

# Indexicals: Direct Reference or Presupposition?

## Rob's Festshop

Emar

[www.ru.nl/phil/tf1/~emar](http://www.ru.nl/phil/tf1/~emar)



May 23, 2006

# Outline

## ① From Frege/Russell to Kripke/Kaplan

- Proper names and indexicals

- Wide scope

- The KK argument

## ② Neo-Descriptivism

- Referential terms as vdsandtian presuppositions

- Non-rigid proper names and indexicals

- Applying KK

## ③ Combining rigidity and presupposition

- Rigidity and DRT?

- LDRT2

- Presupposition in LDRT2

# Outline

## ① From Frege/Russell to Kripke/Kaplan

Proper names and indexicals

Wide scope

The KK argument

## ② Neo-Descriptivism

Referential terms as *vdSandtian* presuppositions

Non-rigid proper names and indexicals

Applying KK

## ③ Combining rigidity and presupposition

Rigidity and DRT?

LDRT2

Presupposition in LDRT2

# Descriptivism vs. Referentialism

- Frege/Russell: meaning = description
  - $[\text{Rob}] \approx$  the person called Rob
  - $[\text{I}] \approx$  the current speaker
- Kripke/Kaplan: meaning = reference
  - $[\text{Rob}] \approx$
  - $[\text{I}] \approx$

# Descriptivism vs. Referentialism

- Frege/Russell: meaning = description
  - $[[\text{Rob}]] \approx$  the person called Rob
  - $[[\text{I}]] \approx$  the current speaker
- Kripke/Kaplan: meaning = reference

- $[[\text{Rob}]] \approx$  

- $[[\text{I}]]^c \approx$

# Descriptivism vs. Referentialism

- Frege/Russell: meaning = description
  - $[[\text{Rob}]] \approx$  the person called Rob
  - $[[\text{I}]] \approx$  the current speaker
- Kripke/Kaplan: meaning = reference

- $[[\text{Rob}]] \approx$



- $[[\text{I}]]^c \approx$

# Descriptivism vs. Referentialism

- Frege/Russell: meaning = description
  - $[[\text{Rob}]] \approx$  the person called Rob
  - $[[\text{I}]] \approx$  the current speaker
- Kripke/Kaplan: meaning = reference

- $[[\text{Rob}]] \approx$



- $[[\text{I}]]^c \approx$

# Descriptivism vs. Referentialism

- Frege/Russell: meaning = description
  - $[[\text{Rob}]] \approx$  the person called Rob
  - $[[\text{I}]] \approx$  the current speaker
- Kripke/Kaplan: meaning = reference

- $[[\text{Rob}]] \approx$



- $[[\text{I}]]^c \approx$  the speaker of  $c \approx$

# Descriptivism vs. Referentialism

- Frege/Russell: meaning = description
  - $[[\text{Rob}]] \approx$  the person called Rob
  - $[[\text{I}]] \approx$  the current speaker
- Kripke/Kaplan: meaning = reference

- $[[\text{Rob}]] \approx$



- $[[\text{I}]]^c \approx$  the speaker of  $c \approx$



# Wide scope

(1) I might have remained silent

- Descriptivist:  $\llbracket (1) \rrbracket =$

=

- Referentialist:  $\llbracket (1) \rrbracket^c =$

# Wide scope

(1) I might have remained silent

- Descriptivist:  $\llbracket (1) \rrbracket = \llbracket \text{might} \rrbracket (\llbracket \text{silent} \rrbracket (\llbracket I \rrbracket)) =$   
=
- Referentialist:  $\llbracket (1) \rrbracket^c =$

# Wide scope

(1) I might have remained silent

- Descriptivist:  $\llbracket (1) \rrbracket = \llbracket \text{might} \rrbracket (\llbracket \text{silent} \rrbracket (\llbracket I \rrbracket)) =$   
 $= \Diamond[\text{silent}(\text{the speaker})]$
- Referentialist:  $\llbracket (1) \rrbracket^c =$

# Wide scope

(1) I might have remained silent

- Descriptivist:  $\llbracket (1) \rrbracket = \llbracket \text{might} \rrbracket (\llbracket \text{silent} \rrbracket (\llbracket I \rrbracket)) =$   
 $= \Diamond[\text{silent}(\text{the speaker})]$
- Referentialist:  $\llbracket (1) \rrbracket^c =$

# Wide scope

## (1) I might have remained silent

- Descriptivist:  $\llbracket (1) \rrbracket = \llbracket \text{might} \rrbracket (\llbracket \text{silent} \rrbracket (\llbracket I \rrbracket)) =$   
 $= \Diamond[\text{silent}(\text{the speaker})] \leadsto [\lambda x. \Diamond[\text{silent}(x)]](\text{the speaker})$
- Referentialist:  $\llbracket (1) \rrbracket^c =$   
 $= \Diamond \text{silent}()$

# Wide scope

## (1) I might have remained silent

- Descriptivist:  $\llbracket (1) \rrbracket = \llbracket \text{might} \rrbracket (\llbracket \text{silent} \rrbracket (\llbracket I \rrbracket)) =$   
 $= \Diamond[\text{silent}(\text{the speaker})] \leadsto [\lambda x. \Diamond[\text{silent}(x)]](\text{the speaker})$
- Referentialist:  $\llbracket (1) \rrbracket^c =$   
 $= \Diamond \text{silent}()$

# Wide scope

## (1) I might have remained silent

- Descriptivist:  $\llbracket (1) \rrbracket = \llbracket \text{might} \rrbracket (\llbracket \text{silent} \rrbracket (\llbracket I \rrbracket)) =$   
 $= \Diamond[\text{silent}(\text{the speaker})] \leadsto [\lambda x. \Diamond[\text{silent}(x)]](\text{the speaker})$
- Referentialist:  $\llbracket (1) \rrbracket^c = \llbracket \text{might} \rrbracket^c (\llbracket \text{silent} \rrbracket^c (\llbracket I \rrbracket^c)) =$   
 $= \Diamond \text{silent}()$


