

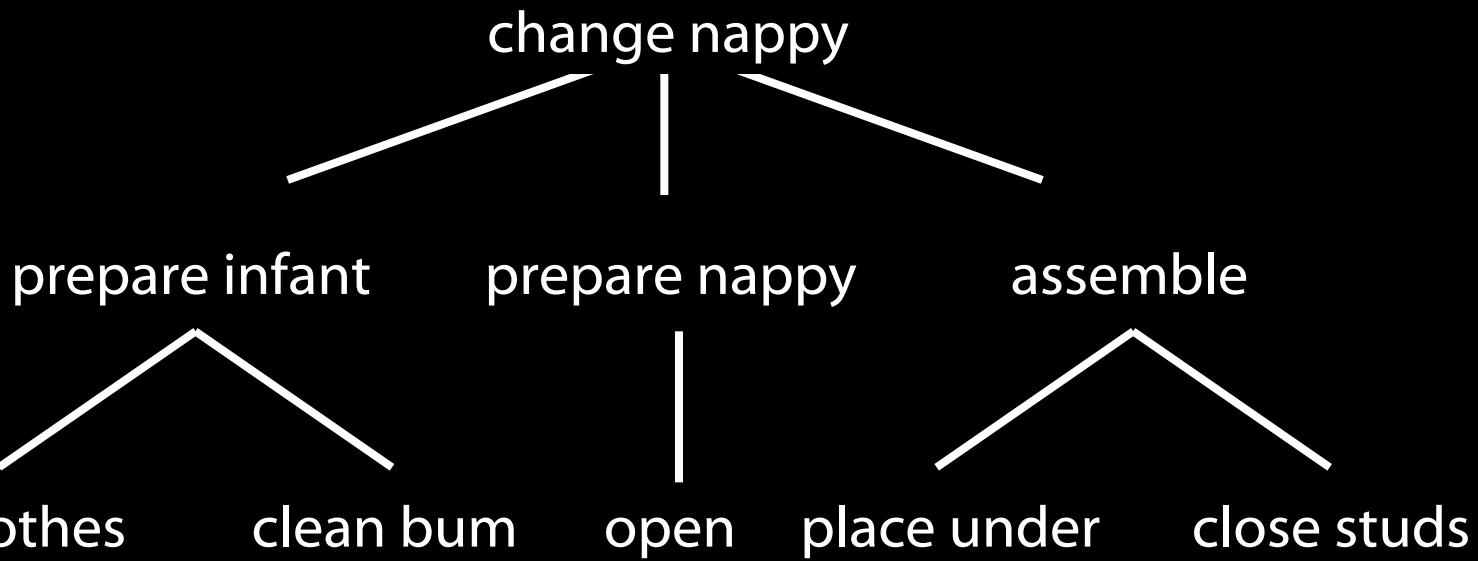


change nappy

plans

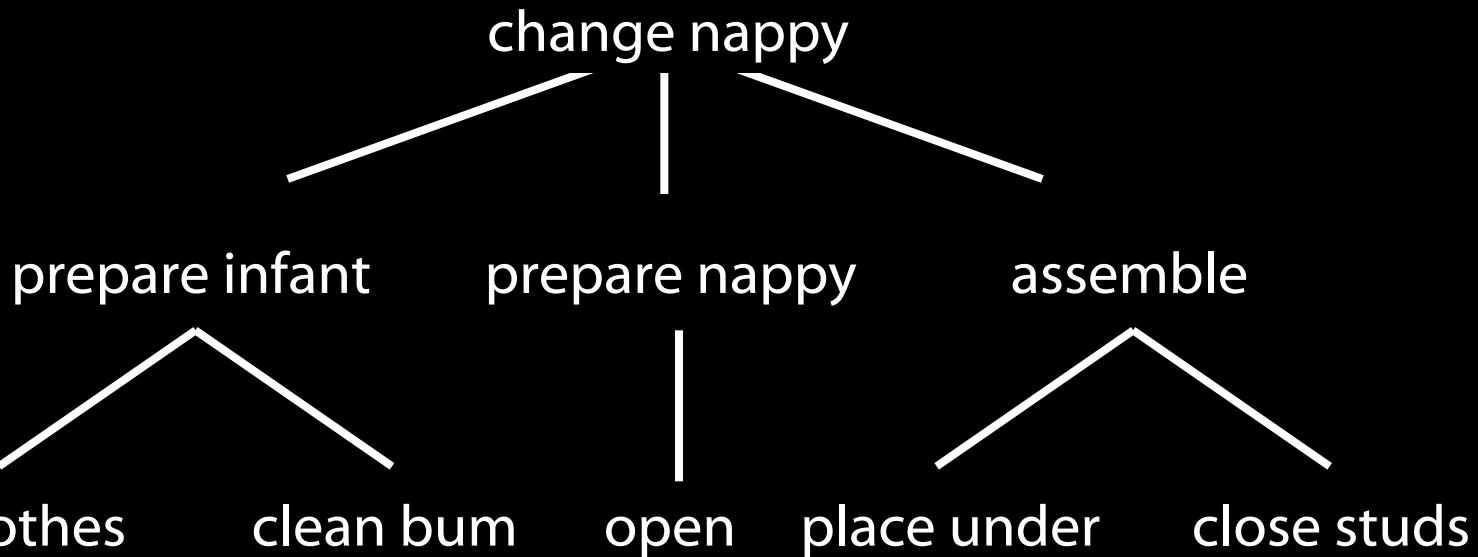


plans



goals

plans



goals

motor action

. /reach X/ /grasp X/ /grasp Y/ /pull Y/ /scoop X/ /Y out of X/ ...

plans



goals

strip clothes clean bum open place under close studs

motor action

