I still hadn’t seen anyone ever lift a finger yet.

1) Pat didn’t invite anyone to the party.
2) Pat does not know anything about syntax.
3) Pat hasn’t ever been to London.
4) Pat hasn’t seen Forrest Gump yet.
5) Pat didn’t lift a finger to help.
6) Pat didn’t have a red cent.
7) *Pat invited anyone to the party.
8) *Pat knows anything about syntax.
9) *Pat has ever been to London.
10) *Pat has seen Forrest Gump yet.
11) *Pat lifted a finger to help.
12) *Pat had a red cent.

Licensing

- NPIs (Negative Polarity Items) are permitted, given “license to appear” by a negative expression. Without a licensor, an NPI is not possible.
  1) John didn’t invite Mary/anyone to the party (, did he?)
  2) John invited Mary/*/anyone to the party (, didn’t he?)
  3) Nobody invited Mary/anyone to the party (, did they?)

- NPIs are licensed by negation in a sentence.

Negative Polarity Items

- But it isn’t quite as simple as that. Consider:
  1) I didn’t see anyone.
  2) *I saw anyone.
  3) *Anyone didn’t see me.
  4) *Anyone saw me.

- It seems that simply having negation in the sentence isn’t by itself enough to license the use of an NPI.
- Negation has to precede the NPI?
  5) *The picture of nobody pleased anyone.

Negative Polarity Items

- Young kids (5-6 years) seem to accept sentences like (1) as meaning what (2) means for adults.
  1) Mama Bear is pointing to her.
  2) Mama Bear is pointing to herself.

- Suppose that, contrary to appearances, kids do know and obey Principle B. Look carefully at the definitions of Binding Theory. If Principle B isn’t the problem, what do you think kids are getting wrong to allow (1) to have the meaning of (2)?
- Think in particular about how you decide which index to assign to her. What is the implication of having the same index? What is the implication of having different indices?
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.

- 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.

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!

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.

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.
  1) Bill threw a baseball.
  2) Bill threw his support behind the candidate.
  3) 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?

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]]]]]
- Mary "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.

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.

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 [uP, uN] features, and v has a [uN] feature.
- Hierarchy of Projections (so far): v > V ("V comes with v")

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 v in addition to the VP.

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 VP, 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.’
• But that just never happens.
• It seems that all verbs have \( \theta \)-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 \( \theta \)-role has a consistent place in the structure.

\[ \text{UTAH} \]

\( \theta \)-roles and structure

• Great. So, the Agent (Pat) in Pat gave books to Chris is in the specifier of vP. Because that’s where Agents go.
• But.. What about structures like the ones we had before for things like Pat called Chris?

\[ \text{UTAH} \]

\( \theta \)-roles and structure

• 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 \( \theta \)-role an argument gets depends on where it was first Merged.

\[ \theta \text{-roles and structure} \]

• Specifier of vP = Agent
  • But where’s the Theme? Isn’t that in different places in Pat called Chris and Pat gave books to Chris?

\[ \theta \text{-roles and structure} \]

• NP, daughter of vP = Agent
  • NP, daughter of VP = Theme
  • PP, daughter of V’ = Goal
  • That seems to work, and it seems a reasonable interpretation of UTAH.
Unaccusatives vs. unergatives

- Recall that there are two types of single-argument (intransitive) verbs in terms of the θ-role they assign to their single argument.

  - Unaccusatives: Have one, Theme θ-role.
    - Fall, sink, break, close
  
  - Unergatives: Have one, Agent θ-role.
    - Walk, dance, laugh

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 shells

- Bill melted the ice.
  - Straightforward enough. The causal v adds an Agent.
  - Bill was the agent/instigator of a melting that affected the ice.
  - Why isn’t the unaccusative version Melted the ice, though?
    - (English being head-initial, after all)

Preview

- We will turn to this question more thoroughly next. But to a first approximation, we say that:
  - Sentences need subjects.
  - Subjects come first.
    - Since there is only one NP here, it has to be the subject, and it has to come first.
    - We suppose that a movement operation (something like what happens to give when it moves up to v) carries the subject over to the left of the vP.
    - As for where it goes (how it is integrated into the structure), we’ll concern ourselves more with that next week.

Bill lied

- Just to address the last case, the unergatives, consider Bill lied.

  - That’s got an Agent, so it’s got a v.

  - So, it would look like this.
**Auxiliary selection**

1) Molte ragazze telefonano
   many girls phone
   'Many girls are phoning.'

2) Molte ragazze arrivano
   many girls arrive
   'Many girls are arriving.'

3) Molte ragazze hanno telefonato
   many girls have phone[past-part.3sg]
   'Many girls phoned.'

4) Molte ragazze sono arrivate.
   Many girls are arrive[past-part.3pl]
   'Many girls arrived.'

**Double objects**

- Just as you can give a book to Chris, so can you give Chris a book.

- But...

- If we try to analyze *Pat gave Chris a book* in the same way, we run into trouble.

**Pat gave Chris a book**

- NP, daughter of vP = Agent
- NP, daughter of VP = Theme
- PP, daughter of V' = Goal

- See the problem?

- If we believe the UTAH, this can't be right.

**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 vP = Agent
- NP, daughter of VP = Theme
- PP, daughter of V' = Goal
- NP, daughter of V' = Possessee