# Wide scope

## (1) I might have remained silent

- Descriptivist:  $\llbracket (1) \rrbracket = \llbracket \text{might} \rrbracket (\llbracket \text{silent} \rrbracket (\llbracket I \rrbracket)) =$   
 $= \Diamond[\text{silent}(\text{the speaker})] \leadsto [\lambda x. \Diamond[\text{silent}(x)]](\text{the speaker})$
- Referentialist:  $\llbracket (1) \rrbracket^c = \llbracket \text{might} \rrbracket^c (\llbracket \text{silent} \rrbracket^c (\llbracket I \rrbracket^c)) =$   
 $= \Diamond \text{silent}(\text{the speaker of } c)$

# Wide scope

## (1) I might have remained silent

- Descriptivist:  $\llbracket (1) \rrbracket = \llbracket \text{might} \rrbracket (\llbracket \text{silent} \rrbracket (\llbracket I \rrbracket)) =$   
 $= \Diamond[\text{silent}(\text{the speaker})] \leadsto [\lambda x. \Diamond[\text{silent}(x)]](\text{the speaker})$
- Referentialist:  $\llbracket (1) \rrbracket^c = \llbracket \text{might} \rrbracket^c (\llbracket \text{silent} \rrbracket^c (\llbracket I \rrbracket^c)) =$   
 $= \Diamond \text{silent}(\text{)}$

# The KK argument

(2) I am speaking

(3) The speaker is speaking

- Descriptivist:  $\llbracket (2) \rrbracket = \llbracket (3) \rrbracket = W$
- Referentialist:
  - $\llbracket (2) \rrbracket^c =$

$\llbracket (3) \rrbracket^c =$

# The KK argument

(2) I am speaking

(3) The speaker is speaking

- Descriptivist:  $\llbracket (2) \rrbracket = \llbracket (3) \rrbracket = W$
- Referentialist:
  - $\llbracket (2) \rrbracket^c =$

# The KK argument

(2) I am speaking

(3) The speaker is speaking

- Descriptivist:  $\llbracket (2) \rrbracket = \llbracket (3) \rrbracket = W$
- Referentialist:
  - $\llbracket (2) \rrbracket^c =$
  - $\llbracket (3) \rrbracket^c =$

# The KK argument

(2) I am speaking

(3) The speaker is speaking

- Descriptivist:  $\llbracket (2) \rrbracket = \llbracket (3) \rrbracket = W$
- Referentialist:
  - $\llbracket (2) \rrbracket^c = \llbracket \text{say} \rrbracket^c ( \llbracket I \rrbracket^c )$
  - $\llbracket (3) \rrbracket^c =$

# The KK argument

(2) I am speaking

(3) The speaker is speaking

- Descriptivist:  $\llbracket (2) \rrbracket = \llbracket (3) \rrbracket = W$
- Referentialist:
  - $\llbracket (2) \rrbracket^c = \text{speak}(\text{speaker}(c))$
  - $\llbracket (3) \rrbracket^c =$

# The KK argument

(2) I am speaking

(3) The speaker is speaking

- Descriptivist:  $\llbracket (2) \rrbracket = \llbracket (3) \rrbracket = W$
- Referentialist:

- $\llbracket (2) \rrbracket^c = \text{speak}(\text{)}$

- $\llbracket (3) \rrbracket^c =$

# The KK argument

(2) I am speaking

(3) The speaker is speaking

- Descriptivist:  $\llbracket (2) \rrbracket = \llbracket (3) \rrbracket = W$

- Referentialist:


- $\llbracket (2) \rrbracket^c = \text{speak}(\text{)}$

- $\llbracket (3) \rrbracket^c = \llbracket \text{speak} \rrbracket^c (\llbracket \text{the speaker} \rrbracket^c)$

# The KK argument

(2) I am speaking

(3) The speaker is speaking

- Descriptivist:  $\llbracket (2) \rrbracket = \llbracket (3) \rrbracket = W$
- Referentialist:
  - $\llbracket (2) \rrbracket^c = \text{speak}(\text{)}$
  - $\llbracket (3) \rrbracket^c = \text{speak}(\text{the speaker}) = W$

# Outline

## ① From Frege/Russell to Kripke/Kaplan

Proper names and indexicals

Wide scope

The KK argument

## ② Neo-Descriptivism

Referential terms as vdsandtian presuppositions

Non-rigid proper names and indexicals

Applying KK

## ③ Combining rigidity and presupposition

Rigidity and DRT?

LDRT2

Presupposition in LDRT2

# Definites as presuppositions as anaphors

- Geurts'97: Rob  $\leadsto$   $\boxed{\begin{array}{c} x \\ \text{rob}(x) \end{array}}$
- Hunter&Asher'05: I  $\leadsto$   $\boxed{\begin{array}{c} x \\ \text{speaker}(x) \end{array}}$ 
  - wide scope follows from general, pragmatic presupposition projection
  - unified account of all definites (pronouns, def.descr, names...)
  - new, testable predictions!

# Definites as presuppositions as anaphors

- Geurts'97: Rob  $\leadsto$   $\begin{array}{|c|} \hline x \\ \hline \text{rob}(x) \\ \hline \end{array}$
- Hunter&Asher'05: I  $\leadsto$   $\begin{array}{|c|} \hline x \\ \hline \text{speaker}(x) \\ \hline \end{array}$ 
  - wide scope follows from general, pragmatic presupposition projection
  - unified account of all definites (pronouns, def.descr, names...)
  - new, testable predictions!

# Definites as presuppositions as anaphors

- Geurts'97: Rob  $\leadsto$   $\begin{array}{|c|} \hline x \\ \hline \text{rob}(x) \\ \hline \end{array}$
- Hunter&Asher'05: I  $\leadsto$   $\begin{array}{|c|} \hline x \\ \hline \text{speaker}(x) \\ \hline \end{array}$ 
  - wide scope follows from general, pragmatic presupposition projection
  - unified account of all definites (pronouns, def.descr, names...)
  - new, testable predictions!