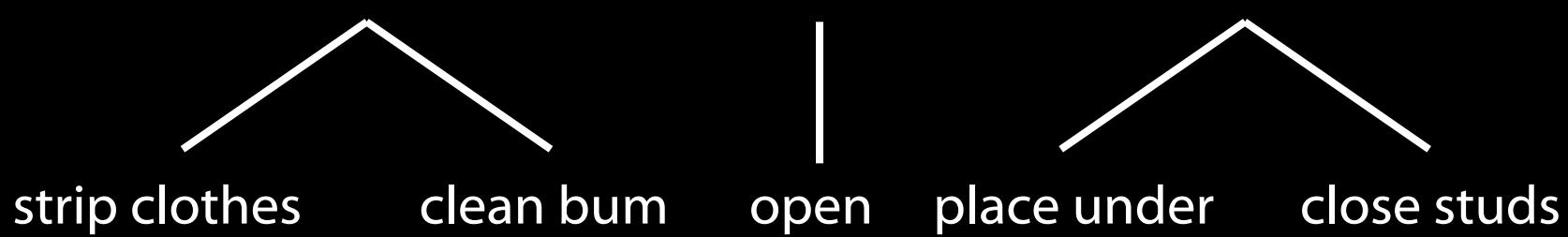
. /reach X/ /grasp X/ /grasp Y/ /pull Y/ /scoop X/ /Y out of X/ ...

[reach-left-hand X] [left-wholehand-grasp X] [right-wholehand-grasp ...]

plans



goals



motor action

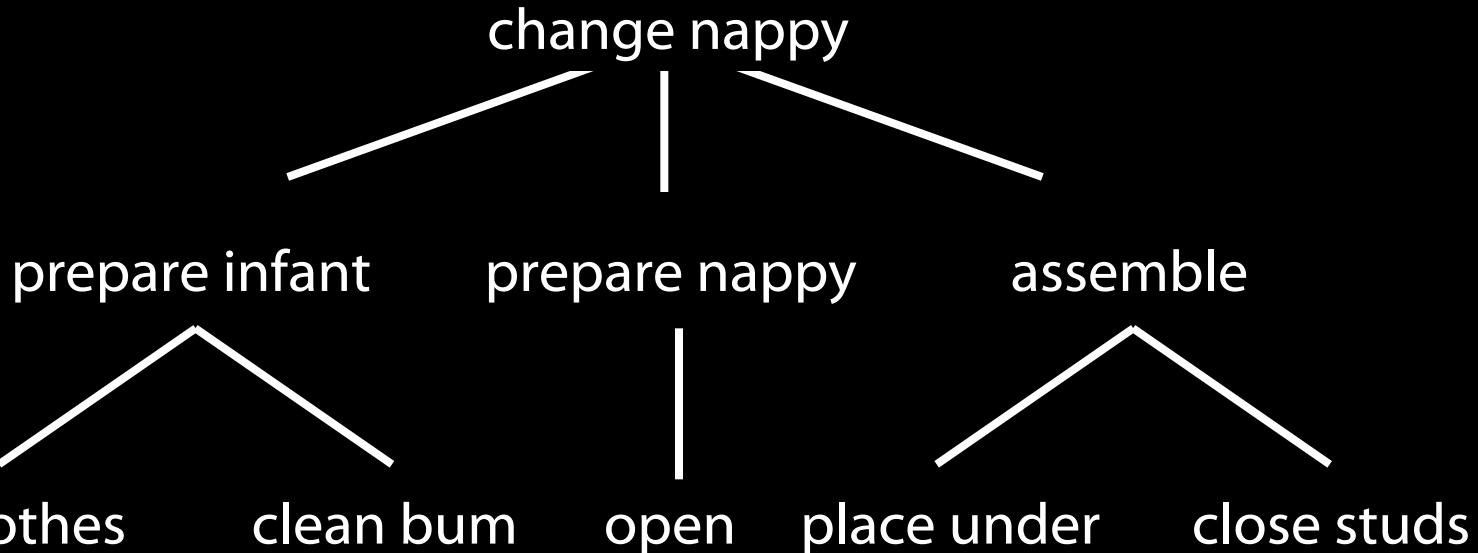
. /reach X/ /grasp X/ /grasp Y/ /pull Y/ /scoop X/ /Y out of X/ ...

