

Pylkkänen argues against a small clause analysis of ditransitives, based on...

...Entailment:
- Resulting states are entailed in causatives. =(10)
- Resulting states aren’t entailed in double objects. =(9)

...Depictives:
- Small clauses can have depictive modification of the subject. =(11b)
- Ditransitives can’t have depictive modification of the indirect object. =(11a)

Depictives describe a state that one of the arguments of a verb is in during the event described by the verb. We’ll come back to these.
Diagnostics and Predictions

Transitivity Restrictions: Only High Appl should be able to combine with an unergative. Low Appl requires a direct object.

Verb Semantics: Only High Appl should be able to combine with static verbs. Low Appl involves an (intended) transfer of possession.

Low
(20) English
a. *Unergative verb
   *I ran him.
b. *Static verb
   *I held him the bag.
(21) Japanese
a. *Unergative verb
   *Taroo-ga Hanako-ni hasit-ta.
      Tar-o-nom Hanako-dat fun-past
      ‘Taro ran for Hanako.’
b. *Static verb
   *Taroo-ga Hanako-ni kanojo-no kaban-o mot-ta.
      Tar-o-nom Hanako-dat she-gen bag-acc hold-past
      ‘Taro held Hanako her bag.’
(22) Korean
a. *Unergative verb
      Mary-nom John-dat run-past-plain
      ‘Mary ran to/from John.’
b. *Static verb
      John-nom Mary-dat bag-acc hold-past-plain
      ‘John held Mary her bag.’

High
(23) Luganda
a. ✓ Unergative verb
   Mukasa ya-tambu-le-dde Katonga.
   Mukasa 3sg.past-walk-appl-past Katonga
   ‘Mukasa walked for Katonga.’
b. ✓ Static verb
   Katonga ya-kwaant-i-dde Mukasa ensawo.
   Katonga 3sg.past-hold-appl-past Mukasa bag
   ‘Katonga held the bag for Mukasa.’
(24) Venda
a. ✓ Unergative verb
   Ndi-do-shum-el-a musadzi.
   1sg-fut-work-appl-fv lady
   ‘I will work for the lady.’
b. ✓ Static verb
   Nd-o-far-el-a Mukasa khali.
   1sg-past-hold-appl-fv Mukasa pot
   ‘I held the pot for Mukasa.’
(25) Albanian
a. ✓ Unergative verb
   I vrupa.
   him.dat.cl ran.1sg
   ‘I ran for him.’
b. ✓ Static verb
   Agimi i mban Drites canten time.
   Agim.nom cl holds Drita.dat bag.acc my
   ‘Agim holds my bag for Drita.’
The descriptive generalization:

There is a typology of applicatives. In some applicative constructions, the extra argument is related to an event. In other applicative constructions, the extra argument is related to the direct object.

The analysis:

There is an applicative head (Appl) that mediates the relationship between the applicative argument and the rest of the construction.

In constructions in which the applicative has a relationship with the event denoted in the VP, Appl attaches higher than the verb.

- Appl combines with VP.
- The denotation for High Appl includes argument positions for an entity (the applicative) and an event. It’s like Voice.
- High Appl Languages: Venda, Chaga, Chichewa, Luganda, Albanian

In constructions in which the applicative has a relationship with the direct object, Appl attaches lower than the verb.

- Both the applicative and the direct object are merged inside of ApplP.
- Appl combines with the direct object and Appl’ combines with the applicative.
- The denotation for Low Appl includes argument positions for the direct object, the applicative, the verb, and an event.
- Low Appl Languages: English, Korean, Japanese

Predictions and diagnostics:

- High Applicatives are compatible with unergatives and statives verbs and Low Applicatives are not.
The Descriptive Observations:

- Subjects and direct objects can be modified by a depictive (26a)/(27), but indirect objects can’t (26b).

- Depictives are like adverbs in that “they attribute a property to the event described by the verb.” (p.23)

- The state described by the adjective holds during the event encoded in the verb.

- Back to the stage level/individual level distinction:
  - Since depictives describe a state that holds during an event, depictives sound odd with individual level adjectives. = (29)

The Proposal:

- Depictives have two parts - (1) the adjective, (2) a depictive head (Dep)
  - In some languages (e.g. Finnish) depictives are morphologically marked. = (32)

(26) a. I gave Mary the meat raw.
    b. *I gave Mary the meat hungry.
    (Baker 1997, (23c,d))

(27) a. Object depictive
    John ate the meat raw.
    b. Subject depictive
    John wrote this letter drunk.

