Logical Form (LF): The sntax/semantic interface

(1) Logical Form is "the passage" to get from the syntax of a sentence to the interpretation of a sentence at Conceptual-Intensional (C-I).

   a. It is a structural form that is representative of the interface between syntax and semantics (C-I).

Scopal Ambiguity

(2) Structural Ambiguity present in the syntax.

a. Sarah watched the man with a telescope.

b. It was [$_{\mathrm{PP}}$ with a telescope] that Sarah watched the man.

c. It was [$_{\mathrm{DP}}$ the man with the telescope] that Sarah watched.

d. Clefting formulates the different structure for this ambiguous sentence.

(3) Some structures seem to have *inherent* ambiguities.

a. A man is mugged every few minutes.
b. Every man loves a woman.
c. Everyone helped someone move a piano.

(4) Sentences such as these have a scopal ambiguity.

a. Scope means that there is a c-command relationship between two different quantifiers or operators.

b. Universal: $\forall$

c. Existential: $\exists$

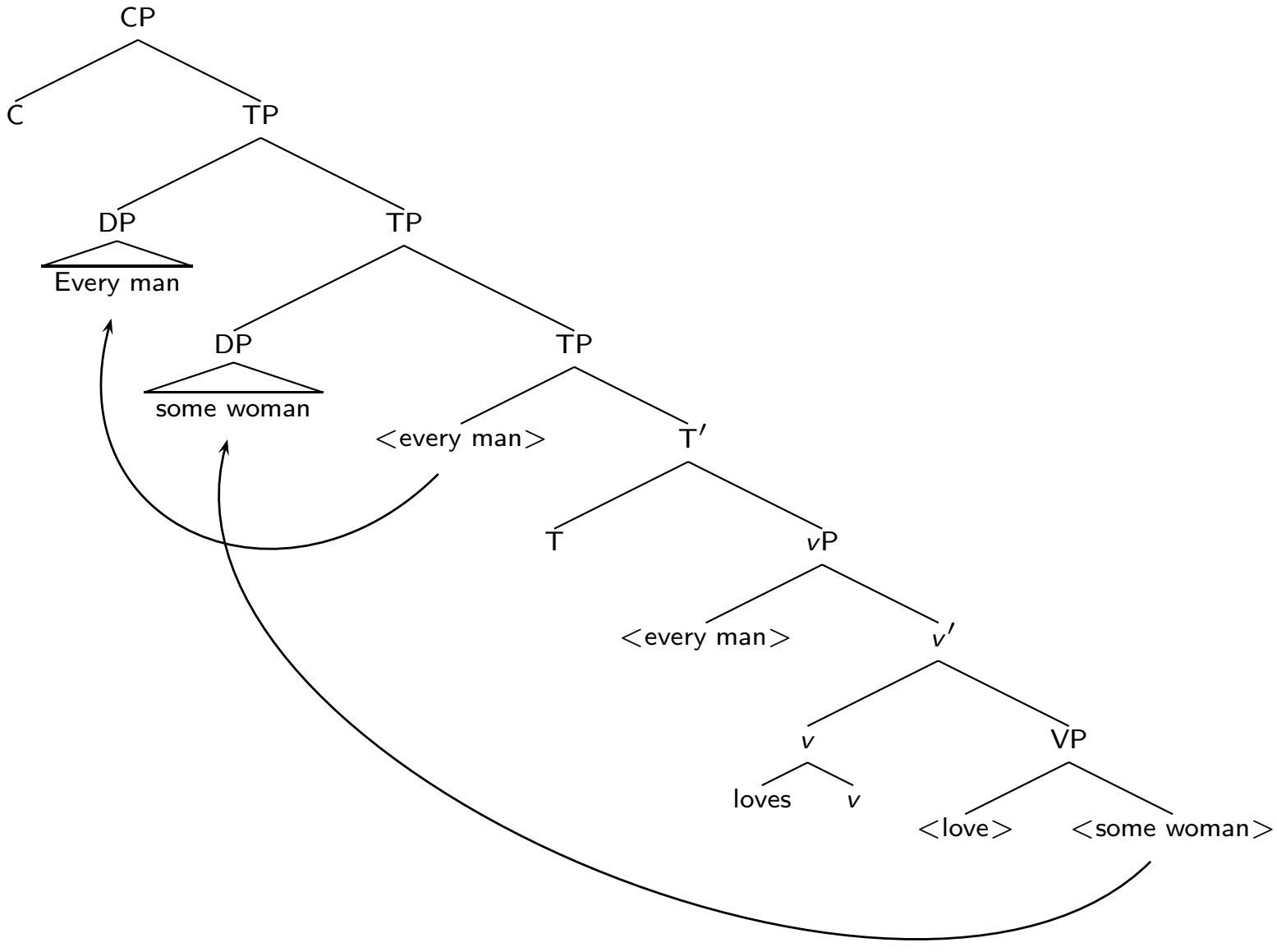
d. $\forall x \exists y Love(x, y)$ *wide scope*