[reach-left-hand X] [left-wholehand-grasp X] [right-wholehand-grasp ...

motion



plans



goals

. /reach X/ /grasp X/ /grasp Y/ /pull Y/ /scoop X/ /Y out of X/ ...

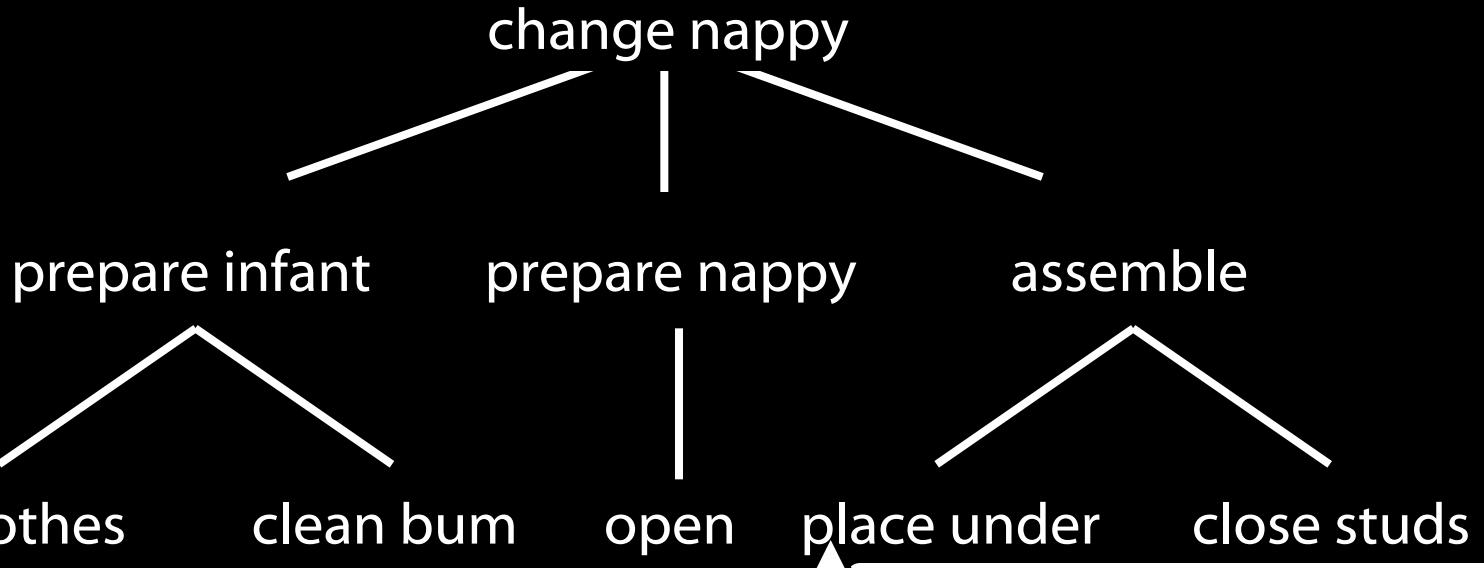
[reach-left-hand X] [left-wholehand-grasp X1] [right-wholehand-grasp ...]

motor emulation

motion



plans



goals

sequential probabilities

./reach X/ /grasp X/ /grasp Y/ /pull Y/ /scoop X/ /Y out of X/ ...

