How to give someone their innocence again

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(1) Lexicalist View
a. Verbs come with articulated meanings that express how their arguments will be related.
   i. $\llbracket \sqrt{\text{kick}} \rrbracket = \lambda x. \lambda y. \lambda z. \lambda e. \text{kick}(e) \land y(e) \land \text{theme}(x, e) \land \text{agent}(z, e)$

b. Linking Rules determine how the verb and its arguments are syntactically related.
   i. Themes are syntactically lower than locations, which are syntactically lower than agents.

c. $\lambda e. \text{kick}(e) \land \text{at}(\text{the_goal}, e) \land \text{theme}(\text{the_ball}, e) \land \text{agent}(\text{she}, e)$

   \[
   \begin{array}{c}
   \text{VP} \\
   \lambda e. \text{kick}(e) \land \text{at}(\text{the_goal}, e) \land \text{theme}(\text{the_ball}, e) \land \text{agent}(\text{she}, e) \\
   \end{array}
   \]

   $\Delta$

e. $\lambda x. \lambda e. \text{kick}(x, e)$

f. $\sqrt{\text{kick}} \Rightarrow \text{vP}$

(2) Syntactic View

a. The meanings of verbs are syntactically composed predicates
   i. $\llbracket \sqrt{\text{kick}} \rrbracket = \lambda x. \lambda e. \text{kick}(x, e)$
   ii. $\llbracket \text{v} \rrbracket = \lambda x. \lambda e. \text{agent}(x, e)$
   iii. $\llbracket \text{to} \rrbracket = \lambda x. \lambda e. \text{at}(x, e)$

b. The syntax determines how the predicates combine, and the syntax/morphology determines how those predicates spell out as a lexical item.
   i. Only if Pred₁ and Pred₂ are under the same X₀ can a lexical item spell them out.
   ii. $\text{kick} \Rightarrow \sqrt{\text{kick} + \text{v}}$

(3) $\lambda e. \text{kick}(\text{the_ball}, e) \land \text{at}(\text{the_goal}, e) \land \text{agent}(\text{she}, e)$

   \[
   \begin{array}{c}
   \text{vP} \\
   \lambda e. \text{kick}(\text{the_ball}, e) \land \text{at}(\text{the_goal}, e) \land \text{agent}(\text{she}, e) \\
   \end{array}
   \]

   $\Delta$

e. $\lambda x. \lambda e. \text{kick}(x, e)$

f. $\sqrt{\text{kick}} \Rightarrow \text{vP}$

The composite meanings of verbs are, on this view, largely determined by syntactic structures and the normal rules of semantic composition that interpret them.
(4) Semantic Rules
a. Predicate Conjunction
   If \( \lambda x. P(x) \) and \( \lambda y. Q(y) \) are sisters and \( x \) and \( y \) are of the same semantic type, then their mother can be: \( \lambda x. P(x) \& Q(x) \).

b. Event Identification
   If \( \lambda e. P(e) \) and \( \lambda x. \lambda e. Q(x, e) \) are sisters, where \( e \) is of the event type, then their mother can be \( \lambda x. \lambda e. P(e) \& Q(x, e) \).

To produce from (3) a representation that the lexical item kick can be inserted into, Head Movement must apply:

(5)\[
\begin{array}{c}
\text{DP} \\
\text{vP} \\
\text{v} \\
\text{V} \\
\sqrt{\text{kick}} \\
\text{V} \\
\text{P} \\
\text{DP} \\
\text{the ball} \\
\text{the goal} \\
\end{array}
\]


There are certain cases of modification that suggest certain examples require the Syntactic View.

(6) Satoshi closed the door again.
   a. repetitive
      \( = \) Satoshi closed the door and it had been closed previously.
   b. restitutive
      \( = \) Satoshi closed the door and it and it was in a closed state previously.

(7) Satoshi again closed the door.
   a. repetitive
      \( = \) Satoshi closed the door and it had been closed previously.
   b. restitutive
      \( \neq \) Satoshi closed the door and it and it was in a closed state previously.

von Stechow (1996) suggests an account like:

(8) \( \sqrt{\text{close}} = \lambda x. \lambda s. \text{CLOSE}(x, s) \) (\( s \) a state)

(9) Repetitive:

(10) Restitutive:

\[
\begin{array}{c}
\text{DP} \\
\text{vP} \\
\text{v} \\
\text{BECOME} \\
\text{V} \\
\sqrt{\text{close}} \\
\text{DP} \\
\text{the door} \\
\end{array}
\]

\[
\begin{array}{c}
\text{DP} \\
\text{vP} \\
\text{v} \\
\text{BECOME} \\
\text{V} \\
\sqrt{\text{close}} \\
\text{DP} \\
\text{the door} \\
\end{array}
\]
Repetitive only:

We'll want the lexical item close to correspond to the become and \( \sqrt{\text{close}} \) parts because that is its meaning in its inchoative use.

