CAS LX 522
Syntax I

7

UTAH
(4.3-4.4)

We give trees to ditransitives

You may recall our discussion of θ-theory, where we triumphantly classified verbs as coming in (at least) three types:

Intransitive (1 θ-role)

Transitive (2 θ-roles)

Ditransitive (3 θ-roles)

- Theta roles go to obligatory arguments, not to adjuncts.

Verbs and participants

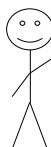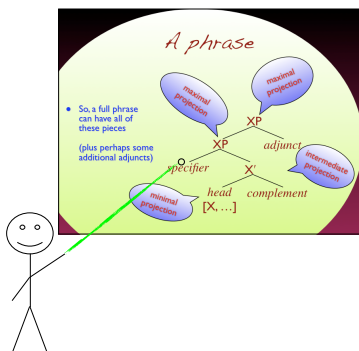- **Intransitive** (1-place): *Sleep*
  1) Bill slept.
  2) *Bill slept the book.
- **Transitive** (2-place): *Hit*
  3) *Bill hit.
  4) Bill hit the pillow.
- **Ditransitive** (3-place): *Put*
  5) *Bill put.
  6) *Bill put the book.
  7) Bill put the book on the table.
- **Weather** (0-place): *Rain*
  8) It rained.

We give trees to ditransitives

You may also recall that we believe that trees are binary branching, where:

- Syntactic objects are formed by Merge.

- There's just one complement and one specifier.

A phrase

- So, a full phrase can have all of these pieces (plus perhaps some additional adjuncts)

maximal projection — XP
intermediate projection
minimal projection
specifier
adjunct
X′
head complement [X, …]

We give trees to ditransitives

Fantastic, except that these things just don't fit together.

We know what to do with transitive verbs.
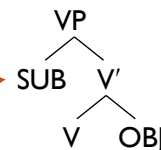
- But what do we do with ditransitive verbs? We're out of space!

VP
SUB V′
V OBJ

Problems continue...

1) I showed Mary to herself.
2) *I showed herself to Mary.
3) I introduced nobody to anybody.
4) *I introduced anybody to nobody.

- This tells us something about the relationship between the direct and *to*-object in the structure. (What?)

Problems continue...

The OBJ c-commands the PP. **But how could we draw a tree like that?**
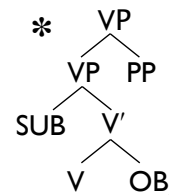
- Even if we allowed adjuncts to get θ-roles, the most natural structure would be to make the PP an adjunct, like this, but that doesn't meet the c-command requirements.

*
VP
VP PP
SUB V′
V OBJ

Some clues from idioms

- Often idiomatic meanings are associated with the verb+object complex—the meaning derives both from the verb and the object together.

- Suppose that this is due being Merged into the structure together initially.

  Bill threw a baseball.

  Bill threw his support behind the candidate.

  Bill threw the boxing match.

Idioms in ditransitives

In ditransitives, it seems like this happens with the *PP*.

Beethoven gave the Fifth Symphony to the world.

Beethoven gave the Fifth Symphony to his patron.

Lasorda sent his starting pitcher to the showers.

Lasorda sent his starting pitcher to Amsterdam.

Mary took Felix to task.

Mary took Felix to the cleaners.
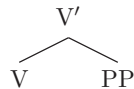
Mary took Felix to his doctor's appointment.

So V and PP are sisters...

- Larson (1988) took this as evidence that the V is a sister to the PP "originally."

- Yet, we see that on the surface the OBJ comes between the verb and the PP.

  1) Mary sent a letter to Bill.

- Where is the OBJ? It must c-command the PP, remember. Why is the V to the left of the OBJ when we hear it?

```
        V′
       /  \
      V    PP
```

Where's the V? The OBJ?

- We can paraphrase *John gave a book to Mary* as *John caused a book to go to Mary*.

- Chichewa:

  - Mtsikana ana-chit-**its**-a   kuti mtsuku   u-**gw**-e
    girl   agr-do-**cause**-asp that waterpot agr-**fall**-asp
    'The girl made the waterpot fall.'

  - Mtsikana anau-**gw**-**its**-a   kuti-mtsuku
    girl   agr-**fall**-**cause**-asp that waterpot
    'The girl made the waterpot fall.'

- Suppose that in both cases Merge puts things together in the same way initially:

  - [[that waterpot] fall]

Causatives

- [[that waterpot] fall]

- Then it's merged with *cause* (basically transitive: needs a causer and a causee):

  - [cause [[that waterpot] fall]]

- And then it's Merged with the Agent

  - [girl [cause [[that waterpot] fall]]]

- At which point, one *can* **move** *fall* over to *cause*.