[reach-left-hand X] [left-wholehand-grasp X] [right-wholehand-grasp ...]

motor emulation

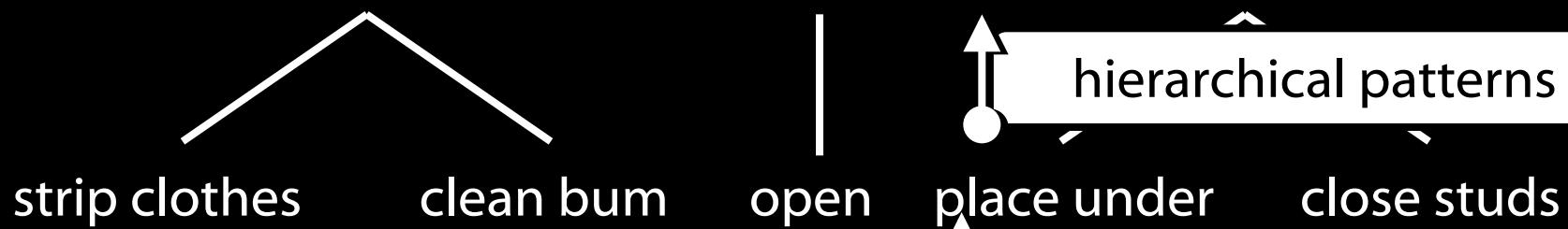
motion



plans



goals



motor action

./reach X/ /grasp X/ /grasp Y/ /pull Y/ /scoop X/ /Y out of X/ ...

[reach-left-hand X] [left-wholehand-grasp X] [right-wholehand-grasp ...]

motion



plans



goals

strip clothes clean bum open place under close studs

object-directed actions

/reach X/ /grasp X/ /grasp Y/ /pull Y/ /scoop X/ /Y out of X/ ...

motor action

[reach-left-hand X] [left-wholehand-grasp X] [right-wholehand-grasp ...]

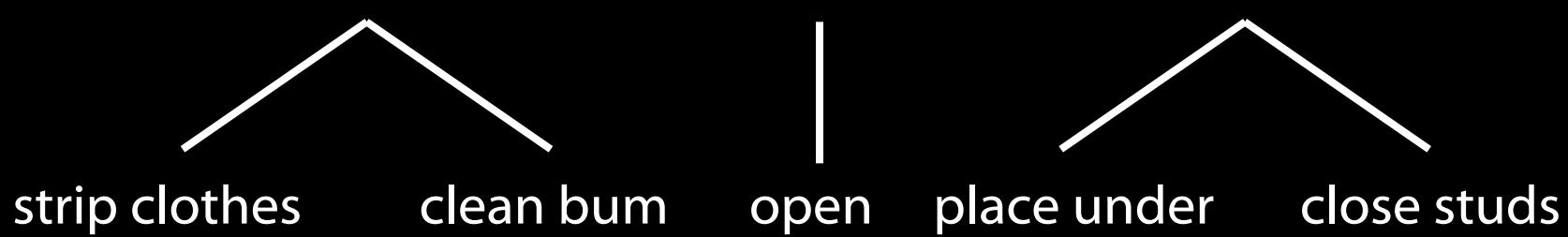
motion



plans



goals



motor action

. /reach X/ /grasp X/ /grasp Y/ /pull Y/ /scoop X/ /Y out of X/ ...

[reach-left-hand X] [left-wholehand-grasp X] [right-wholehand-grasp ...

motion

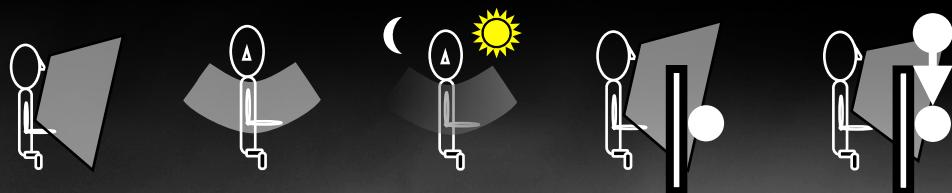




Your *field* = a set of
objects related to you by
proximity, orientation,
lighting and other factors



Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors



proximity orientation lighting

barriers trajectory

Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field



proximity

orientation

lighting

barriers

trajectory

Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

Principle 3: one can't goal-directedly act on an object unless one has encountered it.