# Definites as presuppositions as anaphors

- Geurts'97: Rob  $\leadsto$   $\begin{array}{|c|} \hline x \\ \hline \text{rob}(x) \\ \hline \end{array}$
- Hunter&Asher'05: I  $\leadsto$   $\begin{array}{|c|} \hline x \\ \hline \text{speaker}(x) \\ \hline \end{array}$ 
  - wide scope follows from general, pragmatic presupposition projection
  - unified account of all definites (pronouns, def.descr, names...)
  - new, testable predictions!

## Non-rigid proper names

(4) If a child is christened Bambi, and if Disney Inc. hear about it, they will sue Bambi's parents (Geurts'97)

- non-global binding

(5) If presidents were elected by alphabetical order, Aaron Aardvark might have been president (Bach'87)

- non-global accommodation

## Non-rigid proper names

(4) If a child is christened Bambi, and if Disney Inc. hear about it, they will sue Bambi's parents (Geurts'97)

- non-global binding

(5) If presidents were elected by alphabetical order, Aaron Aardvark might have been president (Bach'87)

- non-global accommodation

## Bound indexicals?

## Bound indexicals?

### (6) Only I did my homework

- Heim: feature deletion/binding under morphological agreement
  - (Only I)[ $\lambda x.x$  did  $x$ 's homework]
- Neo-Descriptivist alternative: presupposition binding?

## Bound indexicals?

(6) Only I did my homework ( $\models$  Janneke didn't do hers)

- Heim: feature deletion/binding under morphological agreement
  - (Only I)[ $\lambda x.x$  did  $x$ 's homework]
- Neo-Descriptivist alternative: presupposition binding?

## Bound indexicals?

### (6) Only I did my homework

- Heim: feature deletion/binding under morphological agreement
  - (Only I)[ $\lambda x.x$  did  $x$ 's homework]
- Neo-Descriptivist alternative: presupposition binding?

## Bound indexicals?

### (6) Only I did my homework

- Heim: feature deletion/binding under morphological agreement
  - (Only I)[ $\lambda x.x$  did  $x$ 's homework]
- Neo-Descriptivist alternative: presupposition binding?

## Monstrously shifted indexicals

(7) Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist

(Amharic)

- instead of referring directly, Amharic I can be bound by an attitude context
- Schlenker, von Stechow, . . . :
  - Rob believes to inhabit a context whose center is a linguist
- Neo-Descriptivist:

## Monstrously shifted indexicals

(7) Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist

(Amharic)

- instead of referring directly, Amharic I can be bound by an attitude context
- Schlenker, von Stechow, . . . :
  - ${}^m\text{BELIEF}_r \lambda c. \text{linguist}(\text{center}(c))$  Rob believes to inhabit a context whose center is a linguist
- Neo-Descriptivist:

## Monstrously shifted indexicals

(7) Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist

(Amharic)

- instead of referring directly, Amharic I can be bound by an attitude context
- Schlenker, von Stechow, . . . :
  - $\llbracket {}^m\text{BELIEF}_r \lambda c. \text{linguist}(\text{center}(c)) \rrbracket_w = 1$  iff Rob believes to inhabit a context whose center is a linguist
- Neo-Descriptivist:

## Monstrously shifted indexicals

(7) Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist

(Amharic)

- instead of referring directly, Amharic I can be bound by an attitude context
- Schlenker, von Stechow, . . . :
  - $\llbracket {}^m\text{BELIEF}_r \lambda c. \text{linguist}(\text{center}(c)) \rrbracket_w = 1$  iff Rob believes to inhabit a context whose center is a linguist
- Neo-Descriptivist:

## Monstrously shifted indexicals

(7) Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist

(Amharic)

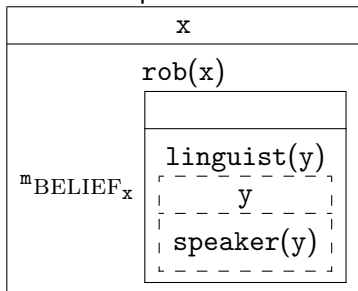
- instead of referring directly, Amharic I can be bound by an attitude context
- Schlenker, von Stechow, . . . :
  - $\llbracket {}^m\text{BELIEF}_r \lambda c. \text{linguist}(\text{center}(c)) \rrbracket_w = 1$  iff Rob believes to inhabit a context whose center is a linguist
- Neo-Descriptivist:

## Monstrously shifted indexicals

(7) Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist

(Amharic)

- instead of referring directly, Amharic I can be bound by an attitude context
- Schlenker, von Stechow, . . . :
  - $\llbracket {}^m\text{BELIEF}_r \lambda c. \text{linguist}(\text{center}(c)) \rrbracket_w = 1$  iff Rob believes to inhabit a context whose center is a linguist
- Neo-Descriptivist:

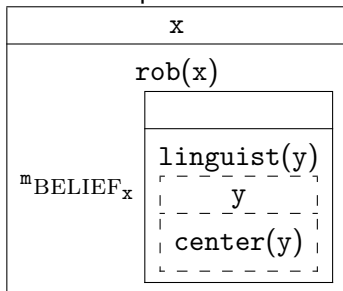


## Monstrously shifted indexicals

(7) Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist

(Amharic)

- instead of referring directly, Amharic I can be bound by an attitude context
- Schlenker, von Stechow, . . . :
  - $\llbracket {}^m\text{BELIEF}_r \lambda c. \text{linguist}(\text{center}(c)) \rrbracket_w = 1$  iff Rob believes to inhabit a context whose center is a linguist
- Neo-Descriptivist:

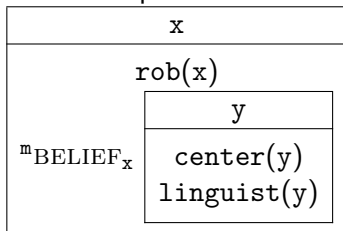


## Monstrously shifted indexicals

(7) Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist

(Amharic)