  - [girl [cause+fall [[that waterpot] <fall>]]]

Ditransitives again

- The proposal will be that English ditransitives are really a lot like Chichewa causatives.

- Starting with

  - [[the book] [go [to Mary]]]

- Merging *cause* and an Agent

  - [John [cause [[the book] [go [to Mary]]]]]

- One then moves *go* over to *cause* to get:

  - [John [cause+go [[the book] [<go> [to Mary]]]]]

  - John   "gave"   the book   to Mary.

Un peu de français

- If you've tried to learn any French at all, you've come across this phenomenon:
  - *de* 'of'   *le* 'the (masc.)'
  - *à* 'at'   *la* 'the (fem.)'

  - à la bibliotheque 'to the library (fem.)'
  - *à le cinéma   'to the movies (masc.)'
  - au cinéma   'to the movies (masc.)'
  - de la mayonnaise   'of mayonnaise (fem.)'
  - *de le lait   'of milk (masc.)'
  - du lait   'of milk (masc.)'

Un peu de français

This is usually taught as:
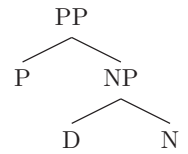
au = à + le

du = de + le

If your underlying *intent* is *à* 'at' + *le* 'the', say *au*.

So is *au* a preposition or an article?

There's no reason to believe that *au cinéma* has a different syntactic structure from *à la bibliothèque*.

This is just about how it is pronounced.

Au = à + le. Give = cause + go.

(tree: PP → P, NP; NP → D, N)

Where's the V? The OBJ?

- Larson's proposal was basically this. Logically, if we're going to have binary branching and three positions for argument XPs (SUB, OBJ, PP), we need to have another XP above the VP.
- Since the subject is in the specifier of the higher XP, that must be a VP too.
- Ditransitive verbs really *come in two parts*. They are in a "VP shell" structure.
- Furthermore, the higher part seems to correlate with a meaning of causation.

(tree: vP → SUB, v′; v′ → v+V, VP; VP → OBJ, V′; V′ → <V>, PP)
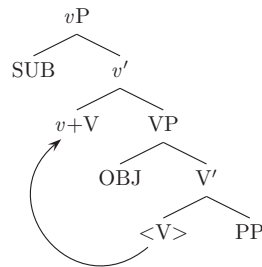
Where's the V? The OBJ?

The higher verb is a "light verb" (we'll write it as vP to signify that)—its contribution is to assign the θ-role to the subject. The lower verb assigns the θ-roles to the OBJ and the PP.

That is, V has [*u*P, *u*N] features, and v has a [*u*N] feature.

Hierarchy of Projections (so far):
v > V
("V comes with *v*")

(tree: vP → SUB, v′; v′ → v+V, VP; VP → OBJ, V′; V′ → <V>, PP)
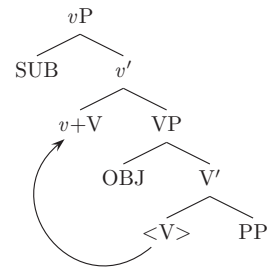
Where we are

We've just come up with an analysis of sentences with ditransitive verbs, such as *Pat gave books to Chris* that accords with the constraints of the syntactic system we have developed so far.

- Merge is binary
- θ-roles are assigned to specifiers and complements.

The solution is to assume a two-tiered structure, with a little ∨ in addition to the VP.

(tree: vP → NP *Pat*, v′; v′ → v, VP; VP → NP *books*, V′; V′ → V *gave*, PP; PP → P *to*, NP *Chris*)
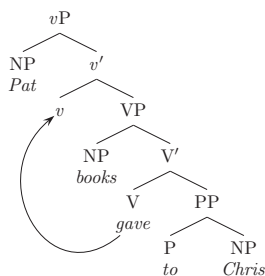
Where we are

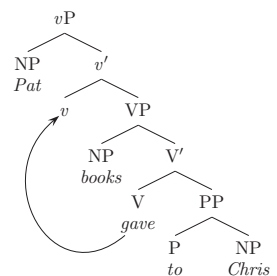The three θ-roles for *give* are assigned like this:

The PP gets a Goal θ-role.

The lower NP gets a Theme θ-role.

The highest NP (in the specifier of *v*P) gets an Agent θ-role.

But how did we know that?

More importantly, how do kids come to know that?

Do they memorize this list for each verb they learn?