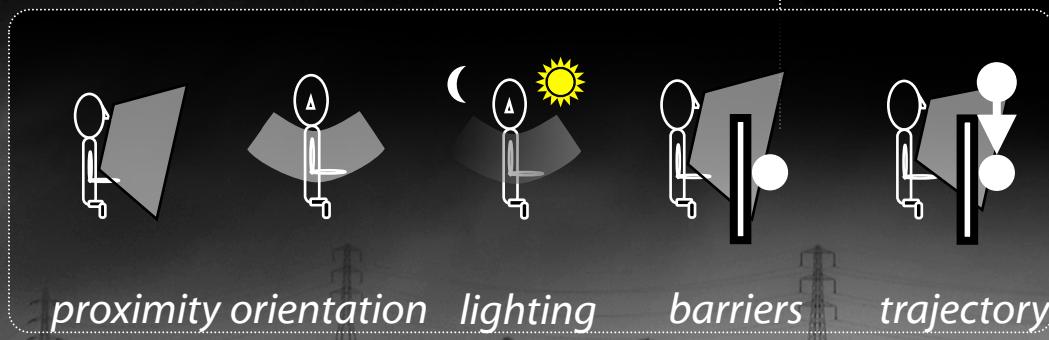
proximity orientation lighting

barriers trajectory

Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

Principle 3: one can't goal-directedly act on an object unless one has encountered it.

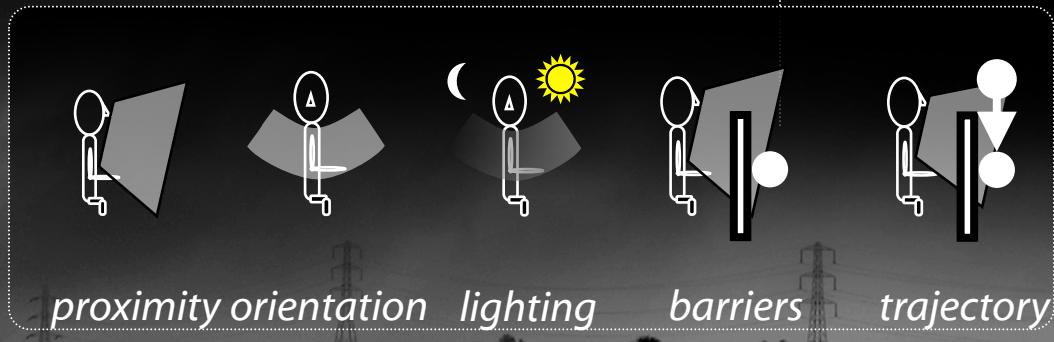


Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

“children could ... think about what the other person saw rather than what they saw”

(Flavell, Shipstead & Croft 1978: 1210)

Principle 3: one can't goal-directedly act on an object unless one has encountered it.



proximity orientation lighting

barriers

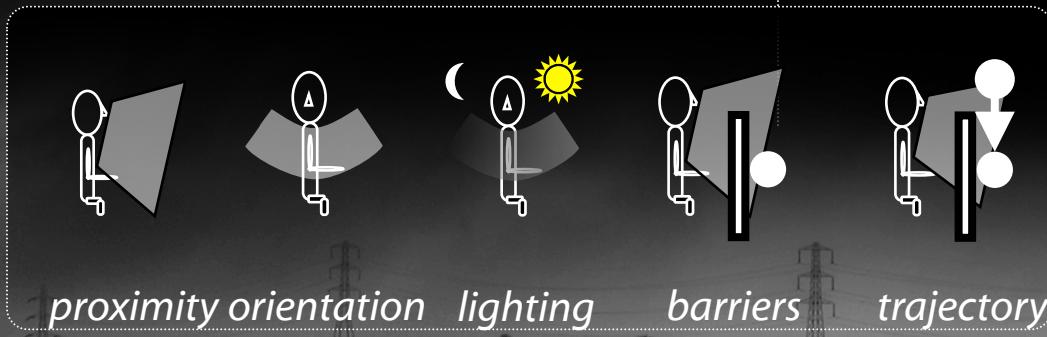
trajectory

Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

“children could ... think about what the other person **saw** rather than what they saw”

(Flavell, Shipstead & Croft 1978: 1210)

Principle 3: one can't goal-directedly act on an object unless one has encountered it.



Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

Principle 3: one can't goal-directedly act on an object unless one has encountered it.



proximity orientation lighting

barriers trajectory

Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

You *register* an object at a location \leq you most recently encountered the object at that location

Principle 3: one can't goal-directedly act on an object unless one has encountered it.



proximity

orientation

lighting

barriers

trajectory

Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

You *register* an object at a location = you most recently encountered the object at that location

Principle 3: one can't goal-directedly act on an object unless one has encountered it.