- instead of referring directly, Amharic I can be bound by an attitude context
- Schlenker, von Stechow, . . . :
  - $\llbracket {}^m\text{BELIEF}_r \lambda c. \text{linguist}(\text{center}(c)) \rrbracket_w = 1$  iff Rob believes to inhabit a context whose center is a linguist
- Neo-Descriptivist:

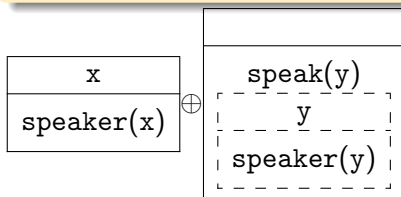


## Zeevat applies the KK test

(2) I am speaking

## Zeevat applies the KK test

(2) I am speaking



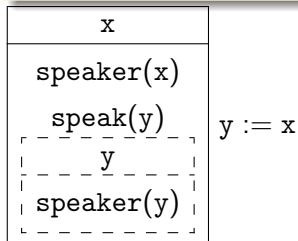
## Zeevat applies the KK test

(2) I am speaking

x
speaker(x)
speak(y)
y
speaker(y)

## Zeevat applies the KK test

(2) I am speaking



## Zeevat applies the KK test

(2) I am speaking

x
speaker(x) speak(x)

## Zeevat applies the KK test

(2) I am speaking

x
speaker(x) speak(x)

(3) The speaker is speaking

## Zeevat applies the KK test

(2) I am speaking

x
speaker(x) speak(x)

(3) The speaker is speaking

<table><tr><th>x</th></tr><tr><td>speaker(x)</td></tr></table>	x	speaker(x)	$\oplus$		
x					
speaker(x)					
	<table><tr><td>speaker(y)</td></tr><tr><td><table><tr><td>y</td></tr><tr><td>speaker(y)</td></tr></table></td></tr></table>	speaker(y)	<table><tr><td>y</td></tr><tr><td>speaker(y)</td></tr></table>	y	speaker(y)
speaker(y)					
<table><tr><td>y</td></tr><tr><td>speaker(y)</td></tr></table>	y	speaker(y)			
y					
speaker(y)					

## Zeevat applies the KK test

(2) I am speaking

x
speaker(x) speak(x)

(3) The speaker is speaking

x
speaker(x) speak(x)

# Outline

## ① From Frege/Russell to Kripke/Kaplan

Proper names and indexicals

Wide scope

The KK argument

## ② Neo-Descriptivism

Referential terms as vdsandtian presuppositions

Non-rigid proper names and indexicals

Applying KK

## ③ Combining rigidity and presupposition

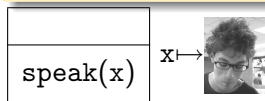
Rigidity and DRT?

LDRT2

Presupposition in LDRT2

## Kamp's external anchors

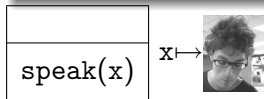
### (2) I am speaking



- anchors restrict possible embeddings: rigidity guaranteed
- objections:
  - where is the 'linguistic meaning' of I ( $\approx$  the speaker of the context)?
  - what is the theoretical status of anchors? (meta-language)

## Kamp's external anchors

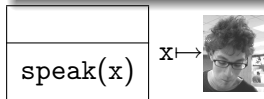
(2) I am speaking



- anchors restrict possible embeddings: rigidity guaranteed
- objections:
  - where is the 'linguistic meaning' of I ( $\approx$  the speaker of the context)?
  - what is the theoretical status of anchors? (meta-language)

## Kamp's external anchors

### (2) I am speaking



- anchors restrict possible embeddings: rigidity guaranteed
- objections:
  - where is the 'linguistic meaning' of I ( $\approx$  the speaker of the context)?
  - what is the theoretical status of anchors? (meta-language)

# Layers

- represent different types of information at separate layers, connected by discourse referents.
  - Kripke/Kaplan**-layer: indexicals, names, . . .
  - Frege**-layer: “what is said”, asserted content

(2) I am speaking

x
<b>speaker</b> (x) speak(x)

(3) The speaker is speaking

x
<b>speaker</b> (x) speak(x)

# Layers

- represent different types of information at separate layers, connected by discourse referents.
  - Kripke/Kaplan**-layer: indexicals, names, . . .
  - Frege**-layer: “what is said”, asserted content

(2) I am speaking

x
<b>speaker</b> (x)
<b>speak</b> (x)

(3) The speaker is speaking

x
<b>speaker</b> (x)
<b>speak</b> (x)

# Layers

- represent different types of information at separate layers, connected by discourse referents.
  - Kripke/Kaplan**-layer: indexicals, names, ...
  - Frege**-layer: “what is said”, asserted content

(2) I am speaking

x
<b>speaker</b> (x)
<b>speak</b> (x)

(3) The speaker is speaking

x
<b>speaker</b> (x)
<b>speak</b> (x)

# Layers

- represent different types of information at separate layers, connected by discourse referents.
  - **Kripke/Kaplan**-layer: indexicals, names, . . .
  - **Frege**-layer: “what is said”, asserted content

(2) I am speaking

x
<b>speaker</b> (x) <b>speak</b> (x)

(3) The speaker is speaking

x
<b>speaker</b> (x) <b>speak</b> (x)

# Layered semantics: the basic ingredients

- all semantic notions relativized to a layer
  - iff there is an embedding  $g$  s.t.:
    - $g$  extends  $f$
    - $g$  maps  $\varphi$ 's discourse referents into the domain
    - $\varphi$ 's DRS conditions are verified in world  $w$ , w.r.t.  $g$

# Layered semantics: the basic ingredients

- all semantic notions relativized to a layer
  - $\llbracket \varphi \rrbracket_w^f = 1$  iff there is an embedding  $g$  s.t.:
    - $g$  extends  $f$
    - $g$  maps  $\varphi$ 's discourse referents into the domain
    - $\varphi$ 's blue DRS conditions are verified in world  $w$ , w.r.t.  $g$

