# "Seeing the world through your baby's eyes"

**Background:**

This experiment is about **"form perception"**- the way infants perceive different forms and their preferences for different types of shapes. These activities are based on studies conducted by Robert L. Fantz in 1961. Fantz's experiments examined what babies prefer to look at. He did this by creating a setup called the "looking chamber". This chamber looks like an MRI machine, with patterns hanging from the ceiling of it. Babies were placed inside this apparatus and shown a set of patterns (the original experiment involved six different patterns, our version only has four) and the time that the baby spent looking at each pattern was recorded on an electrical timer. The experimenter peeked through a hole in the top of the setup and looked at the reflection of the image in the baby's eye to determine the length of time it spends focusing on each pattern. Since Fantz's orginal study, he and other researchers have further explored infant preferences for visual patterns. We know from research that babies, in general, prefer to look at complex patterns rather than simple patterns.

**Fantz presented babies with 4 complex patterns: a bulls eye, printed black and white text, a face and a pattern that look like 2 eyes.** Fantz hypothesized that, when shown a series of patterns, the one that will hold a baby's attention for the longest period of time should be novel to the baby (one the baby hasn't yet experienced) and visually complex (that is, he thought the bull's eye or the printed text would likely be the ones that babies would look at for the longest amount of time). However, Fantz found that babies preferred to look at a human face (something that they see everywhere all the time) for a longer period of time than any other pattern. Fantz suggested that this is because babies are born with an innate ability to recognize a human face, knowing that it is a human who is going to feed him/her and provide care.

***Questions you can ask parents:***

- How does your baby respond to books with pictures of other babies and/or humans compared to books about trees or toys?
- How does your baby's reaction to a stranger differ from his/her reaction to a grandparent?
- How does your baby respond to a cartoon with human characters versus a program that featured animals or trains?

***Questions parents can ask you:***

**1. Can I do this on my own?** The experiment is designed so that one adult can conduct it without assistance. However, some parents may want help from staff. We recommend parents trying it by themselves, first because babies may be distracted or influenced by the presence of a stranger, but also because one of our goals for this exhibit is for parents to be the scientist!

**2. Is my baby too old for this?** The infant area is restricted to children less than 12 months old or who do not yet walk on their own. Babies under the age of 6 months are less likely to roll and/or move while under the mobile, but some older babies do stay still. With older infants, you can also skip the mobile altogether and just hold the two pillows in front of them (one to either side of your body) to see which one they prefer to look at.

**3. My baby did not spend much time looking at the human face, what does it mean?** This is hard to say. There are a number of things that need to be taken into consideration before answering. Firstly, babies in the Discovery Center are not in a controlled environment like in Fantz's experiment. There are a wide variety of unavoidable distractions in the exhibit (like the water table, bright lights, other babies playing/crying/moving in the vicinity). We've tried to minimize these potential distractions, but we do not expect parents to consistently get the same results as Fantz. Also, the results from a single baby do not "mean" anything for the baby. Fantz's experiment tested more than a hundred babies, and many of these babies were not included in the final data because they "fussed out" of the experiement. The results from the experiment represent an average from all of the babies that participated. The mobile exhibit illustrates how a cognitive development experiment might be done, we do not expect to get reliable data.

**Where can I get more information?** The Living Lab website (mos.org/discoverycenter/livinglab/air) has information about infant research and links to publications and popular press articles.

**5. Does the order of the patterns matter?** The order does not matter. In fact, Fantz had randomized the order of showing patterns during his experiment (a necessity to be sure that the data was not skewed in any way).

**6. What if my baby looks away and then looks back?** If a baby's gaze falls to the side and looks away; or if there is a major distraction (like the entrance of a stranger or another parent, voice of another baby etc.) and then the baby looks away then disregard that "look" and reshow that pattern later in the experiment. If the baby just looks away without a noticeable distraction having taken place, then that indicates that "got bored of it", even if the baby looks back again later.

*If you want to learn more about how this experiment was originally conducted and what other experiments followed, copies of the original research papers are located in the DC office.*

## ***Resources:***


Fantz, Robert L. The origin of form perception.

Goren, Carolyn C., Sarty, Merrill and Wu, Paul Y.K. *Pediatrics 56(4),* 1975.

Capriani, Nichole. (2005). What your baby sees: A look at your infant's expanding world, through her eyes. *Parenting 19(1),* 124.

Shape, not color, helps babies tell objects apart. USA Today. *128(2659),* 2000.

Marcus, David L. et al. How kids learn. *US News & World Report 127(10)*, 1999.

Flynn, Emily. Beauty: Babes spot Babes. *Newsweek*. p10, 2004.