e. $\exists y \forall x Love(x, y)$ *narrow scope*

(5) Quantifier Raising

a. QR is an operation that occurs at LF.
b. Quantifiers leave a trace in their base position from the syntax and Move and Adjoin to TP.
c. There seems to be no rules for Attract for QR, since it is a function of the Adjoin operation.
d. If there are more than one Q in a clause then a scopal ambiguity results.

(6)


CP
C
TP
DP
Every man
TP
DP
some woman
TP
<every man>
T′
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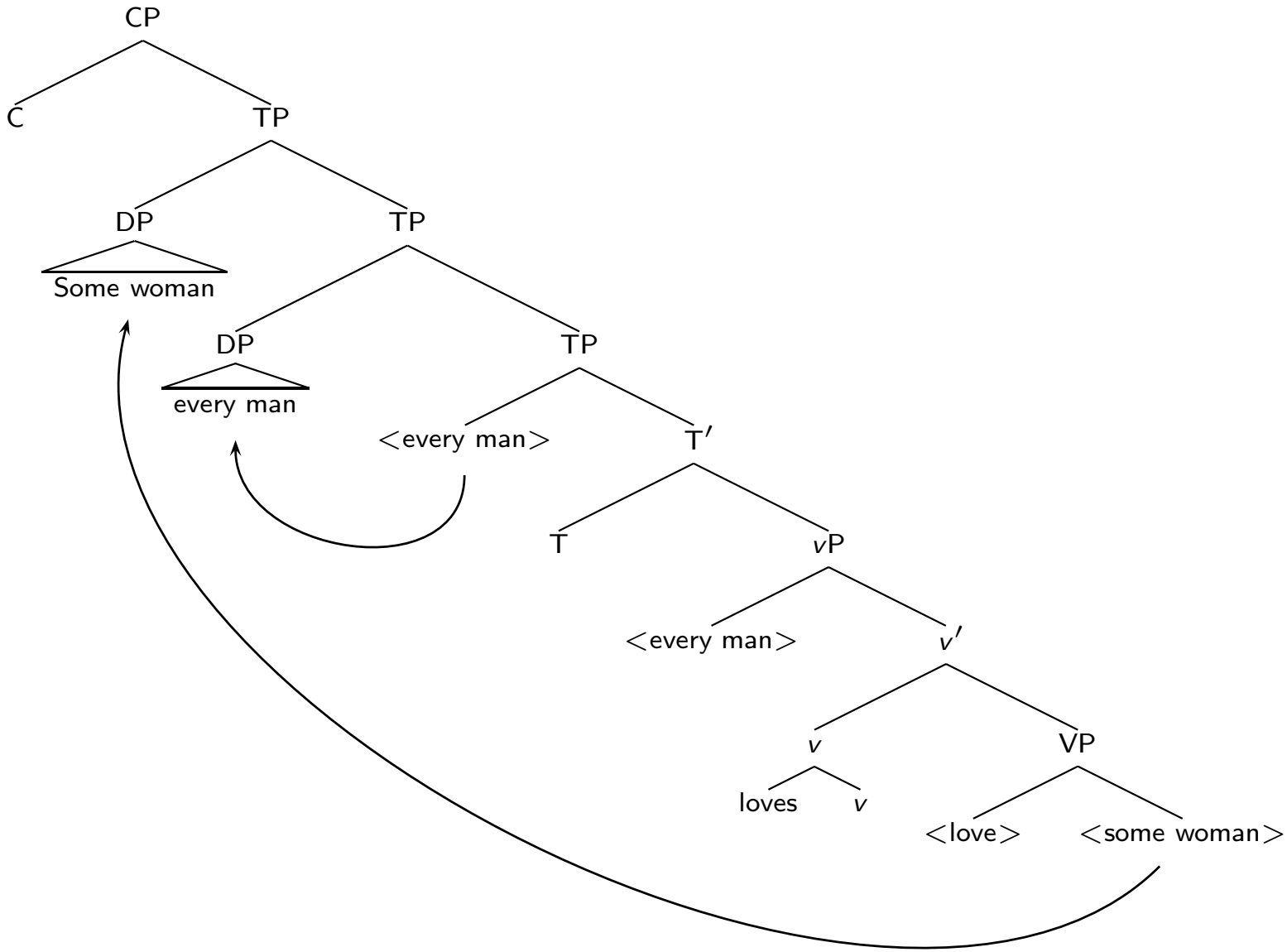
vP
<every man>
v′
v
VP
loves
v
<love>
<some woman>