# Layered semantics: the basic ingredients

- all semantic notions relativized to a layer
  - $\llbracket \varphi \rrbracket_w^f = 1$  iff there is an embedding  $g$  s.t.:
    - $g$  extends  $f$
    - $g$  maps  $\varphi$ 's discourse referents into the domain
    - $\varphi$ 's red DRS conditions are verified in world  $w$ , w.r.t.  $g$

## Adding a 2nd dimension

- Kaplanian 2D models:  $\mathcal{M} = \langle C, W, D, I \rangle$
- 'what is said' by  $\varphi$  in  $c = \llbracket \varphi \rrbracket^d_c =$ 
  - evaluate red layer in  $c$ :  $\llbracket \varphi \rrbracket^d_c$
  - if true,  $f \models$  its minimal truthful embedding
  - evaluate blue layer with  $f$  as a context
  - $\llbracket \varphi \rrbracket^d_c = \langle \llbracket \varphi \rrbracket^d_c, \llbracket \varphi \rrbracket^d_c \rangle$

(2) I am speaking

x
$\text{speaker}(x)$
$\text{speaks}(x)$

## Adding a 2nd dimension

- Kaplanian 2D models:  $\mathcal{M} = \langle C, W, D, I \rangle$
- 'what is said' by  $\varphi$  in  $c = \llbracket \varphi \rrbracket^c = ??$ 
  - evaluate red layer in  $c$ :  $\llbracket \varphi \rrbracket_c^\emptyset$
  - if true,  $f :=$  its minimal truthful embedding
  - evaluate blue layer in  $w$  with  $f$  as anchor:  $\llbracket \varphi \rrbracket_w^f$
  - $\llbracket \varphi \rrbracket^c := \{w \mid \llbracket \varphi \rrbracket_w^f = 1\}$

(2) I am speaking

$x$
$\text{speaker}(x)$
$\text{speaks}(x)$

## Adding a 2nd dimension

- Kaplanian 2D models:  $\mathcal{M} = \langle C, W, D, I \rangle$
- 'what is said' by  $\varphi$  in  $c = \llbracket \varphi \rrbracket^c =$ 
  - evaluate red layer in  $c$ :  $\llbracket \varphi \rrbracket_c^\emptyset$
  - if true,  $f :=$  its minimal truthful embedding
  - evaluate blue layer in  $w$  with  $f$  as anchor:  $\llbracket \varphi \rrbracket_w^f$
  - $\llbracket \varphi \rrbracket^c := \{w \mid \llbracket \varphi \rrbracket_w^f = 1\}$

(2) I am speaking

$x$
$\text{speaker}(x)$
$\text{speaks}(x)$

## Adding a 2nd dimension

- Kaplanian 2D models:  $\mathcal{M} = \langle C, W, D, I \rangle$
- 'what is said' by  $\varphi$  in  $c = \llbracket \varphi \rrbracket^c =$ 
  - evaluate red layer in  $c$ :  $\llbracket \varphi \rrbracket_c^\emptyset$
  - if true,  $f :=$  its minimal truthful embedding
  - evaluate blue layer in  $w$  with  $f$  as anchor:  $\llbracket \varphi \rrbracket_w^f$
  - $\llbracket \varphi \rrbracket^c := \{w \mid \llbracket \varphi \rrbracket_w^f = 1\}$

(2) I am speaking

x
speaker(x)
speak(x)

## Adding a 2nd dimension

- Kaplanian 2D models:  $\mathcal{M} = \langle C, W, D, I \rangle$
- 'what is said' by  $\varphi$  in  $c = \llbracket \varphi \rrbracket^c =$ 
  - evaluate **red** layer in  $c$ :  $\llbracket \varphi \rrbracket_c^\emptyset$
  - if true, **f** := its minimal truthful embedding
  - evaluate **blue** layer in  $w$  with **f** as anchor:  $\llbracket \varphi \rrbracket_w^f$
  - $\llbracket \varphi \rrbracket^c := \{w \mid \llbracket \varphi \rrbracket_w^f = 1\}$

(2) I am speaking

x
<b>speaker</b> (x)
<b>speak</b> (x)

## Adding a 2nd dimension

- Kaplanian 2D models:  $\mathcal{M} = \langle C, W, D, I \rangle$
- 'what is said' by  $\varphi$  in  $c = \llbracket \varphi \rrbracket^c =$ 
  - evaluate **red** layer in  $c$ :  $\llbracket \varphi \rrbracket_c^\emptyset$
  - if true, **f** := its minimal truthful embedding
  - evaluate **blue** layer in  $w$  with **f** as anchor:  $\llbracket \varphi \rrbracket_w^f$
  - $\llbracket \varphi \rrbracket^c := \{w \mid \llbracket \varphi \rrbracket_w^f = 1\}$

(2) I am speaking

x
speaker(x)
speak(x)

- $f : x \rightarrow \text{the speaker of } c$
- $\llbracket (2) \rrbracket^c = \{w \mid \llbracket (2) \rrbracket_w^f = 1\} \neq w$

## Adding a 2nd dimension

- Kaplanian 2D models:  $\mathcal{M} = \langle C, W, D, I \rangle$
- 'what is said' by  $\varphi$  in  $c = \llbracket \varphi \rrbracket^c =$ 
  - evaluate **red** layer in  $c$ :  $\llbracket \varphi \rrbracket_c^\emptyset$
  - if true, **f** := its minimal truthful embedding
  - evaluate **blue** layer in  $w$  with **f** as anchor:  $\llbracket \varphi \rrbracket_w^f$
  - $\llbracket \varphi \rrbracket^c := \{w \mid \llbracket \varphi \rrbracket_w^f = 1\}$

(2) I am speaking

x
<b>speaker</b> (x) <b>speak</b> (x)

- f** :  $x \mapsto$  the speaker of  $c$
- $\llbracket (2) \rrbracket^c = \{w \mid \llbracket (2) \rrbracket_w^f = 1\} \neq W$