(tree: vP → NP *Pat*, v′; v′ → v, VP; VP → NP *books*, V′; V′ → V *gave*, PP; PP → P *to*, NP *Chris*)

Uniformity of Theta Assignment

If kids are really memorizing which θ-role goes where for each verb, there should be some verbs that do it in other ways.

- For example, there might be a ditransitive verb with Theme in the specifier of *v*P, Goal in the specifier of VP, and Agent in the complement of VP.

  E.g., *to tup*:
  Books tup on the shelf Chris
 'Chris put books on the shelf.'
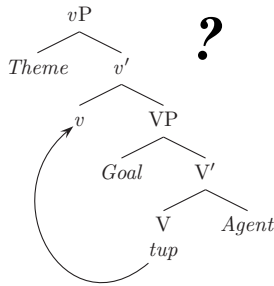
UTAH

- But that just never happens.

  It seems that all verbs have θ-role assignment that looks pretty much the same.

  - If there's an Agent, it's the first (uppermost) NP.

  - If there's a Theme it's down close to the verb.

  - Given that things *seem* to be relatively uniform, it has been proposed that this is a fundamental property of the syntactic system. Each θ-role has a consistent place in the structure.
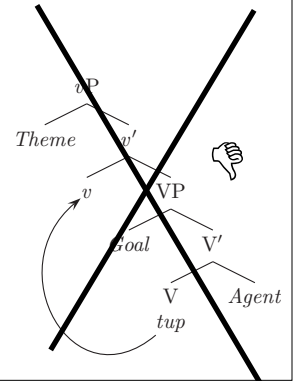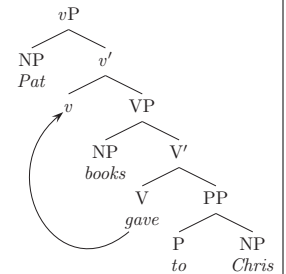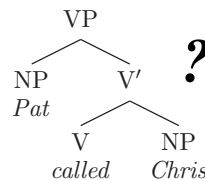

UTAH

The Uniformity of Theta-Assignment Hypothesis (UTAH): Identical thematic relationships between predicates and their arguments are represented syntactically by identical structural relationships when items are Merged.

- That is, all Agents are structurally in the same place (when first Merged). All Patients are structurally in the same place, etc.

- We can take this to be a property of the *interpretation*. When a structure is interpreted, the θ-role an argument gets depends on where it was first Merged.
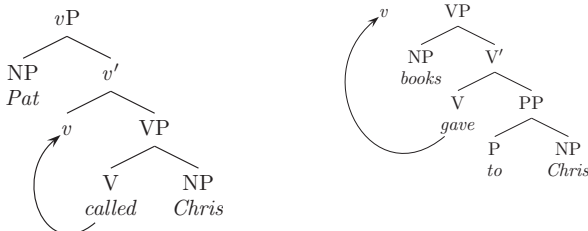

θ-roles and structure

- Great. So, the Agent (*Pat*) in *Pat gave books to Chris* is in the specifier of *v*P. Because that's where Agents go.

- But.. What about structures like the ones we had before for things like *Pat called Chris*?
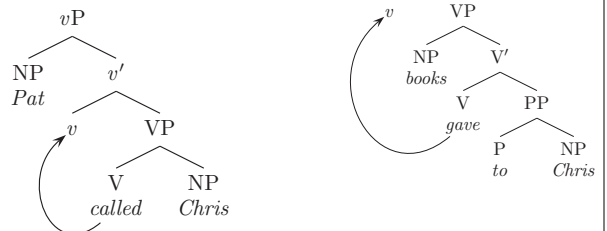

θ-roles and structure

- Well, if we're serious about working within the constraints of UTAH, we need a *v* there too— to host the Agent.

- Hierarchy of Projection: *v* > V
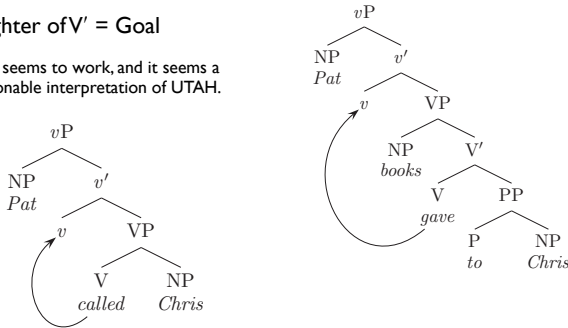

θ-roles and structure

Specifier of *v*P = Agent

- But where's the Theme? Isn't that in different places in Pat called **Chris** and Pat gave **books** to Chris?
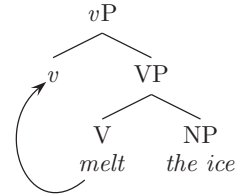
θ-roles and structure