(29) He entered the room annoyed/??crazy/??tall.

(32) a. Adjective
    Sö-i-n ra’a-n tomaati-n.
    eat-PAST-1SG raw-ACC tomato-ACC
    ‘I ate a raw tomato.’

b. Depictive
    Sö-i-n tomaati-n raaka-na.
    eat-PAST-1SG tomato-ACC raw-ACC
    ‘I ate a tomato raw.’
We traveled *tired*.

- The "state" gets related to the event. (But there's no "state" argument; no \( \lambda s \).)

There is some entity and some event such that there is at least one state which is a state of being tired and the entity is in that state and the state holds during the event.

The meaning of Dep

- The adjective does have a "state" argument.
- In type theory, "s" can refer to event or state.
- There is some entity and some state such that tired is the state and the entity is in that state.
- There is some adjective of type \(<e, <s,t>>\) and some entity and some event such that:
  - There is at least one state such that the adjective holds of \( x \) in that state and that state holds during an event.
Back to Predicate Modification

- **Predicate Modification**: This is new for us. This operation combines two daughters of the same type and returns a value of that type. Like Event Identification, it’s a conjunction operation of sorts.
  - For the Applicative analysis, the two nodes that are combined both have type \(<e, <s,t>>\). They combine and their mother has type \(<e, <s,t>>\).

- Pylkkänen proposes that DepP is of type \(<e, <s,t>>\).
- The nodes that DepP combines with are also of type \(<e, <s,t>>\).
  - Object depictives combine with the verb.
  - Subject depictives combine with Voice’.

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\(<e, <s,t>>\)
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\(<e, <s,t>>\)   \(<e, <s,t>>\)
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Ling 340 – Fall 2015 – Cherlon Ussery
DepP contains the adjective and the depictive head.
- The adjective saturates $\lambda f$ of Dep.
  - DepP is type $<e, <s,t>>$.
- The verb combines with DepP.
  - The verb is also $<e, <s,t>>$.
- DepP and the verb combine via Predicate Modification.
  - $V'$ is type $<e, <s,t>>$.
- The subject of the small clause VP is merged in the specifier and saturates the $\lambda x$ slot. We get:
  - There is some event such that the event is a seeing event and Peter is the theme of that event and there is at least one state which is a state of being tired and Peter is in that state and that state holds during the event.
  - WHEW!!!!!!
- The Voice head combines with VP and introduces a spot for the subject external argument.
- Event Identification applies as normal.
  - Voice is $<e, <s,t>>$ and VP is $<s,t>$.
- The subject is merged in the specifier of VoiceP and saturates the $\lambda x$ slot.

Predicate Modification: $V + DepP$
This one is structurally trickier.

The verb see combines with the direct object.

Voice combines with the VP as normal. Event Identification.

Here’s where things get slightly more complex. Think back to syntax and the argument adjunct distinction.

Again, DepP contains the adjective and the depictive head. The adjective saturates λf of Dep.

DepP is type <e, <s,t>>.

DepP combines with Voice’, which is <e, <s,t>>.

Structurally, DepP is in an adjunct position - it’s daughter and sister to a bar-level. Here, there are two Voice’ levels.

Unlike with the object depictives, we don’t know who is in the state of being tired at this point in the structure.

The subject is merged in the specifier of VoiceP and saturates the λx slot. Sue is the agent of the seeing and is in the state of being tired.

Predicate Modification: Voice’ + DepP

(34) Subject depictives: DepP combines with Voice’
  a. Sue saw Peter tired.
Depictives and Applicatives

- DepP combines with phrases that are \(<e, <s,t>>\). **Predictions:**
  - Depictives can’t modify low applicatives/indirect objects. = (26b)
    - DepP would have to attach to Appl’ and Appl’ is \(<e, <<e,st>>, <s,t>>\). See (37)
  - Depictives can modify direct objects (even in ditransitive/applicative constructions). = (26a) / (38)
    - DepP attaches to the verb. (See next page.)