The door closed.

\( \approx \) the door became closed.

So the syntax/morphology interface will look like this:

(13) close \( \Rightarrow \sqrt{\text{close}} + \text{become} \)

(14) vP

\( \text{DP} \quad \text{vP} \)

\( \text{Satoshi} \quad \text{v} \quad \text{BecP} \)

\( \text{become} \quad \text{VP} \)

\( \text{V} \quad \text{DP} \)

\( \sqrt{\text{close}} \quad \text{the door} \)

Stechow suggests that the semantic requires a rule different from the ones we have used so far to compose the meanings of “v” and “BecP.” That rule introduces a “cause” meaning, and in this scenario says that the event that Satoshi is the agent of causes the event that is the door becoming closed. A standard sort of analysis of “cause” is that it relates two predicates of events and says that the first event causes the second.

(15) Simple Cause Rule

If \( \lambda e.P(e) \) and \( \lambda e.Q(e) \) are sisters, where \( e \) is an event type, then their mother can be \( \lambda e. P(e) \& \exists e'.Q(e') \& e \text{ causes } e' \).

That won't work for the representation we are entertaining because it would not combine the denotation of “v,” which is \( \lambda x.\lambda e.\text{agent}(x,e) \) and BecP because “v” is not a predicate of events. It would work, however, with the non-standard representation in (17).

(16) \[ \text{become} \] = \( \lambda P. \lambda e. \exists s.P(s) \text{ comes from } e. \)

(17) vP

\( \lambda e.\text{agent}(\text{Satoshi},e) \quad \lambda e.\exists s.\text{close}(\text{the_door},s) \text{ comes from } e' \& e \text{ causes } e' \)

\( \text{BecP} \)

\( \text{V} \quad \text{DP} \quad \lambda s.\text{close}(\text{the_door},s) \quad \text{Satoshi} \)

\( \text{V} \quad \text{DP} \quad \sqrt{\text{close}} \quad \text{the door} \)

Alternatively, we could let “cause” relate a transitive relation to a predicative of events:

(18) Helpful Cause Rule

If \( \lambda x.\lambda e. P(x, e) \) and \( \lambda e.Q(e) \) are sisters, where \( x \) is of entity type and \( e \) is of event type, then their mother can be \( \lambda x.\lambda e. P(x, e) \& \exists e'.Q(e') \& e \text{ causes } e' \).
(19) \[ \text{vP} \]
\[ \lambda e. \text{agent}(Satoshi, e) \land \exists e'. \exists s. \text{close}(the\_door, s) \text{ comes from } e' \land e \text{ causes } e' \]
\[ \text{DP} \]
\[ \lambda x. \lambda e. \text{agent}(x, e) \land \exists e'. \exists s. \text{close}(the\_door, s) \text{ comes from } e' \land e \text{ causes } e' \]
\[ \text{Satoshi} \]
\[ \text{vP} \]
\[ \text{X} \]
\[ \text{V} \]
\[ \lambda e. \exists s. \text{close}(the\_door, s) \text{ comes from } e \]
\[ \text{BecP} \]
\[ \lambda e. \exists s. \text{close}(the\_door, s) \]
\[ \text{DP} \]
\[ \text{V} \]
\[ \sqrt{\text{close}} \]
\[ \text{the door} \]

(20) a. i. She gave pancakes to Satoshi.
ii. She gave Satoshi pancakes.

b. i. She kicked the ball to Satoshi.
ii. She kicked Satoshi the ball.

There is evidence of a productive relationship between these two frames (see Gropen, Pinker, Hollander, Godberg, and Wilson (1989) and Pinker (1989), for instance), and it sure feels like we have the same verb in each of them. Kayne (1984) argues that the double object frame has a structure like that in (21).