- NP, daughter of *v*P = Agent
- NP, daughter of VP = Theme
- PP, daughter of V′ = Goal
  - That seems to work, and it seems a reasonable interpretation of UTAH.

```
        vP
       /  \
     NP    v′
     Pat  /  \
         v    VP
         |   /  \
         V    NP
       called  Chris
```

```
              vP
             /  \
           NP    v′
           Pat  /  \
               v    VP
                   /  \
                 NP    V′
                books /  \
                     V    PP
                   gave  /  \
                        P    NP
                        to  Chris
```

Unaccusatives

The ice, the boat, the door, all Themes: NP daughter of VP.
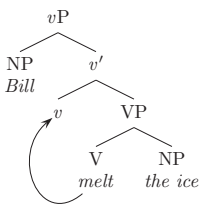
- The ice melted.
- The boat sank.
- The door closed.

Unaccusatives have a relatively "inert" *v*, no "causal" meaning.

There are two kinds of *v*, the causal one that needs an NP (Agent), and a non-causal one.

What if we pick the causal *v* (and provide an Agent NP)?

```
        vP
       /  \
      v    VP
          /  \
         V    NP
       melt  the ice
```

Transitives

```
        vP
       /  \
     NP    v′
     Bill /  \
         v    VP
             /  \
            V    NP
          melt  the ice
```
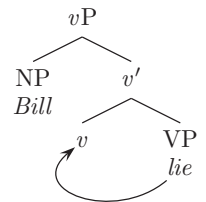
Bill melted the ice.

- The causal *v* adds an Agent.
- Bill was the agent/instigator of a melting that affected the ice.

Unergatives

- *Bill lied.*

- That's got an Agent, and Agents must be NP daughter of *v*.

- So, it would look like this.

```
        vP
       /  \
     NP    v′
     Bill /  \
         v    VP
              lie
```

Double object constructions

Pat gave a book to Chris.
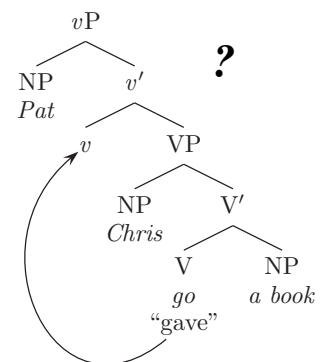
- Agent: Pat; Theme: a book; Goal: to Chris

Pat gave Chris a book.

- Agent: Pat, Theme: ? a book?, Goal: ? Chris?

Don't these mean the same thing?

Pat gave Chris a book

- NP, daughter of *v*P = Agent
- NP, daughter of VP = Theme
- PP, daughter of V′ = Goal
- The word order suggests this structure.
- UTAH (so far) doesn't tell us what theta role *a book* gets.
- And in what sense is Chris a Theme of a going?

```
        vP
       /  \        ?
     NP    v′
     Pat  /  \
         v    VP
             /  \
           NP    V′
          Chris /  \
               V    NP
               go   a book
             "gave"
```

Two kinds of giving

- The two forms of *give* are not quite equivalent, though:
  1) Pat gave a book to Chris.
  2) Pat gave Chris a book.
  3) *Pat gave a headache to Chris.
  4) Pat gave Chris a headache.
- Try paraphrasing…
  5) Pat sent a letter to Chicago.
  6) *Pat sent Chicago a letter.
  7) Pat taught French to the students.
  8) Pat taught the students French.

To have

- NP, daughter of *v*P = Agent
- NP, daughter of VP = Theme
- PP, daughter of V′ = Goal
- NP, daughter of V′ = Possessee
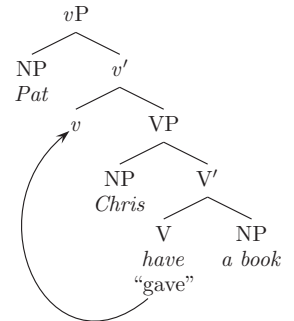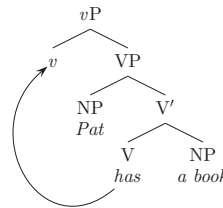
On beyond v

Our trees have now expanded beyond being mere VPs to being *v*Ps.

- The Hierarchy of Projections: *v* > V
  Once you have finished the VP (uninterpretable selection features are checked), if there's a *v* on the workbench, Merge it.

  The UTAH:

  NP, daughter of *v*P: Agent

  NP, daughter of VP: Theme

  PP, daughter of V′: Goal

  NP, daughter of V′: Possessee

- But this is only the beginning.