



Does Eve need Adam?
Response to Guenther Knoblich

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Social interaction “is ... the key for understanding how individual minds work.”

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1. What is social interaction?

2. In what sense is social interaction “the key for understanding how individual minds work”

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Social influences on individual cognition:

Loneliness undermines cognitive abilities
(Cacioppo & Hawkley 2009)

Colour terms influence categorical perception of colour
(Regier & Kay 2009)

Television can harm academic proficiency
(Scott 1956)

...

Kinds of interaction

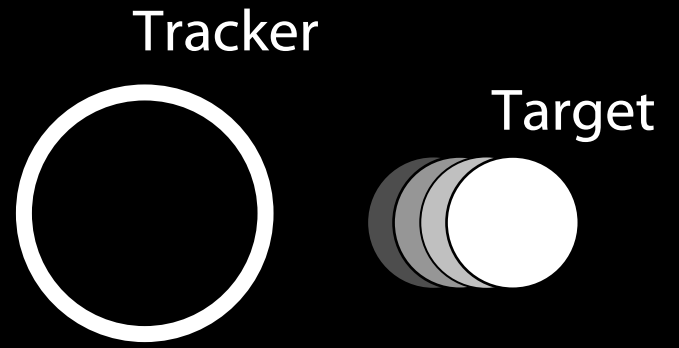
electrical
(Scientifically useful category)

social

pleasing
(Not a scientifically useful category)

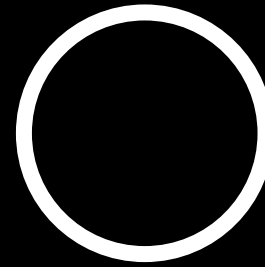
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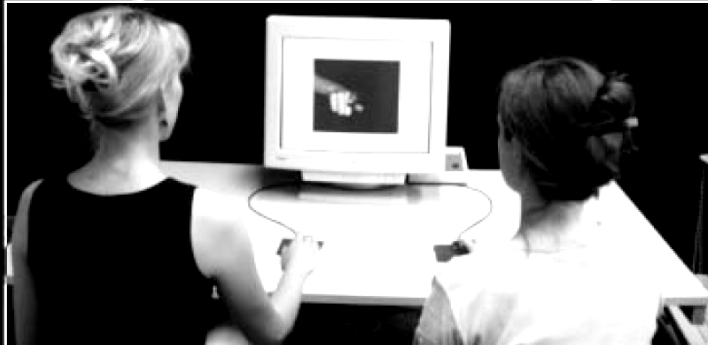
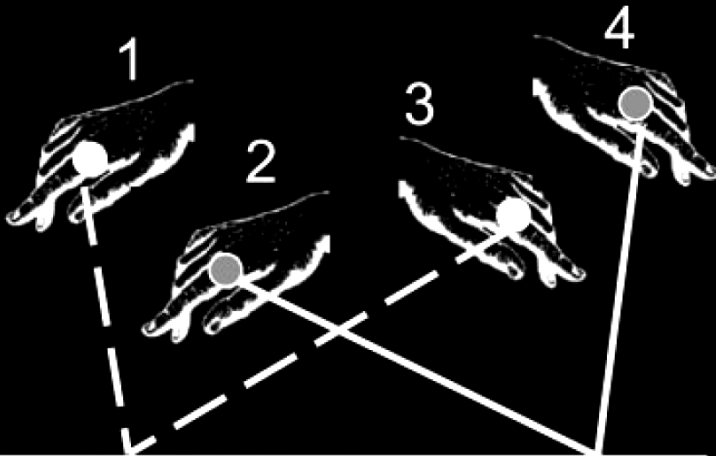
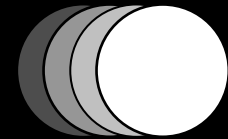


What is social interaction?

