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Lab for Developmental Studies
Harvard University
Cambridge, MA 02138
Phone : (617) 384-7930; (617) 384-7777

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In the Angel study, we were interested in the kind of knowledge very young infants have about people and things. We already know that infants have rules about how solid objects are supposed to behave. For example, they know that two solid objects can't pass through each other. Previous research has also shown that infants don't always treat people as if they were bound by the same rules as solid objects. Since the adults in their lives can do all sorts of "magic" things, they might just expect people to be special. We combined these two questions to ask if infants would be surprised if a person passed through a solid object.

In other words, do infants expect people to be solid, or do they think people are more like ghosts or angels?

We showed infants a hand extending across a stage. When they got bored, we showed them two scenarios: the hand appearing to pass through a wall, or the hand appearing to pass in front of a wall. We reasoned that if they thought that hands were solid, they would be surprised when the hand seemed to go right through a wall. We also ran another set of kids on the same type of trials, but used a toy train instead of a hand. This was to make sure that they really were surprised when solid objects went through walls.

We found that infants were extremely surprised when the hand appeared to pass through the wall.



Angel Study

Rebecca Saxe, Post-Doctoral Fellow
Tania Tzelnic, Research Assistant

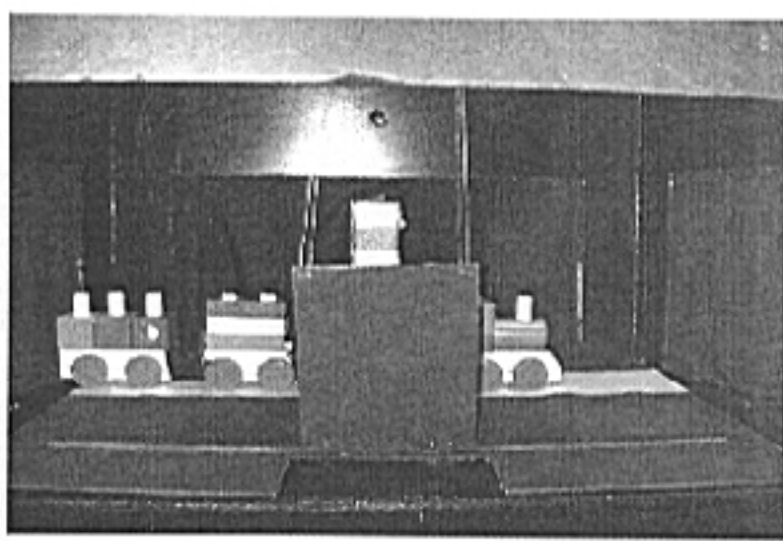
In fact, they were just as surprised when they saw the hand go through the wall as they were when they saw the train go through the wall.

One question we had, though, was whether we'd learned something about agents (people, animals, or anything else that can cause things to happen in the world) or whether we'd isolated something specific to humans. So we designed another study that asked whether infants would be surprised when they saw a novel agent pass through a wall.

The novel agent is a 4 inch high puppet who is furry and has googly eyes.

Infants got to see him walking around on the stage (he's controlled from above, like a marionette) at the beginning of the study. In this study, he appears to walk through a wall, or walk under an overhang. This way, we can find what infants do know about people.

We're still running kids in this condition, and we're really curious about the results!



In our Summer 2003 newsletter we told you about a set of studies investigating how infants learn about self-propelled motion. In the learning phase of these studies we showed 7-month-olds two different events: In the "self-propelled event" we showed babies a wind-up toy (e.g. a hippo) moving across the stage by itself. In the "hand-moved event" we showed babies a wind-up toy (e.g. a snail) moving across the stage by an experimenter's hand. In the test phase of these studies, we put both wind-up toys next to one another on the stage and the experimenter

removed her hands. Neither one moved for 20 seconds while we monitored which toy infants spent more time looking at. We predicted that if infants had learned about which animal was self-propelled in the learning phase, they would look at it longer in the test phase because it was the only one that might move again. That is exactly what happened! Babies showed this effect (longer looking at the previously self-propelled object) whether the stimuli were wind-up animals, vehicles, or unfamiliar "blobs," suggesting that infants are very good at learning about self-propelled motion and that they are willing to learn about it for any kind of object (not just animals, for example).

Recently we did a follow-up study to ask what would happen if we made the "hand-moved event" in the first phase of the study

as interesting as the "self-propelled event." We were wondering if babies' looking in the test trials of these studies was really motivated by an expectation that the object might move again, or if in the test trials they were just looking at the previously self-propelled object because it was the most interesting thing from

the first phase of the study. To this end, we created a really interesting "hand-moved event":

instead of just moving the object across the stage, the experimenter bounced it around the stage floor and had it move in several directions. When we examined the test trials, we

found that this time babies looked equally long at the previously self-propelled and previously (super-interesting) hand-moved object. This was surprising to us initially because we thought babies would still look longer at the self-propelled object.

However, our interpretation of all the previous studies using this method is still that babies are motivated to look longer at the previously self-propelled animal because they think it might move, not just because it was the most interesting object in the first phase of the study. If it were the latter case, then babies in the most recent study should have looked longer in the test trials at the previously hand-moved object, because it was the most interesting thing in the first phase.

Wind-Up Toy Studies

Kristin Shutts, Graduate Student