## Adding a 2nd dimension

- Kaplanian 2D models:  $\mathcal{M} = \langle C, W, D, I \rangle$
- 'what is said' by  $\varphi$  in  $c = \llbracket \varphi \rrbracket^c =$ 
  - evaluate **red** layer in  $c$ :  $\llbracket \varphi \rrbracket_c^\emptyset$
  - if true, **f** := its minimal truthful embedding
  - evaluate **blue** layer in  $w$  with **f** as anchor:  $\llbracket \varphi \rrbracket_w^f$
  - $\llbracket \varphi \rrbracket^c := \{w \mid \llbracket \varphi \rrbracket_w^f = 1\}$

(2) I am speaking

x
<b>speaker</b> (x) <b>speak</b> (x)

- **f** :  $x \mapsto$  the speaker of  $c$
- $\llbracket (2) \rrbracket^c = \{w \mid \llbracket (2) \rrbracket_w^f = 1\} \neq W$

## Adding a 2nd dimension

- Kaplanian 2D models:  $\mathcal{M} = \langle C, W, D, I \rangle$
- 'what is said' by  $\varphi$  in  $c = \llbracket \varphi \rrbracket^c =$ 
  - evaluate **red** layer in  $c$ :  $\llbracket \varphi \rrbracket_c^\emptyset$
  - if true, **f** := its minimal truthful embedding
  - evaluate **blue** layer in  $w$  with **f** as anchor:  $\llbracket \varphi \rrbracket_w^f$
  - $\llbracket \varphi \rrbracket^c := \{w \mid \llbracket \varphi \rrbracket_w^f = 1\}$

(2) I am speaking

x
<b>speaker</b> (x) <b>speak</b> (x)

- **f** :  $x \mapsto$  the speaker of  $c$
- $\llbracket (2) \rrbracket^c = \{w \mid \llbracket (2) \rrbracket_w^f = 1\} \neq W$

# Layered PrelDRS construction

- Zimmermann's Hypothesis L: "lexical items are always deictic or absolute"
  - compositionally generated PrelDRS bipartitioned into Fregean and Kripke/Kaplan layers

(2) I am speaking



(3) The speaker is speaking



# Layered PrelDRS construction

- Zimmermann's Hypothesis L: "lexical items are always deictic or absolute"
  - compositionally generated PrelDRS bipartitioned into Fregean and Kripke/Kaplan layers

(2) I am speaking



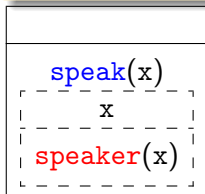
(3) The speaker is speaking



# Layered PreIDRS construction

- Zimmermann's Hypothesis L: "lexical items are always deictic or absolute"
  - compositionally generated PreIDRS bipartitioned into Fregean and Kripke/Kaplan layers

(2) I am speaking



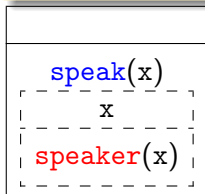
(3) The speaker is speaking



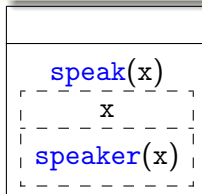
# Layered PrelDRS construction

- Zimmermann's Hypothesis L: "lexical items are always deictic or absolute"
  - compositionally generated PrelDRS bipartitioned into **Fregean** and **Kripke/Kaplan** layers

(2) I am speaking



(3) The speaker is speaking



# Layered Resolution

- Layer Faithfulness: resolve presuppositions in their own layer
- predictions:
  - Kaplanian wide scope over operators ✓
  - KK test ✓
  - Geurtsian over rigid names violates Layer Faithfulness?
  - Same/different individuals?

# Layered Resolution

- Layer Faithfulness: resolve presuppositions in their own layer
- predictions:
  - Kaplanian wide scope over operators ✓
  - KK test ✓
  - Geurtsian non-rigid names: violate Layer Faithfulness?
  - bound/shifted indexicals?

# Layered Resolution

- Layer Faithfulness: resolve presuppositions in their own layer
- predictions:
  - Kaplanian wide scope over operators ✓
  - KK test ✓
  - Geurtsian non-rigid names: violate Layer Faithfulness?
  - bound/shifted indexicals?

# Layered Resolution

- Layer Faithfulness: resolve presuppositions in their own layer
- predictions:
  - Kaplanian wide scope over operators ✓
  - KK test ✓
  - Geurtsian non-rigid names: violate Layer Faithfulness?
  - bound/shifted indexicals?

# Layered Resolution

- Layer Faithfulness: resolve presuppositions in their own layer
- predictions:
  - Kaplanian wide scope over operators ✓
  - KK test ✓
  - Geurtsian non-rigid names: violate Layer Faithfulness?
  - bound/shifted indexicals?

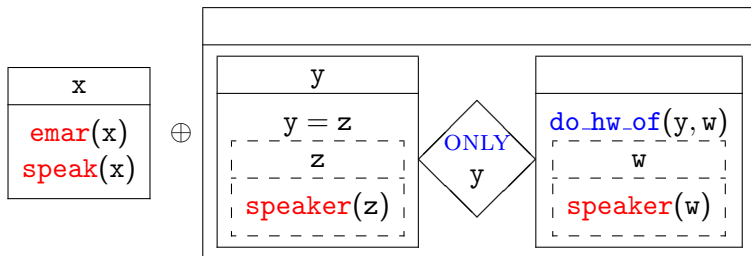
# Layered Resolution

- Layer Faithfulness: resolve presuppositions in their own layer
- predictions:
  - Kaplanian wide scope over operators ✓
  - KK test ✓
  - Geurtsian non-rigid names: violate Layer Faithfulness?
  - bound/shifted indexicals?

