SymbSys100 – Assignment 3

Due May 5th, 10am

Part A. Change Blindness

We would like you to try and create a change blindness illusion along the lines of the door study that was shown in class. You can see the video again by following these links:

http://viscog.beckman.uiuc.edu/grafs/demos/12.html

Here is another version of the study:

http://viscog.beckman.uiuc.edu/grafs/demos/10.html

You are encouraged to run this experiment in a group with people in the class (up to 4 people), but write up the work on your own. The goal is to:

(a) find an unwitting subject and engage them in some sort of social interaction
(b) make a change to yourself or the objects around you that the subject does not see
(c) continue your interaction with the subject
(d) ask the subject if he/she noticed the change

In the videos above the subject was distracted and the switch was made while two people barged between the subject and the experimenter carrying a door. For your experiment, we would like you to use the 'corridor method' or the 'under the table method' described below, or (for extra credit) think of your own way to make a change while the subject is distracted. Alter one parameter of the experiment, such as the length of the interaction that you have with the subject before the change is made, the size of the change that you make, the type of person that you choose for a subject, etc. You should run at least 6 subjects varying the levels of your parameter.

HINTS AND IDEAS:

Things to swap / add / lose

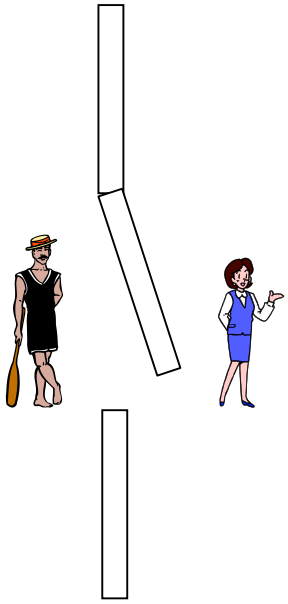
1. A small piece of clothing like scarf or pin
2. An object you are carrying like a mug, bag or skateboard
3. A large piece of clothing like a coat or jacket
4. You could change your hairstyle by tying it back/letting it down
5. If you're adventurous, you could even try swapping yourself with a friend who looks similar

Under the table method

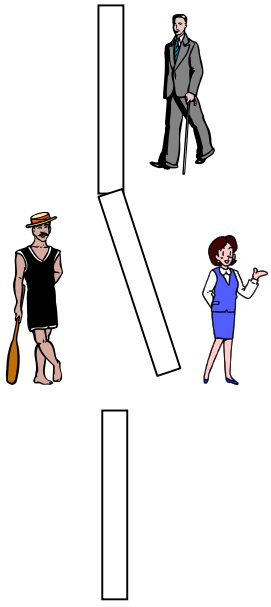
With this technique, you need to engage your naïve subject while you are sitting at or standing behind a table or counter. Half way through the conversation, you can drop something on the floor, reach to do up your shoelaces or get something out of your bag. If you are sufficiently hidden by the table or counter, you should be able to make a change without the subject seeing you.

Corridor Method

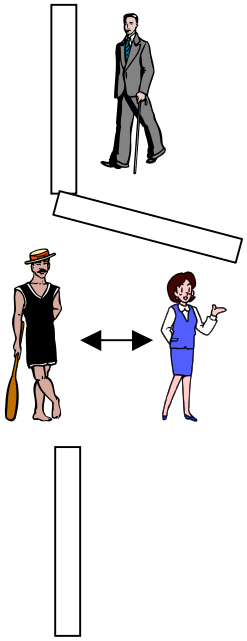
1. Wait by a door. Stand the side of the wall which the door opens into. On the other side of the door, your accomplice waits holding the objects to be switched.



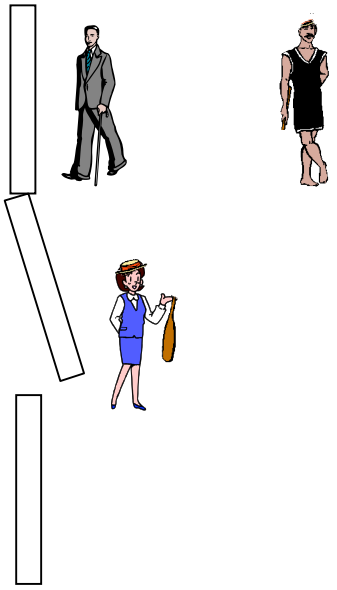
2. Wait until a subject (a stranger) comes down the corridor. Stop them when they are level with the door and engage them in conversation, perhaps by asking directions.



3. After you have talked for a while, your friend opens the door so that it comes inbetween you and the subject. For the brief moment while you are out of sight, make the switch with your accomplice.



4. The accomplice then walks on leaving you with the subject. Talk for a few more moments, and then ask if they noticed the change.



Write up (must be done independently!)

1. Describe the methods you used to create your illusion
2. Describe the degree of success you achieved and the reactions of the subjects
3. What factors seemed to be important in making subjects blind to a change, and what factors resulted in them noticing a change?
4. What conclusions can you draw about human memory and perception from the change blindness phenomenon?

Part B. Motion perception

Newsome presented evidence that activity in a direction-specific column of cells in MT correlates with an increase in judgments that dots move in the direction that the cells in the column respond to.

1. What was Newsome's evidence for this correlation? Describe the stimuli Newsome gave to his subjects, and the way he measured the subjects' judgements.
2. What additional experiment did Newsome do to show that activity in a direction-specific column of cells in MT actually causes an increase in judgements that dots move in the direction that the cells in the column respond to? Explain why this experiment was necessary to show causation (as opposed to mere correlation).
3. Newsome suggested two possible explanations for the increase in judgements based on activity in MT. Either the animal's phenomenological experience was altered via stimulation of this area, or the phenomenological experience remained the same, and only his behavior was affected. How could we decide between these explanations?