(21) \[ \text{vP} \]
\[ \text{DP} \]
\[ \text{She} \]
\[ \text{vP} \]
\[ \text{V} \]
\[ \sqrt{\text{kick}} \]
\[ \text{DP} \]
\[ \text{Satoshi} \]
\[ \text{X} \]
\[ \text{DP} \]
\[ \text{the ball} \]

Kayne uses this to explain Ross (1974)'s discovery that the double object frame does not show up in the nominalizations of these verbs by developing an account for why small clauses parallel to (21) don't show up in nominalizations generally.

(22) a. the gift of spoons to those guys
b. * the gift of those guys (of) spoons
(23) a. the kicking of balls to those guys
b. * the kicking of those guys (of) balls
(24) a. her belief that Satoshi is honest
b. * her belief of Satoshi honest

Compare:

(25) a. i. Who did you give [DP a story about t] to those guys?
ii. * Who did you [DP a friend of t] those stories?
b. i. Who did you send [DP a story about t] to those guys?
ii. * Who did you send [DP a friend of t] those stories?
(26)  
\[
\text{a. What did you believe } [\text{DP stories about } t] \text{ today?} \\
\text{b. * What did you believe } [\text{AP } [\text{DP stories about } t] \text{ true}?}
\]

What is the silent lexical item that “X” represents in (21)?

Many people, including Kayne, follow Green (1974) and suggest that X is something that means roughly (but not exactly) what English *have* means. That would make the small clause a stative predicate, like an adjective phrase, and that won’t quite work as we’ll see. Instead, we’ll make the small clause be composed of something that means *have* and *become*.

\[(27) \quad X \Rightarrow \text{become+have} \]

\[(28) \quad \begin{array}{c}
\text{vP} \\
\text{V} \\
\text{BecP} \\
\text{v} \\
\text{kick} \\
\text{become} \\
\text{HP} \\
\text{Satoshi} \\
\text{have} \\
\text{DP} \\
\text{the ball}
\end{array} \]

This gives us a handle on a variety of subtle differences in the two frames.

\[(29) \quad \begin{array}{c}
a. \text{She kicked the ball to the goal.} \\
b. \text{She kicked the ball there.} \\
c. \text{* She kicked the goal the ball.} \\
d. \text{* She kicked there the ball.}
\end{array} \]

If we assume that the intransitive *kick* is used here, we can put this together semantically with the Simple Cause rule.

\[(30) \quad \begin{array}{c}
vP \\
\lambda e \text{agent}(s, e) \& \text{kick}(e) \& \exists e'. \exists s \text{have}(Satoshi, the, ball, s) \text{ comes from } e' \& e \text{ causes } e'
\end{array} \]

\[(31) \quad \begin{array}{c}
\text{She kicked Satoshi the ball, but it never got to him.}
\end{array} \]

Beck and Johnson (2004) solves this problem by suggesting that the double object small clause contains a progressive operator.

\[(32) \quad [\text{PROG}] = \lambda P. \lambda e. \text{if things continue normally, } P(e) \]

\[(33) \quad [\text{She was crossing the street}] \approx \text{if things continued normally, she crossed the street.} \]
Putting this in the mix:

\[ (34) \]
\[ \lambda e \text{ agent}(she,e) \& \text{kick}(e) \& \exists e'. \text{prog}(\exists s \text{ have}(\text{Satoshi, the ball, } s) \text{ comes from } e') \& e \text{ causes } e' \]

**Diagram:**

```
DP
  \triangle
she
   \lambda x. \lambda e \text{ agent}(x, e) \& \text{kick}(e) \& \exists e'. \text{prog}(\exists s \text{ have}(\text{Satoshi, the ball, } s) \text{ comes from } e') \& e \text{ causes } e'
```

**Paraphrase:**

she is the agent of a kicking event, \( e \), which causes an event, \( e' \), that results in Satoshi having the ball if things continue normally.
So, here’s our account of the dative alternation.

\[(\sqrt{\text{kick}^2}) = \lambda x. \lambda e. \text{kick}(x, e)\]
\[(\sqrt{\text{kick}^4}) = \lambda e. \text{kick}(e)\]

a. \(\text{kick} \Rightarrow v^+\sqrt{\text{kick}}\)

b. \(X \Rightarrow \text{PROG+BECOME+HAVE}\)

Many verbs that participate in the alternation fit this mold.