Principle 4: correct registration is a condition of *successful* action.



proximity

orientation

lighting

barriers

trajectory





source: Liszkowski et al (2008)



source: Liszkowski et al (2008)



source: Liszkowski et al (2008)

Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

You *register* an object at a location \leq you most recently encountered the object at that location



proximity



orientation



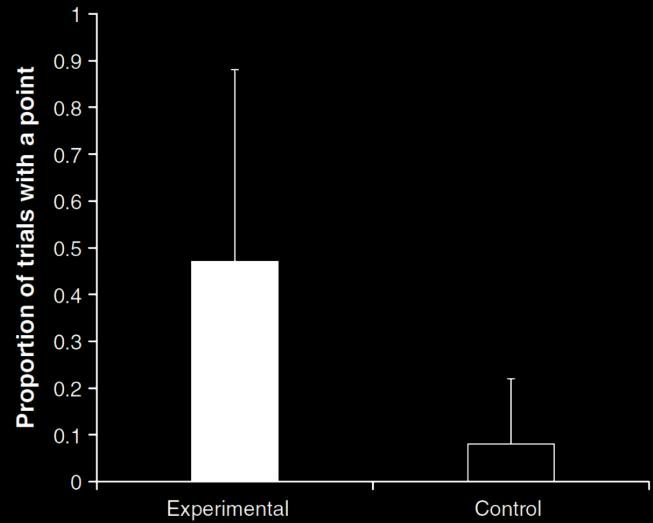
lighting



barriers

Principle 3: one can't goal-directedly act on an object unless one has encountered it.

Principle 4: correct registration is a condition of *successful* action.



source: Liszkowski et al (2008)

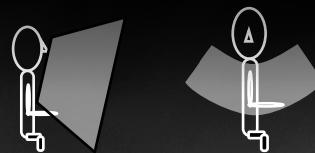


Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

“Helping by informing inextricably involves ... an understanding of others’ goals and ... of others’ ignorance.”

(Liszkowski, Carpenter & Tomasello 2008: 738-9)



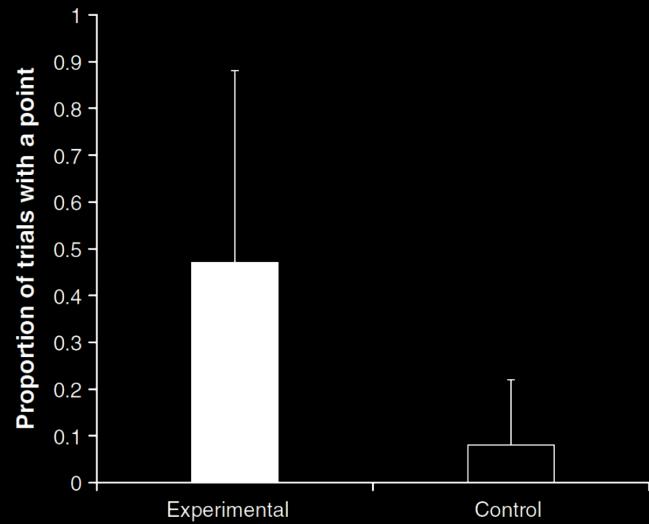
proximity orientation lighting

barriers

trajectory

Principle 3: one can’t goal-directedly act on an object unless one has encountered it.

Principle 4: correct registration is a condition of *successful* action.



source: Liszkowski et al (2008)



Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

“Helping by informing inextricably involves ... an understanding of others’ goals and ... of others’ **ignorance**.”

(Liszkowski, Carpenter & Tomasello 2008:738-9)



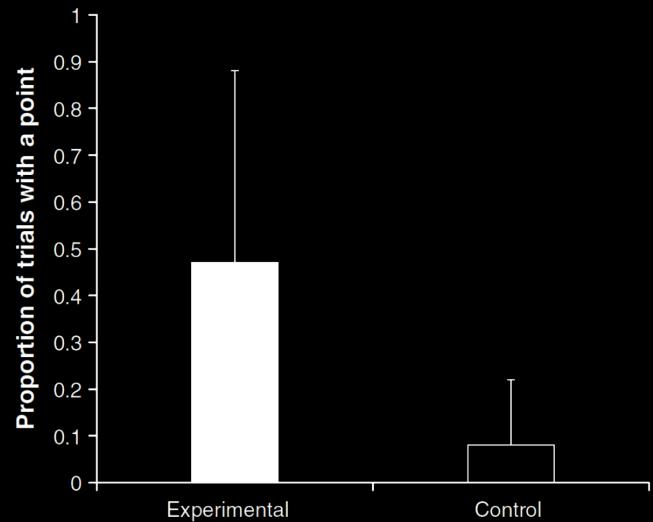
proximity orientation lighting

barriers

trajectory

Principle 3: one can’t goal-directedly act on an object unless one has encountered it.