(7)


CP
C
TP
DP
TP
Some woman
DP
TP
every man
<every man>
T′
T
vP
<every man>
v′
v
VP
loves
v
<love>
<some woman>

(8) Binding of variables.

a. In PL quantifiers bind variables.

b. QR leaves a trace which are bound by their antecedent, the quantifier.

c. Wh-movement: Which stories did you like t?

d. *For which x, that x is a story, did you like x?*

(9) Pronouns can be bound variables to quantifiers.

a. Everyone$_i$'s mother loves her$_i$.

b. Someone$_i$ loves her$_i$ mother.

(10) Generative Semanticists' proposal:

The PL representation is the structure that is projected through the syntax, i.e. Merge obeys PL representation and Q's move down to their variables in the syntactic structure. Basically a reversal of the arrows in the earlier structures for QR.

(11) Interpretive Semanticists' proposal:

A semantic interpretation is a result of lexical properties and derivation in the syntax. QR is part of the derivation that is *covert* and occurs at LF. Interpretation happens post-syntactically and *not* before the syntax.

Evidence for LF movement

(12) Weal Crossover Effects: Pronouns

a. John$_i$ loves his$_i$ mother.
b. Every boy$_i$ loves his$_i$ mother.
c. *He$_i$ loves John$_i$'s mother.
d. *He$_i$ loves every boy$_i$'s mother.
e. His$_i$ mother loves John$_i$.

(13) Weak Crossover Effects: Wh-elements

a. Who$_i$ does Mary think loves his$_i$ mother?
b. ?His$_i$ mother loves every boy$_i$?
c. ?Who$_i$ does his$_i$ mother love?

(14) Each of these is predicted by the Binding Principles.

a. QR applies to quantifiers making their structure identical at LF to wh-movement.

b. Each Q (and wh-element) can only bind one variable.

c. At LF in these two derivations the Q and wh-element both bind their trace (a variable) and a pronoun (another variable).

(15) Inverse Linking:

a. Since t must be locally bound by its antecedent QR can't generate derivations where t is unbound.

b. Some man from every Californian city owns a Porsche.

c. $[_{\mathrm{TP}}\ [_{\mathrm{DP}}$ Some $[_{n\mathrm{P}}\ [_{\mathrm{DP}}$ every Californian city$]_i$ $[_{n\mathrm{P}}$ [man] [from t_i]]]]$_j$ $[_{\mathrm{TP}}\ t_j$ owns a Porsche]]

d. $[_{\mathrm{TP}}\ [_{\mathrm{DP}}$ every Californian city$]_i$ $[_{\mathrm{TP}}\ [_{\mathrm{DP}}$ Some man from $t_i]_j$ $[_{\mathrm{TP}}\ t_j$ owns a Porsche]]]

(16) Improper Binding

a. One other possible reading exists, but it is ruled out due to the Binding Principles.

b. $[_{\mathrm{TP}}\ [_{\mathrm{DP}}$ Some man from $t_i]_j\ [_{\mathrm{TP}}\ [_{\mathrm{DP}}$ every Californian city$]_i\ [_{\mathrm{TP}}\ t_j$ owns a Porsche]]]

(17) Each can be interpreted as:

a. The narrow interpretation is: *For some man x from every Californian city y is such that x owns a Porsche.*

b. The wide scope interpretation: *For every Californian city y, there exists some man x such that x owns a Porsche.*

c. An interpretation for Improper Binding: *For some person x, every Californian city is such that x owns a Porsche.*

(18) Path Containment Condition

a. wh-elements are quantificational, i.e. they pick-out and bind a variable.

b. wh-elements interact and bind with a variable.