# Only I did my homework

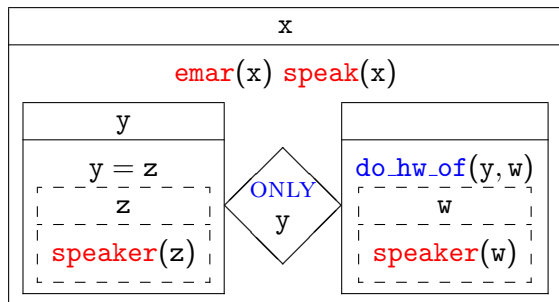
x
emar(x)
speak(x)

# Only I did my homework

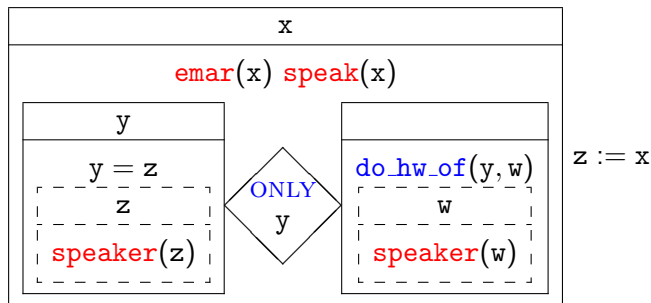


( $\approx$  only those ys that are equal to z did w's homework)

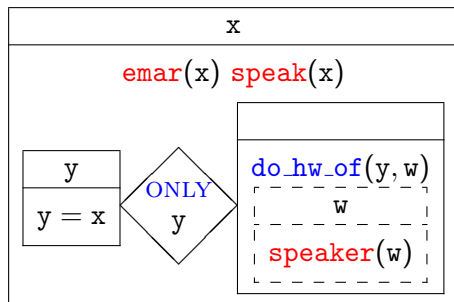
# Only I did my homework



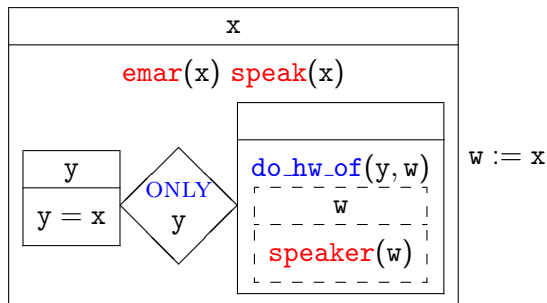
# Only I did my homework



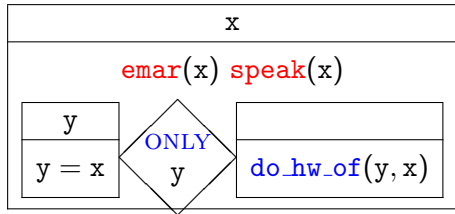
# Only I did my homework



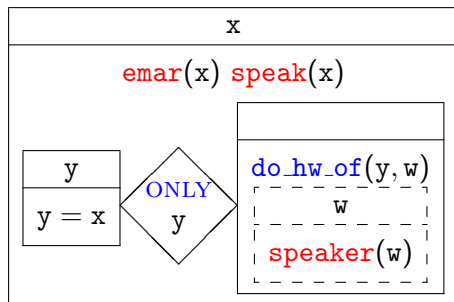
# Only I did my homework



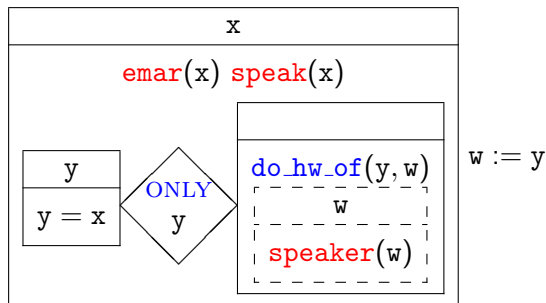
# Only I did my homework



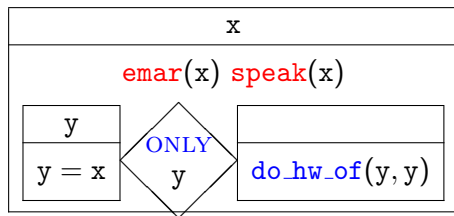
# Only I did my homework



# Only I did my homework



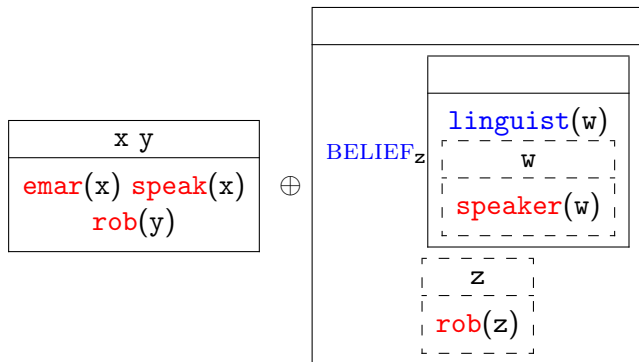
# Only I did my homework



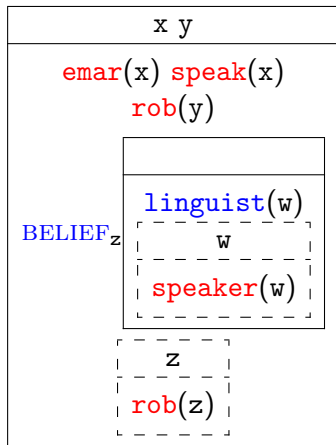
# Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist

x y
emar(x) speak(x) rob(y)

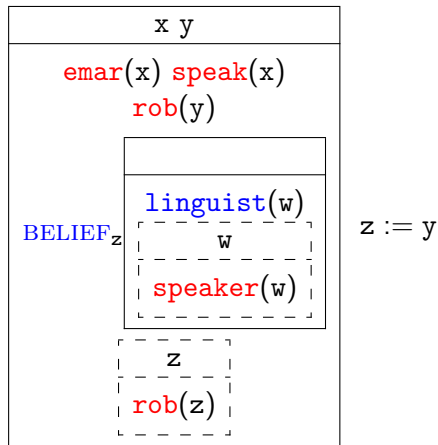
# Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist



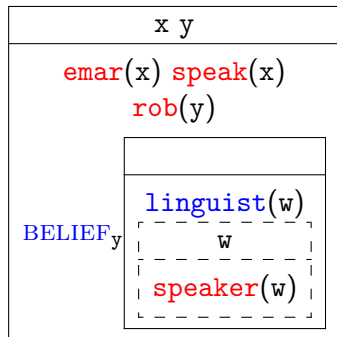
## Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist



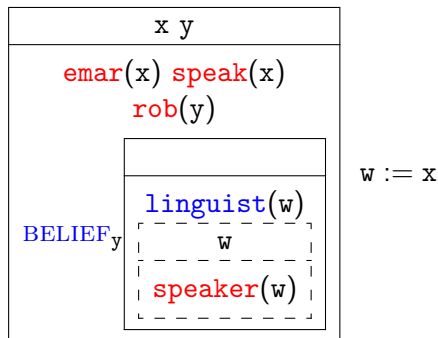
## Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist



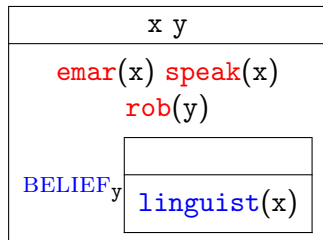
## Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist



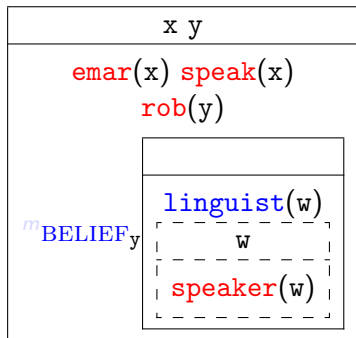
# Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist



# Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist



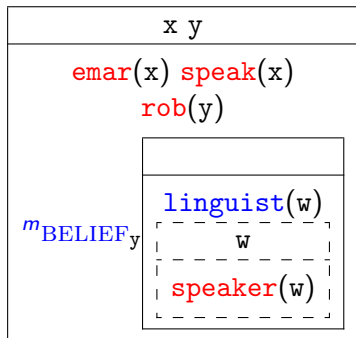
# Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist



iff  $Bel(f(y), w) \subseteq \llbracket \varphi \rrbracket$

iff every belief alternative  $c \in \llbracket \varphi \rrbracket^c$

# Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist

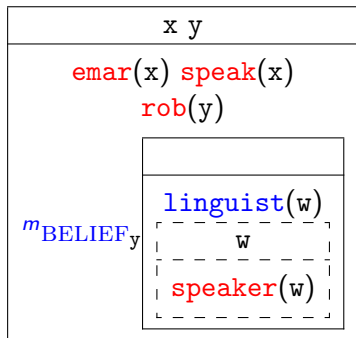


$$\llbracket {}^m\text{BELIEF}_y\varphi \rrbracket_w^f = 1$$

$$\text{iff } \mathcal{B}el(f(y), w) \subseteq \llbracket \varphi \rrbracket$$

$$\text{iff every belief alternative } c \in \llbracket \varphi \rrbracket^c$$

# Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist

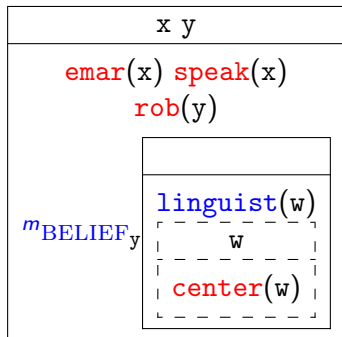


$$\llbracket {}^m\text{BELIEF}_y\varphi \rrbracket_w^f = 1$$

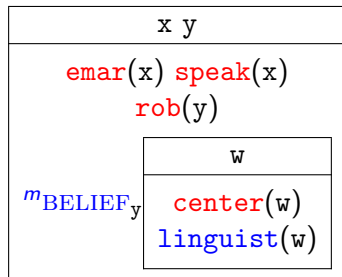
$$\text{iff } \mathcal{B}el(f(y), w) \subseteq \llbracket \varphi \rrbracket$$

$$\text{iff every belief alternative } c \in \llbracket \varphi \rrbracket^c$$

# Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist



## Rob<sub>i</sub> thinks that I<sub>i</sub> am a linguist



( $\approx$  Rob believes to inhabit a context whose center is a linguist)

# Conclusions

## Best of Neo-Descriptivism and Referentialism

- descriptivism:
  - unified account of definites as presuppositions
    - no wide scope stipulation
    - compositional PreIDRS
  - 2LDRT instead of anchors
  - account for (rare) bound readings
    - *only* as generalized quantifier
    - attitudes as monsters
- referentialism:
  - 2D semantics to pass KK
  - Hypothesis L

Open question: how to account for the more flexible proper name resolution? tweak Layer Faithfulness or Hypothesis L?

# Conclusions

## Best of Neo-Descriptivism and Referentialism

- descriptivism:
  - unified account of definites as presuppositions
    - no wide scope stipulation
    - compositional PreIDRS
  - 2LDRT instead of anchors
  - account for (rare) bound readings
    - *only* as generalized quantifier
    - attitudes as monsters
- referentialism:
  - 2D semantics to pass KK
  - Hypothesis L

Open question: how to account for the more flexible proper name resolution? tweak Layer Faithfulness or Hypothesis L?

# Conclusions

## Best of Neo-Descriptivism and Referentialism

- descriptivism:
  - unified account of definites as presuppositions
    - no wide scope stipulation
    - compositional PreIDRS
  - 2LDRT instead of anchors
  - account for (rare) bound readings
    - *only* as generalized quantifier
    - attitudes as monsters
- referentialism:
  - 2D semantics to pass KK
  - Hypothesis L

Open question: how to account for the more flexible proper name resolution? tweak Layer Faithfulness or Hypothesis L?