Principle 4: correct registration is a condition of *successful* action.



source: Liszkowski et al (2008)



Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

You *register* an object at a location <= you most recently encountered the object at that location

Principle 3: one can't goal-directedly act on an object unless one has encountered it.

Principle 4: correct registration is a condition of *successful* action.



proximity orientation lighting

barriers

trajectory

Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

You *register* an object at a location \leq you most recently encountered the object at that location

Principle 3: one can't goal-directedly act on an object unless one has encountered it.

Principle 4: correct registration is a condition of *successful* action.

Principle 5



proximity orientation lighting

barriers trajectory

Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

You *register* an object at a location <= you most recently encountered the object at that location

Principle 3: one can't goal-directedly act on an object unless one has encountered it.

Principle 4: correct registration is a condition of *successful* action.

Principle 5: when an agent performs a goal-directed action and the goal specifies an object, the agent will act as if the object were actually in the location she registers it at.



proximity



orientation



lighting



barriers



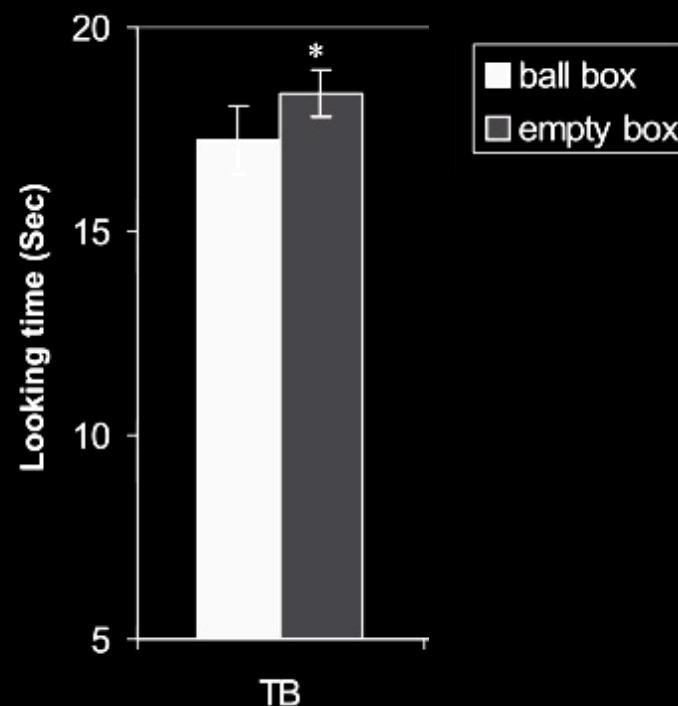
trajectory



source Träuble, Marinovic, & Pauen (2010)



source Träuble, Marinovic, & Pauen (2010)



source Träuble, Marinovic, & Pauen (2010)



source Träuble, Marinovic, & Pauen (2010)



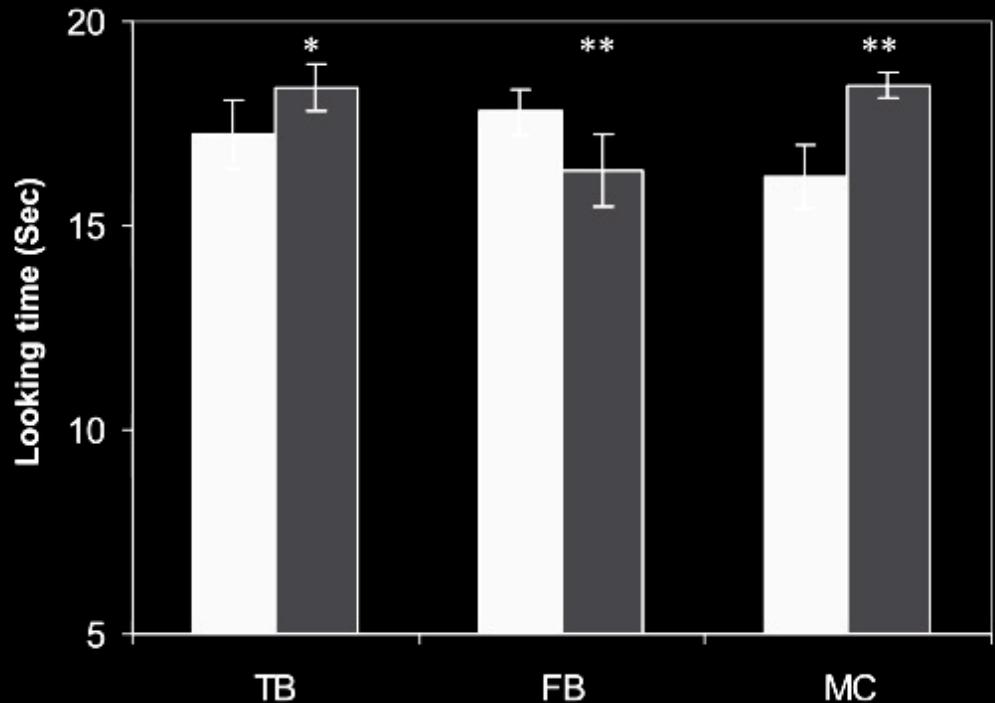
source Träuble, Marinovic, & Pauen (2010)