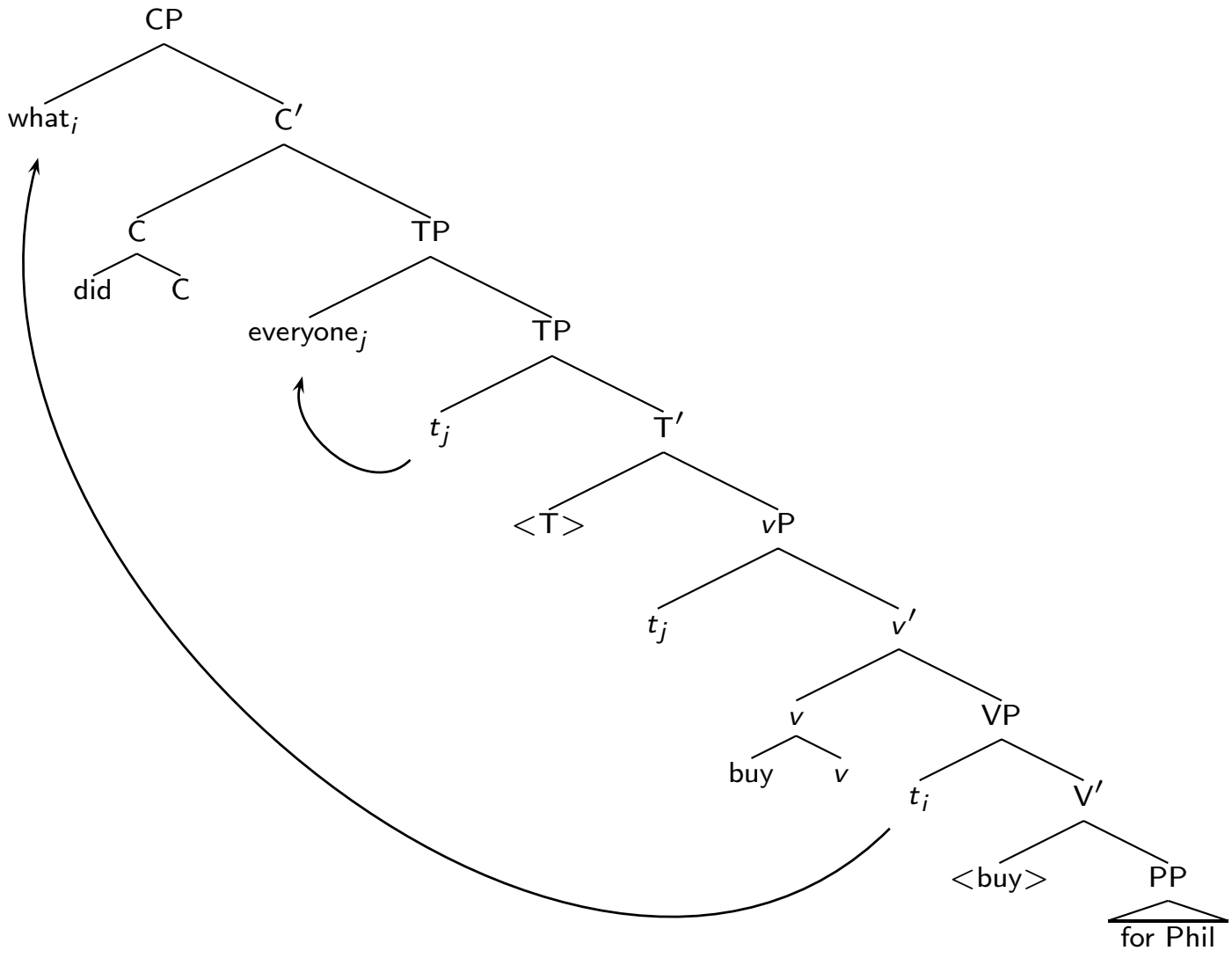
c. What did everyone buy for Phil?

   (i) *We all bought him a new camcorder.*

   (ii) *I bought him a camcorder, Sarah bought him a computer desk, Karen bought him a banana, you bought him a textbook, etc.*

(19) LF structure for buying Phil stuff.

a.



(20) the Path Containment Condition doesn't hold for this one.

a. Who bought everything for Phil?

b. [$_{\mathrm{CP}}$ Who$_i$ [$_{\mathrm{TP}}$ t_i [$_{v\mathrm{P}}$ everything$_j$ [$_{v\mathrm{P}}$ bought t_j for Phil]]]]?

c. [$_{\mathrm{CP}}$ Who$_i$ [$_{\mathrm{TP}}$ everything$_j$ [$_{\mathrm{TP}}$ t_i [$_{v\mathrm{P}}$ bought t_j for Phil]]]]?

d. Does the PCC pertain to Inverse Linking?