\(\text{throw, advance, guarantee, bring, take, hand, send, hurl, cable, flip, carry, bake, sew, ship, mail, toss, lob, roll, float, pitch, boil, stew, lower, forward, cook, take, read, grant, bequeath, leave, guarantee, allot, knit, paint, roast, draw, catch} \ldots\)

And with a suitable semantics for HAVE, so are:

\(\text{show, read, phone, tell, sing, recite, chant, play, dance, hum, allow, radio, quote, write, assign} \ldots\)

But there are some that don’t. Some of these non-fitting cases probably involve the verb taking the small clause as its complement, rather than combining by way of a Causative Rule.

a. She promised to have a book.
   b. She promised Satoshi a book.

And there are some which probably involve the verb lexicalizing the whole construction.

\(\text{envy} \Rightarrow v^+\sqrt{\text{envy}+\text{HAVE}}\)

An interesting case is give (also: lend, cede, advance, award, feed, serve, rent, sell), which has the “cause to have” element of meaning, but which entails the success of the possession.

\(\text{She gave Satoshi a ball, but he never got it.}\)

Interestingly, Hovav and Levin (2008) argue that verbs of this class have the same entailment in their other frame.

\(\text{She gave a ball to Satoshi, but he never got it.}\)
As they note, this is a challenge to the Syntactic View. It suggests that there is one
meaning associated to both frames that depends on the verb, and this leads to the
conclusion that this single meaning can be projected onto two different syntaxes.
Here's a suggestion about how to incorporate that conclusion into the Syntactic
View on display here.

Assume that \textit{give} only fits into the double object syntax.

\begin{equation}
\text{give} \Rightarrow v+\sqrt{\text{give}+\text{become}+\text{have}}
\end{equation}

(c.f. Bruening 2010b for a similar idea.) The meaning involves the Simple Cause
rule.

The other frame is derived from this one by the same process that Romance
causatives use.

\begin{itemize}
\item a. Il fera son enfant boire un peu de vin.
\item b. Il fera boire son enfant un peu de vin.
\item c. Il fera boire [un peu de vin] son enfant.
\item d. Il fera boire un peu de vin à son enfant.
\end{itemize}

Kayne (1975)

There is some evidence that structurally accusative Case-marked DPs in English
move a short distance leftwards (in, e.g., Johnson 1991). Let's imagine, then, that
English permits the suite of operations found in Romance Causatives in these
constructions.
The outstanding problem for this picture is how to capture the fact that the second object of the double object construction is an object of the higher predicate. That seems semantically to be the case.

(53)  a.  * Julie melted Satoshi a puddle.
   b.  Julie melted Satoshi the ice.
   
   *compare:

(54)  Julie poured the teapot empty.

And it seems syntactically the case: obligatorily transitive verbs can fit into the double object construction.

(55)  a. John sent Bill the letter yesterday.
   b. John rolled me the marbles yesterday.
   c. John brought me the marbles yesterday.
   d. John mixed me a drink yesterday.
   e. John bought me a new map yesterday.

(56)  a.  * John sent yesterday.
   b.  * John rolled yesterday.
   c.  * John brought yesterday.
   d.  * John mixed yesterday.
   e.  * John bought yesterday.

And no obligatorily intransitive ones can.

(57)  Julie danced herself silly.

(58)  # Julie danced herself two blisters.

This is what drives most analyses of the double object construction that make use of the Syntactic View to something like (59).

(59)  vP  
     /         \  
     v         VP  
     /             \ 
     V             VP  
     /     \       /     \ 
  give  Satoshi  V        
     /         <appl>   \ 
     /           /       \ 
     V           DP       the ball 

Here the <appl> head must somehow encode what I’ve expressed as HAVE. See Bruening (2010b,a), among others, all inspired by Marantz (1984). But these geometries do not allow for there to be a constituent that is made up of the two objects and HAVE (or its equivalent) that does not include the verb. That’s what the title is for.
I don’t think this a fact just about give, and verbs like it. It’s also true of the verbs that don’t lexicalize the cause+have meaning, although the judgments are more delicate.

(62) Satoshi was given a small puppy, which he kept leashed when he took it for a walk. One day, his grip on the leash was weak, and the puppy got free and ran away. Luckily, Satoshi’s mother was nearby and she caught him the puppy again.
This problem is driving us to seeing the second object of the double object construction as being able to be an argument both of the \textit{have} and the higher verb. We can do that by letting that argument move into a position that allows the verb to combine with it semantically.

This requires the Helpful Causative Rule.
If we assume that English only has the Helpful Causative rule, we can ensure that only transitive verbs will participate in the Dative Alternation.
References