Tracker

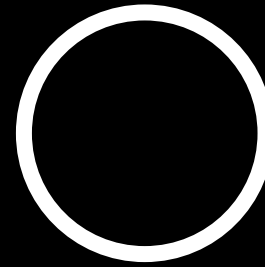


Target

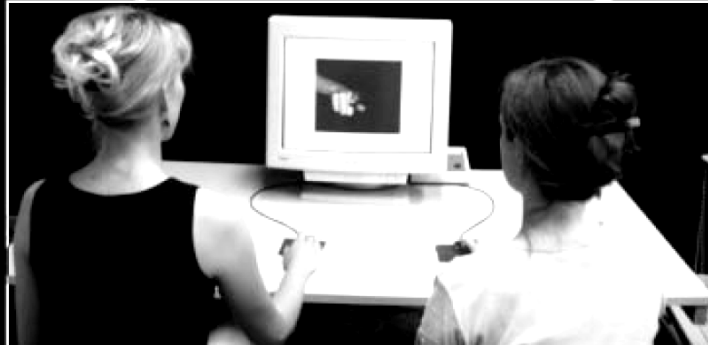
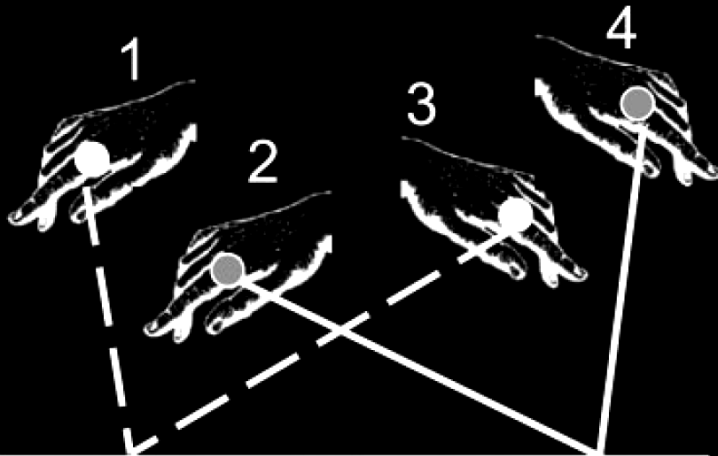
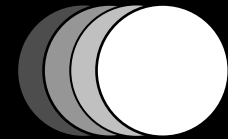


What is social interaction?

Tracker



Target



Features of paradigmatic social interactions

* *novelty*

* *spontaneity*

* *awareness of other agents*

* *no awareness of coordination needed*

If a green ring
appears, press
the right
button

If a finger
pointing left
appears, press
the left button

*task
representations*

role of Agent2

If a green ring
appears, press
the right
button

role of Agent1

If a finger
pointing left
appears, press
the left button

*task
representations*

role of Agent2

If a green ring
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the right
button



action
plan

role of Agent1

If a finger
pointing left
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the left button



action
plan

*task
representations*

*action
initiation*

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left
button
press

*task
representations*

*action
initiation*

action

role of Agent2

If a green ring
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action
plan



[no
action]



my task is to
press the
right button

role of Agent1

If a finger
pointing left
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the left button



action
plan



left
button
press

*task
representations*

*action
initiation*

*inhibition by
knowledge*

action

role of Agent2

If a green ring appears, press the right button



action plan



[no action]



my task is to press the right button

role of Agent1

If a finger pointing left appears, press the left button



action plan



left button press

task representations

action initiation

inhibition by knowledge

action

role of Agent2

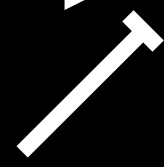
If a green ring appears, press the right button



action plan



[no action]



my task is to press the right button

role of Agent1

If a finger pointing left appears, press the left button



action plan



left button press



task representations

action initiation

inhibition by knowledge

action

An agent has a shared task representation when:

(i) she represents one or more rules characterising her own part in a task;

(ii) she represents one or more rules characterising another agent's part in the task; and

(iii) all rules are represented in a functionally equivalent way: that is, the representations of rules in (i) and (ii) alike dispose her to act on these rules.

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cognition is social:

* mechanisms for action planning are mechanisms for predicting others' actions

* an ability to distinguish one's own role from other agents' roles is essential for executing one's own actions

Reciprocity

Ayesah and Tim have
shared task representations

=

Ayesha has a shared task
representation and Tim has
a shared task
representation

Reciprocity

Ayesah and Tim have
shared task representations

=

Ayesha has a shared task
representation and Tim has
a shared task
representation

Ayesha and Tim moved the
table together

!=

*Ayesha moved the table
together and Tim moved
the table together

1. "The main purpose of human perception, action, and cognition is to support social interaction."

2. "The social is not a specific knowledge domain within individual minds"

3. "The social ... is the key for understanding how individual minds work."