(26) a. I gave Mary the meat raw.
    b. *I gave Mary the meat hungry.
       (Baker 1997, (23c,d))

(37) Low applicative

(38) Depictive modification of the direct object in a low applicative construction

a. I bought John the VCR new.
Depictive Modification of Direct Object in an Applicative Construction

Remember the denotation for Low Appl

(15) a. Low-\text{Appl}_{To} (\text{Recipient applicative})
\[ \lambda x.\lambda y.\lambda f_{(e,\langle s,t\rangle)} \lambda e. \text{ buying}(e) \land \text{ theme}(e, x) \land \text{ to-the-possession}(x, y) \]
b. Low-\text{Appl}_{From} (\text{Source applicative})
\[ \lambda x.\lambda y.\lambda f_{(e,\langle s,t\rangle)} \lambda e. \text{ buying}(e) \land \text{ theme}(e, x) \land \text{ from-the-possession}(x, y) \]

\text{VP means:} There is an event such that the event is of buying and the VCR is the theme of that event and there is at least one state which is a state of being new and the VCR is in that state and that state holds during the event and the VCR is to the possession of John.

\text{Predicate Modification:} V + \text{DepP}

- DepP attaches to the verb, just as in the Object Depictive Derivation on Slide 36.
- The verb and DepP combine via Predicate Modification.
- ApplP combines with V’. In syntactic terms, ApplP occupies the specifier of the VP.
- Voice combines with VP and things proceed as expected.
Japanese = English

(39) Basic depictive distribution
   a. Object depictive
      Taroo-ga katu-o nama-de tabe-ta.
      Taro-NOM bonito-ACC raw eat-PAST
      ‘Taro ate the bonito raw.’
   b. Subject depictive
      Taroo-ga ie-o hadaka-de nut-ta.
      Taro-NOM house-ACC naked paint-PAST
      ‘Taro painted the house naked.’

(40) Depictive cannot modify low applied argument
      Taro-NOM naked Hanako-DAT book-ACC read-PAST
      ‘Taro read Hanako a book while she was naked.’
      (False if Taro isn’t naked)
      Taro-NOM Hanako-DAT naked book-ACC read-PAST
      ‘Taro read Hanako a book while she was naked.’
      (False if Taro isn’t naked)

Both Japanese and English are Low Appl languages and the Depictive can’t modify the applicative.

Luganda ≠ English

(42) Basic depictive distribution
   a. Object depictive
      Mukasa ya-li-dde enyama (nga) embisi.
      Mukasa 3SG.PAST-eat-PAST meat raw
      ‘Mukasa ate the meat raw.’
   b. Subject depictive
      Mukasa ya-koze (nga) akooye.
      Mukasa 3SG.PAST-work tired
      ‘Mukasa worked tired.’
   c. Subject depictive
      Mukasa ya-li-dde enyama nga akooye.
      Mukasa 3SG.PAST-eat-PAST meat tired
      ‘Mukasa ate the meat tired.’

(43) a. Depictive can modify high applied argument
      Mustafa ya-ko-le-dde Katonga nga muhwaade.
      Mustafa 3SG.PAST-work-APPL-PAST Katonga sick
      ‘Mustafa worked for Katonga while Katonga was sick.’
      (True in a situation where Mustafa is healthy and Katonga is sick)
   b. Depictive can modify high applied argument
      Mukasa ya-ko-le-dde Katonga nga akooye.
      Mukasa 3SG.PAST-work-APPL-PAST Katonga tired
      ‘Mukasa worked for Katonga while Katonga was tired.’
      (True in a situation where Mukasa is energetic and Katonga is tired)

Luganda is a High Appl language and the Depictive can modify the applicative.
From Kratzer:

- The “meaning” of a verb includes its internal argument (if there is one) and an event.
- The semantic job of \( v \) is to add the external argument to the event encoded in the VP.

From Pylkkänen:

- Languages vary in how they add “extra” arguments to the structure.
- There is an applicative head (Appl) that mediates the relationship between the applicative argument and the rest of the construction.
- Low Appl attaches below the verb and mediates the relationship between the applicative and the direct object.
- High Appl attaches above the verb and mediates the relationship between the applicative and the event encoded in the VP.
- The distribution of depictives interacts with the typology of applicatives.
  - Depictives can modify high applicatives, but not low applicatives.
REFERENCES