source Träuble, Marinovic, & Pauen (2010)



source Träuble, Marinovic, & Pauen (2010)



source Träuble, Marinovic, & Pauen (2010)

Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

You *register* an object at a location <= you most recently encountered the object at that location

Principle 3: one can't goal-directedly act on an object unless one has encountered it.

Principle 4: correct registration is a condition of *successful* action.

Principle 5: when an agent performs a goal-directed action and the goal specifies an object, the agent will act as if the object were actually in the location she registers it at.



proximity



orientation



lighting



barriers



trajectory

Your *field* = a set of objects related to you by proximity, orientation, lighting and other factors

You *encounter* an object = it is in your field

You *register* an object at a location <= you most recently encountered the object at that location

Principle 3: one can't goal-directedly act on an object unless one has encountered it.

Principle 4: correct registration is a condition of *successful* action.

Principle 5: when an agent performs a goal-directed action and the goal specifies an object, the agent will act as if the object were actually in the location she registers it at.



proximity



orientation



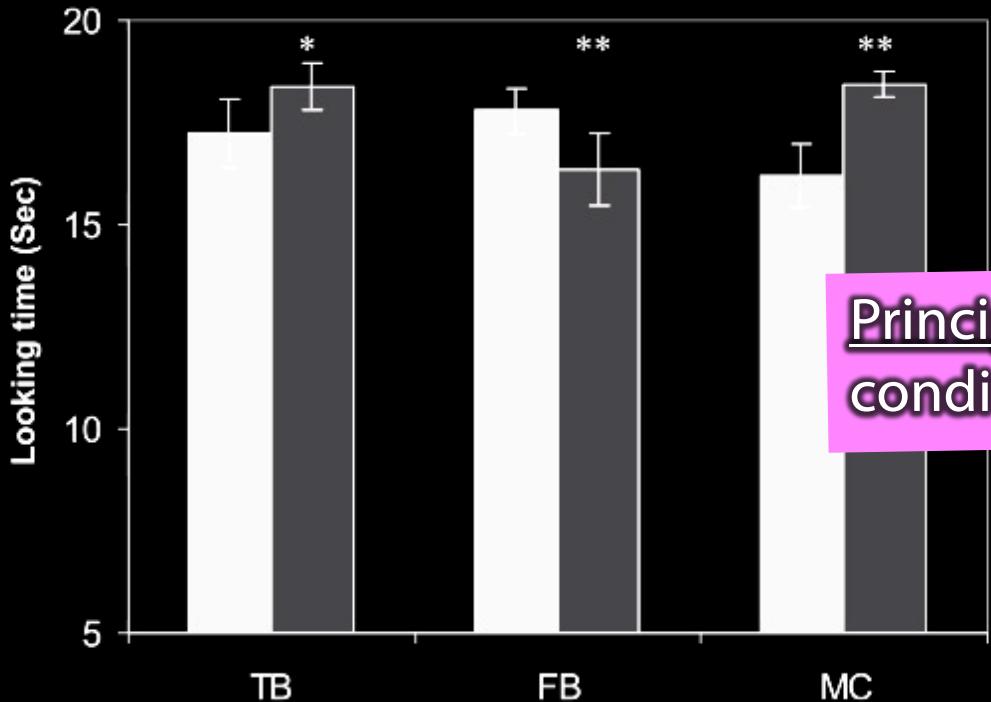
lighting



barriers



trajectory



Principle 4: correct registration is a condition of *successful* action.



source Träuble, Marinovic, & Pauen (2010)

