

Comments on Jakub Dotlačil's presentation, 'Dynamic properties of question words'

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Making ICDRT

Inquisitive semantics
for questions

Who is walking?

Making ICDRT

Inquisitive semantics
for questions

Who is walking?

+

CDRT
for anaphora

Someone¹ is walking. He₁ is singing.

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Who is walking?

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CDRT

for anaphora

Someone¹ is walking. He₁ is singing.

=

ICDRT

for anaphora to wh-words

Who¹ is walking? Is he₁ singing?

‘Someone is walking’

standard static
a proposition
 $\lambda w^s. \exists x^e. \mathbf{walk}(x, w)$

inquisitive
a set of propositions
 $\lambda p^{s \rightarrow t}. \exists x^e. p \subseteq (\lambda w^s. \mathbf{walk}(x, w))$

ICDRT
a proposition–state–state relation
 $\lambda p^{s \rightarrow t}. \lambda i^c. \lambda o^c. i[x_1]o \wedge p \subseteq (\lambda w^s. \mathbf{walk}(x_1(o), w))$

CDRT
a state–state relation
 $\lambda i^c. \lambda o^c. i[x_1]o \wedge \mathbf{walk}(x_1(o))$

Anaphora to wh-words

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$$\begin{aligned} & \llbracket \text{Someone}^1 \text{ is walking. You know him}_1. \rrbracket \\ &= \llbracket \text{Who}^1 \text{ is walking? You know him}_1. \rrbracket \\ &= \lambda p^{s \rightarrow t}. \lambda i^c. \lambda o^c. i[x_1]o \wedge p \subseteq (\lambda w^s. \mathbf{walk}(x_1(o))) \\ & \quad \wedge p \subseteq (\lambda w^s. \mathbf{know}(\mathbf{you}, x_1(o), w)) \end{aligned}$$

*To be qualified.

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- It's a distinctive feature of inquisitive semantics that statements and questions have the same semantic type.
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 - raise statements to the type of questions ... in which case you would have an inquisitive system, or
 - lower questions to the type of statements ... in which case you the treatment of questions would be inadequate.
- Inquisitive semantics gives you the notion of answers to the question (**resolutions** to the **issue**).
 - $p^{s \rightarrow t}$ **resolves** $\phi^{(s \rightarrow t) \rightarrow t} \Leftrightarrow \phi(p)$
 - E.g. $(\lambda w^s. \text{walk}(\text{john}, w))$ **resolves** $(\lambda p^{s \rightarrow t}. \exists x^e. p \subseteq (\lambda w^s. \text{walk}(x, w)))$

But still...

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 - Q Who is walking?
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- Proposal (from ms. Jakub sent me): unlike *Someone is walking.*, *Who is walking?* **presupposes** that someone is walking.
 - Q Who is walking?
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- As far as I know, this proposal hasn't been formalized.

A suggestion

'Someone is walking'

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a proposition

$$\lambda w^s. \exists x^e. \mathbf{walk}(x, w)$$



inquisitive

a set of propositions

$$\lambda p^{s \rightarrow t}. \exists x^e. p \subseteq (\lambda w^s. \mathbf{walk}(x, w))$$



var-ICDRT

a proposition-proposition-state-state relation

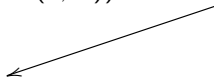
$$\lambda p^{s \rightarrow t}. \lambda q^{s \rightarrow t}. \lambda i^c. \lambda o^c. i[x_1]o \wedge q \subseteq p \cap (\lambda w^s. \mathbf{walk}(x_1(o), w))$$



CDRT

a state-state relation

$$\lambda i^c. \lambda o^c. i[x_1]o \wedge \mathbf{walk}(x_1(o))$$



The contrast

in a trivalent semantics

Someone¹ is walking.

$$\lambda p^{s \rightarrow t}. \lambda q^{s \rightarrow t}. \lambda i^c. \lambda o^c. i[x_1]o \wedge q \subseteq (p \cap \lambda w^s. \mathbf{walk}(x_1(o), w))$$

Who¹ is walking?

$$\lambda p^{s \rightarrow t}. \lambda q^{s \rightarrow t}. \lambda i^c. \lambda o^c. i[x_1]o \wedge q \subseteq (p \cap \lambda w^s. \mathbf{walk}(x_1(o), w)) \\ \wedge \partial(p \subseteq \lambda w^s. \exists x^e. \mathbf{walk}(x, w))$$

Definitions

These haven't been properly checked yet...

$$p^{s \rightarrow t} \text{ **supports** } \Phi^{(s \rightarrow t) \rightarrow (s \rightarrow t) \rightarrow c \rightarrow c \rightarrow t} \Leftrightarrow \forall i^c. \exists o^c. \Phi(\lambda w^s. \top)(p)(i)(o)$$

walks

$$\lambda d^{c \rightarrow e}. \lambda p^{s \rightarrow t}. \lambda q^{s \rightarrow t}. \lambda i^c. \lambda o^c. i = o \wedge q \subseteq (p \cap \lambda w^s. \text{walk}(d(o), w))$$

someoneⁿ

$$\lambda P. \lambda p^{s \rightarrow t}. \lambda q^{s \rightarrow t}. \lambda i^c. \lambda o^c. \exists k^c. i[x_n]k \wedge P(x_n)(p)(q)(k)(o)$$

whoⁿ

$$\lambda P. \lambda p^{s \rightarrow t}. \lambda q^{s \rightarrow t}. \lambda i^c. \lambda o^c. \exists k^c. i[x_n]k \wedge P(x_n)(p)(q)(k)(o)$$

$\wedge \partial(p \text{ **supports** }$

$$\lambda r^{s \rightarrow t}. \lambda s^{s \rightarrow t}. \lambda j^c. \lambda l^c. \exists x^e. P(\lambda m^c. x)(r)(s)(j)(l))$$

Where $P :: (c \rightarrow e) \rightarrow (s \rightarrow t) \rightarrow (s \rightarrow t) \rightarrow c \rightarrow c \rightarrow t$