



**Does Eve need Adam?**  
Response to Guenther Knoblich

s.butterfill@warwick.ac.uk

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

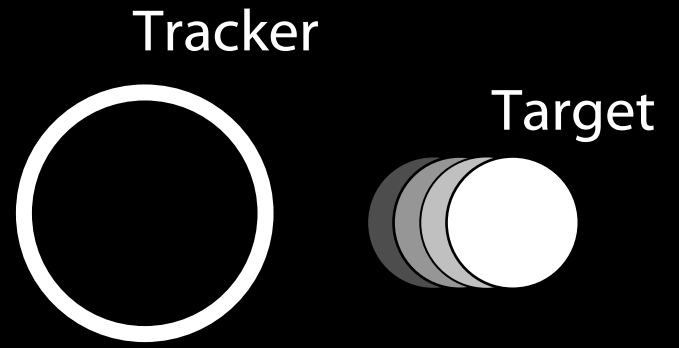
electrical  
(Scientifically useful category)

social

pleasing  
(Not a scientifically useful category)

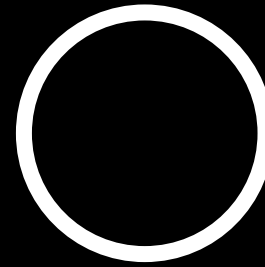
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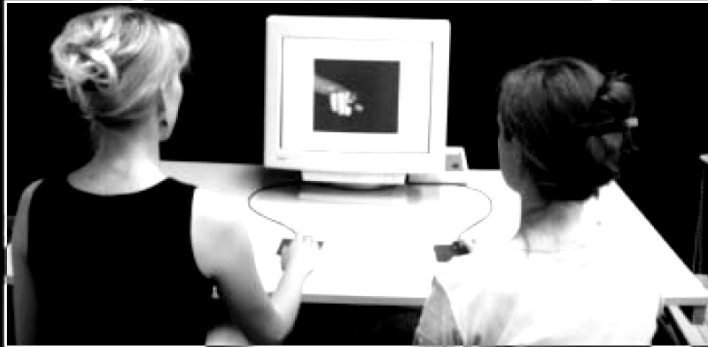
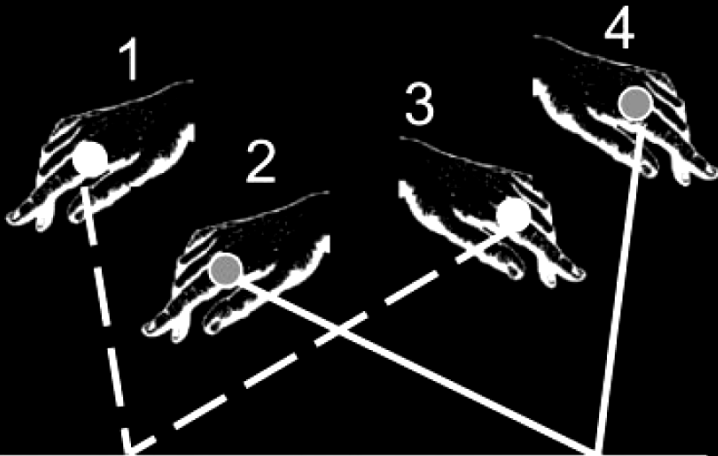
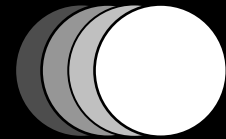


What is social interaction?

Tracker

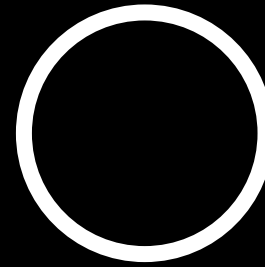


Target

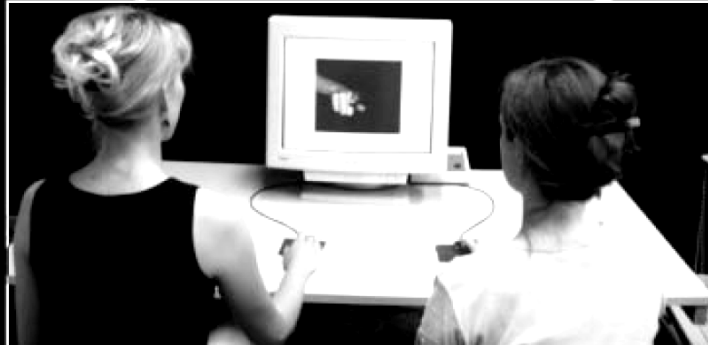
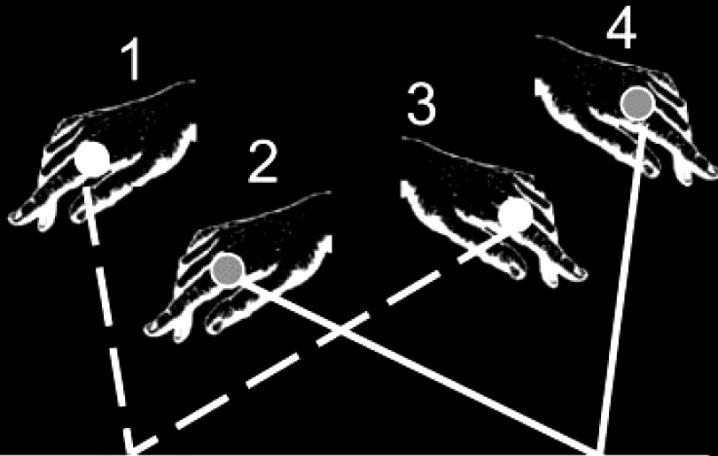
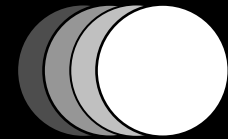


What is social interaction?

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  
appears, press  
the left button



action  
plan

*task  
representations*

*action  
initiation*

*role of Agent2*

If a green ring  
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action  
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*role of Agent1*

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action  
plan



left  
button  
press

*task  
representations*

*action  
initiation*

*action*

*role of Agent2*

If a green ring  
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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*

*role of Agent2*

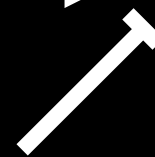
If a green ring appears, press the right button



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."